APPENDIX C

PROJECT PLANS
DFM-0630-01 MP 10.67 - 10.85
REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY
SUMMARY OF PROPOSED WORK:

1. RETIRE (1) 3" PCF.
2. REMOVE 35'-11" OF 4.500"OD PIPE.
3. INSTALL 1548'-0" OF 4.500"OD PIPE.
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 STORED ON SITE. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE RESTORED.
6. PRIOR TO TAKING PIPELINE CLEARANCE, THE FOLLOWING MUST BE PERFORMED:

   A. PERFORM THE FOLLOWING STEPS, IN ACCORDANCE WITH TD-4711P-01, BEFORE REMOVING ELECTROLYSIS TEST STATIONS IN ACCORDANCE WITH GAS DESIGN STANDARDS A-38, "PROCEDURES FOR PURGING GAS FACILITIES."

   B. THE EXISTING PIPE SECTIONS SHALL HAVE FREE LIQUIDS REMOVED AND BE 100% PURGED ACCORDING TO UD-6100P-10 "PROCEDURE FOR INSTALLATION OF THE WATCHDOG RECTIFIER REMOTE MONITOR, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION.

   C. PRIOR TO TIE-IN, INSPECT COATING AND PIPE FOR DEFECTS. IF DEFECTS ARE FOUND, REPLACE 3" COLUSA DFM SUTTER BYPASS TO COLUSA COUNTY 4" FIELD SUTTER SUTTER BUTTES OPERATING MAPS REPLACE 3" DFM WITH 4" FROM MOON BEND ROAD.

   D. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS NECESSARY TO AVOID DAMAGE OR ENCROACHMENTS. ENGINEERING PRIOR TO WELDING SAVE-A-VALVES ON PIPELINE. THE CURRENT DRAIN TEST MUST BE PERFORMED PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.

   E. CROSSING UNDERGROUND FACILITIES: PG&E PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER SUBSTRUCTURE/UTILITY NOT ASSOCIATED WITH NON-UTILITIES BEFORE YOU DIG, GRADE, OR EXCAVATE. DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).

   F. COMPLETE CLEARANCE FOR APPROVED CLEARANCE PROCEDURE.

   G. REMOVE RETIRED PIPE AND FITTINGS AS NECESSARY FOR DRAWINGS.

   H. TIE-IN NEW 4"PIPE.

   I. COMPLETE RETIREMENT/REMOVAL OF (603-0) AND (603-0) AS PER DRAWINGS.

   J. BACKFILL AND RESTORE CONSTRUCTION MATERIALS.

   K. INSTALL 1320' OF 4" HDPE PIPE HORIZONTAL DRILLING.

   L. INSTALL 302" OF PIPE BY OPEN TRENCH.

   M. FABRICATE TIE-IN PIECES.

   N. HYDROTHERMAL PIPELINE CLEANANCE, THE FOLLOWING MUST BE PERFORMED:

   O. ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH THE GAS WELDING CONTROL PROCEDURE TD-4125P-09 PROCEDURE FOR THE RESOLUTION OF UNKNOWN PIPELINE FEATURES (PRUPF).

   P. PERFORM ALL IN-SERVICE WELDING PER UTILITY PROCEDURE TD-4160P-40.

   Q. THIS DRAWING HAS BEEN CREATED BY REVIEW OF THE AS-BUILT DRAWINGS & RECORDS. ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH THE GAS WELDING CONTROL PROCEDURE TD-4125P-09 PROCEDURE FOR THE RESOLUTION OF UNKNOWN PIPELINE FEATURES (PRUPF).

   R. PER TD-4125P-09 PROCEDURE FOR THE RESOLUTION OF UNKNOWN PIPELINE FEATURES (PRUPF).

   S. CROSSING UNDERGROUND FACILITIES: PG&E PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER SUBSTRUCTURE/UTILITY NOT ASSOCIATED WITH NON-UTILITIES BEFORE YOU DIG, GRADE, OR EXCAVATE. DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).

