

**Meeting of the Central Valley Flood Protection Board  
March 22, 2013**

**Staff Report – Encroachment Permit**

**Pacific Gas and Electric Company  
Gas Pipeline Authorization, San Joaquin County**

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**1.0 – ITEM**

Consider approval of Permit No. 18814 (Attachment B)

**2.0 – APPLICANT**

Pacific Gas and Electric Company

**3.0 – LOCATION**

The project is located at the Commerce Street crossing of Mormon Slough in Stockton. (Mormon Slough, San Joaquin County, see Attachment A)

**4.0 – DESCRIPTION**

Applicant proposes to have authorized an existing 12-inch-diameter gas pipeline crossing Mormon Slough.

**5.0 – PROJECT ANALYSIS**

PG&E requested authorization to replace the existing 12-inch diameter gas distribution pipeline due to rupture concerns. A Letter of Authorization for the work was issued on November 14, 2012 (see Attachment C). This application is for authorization of the 12-inch diameter gas distribution line pipeline that crosses Mormon Slough.

## **6.0 – AGENCY COMMENTS AND ENDORSEMENTS**

The comments and endorsements associated with this project, from all pertinent agencies are shown below:

- There is no local maintaining agency in the area of the pipeline.
- The U.S. Army Corps of Engineers comment letter has been received for this application. The District Engineer has no comments or recommendations concerning the project because the proposed work does not affect a federally constructed project. The letter is attached to the permit as Exhibit A in reference to the project.

## **7.0 – CEQA ANALYSIS**

Board staff has prepared the following California Environmental Quality Act (CEQA) determination:

The Board determined that the project is categorically exempt from CEQA under a Class 1 Categorical Exemption (CEQA Guidelines Section 15301) covering repair or maintenance of existing facilities.

## **8.0 – SECTION 8610.5 CONSIDERATIONS**

1. Evidence that the Board admits into its record from any party, State or local public agency, or nongovernmental organization with expertise in flood or flood plain management:

The Board will make its decision based on the evidence in the permit application and attachments, this staff report, and any other evidence presented by any individual or group.

2. The best available science that related to the scientific issues presented by the executive officer, legal counsel, the Department or other parties that raise credible scientific issues.

The accepted industry standards for the work proposed under this permit as regulated by Title 23 have been applied to the review of this permit.

3. Effects of the decision on the entire State Plan of Flood Control:

Authorization of the pipeline will have no adverse effect the State Plan of Flood Control and is consistent with the Central Valley Flood Protection Plan.

4. Effects of reasonable projected future events, including, but not limited to, changes in hydrology, climate, and development within the applicable watershed:

There will be no effects from reasonable projected future events on the pipeline.

**9.0 – STAFF RECOMMENDATION**

Staff recommends that the Board find the project exempt from CEQA, approve the permit, and direct staff to file a Notice of Exemption with the State Clearinghouse.

**10.0 – LIST OF ATTACHMENTS**

- A. Location Map
- B. Draft Permit No. 18814
- C. Authorization letter issued November 14, 2012, with drawings.

Design Review:	Steve Dawson
Environmental Review:	James Herota/Andrea Mauro
Document Review:	Mitra Emami P.E./Len Marino P.E.

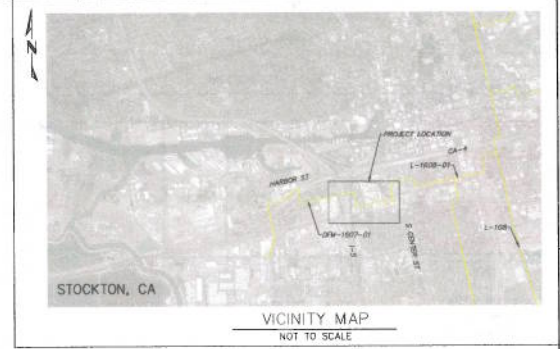
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1 2 3 4 5 6 7 8 9 10

CP AREA # 1607-01  
WALL MAP 3004, 3005  
PLAT 3004, F8  
3005: F1  
SAN JOAQUIN COUNTY

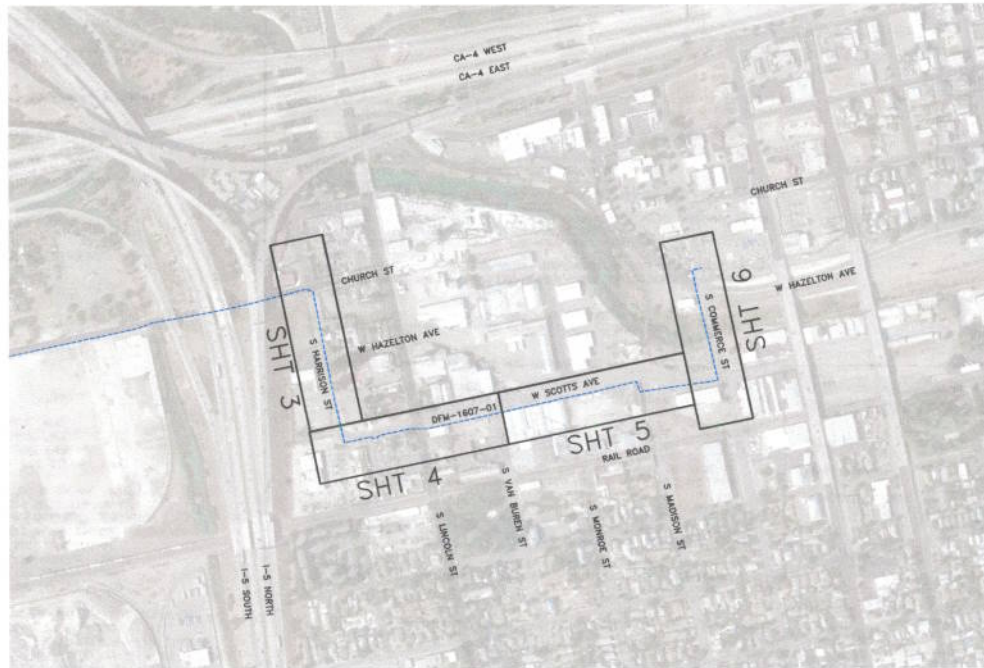
## PIPELINE REPLACEMENT RIM 204-12 DFM-1607-01, MP 0.00 - 0.63

PSRS ID 27843  
ORDER # 30865380



### SCHEDULE OF SHEETS

- SHEET 1 -- TITLE / PROJECT AREA OVERVIEW
- SHEET 2 -- GENERAL / CONSTRUCTION NOTES
- SHEET 3 -- PLAN / PROFILE SHEET [1/4]
- SHEET 4 -- PLAN / PROFILE SHEET [2/4]
- SHEET 5 -- PLAN / PROFILE SHEET [3/4]
- SHEET 6 -- PLAN / PROFILE SHEET [4/4]
- SHEET 7 -- BILL OF MATERIAL
- SHEET 8 -- DETAILS
- SHEET 9 -- DETAILS
- SHEET 10 -- DETAILS



### REFERENCE DRAWINGS:

- CM 7004470 - - - - L-1608-01 TIE-IN  
COMMERCE ST & CHURCH ST
- CM 30727113 - - - - STHP-29 CONNECTION  
COMMERCE ST & SCOTTS AVE
- CM 408379 - - - - STHP-20 CONNECTION SCOTTS  
AVE & HARRISON ST
- CM 169261 - - - - TIE-IN TO 8" LINE CHURCH ST  
& HARRISON ST

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REVISIONS		DATE	DESCRIPTION	CM/SPEC	DWN	CHKD	SUPV	APRD BY
0			BOX ISSUED FOR REVIEW	30865380				

APPROVED BY	JN 30865380	DATE	9/10/12
SCALE	AS SHOWN		
PROJECT TITLE		PIPELINE REPLACEMENT RIM-204-12 DFM-1607-01, MP 0.00 - MP 0.63 STOCKTON, CALIFORNIA	
DRAWN BY		PACIFIC GAS AND ELECTRIC COMPANY WALNUT CREEK, CALIFORNIA	

**SAFETY**

SAFETY PLEDGE

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

**PRELIMINARY**

**NOT ISSUED FOR CONSTRUCTION**

MICROFILM	
BILL OF MATERIAL SHEET 07	
DWG LIST	
SUPDS	
SUPSD BY	
SHEET NO. 01 OF 10 SHEETS	
30865380	0

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**DRAFT**

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
**THE CENTRAL VALLEY FLOOD PROTECTION BOARD**

**PERMIT NO. 18814 BD**

**This Permit is issued to:**

Pacific Gas & Electric  
2730 Gateway Oaks Dr. Ste. 220  
Sacramento, California 95833

To authorize an existing 12-inch-diameter gas pipeline crossing Mormon Slough. The project is located at the Commerce Street crossing of Mormon Slough in Stockton, San Joaquin County. (Section 11, T1N, R6E, MDB&M, Mormon Slough, San Joaquin County).

**NOTE:** Special Conditions have been incorporated herein which may place limitations on and/or require modification of your proposed project as described above.

**(SEAL)**

Dated: \_\_\_\_\_

\_\_\_\_\_  
Executive Officer

**GENERAL CONDITIONS:**

**ONE:** This permit is issued under the provisions of Sections 8700 – 8723 of the Water Code.

**TWO:** Only work described in the subject application is authorized hereby.

**THREE:** This permit does not grant a right to use or construct works on land owned by the Sacramento and San Joaquin Drainage District or on any other land.

**FOUR:** The approved work shall be accomplished under the direction and supervision of the State Department of Water Resources, and the permittee shall conform to all requirements of the Department and The Central Valley Flood Protection Board.

