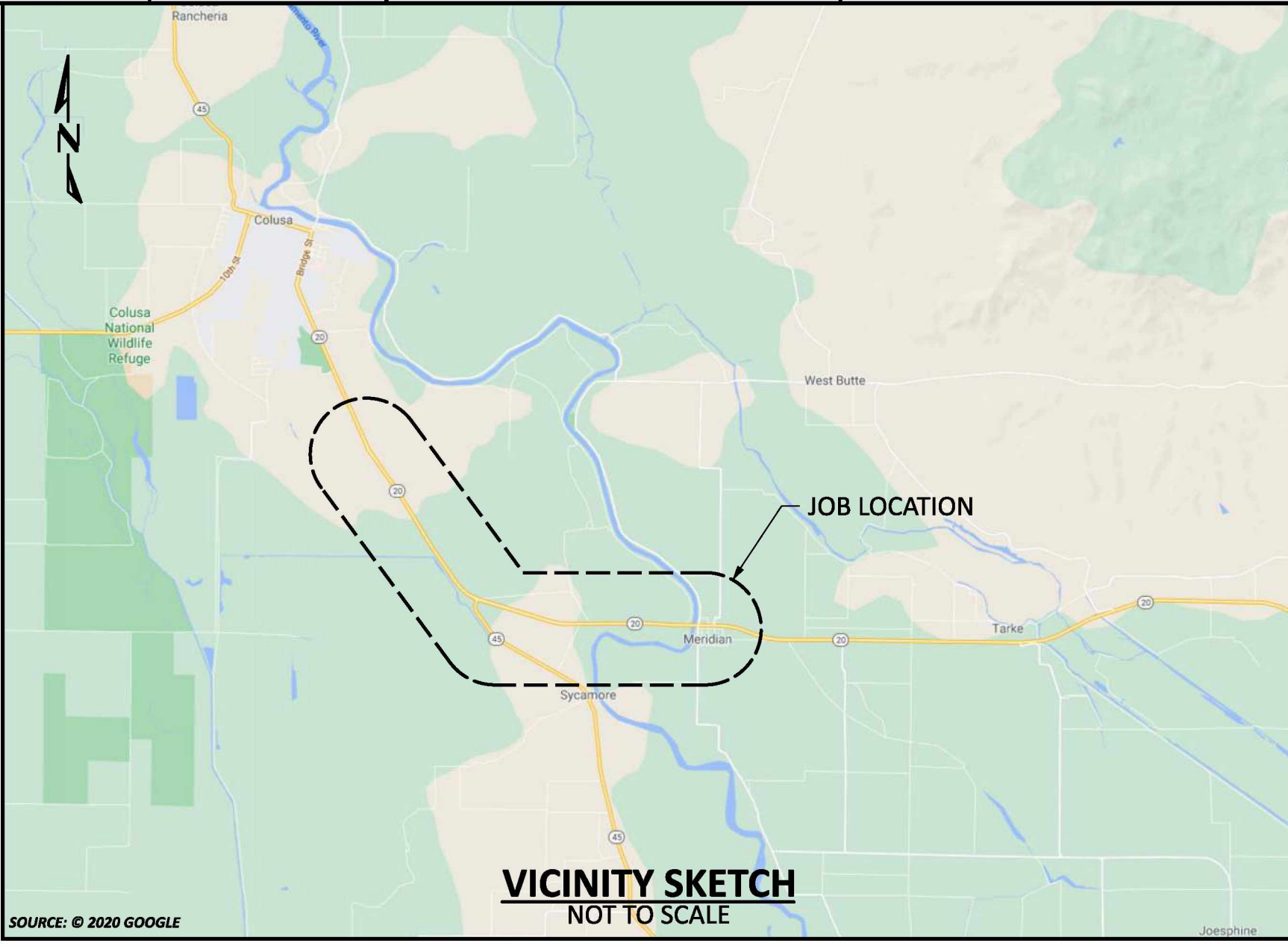
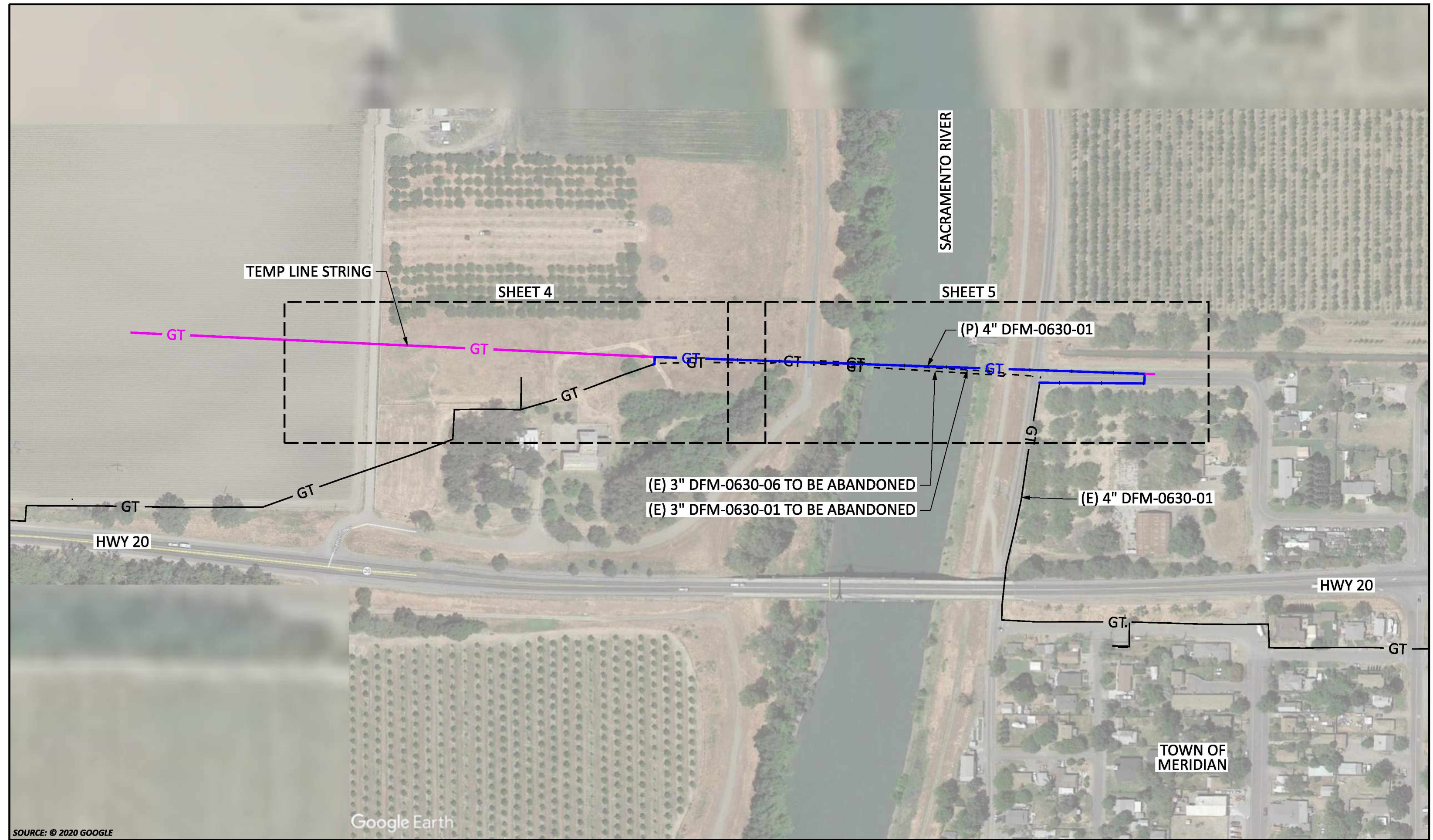


APPENDIX C

PROJECT PLANS

DFM-0630-01 MP 10.67 - 10.85
REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY



SCHEDULE OF SHEETS

- SHEET 1 -- TITLE & INDEX
- SHEET 2 -- CONSTRUCTION NOTES
- SHEET 3 -- LEGEND & STAMPS
- SHEET 4 -- PLAN & PROFILE
- SHEET 5 -- PLAN & PROFILE
- SHEET 6 -- DETAILS
- SHEET 7 -- DETAILS
- SHEET 8 -- DETAILS
- SHEET 9 -- DETAILS
- SHEET 10 -- HDD PROFILE
- SHEET 11 -- HDD PROFILE
- SHEET 12 -- BILL OF MATERIALS
- SHEET 13-14-- EXHIBIT
- SHEET 15-22-- DECOMMISSIONING SHEETS

KEY MAP

SCALE: 1" = 200'

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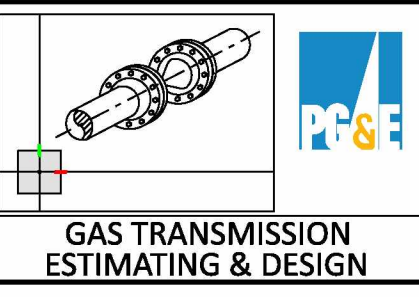
REV.	DATE	DESCRIPTION	ORDER	DWN	ADE	ENG	ENG APVD
D	9/10/21	ISSUED FOR PERMIT ONLY	74029104	DSBZ	RAMA	C2L1	
C	8/13/21	ISSUED FOR PERMIT ONLY	74029104	DSBZ	RAMA	C2L1	
B	1/7/21	ISSUED FOR 60% DESIGN REVIEW	74029104	DSBZ	SME3	C2L1	
A	11/10/20	ISSUED FOR 30% DESIGN REVIEW	74029104	DSBZ	SME3	C2L1	

PIPELINE - TITLE & INDEX DFM-0630-01 MP 10.67 - 10.85 REPLACE 3" PIPE MERIDIAN, SUTTER & COLUSA COUNTY GAS TRANSMISSION & DISTRIBUTION PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA		BILL OF MATL SHEET 12 JOB ID R-1385 SHEET NO. 1 OF 22 SHEETS 74029104 D
---	--	--

IMPACTED RECORD DRAWINGS:
☐ YES ☒ NO

CAP # XXXXXXXXXX

SAFETY PLEDGE
I ALWAYS PUT SAFETY FIRST.
I LOOK FOR AND ACT TO
RESOLVE UNSAFE SITUATIONS.
I HELP AND ENCOURAGE
OTHERS TO ACT SAFELY.



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PACIFIC GAS AND ELECTRIC COMPANY

BILL OF MATL SHEET 12
JOB ID **R-1385**
SHEET NO. 1 OF 22 SHEETS
74029104 D

SUMMARY OF PROPOSED WORK:

1. STRENGTH TEST 4.500"OD L-0630-01 FROM MP 10.67 - 10.85 PER DRAWINGS AND STRENGTH TEST PRESSURE REPORTS (#74029104) AND MATERIAL OF RECORD DRAWING #74029104 SHEET 2 OF 2.

CAPITAL ORDER # 74029104

1. INSTALL 1548'-0" OF 4.500"OD PIPE.
2. REMOVE 35'-11" OF 4.500"OD PIPE.
3. REMOVE 15'-11" OF 3.500"OD PIPE.
4. RETIRE (1) 3" PCF.

CONSTRUCTION NOTES:

GENERAL REQUIREMENTS:

