

COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS
P.0. BOX 1810-1810 E. HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
(209) 468-3000

FAX # (209) 468-9324

Permit No: PS-1701661
Date Issued: 06/02/2017
Start Date: 06/02/2017
Exp. Date: 10/01/2017
Project No: PWP7110005

Quad: SE

ENCROACHMENT PERMIT

To: PACIFIC GAS & ELECTRIC - STOCKTON PO BOX 930 STOCKTON, CA 95201

Encroachment Type:		
Trench		
Location:		

W/S S AIRPORT WY 40' S/O ZEPHYR ST

In compliance with your request of <u>06/02/2017</u>, permission is hereby granted to do work in County right-of-way as shown on attached application and subject to all the terms, conditions and restrictions written below or printed as general or special provisions on any part of this form. See reverse side and attached sheet, if any.

Trench excavations for service connections will not be permitted within ten feet (10') of pavement centerline unless otherwise approved by the Director. Surface of trench patches shall match in kind and be smooth and even with that of abutting surface. Special attention shall be given to depth of utilities through roadside area in anticipation of future drainage facilities, road profile and/or frontage development. All underground utility facilities are to be established and accurately dimensioned on sketches from surveyed centerline of road right of way, or from right of way (border) lines.

Permittee shall call the Department of Public Works, Field Engineering Division (Permit Inspections) at (209)953-7421 at least forty-eight hours prior to beginning any work within the County right of way. All work performed under this permit shall conform to the rules and regulations pertaining to safety established by the California Division of Industrial Safety and Cal-OSHA.

The jobsite shall be kept in a safe condition at all times by the daily removal of any excess dirt or debris which might be a hazard to either pedestrian or automobile traffic. All necessary traffic convenience and warning devices and personnel shall be provided, placed and maintained by and at the sole expense of the Permittee in accordance with the latest edition of the CALTRANS Manual of Traffic Control.

After completion of the work permitted herein, all debris, lumber, barricades, or any excess material shall be removed and the jobsite left in a neat workmanlike manner. Immediately following completion of construction permitted herein, Permittee shall fill out and mail notice of completion (see attached post card) provided by Grantor.

Special Comments:	
Traffic Control Per MUTCD	
FORMS: SS/WW, R-29	

Est. Permit Fee: \$458.20

WHITE

YELLOW

PINK

GOLDENROD

KRIS BALAJI, Director Department of Public Works

-PWD Central File
-Field Inspection
-Permit Section

-Permittee

Permit Section

ENCROACHMENT PERMIT GENERAL PROVISIONS

13-1

1. This permit is issued under and subject to all laws and ordinances of agencies-governing the encroachment herein permitted. See the following references:

STREETS AND HIGHWAYS CODE

- 1. Division 1, Chapter 3
- 2. Division 2, Chapter 2, Section 942
- 3. Division 2, Chapter 4, Section 1126
- 4. Division 2, Chapter 5.5 and Chapter 6

SAN JOAQUIN COUNTY ORDINANCES NUMBERED: 324, 441, 648, 662, 672, 695, 700, 860, 892, 3359, and 3675.

- 2. It is understood and agreed by the Permittee that the performance of any work under this permit shall constitute an acceptance of all the provisions contained herein and failure on the Permittee's part to comply with any provision will be cause for revocation of this permit. Except as otherwise provided for public agencies and franchise holders, this permit is revocable on five days notice.
- 3. All work shall be done subject to the supervision of and the satisfaction of the grantor. The Permittee shall at all times during the progress of the work keep the County Highway in as neat and clean condition as is possible and upon completion of the work authorized herein, shall leave the County Highway in a thoroughly neat, clean and usable condition.
- 4. The Permittee also agrees by the acceptance of this permit to properly maintain any encroachment structure-placed by the Permittee on any part of the County Highway and to immediately repair any damage to any portion of the highway, which occurs as a result of the maintenance of the said encroachment structure, until such time as the Permittee may be relieved of the responsibility for such maintenance by the County of San Joaquin.
- 5. The Permittee also agrees by the acceptance of this permit to make, at its own expense, such repairs as may be deemed necessary by the County Department of Public Works.
- 6. It is further agreed by the Permittee that whenever construction, reconstruction or maintenance work upon the highway is necessary, the installation provided for herein shall, upon request of the County Department of Public Works, be immediately moved or removed by and at the sole expense of the Permittee.
- 7. No material used for fill or backfill in the construction of the encroachment shall be borrowed or taken from within the County right of way.
- 8. All work shall be planned and carried out with as little inconvenience as possible to the traveling public. No material shall be stacked within eight feet (8') of the edge of the pavement or traveled way unless otherwise provided herein. Adequate provision shall be made for the protection of the traveling public. Traffic control standards shall be utilized including barricades; approved signs and lights; and flagmen, as required by the particular work in progress.
- 9. The Permittee, by the acceptance of this permit, shall assume full responsibility for all liability for personal injury or damage to property which may arise out of the work herein permitted or which may arise out of the failure of the part of the Permittee to properly perform the work provided under this permit. In the event any claim of such liability is made against the County of San Joaquin or any department, official or employee thereof, the Permittee shall defend, indemnify, and hold each of them harmless for such claim.
- 10. All backfill material is to be moistened as necessary and thoroughly compacted with mechanical means. If required by the County Director of Public Works, such backfill shall consist of gravel or crushed rock. The Permittee shall maintain the surface over structures placed hereunder as may be necessary to insure the return of the roadway to a completely stable condition and until relieved of such responsibility by the County Department of Public Works. Wherever a gravel, crushed rock or asphalt surface is removed or damaged in the course of work related to the permitted encroachment, such material shall either be separately stored and replaced in the roadway as nearly as possible in its original state or shall be replaced in kind, and the roadway shall be left in at least as good a condition as it was before the commencement of operations of placing the encroachment structure.
- 11. Whenever it becomes necessary to secure permission from abutting property owners for the proposed work, such authority must be secured by the Permittee prior to starting work.
- 12. The current and future safety and convenience of the traveling public shall be given every consideration in the location and methods of construction utilized.
- 13. The Permittee is responsible for the preservation of survey monuments located within the area of work herein permitted. Prior to the start of construction, survey monuments that potentially may be disturbed shall be located and referenced by a Licensed Land Surveyor, and a Corner Record filed with the County Surveyor. Any Survey Monuments disturbed during the course of construction shall be reestablished by a Licensed Land Surveyor and another Corner Record filed with the County Surveyor. (Land Surveyors' Act Section 8771)
- 14. Prior to any excavation, the Permittee shall notify USA North (Underground Service Alert of Northern California and Nevada) at 811 or 800-227-2600 forty-eight (48) hours in advance.

APPLICATION FOR ENCROACHMENT PERMIT

PLEASE PRINT:	
Date 4/27/17	OFFICE USE ONLY
To: San Joaquin County Department of Public Works PG-E (Applicant Name) 4040 West CW (Mailing Address) Starton CA 95204 (City, State, Zip Code) 404316-1767	JOB# 730052 REF# APN
(Area Code - Telephone Number)	
The undersigned hereby applies for permission to excavate, or the west side of S Airport to the	onstruct and/or otherwise encroach on County Highway Right-of-Way on approximately
Work will commence on or about	for approximately 12>> days.
	property, or am qualified to represent the owner and agree to do the ions of San Joaquin County and subject to inspection and approval.
	4/27/17
Signature of Applicant - Title	Date
EPUB-SV,WKMASTER-PSIENCROACHMENT PERMIT APPLICATION.DOC (01/08)	

