COUNTY OF SAN JOAQUIN

DEPARTMENT OF PUBLIC WORKS
P.O. BOX 1810-1810 E. HAZELTON AVENUE
STOCKTON, CALIFORNIA 95201
(209) 468-3000
FAX # (209) 468-9324

Permit No: **PS-1700890**
Date Issued: 04/06/2017
Start Date: 04/06/2017
Exp. Date: 10/01/2017
Project No: PWP730052
Quad: NW

UE/CR/PM NO:31233179

ENCROACHMENT PERMIT

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

Encroachment Type:

Trench			

Location:
N/S CARPENTER RD 75' W/O ST RT 99 FRNTG RD

In compliance with your request of **04/06/2017** , 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: $636.90

KRIS BALAJI, Director
Department of Public Works

By: _____
Permit Section

WHITE	-Permittee
GOLDENROD	-PWD Central File
YELLOW	-Field Inspection
PINK	-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 2-7-17

To: San Joaquin County
Department of Public Works

PG-E
(Applicant Name)

4040 West CW
(Mailing Address)

Stockton CA 95204
(City, State, Zip Code)

~~415-[illegible]~~ 408-316-1767
(Area Code - Telephone Number)

OFFICE USE ONLY

JOB # 730052 REF #
APN CR #
EXP. DATE 10-1-17
VALID 4-6-17 TO 10-1-17 DRIVEWAYS:
STREET Carpenter Rd *
AREA Stockton QUAD NW *
TYPE trench *
FORMS SSWW R29
NOTES

Sketch (Detailed plans may be submitted)

3123 3179

SEE ATTACHED

Carpenter Rd subject to pavement cuts shall receive an (1)-inch asphalt concrete overlay from the centerline (or Lane line) to the edeg of the travel way as per the San Joaquin County Trench Cut Policy. If the pavement is disturbed on both sides of the centerline (or adjacent lane), then the entire roadway (or affected lanes) shall be resurfaced. Contractor shall grind and overlay within 10 working days of permanent trench paving. Shoulder areas shall be brought up to finish grade as directed by the County.

The undersigned hereby applies for permission to excavate, construct and/or otherwise encroach on County Highway Right-of-Way on the North side of Carpenter Rd approximately 75 feet/mile West of Highway 99 Frontage, Stockton, by performing the following work (description of work): To upgrade existing PGE Reg/Mon Vault with SCADA Cabinet

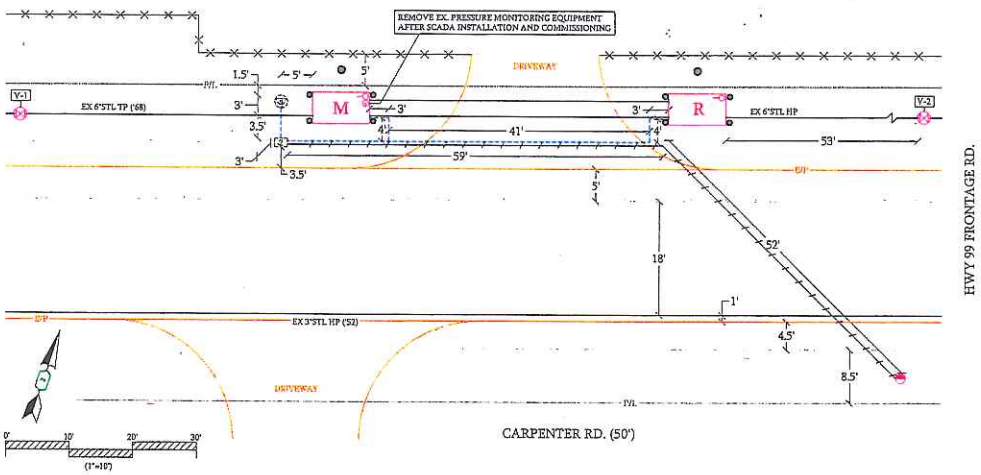
Work will commence on or about 2-9-17 for approximately 180 days.

I, the undersigned, certify that I am the owner of the respective property, or am qualified to represent the owner and agree to do the work described above in accordance with the rules and regulations of San Joaquin County and subject to inspection and approval.

Signature of Applicant - Title

2-7-17
Date

E:\PUB-SV.WK\MASTER.PS\ENCROACHMENT PERMIT APPLICATION.DOC (01/08)



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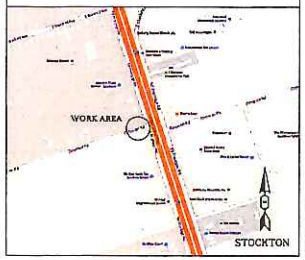
SHEET 7 - WIRING DETAIL SHEET
SHEET 8 - CABINET LAYOUT
SHEET 9 - POWER SOURCE & ANTENNA DETAIL

VICINITY SKETCH



CONTACT LIST

TITLE	NAME	PHONE
GAS ESTIMATOR	BRENT WULLENWABER	(925) 244-3206 O
GAS A.D.E.	SCOTT HART	(925) 244-3110 O
ESTIMATING SUPERVISOR	GERALD GABRIEL	(925) 244-3254 O (510) 385-6311 C
PROJECT MGR.	JACK PRICE	(559) 263-5548 O (925) 324-8077 C
GDE&D DISTR. ENGINEER	AARON YU	(209) 932-6461 O
GDE&D SR. ENGINEER	KIRAN BAINS	(209) 932-6443 O
GSP PLANNING ENGINEER	DAVE RYMERS	(209) 942-1626 O (925) 464-7782 C
SR. SCADA PROJ. ENGINEER	THACH HA	(925) 328-5944 O (925) 330-2696 C
I&R SUPERVISOR	RICK MUOK	(209) 832-6555 O (209) 942-6550 C
GC FIELD ENGINEER	SCOTT WRAY	(510) 407-5519 O
GC M&C SUPERVISOR	JOSE ARVIZU	(209) 401-4073 C
GC DIST SUPERVISOR	LUIS PLANCARTE	(415) 559-9982 C
CORROSION SUPERVISOR	MIKE LUMM	(209) 576-6538 O (209) 534-3182 C
ELEC. CONNECT COORDINATOR	KELLY LYNCH	(559) 250-5059 C

LEGEND

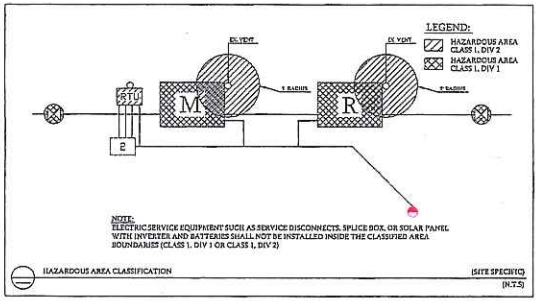
- GAS MAIN (SIZE AS NOTED) (EXISTING)
- P/L — PROPERTY LINE
- E/P — EDGE OF PAVEMENT
- WATER (EXISTING)
- PHONE (EXISTING)
- PG&E ELECTRIC (SCADA) (INSTALL)
- SCADA SENSE LINE (INSTALL)
- FENCE LINE (EXISTING)
- FIRE VALVE (EXISTING)
- SCADA RTU CABINET (POST) (INSTALL)
- 2 — SCADA SPLICE BOX (INSTALL)
- POWER POLE (EXISTING)
- R — REGULATOR VAULT (EXISTING)
- M — MONITOR VAULT (EXISTING)
- VENT STACK (EXISTING)
- PROTECTION POST (EXISTING)
- RECORDING DEVICE (EXISTING)

CATHODIC PROTECTION IN WORK AREA
ATTENTION FOREMAN:
NOTIFY THE CORROSION DEPT.
AT (209) 576-6538 , 24 HOURS
PRIOR TO START OF WORK.

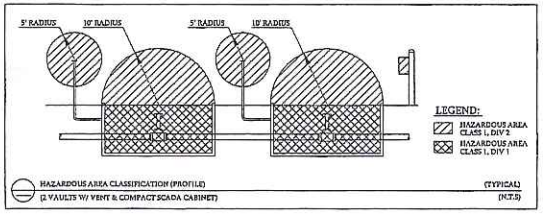
OPERATING DATA

WM: 3005H8
CPA: F-13
HIS: STOCKTONHP
TBA: X-02
SCADA RTU NAME: ST_STK_RS40
MAOP INLET: 412 PSIG
MAOP-S INLET: 390 PSIG
MAOP OUTLET: 60 PSIG

PROPOSED RTU CABINET (STREET VIEW)



HAZARDOUS AREA CLASSIFICATION (SITE SPECIFIC) (N.T.S)



HAZARDOUS AREA CLASSIFICATION (PROFILE) (TYPICAL)
(2 VAULTS W/ VENT & COMPACT SCADA CABINET) (N.T.S)