- UNDERGROUND SERVICE ALERT:
CALL 811 (1-800-227-2600) A MINIMUM OF 2 BUSINESS DAYS (NOT INCLUDING INITIAL DAY OF CONTACT) IN ADVANCE FOR THE MARKING OF UNDERGROUND UTILITIES, INCLUDING ALL NON-UTILITIES BEFORE YOU DIG, GRADE, OR EXCAVATE.
2. UTILITY NOTES:
- A. DIMENSIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION FROM SEVERAL SOURCES, AND SHALL BE VERIFIED IN THE FIELD BY CONSTRUCTION PERSONNEL PRIOR TO FABRICATION.
- B. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES, PROPERTY LINES, AND OTHER SUBSTRUCTURES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE, UNLESS OTHERWISE NOTED. CONSTRUCTION PERSONNEL ARE RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS NECESSARY TO AVOID DAMAGE OR ENCROACHMENTS.
- C. PROSPECTING IS REQUIRED AHEAD OF WORK. ALL OFFSETS OR ROPING WILL NEED TO BE APPROVED BY THE PG&E PROJECT ENGINEER (PED), AND REDLINED DETAILS SHOWN ON PROFILE AND CONSTRUCTION DETAIL SHEETS OF EACH ADDITIONAL SUBSTRUCTURE.
- D. ALL EXCAVATIONS WITHIN EXISTING STATIONS SHALL BE HAND DUG OR EXCAVATED USING SOFT DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).
3. ELBOWS AND FIELD BENDS:
- A. ALL BENDS ARE ELBOWS, EXCEPT WHERE SMOOTH FIELD BENDS ARE SHOWN. FIELD BENDS SHALL BE MADE IN ACCORDANCE WITH A-36, SECTION 4D. FIELD BENDS MAY BE USED IN LIEU OF ELBOWS WHEN PREAPPROVED BY THE PG&E PROJECT ENGINEER (PED).
- B. IN ORDER TO AVOID EXCESSIVE STRAIN ON THE PIPELINE, THERE SHALL BE A MINIMUM SEPARATION OF 5 FEET BETWEEN A ROPED SECTION OF PIPELINE AND ANY ELBOWS OR FIELD BENDS.
- C. ALL ANGLES SHOWN IN THE PLAN AND PROFILE ARE APPROXIMATE AND SHALL BE CUT TO SUIT FIELD CONDITIONS.
4. SEPARATION FROM OTHER STRUCTURES:
- A. CROSSING UNDERGROUND FACILITIES: PG&E PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER SUBSTRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.
- B. PARALLELING UNDERGROUND FACILITIES: THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 5 FEET OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.
5. RESTORATION AND CLEAN UP:
- A. RESTORATION OF PUBLIC STREETS, SIDEWALKS, CURBS, ETC. ABOVE PIPE BEDDING SHALL BE IN ACCORDANCE WITH THE LATEST CITY, COUNTY, OR AGENCY STANDARDS.
- B. WHERE EVER THERE ARE ROW CROPS, THE TOPSOIL SHALL BE REMOVED TO A DEPTH OF 12" AND STORED ON SITE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE RESTORED. TAKE CARE TO PREVENT MIXING OF TOPSOIL AND SUBSOIL.
6. DESIGN NOTES:
- A. THIS DRAWING HAS BEEN CREATED BY REVIEW OF THE AS-BUILT DRAWINGS & RECORDS. ACCURACY IS DEPENDENT UPON THE SOURCE DOCUMENT LISTED ON THE REFERENCE DRAWINGS.
- B. PIPE & FITTING SPECIFICATIONS WITH ASTERISK (*) ARE CONSERVATIVE ASSUMED VALUES PER TD-4125P-09 PROCEDURE FOR THE RESOLUTION OF UNKNOWN PIPELINE FEATURES (PRUPF).
- C. ALL WORK DEPICTED IN THIS DRAWING IS TO BE AS-BUILT UNDER THE PRIMARY ORDER NUMBER.
7. WELDING REQUIREMENTS:
- A. ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH THE GAS WELDING CONTROL MANUAL TD-4160M. REFER TO TD-4160P-20 OR TD-4160P-26 FOR GENERAL WELDING REQUIREMENTS.
- B. PERFORM ALL IN-SERVICE WELDING PER UTILITY PROCEDURE TD-4160P-40.
- C. ALL CANS OR SPOOLS SHALL BE A MINIMUM LENGTH OF ONE PIPE DIAMETER, WHENEVER POSSIBLE.
- D. WHEN INTERNAL MISALIGNMENT AT GIRTHWELDS EXCEEDS 0.094", BACKWELD WHERE THERE IS ACCESS TO THE INSIDE OF THE WELD. WHERE THERE IS NO ACCESS TO THE INSIDE OF THE WELD, MACHINE BORING OR GRINDING IS REQUIRED. BACKWELDING, GRINDING, OR BORING MUST BE DONE IN ACCORDANCE WITH TD-4160P-20 OR TD-4160-26, AS APPROPRIATE.
8. STRENGTH TEST REQUIREMENTS
- A. STRENGTH TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH UTILITY PROCEDURE TD-4137S.
- B. ALL WELDS THAT HAVE NOT BEEN STRENGTH TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100 PSI AND AT OPERATING PRESSURE BEFORE COATING CAN OCCUR.
9. COATING REQUIREMENTS:
- A. ALL EXPOSED PIPE AND FITTINGS ARE TO BE COATED IN ACCORDANCE WITH GAS STANDARD E-30. ALL COATING ON BURIED PIPE AND FITTINGS ARE TO BE APPLIED IN ACCORDANCE WITH GAS STANDARD E-35.
- B. FOR COATING SELECTIONS ON BURIED PIPE, SEE DIRECT BURIAL COATING SELECTIONS TABLE.
- C. CONTACT THE PROJECT ENGINEER (PED) TO REQUEST VARIANCE FROM THE APPROVED COATING PRODUCTS.
10. INSPECTION OF EXISTING PIPELINE:
- A. WHENEVER EXISTING BURIED GAS FACILITIES ARE EXCAVATED DURING ENGINEERING OR DURING CONSTRUCTION, FOLLOW TD-5100P-01 TO DOCUMENT PIPE INSPECTION. THIS APPLIES TO EXISTING AND TO BE RETIRED FACILITIES.

11. TIE-IN AND CLEARANCE PROCEDURE TO BE PREPARED AND PERFORMED IN ACCORDANCE WITH THE FOLLOWING WORK PROCEDURES:
 - A. TD-4100P-01, HOT AND COLD WORK METHODS FOR NATURAL GAS TRANSMISSION PIPELINE SHUTDOWN AND TIE-IN.
 - B. TD-4441S, GAS CLEARANCE PROCEDURES FOR FACILITIES OPERATING OVER 60 PSIG.

- ## 12. COATING REMOVAL:

- A. PERFORM THE FOLLOWING STEPS, IN ACCORDANCE WITH TD-4711P-01, BEFORE REMOVING ASPHALTIC PIPE WRAP ON PIPELINES INSTALLED PRIOR TO 1972 (BASED ON PG&E ANALYSIS, PIPE INSTALLED IN 1972 OR LATER DOES NOT HAVE PIPE WRAP THAT CONTAINS ASBESTOS):

1. WHEN A PIPE WRAP SAMPLE IS REQUIRED TO BE ANALYZED FOR ASBESTOS:
 - a. COLLECT SAMPLE PER TD-4711P-01 AND COMPLETE CHAIN OF CUSTODY FORM TD-4711P-01-F01.
 - b. FILE PINK COPY OF THE CHAIN OF CUSTODY FORM AND FINAL LABORATORY RESULTS WITH THE AS-BUILTS.

2. WHEN REMOVING PIPE WRAP THAT CONTAINS ASBESTOS, OR FOR EMERGENCY WORK, FOLLOW TD-4711P-01 "PIPE WRAP REMOVAL, HANDLING AND DISPOSAL".

CATHODIC PROTECTION NOTES:

1. FOLLOW TD-5100P-01 TO DOCUMENT INTERNAL CORROSION AND EXTERNAL CORROSION INSPECTION OF THE PIPELINE.
2. INSTALL ELECTROLYSIS TEST STATIONS IN ACCORDANCE WITH GAS DESIGN STANDARDS O-10, O-10.1 AND O-10.2.
3. UPON COMPLETION OF BORINGS, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION TO PERFORM CURRENT DRAIN TESTS ON THE PIPELINE SEGMENT THAT WAS INSTALLED IN THE BORE. THE CURRENT DRAIN TEST MUST BE PERFORMED PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.
4. FOR THE INSTALLATION OF THE WATCHDOG RECTIFIER REMOTE MONITOR, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION.
5. BONDING CABLES TO BE INSTALLED ACROSS PIPELINE CUT-OUTS AT ALL LOCATIONS THE PIPELINE IS SEVERED PRIOR TO REMOVAL. CHAIN CLAMPS, MAGNETIC CLAMPS, OR OTHER CONSTRUCTION MANAGEMENT APPROVED CLAMPS AND #6 (MIN) STRANDED CABLE SHALL BE UTILIZED. CLAMPS TO REMAIN IN PLACE UNTIL PIPELINE IS TIED IN.

RETIREMENT PROCEDURE FOR EXISTING PIPE:

1. GT&D UTILITY WORK PROCEDURE TD 9500P-16, "DEACTIVATION AND/OR RETIREMENT OF UNDERGROUND GAS FACILITIES," SHALL BE FOLLOWED.
2. THE EXISTING PIPE SECTIONS SHALL HAVE FREE LIQUIDS REMOVED AND BE 100% PURGED PER GAS DESIGN STANDARD A-38, "PROCEDURES FOR PURGING GAS FACILITIES."
3. THE PIPE SHALL BE SECTIONALIZED AT INTERVALS AS SPECIFIED IN THE RETIREMENT PLAN. THE LOCATIONS CALLED OUT ARE APPROXIMATE AND ARE SUBJECT TO FIELD VERIFICATION TO IDENTIFY THE MOST OPTIMUM LOCATION IN THAT VICINITY. ACCURATE SURVEY DATA MAY NOT BE AVAILABLE FOR THESE LOCATIONS SO USE CAUTION DURING EXCAVATION AND WHEN IDENTIFYING THE PIPELINE TO BE RETIRED. OTHER ACTIVE PIPELINES MAY BE IN THE AREA.
4. AT EACH SUCH LOCATION NOTED ABOVE, A PIECE OF PIPE AT LEAST 24" LONG SHALL BE REMOVED. INSTALL A 1" HIGH PRESSURE SAVE-A-VALVE (H-17491, M022287) TO CHECK FOR PRODUCT AND PRESSURE PRIOR TO CUTTING INTO THE PIPELINE. THE OPEN ENDS OF THE RETIRED PIPE SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD-9500P-16. BACKFILL MUST BE THOROUGHLY COMPACTED IN PLACE OF THE REMOVED SECTION OF PIPE.

DESIGN CHANGE PROCEDURE

MAINTENANCE AND CONSTRUCTION PERSONNEL MUST OBTAIN APPROVAL FROM THE PROJECT ENGINEER (PED) BEFORE MAKING ANY DESIGN CHANGE TO GAS FACILITIES PER TD-4014P-01.

CONTACT INFORMATION:

CONSTRUCTION MANAGER	----	KC NELSON	(916) 258-8735
I&R SUPPORT	----	JEREMY VARNER	(209) 247-5306
CLEARANCE SUPERVISOR	----	TBD	TBD
PROJECT COORDINATOR	----	ALEX RODRIGUEZ	(916) 223-5419
PROJECT ENGINEER (PED)	----	CLARENCE LI	(925) 967-8247
PIPELINE ENGINEER (PLE)	----	JEFFREY GRACE	(916) 247-1334
ESTIMATOR / DESIGNER	----	DAVE BREWER	(530) 354-3301
H-FORM	----	LUKE ZOLNIEROWSKI	(908) 464-3064
MATERIALS (PIPE)	----	MICHAEL LACHINA	(510) 468-1924
MATERIALS (FITTINGS)	----	PAMELA TREVINO	(510) 468-7964
MATERIALS (CHAIN OF CUSTODY)	----	DAVID BUCKLEY	(628) 234-5642
CORROSION ENGINEER	----	JESSE BURR	(925) 324-8076
LOCAL CORROSION MECHANIC	----	DARREN BEGLEY	(916) 601-1983

REFERENCE DRAWINGS:

OPERATING MAPS

SUTTER CREEK FIELD SUTTER BUTTES
FIELD REDDING

DISTRIBUTION PLATS

2149

AS-BUILTS

MAOP13014788.TIF

REPLACE 3" DFM WITH 4" FROM MOON BEND ROAD----- 09-43-G96834, REV C

TO SACRAMENTO RIVER CROSSING

REPLACE 3" COLUSA DFM SUTTER BYPASS TO ----- GM 463447/3, SHT 7 REV 1
MERIDIAN SUTTER CO

IMPACTED RECORD DRAWINGS:

SEQUENCE OF OPERATIONS:

1. WELD AND PRE-TEST HDD PIPE STRING.
2. INSTALL 1250' OF PIPE BY HORIZONTAL DIRECTIONAL DRILL.
3. INSTALL 302' OF PIPE BY OPEN TRENCH.
4. FABRICATE TIE-IN PIECES.
5. HYDROTEST TO A MINIMUM OF 1.5 TIMES MAOP WITH A MINIMUM DURATION OF 8 HOURS, DE-WATER, AND DRY NEW 4" PIPE AND TIE-IN PIECES.
6. PRIOR TO TAKING PIPELINE CLEARANCE, THE FOLLOWING MUST BE PERFORMED:
 - A. PG&E GPOM TO CHECK ANY DRIPS IN SHUT-IN SEGMENT FOR PRESENCE OF PIPELINE LIQUIDS.
 - B. REMOVE PIPE WRAP FROM CUT OUT SECTIONS EXTENDING 1' BEYOND EACH END OF THE CUT-OUT AND SANDBLAST TO NEAR WHITE.
 - C. COMPLETE A-FORMS IN ALL EXPOSED PIPE AND INCLUDE IN AS-BUILT PACKAGE. IF UT WT MEASUREMENTS DO NOT MATCH EXISTING PIPE SPECIFICATIONS AS SHOWN ON DRAWINGS, IMMEDIATELY NOTIFY PROJECT ENGINEER (PED).
 - D. INSTALL SAVE-A-VALVES FOR OIL TESTING AND SNIFF HOLES WHERE DESIGNATED.
 - E. CONFIRM LOCATION AND NUMBER OF SAVE-A-VALVES AND ENSURE WELD PROCEDURE CALCULATIONS ARE PROVIDED BY ENGINEERING PRIOR TO WELDING SAVE-A-VALVES ON PIPELINE.
 - F. STRENGTH TEST, DEWATER, AND DRY TIE-IN PIECES PER UTILITY PROCEDURE TD-4137S.
7. COMPLETE CLEARANCE PER APPROVED CLEARANCE PROCEDURE.
8. REMOVE RETIRED PIPE AND FITTINGS AS NECESSARY PER DRAWINGS.
9. TIE-IN NEW 4" PIPE.
10. COMPLETE RETIREMENT/REMOVAL OF 0630-01 AND 0630-03 AS PER DRAWING.
11. BACKFILL AND RESTORE CONSTRUCTION CORRIDORS.