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SPECIAL CONDITIONS FOR ENCROACHMENT PERMIT

- 1. Maintain traffic controls for all roads. Traffic control delays shall not exceed 15 minutes. Two-way traffic shall be maintained during non-working hours with excavated areas backfilled or plated. During working hours, two-way traffic control shall be maintained with one lane open and appropriate flaggers. The contractor shall submit traffic control plans for all signing, detours, and any lane closure impacting County right-of-way. Traffic control plans shall be submitted two weeks prior to the closure date.
- 2. Access to all properties shall be maintained at all times except when work is occurring at the access point. Minimal delays will be allowed to provide access within the work zone area. Driveway access shall be fully restored at the end of each workday. Driveways disturbed by the contractor shall be replaced with in-kind or better materials.
- 3. Residents and businesses shall be notified in writing, as approved by the County, 48 hours in advance of any impacts to their access.
- 4. Any areas where parking is to be restricted shall have signs noting the restrictions in place at least 48 hours in advance.
- 5. Existing fences shall not be removed without written consent of the property owner. Such consent shall be submitted to the County prior to the removal. Fences removed shall be restored with inkind or better materials. Restored fences shall not encroach into County right-of-way.
- 6. All destroyed or obliterated pavement markings must be replaced in kind by the permittee. Typical pavement markings include but not limited to lane lines, centerlines, stop and stop ahead legends, limit lines, raised pavement markers and miscellaneous delineators.
- 7. The Permittee is responsible for the preservation of survey monuments located within the area of work herein permitted. Prior to the start of construction, survey monuments that potentially may be disturbed shall be located and referenced by a Licensed Land Surveyor, and a Corner Record filed with the County Surveyor. Any Survey Monuments disturbed during the course of construction shall be reestablished by a Licensed Land Surveyor and another Corner Record filed with the County Surveyor. (Land Surveyors' Act Section 8771)
- 8. All pipe and pipeline related facilities including, but not limited to, valves, utility boxes and vaults, and frames and covers shall be maintained by PACIFIC GAS & ELECTRIC, including any facilities that are abandoned in place. PACIFIC GAS & ELECTRIC shall be responsible for any and all costs associated with the removal, relocation and/or adjustment of these facilities as determined by the County at PACIFIC GAS & ELECTRIC's expense. (Streets and Highways Code Section 1463)
- 9. All future maintenance of the pipeline and related facilities within the County right-of-way will require a San Joaquin County Encroachment Permit.
- 10. Trenches shall be maintained in a smooth and even condition to the satisfaction of the County throughout the project limits at all times.

- 11. All trenches shall be completely backfilled or shored and plated at the end of each workday, and the roadway restored to two-way traffic. If plating is to be used, a trench shoring and plating plan suitable for traffic loadings shall be prepared by a registered civil engineer and submitted for prior approval by the County.
- 12. The contractor shall use San Joaquin County Improvement Standard R-29 when backfilling trenches within the County right-of-way. Where the existing road structural section is below standard, a minimum section of 3 inches of asphalt concrete over 8 inches of aggregate base shall be required.
- 13. Airport Way subject to pavement cuts shall receive a (1)-inch asphalt concrete overlay as per San Joaquin County Department of Public Works Improvement Standards Section 2-5.0 Trench Cut Policy. Shoulder areas shall be brought up to the finish grade as directed by the County.
- 14. No paving joints are allowed within paved shoulder; contractor shall pave all the way to outer edge of paved shoulder.
- 15. Class II Aggregate Base shoulder backing is required from the edge of pavement, a minimum of 4-inches thick by 4-feet wide.
- 16. Contractor shall establish existing roadway and drainage grades within the construction area. Any repair to roadways and adjacent areas shall match existing grades. Any proposed grade changes shall receive prior approval from County.
- 17. Above ground vaults, panels and/or other similar facilities will be allowed within the right-of-way if located as far to the outside edge as possible. Utility vaults shall be located a minimum of 4'-0" from edge of pavement.
- 18. County roads shall be kept clean from mud and debris at all times along the access points and work zone areas during entire project. All standard roadway striping and signage shall be clearly visible, maintained and restored throughout the construction zone during and after the project.
- 19. In addition to standard dust control measures, streets shall be maintained in a clean condition, free of dirt, mud and debris during construction activities. The contractor shall provide daily, or as needed, street sweeping using a modern mechanical or vacuum-assisted street sweeper.
- 20. The contractor shall not conduct construction operations in rain or heavy fog conditions.

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2-5.0 TRENCH CUT POLICY

2-5.01 <u>General Requirements</u>

- A. Resurfacing requirements specified in this policy are in addition to the trench resurfacing requirements specified by County Standard Drawing No. R-29.
- B. For the purpose of this policy, "Surfacing Age" is defined as the age of the most recently completed roadway surfacing, including construction, reconstruction, or major overlay.
- C. Where the application of seal coats is required, a Type II Slurry Seal will be used in accordance with State Standard Specifications, Section 37-2.
- D. The permittee must post a one-year maintenance bond or cash deposit, in an amount specified by the Department.
- E. All pavement markings destroyed or obliterated must be replaced in kind by the permittee. Typical pavement markings include, but are not limited to, lane lines, centerlines, stop and stop ahead legends, limit lines, raised pavement markers, and miscellaneous delineators.
- F. The permittee is responsible for Survey Monuments disturbed by trenching and is required to file a corner record and to reestablish them using a Licensed Land Surveyor after the trench restoration is completed.
- G. Functional classification maps and Public Works Project Advertising Schedules are references for this policy.
- H. To facilitate scheduling and planning, Public Works staff will make available the most current Project Advertising Schedule at the monthly Utility Coordination Meeting and make it available to the public, at the Permits Counter, in January each year.

2-5.02 Collectors, Arterials and Expressways

- A. Surfacing Age less than Three (3) Years: No pavement cuts. Exceptions may be approved in accordance with Section 2-5.04 EXCEPTIONS.
- B. Surfacing Age Three (3) Years and Over:
 - 1. Longitudinal Trench Cutting in Paved Shoulder

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Areas:

The entire shoulder_of the road is to be resurfaced. The existing surfacing adjacent to the trenched area shall be planed to accommodate the overlay in a manner that does not cause drainage concerns. The nearest pavement cut shall be a minimum of three (3) feet from the edge of pavement, or the remaining pavement shall also be removed and replaced. (See County Standard Drawing No. R-37).

2. Longitudinal Trenches within Traveled Lanes:

The entire traveled lane where the trench is located is to be resurfaced with a one (1) inch-asphalt concrete overlay. The existing surfacing adjacent to the trenched area shall be planed to accommodate the overlay in a manner that does not cause drainage concerns. The overlay shall be in accordance with State Standard Specifications, Section 39. Aggregate gradation shall be consistent with the existing surfacing material. (See County Standard Drawing No. R-37).

3. Cross-Cutting:

Cross-cutting is allowed at a minimum interval of 150 feet. At each cross-cut location a minimum of ten (10) feet on each side of trench shall be planed and resurfaced with one (1) inch asphalt concrete. If cross cuts are within the 150 feet minimum interval, the entire section between the first and last cross cut shall be planed and resurfaced with one (1) inch asphalt concrete. (See County Standard Drawing No. R-36).

4. The conditions described in paragraphs 1, 2 and 3 above will not apply if resurfacing is scheduled within two years.

2-5.03 Local Roads

- A. Surfacing Age Under Three (3) years: No pavement cuts allowed. Exceptions may be approved in accordance with Section 2-5.04 EXCEPTIONS.
- B. Surfacing Age Three (3) to Five (5) Years:
 - Longitudinal cuts are permitted. A seal coat is required for that half of the roadway containing the trench. (See County Standard Drawing No. R-37).

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2. Cross-cutting is allowed under the same conditions as Section 2-5.02(B)(3). If cross-cuts occur within the 150 feet minimum interval, resurfacing may be substituted with a slurry seal for that half of the roadway. (See County Standard Drawing No. R-36).

2-5.04 Exceptions

Excavation is prohibited in newly renovated County roadways for three (3) years after a notice of completion has been filed for a roadway improvement project, or a new roadway has been accepted. The Director of Public Works may approve exceptions that are in the best interest of the public, including but not limited to:

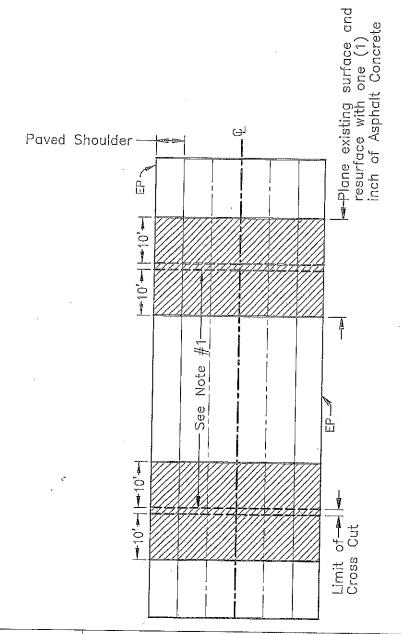
- An emergency that endangers life or property.
- B. For repair or modification to prevent interruption of essential utility service.
- C. For relocation work that is mandated by County, State or Federal law.
- For service for buildings where no other reasonable means of providing service exists.
- E. For potholing to verify utility depth or location.
- F. For trenchless excavations greater than three feet in depth of cover over the utility facility, and not requiring a significant surface Incision greater than industry bore pit standards.

Exceptions must be requested and submitted in writing to the Department. Payment of a nonrefundable processing fee is also required. Exceptions will be reviewed using the Departments Action Approval process, which requires the recommendation of a Deputy Director.