GAS NOTES

- PG&E WILL TRENCH AND BACKFILL.
- PG&E WILL INSTALL ALL FACILITIES.
- GC GAS TO COORDINATE WORK WITH DIVISION I&R DEPT. CONTACT RICK MUOK @ (209) 832-6555
- GC GAS TO OBTAIN AS-BUILT DRAWINGS OF REGULATOR STATION TO IDENTIFY LOCATION OF EXISTING CONTROL SENSE LINES. CONTACT LOCATE AND MARK PERSONNEL TO ASSIST
- FOLLOW EXCAVATION REQUIREMENTS IN TD-4412P-05 WHEN WORKING NEAR TRANSMISSION AND FOREIGN FACILITIES
- GC M&C TO NOTIFY CORROSION DEPT. 24 HOURS BEFORE INSTALLING TUBING AND INSULATING FITTINGS
- CONTACT GAS PLANNER DAVE RYMERS @ (209) 942-1626 TO REVIEW ANY TEMPORARY OPERATING CHANGE THAT EXISTS BEYOND ONE DAY
- INSTALL A 6" WIDE WARNING TAPE WITH THE WORDS "CAUTION: GAS LINE BURIED BELOW" (CODE 379947) IN ALL OPEN TRENCHES PER L-16. DO NOT INSTALL IN PG&E ELECTRIC-ONLY TRENCH.
- INSTALL A 3" WIDE MARKING TAPE WITH THE WORDS "GAS LINE IN CONDUIT" (CODE 373371) BY SPIRAL-WRAPPING AROUND EACH SCADA CONDUIT FOR ITS ENTIRE LENGTH WHERE HORIZONTAL DISTANCE BETWEEN SPIRALS DOES NOT EXCEED 36". DO NOT INSTALL AROUND PG&E ELECTRIC CONDUIT.
- INSTALL A CLOSED-LOOP OF LOCATING WIRE WITH ETS FOR ALL SCADA CONDUIT. SEE SHEET 3 FOR DETAIL.
- INSTALL SCADA CONDUIT STUB-UPS AT RTU CABINET PER RECOMMENDED LAYOUT. SEE SHEET 3 FOR DETAIL.
- FOLLOW DOCUMENT 072248, FIGURE 8 &9 (IN JOB PACKAGE) FOR INSTALLATION DETAILS OF CONNECTING ELECTRIC SOURCE TO SCADA
- REFER TO HAZARDOUS AREA CLASSIFICATION DETAIL ON SHEET 1
- COAT ALL EXPOSED STEEL PIPE AND FITTINGS (EXCEPT STAINLESS STEEL) PER E-31
- CONTACT KELLY LYNCH AT (559) 250-5059 FOR ANY ELECTRIC CONNECTION OR RADIO QUESTIONS
- OBTAIN APPROVED PLANNED WORK CLEARANCE BEFORE COMMISSIONING SCADA EQUIPMENT PER TD-4441P-01
- OBTAIN APPROVED GAS CLEARANCE PRIOR TO SHUTTING IN STATION (IF NEEDED)
- REMOVE EXISTING PRESSURE MONITORING EQUIPMENT AFTER COMMISSIONING NEW SCADA EQUIPMENT

WORK RECAP

- PG&E TO INSTALL PROPOSED POST MOUNTED RTU ENCLOSURE
- PG&E TO INSTALL PRESSURE TRANSMITTERS INSIDE MONITOR VAULT, SCADA CONDUITS, AND PG&E ELECTRIC CONDUIT
- PG&E TO INSTALL (1) #2 SPLICE BOX
- PG&E TO INSTALL 2" CONDUIT (VARIOUS MATERIAL), FOR SCADA POWER (C1) FROM ORIGINAL SOURCE TO NEW SPLICE BOX
- PG&E TO INSTALL 1" RIGID STEEL CONDUIT, PVC-COATED, FOR SCADA POWER (C1) FROM NEW SPLICE BOX TO RTU CABINET
- PG&E TO INSTALL 2" CONDUIT (VARIOUS MATERIAL), FOR SCADA COMM (C2) FROM ORIGINAL SOURCE TO RTU CABINET
- PG&E TO INSTALL (1) 1" RIGID STEEL CONDUITS, PVC-COATED, FOR SCADA SIGNAL (C6) FROM REGULATOR VAULT TO NEW SPLICE BOX
- PG&E TO INSTALL (2) 1" RIGID STEEL CONDUITS, PVC-COATED, FOR SCADA SIGNAL (C4, C5) FROM MONITOR VAULT TO NEW SPLICE BOX
- PG&E TO INSTALL (1) 2" RIGID STEEL CONDUIT, PVC-COATED, FOR SCADA SIGNAL (C7) FROM NEW SPLICE BOX TO RTU CABINET
- PG&E TO INSTALL (1) 2" RIGID STEEL CONDUIT, PVC-COATED, FOR FUTURE CONTROL (C8) FROM NEW SPLICE BOX TO RTU CABINET
- PG&E TO UTILIZE (3) EXISTING STEEL TAPS FOR SENSING LINES (S1,S2,S3)

ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #:925-244-3206 FAX #:925-244-3303
PACIFIC GAS AND ELECTRIC COMPANY

CO:
SD:
NOTIF.: 11138842
Other:
SHT: 1 OF 9
SHEETS
PM: 31233179
REV.

EST: BRENT WULLENWABER
ADE: SCOTT HART
SUPV: GERALD GABRIEL
REP: JACK PRICE
PLAN: THACH HA
DATE: 1/14/2016
SCALE: 1"=10'

NO.	DATE	DESCRIPTION	CHKD BY	DWG CHKD	SUPV	APVD BY

REVISIONS

CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

MATERIAL LIST: HP RETROFIT

MATERIALS (COMPACT)

CABINET - MECHANICAL COMPONENTS

ITEM	ORDER BY:	QTY.	DESCRIPTION	SIZE	CODE	GS&S
1	PG&E	2	Pole clamp - Rittal SZ 2584.000	N/A	NO CODE	N/A
2	PG&E	1	Galvanized Steel SCH 40 pipe	4" x 10'	NO CODE	N/A
3	PG&E	1	Pipe Cap, Forged Steel	4"	NO CODE	N/A
4	PG&E	1	SCADA Type 1 HP Assembled Cabinet (See Sheet 8 For Detail)	N/A	NO CODE	N/A
5	PG&E					
6	PG&E					
7	PG&E					
8	PG&E					
9	PG&E					
10	PG&E					
11	PG&E					
12	PG&E					
13	PG&E					
			CABINET - ELECTRICAL COMPONENTS			
14	PG&E	11'	Conduit Rigid Steel, PVC, Coated W/ Coupling (Electricity)	1"	36-0139	J-100
15	PG&E	1	Conduit Sweep, 90°, 24" Radius (Electricity)	1"	39-0167	J-100
16	PG&E	0	Conduit Sweep, 90°, Elbow (C1)	1"	NO CODE	N/A
17	PG&E	2	Conduit Hub	1"	NO CODE	N/A
18	PG&E	137'	Cord,Power,Single Pair #12 Conductors,B & W,Unshielded,Class 1 Div 2 Rated	N/A	29-0399	J-100
19	PG&E	1	Conduit Seal, Vertical (Electricity Conduit)	1"	36-0137	J-100
20	PG&E	4'	Conduit Rigid Steel, PVC Coated W/ Coupling (Antenna)	2"	36-0140	J-100
21	PG&E	1	Conduit Sweep, 90°, 24" Radius (Antenna)	2"	39-0169	J-100
22	PG&E	0	Conduit Sweep, 90°, Elbow (C2)	2"	NO CODE	N/A
23	PG&E	2	Conduit Hub	2"	NO CODE	N/A
24	PG&E	1	Conduit Seal, Vertical (Antenna Conduit)	2"	36-0138	J-100
25	PG&E	2	Conduit Cap, Forged Steel (Spare Conduit if Cell is used)	2"	02-2224	B-21
26	PG&E	2	Strain Relief Cord Grip	1"	04-1565	J-100
27	PG&E	AS REQ'D	#2 Wire, Bare, Copper, Solid, Soft Drawn (Grounding)	N/A	29-0074	J-100
28	PG&E	1	Connector, Cable to Flat-Bar (Grounding)	1"	30-3221	J-100
29	PG&E	1	Connector, Tap, Compression Type (Grounding)	1"	30-5844	J-100
30	PG&E	2	Ground Rod, Copper, 5/8 Diameter, 8 ft. Long (Grounding)	2'	18-7013	J-100
31	PG&E	2	Clamp for Ground Rod (Grounding)	2'	18-7012	J-100
32	PG&E					
33	PG&E					

MATERIALS (COMPACT)