**FIVE:** Unless the work herein contemplated shall have been commenced within one year after issuance of this permit, the Board reserves the right to change any conditions in this permit as may be consistent with current flood control standards and policies of The Central Valley Flood Protection Board.

**SIX:** This permit shall remain in effect until revoked. In the event any conditions in this permit are not complied with, it may be revoked on 15 days' notice.

**SEVEN:** It is understood and agreed to by the permittee that the start of any work under this permit shall constitute an acceptance of the conditions in this permit and an agreement to perform work in accordance therewith.

**EIGHT:** This permit does not establish any precedent with respect to any other application received by The Central Valley Flood Protection Board.

**NINE:** The permittee shall, when required by law, secure the written order or consent from all other public agencies having jurisdiction.

**TEN:** The permittee is responsible for all personal liability and property damage which may arise out of failure on the permittee's part to perform the obligations under this permit. If any claim of liability is made against the State of California, or any departments thereof, the United States of America, a local district or other maintaining agencies and the officers, agents or employees thereof, the permittee shall defend and shall hold each of them harmless from each claim.

**ELEVEN:** The permittee shall exercise reasonable care to operate and maintain any work authorized herein to preclude injury to or damage to any works necessary to any plan of flood control adopted by the Board or the Legislature, or interfere with the successful execution, functioning or operation of any plan of flood control adopted by the Board or the Legislature.

**TWELVE:** Should any of the work not conform to the conditions of this permit, the permittee, upon order of The Central Valley Flood Protection Board, shall in the manner prescribed by the Board be responsible for the cost and expense to remove, alter, relocate, or reconstruct all or any part of the work herein approved.

#### **SPECIAL CONDITIONS FOR PERMIT NO. 18814 BD**

**THIRTEEN:** The permittee shall maintain the permitted encroachment(s) and the project works within the utilized area in the manner required and as requested by the authorized representative of the Department of Water Resources or any other agency responsible for maintenance.

**FOURTEEN:** The Central Valley Flood Protection Board and Department of Water Resources shall not be held liable for any damages to the permitted encroachment(s) resulting from flood fight, operation, maintenance, inspection, or emergency repair.

**FIFTEEN:** The permittee may be required, at permittee's cost and expense, to remove, alter, relocate, or reconstruct all or any part of the permitted encroachment(s) if removal, alteration, relocation, or reconstruction is necessary as part of or in conjunction with any present or future flood control plan or project or if damaged by any cause. If the permittee does not comply, the Central Valley Flood Protection Board may remove the encroachment(s) at the permittee's expense.

**SIXTEEN:** The permittee shall be responsible for repair of any damages to the local flood control facilities due to construction, operation, or maintenance of the proposed project.

**SEVENTEEN:** The permittee is responsible for all liability associated with construction, operation, and maintenance of the permitted facilities and shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California; including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages arising from the project undertaken pursuant to this permit, all to the extent allowed by law. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

**EIGHTEEN:** The permittee shall defend, indemnify, and hold the Central Valley Flood Protection Board and the State of California, including its agencies, departments, boards, commissions, and their respective officers, agents, employees, successors and assigns (collectively, the "State"), safe and harmless, of and from all claims and damages related to the Central Valley Flood Protection



Board's approval of this permit, including but not limited to claims filed pursuant to the California Environmental Quality Act. The State expressly reserves the right to supplement or take over its defense, in its sole discretion.

NINETEEN: If the project, or any portion thereof, is to be abandoned in the future, the permittee or successor shall abandon the project under direction of the Central Valley Flood Protection Board and Department of Water Resources, at the permittee's or successor's cost and expense.

TWENTY: Any additional encroachment(s) in the floodway require an approved permit from the Central Valley Flood Protection Board and shall be in compliance with the Central Valley Flood Protection Board's regulations (Title 23 California Code of Regulations).

TWENTY-ONE: The letter from the Department of the Army dated February 26, 2013 is attached to this permit as Exhibit A in reference to this project.

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REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U.S. Army Engineer District, Sacramento  
Corps of Engineers  
1325 J Street  
Sacramento, California 95814-2922

Flood Protection and Navigation Section (18814)

FEB 26 2013

Mr. Jay Punia, Executive Officer  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Room 151  
Sacramento, California 95821

Dear Mr. Punia:

We have reviewed a permit application by Pacific Gas & Electric (application number 18814). This project includes removing and replacing an existing gas pipeline crossing Mormon Slough. The project is located at the Commerce Street crossing of Mormon Slough in Stockton, at 37.945762°N 121.290634°W NAD83, San Joaquin County, California.

The District Engineer has no comments or recommendations regarding flood control because the proposed work does not affect a federally constructed project.

There is not enough information provided to determine if there is a permit action under Section 10 and/or Section 404. Please advise the applicant to contact the U.S. Army Corps of Engineers, Sacramento District, Regulatory Division, 1325 J Street, Room 1350, Sacramento, California 95814, telephone (916) 557-5250.

A copy of this letter is being furnished to Mr. Don Rasmussen, Chief, Flood Project Integrity and Inspection Branch, 3310 El Camino Avenue, Suite LL30, Sacramento, CA 95821.

Sincerely,

A handwritten signature in black ink, appearing to read "Meegan G. Nagy".

Meegan G. Nagy, P.E.  
Chief, Flood Protection and Navigation Section

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Lonn Maier  
Supervisor  
Environmental Planning &  
Permitting

2730 Gateway Oaks Dr, 220  
Sacramento, CA 95833  
916-923-7020  
916-704-4370  
LCMK@pge.com

November 14, 2012

Mr. Len Marino, P.E.  
Chief Engineer  
Central Valley Flood Protection Board  
3310 El Camino Avenue, Ste. LL40  
Sacramento, CA 95821

Subject: Minor Maintenance Work - Letter of Authorization Request  
30865380 - RIM-204, PG&E Replacement in Stockton

Dear Mr. Marino:

PG&E hereby requests authorization from the Central Valley Flood Protection Board (CVFPB) to perform the following maintenance work on the following utility line:

PG&E is proposing to replace a Distribution Feeder Main which crosses Mormon Slough in the City of Stockton (Lat. 37.94575005351224, Long. -121.29061818122864, within the USGS 7.5-minute quadrangle map for Stockton West). A construction diagram showing the proposed work is included with this request as **Attachment A**.

This segment of pipeline was originally constructed with pre-1970's low-frequency electric resistance welded pipe, which has been identified as integrity management threat due to the pipe manufacturing seam type. The same seam type was used during the manufacture of the pipe used to construct Line 132 in San Bruno at the site of the rupture in 2010. Because of this threat, PG&E needs to replace this pipeline immediately and remove it from the system by December 17<sup>th</sup>, 2012.

An aerial map showing the current location of the pole to be removed, as well as the approximate location of the proposed replacement pole, is included as **Attachment C**. Ground-level photographs of the pole to be removed, as well as the replacement pole's planned location, are included as **Attachment D**.

In connection with this request, PG&E states the following:

- PG&E has a property right to occupy the project area arising from a right-of-way, license, permit and/or franchise agreement authorizing the pipeline(s), conduit(s) and/or utility line(s) that are the subject of this request.
- PG&E acknowledges that all work must be performed in accordance with the applicable standards, including backfill standards and minimum vertical clearances, set forth in Title 23 of the California Code of Regulations, including, but not limited to, sections 123 (Pipelines, Conduits, and Utility Lines) and 124 (Abandoned Pipelines and Conduits).
- This work is categorically exempt from the California Environmental Quality Act (CEQA) under Title 14 of the California Code of Regulations Section [15301(b), the exemption for operation,

maintenance, repair or minor alteration of existing utility facilities which involve negligible or no expansion of existing use ] and no exemption exceptions, as listed in 14 CCR 15300.2, apply. [OR 15302(c), the exemption for replacement or reconstruction of existing utility structures and facilities involving negligible or no expansion of capacity.] The full text of these CEQA exemptions is provided below:

**15301. Existing Facilities**

Class 1 consists of the operation, repair, maintenance, permitting, leasing, licensing, or minor alteration of existing public or private structures, facilities, mechanical equipment, or topographical features, involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination. The types of "existing facilities" itemized below are not intended to be all-inclusive of the types of projects which might fall within Class 1. The key consideration is whether the project involves negligible or no expansion of an existing use.

(b) Existing facilities of both investor and publicly-owned utilities used to provide electric power, natural gas, sewerage, or other public utility services;

(d) Restoration or rehabilitation of deteriorated or damaged structures, facilities, or mechanical equipment to meet current standards of public health and safety, unless it is determined that the damage was substantial and resulted from an environmental hazard such as earthquake, landslide, or flood;

**15302. Replacement or Reconstruction**

Class 2 consists of replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced, including but not limited to:

(c) Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. ...

Please review the above information and attachments, and indicate the CVFPB's approval of this request for authorization where indicated below. Please feel free to contact me if you have any questions.

Sincerely,



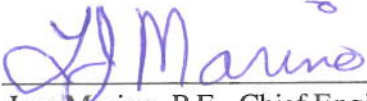
Lon Maier  
Supervisor, Environmental Planning and Permitting

MP:mp

Enc: Attachment A: Construction Diagram  
Attachment B: Cement Slurry Mixture  
Attachment C: Aerial Map  
Attachment D: Additional Photographs

cc: Steve Dawson, Central Valley Flood Protection Board, Floodway Protection Section, 3310 El Camino Ave., Room 151, Sacramento, CA 95821

The request for CVFPB authorization to carry out the proposed project, as described above, is hereby approved.