   T. INSTALL 1320' OF 4" HDPE PIPE HORIZONTAL DRILLING.

   U. INSTALL 302" OF PIPE BY OPEN TRENCH.

   V. FABRICATE TIE-IN PIECES.

   W. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS NECESSARY TO AVOID DAMAGE OR ENCROACHMENTS. ENGINEERING PRIOR TO WELDING SAVE-A-VALVES ON PIPELINE. THE CURRENT DRAIN TEST MUST BE PERFORMED PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.

   X. CROSSING UNDERGROUND FACILITIES: PG&E PIPELINE MUST BE INSTALLED WITH AT LEAST 24 INCHES OF CLEARANCE FROM ANY OTHER SUBSTRUCTURE/UTILITY NOT ASSOCIATED WITH NON-UTILITIES BEFORE YOU DIG, GRADE, OR EXCAVATE. DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).

   Y. COMPLETE RETIREMENT/REMOVAL OF (603-0) AND (603-0) AS PER DRAWINGS.

   Z. BACKFILL AND RESTORE CONSTRUCTION MATERIALS.

   AA. INSTALL 1320' OF 4" HDPE PIPE HORIZONTAL DRILLING.

   BB. INSTALL 302" OF PIPE BY OPEN TRENCH.

   CC. FABRICATE TIE-IN PIECES.

   DD. THE INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES AND OTHER SUBSTRUCTURES AS NECESSARY TO AVOID DAMAGE OR ENCROACHMENTS. ENGINEERING PRIOR TO WELDING SAVE-A-VALVES ON PIPELINE. THE CURRENT DRAIN TEST MUST BE PERFORMED PRIOR TO WELDING PIPE ON EITHER SIDE OF THE BORE.
**DIRECT BURIAL COATING SELECTIONS**

- **FBE (1.0 mm)**
- **FBE (0.5 mm)**
- **FBE (2.0 mm)**
- **FBE (1.5 mm)**
- **FBE (0.75 mm)**
- **FBE (3.0 mm)**
- **FBE (1.25 mm)**
- **FBE (4.0 mm)**

**BARED COATING SELECTIONS**

- **LW (Liquid Epoxy)**
- **PT (Polyurethane)**
- **EP (Epoxy) 100%**
- **EP (Epoxy) 50%**
- **EP (Epoxy) 25%**
- **EP (Epoxy) 12.5%**
- **EP (Epoxy) 6.25%**

**INTERNAL CORROSION (IC)**

- **ENGINEERING (E-35.1)**
- **CONSTRUCTION (E-35.2)**
- **QUALITY CONTROL (E-35.3)**
- **FINISHING (E-35.4)**

**QUALIFIED EMPLOYEE DATE**

- **QUALIFIED EMPLOYEE SIGNATURE**

**NOTES:**

- **ELEVATION**
- **COVER**
- **DIAMETER**

**INSTALLATION TESTED OR INSPECTED AND ACCEPTED.**

**QUALIFIED EMPLOYEE**

- **DATE**

---

**LEGEND:**

<table>
<thead>
<tr>
<th>Diagram</th>
<th>Acronym</th>
<th>Definition</th>
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<tr>
<td>T</td>
<td>DET</td>
<td>Temporary Construction Easement</td>
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<tr>
<td>L</td>
<td>DFE</td>
<td>Direct Fusion Welding</td>
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<td>J</td>
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**Acronym**

- **DET**
- **DPW**
- **EP**
- **IC**
- **LPC**
- **LNG**
- **MOP**
- **MSW**
- **NFE**
- **O&G**
- **PE**
- **PG&E**
- **PPL**
- **R/MI**

**Definition**

- **Temporary Construction Easement**
- **Deep Well Anode**
- **Electrical Epoxy**
- **Intricate Coating**
- **Lakeshore Protection**
- **Measurement and Inspection**
- **Metal Loss**

---

**DETAIL LEGEND:**

- **PROPOSED GAS TRANSMISSION LINE**
- **EXISTING GAS TRANSMISSION LINE**
- **TEMPORARY GAS TRANSMISSION LINE (OWNED BY OTHERS)**
- **TEMPORARY GAS TRANSMISSION LINE (CON CEPTED BY OTHERS)**