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NOTES:

- 1. If the distance between cross—cuts are less then 150' the entire area between corss—cuts shall be planed and resurfaced with one (1) inch of Asphalt Concrete.
- 2. The resurfacing requirements shall be in addition to County Standard Drawing No. R—29.
- 3. Resurfacing for Bell Holes shall meet these requirements. If excavation occurs within the shoulder or lane, only that area shall be resufaced as shown.
- 4. If cross-cutting is performed on Local Roads at intervals less then 150' a Seal Coat for that half of the roadway containing the trench can be used in lieu of resurfacing. Section 2-5.03 (B-2).





TRENCH CUTTING POLICY CROSS CUTTING OF COUNTY ROADWAYS

COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS

Date: MAY 2015

No. Revision Description Date

Std. Dwg. No. R-36

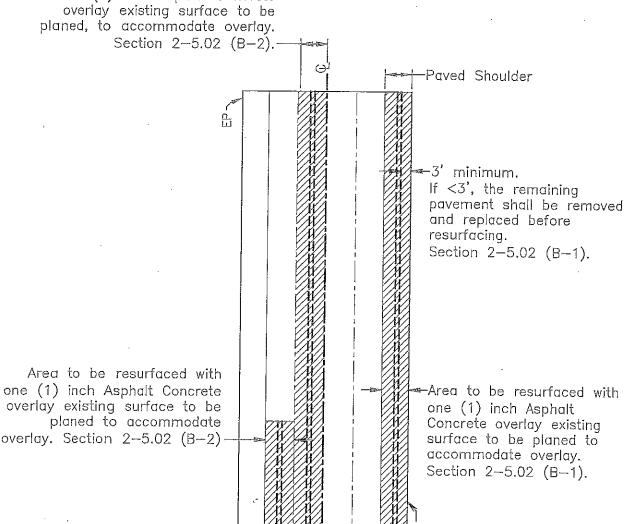
Approved by:

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NOTES:

- The resurfacing requirements shall be in addition to County Standard 1. Drawing No. R-29.
- 2. If longitudinal cuts are required on a Local Road a Seal Coat can be used for that half of the roadway containing the trench. Section 2-5.03 (B-1).

Area to be resurfaced with one (1) inch Asphalt Concrete overlay existing surface to be planed, to accommodate overlay.





TRENCH CUTTING POLICY LONGITUDINAL CUTTING **OF COUNTY ROADWAYS**

COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS

Revision Description

Date: MAY 2015 Std. Dwg. No.

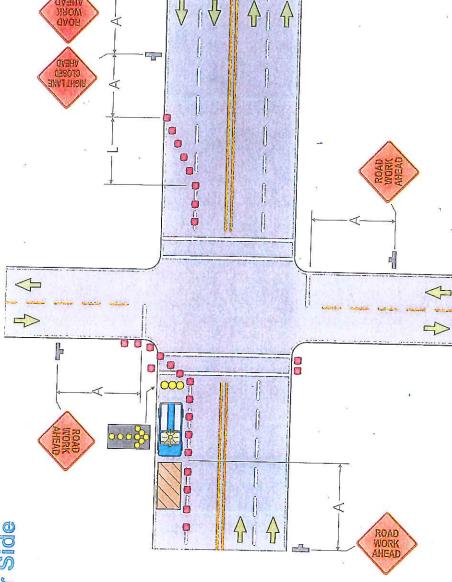
Approved by:

R-37

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UTA-10 Right lane Closure Far Side of Intersection

- a single lane, left turning movements may 1. For intersection approaches reduced to be prohibited to maintain capacity for through traffic.
- 2. The standard procedure is to close on the near side of the intersection any lane that is not carried through the intersection.
- 3. If the work space extends beyond a crosswalk then close the crosswalk.
- Flashing warning lights may be used to call attention to the advance warning signs.



SEE	• TABLE 1 for Buffer Length	• TABLE 4 for "L" & Channeli	(cones, etc.) Quantity (NOTE: LOCAL REGULATION	PGEFM1A	
DISTANCE	A	200'	350'	.009	1000'	
SIGN SPACING	ROAD TYPE	Urban - 25 MPH or less	Urban - 30 MPH or more	Rural	Expressway/Freeway	

(page 26)

lizer (page 28)

NS MAY VARY.

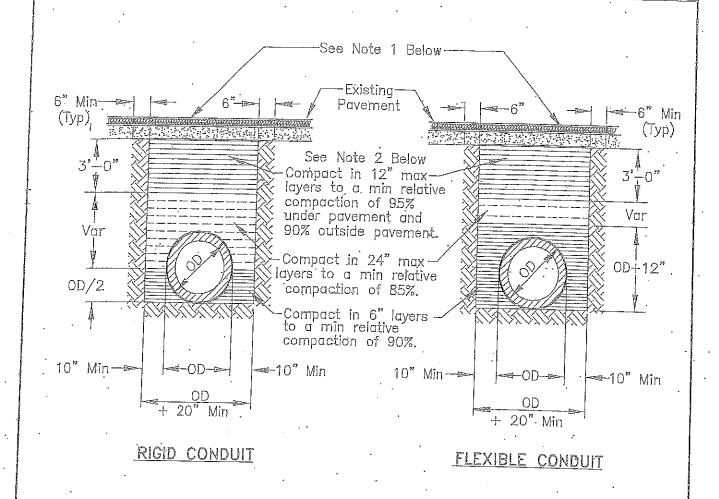
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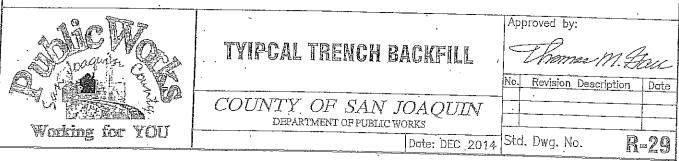
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NOTES:

- 1. New pavement shall be 1" thicker than existing pavement, minimum of 0.25 Ft. New base shall be 1" thicker than existing base, min of 0.50 Ft.
- 2. Select native material or imported granular material as approved by the Director of Public Works: Backfill with materials equal to or better than the existing pavement and base in quality.
- 3. Relative compaction of materials shall be tested in accordance with the State of California, Dept. of Transportation Testing Manuals, test method No. California 216 or 231.
- 4. All existing pavement shall be neatly cut to line prior to trench excavation.
- 5. Jetting or ponding will be permitted within the street right—of—way with a 3 year bond, when approved by the Director of Public Works.
- 6. When shown by soil composition and compactability, ninety percent (90%) compaction may be used, when approved by the Director of Public Works.
- 7. Special bedding and backfill requirements may be shown on the plans or specified in the special provisions.



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GOVERNING INSTALLATION OF SUBSURFACE STRUCTURES AND PIPELINES WITHIN COUNTY ROAD-RIGHTS-OF-WAY

PUBLIC CONVENIENCE AND SAFETY:

- Before obstructing any private driveway entrance or County road traveled way with a trench, spoil bank, equipment or other barrier permitted for any prolonged period of time, the Permittee shall notify the known users of the respective the coughfare(s) involved, and shall provide access for vehicular and pedestrian traffic to and from the road.
 - Unless otherwise permitted, all work shall be conducted in such a manner that no less than one lane of the existing County road traveled way will be maintained open to public traffic during working hours in a smooth and safe riding condition(s). Two lanes shall be open after working hours.
 - In cases where road closure is permitted, the permission to close the road will be granted under the condition that the Permittee notify the following persons and/or agencies of the time, the period of closure, and the defour route at least twenty-four (24) hours prior to said road closure. ď.
 - The County of San Joaquin Public Works Department

. The local fire district

The County of San Joaquin Sheriff's Office

The local school district e,

The local postal service

The local residents involved

- Should hazardous conditions relative to the installation operations warrant flagmen, as many capable flagmen as may be necessary shall be provided by the Permittee and stationed in advance of work to warn and direct traffic.
- Lights, signs and barricades shall be furnished, erected and maintained by the Permittee for the adequate warning and convenience of the public, with particular attention to be taken in this regard after dark.
- D. Any excess dirt and/or debris which might be a hazard to either automobile of pedestrian traffic, uncontrollable by lights, signs and barricades, shall be removed from the jobsite daily.

STRUCTURES:

- A. Walls of structures shall be such quality and strength that they will resist all pressures and will not crack or be deformed in such a way as to create a hazard or maintenance problem at any time. Therefore, the minimum structural requirements for opnorate pipe placed under county road rights-of-way shall conform to the following American Association of State Highway and transportation Officials (AASHTO) designations.
 - For concrete pipe up to and including thirty-three inches (33°) inside diameter, extra strength concrete conforming to AASHTO Designation M 170M.
 - For concrete pipe thirty-six inches (36°) inside diameter and larger, reinforced concrete pipe conforming to AASHTO Designation M 170M Class -2,

Plastic pipe conforming to AASHTO Designation M294.