Approved by:   
Len Marino, P.E., Chief Engineer  
Central Valley Flood Protection Board

Date: 11/21/13

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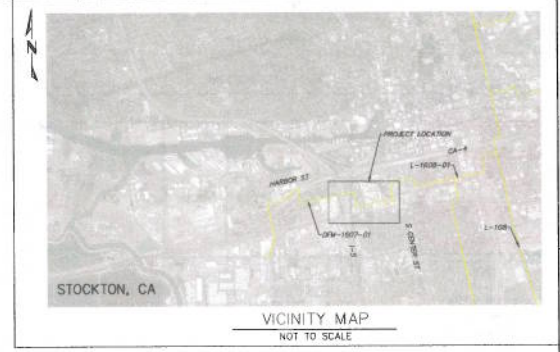


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CP AREA # 1607-01  
WALL MAP 3004, 3005  
PLAT 3004, F8  
3005, F1  
SAN JOAQUIN COUNTY

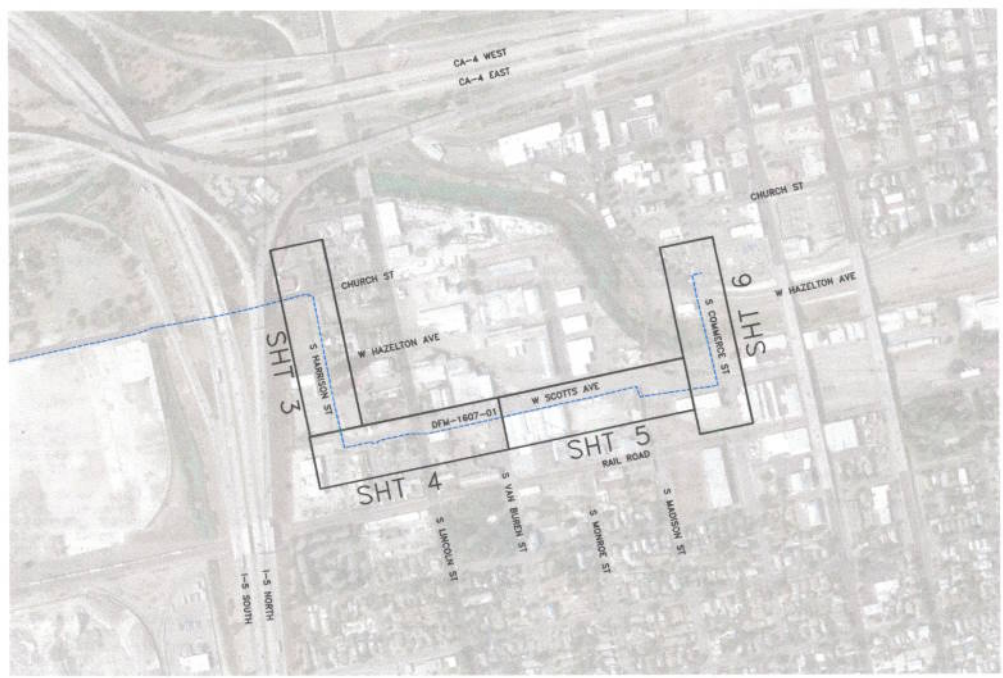
# PIPELINE REPLACEMENT RIM 204-12 DFM-1607-01, MP 0.00 - 0.63

PSRS ID 27843  
ORDER # 30865380



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- OM 30727113 - - - - STHP-29 CONNECTION  
COMMERCE ST & SCOTTS AVE
- OM 408379 - - - - STHP-20 CONNECTION SCOTTS  
AVE & HARRISON ST
- OM 169261 - - - - TIE-IN TO 8" LINE CHURCH ST  
& HARRISON ST

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REVISIONS		DATE	DESCRIPTION	CM/SPEC	DWN	CHKD	SUPV	APRD BY
0			BOX ISSUED FOR REVIEW	30865380				

PSRS# 27843

APPROVED BY	IN 30865380
DESIGN	
CHKD	
DATE	9/10/12
SCALE	AS SHOWN

PIPELINE REPLACEMENT  
RIM-204-12  
DFM-1607-01, MP 0.00 - MP 0.63  
STOCKTON, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY  
WALNUT CREEK, CALIFORNIA

**SAFETY**

SAFETY PLEDGE

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- I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
- I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

PRELIMINARY

NOT ISSUED FOR CONSTRUCTION

MICROFILM	
BILL OF MAT. SHEET 07	
DWG LIST	
SUPDS	
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SHEET NO. 01 OF 10 SHEETS	
30865380	0

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**SUMMARY OF PROPOSED WORK:**

- REMOVE 1 EACH 8" PRESSURE CONTROL FITTING INSTALLED ON GM 41017 (1930).
- REMOVE 1 EACH 2" PRESSURE CONTROL FITTING INSTALLED ON GM 30727113 (2010).
- REMOVE 1 EACH 2" VALVE 200 PSIG INSTALLED ON GM 408379.
- REMOVE 1 EACH 3/4" VALVE ANSI 300 INSTALLED ON SO 82907.
- REMOVE 1 EACH 3/4" VALVE ANSI 300 INSTALLED ON GM 41017.
- REMOVE 7'-0" OF 12.750"OD x 0.281"WT, API 5L, X-42, ERW PIPE INSTALLED ON GM 7004470 (1998).
- REMOVE 4'-0" OF 12.750"OD x 0.219"WT, GR B, SMLS PIPE INSTALLED ON GM 149397 (1961).
- REMOVE 8'-0" OF 10.750"OD x 0.188"WT, API 5L, X-42, ERW PIPE INSTALLED ON GM 169261 (1968).
- REMOVE 19'-0" OF 8.625"OD x 0.240"WT, GR A, SMLS PIPE INSTALLED ON GM 41017 (1930).
- REMOVE 3'-5" OF 2.375"OD x 0.154"WT, API 5L, GR B, SMLS PIPE INSTALLED ON GM 30727113 (2010).
- REMOVE 5'-10" OF 2.375"OD x 0.188"WT, 28000 SMYS, FBW PIPE INSTALLED ON WO 4749A (1938).
- REMOVE 10'-0" OF 2.375"OD x 0.154"WT, API 5L, GR B, SMLS PIPE INSTALLED ON GM 408379 (1980).
- REMOVE 3'-0" OF 1.050"OD x 0.113"WT, 25000 SMYS, FBW PIPE INSTALLED ON GM 41017 (1930).
- REMOVE 3'-0" OF 1.050"OD x 0.113"WT, GR B, SMLS PIPE INSTALLED ON SO 82907 (1981).
- ABANDON 1 EACH 8" PRESSURE CONTROL FITTING WITH BOTTOM CONNECTION INSTALLED ON GM 30727113 (2010).
- ABANDON 1 EACH 8" PRESSURE CONTROL FITTING INSTALLED ON GM 149397 (1961).
- ABANDON 3 EACH 8" PRESSURE CONTROL FITTING INSTALLED ON GM 169261 (1968).
- ABANDON 1 EACH 2" PRESSURE CONTROL FITTING INSTALLED ON GM 4260451 (1981).
- ABANDON 1 EACH 2" GATE VALVE, ANSI 300, INSTALLED ON GM 30727113 (2010).
- ABANDON 605'-0" OF 12.750"OD x 0.219"WT, GR B, SMLS PIPE INSTALLED ON GM 149397 (1961).
- ABANDON 2782'-0" OF 8.625"OD x 0.240"WT, GR A, SMLS PIPE INSTALLED ON GM 41017 (1930).
- INSTALL 1 EACH COUPON TEST STATION AND 1 EACH ELECTROLYSIS TEST STATION
- INSTALL 2 EACH 2" BALL VALVE, ANSI 300, WE, BEVELED TO MATCH 0.154"WT, GR B PIPE
- INSTALL 2 EACH 1" VALVE, MUELLER, NO-BLOW, STEEL 1200 PSI
- INSTALL 3350'-0" OF 12.750"OD x 0.281"WT, API 5L, X-52, HFW, FBE COATED PIPE.
- INSTALL 2'-0" OF 0.750"OD x 0.250"WT, API 5L, X-52, HFW, BARE PIPE.
- INSTALL 37'-0" OF 2.375"OD x 0.154"WT, API 5L, GR B, SMLS, BARE PIPE.
- INSTALL 81'-0" OF 1.050"OD x 0.154"WT, API 5L, GR B, SMLS, BARE PIPE.