**Acronym**

- **GTL**
- **GDG**
- **GTD**

**Definition**

- **Gas Transmission Line**
- **Gas Distribution Line**
- **Gas Transfer Line**

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**FLOW SYSTEM**

- **TRAFE**
- **TP**
- **TCC**

**Definition**

- **Temperature Control System**
- **Temperature Control**
- **Technical Control Center**

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**NOTES:**

- **COVER (FT)**
- **DIAMETER**
- **ELEVATION**
- **COVER (FT)**

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**MATERIAL**

- **REPLACEMENT**
- **PIPE**
- **WELD**

**Definition**

- **Replacement Valve**
- **Welded Joint**
- **Pipe**

---

**GAS TRANSMISSION LINE**

- **FOUNDATION**
- **CONSTRUCTION**

**Definition**

- **Foundation**
- **Construction**

---

**REVISIONS**

- **DATE**
- **INITIAL**
- **Page**

**Definition**

- **Revision Date**
- **Initial**
- **Page Number**
PIPELINE - DETAILS
DFM-0030-01 MP 10.67 - 10.85
REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA

WARNING TAPE (TYPICAL TAPE) INSTALL PER ODES-1-66 (30' P.)

TOP OF PAVED AREA

FINISH GRADE

FINAL FILL

WARNING TAPE INSTALLATION ZONE

DEPTH OF COVER PER ENGINEERING REQUIREMENTS IN ACCORDANCE WITH ODES-4-06

BACKFILL MATERIAL PER ODES A-03 REQUIREMENTS

GAS PIPELINE 3" DFM-0030-01

SEE TO-462M FOR SHORING REQUIREMENTS

DETAIL SCALE 1"=5' TYP

TRENCH:
NON-PAVED AREA

PAVED AREA

SEE TO-462M FOR SHORING REQUIREMENTS

PIPELINE - DETAILS
DFM-0030-01 MP 10.67 - 10.85
REPLACE 3" PIPE
MERIDIAN, SUTTER & COLUSA COUNTY
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA
2. DOWNHOLE PRESSURE SUBASSEMBLIES WILL BE REQUIRED ON ALL HDD PROJECTS.

7. CONTRACTOR TO SUBMIT PICK PLAN TO PG&E PROJECT ENGINEER AT LEAST ONE (1)

6. ANY INADVERTENT RETURN EVENTS WILL BE COMMUNICATED TO PG&E PROJECT

5. IF PLANNED DRILLING PROFILE DEVIATES FROM DESIGN, CONTRACTOR TO PROVIDE

HDD NOTES:

1. WHEN BALLAST WATER IS REQUIRED DURING PRODUCT PIPE PULLBACK,

2. DOWNSWING PRESSURE SUBASSEMBLIES WILL BE REQUIRED ON ALL HDD PROJECTS. CONTRACTOR MUST KEEP LOG OF MUD PRESSURE AND SUBMIT TO PG&E PROJECT ENGINEER DAILY DURING PILOT DRILLING.

3. CONTRACTOR IS RESPONSIBLE FOR PARTICIPATING INTERDISCIPLINARY TRACING
EQUIPMENT AND FURNISHING STEERING TOOLS AND SURFACE COILS CAPABLE OF PREVENTING ACCIDENTS TO PERSONNEL.

4. CONTRACTOR MUST PROVIDE HOLE PROJECT ENGINEER PILOT BORE STEERING AND TRACKING INFORMATION TO SURFACE COILS CAPABLE OF PREVENTION DAMAGE TO PERSONNEL.

5. IF PLANNED DRILLING PROFILE DEVIATES FROM DESIGN, CONTRACTOR TO PROVIDE PROPERLY DESIGNED PROTECTIVE HOLES IN AT LEAST 3 BUSINESS DAYS PRIOR TO BEGINNING PILOT DRILLING FOR PILOT PROJECT ENGINEER REVIEW AND APPROVAL.

6. ANY INADVERTENT RETURN EVENTS WILL BE COMMUNICATED TO PILOT PROJECT ENGINEER, CONSTRUCTION MANAGEMENT ENGINEER, AND ENVIRONMENTAL FIELD SPECIALIST IMMEDIATELY. CONTRACTOR TO COMPLETE MUD RELEASE FORM FOR PILOT PROJECT ENGINEER WITHIN 24 BUSINESS HOURS.