HORIZONTAL DATUM
THE BEARINGS AND DISTANCES ARE BASED ON CALIFORNIA
COORDINATE SYSTEM, ZONE 3.
VERTICAL DATUM
ALL ELEVATIONS SHOWN ARE BASED ON THE NORTH AMERICAN
VERTICAL DATUM OF 1988 (NAV88), US SURVEY FEET AS
PROVIDED BY THE CALIFORNIA SURVEY AND DRAFTING SUPPLY
SURVEY NETWORK.
TO CONVERT TO NGVD29 SUBTRACT 2.4 FEET FROM ALL SHOWN
ELEVATIONS.

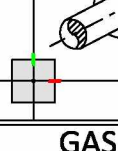
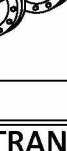
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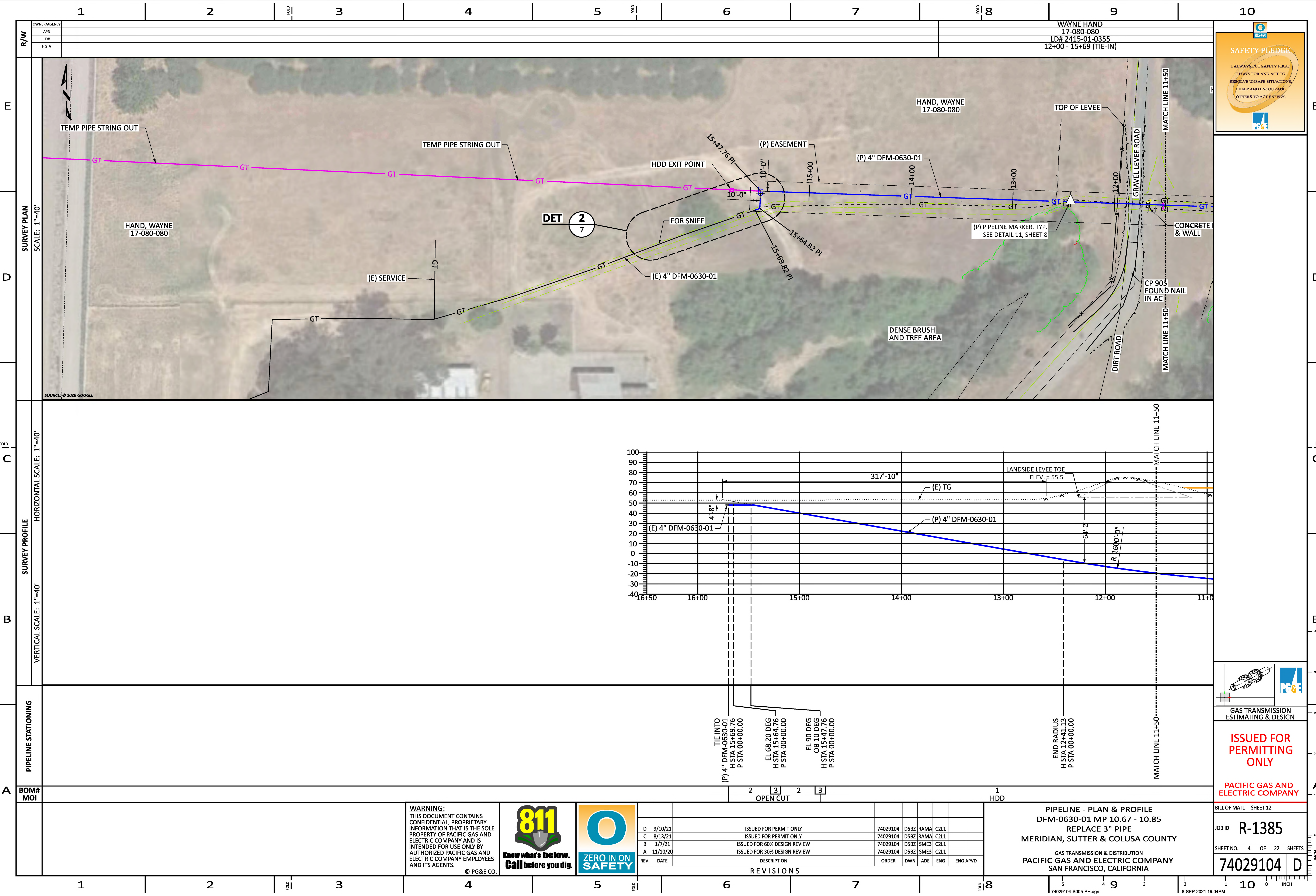
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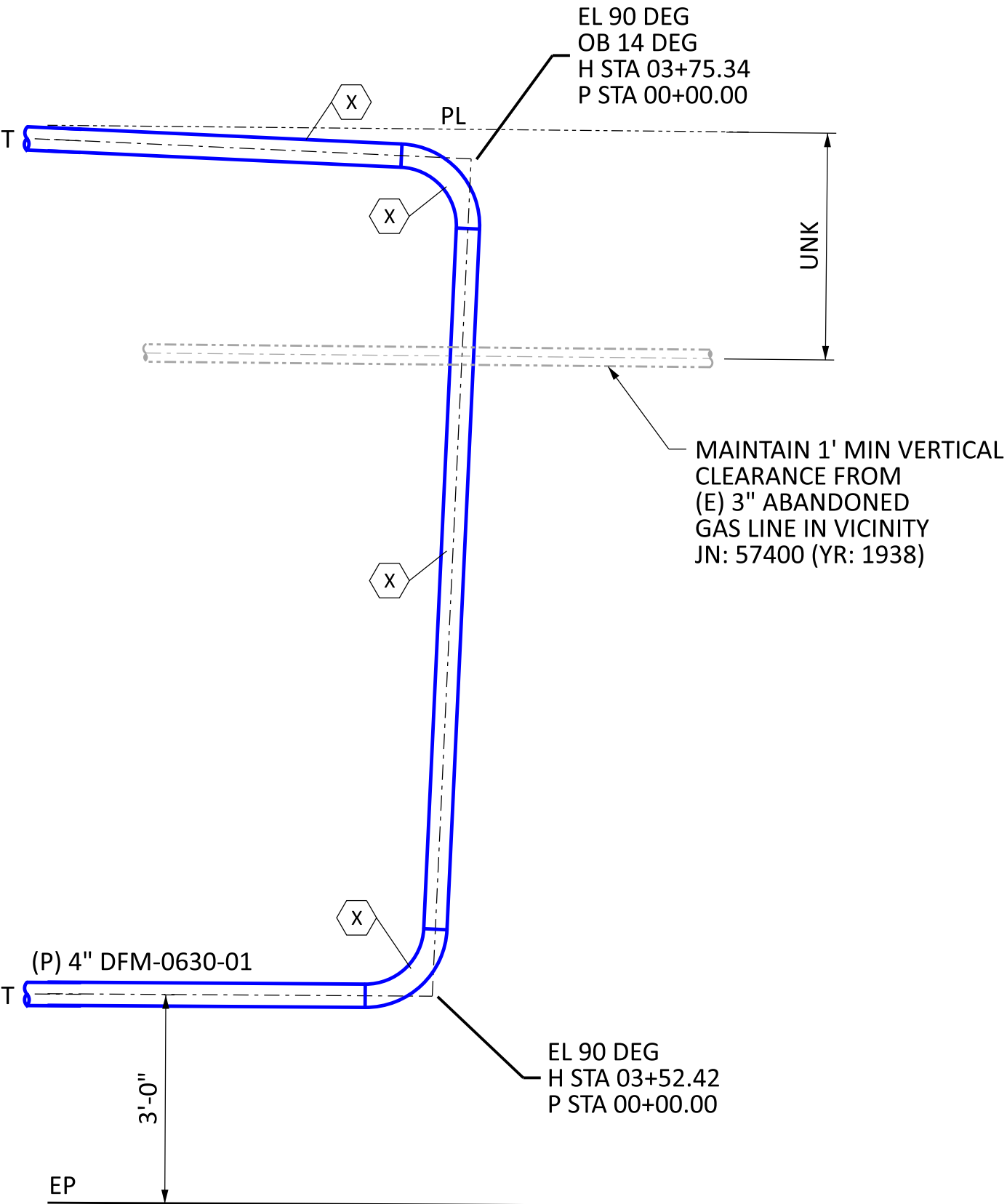
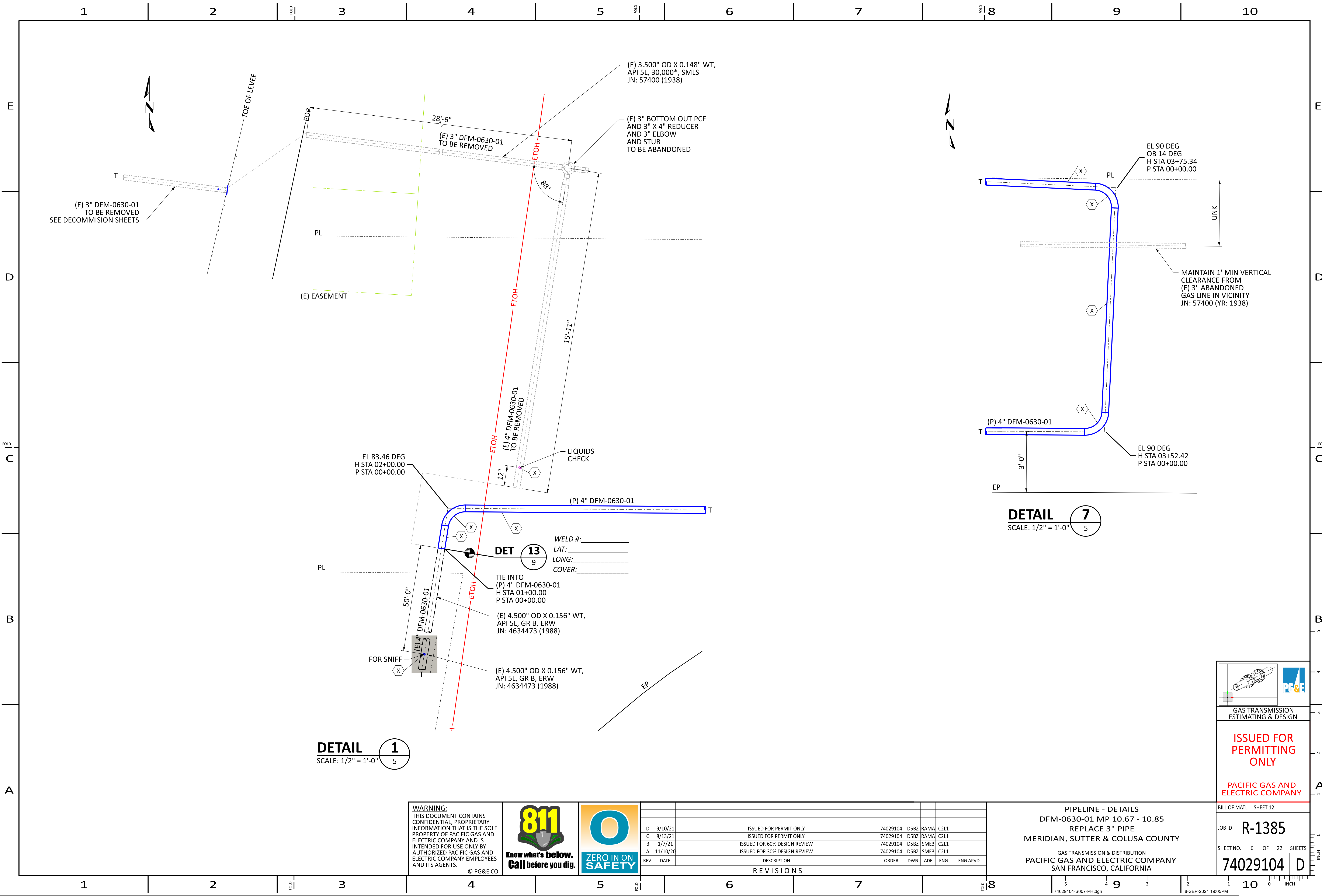
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PIPELINE - CONSTRUCTION NOTES
DFM-0630-01 MP 10.67 - 10.85
REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

		
GAS TRANSMISSION ESTIMATING & DESIGN		
<div style="color: red; font-weight: bold; font-size: 2em;">ISSUED FOR PERMITTING ONLY</div> <div style="color: red; font-weight: bold; font-size: 1.5em; margin-top: 20px;">PACIFIC GAS AND ELECTRIC COMPANY</div>		
BILL OF MATL SHEET 12		
JOB ID	<div style="font-size: 3em; font-weight: bold;">R-1385</div>	
SHEET NO. 2 OF 22 SHEETS		
<div style="font-size: 3em; font-weight: bold;">74029104</div>		<div style="font-size: 3em; font-weight: bold;">D</div>





DETAIL 7
SCALE: 1/2" = 1'-0"

DETAIL 1
SCALE: 1/2" = 1'-0"

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PIPELINE - DETAILS
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REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