**CONTACT INFORMATION:**

CONSTRUCTION MANAGER..... MITCH FRIESE (707) 696-0564  
 PROJECT ENGINEER..... SCOTT CLAPP (530) 514-6482  
 PROJECT ENGINEER..... COLIN SILLA (925) 519-6156  
 PIPELINE ENGINEER..... BRAD CARR (916) 203-3110  
 T&R SUPERVISOR..... ROGER MORSEHEAD (209) 608-1049  
 PROJECT COORDINATOR..... LEIF COPLEY (408) 516-7971

**SEQUENCE OF OPERATIONS:**

- PG&E GENERAL CONSTRUCTION (G.C.) TO PREPARE BELL HOLES AT TIE-IN LOCATIONS.
- G.C. TO INSTALL NEW 12" PIPE FROM "H" STA 11+08 TO "H" STA 34+31.
- G.C. TO PERFORM HYDROSTATIC TEST ON NEW 12" PIPE FROM "H" STA 11+08 TO "H" STA 34+31 AND PRETEST ALL BRANCH PIPING.
- PRIOR TO TAKING PIPELINE CLEARANCE THE FOLLOWING MUST BE PERFORMED:
  - PG&E T&R TO CHECK ANY DRIPS IN SHUT-IN SEGMENT FOR PRESENCE OF PIPELINE LIQUIDS.
  - COMPLETE A-FORMS ON ALL EXPOSED PIPE AND INCLUDE IN AS-BUILT PACKAGE.
  - G.C. GAS TO INSTALL SAVE-A-VALVES FOR OIL TESTING AND SNIFF HOLES WHERE DESIGNATED BY THE TIE-IN PROCEDURE. G.C. GAS FOREMAN TO CONFIRM LOCATION AND NUMBER OF SAVE-A-VALVE LOCATIONS AND INSURE WELD PRESSURE CALCULATIONS ARE PROVIDED BY ENGINEERING PRIOR TO WELDING SAVE-A-VALVES ON PIPELINE.
- BEFORE TIE-IN, G.C. TO CONTACT CLEARANCE SUPERVISOR TO CONFIRM CLEARANCE SCHEDULE & PRESENCE OF GAS.
- G.C. TO VERIFY RESULTS OF LIQUID TESTS AT TIE-IN LOCATIONS.
- G.C. TO CUT & REMOVE 10' OF EXISTING PIPE FROM "H" STA 0+98 AND "H" STA 34+41.
- G.C. TO SEGMENT & ABANDON EXISTING DM 1607-01 AT "H" STA 2+60 / "H" STA 6+62 / "H" STA 14+80 / "H" STA 24+89 / "H" STA 29+11.
- G.C. TO CUT, TEST, & TRANSFER SERVICES AT "H" STA 24+60 / "H" STA 6+62 / "H" STA 24+89 / "H" STA 29+11.
- G.C. TO TIE-IN NEW 12" PIPING TO EXISTING 10" PIPING AT "H" STA 34+37.
- G.C. TO TIE-IN NEW 12" PIPING TO EXISTING 12" PIPING AT "H" STA 0+98.
- G.C. TO BACKFILL, COMPACT & RESTORE R/W.

**ENVIRONMENTAL ISSUES**

NONE APPARENT IF PROJECT DESIGN CHANGES CONTACT RESPONSIBLE (ENR)

PERMITS  TAILBOARD  OTHER TRAINING

APPLICANT DESIGN/RESPONSIBILITY (CHECK FIRMER BOX IF PERMIT CONDITIONS APPLY TO FIRM ACTIONS)

BY: \_\_\_\_\_  
 Signature, name, [Corporate O] date

**ROPIING CHART**

MINIMUM DISTANCE REQUIRED TO ROPE AN OFFSET OF 12.750" OD PFC. MINIMUM ROPIING RADIUS = 650'-0"

Y (ft)	X (ft)	Y (ft)	X (ft)
1	50.98	3	88.27
1.5	62.43	3.5	95.33
2	72.08	4	101.90
2.5	80.98	5	113.91

**CONSTRUCTION NOTES:**

- WELDING REQUIREMENTS**  
 ALL ARC WELDING IS TO BE PERFORMED IN ACCORDANCE WITH GAS STANDARD D-22. ALL CANS AND SPOOLS SHALL BE A MINIMUM LENGTH OF ONE PIPE DIAMETER, WHENEVER POSSIBLE.
- HYDROSTATIC TEST REQUIREMENTS**  
 HYDROSTATIC TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH GAS STANDARD A-37. SEE ATTACHED STPR.
- ALL WELDS THAT HAVE NOT BEEN HYDROTESTED AND ALL NON-WELDED FITTINGS SHALL BE SOAP TESTED AT 100 PSIG AND OPERATING PRESSURE.
- PAINTING AND COATING REQUIREMENTS**  
 ALL EXPOSED PIPE AND FITTINGS ARE TO BE PAINTED 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.  
 FOR COATING SELECTIONS ON BURIED PIPE SEE DIRECT BURIAL SELECTIONS TABLE.
- CALL USA AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION (811).
- ALL DESIGN CHANGES REQUIRE APPROVAL BY ENGINEER OF RECORD, WHO STAMPED OR ISSUED ORIGINAL DESIGN DRAWINGS OR UPDATES.
- LOCATION OF EXISTING SUBSTRUCTURES ARE APPROXIMATE, BEFORE POWER OR HEAVY EQUIPMENT IS USED FOR EXCAVATION, THE EXACT DEPTH AND LOCATION OF SUBSTRUCTURES SHALL FIRST BE DETERMINED BY HAND EXCAVATION, IF NECESSARY.
- ALL AREAS NOTED WITH RADI LESS THAN 650 FEET REQUIRE SMOOTH FIELD BENDS EXCEPT WHERE ELBOWS ARE NOTED. FIELD BEND SHALL BE MADE IN ACCORDANCE WITH GAS STANDARD A-36 SECTION 4-D. ALL FIELD BENDS SHALL BE IDENTIFIED ON AS-BUILT WITH LOCATION AND ANGLE OF BEND. AREAS NOTED WITH RADI GREATER THAN 650 FEET MAY REQUIRE ROPING. SEE ROPING TABLE.
- WELDING VALVES AND FITTINGS**  
 WHEN VALVES AND FITTINGS ARE WELDED TO EACH OTHER OR TO PIPE, THE JOINT SHALL HAVE A TWO PASS WELD ON THE INSIDE, AS WELL AS THE OUTSIDE WELD.
- ALL ANGLES SHOWN IN THE PLAN AND PROFILE ARE APPROXIMATE AND SHALL BE CUT TO SUIT FIELD CONDITION.
- THIS PIPELINE MUST BE INSTALLED WITH AT LEAST 12 INCHES OF CLEARANCE FROM ANY OTHER UNDERGROUND STRUCTURE NOT ASSOCIATED WITH THE PIPELINE.
- COATING REMOVAL**  
 BEFORE REMOVING THE PIPE COATING ON PRE-1972 PIPE (DOES NOT INCLUDE PLASTIC TAPE OR FUSIONBONDED EPOXY COATINGS) THE FOLLOWING STEPS SHALL BE TAKEN:  
 -FOR ALL NON-EMERGENCY WORK, PRE-1972 PIPE WRAP MUST BE EVALUATED TO DETERMINE IF IT CONTAINS ASBESTOS PRIOR TO REMOVAL  
 -FOR EMERGENCY WORK ON PRE-1972 PIPE, ASSUME THE WRAP CONTAINS > 1% ASBESTOS UNTIL THE WRAP CAN BE TESTED.  
 -OBTAIN SAMPLES OF THE WRAP, AND HAVE SAMPLES TESTED FOR ASBESTOS IN ACCORDANCE WITH RP 4711.  
 -TEST RESULTS ARE TO BE INCLUDED WITH AS-BUILTS.  
 -FOLLOW PROCEDURE IN RP 4711 FOR REMOVAL OF PIPE WRAP.
- TOP OF EXISTING PIPE ELEVATION IS APPROXIMATE. TO BE VERIFIED IN FIELD.
- RETIRED PIPE SHALL BE FURGED ACCORDING TO A-38. FIELD VERIFY IF LIQUIDS ARE PRESENT IN PIPE. IF LIQUIDS ARE PRESENT, RETIRED PIPE SHALL BE PIGGED.

**DIRECT BURIAL COATING SELECTIONS**  
 LISTED IN ORDER OF PREFERENCE

MAIN LINE COATING	FBE
MINOR REPAIRS	PROTAL 7200, POWERCRETE J, DEVGRIP 238
TIE-IN WELDS	PROTAL 7200, POWERCRETE J, DEVGRIP 238
GIRTH WELDS	PROTAL 7200, POWERCRETE J, DEVGRIP 238
BUTT WELDED FITTINGS	PROTAL 7200, POWERCRETE J, DEVGRIP 238
VALVE ASSEMBLIES	PROTAL 7200, POWERCRETE J, DEVGRIP 238
SHORT SEGMENTS OF PIPE	PROTAL 7200, POWERCRETE J, DEVGRIP 238
AIR-TO-SOIL TRANSITIONS	DEVGRIP 238, POWERCRETE J
PRESSURE CONTROL FITTINGS BODY	PROTAL 7200
FLANGE	WAX TAPE
TIE-IN/COATING TRANSITIONS	PROTAL 7200, WAXTAPE, POLYKEN TAPE

**BORED COATING SELECTIONS**  
 LISTED IN ORDER OF PREFERENCE

MAIN LINE COATING	ARC APPLIED OVER FBE
MINOR REPAIRS	PROTAL 7200, POWERCRETE J
GIRTH WELDS	PROTAL 7200, POWERCRETE J

**NOTES:**

- CONTACT THE RESPONSIBLE PIPELINE ENGINEER TO REQUEST A VARIANCE FROM THE ABOVE COATING SELECTIONS
- ALL COATINGS ARE TO BE APPLIED IN ACCORDANCE WITH GS&S E-30 AND E-35

**LEGEND:**

- ▲ CONTROL MONUMENT
- ELECTRIC BOX
- FIRE HYDRANT
- GAS VALVE
- GAS VENT
- GUY ANCHOR
- MISCELLANEOUS OBJECT
- MISCELLANEOUS MANHOLE
- MONITORING WELL
- PC&E MANHOLE
- GUY POLE
- POLE
- POWER POLE
- SEWER CLEANOUT
- SEWER MANHOLE
- SIGN
- STORM DRAIN INLET
- STORM DRAIN INLET
- STORM DRAIN MANHOLE
- STREETLIGHT
- STREETLIGHT WITH ARM
- STREETLIGHT WITH POWER POLE
- TELEPHONE MANHOLE
- WATER METER
- WATER VALVE
- BUILDING
- CONCRETE
- ELECTRIC
- FLOW LINE
- INVERT
- POST INDICATOR VALVE
- SEWER SYSTEM MANHOLE
- STORM DRAIN INLET
- STORM DRAIN MANHOLE
- TELEPHONE
- COMMUNICATION TRANSMISSION LINE
- ELECTRIC TRANSMISSION LINE
- SEWER SYSTEM LINE
- STORM DRAIN SYSTEM LINE
- WATER SYSTEM LINE
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EASEMENT BOUNDARY LINE
- COUPON TEST STATION
- ELECTROLYSIS TEST STATION
- POLE-MOUNTED RECTIFIER
- DEEPPWELL ANCHOR
- PIPELINE HORIZONTAL STA
- PIPELINE FOOTAGE
- B/M ITEM NO.