7. CONTRACTOR TO SUBMIT PICK PLAN TO PILOT PROJECT ENGINEER AT LEAST TWO (2) WEEKS PRIOR TO PULLBACK. PULLBACK MAY NOT OCCUR UNTIL ACCEPTED BY PILOT PROJECT ENGINEER.

8. BORE PIPE TO BE PRE-TESTED PER PROVIDED STRIP.
HDD NOTES:

1. WHEN BALLAST WATER IS REQUIRED DURING PRODUCT PIPE PULLBACK, CONTRACTOR MUST PROVIDE PG&E PROJECT ENGINEER PILOT BORE STEERING ARM TO GUIDE BORE DIRECTION THROUGH LOOSE MATERIAL OR TO PREVENT INTERFERENCE WITH TRACKING EQUIPMENT AND SURFACE COILS CAPABLE OF PROVIDING ACCURATE STEERING INFORMATION.

2. CONTRACTOR MUST PROVIDE PG&E PROJECT ENGINEER PILOT BORE STEERING ARM TO GUIDE BORE DIRECTION THROUGH LOOSE MATERIAL OR TO PREVENT INTERFERENCE WITH TRACKING EQUIPMENT AND SURFACE COILS CAPABLE OF PROVIDING ACCURATE STEERING INFORMATION.

3. CONTRACTOR MUST KEEP LOG OF MUD PRESSURE AND SUBMIT TO PG&E PROJECT ENGINEER, CONSTRUCTION MANAGER/FIELD ENGINEER, AND ENVIRONMENTAL SPECIALIST IMMEDIATELY. CONTRACTOR TO COMPLETE MUD RELEASE FORM AND SUBMIT TO UNIFIER WITHIN 24 BUSINESS HOURS. MUD RELEASE FORM WILL BE FURNISHED BOTH RAW AND PLUGGED AZIMUTH DATA WITH A WRITTEN EXPLANATION FOR ANY PLUGGED AZIMUTH DATA, READING MAY NOT PROCEED UNTIL PUBLIC ACCEPTS PLUGGED DATA.

4. CONTRACTOR MUST PROVIDE PG&E PROJECT ENGINEER PILOT BORE STEERING ARM TO GUIDE BORE DIRECTION THROUGH LOOSE MATERIAL OR TO PREVENT INTERFERENCE WITH TRACKING EQUIPMENT AND SURFACE COILS CAPABLE OF PROVIDING ACCURATE STEERING INFORMATION.

5. IF PLANNED DRILLING PROFILE DEVIATES FROM DESIGN, CONTRACTOR TO PROVIDE PROPOSED BORE PROFILE AT LEAST 1 BUSINESS DAY PRIOR TO BEGINNING PILOT DRILLING FOR PG&E PROJECT ENGINEER REVIEW AND APPROVAL.

6. ANY UNINTERRUPTED REQUIREMENTS WILL BE COMMUNICATED TO PG&E PROJECT ENGINEER, CONSTRUCTION MANAGER/FIELD ENGINEER, AND ENVIRONMENTAL SPECIALIST IMMEDIATELY. CONTRACTOR TO COMPLETE MUD RELEASE FORM WITHIN 24 BUSINESS HOURS. MUD RELEASE FORM WILL BE PROVIDED BY PROJECT ENGINEER.

7. CONTRACTOR TO SUBMIT PCC PLAN TO PG&E PROJECT ENGINEER AT LEAST ONE WEEK PRIOR TO PULLBACK. PULLBACK MAY NOT PROCEED UNTIL ACCEPTED BY PG&E PROJECT ENGINEER.