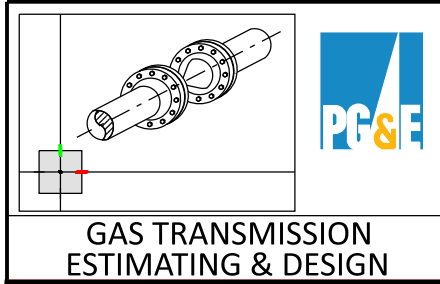
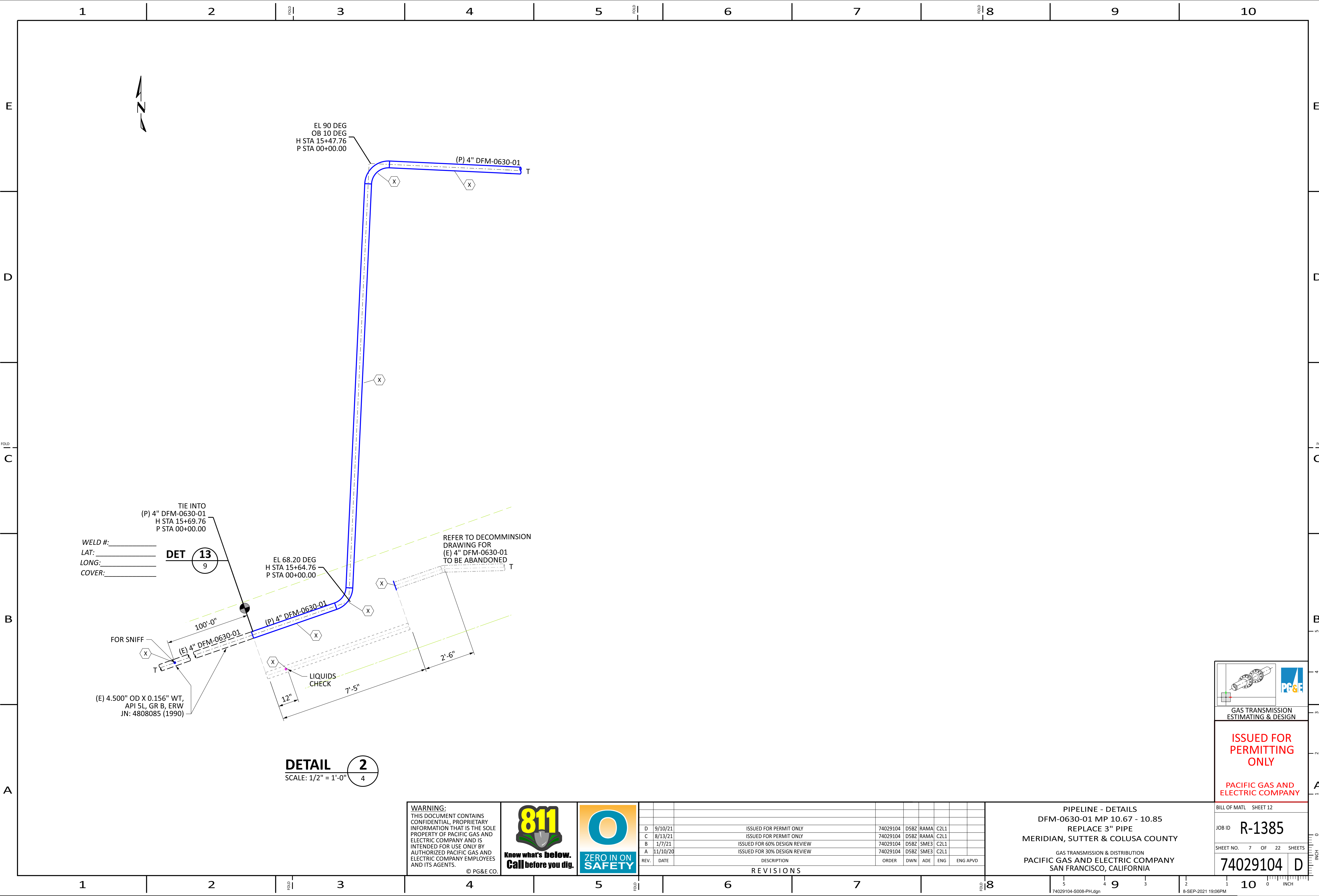
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ESTIMATING & DESIGN

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ELECTRIC COMPANY

BILL OF MATL	SHEET 12
JOB ID	R-1385
SHEET NO.	6 OF 22 SHEETS
74029104	D

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ISSUED FOR PERMITTING ONLY

PACIFIC GAS AND ELECTRIC COMPANY

BILL OF MATL SHEET 12

JOB ID **R-1385**

SHEET NO. 7 OF 22 SHEETS

74029104 D

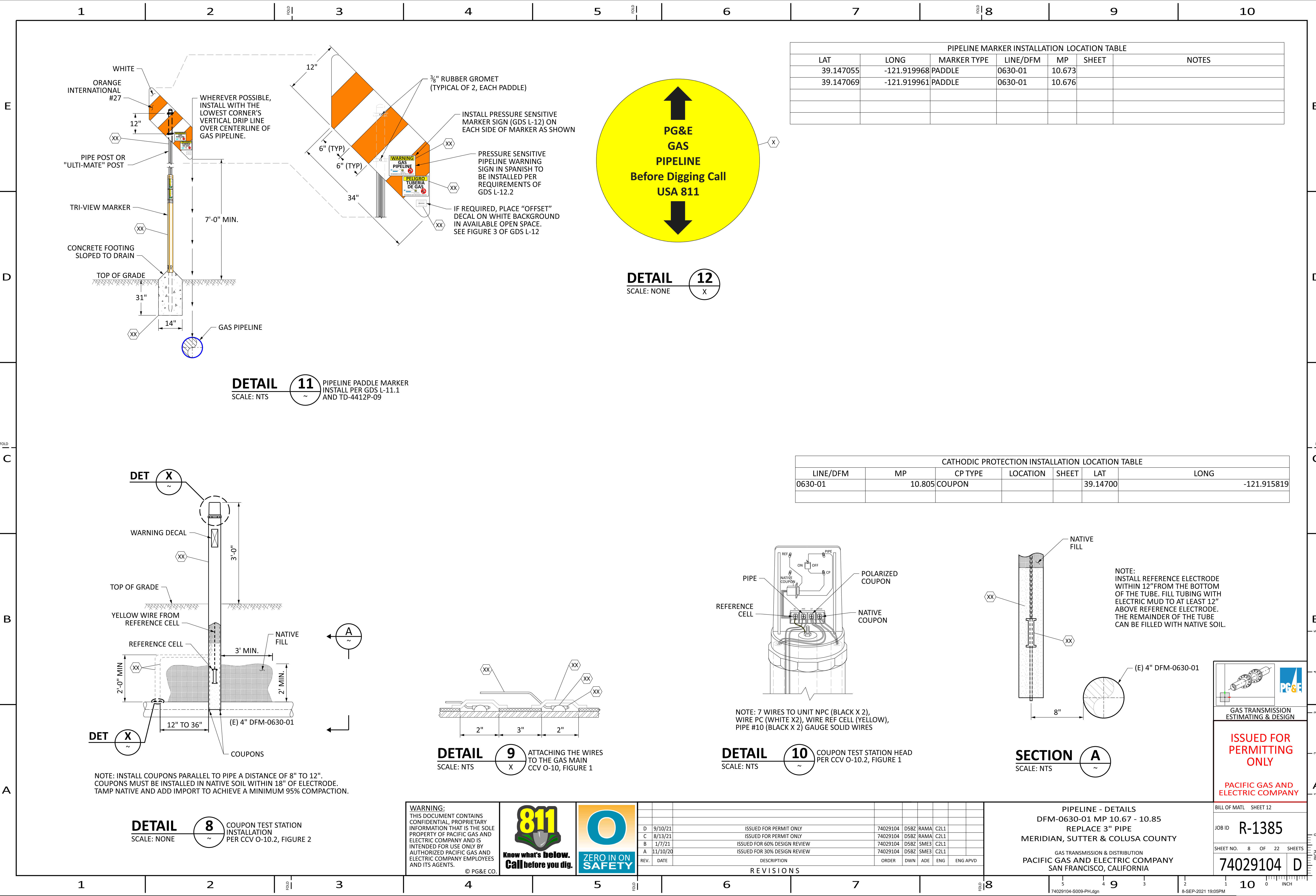
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PIPELINE - DETAILS
DFM-0630-01 MP 10.67 - 10.85
REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA



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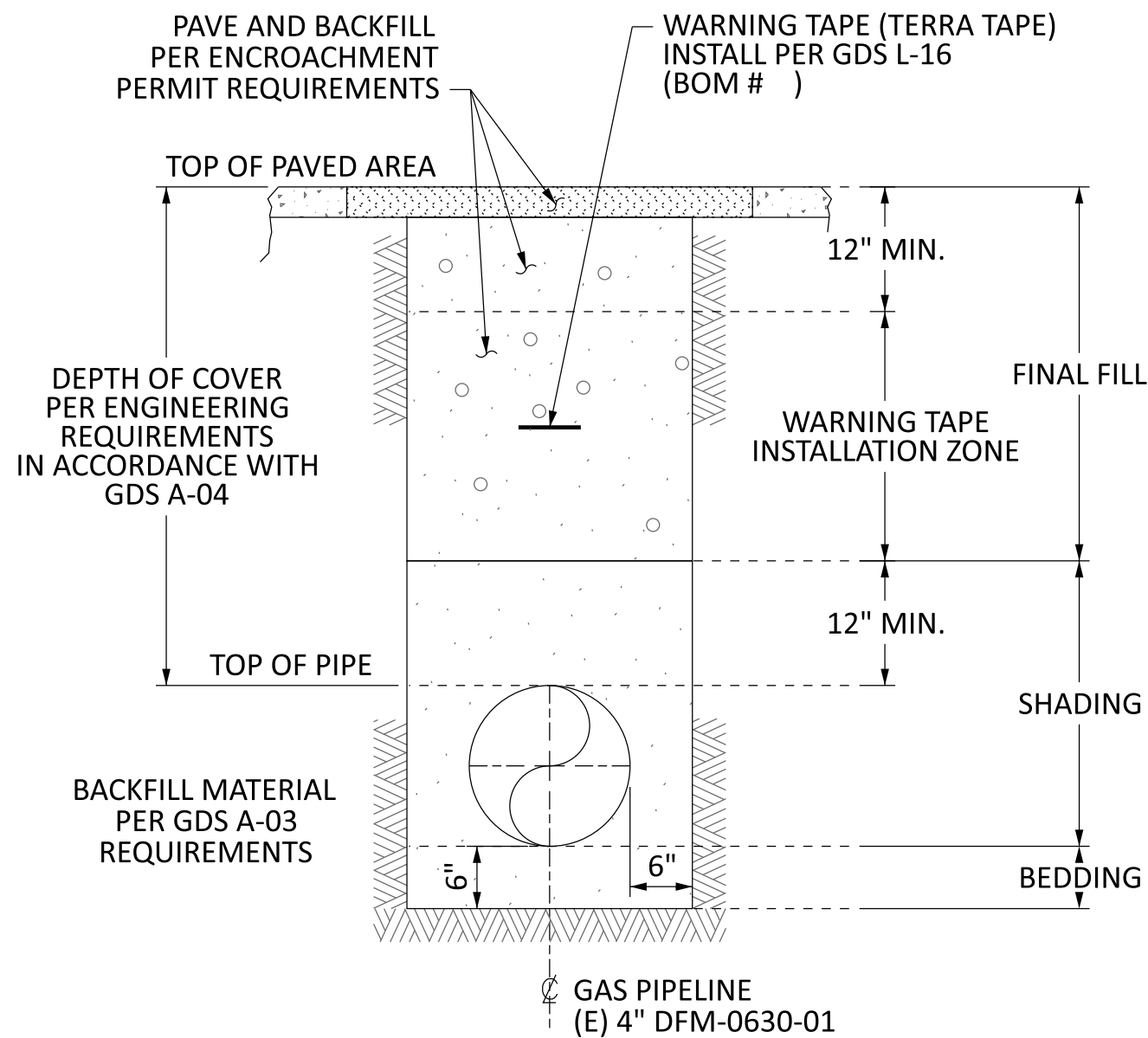
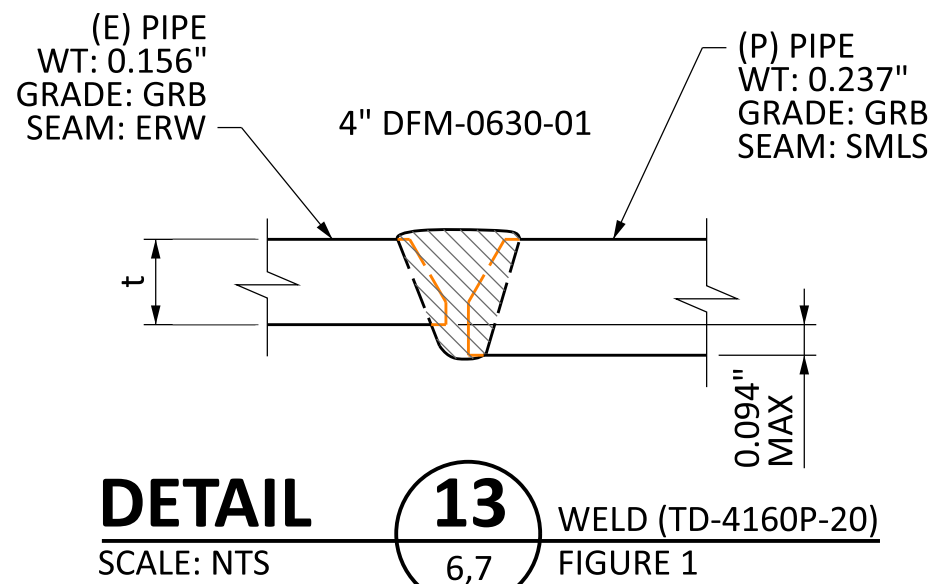
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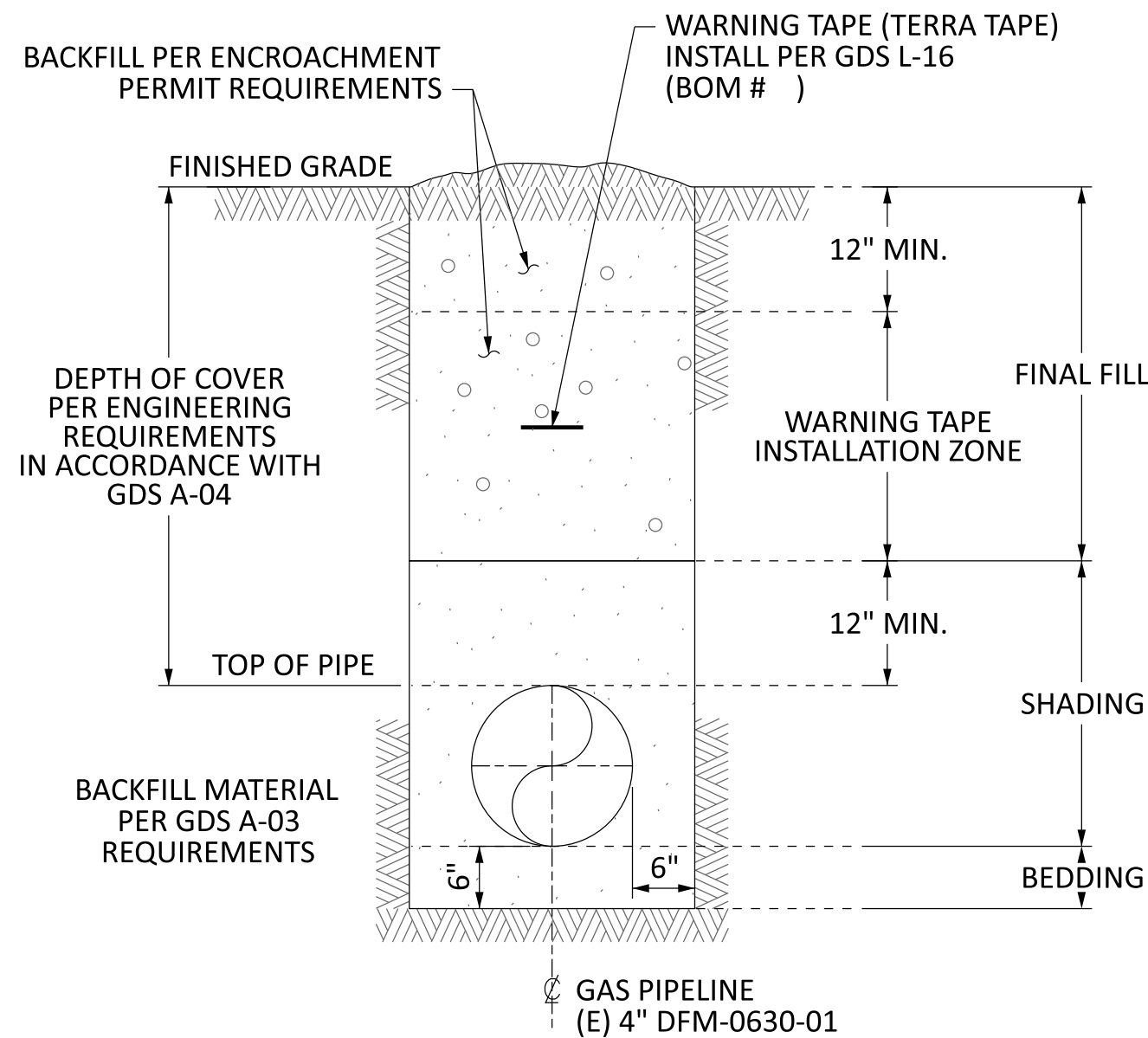
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SEE TD-4621M FOR SHORING REQUIREMENTS