VAULT & UNDERGROUND - MECHANICAL

ITEM	ORDER BY:	QTY.	DESCRIPTION	SIZE	CODE	GS&S
34	PG&E	0	Mueller Tee-Type Valve, H-17656 (1440 Psig)	1"	02-2445	C-11
35	PG&E	0	Service Tee Plug, Part # 34060	3/4"	02-1064	C-10
36	PG&E	0	Service Tee Cap, Steel, Part # 52413	1-1/4"	02-1070	C-10
37	PG&E	0	3/4" SCH 80 Wrapped Steel Pipe (S1, S2, S3)	3/4"	01-1036	A-15
38	PG&E	0	Elbow 90°, 3000 psi, Forged Steel, Socket Weld	3/4"	02-2588	B-21
39	PG&E	0	Elbow 45°, 3000 psi, Forged Steel, Socket Weld	3/4"	02-2587	B-21
40	PG&E	0	Street Elbow, 90°, 3000 psi, Forged Steel, Threaded	3/4"	02-1353	B-12.2
41	PG&E	0	Link Seal 275-C3/4" Carrier x 2.5" Opening	3/4"	02-1445	N/A
42	PG&E	0	Coupling, 3000 psi, Forged Steel, Socket Weld	3/4"	02-2353	B-21
43	PG&E	0	Nipple, Steel, API 5R.B., Threaded One End. SCH 80	3/4"	02-1651	B-13.2
44	PG&E	0	Ball Valve, Steel, Threaded Ends, Lockable Handle	3/4"	01-3844	F-20
45	PG&E	0	Tubing Connector, 3/4" MNPT x 3/8" TBG	3/4" x 3/8"	02-2766	B-62
46	PG&E	0	Tubing Connector, 3/4" FNPT x 3/8" TBG	3/4" x 3/8"	02-2767	B-62
47	PG&E	0	Thredolets, Std, 3,000 PSIG (Pressure Tap)(Header Pipe Range of 2" - 2-1/2")	1/2"	01-4791	B-23
48	PG&E	0	Thredolets, Std, 3,000 PSIG (Pressure Tap)(Header Pipe Range of 3" - 8")	1/2"	01-4792	B-23
49	PG&E	0	Thredolets, Std, 3,000 PSIG (Pressure Tap)(Header Pipe Range of 10" - 36")	1/2"	01-4793	B-23
50	PG&E	6	1/4" M x 1/4" F, 6000 PSIG Max, Needle Valve (Pressure Tap)	1/4"	03-5156	F-70
51	PG&E	0	1/2" M x 1/2" F, 6000 PSIG Max, Needle Valve (Pressure Tap)	1/2"	03-5182	F-70
52	PG&E	3	Tee, Forged Steel, 3000 PSIG GWP (Pressure Tap)	1/4"	02-1192	B-14
53	PG&E	3	Plug, Forged steel (Pressure Tap)	1/4"	02-1247	B-10.1
54	PG&E	3	Tubing Connector, 1/4" MNPT x 3/8" TBG, (Pressure Tap)	1/4" x 3/8"	02-7371	B-62
55	PG&E	AS REQ'D	Tubing, 3/8" OD, 304 SS, 0.035" Wall (S1, S2, S3: Inside Vault)	3/8"	01-1015	A-22
56	PG&E	3	Hex Nipple, Stainless Steel	1/4" x 2"	44-7275	H-80
57	PG&E	0	Bushing, Threaded, Forged Steel	1/2" x 1/4"	02-1367	B-15.1
58	PG&E	0	Bushing, Threaded, Forged Steel	3/4" x 1/4"	02-3517	B-15.1
59	PG&E	3	KF Contromatics 1/2" ball valve - Stainless steel (S1, S2, S3)	1/2"	03-4408	F-20
60	PG&E	6	Tube fitting 1/2" X 3/8" SWAGELOK SS-810-1-6 028571 (S1, S2, S3)	1/2" x 3/8"	02-8571	B-62
61	PG&E	3	Tubing, Dielectric Union (Tap/Union/Valve)	3/8"	02-1549	J-100
62	PG&E	12	Unistrut Support (Pressure Tap)	N/A	NO CODE	N/A
63	PG&E	3'	SCH 80 PVC (power @ pole) (C1)	1"	36-0305	021924
64	PG&E	1	SCH 80 PVC, 90° Sweep - 24" Radius (power @ pole) (C1)	1"	36-0190	N/A
65	PG&E	1	SCH 80 - DB 120 Transition Fitting (C1)	1"	NO CODE	N/A
66	PG&E	111'	DB 120 PVC (power underground) (C1)	1"	36-0192	062288A
67	PG&E	0	22-1/2" Conduit Bend (Sweep), DB 120 - 24" radius (C1)	1"	36-0198	N/A
68	PG&E	1	45° Conduit Bend (Sweep), DB 120 - 24" radius (C1)	1"	36-0196	N/A
69	PG&E	0	90° Conduit Bend (Sweep), DB 120 - 24" radius (C1)	1"	36-0194	N/A
70	PG&E	0	DB 120 PVC - Rigid Steel Adapter Fitting (C1)	1"	36-0202	N/A
71	PG&E	6'	SCH 80 PVC (antenna @ pole) (C2)	2"	NO CODE	N/A
72	PG&E	2	SCH 80 PVC, 90° Sweep - 24" Radius (antenna @ pole) (C2)	2"	36-0191	N/A
73	PG&E	2	SCH 80 - DB 120 Transition Fitting (C2)	2"	NO CODE	N/A
74	PG&E	230'	DB 120 PVC, Cellular Core Conduit (antenna underground) (C2)	2"	36-0153	062288A
75	PG&E	0	22-1/2" Conduit Bend (Sweep), DB 120, Cellular Core Conduit - 24" radius (C2)	2"	36-0157	062288A
76	PG&E	2	45° Conduit Bend (Sweep), DB 120, Cellular Core Conduit - 24" radius (C2)	2"	36-0159	062288A
77	PG&E	1	90° Conduit Bend (Sweep), DB 120, Cellular Core Conduit - 24" radius (C2)	2"	36-0161	062288A
78	PG&E	1	DB 120 PVC - Rigid Steel Transition Fitting (C2)	2"	36-0324	062288A
79	PG&E	107'	Conduit Rigid Steel, PVC Coated w/ Coupling (C3, C4, C5, C6, C8)	1"	36-0139	J-100
80	PG&E	0	Conduit Sweep, 45°, Rigid Steel PVC Coated, 24" Radius (C3, C4, C5, C6, C8)	1"	36-0201	N/A
81	PG&E	6	Conduit Sweep, 90°, Rigid Steel PVC Coated, 24" Radius (C3, C4, C5, C6, C8)	1"	39-0167	J-100
82	PG&E	4	Conduit Cap, Forged Steel (C3, C4, C5, C6, C8)	1"	02-2219	B-21
83	PG&E	22'	Conduit Rigid Steel, PVC Coated w/ Coupling (C3, C7)	2"	36-0140	J-100
84	PG&E	0	Conduit Sweep, 45°, Rigid Steel PVC Coated, 24" Radius (C3, C7)	2"	NO CODE	N/A
85	PG&E	2	Conduit Sweep, 90°, 24" Radius (C3, C7)	2"	39-0169	J-100
86	PG&E					
87	PG&E					
88	PG&E					

*= ITEM TO BE EITHER ORDERED THROUGH SRM OR PURCHASED THROUGH LOCAL PROVIDERS

MATERIALS (COMPACT)

VAULT - INSTRUMENTATION COMPONENTS

ITEM	ORDER BY:	QTY.	DESCRIPTION	SIZE	CODE	GS&S
89	PG&E	1	Explosion Proof Condulet (HP Stations)(WL Switches)	1"	04-1219	N/A
90	PG&E	1	Terminal Block for Condulet (HP Stations) (LS Switches)	N/A	04-1220	N/A
91	PG&E	2	Water Level Float Switch, PVC, SPDT, 39 ft cable (HP Stations) (LS Switches)	N/A	NO CODE	N/A
92	PG&E	2	Strain Relief Cord Grip (HP Stations) (LS Switches)	1"	04-1565	J-100
93	PG&E	1	Conduit Seal, Vertical (HP Stations) (LS Switches)	1"	36-0137	J-100
94	PG&E	2	Eyebolt with Concrete Anchor, Stainless Steel (HP Stations) (LS Switches)	N/A	NO CODE	N/A
95	PG&E	50'	Cable,Instrumentation,Twisted Pair #16, Shielded (HP Stations) (LS Switches)	N/A	04-1218	N/A
96	PG&E	20'	Conduit Rigid Steel, PVC Coated W/ Coupling (PT Installation)	1"	36-0139	J-100
97	PG&E	4	Explosion Proof Condulet (HP Stations) (PT's Installation)	1"	04-1219	N/A
98	PG&E	1	GUA Threaded Extension (PT's Installation)	1"	NO CODE	N/A
99	PG&E	1	ELBY Elbow (PT's Installation)	1"	NO CODE	N/A
100	PG&E	1	Conduit Seal, Vertical, EYS (Electricity Conduit)	1"	36-0137	J-100
101	PG&E	0	1" GUAB 69 with GUA-092 Pour Lid (PT's Installation)	1"	NO CODE	N/A
102	PG&E	0	Conduit Rigid Steel, PVC Coated W/ Coupling (PT Installation)	2"	36-0140	J-100
103	PG&E	0	Explosion Proof Condulet (HP Stations) (PT's Installation)	2"	NO CODE	N/A
104	PG&E	0	GUA Threaded Extension (PT's Installation)	2"	NO CODE	N/A
105	PG&E	0	ELBY Elbow (PT's Installation)	2"	NO CODE	N/A
106	PG&E	0	Conduit Seal, Vertical, EYS (Electricity Conduit)	2"	36-0138	J-100
107	PG&E	0	2" GUAB 69 with GUA-092 Pour Lid (PT's Installation)	2"	NO CODE	N/A
108	PG&E	0	2" x 1" RE Reducing Bushing (PT's Installation)	N/A	NO CODE	N/A
109	PG&E	2	PT Rosemount Model 2051CG4 (0-2000 PSIG) w/Pipe Mounting Bracket - U/S & M/S	N/A	NO CODE	N/A
110	PG&E	1	PT Rosemount Model 2051CG4 (0-500 PSIG) w/ Pipe Mounting Bracket - D/S	N/A	NO CODE	N/A
111	PG&E	3	Valve Manifold, Threaded, Rosemount 305 Integral Manifold Coplanar Style	N/A	NO CODE	N/A
112	PG&E	30'	RS-232, RJ-45 to DB-9F Cable (RTU - Vault, + 10')	N/A	NO CODE	N/A
113	PG&E	3	1" x 1/2" RE Reducing Bushing (PT's Installation)	N/A	NO CODE	N/A
114	PG&E	3	1/2" UNL 105 - Cooper - Crouse Hinds (PT's Installation)	N/A	NO CODE	N/A
115	PG&E	3	Hex Plug, Stainless Steel (PT's Installation)	1/2"	02-1590	N/A
116	PG&E	AS REQ'D	B232HDG Cooper B-Line 3H 90d Angle Fitting (PT's Installation)	N/A	NO CODE	N/A
117	PG&E	AS REQ'D	1/2" x 2" Long Conduit Nipples (PT's Installation)	N/A	NO CODE	N/A
118	PG&E	AS REQ'D	1" x 2" Long Conduit Nipples (PT's Installation)	N/A	NO CODE	N/A
119	PG&E	1	Ethernet Female Connector	N/A	NO CODE	N/A
120	PG&E	3	7/8" Hot Dipped Uni-Strut (PT's Installation)	N/A	NO CODE	N/A
121	PG&E	3	1" Uni-Strut Clamps (PT's Installation)	N/A	NO CODE	N/A
122	PG&E	6	1/4" Drop Anchors-AD1-24 Cooper B-Line (PT's Installation)	N/A	NO CODE	N/A
123	PG&E	6	1/2" Drop Anchors-AD1-50 (PT's Installation)	N/A	NO CODE	N/A
124	PG&E	6	1/2" x 1-1/4" Bolts (PT's Installation)	N/A	NO CODE	N/A
125	PG&E	6	1/4"-20 x 1" Bolts (PT's Installation)	N/A	NO CODE	N/A
126	PG&E					
			ETS & MISC COMPONENTS			
127	PG&E	1	Body Concrete Frame (Christy G-5)	N/A	04-3271	K-41
128	PG&E	1	Cover Valve, Cast Iron, Full Traffic Lid	N/A	04-3235	K-41
129	PG&E	8'	Ext. Corrugated PI Drainage Tubing 8"ID x 8'LG	N/A	01-6063	K-41
130	PG&E	4	EMS Locating Ball	N/A	37-4944	M-60
131	PG&E	1	5LB Zinc Anode	N/A	56-9145	O-13.1
132	PG&E	0	32LB Zinc Anode	N/A	56-9087	O-13.1
133	PG&E	1	Pipeline Warning Tape (1000' Roll)	N/A	37-9947	L-16
134	PG&E	165'	#10 Locating Wire (1000' Roll)	N/A	29-4414	A-90.2
135	PG&E	1	#2 Splice Box	17" x 30"	04-3606	K-42.1
136	PG&E	0	Barrier Posts	4"	ASSEMBLY*	J-95