**WELDING INSPECTED PER PG&E GAS STANDARD D-40**

VISUAL

MAGNETIC PARTICLE

INSPECTOR \_\_\_\_\_

DATE \_\_\_\_\_

Installation Tested or Inspected and Noted on Drawing. All Levels Satisfactory per PG&E GS&S 0-18

Qualified Employee \_\_\_\_\_ Date \_\_\_\_\_

Corrosion mechanic's signature is required when a CPA boundary is within the scope of the project

**DESIGN & CONSTRUCTION REVIEW FOR INTERNAL CORROSION**

DESCRIPTION	ACTION SELECTED	INITIAL	DATE
CORROSION ENGINEER HAS REVIEWED THIS LOCATION AND THERE IS NO KNOWN THREAT OF INTERNAL CORROSION. NO INTERNAL CORROSION DESIGN OR CONSTRUCTION CONSIDERATIONS ARE NECESSARY.			
INTERNAL CORROSION MAY BE A THREAT AND THE CONSTRUCTION DESIGNS HAVE BEEN REVIEWED WITH CORROSION ENGINEERING. DOCUMENTATION OF THE REVIEW AND ACTIONS TAKEN ARE IN THE JOB PACKAGE AND INCORPORATED IN THIS DESIGN.			

**SAFETY PLEDGE**

I ALWAYS PUT SAFETY FIRST.

I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.

I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

1998

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DATE TICKET NO. BY \_\_\_\_\_

**REVISIONS**

NO.	DATE	DESCRIPTION	GM/SPEC	DWN	DWD	SWP	APP'D BY
0		BOOK ISSUED FOR REVIEW	30865380				

**APPROVED BY:** \_\_\_\_\_  
 PSRS# 27843  
 SUPV PSN  
 T&R CTR  
 CHD RML  
 DW CCS  
 DATE 9/10/13  
 SECURE AS SHOWN

PIPELINE REPLACEMENT  
 RM-204-12  
 DFM-1607-01, MP 0.00 - MP 0.63  
 STOCKTON, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY  
 WALNUT CREEK, CALIFORNIA

MICROFILM

BILL OF MATERIAL SHEET 07

DWG LIST

SUPPDS

SUPSD BY

SHEET NO. 02 OF 10 SHEETS

30865380 0

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- EASEMENT/WORK SPACE
- FINAL BACK WORKSPACE
- DRILL RIG FOOTPRINT WORKSPACE
- TEMPORARY WORKSPACE
- PERMANENT EASEMENT
- GENERAL
- CLASS LOC
- CULTURAL
- BIOLOGICAL
- WATERBODIES
- EXCLUSIONS
- RIGHT OF WAY
- TRACT NAME
- OWNER/AGENCY
- PROJECT OR JOB NO.

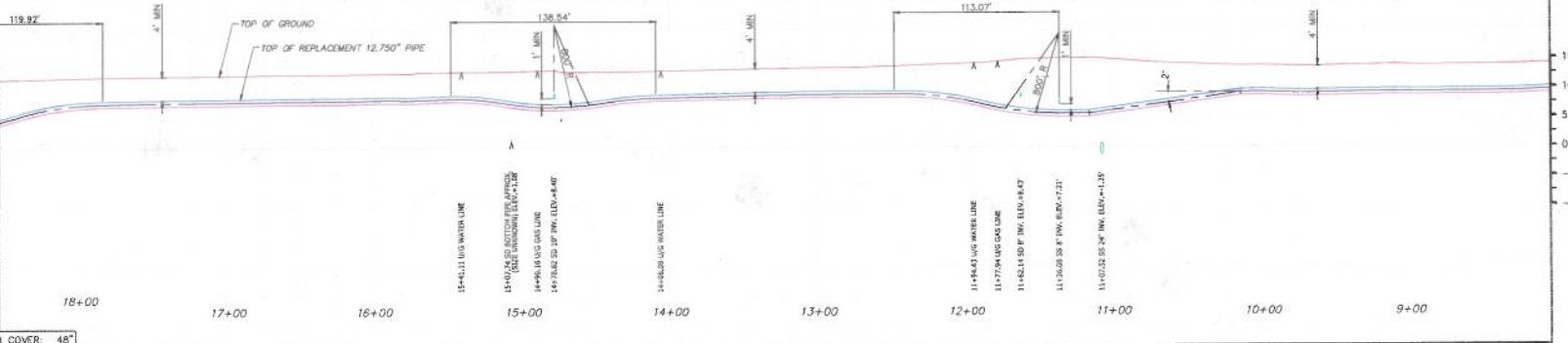
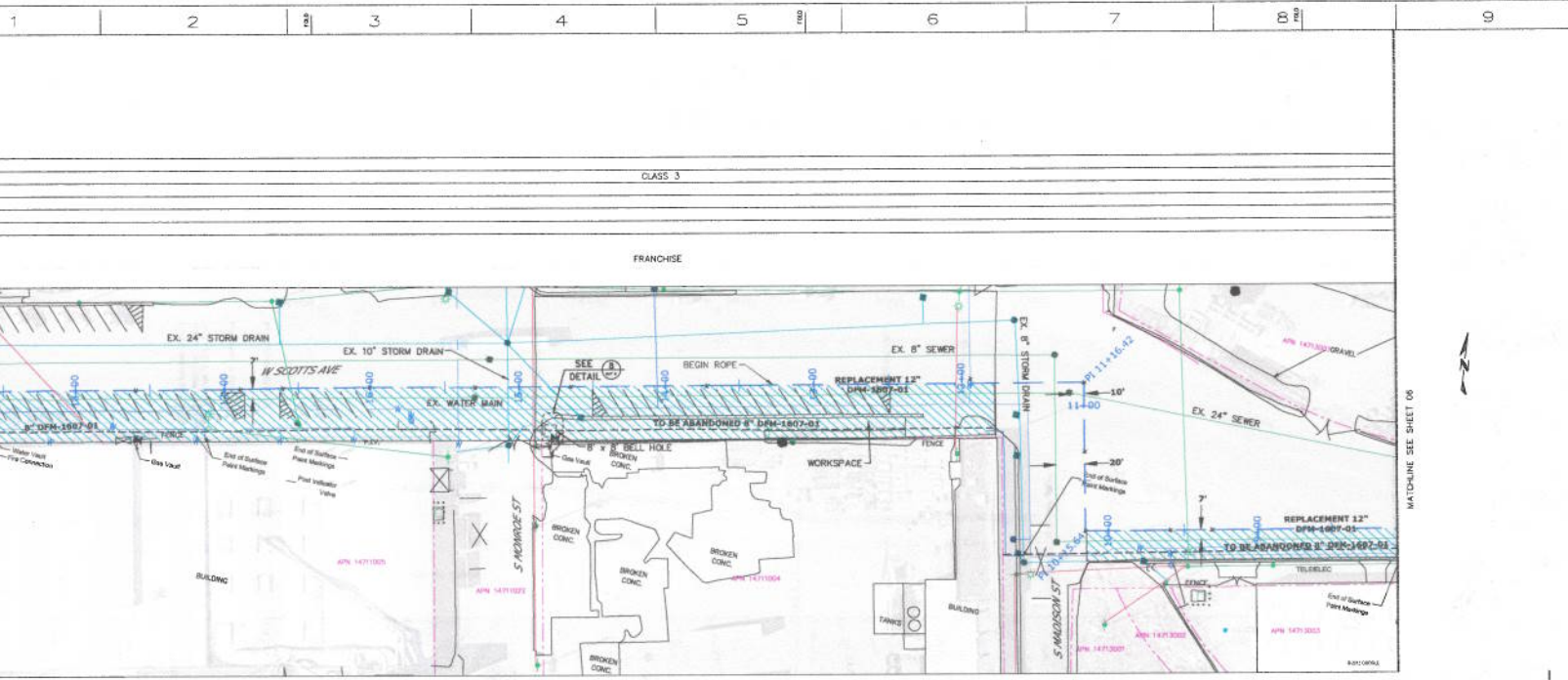
**ENVIRONMENTAL**

**CLASS 3**

**FRANCHISE**

**WORKSPACE**

**PIPELINE DATUM:**  
LOCATION OF BENCH MARK:  
VERTICAL SCALE: 1"=10'  
HORIZONTAL SCALE: 1"=40'

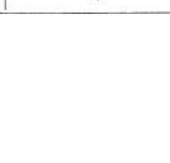


**PIPELINE DETAILS STATIONING**

STATION	DETAIL
18+00	MINIMUM COVER: 48"
17+00	
16+00	
15+00	15" ACROSS 11" LUG WATER LINE
14+00	11" 1/2" GAS LINE
13+00	11" 1/2" 16" GAS LINE
12+00	11" 1/2" 20" 16" GAS LINE
11+00	11" 1/2" 24" 16" GAS LINE
10+00	
9+00	