DETAIL TYP
SCALE: NTS

"T" TRENCH
PAVED AREA



SEE TD-4621M FOR SHORING REQUIREMENTS

DETAIL TYP
SCALE: NTS

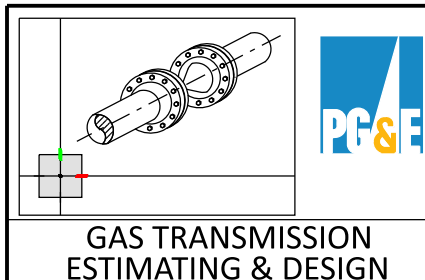
TRENCH
NON-PAVED AREA

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REPLACE 3" PIPE
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PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA



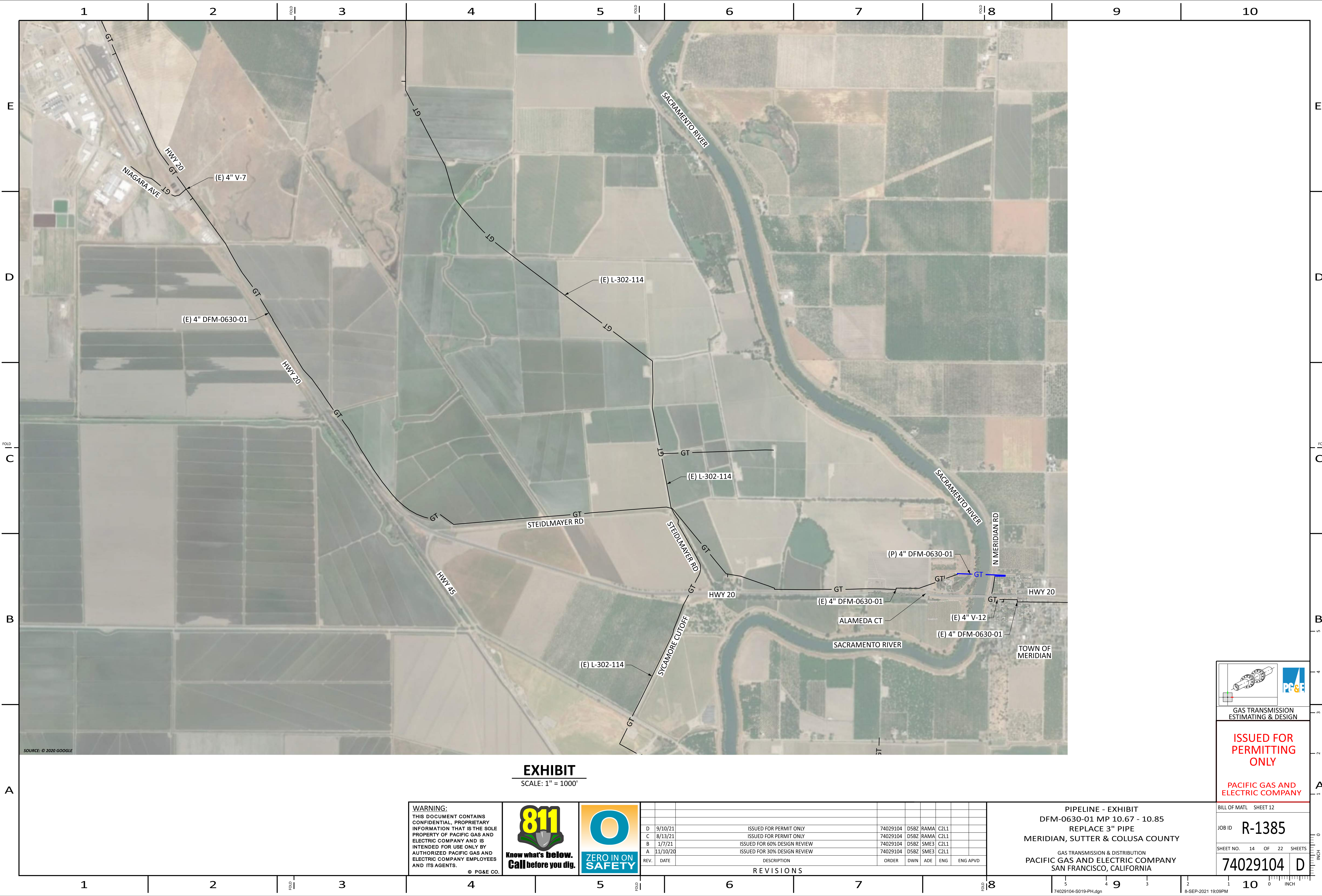
**ISSUED FOR
PERMITTING
ONLY**

PACIFIC GAS AND
ELECTRIC COMPANY

BILL OF MATL	SHEET 12
JOB ID	R-1385
SHEET NO.	9 OF 22 SHEETS
74029104	D

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E	1	PIPE, STEEL, 4", 0.237" WT, API 5L, GRADE X42, SEAMLESS, FBE + ARC							M010716	1300	FT	GS&S A-15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	2	PIPE, STEEL, 4", 0.237" WT, API 5L, GRADE X42, SEAMLESS, BARE							M011693	314	FT	GS&S A-15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	3	ELBOW, 4", 90 DEG, 0.237" WT, LONG RADIUS, BUTT WELD, CARBON STEEL, SCH 40, ASTM A234, GRADE B							M022039	7	EA	GS&S B-20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	4	CAP, CARBON STEEL, 4", BUTT WELD, 0.237" WT, ASTM A-234, GRADE B							M022079	4	EA	GS&S B-20																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	5	STEEL PLATE, 3/8" THICK							N/A	6	EA	-																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
D	6	36" "ULTI-MATE" PENETRATOR ANCHOR, 2" X 10' SQUARE POST, FOUR 3/8" ALUMINUM RIVETS, ONE CORNER BOLT UM-SQCB, COATED ALUMINUM PADDLE MARKER							M377179	2	EA	L-11.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	7	NIPPLE, SAVE-A-VALVE, 1", WELD, STEEL, MUELLER # H-17491, STEEL CAP, DRILLING 1200 PSI MAXIMUM, 1440 PSI MAXIMUM							M022287	6	EA	GS&S C-14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	8	NIPPLE, SAVE-A-VALVE, 2", WELD, STEEL, MUELLER # H-17491, STEEL CAP, DRILLING 1200 PSI MAXIMUM, 1440 PSI MAXIMUM							M022289	6	EA	GS&S C-14																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	9	STATION, TEST COUPON, CC TECHNOLOGIES # CS3100, SMALL PLASTIC CONDUIT AND TERMINAL TEST HEAD CONSTRUCTION, 3" OD X 10' LONG							M560691	1	EA	CCV O-10.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	10	ELECTRODE, REFERENCE, STEALTH 2, COPPER-COPPER SULFATE, BORIN MANUFACTURING # SRE-007-CUY, WITH 50' OF WIRE							M241423	1	EA	CCV O-71																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	11	ELECTRODE, REFERENCE, GELATIN, BACKFILL, BORIN MANUFACTURING # EMB-001-CUS, ELECTRIC MUD, GELATIN BACKFILL, CUCUSO4, SINGLE UNIT, FOR ONE INSTALLATION							M041192	1	EA	CCV O-71																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	12	WIRE, ELECTRICAL, INSULATED, COPPER, 10 AWG, 600 V, 47 MIL PVC, SOLID 1 CONDUCTOR, BLACK							M294991	100	FT	CCV O-10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	13	TAPE HANDY CAP 4" X 4", ROYSTON IP W/ INTEGRATED PRIMER							M562324	4	EA	GS&S E-27																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	14	CARTRIDGE, BRAZING, CADWELD # CA-15, THERMOWELD #15P, ERICO PRODUCTS COMPANY							M159260	4	EA	CCV O-10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	15	SLEEVE, COPPER SPLICING #14 TO #10							M303755	4	EA	CCV O-10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	16	WIRE, ELECTRICAL, INSULATED, COPPER, 10 AWG, 600 V, 47 MIL PVC, SOLID 1 CONDUCTOR, WHITE							M294107	100	FT	CCV O-10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	17	PIPE, PVC, 3" IPS, 0.300" WT, SCH 80							M016071	2	FT	CCV O-10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	18	STATION, TEST, CATHODIC PROTECTION, COTT MFG # 300S5, ORANGE, BIG FINK, 5 TERMINALS, WITHOUT CONDENSER							M569390	1	EA	CCV O-10.1																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
	19	TAPE, WARNING, PIPELINE, GAS UNDERGROUND, REEF INDUSTRIES # 42-0084, YELLOW WITH BLACK WRITING, "CAUTION GAS LINE BURIED BELOW", 8 MILS THICK, 6" WIDE X 1000' LONG							M379947	1	EA	GS&S L-16																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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DESIGN CRITERIA										WARNING:				811				ZERO IN ON SAFETY				REV. DATE DESCRIPTION ORDER DWN ADE ENG ENG APVD				PIPELINE - BILL OF MATERIALS DFM-0630-01 MP 10.67 - 10.85 REPLACE 3" PIPE MERIDIAN, SUTTER & COLUSA COUNTY GAS TRANSMISSION & DISTRIBUTION PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA				BILL OF MATL SHEET 12 JOB ID R-1385 SHEET NO. 12 OF 22 SHEETS 74029104 D																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
BOM #	OD (IN)	WT (IN)	SMYS (PSI)	DESIGN CLASS LOCATION	DESIGN FACTOR	FDP		MAOP		PSIG @ 90% SMYS	THIS DOCUMENT CONTAINS CONFIDENTIAL, PROPRIETARY INFORMATION THAT IS THE SOLE PROPERTY OF PACIFIC GAS AND ELECTRIC COMPANY AND IS INTENDED FOR USE ONLY BY AUTHORIZED PACIFIC GAS AND ELECTRIC COMPANY EMPLOYEES AND ITS AGENTS.				© PG&E CO.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			