EST:	BRENT WULLENWABER
ADE:	SCOTT HART
SUPV:	GERALD GABRIEL
REP:	JACK PRICE
PLNR:	TRACH HA
SCALE:	1"=10'
DATE:	7/14/2016

ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #: 925-244-3206 FAX #: 925-244-3303
PACIFIC GAS AND ELECTRIC COMPANY

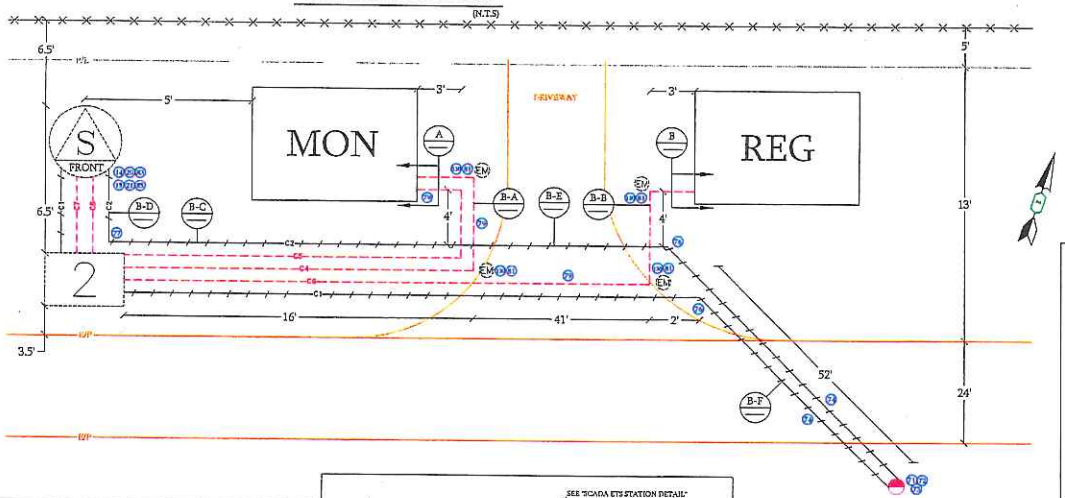
CO:	
SD:	
NOTIF.:	111386842
Other:	
SHT:	2 OF 9 SHEETS
PM:	31233179
REV.	

REVISIONS (NO. / DATE / DESCRIPTION / ORDER # / SKT / CKD / SUPV / APV'D BY)

CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

CONDUIT LAYOUT

(N.T.S)



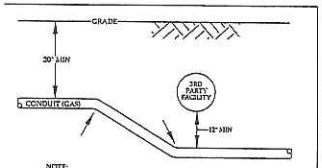
SCADA STAMP

SCADA NAME: ST_STK_RS40
SCADA TYPE: TYPE 1AN/3N
RTU MANUFACTURER: SCHNEIDER ELECTRIC
RTU MODEL: SCADA PACK 350
RTU SERIAL NUMBER:
UPSTREAM TRANSMITTER RANGE (PSIG/IN WC): 0-2000 PSIG
INTERMEDIATE TRANSMITTER RANGE (PSIG/IN WC): 0-2000 PSIG
DOWNSTREAM TRANSMITTER RANGE (PSIG/IN WC): 0-300 PSIG
FLOW ELEMENT METER SPECIFICATION: N/A
REMOTE OPERATION TYPE:
POWER SOURCE: EXISTING POLE
COMMUNICATION TYPE: EXISTING POLE
INSTALLED JOB ORDER 31233179
CABINET INSTALLED DATE:

NOTE: CONSTRUCTION TO AS-BUILT SERIAL NUMBER & INSTALLATION DATE

LEGEND (PG 3)

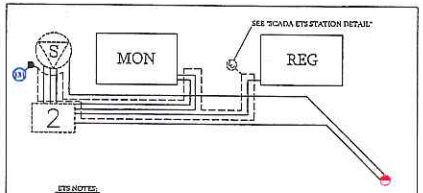
C1	POWER SOURCE (ELEC) TO RTU (2" CONDUIT) (RIGID STEEL-PAD/VAULT) (PVC-UG)
C2	COMMUNICATION (ELECTRENCH) (2" CONDUIT) (RIGID STEEL-PAD/VAULT) (PVC-UG)
C4	SPARE OR CONTROL (1" CONDUIT) (RIGID STEEL) (TO MONITOR)
C5	PTS & LEVEL ALARMS (1" CONDUIT) (RIGID STEEL) (TO MONITOR)
C6	SPARE OR CONTROL (1" CONDUIT) (RIGID STEEL) (TO REGULATOR)
C7	PTS & LEVEL ALARMS (2" CONDUIT) (RIGID STEEL) (FROM #2 BOX TO RTU)
C8	SPARE OR CONTROL (2" CONDUIT) (RIGID STEEL) (FROM #2 BOX TO RTU)
EM	KMS BALL MARKER (INSTALL)
12	R.O.M CALLOUT NUMBER
27	SCADA RTU CABINET (POST) (INSTALL)
2	SCADA SPLICE BOX (INSTALL)
29	POWER POLE (EXISTING)



NOTE:
-ALL OFFSETS OF SENSING LINES MUST BE AS-BUILT
-ALL DEGREES OF BENDS MUST BE INCLUDED

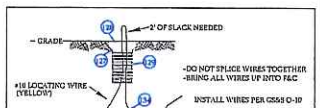
**"CONSTRUCTION TO NOTATE TYPE OF BENDS INSTALLED"

UTILITY CROSSING DETAIL (SENSING LINES) (TYPICAL) (N.T.S)

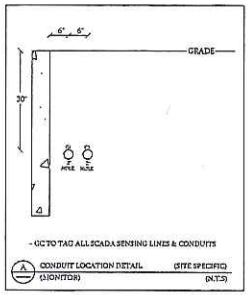


ETS NOTES:
-ANODE SHALL BE INSTALLED A MIN OF 10' AWAY FROM ETS STATION
* IF 10' IS NOT POSSIBLE, PLACE THE ANODE AS FAR AWAY FROM ETS STATION AS POSSIBLE
-THE #10 LOCATING WIRE NEEDS TO BE INSTALLED IN A CONTINOUS LOOP
-IN AREAS WHERE THERE ARE MULTIPLE CONDUITS IN A RUN,
THE #10 WIRE SHALL BE ATTACHED TO THE OUTER MOST CONDUITS ON BOTH SIDES

LOCATING WIRE DETAIL (ELECTRIC POWER) (SITE SPECIFIC) (N.T.S)

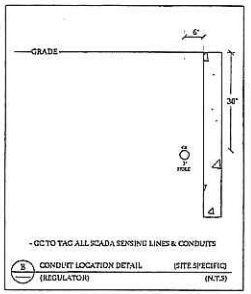


SCADA ETS STATION DETAIL (TYPICAL) (N.T.S)



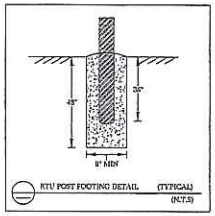
- GC TO TAG ALL SCADA SENSING LINES & CONDUITS

CONDUIT LOCATION DETAIL (MONITOR) (SITE SPECIFIC) (N.T.S)

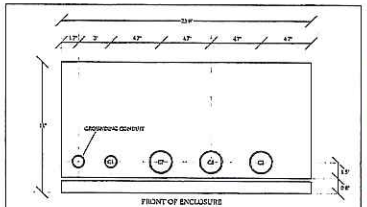


- GC TO TAG ALL SCADA SENSING LINES & CONDUITS

CONDUIT LOCATION DETAIL (REGULATOR) (SITE SPECIFIC) (N.T.S)

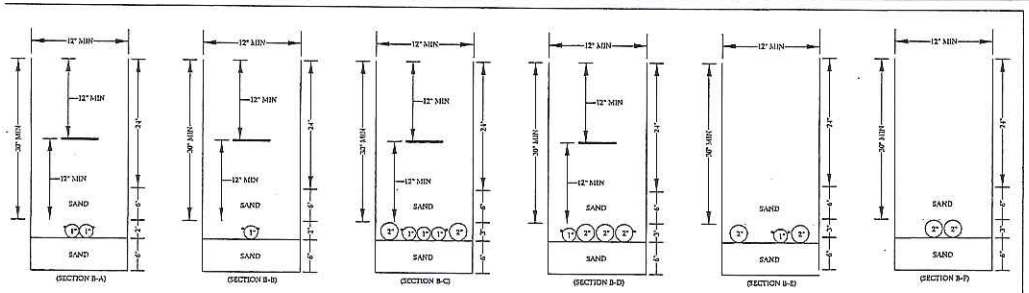


RTU POST FOOTING DETAIL (TYPICAL) (N.T.S)



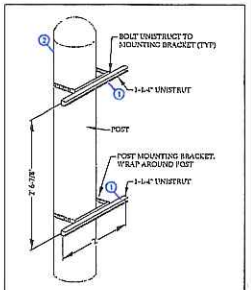
- GC TO TAG ALL SCADA SENSING LINES & CONDUITS