- All concrete pipe joints with County road rights-of-way shall be scaled against leakage and/or infiltration with rubber gasket in conformance with Section 65-1:06 of the California Standard Specifications, or with other methods as may be permitted under the Special Provisions.
- Cast-in-place concrete pipe, vitrified clay pipe, spiral welded steel pipe, or conrugated atomirmum alloy pipe shall not be installed within the County road. rights-of-way unless specifically so stated in the Special Provisions, and only under the conditions as provided.
- All structures to be builed within the County rights-of-way shall be set at such elevations as to allow minimum coverage of thirty inches (30") to the centerline of the roadways and twelve inches (12") at the boitions of borrow ditches each side of the roadways. The depths of structures shall be established below a flat plane extending across the rights-of-way, no part of which shall extend above the elevations stated above; manhoies, lampholes, valves, etc. not included. Future surface elevations shall be anticipated as nearly as possible and structure elevations shall be established for future adjustments accordingly.
- The County hereby reserves the right to specify in the Special Provisions the gage and surface treatment of any galvanized connegated metal pipe that is to be
- All longitudinal utility facilities are to be established (and dimensioned on sketches) from surveyed centerline of road right-of-way, not from right-of-way (border) lines.

REPAIRS OF THE COUNTY RIGHT-OF-WAY:

- All excavations shall be backfilled and compacted immediately after work therein has been completed.
- Trenched shall not be left open farther than 300 feet in advance of pipe laying operations, or 200 feet to the rear thereof, unless otherwise permitted by the В.
- Unless ofherwise permitted under the Special Provisions, backfill shall be placed and mechanically compacted in such a manner that the relative compaction C. throughout the entire fill within the County road right-of-way shall confoun to the percentages of compaction as shown on the Trench detail.
- Backfill material shall be placed in horizontal uniform layers not to exceed in thickness, before compaction, 0.67 foot in the bedding region, one -foot where 90% compaction is required, and two-fact where 80% compaction is required.
- No portion of the excavation(s) shall be compacted by ponding or jetting unless a maintenance bond is provided
- Gravel backfill material shall be utilized only where specifically so stated on the face of the permit. It shall be compacted by means of a high-frequency F. internal vibrator, the compactor to be a size and type approved by the Engineer. Peints of compaction shall not be greater than 18" centers and to the full
- All pavements, curbs, gutters, sidewalks, borrow ditches, pipes, head walls, road signs, trees, shrubbery, and/or office permanent road facilities impaired by G. or as a result of construction operations at the construction site(s) occupied by materials and/or equipment, shall be restored immediately upon backfilling of the excavation to the original grades and cross sections, and to a condition as good as, or better than existing prior to construction.
- All surfacing materials of roadways and driveway approaches cut or damaged by or as a result of construction operations, shall be replaced within ONE WEHK following the backfilling of excavation, weather permitting, with compacted layers of surfacing materials at least as thick as the existing, and no less than two inches (2") of asphalt concrete over six inches (6") of aggregate base, both as specified below.
 - Asphalt Concrete: Combined mineral aggregate shall conform to the quality and gradation requirements for Type "B" one-half inch(1/2) maximum aggregate, coarse or medium gradation as specified in Section 39 of the California Standard Specifications. The bituminous binder to be mixed with mineral aggregate shall be paying asphalt having (Grade PG 64-10), unless otherwise directed by the Engineer. Placement of asphalt concrete surfacing shall conform to the applicable provisions of Section 39 of the California Standard Specifications.
 - Aggregate Base: Combined mineral aggregates shall conform to the quality and the grading for three-quarter inch (3/4") maximum size aggregate Class 2 Aggregate Base specified in Section 26 of the California Standard Specifications.
- Before acceptance of repairs to the County road rights-of-way, all unsightly and detrimental dirt, dust and/or debris shall be removed and the construction areas left in a neat and presentable condition(s).
 - If necessary, County road traveled way and driveway pavements shall be washed with water to remove dirt and dust
 - Driveway approaches and field entrance pavements damaged by equipment or spoil banks shall be repaired as directed by the Engineer.
- Upon request by the County, any settlement, sagging of surface, or cracking of pavement shall be repaired immediately by and at the sole expense of the Permittee for a period of one year following acceptance of the work.

SPECIAL PROVISIONS

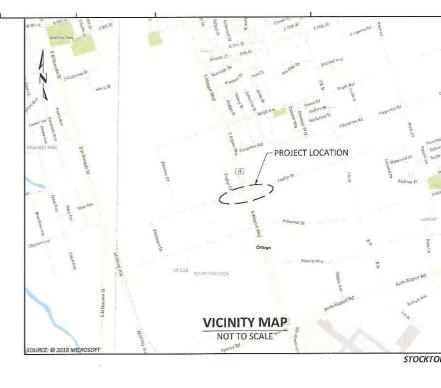
Winter Weather Utility Work

- 1. <u>SUPERVISION</u>: The utility company (permittee) shall furnish full-time supervision of all work to insure compliance with the permit provision.
- START OF WORK: No work within the County right-of-way shall be started until the utility company representative has made an evaluation of weather conditions and has determined the work can be accomplished under the provisions of the permit.
- 3. CLEAN PAVEMENT: Dirt and mud shall not be deposited on the pavement outside the area of work, and if inadvertently tracked onto the road travel way shall be removed immediately.
- 4. DAILY RESTORATION: Private driveways and road intersections shall be restored daily.
- 5. WEATHER-TIGHT CONDITIONS: All trenches shall be filled and compacted, ditches and other drainage facilities regarded and opened, and the entire work area restored to weather-tight condition prior to any rain.

BTU AREA # X02 CP AREA # F-13 WALL MAP 3005 PLAT I4 SAN JOAQUIN COUNTY

REPLACEMENT RT-886 GCUST5838, MP 0.00

CAPITAL ORDER # 74006606



PLAN VIEW (SCALE: 1" = 60')



SCHEDULE OF SHEETS

SHEET 1 -- TITLE / PLAN VIEW

SHEET 2 -- CONSTRUCTION NOTES

SHEET 3 -- CONSTRUCTION STAMPS / LEGEND

SHEET 4 -- LOCATION A / CONSTRUCTION DETAILS

SHEET 5 -- BILL OF MATERIALS / CONSTRUCTION DETAILS



WARNING:	Γ
THIS DOCUMENT CONTAINS	ı
CONFIDENTIAL, PROPRIETARY	ı
INFORMATION THAT IS THE SOLE	ı
PROPERTY OF PACIFIC GAS AND	ı
ELECTRIC COMPANY AND IS	ı
INTENDED FOR USE ONLY BY	ı
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ELECTRIC COMPANY EMPLOYEES	ľ
AND ITS AGENTS.	L
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TITLE / PLAN VIEW GCUST5838 MP 0.00 6" PIPE REPLACEMENT STOCKTON, CALIFORNIA

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

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BILL OF MATL SHEET 5
DWG LIST SHEET 1
TRACKING NUMBER RT-8

TRACKING RT-88
SHEET NO. 1 OF 5

74006606

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SUMMARY OF PROPOSED WORK

REPLACE 8" & 6" PIPE ON DFM 1606-01 & GCUST5838

CAPITAL ORDER #74006606

F

D

В

- 1. INSTALL 12'-0" OF 8.625" OD X 0.250" WT. API 5L, X-52, HFW, PIPE.
- 2. INSTALL 2'-0" OF 6.625" OD X 0.188" WT, API 5L, X-52, HFW, PIPE
- INSTALL 6'-3" OF 6.625" OD X 0.280" WT, API 5L, GR B, SMLS, PIPE.
- 4. INSTALL 1 EA. OF 6" ANSI 300, BALL VALVE.
- 5. REMOVE 1 EA. OF 6" ANSI 300, VALVE, GM 4656286 (1987).
- 6. REMOVE 1 EA. OF 8" MUELLER BOTTOM TAP PCF INSTALLED ON GM 4656286
- 7. REMOVE 12'-0" OF 8.625" OD X 0.188" WT, API 5LX, X-42, ERW PIPE INSTALLED ON GM 4656286 (1987).
- 8. REMOVE 5'-0" OF 6.625" OD X 0.188" WT, 35,000 SMYS* PIPE INSTALLED ON GM
- 9. REMOVE 3'-0" OF 6.625" OD X 0.156" WT, API 5LX, X-42, ERW PIPE INSTALLED ON
- 10. REMOVE 1'-6" OF 3.500" OD X 0.216" WT, API 5L, GR B, SMLS PIPE INSTALLED ON