SOURCE: © 2020 GOOGLE

EXHIBIT

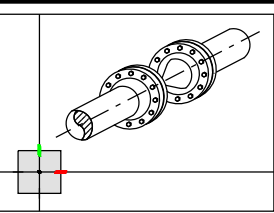
SCALE: 1" = 1000'

WARNING:
THIS DOCUMENT CONTAINS
CONFIDENTIAL, PROPRIETARY
INFORMATION THAT IS THE SOLE
PROPERTY OF PACIFIC GAS AND
ELECTRIC COMPANY AND IS
INTENDED FOR USE ONLY BY
AUTHORIZED PACIFIC GAS AND
ELECTRIC COMPANY EMPLOYEES
AND ITS AGENTS.
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REV.	DATE	DESCRIPTION	ORDER	DWN	ADE	ENG	ENG APVD
D	9/10/21	ISSUED FOR PERMIT ONLY	74029104	D5BZ	RAMA	C2L1	
C	8/13/21	ISSUED FOR PERMIT ONLY	74029104	D5BZ	RAMA	C2L1	
B	1/7/21	ISSUED FOR 60% DESIGN REVIEW	74029104	D5BZ	SME3	C2L1	
A	11/10/20	ISSUED FOR 30% DESIGN REVIEW	74029104	D5BZ	SME3	C2L1	

PIPELINE - EXHIBIT
DFM-0630-01 MP 10.67 - 10.85
REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA



GAS TRANSMISSION
ESTIMATING & DESIGN

ISSUED FOR
PERMITTING
ONLY

PACIFIC GAS AND
ELECTRIC COMPANY

BILL OF MATL SHEET 12

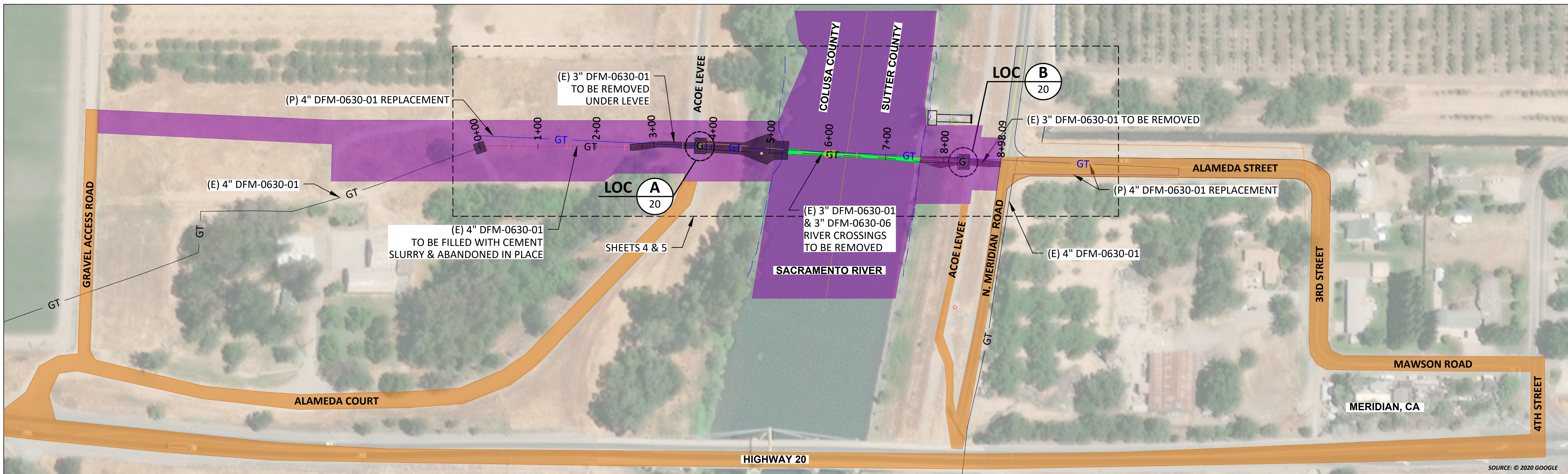
JOB ID R-1385

SHEET NO. 14 OF 22 SHEETS

74029104 D

1 10 0 INCH

DFM-0630-01 MP 10.67 - 10.85
DECOMMISSION SACRAMENTO RIVER CROSSING
MERIDIAN, SUTTER & COLUSA COUNTY



KEY MAP
SCALE: 1" = 100'

SCHEDULE OF SHEETS

SHEET 15	-- TITLE & INDEX
SHEET 16	-- CONSTRUCTION NOTES
SHEET 17	-- LEGEND & STAMPS
SHEET 18	-- PLAN & PROFILE
SHEETS 19-21	-- DETAILS
SHEET 22	-- BILL OF MATERIALS



REV.	DATE	DESCRIPTION	ORDER	DWN	ADE	ENG	ENG APVD
F	12-14-21	ISSUED FOR PERMIT ONLY	74029104	EAR	GDO	C2L1	
E	10-27-21	ISSUED FOR PERMIT ONLY	74029104	EAR	GDO	C2L1	
D	9-10-21	ISSUED FOR PERMIT ONLY	74029104	EAR	GDO	C2L1	
C	8-13-21	ISSUED FOR PERMIT ONLY	74029104	EAR	GDO	C2L1	
B	1-7-21	DRAFT 60% DESIGN	74029104	EAR	GDO	C2L1	
A	11-10-20	30% DESIGN	74029104	EAR	GDO	C2L1	

REVISIONS

PIPELINE - TITLE & INDEX
DFM-0630-01 MP 10.67 - 10.85
DECOMMISSION SACRAMENTO RIVER CROSSING
MERIDIAN, SUTTER & COLUSA COUNTY
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA



ISSUED FOR
PERMITTING ONLY

PACIFIC GAS AND
ELECTRIC COMPANY

BILL OF MATL SHEET 21

JOB ID R-1385

SHEET NO. 15 OF 22 SHEETS

74029104 F

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FOLD

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10

SUMMARY OF PROPOSED WORK:

CAPITAL ORDER # 74029104

1.

INSTALL HDD REPLACEMENT 4" DFM-0630-01 UNDER THE SACRAMENTO RIVER PRIOR TO PERFORMING THE DECOMMISSIONING SCOPE OF WORK. REFERENCE ORDER #74029104.

2.

INSTALL PIG LAUNCHERS AND RECEIVERS. PIG AND FLUSH BOTH 3" (E) DFM-0630-01 AND 3" (E) DFM-0630-06 RIVER CROSSINGS FROM VALVE VAULT TO VALVE VAULT, 3" (E) DFM-0630-01 FROM THE WEST VALVE VAULT TO THE 4" TRANSITION LOCATED NEAR THE LANDSIDE TOE OF THE LEVEE, 4" (E) DFM-0630-01 FROM THE 4" TRANSITION LOCATED NEAR THE LANDSIDE TOE OF THE LEVEE TO THE PIPE END LOCATED NEAR THE WEST REPLACEMENT TIE-IN LOCATION, AND 3" (E) DFM-0630-01 FROM THE EAST VALVE VAULT TO THE PIPE END LOCATED NEAR THE EAST TIE-IN LOCATION. REMOVE PIG LAUNCHERS AND RECEIVERS.

3.

REMOVE (E) 3' x 5' CONCRETE VAULT WITH ASSOCIATED VALVES/FITTINGS AT LOCATION A (WEST BANK OF RIVER).

4.

REMOVE (E) 5' x 7' CONCRETE VAULT WITH ASSOCIATED VALVES/FITTINGS AT LOCATION B (EAST BANK OF RIVER).

5.

REMOVE 464' (MP10.08 - MP 10.77) OF 3" DFM-0630-01.

6.

REMOVE 464' (MP 0.00 - MP 0.10) OF 3" DFM-0630-06.

7.

REMOVE 82' OF 3" DFM-0630-01 STEEL PIPE.

8.

REMOVE 34' OF 4" DFM-0630-01 STEEL PIPE.

9.

REMOVE 65' OF 3" DFM-0630-01 STEEL PIPE.

10.

ABANDON IN PLACE 264' FEET OF 4" DFM-0630-01 STEEL PIPE.

11.

BACKFILL AND COMPACT EXCAVATIONS AND PERFORM SITE RESTORATION IN ACCORDANCE WITH ALL APPLICABLE PERMITS AND AGREEMENTS.

CAPITAL ORDER # 74037542

1.

REMOVE 1'-9" OF 3.500"OD PIPE.

2.

REMOVE 14'-0" OF 1.050"OD PIPE.

SEQUENCE OF OPERATIONS:

1.

FOLLOW DEACTIVATION PROCEDURE TD-9500P-16 FOR PIPELINE DECOMMISSIONING.

2.

FOLLOW GENERAL REQUIREMENT #13 COATING REMOVAL WHEN EXPOSING PIPELINES THAT WILL BE CUT AND THEN CAPPED WITH A STEEL PLATE WELDED TO THE ABANDONED PIPE END.

3.

ATTACH PIG LAUNCHERS AND RECEIVERS ON EXPOSED PIPE ENDS OF DFM-0630-01 & DFM-0630-06 AT RIVER BANK VALVE VAULTS PER SHT 19.

4.

PIG & FLUSH (E) 3" DFM-0630-01 & 3" DFM-0630-06 PIPELINE SEGMENTS TO BE DECOMMISSIONED. SAMPLE AND TEST FLUSH WATER TO VERIFY THAT CONTAMINANTS ARE BELOW PERMITTED THRESHOLDS (LESS THAN 15 PPM TOTAL PETROLEUM HYDROCARBONS). DISPOSE OF FLUSH WATER IN ACCORDANCE WITH PERMIT REQUIREMENTS.

5.

REMOVE (E) CONCRETE VALVE BOX STRUCTURES, INCLUDING ASSOCIATED VALVES/FITTINGS

6.

REMOVE PIPELINE SECTIONS IDENTIFIED FOR REMOVAL ON SHEET 18.

7.

WELD STEEL PLATE ON PIPE ENDS AT SECTIONALIZATION LOCATION #2 FOR PIPELINE TO BE ABANDONED IN PLACE. SEE DETAIL 4.

8.

REMOVE OLD PIPELINE MARKERS & CP PER SHEET 18. INSTALL NEW ETS AND MARINE CROSSING SIGNS.

9.

BACKFILL AND COMPACT EXCAVATIONS AND PERFORM SITE RESTORATION IN ACCORDANCE WITH ALL APPLICABLE PERMITS AND AGREEMENTS.

DESIGN CHANGE PROCEDURE

MAINTENANCE AND CONSTRUCTION PERSONNEL MUST OBTAIN APPROVAL FROM THE PROJECT ENGINEER (PED) BEFORE MAKING ANY DESIGN CHANGE TO GAS FACILITIES PER TD-4014P-01.

CONSTRUCTION NOTES:

GENERAL REQUIREMENTS:

1.

UNDERGROUND SERVICE ALERT:
CALL 811 (1-800-227-2600) A MINIMUM OF 2 BUSINESS DAYS (NOT INCLUDING INITIAL DAY OF CONTACT) IN ADVANCE FOR THE MARKING OF UNDERGROUND UTILITIES, INCLUDING ALL NON-UTILITIES BEFORE YOU DIG, GRADE, OR EXCAVATE.

2.

UTILITY NOTES:
A. DIMENSIONS SHOWN ON THESE DRAWINGS ARE BASED ON THE BEST AVAILABLE INFORMATION FROM SEVERAL SOURCES, AND SHALL BE VERIFIED IN THE FIELD BY CONSTRUCTION PERSONNEL PRIOR TO FABRICATION.
B. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES, PROPERTY LINES, AND OTHER SUBSTRUCTURES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE, UNLESS OTHERWISE NOTED. CONSTRUCTION PERSONNEL ARE RESPONSIBLE FOR MAKING ALL DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS NECESSARY TO AVOID DAMAGE OR ENCROACHMENTS.
C. PROSPECTING IS REQUIRED AHEAD OF WORK. ALL OFFSETS OR ROPING WILL NEED TO BE APPROVED BY THE PG&E PROJECT ENGINEER (PED), AND REDLINED DETAILS SHOWN ON PROFILE AND CONSTRUCTION DETAIL SHEETS OF EACH ADDITIONAL SUBSTRUCTURE.
D. ALL EXCAVATIONS WITHIN EXISTING STATIONS SHALL BE HAND DUG OR EXCAVATED USING SOFT DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).

3.