RTU POLE MOUNTED CABINET STUB UP DETAIL (INSIDE VIEW) (TYPICAL) (N.T.S)

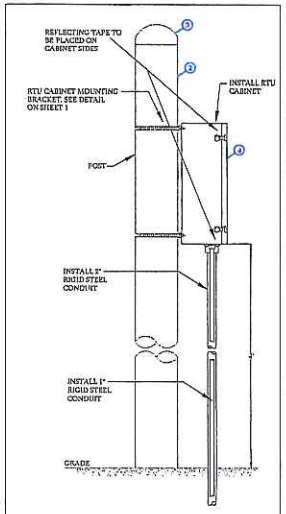


TRENCH NOTES:
INSTALL A 6" WIDE WARNING TAPE WITH THE WORDS "CAUTION: GAS LINE BURIED BELOW" (CODE 37-9949) IN ALL OPEN TRENCHES PER L-56. DO NOT INSTALL IN PG&E ELECTRIC-ONLY TRENCH.
INSTALL A 3" WIDE MARKING TAPE WITH THE WORDS "GAS LINE IN CONDUIT" (CODE 37-3371) BY SPIRAL-WRAPPING AROUND EACH SCADA CONDUIT FOR ITS ENTIRE LENGTH WHERE HORIZONTAL DISTANCE BETWEEN SPIRALS DOES NOT EXCEED 36". DO NOT INSTALL AROUND GAS ELECTRIC CONDUIT.
MAINTAIN 6" SEPARATION WHERE POSSIBLE BETWEEN SCADA SENSE LINE CONDUIT AND SCADA SIGNAL CONDUIT

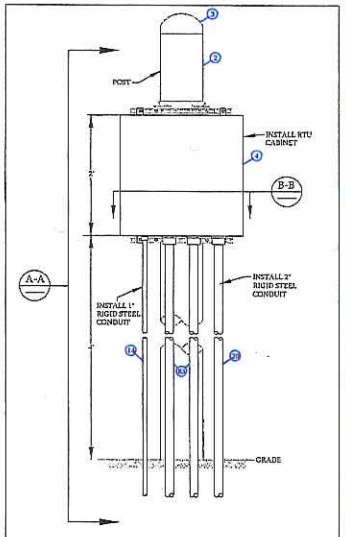
TRENCH DETAILS (SITE SPECIFIC) (N.T.S)



MOUNTING BRACKET (RTU CABINET) (TYPICAL) (N.T.S)



RTU CABINET DETAIL, SIDE VIEW (W/O ATM REF LINE)(POST) (TYPICAL) (N.T.S)



RTU CABINET DETAIL (ATTACHED TO POST) (TYPICAL) (N.T.S)

ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #: 925-244-3206 FAX #: 925-244-3203
PG&E PACIFIC GAS AND ELECTRIC COMPANY

CO:
SB:
NOTW#: 111386842
Other:
SHT: 3 of 9
SHEETS
PM: 31233179
REV.

EST: BRENT TROLLINGER
ADE: SCOTT HOLT
SUPV: GERALD CARGEL
REP: JACK PRICE
PLNR: TUNGH MA
SCALE: 1"=10'
DATE: 7/14/2016

NO.	DATE	DESCRIPTION	DRWN	CHKD	SUPV	APVD	BY
		REVISIONS					

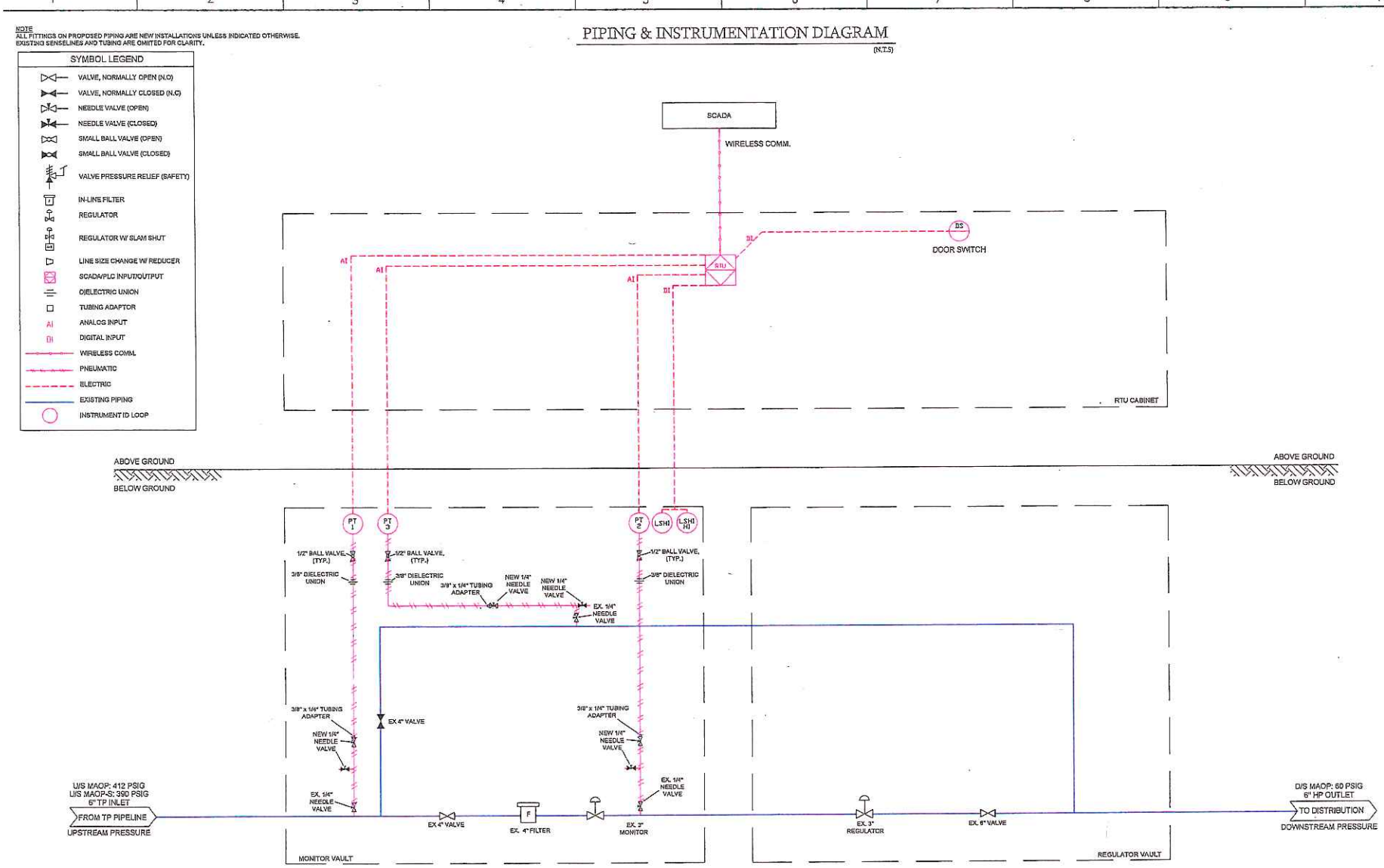
CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

BK24

NOTE
ALL FITTINGS ON PROPOSED PIPING ARE NEW INSTALLATIONS UNLESS INDICATED OTHERWISE.
EXISTING SENSELINES AND TUBING ARE OMITED FOR CLARITY.

PIPING & INSTRUMENTATION DIAGRAM

(N.T.S)



ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #:925-244-3000 FAX #:925-244-3303
PG&E PACIFIC GAS AND ELECTRIC COMPANY

CO:
SD:
NOTE: 111395842
Other:
SHT: 4 of 9
SHEETS
PM: 31233179
REV.

EST: BRENT MOLLENHAUER
ADE: SCOTT HART
SUPV: GERALD GABRIEL
DEP: JACK PRICE
FILE: THACH 1A
SCALE: 1"=10'
DATE: 7/14/2016

NO.	DATE	DESCRIPTION	DRWN	CHKD	SUPV	APVD BY
		REVISIONS				

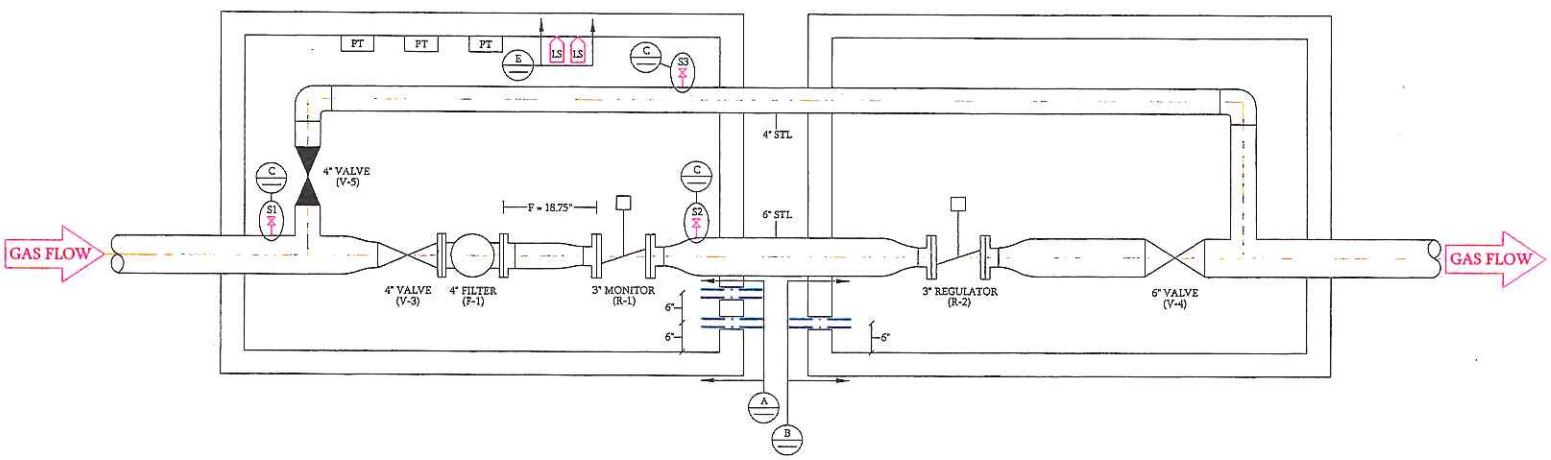
CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