SEQUENCE OF OPERATIONS

- 1. PRIOR TO TAKING PIPELINE CLEARANCE, THE FOLLOWING MUST BE PERFORMED:
- A. PG&E GT I&R TO CHECK ANY DRIPS IN SHUT-IN SEGMENT FOR PRESENCE OF PIPELINE LIQUIDS.
- B. IF UT W.T. MEASUREMENTS DO NOT MATCH EXISTING PIPE SPECIFICATIONS AS SHOWN ON DRAWINGS, IMMEDIATELY NOTIFY PROJECT ENGINEER (PED)
- C. CONTACT ATS IF REQUIRED TO SCHEDULE SEAM CHARACTERIZATION AND UT 48 HOURS PRIOR TO CUT-OUTS BEING PREPARED PER NOTE 1E BELOW
- D. REMOVE PIPE WRAP FROM CUT-OUT SECTIONS EXTENDING 1' BEYOND EACH END OF THE CUT-OUT AND SAND BLAST TO NEAR WHITE WHERE DESIGNATED ON DRAWINGS FOR H-FORM INSPECTION
- E. COMPLETE A-FORMS ON ALL EXPOSED PIPE AND INCLUDE IN AS-BUILT PACKAGE. IF UT W.T. MEASUREMENTS DO NOT MATCH EXISTING PIPE SPECIFICATIONS AS SHOWN ON DRAWINGS, IMMEDIATELY NOTIFY PROJECT ENGINEER (PED).
- INSTALL SAVE-A-VALVES FOR OIL TESTING AND SNIFF HOLES WHERE DESIGNATED IN THE TIE-IN PROCEDURE. CONFIRM LOCATION AND NUMBER OF SAVE-A-VALVE LOCATIONS AND ENSURE WELD PRESSURE CALCULATIONS ARE PROVIDED BY ENGINEERING PRIOR TO WELDING SAVE-A-VALVES ON
- 2. PROPERLY MARK ALL REMOVED PIPE PER TD-4100P-14 "REMOVING DOCUMENTING & PRESERVING GAS TRANSMISSION PIPE & COMPONENTS". THIS INCLUDES THE UNIQUE CHAIN OF CUSTODY IDENTIFIER NUMBER, DATE OF REMOVAL, GPS LOCATION, FLOW DIRECTION, TOP DEAD CENTER & PERSONAL NAME OF FOREMAN REMOVING PIPE SECTION.

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:

- 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.
- 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
- PROSPECTING IS REQUIRED AHEAD OF WORK. ALL OFFSETS OR ROPING WILL NEED TO BE APPROVED BY THE POSE PROJECT ENGINEER (PED), AND REDLINED DETAILS SHOWN ON PROFILE AND CONSTRUCTION DETAIL SHEETS OF EACH ADDITIONAL SUBSTRUCTURE.
- ALL EXCAVATIONS WITHIN EXISTING STATIONS SHALL BE HAND DUG OR EXCAVATED USING SOFT DIG METHODS (e.g. VACUUM EXCAVATIONS OR SIMILAR).

ELBOWS AND FIELD BENDS:

- 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 PRE-APPROVED BY THE PG&E PROJECT ENGINEER (PED). 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
- 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.
- 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.

RESTORATION AND CLEAN UP

- RESTORATION OF PUBLIC STREETS, SIDEWALKS, CURBS, ETC. ABOVE PIPE BEDDING SHALL BE IN ACCORDANCE WITH THE LATEST CITY, COUNTY, OR AGENCY STANDARDS.
 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.
- EXISTING GIRTH WELDS, AT TIE-IN LOCATIONS, SHALL BE IDENTIFIED AND REMOVED IF PRACTICAL.

- 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.
- 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.

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.

STRENGTH TEST REQUIREMENTS:

- STRENGTH TESTING SHALL MEET PRESSURE AND DURATION REQUIREMENTS OF GAS STANDARD
 A-34 AND SHALL BE CONDUCTED IN ACCORDANCE WITH UTILITY PROCEDURE TD-4137S.
- 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. 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 COATING SELECTIONS TABLE.

11. DOCUMENTATION OF INSPECTION OF EXISTING PIPELINE

- WHENEVER EXISTING BURIED GAS FACILITIES ARE EXCAVATED DURING ENGINEERING OR DURING CONSTRUCTION, AN A-FORM (TD-4110P-03-F01) SHALL BE COMPLETED FOR THE GENERAL INSPECTION. THIS ALSO APPLIES TO GAS FACILITIES BEING DEACTIVATED. THE COMPLETED A-FORM SHALL BE SUBMITTED WITH THE AS-BUILT PACKAGE.
- 12. TIE-IN AND CLEARANCE PROCEDURE TO BE PREPARED AND PERFORMED IN ACCORDANCE WITH
 - THE FOLLOWING WORK PROCEDURES:

 A. WP 4100-01, HOT AND COLD WORK METHODS FOR NATURAL GAS TRANSMISSION PIPELINE
 - WP 4100-10, GAS CLEARANCE PROCEDURES FOR FACILITIES OPERATING OVER 60 PSIG.

13. 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)
 - REFER TO THE "EXISTING PIPE SPECS (PRE-1972)" STAMP TO DETERMINE IF A SAMPLE HAS BEEN COLLECTED OR IF A SAMPLE IS REQUIRED:
 - "YES" REPRESENTS HISTORICAL RESULTS ARE AVAILABLE SHOWING THAT PIPE WRAP
 - CONTAINS ASBESTOS. NO SAMPLE IS REQUIRED.
 "NO" REPRESENTS HISTORICAL RESULTS ARE AVAILABLE AND THE PIPE WRAP DOES NOT
 - CONTAIN ASBESTOS (CONTENT WAS NON DETECT). NO SAMPLE IS REQUIRED. "UNKNOWN" REPRESENTS NO HISTORICAL RESULTS ARE AVAILABLE. A SAMPLE IS REQUIRED IF THE PIPE INSTALLATION DATE IS PRIOR TO 1972.
 - 2. WHEN A PIPE WRAP SAMPLE IS REQUIRED TO BE ANALYZED FOR ASBESTOS COLLECT SAMPLE PER TD-4711P-01 AND COMPLETE CHAIN OF CUSTODY FORM TD-4711P-01-F01
 - FILE PINK COPY OF THE CHAIN OF CUSTODY FORM AND FINAL LABORATORY RESULTS WITH THE AS-BUILTS.
 - 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. THE PERSON FILLING OUT THE A-FORM (TD-4110P-03-F01) IS RESPONSIBLE FOR BOTH THE INTERNAL CORROSION AND EXTERNAL CORROSION INSPECTION OF THE PIPELINE.
- 2. UPON COMPLETION OF BORINGS, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL OPON COMPLETION OF BERNINGS, CONTACT HE CONNOCIONAD THE PER LINE 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 OMNIMETRIX RECTIFIER REMOTE MONITOR, CONTACT THE CORROSION SUPERVISOR FOR THE LOCAL AREA/DIVISION.
- 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:

- GT&D UTILITY WORK PROCEDURE TO 9500P-16, "DEACTIVATION AND/OR RETIREMENT OF UNDERGROUND GAS FACILITIES," SHALL BE FOLLOWED.
- THE FXISTING PIPE SECTIONS SHALL HAVE FREE LIQUIDS REMOVED AND BE 100% PURGED PER GAS DESIGN STANDARD A-38, "PROCEDURES FOR PURGING GAS FACILITIES.
- 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.
- 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 LITILITY 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.