8. BORE PIPE TO BE PRE-TESTED PER PROVIDED STP.
## BILL OF MATERIALS:

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<th>ITEM #</th>
<th>MATERIAL DESCRIPTION</th>
<th>MATERIAL CODE#</th>
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<th>STANDARD</th>
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<td>&quot;LATT-NACE&quot; PENETRATOR ANCHOR, 2&quot; X 12&quot; SQUARE POST, FOUR 3/8&quot; ALUMINUM RIVETS, OINE CORNER BOLT (M-GOCH), COATED ALUMINUM NOSE FACE MARKER</td>
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<td>STATION, TEST COUNTER, CC TECHNOLOGIES 9X3105, SMALL PLASTIC CONDUIT AND TERMINAL TEST HEAD CONSTRUCTION, 3&quot; OD X 3/4&quot; (L)</td>
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<td>TAPE, WARNING, PIPELINE, GAS UNDERGROUND, BURIED INDUSTRIES IF 42-OCHA, YELLOW WITH BLACK WRITING, &quot;CAUTION GAS LINE BURIED BELOW&quot;, 8 MILS THICK, 6&quot; WIDE X 1000' LONG</td>
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### DESIGN CRITERIA

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

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

Zero in on before you dig.
1. INSTALL HDD REPLACEMENT 4" DFM-0630-01 UNDER THE CASING. 4" DFM-0630-01 TO BE INSTALLED IN 12" WALL VALVE BOX. BACKFILL MUST BE THOROUGHLY COMPACTED IN THE VERTICAL DIRECTION.

2. REMOVE 34' OF 4" DFM-0630-01 STEEL PIPE. INSTALL HDD REPLACEMENT 4" DFM-0630-01 UNDER THE CASING. 4" DFM-0630-01 TO BE INSTALLED IN 12" WALL VALVE BOX. BACKFILL MUST BE THOROUGHLY COMPACTED IN THE VERTICAL DIRECTION.

3. REMOVE (E) 5' x 7' CONCRETE VAULT WITH ASSOCIATED VALVES/FITTINGS AT LOCATION A (WEST BANK OF RIVER) AND MARINE CROSSING SIGNS.

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

5. UNFINISHED HDD BREAKING/SMALL RAPID PIPELINE DELETIONS ON LAND WERE ACQUIRED USING AN RD8100 PIPE LOCATOR AND RANGING FOLLOW TD-5100P-01 TO DOCUMENT INTERNAL CORROSION AND EXTERNAL CORROSION PRIOR TO TIE-IN, INSPECT COATING AND PIPE FOR DEFECTS. IF DEFECTS ARE FOUND, CONTACT THE PROJECT ENGINEER (PED) TO REQUEST VARIANCE FROM THE APPROVED COATING REQUIREMENTS:

   a. IF THE DEFECTS ARE CONSIDERED NON-MAJOR, AS DETERMINED BY THE PED, THE PIPELINE CAN BE TIED INTO THE COMMUNICATIONS:"DEACTIVATION PROCEDURE TD-9500P-16"

   b. IF THE DEFECTS ARE CONSIDERED MAJOR, AS DETERMINED BY THE PED, THE PIPELINE SHALL NOT BE TIED INTO THE COMMUNICATIONS:"DEACTIVATION PROCEDURE TD-9500P-16"

6. FLOOR BENDING:

   a. ALL SECTIONS ARE MAINTAIN FIELD BENDS. EXCEPT WHERE EXTRUDED ARE SHOWN.

   b. BENDS SHALL BE MAINTAINED IN ACCORDANCE WITH A-36, SECTION 4D.

   c. PIPE BENDS MAY BE USED IN LIEU OF ELBOWS WHEN PREAPPROVED BY THE PG&E PROJECT ENGINEER (PED).

7. IN ORDER TO AVOID EXCESSIVE STRAIN ON THE PIPELINE, THERE SHALL BE A MINIMUM SEPARATION OF 5 FEET BETWEEN A BEND ON THE PIPELINE AND AN INTERSECTION, VALVE LOCATION, OR PIPELINE ACCESS DEVICES.