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APPROVED BY: **DM 30865390**  
DATE: 9/19/12  
SCALE: AS SHOWN

**PIPELINE REPLACEMENT**  
RIM-204-12  
DFM-1607-01, MP 0.00 - MP 0.63  
STOCKTON, CALIFORNIA  
PACIFIC GAS AND ELECTRIC COMPANY  
WALNUT CREEK, CALIFORNIA

**JOB NO. 30865390**  
**DESIGN CRITERIA**  
LOCATION CLASS 3  
DESIGN FACTOR 0.1  
FOR - 200 - PSIG 30.41 % 5MYS  
MAOP 100 - PSIG 0.20 % 5MYS  
STRENGTH TEST PRESSURE  
MAX 1325 - PSIG 50.00 % 5MYS  
MIN 1080 - PSIG 37.12 % 5MYS  
2063 - PSIG 90.00 5MYS  
TEST MEDIUM WATER  
PIPE SPEC ADL X-52 18" W  
O.D. 12.750  
W.T. 0.282  
WELD INSPECTION (GAS STD-40)  
BRADIORAPHIC  
E225 MIN. (X OF EACH WELDER'S  
100% DAILY WORK)  
VISUALLY INSPECT 100% OF ALL WELDS  
THAT ARE NOT BRADIORAPHICALLY  
INSPECTED (THIS REQUIREMENT APPLIES  
EVEN IF NO BRADIORAPHIC INSPECTION  
IS REQUIRED.)

**DM 4107 (1930)**

ITEM	DESCRIPTION
1	HEADLINE
2	PIPE SPEC. ADL X-52 18" W
3	WELL PROTECTORS 12" DIA
4	PROTECT BENCH MARK
5	3" DIA X 18" LUG
6	MAXIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
7	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
8	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
9	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
10	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
11	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
12	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
13	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
14	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
15	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
16	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
17	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
18	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
19	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127
20	MINIMUM ALLOWABLE PRESSURE DURING WELDING 0.84 X D-127

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SAFETY PLEDGE  
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BILL OF MATERIAL SHEET 07  
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SHEET NO. 05 OF 10 SHEETS  
30865390





**BILL OF MATERIAL**

Item Number	Description	POBE Material Code	Units	Quantity	Catalog or Drawing Reference Number	Heat Number (As-Built for pipe & HV fittings)	Serial Number (As-Built for pipe & HV fittings)
1	Pipe, 12.750" OD x 0.281" WT, API 5L, X52, HFW, FBE Coated	M010906	Fl.	3360	OSAS A-15		
2	Pipe, 10.750" OD x 0.250" WT, API 5L, X52, HFW, Bare	M010797	Fl.	2	OSAS A-15		
3	Pipe, 2.375" OD x 0.154" WT, API 5L, GR B, SMLS, Bare	M011516	Fl.	57	OSAS A-15		
4	Pipe, 1.000" OD (3/4") x 0.154" WT, API 5L, GR B, SMLS, Bare	M011601	Fl.	81	OSAS A-15		
5	Elbow, 12.750" OD x 0.281" WT, GR B, 90 Deg. LR	M022104	Ea.	11	OSAS B-20.2		
6	Elbow, 2.375" OD x 0.154" WT, GR B, 90 Deg. LR	M022136	Ea.	4	OSAS B-20		
7	Reducer, 12.750"x10.750" OD, 0.281"x0.365" WT, GR B, Concentric	M022193	Ea.	1	OSAS B-20		
8	Span-A-Valve Nipple, 2"	M022389	Ea.	2	OSAS C-14		
9	Plate, Steel, 12" x 12" x 1/4"	-	Ea.	3	-		
10	Plate, Steel, 10" x 10" x 1/4"	-	Ea.	1	-		
11	Plate, Steel, 8" x 8" x 1/4"	-	Ea.	7	-		
12	Valve Tee, Mueller #H-17606, 2"	M022511	Ea.	2	OSAS C-11		
13	Valve Tee, Mueller #H-17606, 1"	M022440	Ea.	2	OSAS C-11		
14	Valve, Ball, 2.375" OD, ANSI 300, Weld Ends beveled to match 0.154" WT, API 5L, GR B, pipe. Oper. Oriented for Buried Service. A-3.9, Fig. 4, F21.1	M032002	Ea.	2	OSAS F-21.1		
15	Valve, 1200 psi, Steel No-Flow, 1", Mueller H-17606	M035439	Ea.	2	-		
16	Elbow, Socket Weld 3,000 psi, Forged Steel, 3/4"	M022688	Ea.	2	OSAS B-21		
17	Cap, Socket Weld 3,000 psi, Forged Steel, 2"	M022224	Ea.	1	-		
18	Coupling, Socket Weld 3,000 psi, Forged Steel, 2"	M022596	Ea.	2	OSAS B-21		
19	Coupling, Socket Weld 3,000 psi, Forged Steel, 3/4"	M022663	Ea.	2	OSAS B-21		
20	Valve Box Lid, Messing Cast Iron	M043225	Ea.	4	OSAS K-41		
21	Valve Box Head, Material Concrete	M043271	Ea.	4	OSAS K-41		
22	Valve Box Extension, Material 8" Compoglas Plastic, Drainage Tubing ADS #551 or Equivalent	M016003	Fl.	40	OSAS K-41		
23	Grade Ring 1" High, Material Cast Iron	M043272	Ea.	4	OSAS K-41		
24	Wire, 500 Gal. PVC, HMPVC, Wire 4" Max Thickness, 600 Volts, Solid Copper, Black Insulation	M254991	Fl.	500	OSAS O-10		
25	Cartridge, Cadweld CA 15, or Thermoweld SP, 15 Oz/Can, 22 per Box	M419090	Ea.	1	OSAS O-10		
26	Resin, Copper Thermoweld or Equiv. 1/2"	M301790	Ea.	4	OSAS O-10		
27	Tape, Royston Handy Cap, 4" x 4", 24 per Box	M80324	Ea.	1	OSAS E-27		
28	Liquid Adhesive, Royston Roybond 747, 16 ounce spray can, 12 per Box	M430990	Ea.	1	OSAS E-27		
29	Coupler Tee, 1/2"	M80691	Ea.	1	OSAS O-10.2		
30	Marker, "POBE GAS PIPELINE" 4"	-	Ea.	25	OSAS L-15		
31	Adhesive, Pipeline Desc. Marker Application 12 Tubes per Case	-	Ea.	1	OSAS L-15		

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PSRS# 27843

APPROVED BY	JN 30865380
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ENGR	
DRN CK	
CHD INL	
DR. CDS	
DATE	9/19/12
SCALE	AS SHOWN

PIPELINE REPLACEMENT  
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 DFM-1607-01, MP 0.00 - MP 0.63  
 STOCKTON, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY  
 WALNUT CREEK, CALIFORNIA

REVISIONS

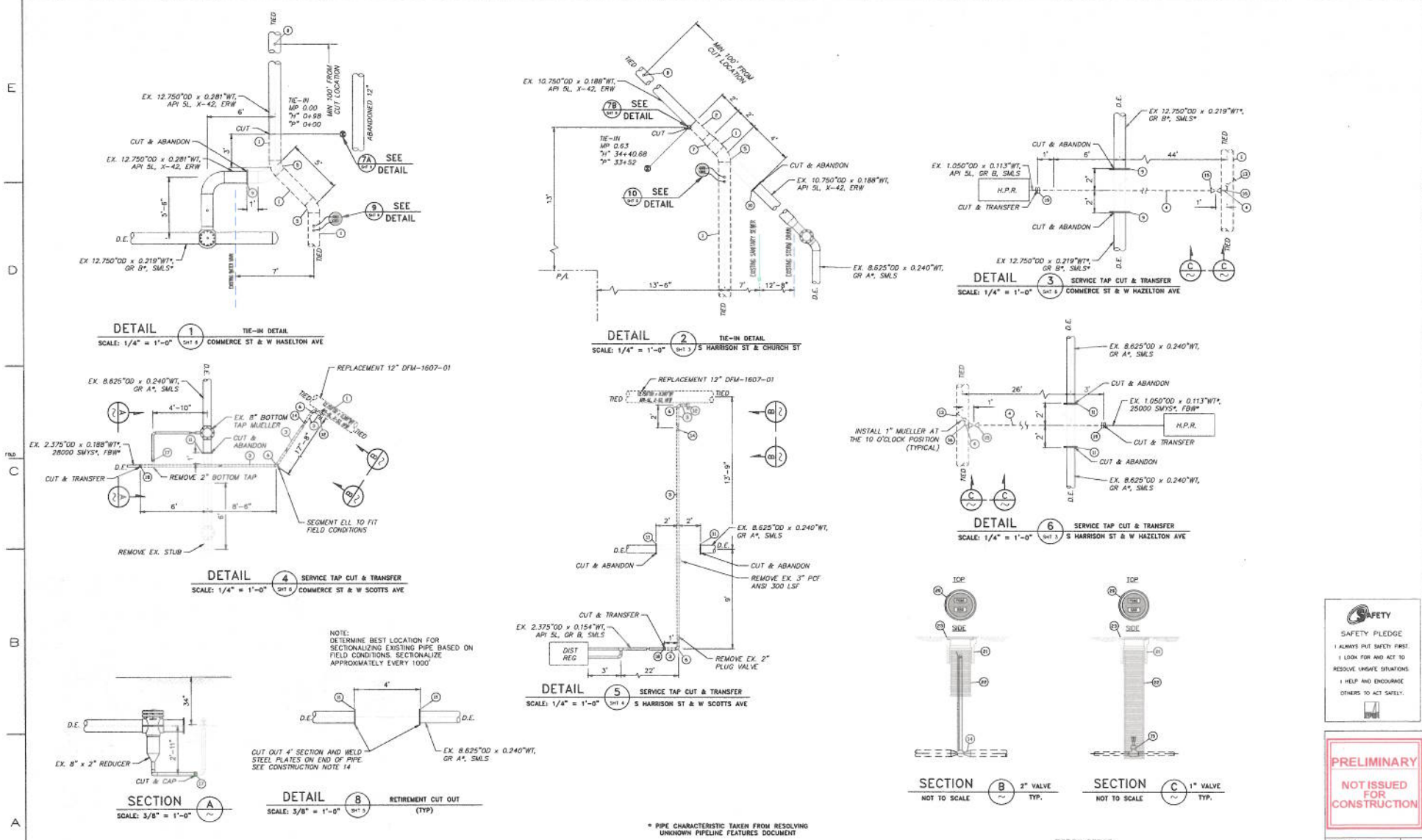
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 SUPPSZ  
 SHEET NO. 07 OF 10 SHEETS  
 30865380