ELBOWS AND FIELD BENDS:
A. ALL BENDS ARE SMOOTH FIELD BENDS, EXCEPT WHERE ELBOWS ARE SHOWN. FIELD BENDS SHALL BE MADE IN ACCORDANCE WITH A-36, SECTION 4D. FIELD BENDS MAY BE USED IN LIEU OF ELBOWS WHEN PREAPPROVED BY THE PG&E PROJECT ENGINEER (PED).
B. IN ORDER TO AVOID EXCESSIVE STRAIN ON THE PIPELINE, THERE SHALL BE A MINIMUM SEPARATION OF 5 FEET BETWEEN A ROPED SECTION OF PIPELINE AND ANY ELBOWS OR FIELD BENDS.
C. ALL ANGLES SHOWN IN THE PLAN AND PROFILE ARE APPROXIMATE AND SHALL BE CUT TO SUIT FIELD CONDITIONS.

4.

SEPARATION FROM OTHER STRUCTURES:
A. CROSSING UNDERGROUND FACILITIES: PG&E PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER SUBSTRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.
B. PARALLELING UNDERGROUND FACILITIES: THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 5 FEET OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE/UTILITY NOT ASSOCIATED WITH THE PIPELINE UNLESS NOTED ON THE DRAWINGS.

5.

RESTORATION AND CLEAN UP:
A. RESTORATION OF PUBLIC STREETS, SIDEWALKS, CURBS, ETC. ABOVE PIPE BEDDING SHALL BE IN ACCORDANCE WITH THE LATEST CITY, COUNTY, OR AGENCY STANDARDS.
B. WHERE EVER THERE ARE ROW CROPS, THE TOPSOIL SHALL BE REMOVED TO A DEPTH OF 12" AND STORED ON SITE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE RESTORED. TAKE CARE TO PREVENT MIXING OF TOPSOIL AND SUBSOIL.

6.

DESIGN NOTES:
THIS DRAWING HAS BEEN CREATED BY REVIEW OF THE AS-BUILT DRAWINGS & RECORDS. ACCURACY IS DEPENDENT UPON THE SOURCE DOCUMENT LISTED ON THE REFERENCE DRAWINGS.

7.

WELDING REQUIREMENTS:
A. ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH THE GAS WELDING CONTROL MANUAL TD-4160M. ALL CANS OR SPOOLS SHALL BE A MINIMUM LENGTH OF ONE PIPE DIAMETER, WHENEVER POSSIBLE.
B. INSTALL TEST STATIONS WITH THERMITE WELD CONNECTION IN ACCORDANCE WITH GAS T & D CORROSION CONTROL MANUAL O-10, O-10.1 AND O-10.2.

8.

WELDING:
WHEN INTERNAL MISALIGNMENT EXCEEDS 0.094", BACKWELD ANY GIRTH WELD WHERE THERE IS ACCESS TO THE INSIDE OF THE WELD. WHERE THERE IS NO ACCESS TO THE INSIDE OF THE WELD, MACHINE BORING OR GRINDING IS REQUIRED. BACKWELDING, GRINDING, OR BORING MUST BE DONE IN ACCORDANCE WITH THE APPROPRIATE UTILITY PROCEDURE IN THE GAS WELDING CONTROL MANUAL TD-4160M.

9.

STRENGTH TEST REQUIREMENTS
A. STRENGTH TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH UTILITY PROCEDURE TD-4137S.
B. ALL WELDS THAT HAVE NOT BEEN STRENGTH TESTED AND ALL FITTINGS SHALL BE SOAP TESTED AT 100 PSI AND AT OPERATING PRESSURE BEFORE COATING CAN OCCUR.

10.

COATING REQUIREMENTS:
A. ALL EXPOSED PIPE AND FITTINGS ARE TO BE COATED IN ACCORDANCE WITH GAS STANDARD E-30. ALL COATING ON BURIED PIPE AND FITTINGS ARE TO BE APPLIED IN ACCORDANCE WITH GAS STANDARD E-35.
B. FOR COATING SELECTIONS ON BURIED PIPE, SEE DIRECT BURIAL COATING SELECTIONS TABLE.
C. CONTACT THE PROJECT ENGINEER (PED) TO REQUEST VARIANCE FROM THE APPROVED COATING PRODUCTS.

11.

INSPECTION OF EXISTING PIPELINE:
A. WHENEVER EXISTING BURIED GAS FACILITIES ARE EXCAVATED DURING ENGINEERING OR DURING CONSTRUCTION, FOLLOW TD-5100P-01 TO DOCUMENT PIPE INSPECTION. THIS APPLIES TO EXISTING AND TO BE RETIRED FACILITIES.
B. EXISTING GIRTH WELDS, AT TIE-IN LOCATIONS, SHALL BE IDENTIFIED AND REMOVED IF PRACTICAL.
C. PRIOR TO TIE-IN, INSPECT COATING AND PIPE FOR DEFECTS. IF DEFECTS ARE FOUND, CONTACT PROJECT ENGINEER (PED) FOR GUIDANCE.

12.

TIE-IN AND CLEARANCE PROCEDURE TO BE PREPARED AND PERFORMED IN ACCORDANCE WITH THE FOLLOWING WORK PROCEDURES:
A. TD-4100P-01, HOT AND COLD WORK METHODS FOR NATURAL GAS TRANSMISSION PIPELINE SHUTDOWN AND TIE-IN.
B. TD-4441S, GAS CLEARANCE PROCEDURES FOR FACILITIES OPERATING OVER 60 PSIG.

COATING REMOVAL:

A.

PERFORM THE FOLLOWING STEPS, IN ACCORDANCE WITH TD-4711P-01, BEFORE REMOVING ASPHALTIC PIPE WRAP ON PIPELINES INSTALLED PRIOR TO 1972 (BASED ON PG&E ANALYSIS, PIPE INSTALLED IN 1972 OR LATER DOES NOT HAVE PIPE WRAP THAT CONTAINS ASBESTOS):

1.

WHEN A PIPE WRAP SAMPLE IS REQUIRED TO BE ANALYZED FOR ASBESTOS:
a. COLLECT SAMPLE PER TD-4711P-01 AND COMPLETE CHAIN OF CUSTODY FORM TD-4711P-01-F01.
b. FILE PINK COPY OF THE CHAIN OF CUSTODY FORM AND FINAL LABORATORY RESULTS WITH THE AS-BUILTS.

2.

WHEN REMOVING PIPE WRAP THAT CONTAINS ASBESTOS, OR FOR EMERGENCY WORK, FOLLOW TD-4711P-01 "PIPE WRAP REMOVAL, HANDLING AND DISPOSAL".

CATHODIC PROTECTION NOTES:

1.

FOLLOW TD-5100P-01 TO DOCUMENT INTERNAL CORROSION AND EXTERNAL CORROSION INSPECTION OF THE PIPELINE.

2.

UPON COMPLETION OF BORINGS, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION TO PERFORM CURRENT DRAIN TESTS ON THE PIPELINE SEGMENT THAT WAS INSTALLED IN THE BORE. THE CURRENT DRAIN TEST MUST BE PERFORMED PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.

3.

FOR THE INSTALLATION OF THE WATCHDOG RECTIFIER REMOTE MONITOR, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION.

4.

BONDING CABLES TO BE INSTALLED ACROSS PIPELINE CUT-OUTS AT ALL LOCATIONS THE PIPELINE IS SEVERED PRIOR TO REMOVAL. CHAIN CLAMPS, MAGNETIC CLAMPS, OR OTHER CONSTRUCTION MANAGEMENT APPROVED CLAMPS AND #6 (MIN) STRANDED CABLE SHALL BE UTILIZED. CLAMPS TO REMAIN IN PLACE UNTIL PIPELINE IS TIED IN.

RETIREMENT PROCEDURE FOR EXISTING PIPE:

1.

GT&D UTILITY WORK PROCEDURE TD 9500P-16, "DEACTIVATION AND/OR RETIREMENT OF UNDERGROUND GAS FACILITIES," SHALL BE FOLLOWED.

2.

THE EXISTING PIPE SECTIONS SHALL HAVE FREE LIQUIDS REMOVED AND BE 100% PURGED PER GAS DESIGN STANDARD A-38, "PROCEDURES FOR PURGING GAS FACILITIES."

3.

THE PIPE SHALL BE SECTIONALIZED AT INTERVALS AS SPECIFIED IN THE RETIREMENT PLAN. THE LOCATIONS CALLED OUT ARE APPROXIMATE AND ARE SUBJECT TO FIELD VERIFICATION TO IDENTIFY THE MOST OPTIMUM LOCATION IN THAT VICINITY. ACCURATE SURVEY DATA MAY NOT BE AVAILABLE FOR THESE LOCATIONS SO USE CAUTION DURING EXCAVATION AND WHEN IDENTIFYING THE PIPELINE TO BE RETIRED. OTHER ACTIVE PIPELINES MAY BE IN THE AREA.

4.

AT EACH SUCH LOCATION NOTED ABOVE, A PIECE OF PIPE AT LEAST 24" LONG SHALL BE REMOVED. INSTALL A 1" HIGH PRESSURE SAVE-A-VALVE (H-17491, M022287) TO CHECK FOR PRODUCT AND PRESSURE PRIOR TO CUTTING INTO THE PIPELINE. THE OPEN ENDS OF THE RETIRED PIPE SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD-9500P-16. BACKFILL MUST BE THOROUGHLY COMPACTED IN PLACE OF THE REMOVED SECTION OF PIPE.

5.

REMOVE ALL PIPELINE MARKERS PER UTILITY WORK PROCEDURE TD-9800-16.

BASIS OF COORDINATES & BEARINGS

1.

HORIZONTAL DATUM/PROJECTION: SPCS CALIFORNIA ZONE 2, NAD83 (2011) (EPOCH 2010.00)

2.

VERTICAL DATUM: NORTHERN AMERICAN VERTICAL DATUM OF 1998 (NAVVD88) (GEOID-12B)

3.

HORIZONTAL AND VERTICAL CONTROL: BENCHMARK '901' COORDINATES: 2,179,325.99 N, 6,585,248.10 E, ELEVATION: 70.25 FT

4.

UNITS: U.S. SURVEY FEET

5.

HYDROGRAPHIC AND TOPOGRAPHIC SURVEY DATA COLLECTED BY ETRAC, INC, ON FEBRUARY 9-12, 2021 & MARCH 17-19, 2021

6.

TOPOGRAPHIC DATA WAS COLLECTED WITH TRIMBLE R8-2 RTK GNSS RECEIVERS AND A TRIMBLE S5 5" DR PLUS TOTAL STATION.

7.

MULTIBEAM BATHYMETRY WAS COLLECTED WITH AN R2 SONIC 2024 AT 700KHZ & 400KHZ ONBOARD R/V EKKO

8.

SUBSURFACE CROSSING DETECTION ACQUIRED WITH AN INNMAR SES-2000 COMPACT PARAMETRIC SUB-BOTTOM PROFILER ONBOARD R/V EKKO

9.

SUBSURFACE CROSSING DETECTION ACQUIRED WITH A GEOMETRICS G-882 MARINE MAGNETOMETER ONBOARD R/V EKKO

10.

THIS SURVEY REPRESENTS CONDITIONS AT THE TIME OF THE SURVEY

11.

ACCESS TO THE WEST BANK OF THE RIVER WAS IMPEDED BY DENSE VEGETATION. TOPOGRAPHIC SURVEY DATA COLLECTED BY PG&E IN APRIL, 2020 (DFM 0630-01 MP 10.07) WAS USED TO AUGMENT THE DIGITAL TERRAIN MODEL IN THIS AREA. THE CONTOURS ON THE WEST BANK REPRESENT A COMBINATION OF THE TWO DATA SETS.

12.

PIPELINE DETECTIONS ON LAND WERE ACQUIRED USING AN RD8100 PIPE LOCATOR AND RANGING SYSTEM. PIPE DETECTION WAS PERFORMED BY LONGITUDE 123, INC. WITH RTK GNSS POSITIONS PROVIDED BY ETRAC, INC.

13.

ALIGNMENT AND STATIONING IS BASED ON AN APPROXIMATE CENTERLINE BETWEEN THE TWO AS-SURVEYED PIPELINES.

CONTACT INFORMATION:

PROJECT MANAGER

ALEX RODRIGUEZ

916-223-5419

PROJECT ENGINEER (PED)

CLARENCE LI

925-967-8247

PIPELINE ENGINEER (PLE)

JEFFREY GRACE

916-247-1334

ESTIMATOR / DESIGNER

GARETH OWENS

805-428-8082

FIELD ENGINEER / CM

SCOT ANDERSON

805-796-1235

LAND PLANNER

KATHLEEN CARINGI

916-838-8712

CULTURAL MONITOR

PADRE ASSOC.