- 1. THIS DRAWING HAS BEEN CREATED BY REVIEW OF THE AS-BUILT DRAWINGS & RECORDS. ACCURACY IS DEPENDENT UPON THE SOURCE DOCUMENTS LISTED ON THE REFERENCE DRAWINGS.
- "H" STATIONING ON THIS DRAWING DENOTES "HORIZONTAL" STATIONING AND IS A RESULT OF PG&E GIS SHAPEFILE OVERLAID UPON GOOGLE EARTH OR MICROSOFT BING IMAGERY AND MIGHT NOT ACCURATELY DEPICT EXACT DISTANCES. FIELD VERIFY ALL DISTANCES.
- 3. DISTANCES TO ALL UTILITIES SHOWN ON DRAWING ARE APPROXIMATE BASED UPON REVIEW OF PG&F AND OTHER UTILITY/AGENCY DRAWINGS & AS-BUILTS. CONTRACTOR TO CALL USA TO HAVE LOCATION OF THESE FACILITIES MARKED AND POTHOLED TO EXPOSE/VERIFY LOCATION
- COPIES OF REFERENCE DRAWINGS ARE AVAILABLE TO FIELD PERSONNEL (PG&E, INSPECTION OR CONTRACTOR) ON AN AS NEEDED BASIS. CONTACT THE PROJECT ENGINEER (PED) IDENTIFIED IN CONTACTS TO OBTAIN COPIES OF ANY REFERENCE DRAWINGS.
- ALL BELL HOLES SHALL BE EXCAVATED TO THE FOLLOWING MINIMUM DIMENSIONS: BELL HOLE SHALL EXTEND MINIMUM 4' LONGITUDINALLY BEYOND WELD/CUT LINES ON EITHER SIDE; BELL HOLE SHALL EXTEND MINIMUM 2.5' BEYOND SIDE WALL OF PIPE AND SHALL PROVIDE FOR MINIMUM 2' CLEARANCE BELOW BOTTOM OF PIPE WALL FOR ENTIRE EXPOSED LENGTH. ANY DEVIATION FROM THESE DIMENSIONS MUST BE APPROVED BY PG&E CONSTRUCTION MANAGER.

CONTACT INFORMATION

CONSTRUCTION MANAGER			()
I&R SUPPORT		RICK MUOK	(209) 406-7926
CLEARANCE SUPERVISOR		RICK MUOK	(209) 406-7926
PROJECT COORDINATOR	-	NATASHA CASANARES	(925) 786-4442
PROJECT ENGINEER (PED)		CODY CURRAN	(818) 642-4950
PIPELINE ENGINEER (PLE)	2000	CARLOS CABRERA	(925) 328-5201
H-FORM		KENJI GAILEY, GE	(907) 360-1887
MATERIALS (PIPE)		MICHAEL LACHINA	(510) 468-1924
MATERIALS (FITTINGS)		ROMI CEREGHINO	(510) 299-8648
MATERIALS (CHAIN OF CUSTODY)		RIGO ORTIZ	(209) 857-0097
CORROSION ENGINEER		GEORGE LEON	(916) 402-3623

REFERENCE DRAWINGS:

OPERATING MAP 385159 REV 60

089442 REV 9

0804972 REV 3

MCCULLIN RANCH STA TO WATERLOO RD & "D" ST REGULATOR STATION LINE 108

OPERATING DIAGRAM AIRPORT WAY & ZEPHYR DR REGULATOR

--- AIRPORT WAY & ZEPHYR ST DISTRICT REGULATOR STATION

--- CARPENTER RD & HWY 99 DISTRICT REGULATOR STATION 0804971 REV 1

AS-RIIIITS

GCUST5838 EXISTING MATERIAL B-MAOP03046727

B-MAOP03046727 MAIN AND SERVICE EXTENSION FOR STOCKTON COGEN

GCUST5838 EXISTING MATERIAL B-MAOP03046750

MAOP03046725 ---- GCUST5838 EXISTING MATERIAL



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*ASSUMED VALUES PER PG&E_TECHNICAL GUIDANCE SPECIFICATION, TD-4215P-09, 12-23-2015

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AUTHORIZED PACIFIC GAS AND

LECTRIC COMPANY EMPLOYEE

Know what's bolow. Call before you dig.





K RL 90% ISSUED FOR BIL PM/SPEC DWN CHKD SUPV APVD BY DESCRIPTION REVISIONS AS SHOWN

CONSTRUCTION NOTES GCUST5838 MP 0.00 6" PIPE REPLACEMENT STOCKTON, CALIFORNIA

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

BILL OF MATL SHEET 5 DWG LIST SHEET 1 RT-886 SHEET NO. 2 OF 5 SHEETS

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INTERNAL CORROSION (IC) DESIGN & CONSTRUCTION REVI	EW	
IC THREAT (PER RMP-16)	YES	NO
IC REVIEW COMPLETED BY (CORROSION ENGINEER OR DESIGNATE)	LAN ID	DATE
CORROSION ENGINEERING HAS REVIEWED THIS DESIGN AND INCORPORATED ANY NECESSARY IC DESIGN AND CONSTRUCTION CONSIDERATIONS. DOCUMENTATION OF THE REVIEW AND ACTIONS TAKEN ARE IN THE JOB PACKAGE AND INCORPORATED IN THIS DESIGN.		
EDRS ROUTING NUMBER:		

INSTALLATION TESTED OR INSPECTED AND NOTED ON DRAWING. ALL CORROSION LEVELS SATISFACTORY PER PG&E GAS UTILITY STANDARD TD-4181S.

QUALIFIED EMPLOYEE

D

B

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CORROSION MECHANIC'S SIGNATURE IS REQUIRED WHEN A CPA BOUNDARY IS WITHIN THE SCOPE OF THE PROJECT.

LEGEND:

—— GT —— GAS TRANSMISSION LINE — GD—— GAS DISTRIBUTION LINE GS GAS SERVICE LINE --- GT --- GAS TRANSMISSION LINE (RETIRED) --- GD--- GAS DISTRIBUTION LINE (RETIRED) --- GS --- GAS SERVICE LINE (RETIRED) --- ET --- ELECTRIC TRANSMISSION LINE ELECTRIC DISTRIBUTION LINE - ES --- ELECTRIC SERVICE LINE TELEPHONE LINE FIDER OPTIC LINE ---- TV ----- CABLE TV LINE —— SD —— STORM DRAIN LINE ---- SS ---- SEWER LINE WATER LINE - EDGE OF ROAD FACE OF CURB ———— UNPAVED ROAD

— TEMPORARY EASEMENT

FENCE

WALL

BARRIER

TEMPORARY BARRIER (TYPE K)

– – – DASHED PAVEMENT MARKINGS

PROPERTY BOUNDARY

GUARD RAIL

--^- TOP OF SLOPE

Acronym Definition

GAS LINE MARKER (ALL) GAS LINE MARKER (PADDLE DUAL) GAS LINE MARKER (PADDLE SINGLE) GAS LINE MARKER (POST) GAS LINE INDICATOR (DISC) INSULATION JOINT 0 PRESSURE CONTROL FITTING G **GAS BOX** GAS HIGH PRESSURE REGULATOR M GAS METER

GAS DISTRIBUTION REGULATOR **6** PG&E GAS MANHOLE (G) GAS VAULT \triangle **GAS VENT**

PG&F FLECTRIC MANHOLE

ELECTRIC VAULT UTILITY POLE (ELECTRIC)

(E)

UTILITY POLE (OTHER) JOINT POLE

EXISTING ELECTRIC TOWER

W WATER METER

WATER VALVE

Acronym Definition

SD STORM DRAIN 0 SEWER MANHOLE FOREIGN MANHOLE TV CABLE TV BOX T TELECOMM BOX

> TELECOMM MANHOLE TELECOMM VAULT STREET LIGHT BOX

0 TREE (A) ANODE

A DEEPWELL ANODE COMPUTER AUTOMATED (CATS) **TEST STATION**

(cts) COUPON TEST STATION

(ETS) **ELECTROLYSIS TEST STATION** R POLE-MOUNTED RECTIFIER

POTHOLE

CITY/COUNTY MONUMENT MONUMENT, SEE DESCRIPTION

SURVEY CONTROL POINT

CENTERLINE

Acronym Definition

DETAIL LEGEND:

LAYDOWN / STAGING / CONSTRUCTION IMPACT AREA

Acronym Definition

EXCAVATION / BELL HOLE

SAFETY ZONE LIMITS

ACCESS ROAD

ENVIRONMENTALLY SENSITIVE AREAS

PROPOSED GAS TRANSMISSION LINE EXISTING GAS TRANSMISSION LINE GAS TRANSMISSION LINE (TO BE DEACTIVATED) GAS TRANSMISSION LINE (TO BE RETIRED) GAS TRANSMISSION LINE (TO BE REMOVED) PIPE END CUT (SIDE) PIPE END CUT \times **GAS VALVE** FLOW FLOW ARROW TIF-IN WELD 155 BILL OF MATERIAL ASSET (77)-MATERIAL OF RECORD ASSET