MONITOR VAULT DRAWING (PLAN VIEW)

(N.T.S)

REGULATOR VAULT DRAWING (PLAN VIEW)

(N.T.S)



LEGEND (PG 5)

- SCADA SIGNAL 1" RIGID STEEL CONDUIT, PVC COATED
- LS — WATER LEVEL SWITCH
- B.O.M CALLOUT NUMBER
- PT — PRESSURE TRANSMITTER
- EX. NEEDLE VALVE

SENSING TAPS RECAP

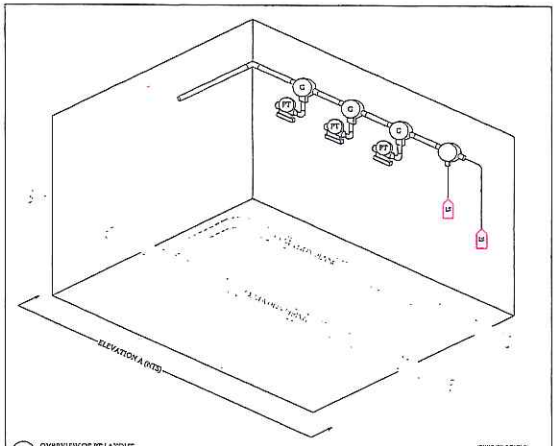
S1 = EXISTING TAP (1/4")
S2 = EXISTING TAP (1/4")
S3 = EXISTING TAP (1/4")

SCADA FLOW ELEMENT STAMP

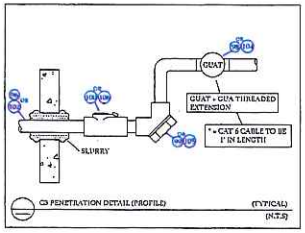
TYPE 1A/3	TYPE 1AN/3N
☐ FLOW ELEMENT CAN BE INSTALLED BASED ON MIN. PIPE LENGTH REQUIREMENTS BEING MET*. SEE "F" MEASUREMENT ON STATION PIPING DIAGRAM	☐ FLOW ELEMENT CAN BE INSTALLED AT THIS LOCATION AT A FUTURE DATE BASED ON MIN. PIPE LENGTH REQUIREMENTS BEING MET*. SEE "F" MEASUREMENT ON STATION PIPING DIAGRAM
☐ FLOW ELEMENT CANNOT BE INSTALLED BASED ON MIN. PIPE LENGTH REQUIREMENTS BEING MET*. SEE "F" MEASUREMENT ON STATION PIPING DIAGRAM	☒ FLOW ELEMENT CANNOT BE INSTALLED AT THIS LOCATION AT A FUTURE DATE BASED ON MIN. PIPE LENGTH REQUIREMENTS BEING MET*. SEE "F" MEASUREMENT ON STATION PIPING DIAGRAM

☐ TYPE 4 - FLOW MONITORING NOT REQUIRED**

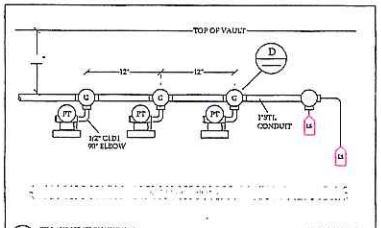
*PER J-102 BULLETIN
**PER J-101 REV 02



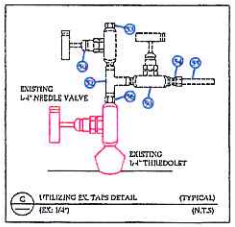
OVERVIEW OF PT LAYOUT — MONITOR VAULT (SITE SPECIFIC) (N.T.S)



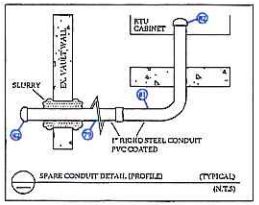
C3 PENETRATION DETAIL (PROFILE) (TYPICAL) (N.T.S)



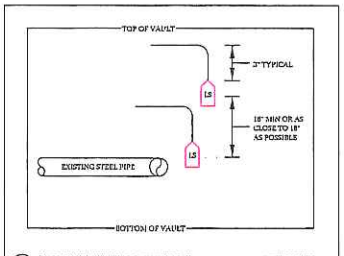
PT LAYOUT (ELEVATION A) — MONITOR VAULT (SITE SPECIFIC) (N.T.S)



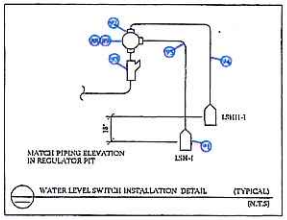
C UTILIZING EX. TAPS DETAIL (EX. 1/4") (TYPICAL) (N.T.S)



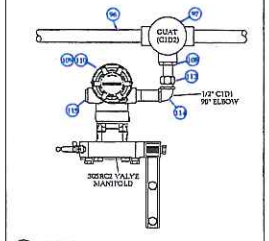
SPARE CONDUIT DETAIL (PROFILE) (TYPICAL) (N.T.S)



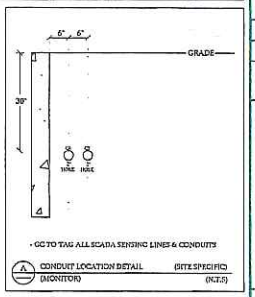
WATER LEVEL SWITCH LOCATIONS DETAIL — MONITOR VAULT (SITE SPECIFIC) (N.T.S)



WATER LEVEL SWITCH INSTALLATION DETAIL (TYPICAL) (N.T.S)

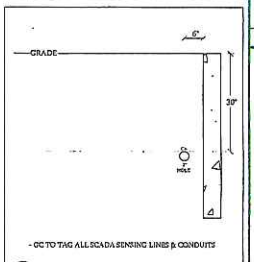


PT DETAIL (TYPICAL) (N.T.S)



- GC TO TAG ALL SCADA SENSING LINES & CONDUITS

CONDUIT LOCATION DETAIL (MONITOR) (SITE SPECIFIC) (N.T.S)



- GC TO TAG ALL SCADA SENSING LINES & CONDUITS

CONDUIT LOCATION DETAIL (REGULATOR) (SITE SPECIFIC) (N.T.S)

CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #:925-244-3000 FAX #:925-244-3303
PACIFIC GAS AND ELECTRIC COMPANY

EST:	DILENT WOLLENHAUER
ADE:	SCOTT HAUSE
SUPV:	GERALD GABRIEL
REP:	JACK PRICE
PLNR:	HUGH HA
SCALE:	1"=10'
DATE:	7/11/2016

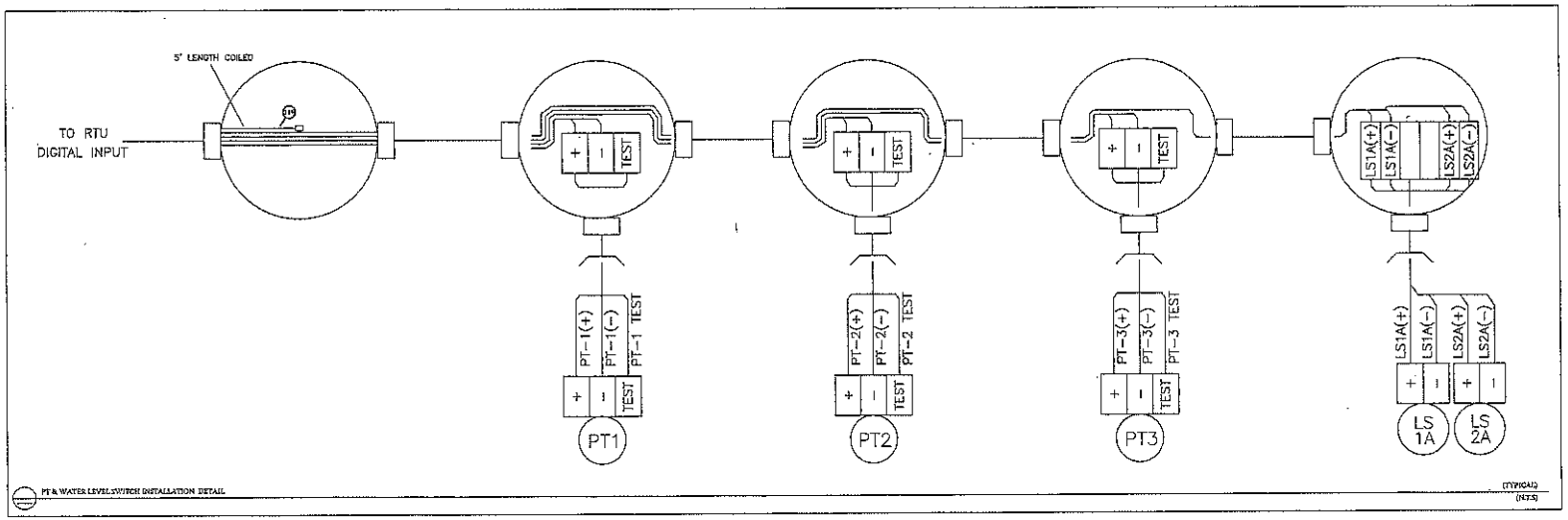
CO:
SB:
ROTIF.: 11136842
Other:
SHT: 5 OF 9 SHEETS
PM: 31233179 REV.