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NOTE: DETERMINE BEST LOCATION FOR SECTIONALIZING EXISTING PIPE BASED ON FIELD CONDITIONS. SECTIONALIZE APPROXIMATELY EVERY 1000'

CUT OUT 4' SECTION AND WELD STEEL PLATES ON END OF PIPE. SEE CONSTRUCTION NOTE 14

\* PIPE CHARACTERISTIC TAKEN FROM RESOLVING UNKNOWN PIPELINE FEATURES DOCUMENT

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1		ISSUED FOR REVIEW	SM/SPG	DNN	SMV
REVISIONS					

PSRS# 27843  
APPROVED BY: [Signature]  
DATE: 9/10/12  
SCALE: AS SHOWN

PACIFIC GAS AND ELECTRIC COMPANY  
WALNUT CREEK, CALIFORNIA

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SAFETY PLEDGE  
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I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS!  
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY!

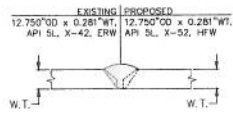
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BILL OF MATERIAL SHEET 07  
DWG LIST  
SUPPDS  
SLIPSD BY  
SHEET NO. 08 OF 10 SHEETS  
30865380 0

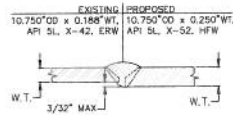
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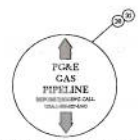
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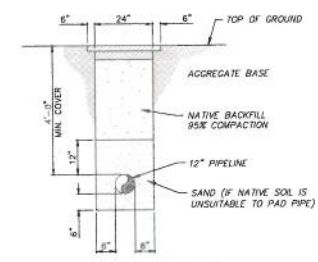
**DETAIL 7A** CS&S D-22  
SCALE: NONE  
FIG. 2 (TYP)



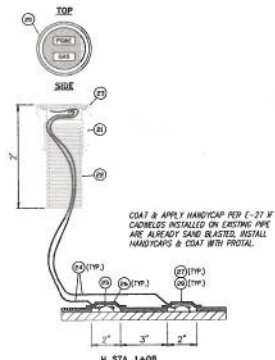
**DETAIL 7B** CS&S D-22  
SCALE: NONE  
FIG. 2 (TYP)



**DETAIL 11** PIPELINE MARKER  
SCALE: NONE  
(TYP)

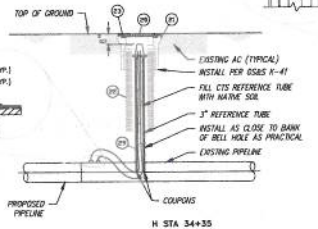
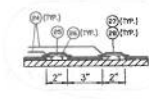


**TYP. TRENCH**  
FOR TRENCHES REQUIRING  
AC PAVING  
NOT TO SCALE

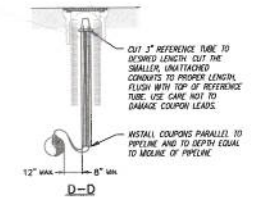


**DETAIL 9** ETS TYPE A - FRAME & COVER  
NOT TO SCALE  
CS&S D-10 FIG. 1 & K-41

COAT & APPLY HANDICAP PER E-27 IF CABLES INSTALLED ON EXISTING PIPE ARE ALREADY SAND BEASTED. INSTALL HANDICAPS & COAT WITH PRIMAL.



**DETAIL 10** COUPON TEST STATION  
NOT TO SCALE  
GAS STD D-10.2 & K-41



NOTE: THE COUPON WIRE WHITE WIRE SHOULD ALSO BE NORTH-WEST OR EAST-WEST.

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SAFETY PLEDGE  
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I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

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RIM-204-12  
DFM-1607-01, MP 0.00 - MP 0.63  
STOCKTON, CALIFORNIA

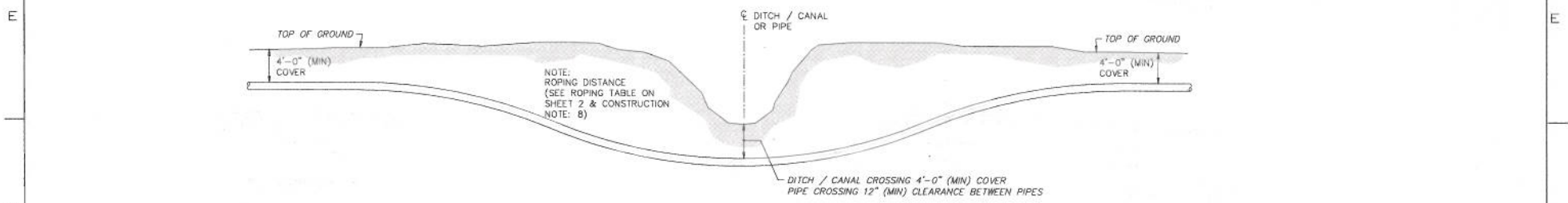
PACIFIC GAS AND ELECTRIC COMPANY  
WALNUT CREEK, CALIFORNIA

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BILL OF MATERIAL SHEET 07	
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SURDS	
SURSD BY	
SHEET NO. 09 OF 10 SHEETS	
30865380	0

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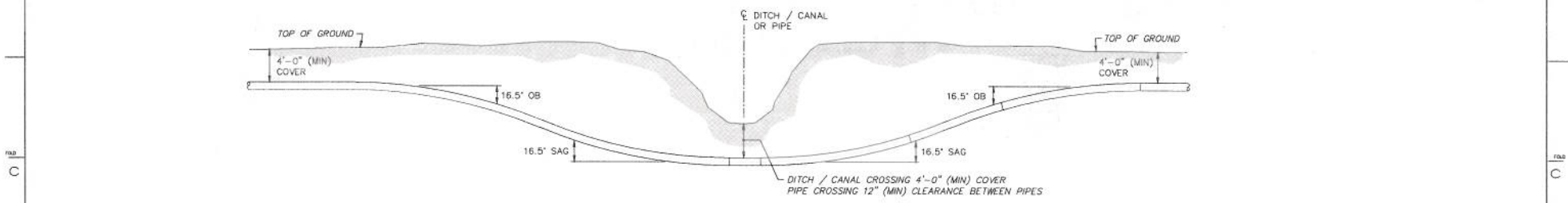
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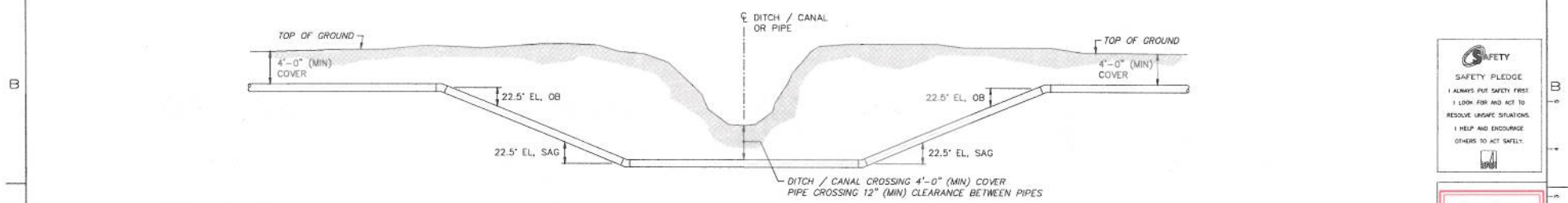
TYP. OFF-SET DETAIL (OPTION I/ROPING)

SCALE: NONE



TYP. OFF-SET DETAIL (OPTION II/FIELD BEND)

SCALE: NONE



TYP. OFF-SET DETAIL (OPTION III/22.5° ELBOW)

SCALE: NONE

NOTE:  
WARNING: CONFIDENTIAL, PROPRIETARY INFORMATION  
THIS DOCUMENT CONTAINS CONFIDENTIAL, PROPRIETARY  
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GAS AND ELECTRIC COMPANY AND IS INTENDED FOR  
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NO.	DATE	DESCRIPTION	DR./SPEC.	CHKD.	INSP.	APP'D BY
1		ISSUED FOR REVIEW	30865380			

PSRS# 27843

APPROVED BY: [Signature]  
BY: [Signature]