8. ALL DISCONNECTIONS IN THE PIPELINE ARE SEVERED PRIOR TO REMOVAL. CHAIN CLAMPS, MAGNETIC CLAMPS, OR OTHER RESTRAINTS SHALL BE REMOVED PRIOR TO CUTTING INTO THE PIPELINE. THE OPEN ENDS OF THE PIPELINE SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD-9500P-16. RETIRED PIPE SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD-9500P-16. RETIRING PIPEMENT PROCEDURE FOR EXISTING PIPE:

   a. DISCONNECT EVERY WORK PROCEDURE TO 6000-16 "DEACTIVATION AND/OR RETIREMENT OF UNDERGROUND GAS FACILITIES," SHALL BE FOLLOWED.

   b. THE LOCATIONS CALLED OUT ARE APPROXIMATE AND ARE SUBJECT TO FIELD VERIFICATION TO THE LOCATION MARKED IN THE FIELD BY THE COMPANY. AHYDER SURVEY DATA MAY NOT BE AVAILABLE FOR THESE LOCATIONS SO USE CAUTION DURING EXCAVATION AND WHEN IDENTIFYING THE PIPE TO BE RETIRED. OTHER ACTIVE VALVES MAY BE IN THE AREA.

   c. REMOVE ALL PIPELINES MARKERS PER UTILITY WORK PROCEDURE TD-1800-16.

   d. REMOVE ALL PIPELINE MARKERS PER UTILITY WORK PROCEDURE TD-1800-16.

   e. PREDEAL入り THE PIPELINE IS SEVERED PRIOR TO REMOVAL.

   f. THE OPEN ENDS OF THE PIPELINE SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD-9500P-16. RETIRED PIPE SHALL BE SEALED BY THE MOST APPROPRIATE METHOD OUTLINED IN GT&D UTILITY WORK PROCEDURE TD-9500P-16. RETIRING PIPEMENT PROCEDURE FOR EXISTING PIPE:

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   c. REMOVE ALL PIPELINES MARKERS PER UTILITY WORK PROCEDURE TD-1800-16.
PIPELINE DETAILS
DFM-0630-01 MP 10.67 - 10.85
DECOMMISSION SACRAMENTO RIVER CROSSING
MERIDIAN, SUTTER & COLUSA COUNTIES
GAS TRANSMISSION & DISTRIBUTION
PACIFIC GAS AND ELECTRIC COMPANY
SAN FRANCISCO, CALIFORNIA
SHEET NO. 19 OF 22 SHEETS

THE CAPITAL ORDER NUMBER FOR REMOVAL OF THE DFM-0630-01 PIPELINE IS 74037542, WHICH DIFFERS FROM THE ORDER NUMBER FOR THE REST OF THE PROJECT.

DETAIL
SECTIONALIZATION #3 & #4
SCALE: 1" = 40'

PIPE TERMINATION CAP PLATE
SCALE: NONE

NOTE:
PIPELINE TIE-IN WILL BE PERFORMED DURING THE HDD REPLACEMENT WORK ORDER # 74029104 FOR (P) 4" DFM-0630-01. THE 4" DFM-0630-01 PIPE WILL BE PURGED OF NATURAL GAS AND CAPPED WITH A STEEL PLATE PRIOR TO DECOMMISSIONING.

DECOMMISSIONING WORK AT THIS LOCATION CONSISTS OF REMOVING THE STEEL PLATE, INSTALLING A FLANGE, PERFORMING PIGGING AND FLUSHING OPERATIONS, CUTTING OFF THE FLANGE, AND WELDING A NEW STEEL PLATE TO THE PIPELINE END.

DETAIL
SECTIONALIZATION #2
SCALE: 1" = 40'

PIPE PLATE CAP NOTES:
· STEEL PLATE, 1/2" THICK, ASTM A-36, TO BE WELDED TO EACH PIPE END ABANDONED-IN-PLACE.
· SQUARE: 6" x 6" FOR CAPPING DFM-0630-01 TO ABANDON IN PLACE.
· REMOVE ALL ROUGH EDGES AND CORNERS ON ALL STEEL FABRICATION PRODUCTS.
· WELDING FOR SHALL CONFORM TO THE STRUCTURAL WELDING CODE AWS D1.1.
· USE AN E60 STRENGTH FILLER METAL THAT CONFORMS TO ONE OF THE FOLLOWING AWS FILLER METAL SPECIFICATIONS: AWS A5.1 OR A5.5.
PIGGING & FLUSHING NOTES:
- Remove all existing valves and piping and install temporary slip-on flanges to attach pig launchers and receivers in each vault.
- Follow retirement procedures for existing pipe.
- Pig & flush pipeline segments to be decommissioned. Sample and test flush water to confirm that contaminant levels are below permitted thresholds (less than 15 ppm total petroleum hydrocarbons).
- Flush water to be captured in tanker trucks on receiving end. Dispose of flush water in accordance with permit requirements.