NO.	DATE	DESCRIPTION	ORDER #	DRAN	CHKD	SURV	APVD BY
		REVISIONS					

1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10

INSTRUMENTATION DIAGRAM

(TYPICAL)
(N.T.S)



ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #925-244-3000 FAX #925-244-3303
PACIFIC GAS AND ELECTRIC COMPANY

CO:
SD:
NOTIF.: 111305842
Other:
SHT: 6 OF 9
SHEETS
PM: 31233179
REV.

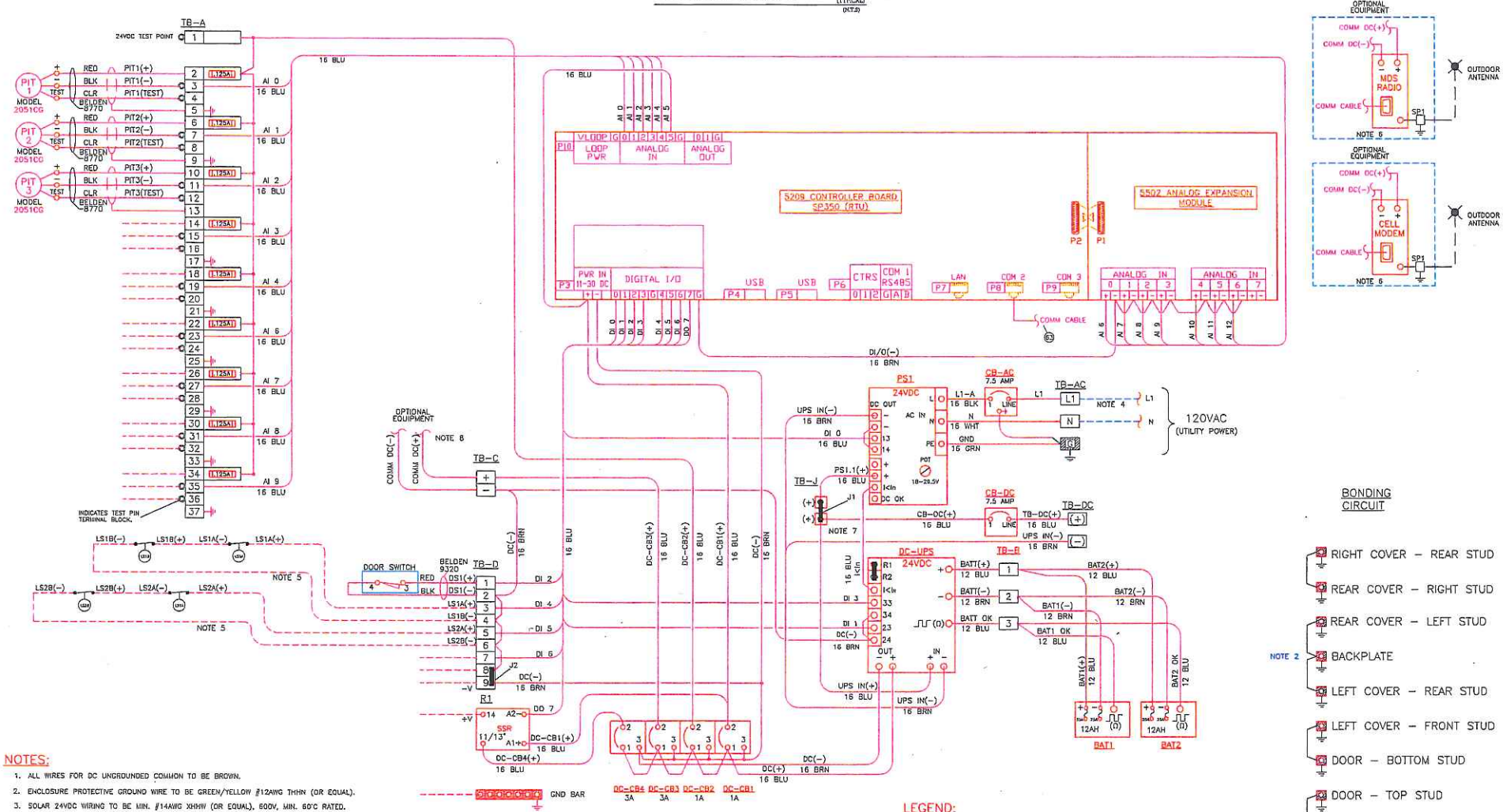
EST: BRENT WOLLENWEBER
ADE: SCOTT HART
SUPV: GERALD SCHERIL
MEP: JACK PRICE
PLNR: THOM HA
DATE: 7/14/2016
SCALE: 1"=10'

REVISIONS

NO.	DATE	DESCRIPTION	DRAWN BY	CHKD BY	APVD BY

CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

WIRING LAYOUT



BONDING CIRCUIT

- RIGHT COVER – REAR STUD
- REAR COVER – RIGHT STUD
- REAR COVER – LEFT STUD
- NOTE 2 BACKPLATE
- LEFT COVER – REAR STUD
- LEFT COVER – FRONT STUD
- DOOR – BOTTOM STUD
- DOOR – TOP STUD
- TOP COVER – LEFT STUD

NOTES:

1. ALL WIRES FOR DC UNGROUNDED COMMON TO BE BROWN.
2. ENCLOSURE PROTECTIVE GROUND WIRE TO BE GREEN/YELLOW #12AWG THHN (OR EQUAL).
3. SOLAR 24VDC WIRING TO BE MIN. #14AWG XHHW (OR EQUAL), 600V, MIN. 60°C RATED.
4. 120VAC WIRING TO BE MIN. #14AWG XHHW (OR EQUAL), 600V, MIN. 60°C RATED.
5. INSTRUMENT FIELD WIRING TO BE BELDEN CABLE (OR EQUAL), MIN. #20AWG, STRANDED COPPER, TWISTED, SHIELDED, 300V, MIN. 60°C RATED.
6. MDS RADIO/CELL MODEM & SP1 MOUNTED WHEN ORDERED AS OPTIONAL EQUIPMENT.
7. FOR 24VDC SOLAR POWER SOURCE REMOVE JUMPER J1.
8. COMM. WIRES ARE PRE-CUT, TAGGED ON ONE END ONLY, BAGGED AND TIED TO PANDUIT ADJACENT TO TB-C WITH ONE COMM CABLE.

LEGEND:

- PANEL WIRING (MIN. #16AWG MTW (OR EQUAL), 600V, MIN 75°C RATED, UNLESS NOTED OTHERWISE ON DWG).
- FIELD WIRING

REV.	DATE	DESCRIPTION	ORIGIN	DWN	CHKD	SUPV	APVD
		REVISIONS					

CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #1-925-244-3203 FAX #1-925-244-3209
PACIFIC GAS AND ELECTRIC COMPANY

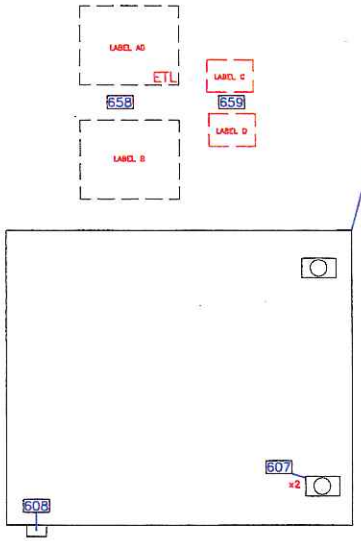
CO:
SD:
NOTIF.: 111586842
Other:
SHT.: 7 OF 9
SHEETS
PM: 312333179
REV.

EST.: BRENT WILLENBRINKER
ARE.: SCOTT HART
SUPV.: GERALD GARNELL
REP.: JACK PRICE
PLNR: TIMOTHY HA
SCALE: 1"=10'
DATE: 7/14/2016

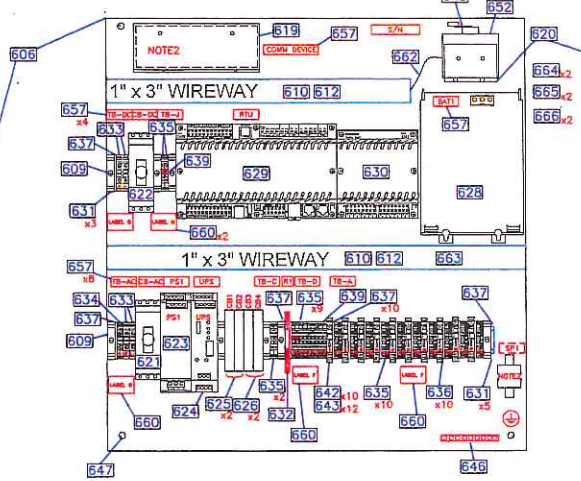
POLE MOUNTED CABINET LAYOUT

(TYPICAL)
(N.T.S)

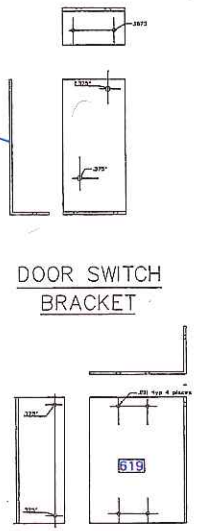
INSTALL LABELS ON INSIDE FRONT DOOR



DOOR DETAILS



RITTAL WM242412 BACKPLATE



COMM DEVICE BRACKET

RTU CABINET MATERIALS (COMPACT)
(FOR REFERENCE ONLY) (DO NOT PURCHASE)