Liquid Natural Gas Storm Drain Distribution DIST Existing SHT Sheet Design Pressure Proposed Linear Non-Weldable Sewer Lateral Damage Prevention Volume LNW American Petroleum Institute DPV SMLS Assessor's Parcel Number Distribution Regulator LONG APN Specified Minimum Yield Strength Abrasion Resistant Coating DREG District Regulator Monitor Maximum Allowable Operating Pressure SPEC Specification Double Submerged Arc-Welded ASME American Society of Mechanical DSAW Deep Well Anode MAX Maximum Sanitary Sewer Engineers Single Submerged Arc-Welded Manhole ASTM American Society for Testing Materials ELEV Electric STA STD Station Elevation ATM Atmosphere Standard Electronic Marker MIV Main Line Valve STL STPR Maximum Operating Pressure BBCL **EMS Engineering Material Specification** Bell Bell Chill Ring Strength Test Pressure Report MP MW Mile Point Back of Curb Tied (Connected to System) Electric Resistance Welded Working Monitor FRW TCE TCP Non-Destructive Examination Temporary Construction Easement Electrolysis Test Station ETS BIDG Building Traffic Control Plan Bill of Materials NOP NPC Normal Operating Pressure BOM Technical Document FRF Fusion Bonded Epoxy Non-Protected/Native Coupon BTU British Thermal Units Not to Scale TDW T D Williamson Face of Curb Back of Walk BW Transmission System Planning Future Design Pressure On Center Bypass Outside Pipe Diameter Тор Тар Computer Automated Test Station CATS Fence Line ОН Overhead TYP Typical Corrosion Control Volume Flange CCV Underground Natural Gas Pipeline G GM Unless Otherwise Noted Natural Gas Main Property Line UON USA Centerline Protected/Polarized Coupon Underground Service Alert CNG GR Compressed Natural Gas PCF Pressure Control Fitting Ultra-Sonic Test Natural Gas Service CONTR GS Gas Standards and Specifications GS&S Cathodic Protection Programmable Logic Controllers Verify in Field PLC CROP Conditional Reduction of Pressure Natural Gas Well VOL Volume Pounds per Square Inch Center CTR CTS Horizontal HDD Horizontal Directional Drill RAD Radius Water Coupon Test Station Wall Thickness Reference HFW High Frequency Welded High Pressure Regulator With Dead End Without W/O DCUST Distribution Customer In-Line Inspection ROW Right of Way Without Locating Wire Screwed DEG Joint Trench Submerged Arc-Welded Helical SAWH Work Procedure Line Number DET Submerged Arc-Welded Longitudinal Design Factor Left/Right SAWL Distribution Feeder Main DFM Latitude





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ND ITS AGENTS.

@ PG&E CC





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D. DATE	DESCRIPTION	PM/SPEC	DWN	CHKD	SUPV	APV	D BY	1	DATE

CONSTRUCTION STAMPS / LEGEND GCUST5838 MP 0.00 6" PIPE REPLACEMENT STOCKTON, CALIFORNIA

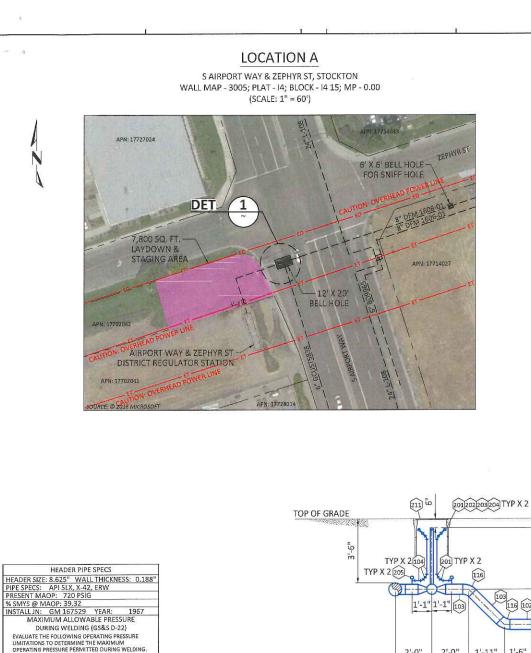
GAS TRANSMISSION & DISTRIBUTION PACIFIC GAS AND ELECTRIC COMPANY SAN FRANCISCO, CALIFORNIA

DWG LIST SHEET 1 RT-886 SHEET NO. 3 OF 5 SHEETS

74006606

BILL OF MATE SHEET 5





TIE-IN SECTION JOINT # SEE STPR #74006606 (TEST 1) - CUT AFTER TEST - CUT AFTER TEST - CUT AFTER TEST

DETAIL

2

6" X 8" TIE-IN PIECE

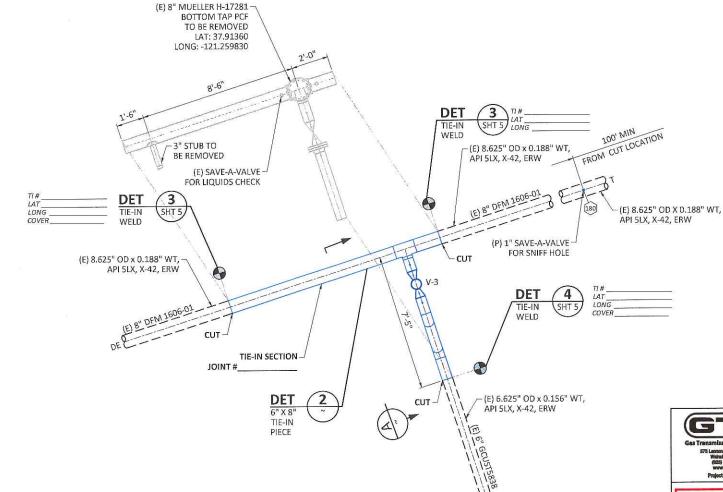
HYDROTEST CONFIGURATION

74006606 BOM ITEM# BOM ITEM# DESIGN CRITERIA DESIGN CRITERIA CLASS LOCATION CLASS LOCATION DESIGN FACTOR **DESIGN FACTOR** FDP 720 PSIG 24.40 % SMYS MAOP 720 PSIG 24.40 % SMYS FDP **720** PSIG **23.88** % SMYS MAOP 720 PSIG 23.88 % SMYS STRENGTH TEST PRESSURE STRENGTH TEST PRESSURE MIN 1132 PSIG 38.36 % SMYS MIN __1132 PSIG __37.55_% SMYS MAX 1332 PSIG 45.13 % SMYS MAX 1332 PSIG 44.19 % SMYS 2714 PSIG=90% SMYS
MEDIUM WATER 2657 PSIG=90% SMYS TEST MEDIUM TEST MEDIUM PIPE SPEC. API 5L, X-52, HFW O.D. 6.625" W.T. 0.188" PIPE SPEC. API 5L, X-52, HFW O.D. 8.625" W.T. 0.250"

74006606 IOB# BOM ITEM# 103 DESIGN CRITERIA CLASS LOCATION DESIGN FACTOR 0.5 FDP 720 PSIG 24.34 % SMYS MAOP 720 PSIG 24.34 % SMYS STRENGTH TEST PRESSURE MIN <u>1132</u> PSIG <u>38.26</u> % SMYS MAX 1332 PSIG 45.02 % SMYS 2663 PSIG=90% SMYS TEST MEDIUM WATER
PIPE SPEC. API 5L, GR B, SMLS WATER O.D. 6.625" W.T. 0.280"

0.5

74006606 BOM ITEM#_ 104 DESIGN CRITERIA CLASS LOCATION DESIGN FACTOR 0.5 FDP 720 PSIG 7.01 % SMYS MAOP 720 PSIG 7.01 % SMYS STRENGTH TEST PRESSURE MIN 1132 PSIG 11.03 % SMYS MAX 1332 PSIG 12.97 % SMYS 9240 PSIG=90% SMYS TEST MEDIUM WATER PIPE SPEC. API 5L, GR B, SMLS O.D. 1.050" W.T. 0.154"



DETAIL

ISSUED

(E) 6" GCUST5838 2'-0" 1'-11" 1'-6" 2'-0" -(E) 6.625" OD x 0.156" WT, API 5LX, X-42, ERW

SECTION

OF THE LONGITUDINAL SEAM (EXCEPT DSAW PIPE), THE CIRCLMFERENTIAL, AND ANY BRANCH WELD, WITHIN 3" OF ANY DEFECT (GOUGES, CORROSION, LAMINATIONS, ETC.) IN THE PIPE WHICH EXCEEDS 1/2 OF THE NOMINAL PIPE DIAMETER IN LENGTH. VALVE DATA STAMP HEADER PIPE SPECS HEADER SIZE: 6.625" WALL THICKNESS: 0.156"
PIPE SPECS: API SLX, X-42, ERW
PRESENT MAOP: 720 PSIG
% SMYS @ MAOP: 36.40
INSTALLIN: GM 4656286 YEAR: 1987
MAXIMUM ALLOWABLE PRESSURE TECH ID (VALVE #) V-3 VALVE TYPE BALL VALVE, ANSI 300

MANUFACTURER MODEL/FIGURE #

COMMISSIONING VALVE TO BE COMMISSIONED BY GAS T&R OR DISTRICT PERSONNEL DURING 100 PSIG SOAP TEST AND PRIOR TO PLACING VALVE IN SERVICE COMMISSIONED BY

DATE _

NUMBER OF TURNS OF HANDWHEEL (IF APPROPRIATE)

HEADER PIPE SPECS HEADER PIPE SPECS HEADER SIZE: 6.625" WALL THICKNESS: 0.188"
PIPE SPECS: 35,000 SMYS*
PRESENT MAOP: 720 PSIG
% SMYS @ MAOP: 36.25
INSTALLIN: GM 4656286 YEAR: 1987
MAXIMUM ALLOWABLE PRESSURE DURING WELDING (GS&S D-22) DURING WELDING (GS&5 D-22) EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING.