VAULT REMOVAL NOTES:
- Remove all valves and pipe fittings after pigging & flushing operations.
- Demolish vault concrete structures and transport debris to an offsite disposal facility.
1. CADWELD CONNECTIONS SHOULD BE MADE IN THE BURIED SECTION OF THE PIPELINE, WITH MINIMUM DIAMETER OF 6".

2. INSTALL WIRES PER GDS-O-10 AND E-27.

**BACKFILL AND COMPACTION**

- BACKFILL EXCAVATION WITH NATIVE SPOILS AND IMPORT ADDITIONAL FILL, AS REQUIRED.
- COMPACT BACKFILL IN 4-6 INCH LAYERS TO A MINIMUM OF 90% RELATIVE COMPACTION AS MEASURED BY ASTM D1557.

**BACKFILL NOTES**

- A. BACKFILL ECONOMIES:
- B. COMPACT BACKFILL IN 4-6 INCH LAYERS TO A MINIMUM OF 90% RELATIVE COMPACTION AS MEASURED BY ASTM D1557.

**EXCAVATION WIDTH DEPENDS ON PIPE BURIAL DEPTH**

**ACOE LEVEE BACKFILL REQUIREMENTS:**

- FILL MATERIAL WITHIN LEVEE SECTION SHALL BE IMPORTED IMPERVIOUS MATERIAL WITH A PLASTICITY INDEX OF 0 OR MORE AND A LIQUID LIMIT OF LESS THAN 50, AND FREE OF LUMPS OR STONES EXCEEDING 3" IN GREATEST DIMENSION.

- VEGETATIVE MATTER, OR OTHER UNSATISFACTORY MATERIAL. FILL MATERIAL WITHIN LEVEE SECTION SHALL BE IMPORTED IMPERVIOUS MATERIAL WITH A PLASTICITY INDEX OF 0 OR MORE AND A LIQUID LIMIT OF LESS THAN 50, AND FREE OF LUMPS OR STONES EXCEEDING 3" IN GREATEST DIMENSION.