805-701-1581

ENVIRONMENTAL

BILL FROHLICH

925-549-5691

BIOLOGIST

CHRISSE KLINKOWSKI

925-200-8852

CORROSION ENGINEER

TBD

LOCAL CORROSION MECHANIC

BILL FROHLICH

925-549-5691

REFERENCE DRAWINGS:

OPERATING MAPS

SUTTER CREEK FIELD SUTTER BUTTES FIELD

384517, REV 102

REDDING

DISTRIBUTION PLATS

2149

E7

AS-BUILTS

MAOP13014788.TIF

REPLACE 3" DFM WITH 4" FROM MOON BEND ROAD

09-43-G96834, REV 0

TO SACRAMENTO RIVER CROSSING

REPLACE 3" COLUSA DFM SUTTER BYPASS TO

GM 4634473, SHT 7 REV 1

MERIDIAN SUTTER COUNTY

REPLACE 3" WITH 4" DFM-0630-01 MP 10.67 - 10.85

74029104, REV 0

MERIDIAN, COLUSA & SUTTER COUNTY

SURVEY CONTROL

PT ID	NORTHING	EASTING	ELEV.	DESCRIPTION
901	2,179,960.09	6,585,329.54	69.05	REBAR & CAP
902	2,179,325.99	6,585,248.10	70.25	CHISELED X
905	2,179,539.25	6,584,790.86	77.65	NAIL
906	2,179,954.32	6,584,808.10	72.50	REBAR & CAP

811

Know what's below.
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ZERO IN ON SAFETY

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ISSUED FOR PERMIT ONLY

74029104

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10-27-21

ISSUED FOR PERMIT ONLY

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GDO

C2L1

D

9-10-21

ISSUED FOR PERMIT ONLY

74029104

EAR

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C2L1

C

8-13-21

ISSUED FOR PERMIT ONLY

74029104

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GDO

C2L1

B

1-7-21

DRAFT 60% DESIGN

74029104

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C2L1

A

11-10-20

30% DESIGN

74029104

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DATE

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ENG APVD

REVISIONS

PIPELINE - CONSTRUCTION NOTES

DFM-0630-01 MP 10.67 - 10.85

DECOMMISSION SACRAMENTO RIVER CROSSING

MERIDIAN, SUTTER & COLUSA COUNTY

GAS TRANSMISSION & DISTRIBUTION

PACIFIC GAS AND ELECTRIC COMPANY

SAN FRANCISCO, CALIFORNIA

BILL OF MATL

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JOB ID

R-1385

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74029104

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570 POLI STREET, VENTURA, CA 93001

(805) 649-9364 WWW.LONGITUDE123.NET

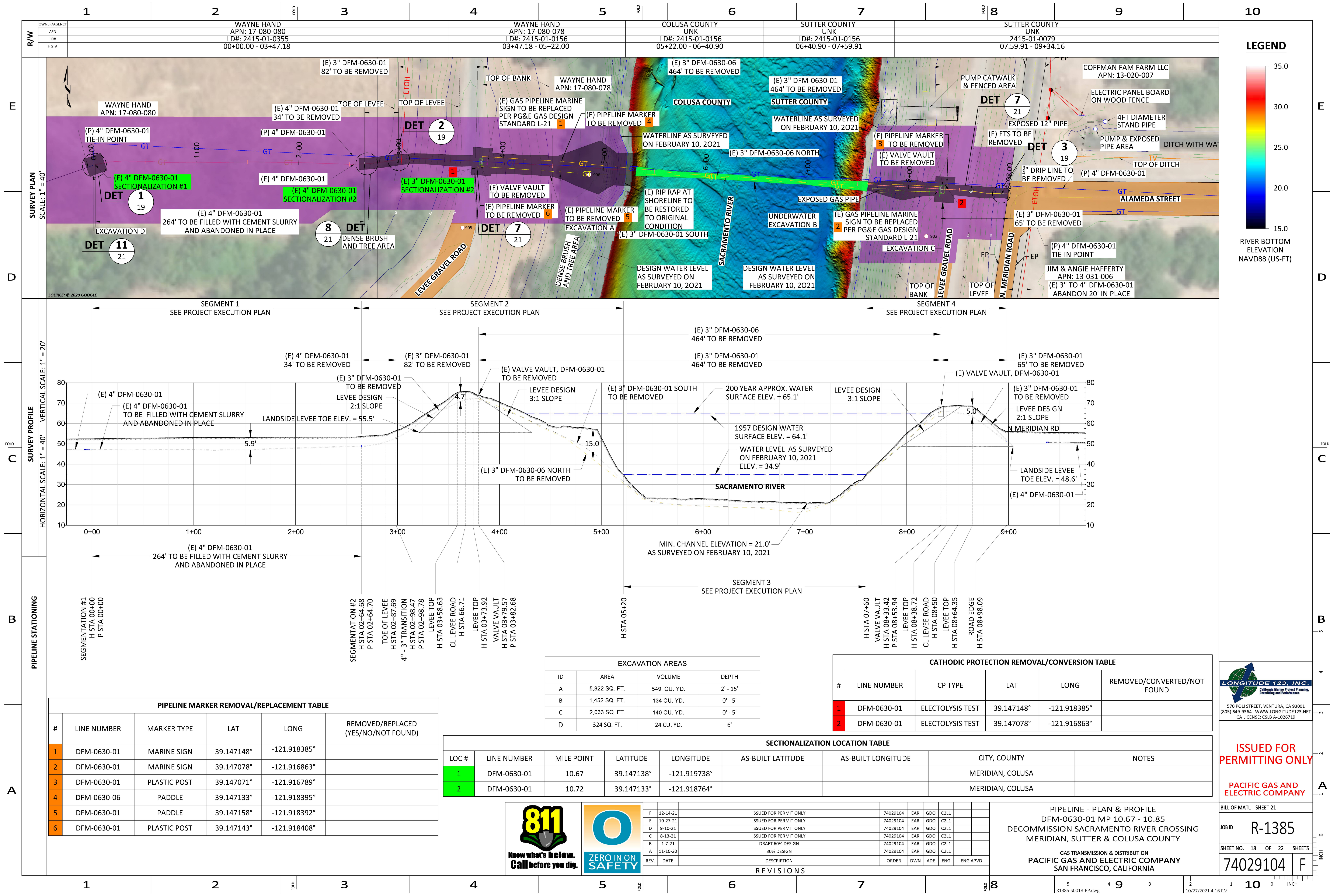
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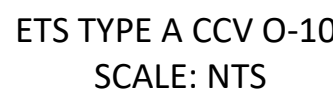
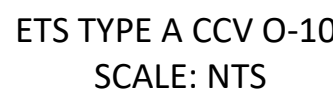
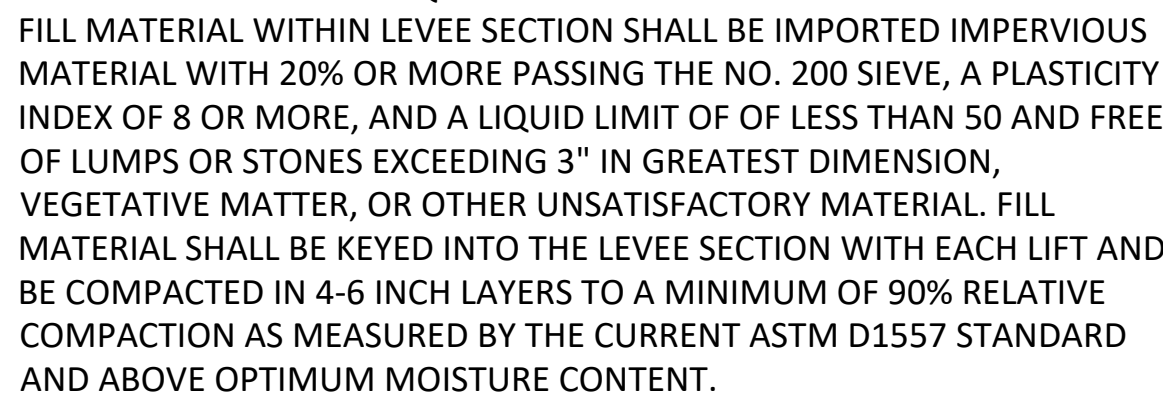
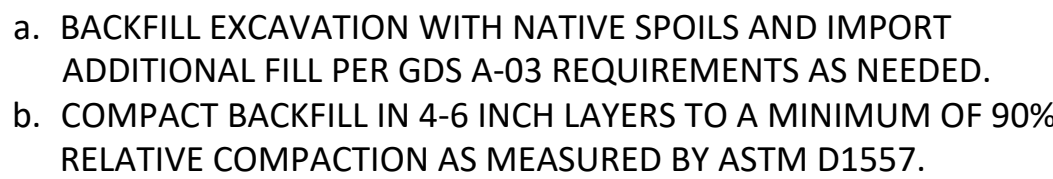
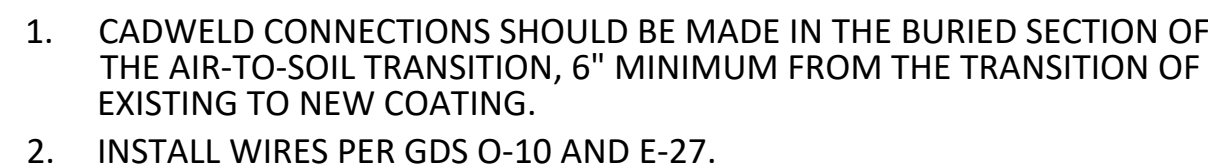
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PACIFIC GAS AND ELECTRIC COMPANY

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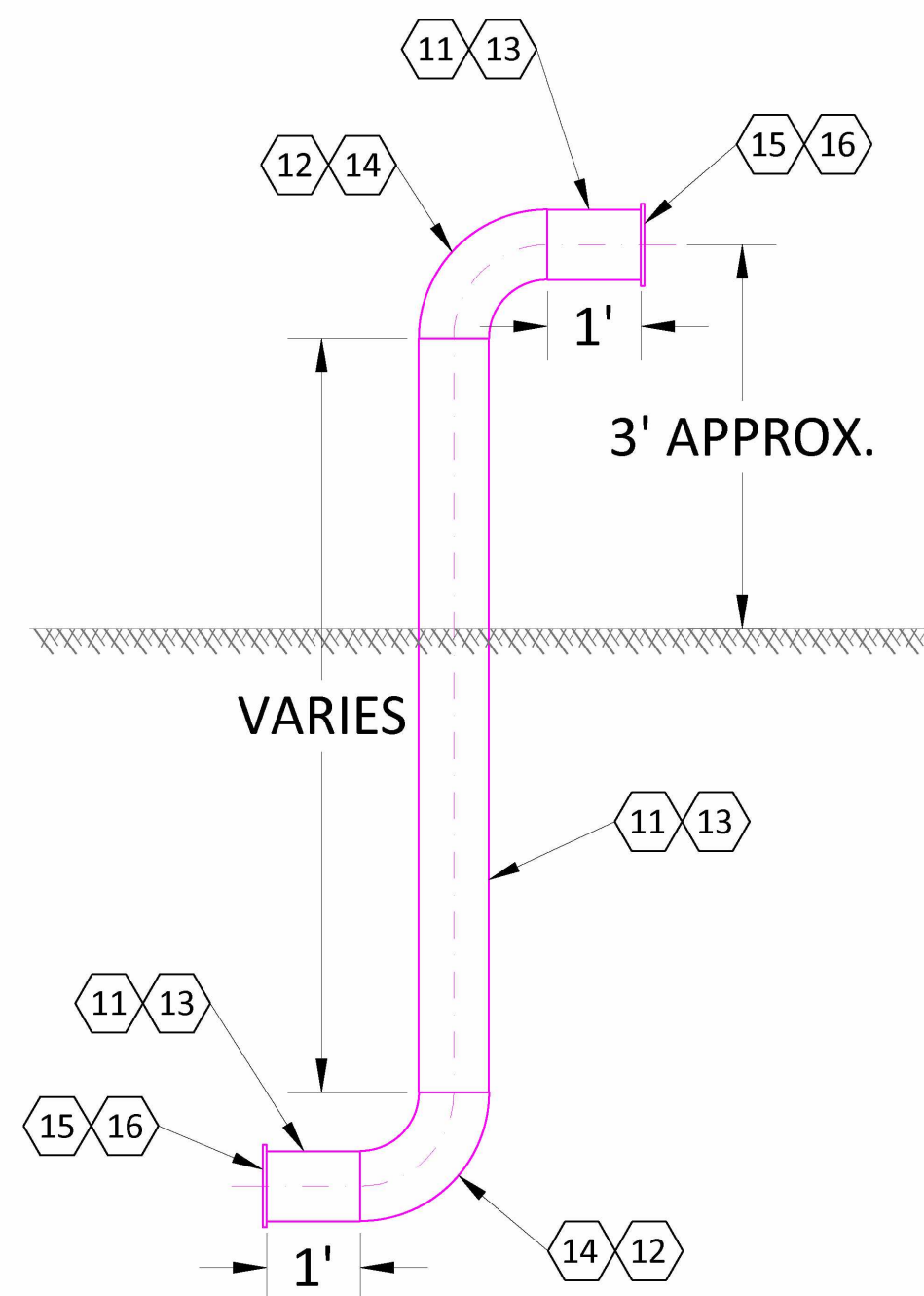
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PIPELINE - DETAILS
DFM-0630-01 MP 10.67 - 10.85
DECOMMISSION SACRAMENTO RIVER CROSSING
MERIDIAN, SUTTER & COLUSA COUNTY

GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA



NOTE: USE 3" OR 4" MATERIALS TO MATCH THE EXISTING PIPE SIZE AT EACH LOCATION

DETAIL **12** PIG LAUNCHER/RECEIVER RISER
SCALE: NONE 19,20



LONGITUDE 123, INC.
California Marine Project Planning,
Permitting and Performance

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ELECTRIC COMPANY**

BILL OF MAIL SHEET 21

SHEET NO. 22 OF 22 SHEETS

74029104	F
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