DATE: 9/10/12  
SCALE: AS SHOWN

PIPELINE REPLACEMENT  
RIN-204-12  
DFM-1607-01, MP 0.00 - MP 0.63  
STOCKTON, CALIFORNIA

PACIFIC GAS AND ELECTRIC COMPANY  
WALNUT CREEK, CALIFORNIA

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

**PRELIMINARY**  
NOT ISSUED  
FOR  
CONSTRUCTION

MICROFILM  
BILL OF MATERIAL SHEET 07  
DWG LIST  
SUPPDS  
SUPPDS BY  
DATE: 9/10/12  
SHEET NO. 10 OF 10 SHEETS  
30865380

1 2 3 4 5 6 7 8 9 10

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## Attachment B

# LIVINGSTON'S

*CONCRETE SERVICE INC.*

Livingston's Concrete Service, Inc.  
 300050-3sk SAND SLURRY [1]  
 Strength Compressive: 150 psi  
 12/27/2011

Customer : P.G. & E.	Contractor : PG&E
Project : CVFPB	

Compressive Strength : 150 psi at 28 days	Source of Concrete : Livingston's Concrete
Aggregate size : 3/4" -- 19 mm	Construction type : Sand Slurry
Air : 2.0 ± 1.5 %	Placement : Tailgate/4" pump
Water/Cement ratio : 1.652	Unit Weight : 131.59 pcf
Slump : 2.00 to 6.00 in	Design Date : 08/29/2008

Constituents :	Quantity	Density	Volume
ASTM C-150 Type II or V Cement	94 lb	3.150	0.48
Fly Ash, Class F (Salt River Materials Group)	188 lb	2.100	1.43
Water	466 lb	1.000	7.47
ASTM C -33 Concrete Sand (Western Aggregates)	2805 lb	2.632	17.08
Air	2.0 %.		0.54
<b>Total :</b>	<b>3553</b>		<b>27.00</b>

Remarks :  
 95 to 98% compaction @ 28 days.

Reported by Rowdy Cordero	Approval by : _____
Date : 12/27/2011	Date : / /

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Stockton, CA

Pipe to be Replaced

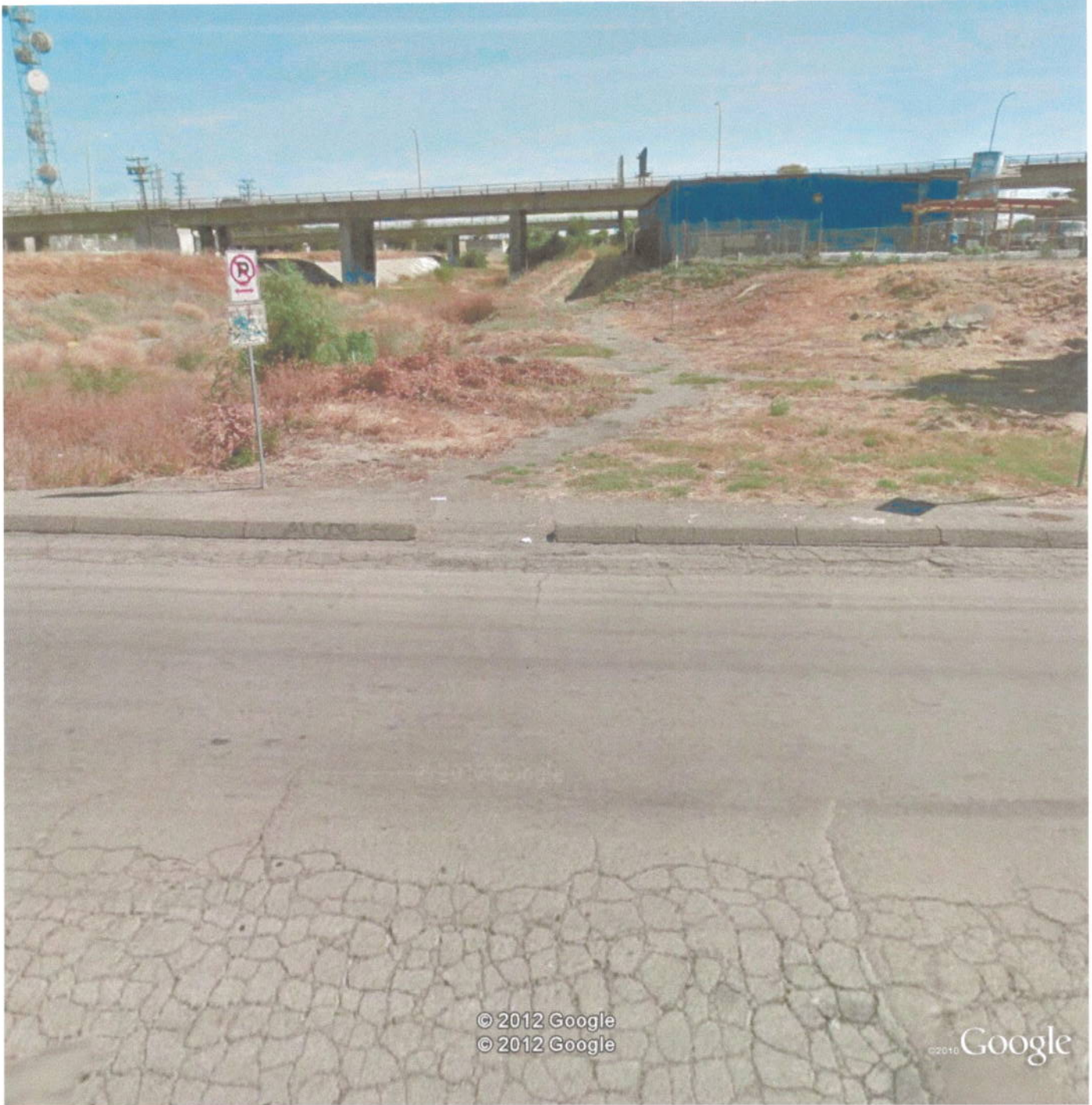


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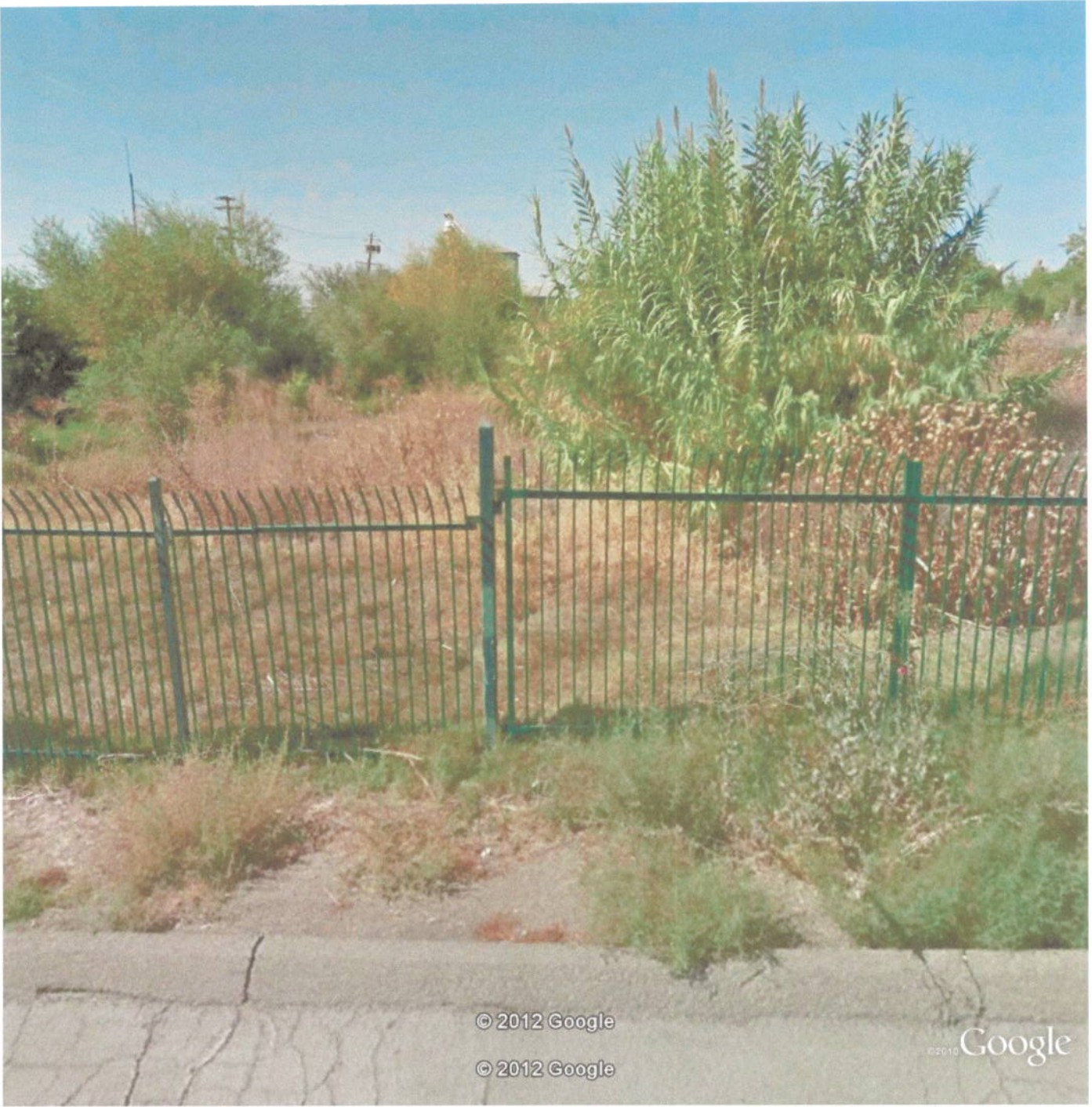
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