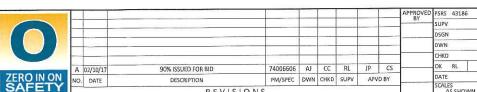
A) (715 PSIG) WHEN WELDING ON BODY OF THE PIPE. UNLESS. A) (720 PSIG) WHEN WELDING ON BODY OF THE PIPE. UNLESS, B) (720 PSIG) WHEN WELDING WITHIN 3" B) (397 PSIG) WHEN WELDING WITHIN 3"

OF THE LONGITUDINAL SEAM (EXCEPT DSAW PIPE),
THE CIRCUMFERENTIAL, AND ANY BRANCH WELD, OR
WITHIN 3" OF ANY DEFECT (GOUGES, CORROSION,
LAMINATIONS, ETC.) IN THE PIPE WHICH EXCEEDS 1/3
OF THE NOMINAL WALL THICKNESS IN DEPTH AND/OF
1/4 OF THE NOMINAL PIPE DIAMETER. IN LENGTH.

HEADER SIZE: 3.500" WALL THICKNESS: 0.216"
PIPE SPECS: API 5L, GR B, SMLS
PRESENT MAOP: 720 PSIG
% SMYS @ MAOP: 16.67
INSTALL IN: GM 4379053 YEAR: 1984
MAXIMUM ALLOWABLE PRESSURE EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING

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REVISIONS

LOCATION A / CONSTRUCTION DETAILS GCUST5838 MP 0.00 **6" PIPE REPLACEMENT** STOCKTON, CALIFORNIA

8" PCF & 3" STUB REMOVAL LOC A: S AIRPORT WY & ZEPHYR ST

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

DWG LIST SHEET 1

RT-886 SHEET NO. 4 OF 5 SHEETS

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B) (395 PSIG) WHEN WELDING WITHIN 3" OF THE LONGITUDINAL SEAM (EXCEPT DSAW PIPE), THE CIRCLMFEERNTIAL, AND ANY BRANCH WELD OR WITHIN 8"OF ANY DEEFC (GOLGES, CORROSIÓN, LAMINATIONS, ETC., IN THE PIPE WHICH EXCEEDS 1/3 OF THE ROMINAL WALL THICKNESS IN DEPTH AD/OR 1/4 OF THE ROMINAL PROMINER IPIE LENGTH.

A) (659 PSIG) WHEN WELDING ON BODY OF THE PIPE. UNLESS,

B) (366 PSIG) WHEN WELDING WITHIN 3"

DURING WELDING (GS&S D-22)

EVALUATE THE FOLLOWING OPERATING PRESSURE LIMITATIONS TO DETERMINE THE MAXIMUM OPERATING PRESSURE PERMITTED DURING WELDING.

A) (566 PSIG) WHEN WELDING ON BODY OF THE PIPE. UNLESS,

Know what's holow. Call before you dig.

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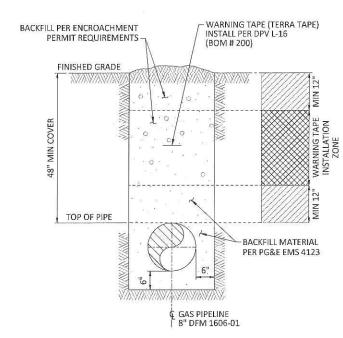
	BILL OF MAT	TERIAL					
em Number	Description	PG&E Material Code	Units	Quantity	Catalog or Drawing Reference	Heat Number (As-Built for pipe & HY fittings)	Serial Number (As-Built for pipe & H) fittings)
	CAPITAL ITEMS ORD	ER #74006606					
101	Pipe, 8.625" OD x 0.250" WT, API 5L, X-52, HFW, Bare	M011186	Ft	12	GS&S A-15		
102	Pipe, 6.625" OD x 0.188" WT, API 5L, X-52, HFW, FBE coated	M010944	Ft	2	GS&S A-15		
103	Pipe, 6.625" OD x 0.280" WT, API 5L, GR B, SMLS, FBE coated	M010014	Ft	6	GS&S A-15		
104	Pipe, 1.050" OD x 0.154" WT, API 5L, GR B, SMLS, Bare	M011951	Ft	10	GS&S A-15		
112	Tee, Reducing, Barred, 8.625" x 6.625" OD, 0.322" x 0.280" WT, GR-B	M024144	Ea	1	GS&S B-20		
113	Cap, 8.625" OD x 0.322" WT, GR-B	M022080	Ea	2	GS&S B-20		
114	Cap, 6.625" OD x 0.280" WT, GR-B	M022038	Ea	1	GS&S B-20		
	Valve, 6.625", Ball, ANSI 300, Weld Ends, 0.280" WT, For buried service with extension, Exhibit 1 with "A" dimension 3.0", Manufactured in accordance with API 6D and PG&E GS&S F-21.1 Figure 3	M032327	Ea	1	GS&S F-21.1		
116	Elbow, 6.625" OD x 0.280" WT, GR-B, 45 deg, LR	M022158	Ea	2	GS&S B-20		
180	Save-A-Valve Nipple, 1"	M022287	Ea	1	GS&S C-14		
181	Save-A-Valve Nipple, 2"	M022289	Ea	3	GS&S C-14		
200	Terra Tape, 1 Roll	M379947	Ea	1	GS&S L-16		
201	Elbow, 3/4", 45°, Socket Weld, Forged Steel, 3000#	M022587	Ea	6	GS&S B-21		
202	Nipple, Swage, Concentric Reducing, Steel, XS wall, 3/4" End Beveled x 1/2" End Threaded, 3" Long, 2160 PSI	M022616	Ea	2	GS&S B-13.3		
	Valve,1/2", Ball, Threaded Ends, 2000#, with Locking Device	M034404	Ea	2	GS&S F-20		
204	Plug, 1/2" Steel, Hex Head, 6000#, Threaded	M021249	Ea	2	GS&S B-10.1		
205	Valve Tee, 1" Mueller # H-17656, 1440 PSI MAX GWP	M022445	Ea	2	GS&S G-11		
211	Box, Complete, Concrete, Full Traffic Assembly, with slip resistant cover, 24" x 36"x 2-6" Deep	M019598	Ea	1			

E

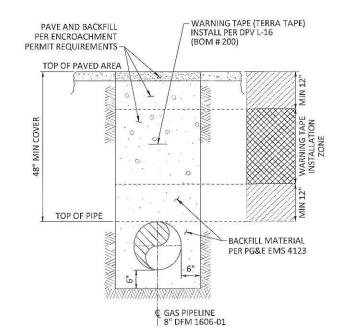
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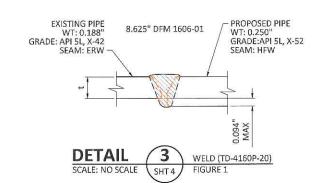
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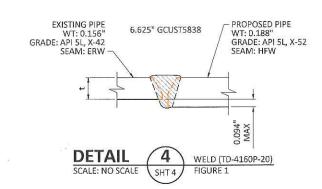


TYPICAL TRENCH NON-PAVED AREA SCALE: NO SCALE NATIVE BACKFILL



TYPICAL TRENCH PAVED AREA SCALE: NO SCALE NATIVE BACKFILL







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BILL OF MATERIALS / CONSTRUCTION DETAILS GCUST5838 MP 0.00 6" PIPE REPLACEMENT STOCKTON, CALIFORNIA

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BILL OF MATL SHEET 5

DWG LIST SHEET 1 RT-886

SHEET NO. 5 OF 5 SHEETS

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