**DECOMMISSION SACRAMENTO RIVER CROSSING**

**INSTALLED PIPELINE IS ABANDONED ON EACH END AND ABANDONED IN PLACE**

**GAS TRANSMISSION & DISTRIBUTION PIPELINE - DETAILS**

**INSTALLATION ZONE**

**FINAL FILL**

**FOLD**

**DET**

**ETS DECAL**

**ETS TYPE A CCV 0-10**

**PIPELINE DETAILS**

**GAS PIPELINE: BACKFILL AND COMPACTION**

**REVISIONS**

**NOTE:**

1. CADWELD CONNECTIONS SHOULD BE MADE IN THE BURIED SECTION OF THE PIPELINE, WITH MINIMUM DIAMETER OF 6".

2. INSTALL WIRES PER GDS-O-10 AND E-27.

**SCALE:**

- NTS

**DETAIL 10**

**DETAIL 11**

**DETAIL 8**

**DETAIL 9**

**SCALE:**

- NONE

**NOTE:**

1. CADWELD CONNECTIONS SHOULD BE MADE IN THE BURIED SECTION OF THE PIPELINE, WITH MINIMUM DIAMETER OF 6".

2. INSTALL WIRES PER GDS-O-10 AND E-27.

**SCALE:**

- NTS

**DETAIL 7**

**SCALE:**

- NONE

**DETAIL 12**

**SCALE:**

- NTS

**DETAIL 13**

**SCALE:**

- NTS

**NOTE:**

1. CADWELD CONNECTIONS SHOULD BE MADE IN THE BURIED SECTION OF THE PIPELINE, WITH MINIMUM DIAMETER OF 6".

2. INSTALL WIRES PER GDS-O-10 AND E-27.

**SCALE:**

- NTS

**DETAIL 14**

**SCALE:**

- NTS

**NOTE:**

1. CADWELD CONNECTIONS SHOULD BE MADE IN THE BURIED SECTION OF THE PIPELINE, WITH MINIMUM DIAMETER OF 6".

2. INSTALL WIRES PER GDS-O-10 AND E-27.
BILL OF MATERIALS

<table>
<thead>
<tr>
<th>BOX #</th>
<th>MATERIAL DESCRIPTION</th>
<th>MATERIAL CODE #</th>
<th>QTY</th>
<th>UNIT</th>
<th>STANDARD</th>
<th>NOTES</th>
<th>PROVIDED BY CONTRACTOR</th>
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<tbody>
<tr>
<td>1</td>
<td>PLATE, 1/2&quot; x 6&quot; x 6&quot;, MOD STEEL</td>
<td>NS/A</td>
<td>2</td>
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<td>ASTM A-36</td>
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<td>2</td>
<td>WIRE ELECTRICAL, INSULATED, COPPER, 10 AWG, 600 V, 47mil PVC, SOLID 1 CONDUCTOR, FIN</td>
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<td>FT</td>
<td>CCV D-10</td>
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<td>3</td>
<td>STATION, TEST, CATHODIC PROTECTION, COT TME# 300E5, ORANGE, BIG FINN, S TERMINALS, WITHOUT CONDENSER</td>
<td>M388990</td>
<td>1</td>
<td>EA</td>
<td>CCV D-10.2</td>
<td>ETS TYPE A (BIG-FINK)</td>
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<tr>
<td>4</td>
<td>SLEEVE, COPPER SPACING, #14 TO #10, CAREDWELD # CAB-113-1H, THERMOWELD # A-200, 3&quot; DIA</td>
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<td>CCV D-10</td>
<td>ETS COMPONENT</td>
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<td>5</td>
<td>CARTRIDGE, B Brazing, CAREDWELD # CA-15, THERMOWELD # 15P</td>
<td>M1029205</td>
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<td>CCV D-10</td>
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<td>6</td>
<td>TAP, HANDY CAP, 4&quot; x 4&quot;, ROPEST W/ INTEGRATED PRIMER</td>
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<td>7</td>
<td>DECAL, &quot;ABANDONED PIPE GAS PIPE&quot;, SELF-ADHESIVE</td>
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<td>8</td>
<td>NIPPLE, SAVE-A-VALVE, 2&quot;, WEED, STEEL, MUELLER # H-17493, STEEL CAP, DRILLING 1000 PSI MAXIMUM, 1440 PSI MAXIMUM</td>
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<td>PIPE, PVC, 3&quot; IPS, .300&quot; WT, SCH 80</td>
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<td>MARKER, EXTENDED RANGE BALL, ENS TYPE, YELLOW, 3M # 1405-XR, FOR MARKING BURIED GAS FACILITIES, MAXIMUM INSTALLED DEPTH IS 5'</td>
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<td>PIPE, STEEL, 4&quot;, .237&quot; WT, API 5L, GRADE B, SEAMLESS, BARE</td>
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<td>FT</td>
<td>GS&amp;S A-15</td>
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<td>ELBOW, 4&quot;, 90 DEG, .237&quot; WT, LONG RADIUS, BUTT WELD, CARBON STEEL, SCH 40, ASTM A234, GRADE B</td>
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<td>EA</td>
<td>GS&amp;S B-20</td>
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<td>PIPE, STEEL, 3&quot;, .216&quot; WT, API 5L, GRADE B, SEAMLESS, BARE</td>
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<td>FT</td>
<td>GS&amp;S A-15</td>
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<tr>
<td>14</td>
<td>ELBOW, 3&quot;, 90 DEG, .216&quot; WT, LONG RADIUS, BUTT WELD, CARBON STEEL, SCH 40, ASTM A234, GRADE B</td>
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<td>EA</td>
<td>GS&amp;S B-43</td>
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NOTE: USE 3" OR 4" MATERIALS TO MATCH THE EXISTING PIPE SIZE AT EACH LOCATION