ITEM	QTY.	DESCRIPTION	MANUFACTURER	PART#
606	1	COMPACT ENCLOSURE, 24" x 24" x 12", METALLIC	RITTAL	WM242412
607	2	SS RIVETTED LOCKING HASP FOR COMPACT ENCLOSURE	RITTAL	SZ8018974
608	1	CONDENDATE DRAIN KIT	RITTAL	2459000
609	3'	DIN RAIL STICK	PHOENIX CONTACT	801733
610	4'	1"W X 3"H GRAY WIREWAY	PANDUIT	F1X3LG6
612	4'	WIRE DUCT COVER (PER FOOT)	PANDUIT	C1LG6
619	1	COMMUNICATION DEVICE BRACKET	C&C	CUSTOM1
620	1	DOOR SWITCH BRACKET - COMPACT DESIGN	C&C	CUSTOM2
621	1	CIRCUIT BREAKER, 7.5A, CB-AC	AIRPAK	CRI-APBM-7.5-AC
622	1	CIRCUIT BREAKER, 7.5A, CB-DC	AIRPAK	CRI-APBM-7.5-DC
623	1	POWER SUPPLY 24VDC/5A, PS1	PHOENIX CONTACT	2866750
624	1	24VDC UPS	PHOENIX CONTACT	2320212
625	2	DC CIRCUIT BREAKER - 1A	PHOENIX CONTACT	903023
626	2	DC CIRCUIT BREAKER - 3A	PHOENIX CONTACT	903025
628	1	UPS BATTERY 7.2AH	PHOENIX CONTACT	2320319
629	1	SCADAPACK 350 RTU	SCHNEIDER ELECTRIC	TBUP350-1A21-AA00
630	1	SCADAPACK ANALOG EXPANSION MODULE, 5502	SCHNEIDER ELECTRIC	TBUX397211
631	8	END CLAMP, E/NS 35 N	PHOENIX CONTACT	800886
632	1	RELAY R1, SOLID STATE, SPDT	PHOENIX CONTACT	5603260
633	4	TERMINAL BLOCK, UT 6, #24-8 AWG, 41AMP, GRAY	PHOENIX CONTACT	3044131
634	1	GROUND TB, UT 2.5-PE, #26-12 AWG,	PHOENIX CONTACT	3044157
635	23	TERMINAL BLOCK, UT 2.5, #26-12 AWG, 24AMP, GRAY	PHOENIX CONTACT	3044076
636	10	GROUND TB, UT 2.5-PE, #26-12 AWG,	PHOENIX CONTACT	3044092
637	13	TB END Cover, D-UT 2.5/10, Gray	PHOENIX CONTACT	3047028
639	2	PLUG-IN BRIDGE 1.5 N 2 POSITION	PHOENIX CONTACT	3030161
642	10	FEED THROUGH FUSED TERMINAL BLOCK, UT 6-HESILED	PHOENIX CONTACT	3046414
643	5	FUSES, GLASS, 5X20, .125A (INCLUDE TWO SPARES PER PANEL)	BUSSMAN	MDL-1/8-R
644	1	DOOR INTRUSION LIMIT SWITCH- BODY & MOUNTING HW	SQ.D	9007C25382
645	1	DOOR SWITCH ACTUATOR ARM	SQ.D	9007EA11
646	1	GND BAR 7-PSN	SQ.D	PK7GTA
647	4	RING TERMINALS, #30 AWG, GND BONDS	MCMASTER CARR	93827A126
652	1	CABLE GLANDS, BLACK, 1/2" NPT THREADS, WIRE SIZE 1/4" TO 1/2"	CONTA-CLIP	58314.1
657	18	PHOENIX LABELS	PHOENIX CONTACT	911050
658	2	CIDZ RATING LABELS - LARGE	DST LABEL A B	DST LABEL A B
659	2	CIDZ WARNING LABELS - SMALL	DST LABEL C D	DST LABEL C D
660	5	LABELS F, G & H - COPPER CONDUCTOR	DST LABEL FGH	DST LABEL FGH
662	6'	2 CONDUCTOR CABLE, BELDEN 9320, DOOR SWITCH	BELDEN	9320
663	1	COMM CABLE, RS-232, RJ-45 TO DB9F (M, STRAIGHT THRU, 24" LONG)	SAGE DESIGN	TBUM297218-241
664	2	SD1 MOUNTING BOLTS, ZINC 1/4" x 20" BY 5/8" LONG	MCMASTER CARR	92863A938
665	2	1/4" LOCK WASHER	MCMASTER CARR	91102A029
666	2	1/4" ZINC FLAT WASHER	MCMASTER CARR	90126A029

PANEL LABELS

LABEL AD

REMOTE TELEMETRY UNIT

MODEL NO.	COMPACT DESIGN		
RATING:	120VAC, 7.5A, 1Ø, 60HZ	ENCLOSURE:	NEMA 3R
LOAD:	120VAC (DIRECT LOAD) / 24VDC (LOAD LOAD)	FLA:	1.1A / 0.8A
MCCB:	10A 2Ø3 SYMMETRICAL, 120VAC MAXIMUM		
MANUF:	DST CONTROLS 851 STONE ROAD BOWON, GA 84610 PHONE: (707) 745-6137 FAX: (707) 743-8551		
DWG. REF.	ELECTRICAL COMPACT DESIGN E-01 PANEL LAYOUT COMPACT DESIGN P-01		
TEMP.	CLASS I, DIV.2, GROUPS C, D T4-RATED T4 AMBIENT: -20C TO +40C		

LABEL B

WARNING:	BRANCH CIRCUIT PROTECTION PROVIDED BY INSTALLER 120VAC, 15A CIRCUIT MAXIMUM
WARNING:	TRIPPING OF THE INSTRUMENTATION-TYPE CIRCUIT BREAKER IS AN INDICATION THAT A FAULT CURRENT HAS FLOW. INVESTIGATION, CORRECTION OF FAULTS, REPLACEMENT OF THE CIRCUIT BREAKER MUST BE PERFORMED BY QUALIFIED PERSONNEL TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK.
WARNING:	EXPLOSION HAZARD. DO NOT REMOVE OR REPLACE FUSES. FUSES ON PCB-1A HOWEVER ARE APPLICABLE UNLESS PCB-1A IS REPLACED. DO NOT OPEN THE CABINET DOOR TO BE FREE OF HAZARDOUS CONCENTRATIONS OF FLAMMABLE GASES OR VAPORS.
WARNING:	SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR DIVISION 2.

LABEL H

REMOVE JUMPER J1 WHICH EXTERNAL 24VDC POWER IS APPLIED TO TB-DC

LABEL E

USE STRANDED COPPER CONDUCTORS, THHN, SHIELDED, 300V, 90°C WIR, #20 – #18 AWG

LABEL G

USE STRANDED COPPER CONDUCTORS, 600V, 90°C WIR, #14 – #18 AWG

LABEL C

WARNING:
DO NOT REMOVE OR REPLACE WHILE CIRCUIT IS LIVE UNLESS THE AREA IS KNOWN TO BE FREE OF HAZARDOUS CONCENTRATIONS OF FLAMMABLE SUBSTANCES.

LABEL D

WARNING:
DO NOT REMOVE CIRCUIT BREAKER UNLESS POWER HAS BEEN REMOVED FROM THE EQUIPMENT OR THE AREA IS KNOWN TO BE FREE OF HAZARDOUS CONCENTRATIONS OF FLAMMABLE SUBSTANCES.

TELECOMMUNICATION EQUIPMENT

	MODEL	MANUFACTURER	DESCRIPTION
OPTION 1	MDS LT-1000MS	GENERAL ELECTRIC	MDS RADIO
OPTION 2	TRANSNET ELMO-SUPERMARGROWN	GENERAL ELECTRIC	
OPTION 3	DG-WAN-GMS	DGI	CELLULAR MODEM

LIGHTING SURGE PROTECTOR

	MODEL	MANUFACTURER	DESCRIPTION
SP1	SP-RS232-C2	POLYPHASER	SURGE PROTECTOR

PROCESS TRANSMITTERS

	MODEL	MEASURED VARIABLE	RANGE
PT1	2051CG	PRESSURE	0 - 2000 PSIG
PT2	2051CG	PRESSURE	0 - 2000 PSIG
PT3	2051CG	PRESSURE	0 - 300 PSIG

CONSTRUCTION SKETCH
SCADA TYPE 1AN/3N INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

REVISIONS

NO.	DATE	DESCRIPTION	ORDER #	DWN	CHKD	SUPV	APVD	BY

ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #:925-244-3205 FAX #:925-244-3303
PACIFIC GAS AND ELECTRIC COMPANY

CD:
SD:
NOTIF.: 111386842
Other:
SHT: 8 OF 9 SHEETS
PM: 31233179 REV.

ESTI: BRIAN WOLLENWEBER
ADE: SCOTT HART
SUPV: GERALD GABRIEL
REP: MIKE PRICE
PLNR: TIMOR NA
SCALE: 1"=10" DATE: 7/14/2016

1	2	3	4	5	6	7	8	9	10

POWER SOURCE & ANTENNA DETAIL

(N.T.S)

Electric Connection for Gas SCADA Site Survey

Project Information:

PM#: 31233179

Reg Station / Facility: HP-40

Address or Physical Location Description: Carpenter and Hwy 99 City: Stockton

Site Information:

Elect. Dist. Map: Division: Stockton Map #: V1212 Coordinates:

Gas Platt Map: Division: Stockton Map #: 3005H8 Coordinates:

Survey Information:

Technician: Kelly Lynch Survey Date: 5/4/2016

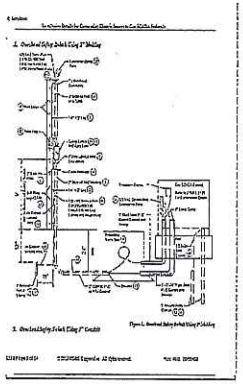
Source Side Device: SW 13513 Transformer CGC#: 317889351949

Electric District (UG/OH): OH Circuit Name Weber 1109(163481109)

Recommended Electric Connection Configuration: Trench to OH electric pole

(i.e.: Trench to OH, Trench to UG, OH Svc Drop, Photo Voltaic (PV), Incorporate with Streetlight, etc.)

Electric SCADA Standard 072248: Page: 8 Figure #: 1



Construction Notes & Instructions:

1. Install Compact RTU post and cabinet approximately 5ft off Monitor vault per sketch.

2. Install new 17" by 30" (#2) splice box 3.5 ft. in front of Compact RTU

3. Install approximately 111ft of 1-2" (C1) PVC conduit from new splice box to SE quadrant of electric pole per sketch.

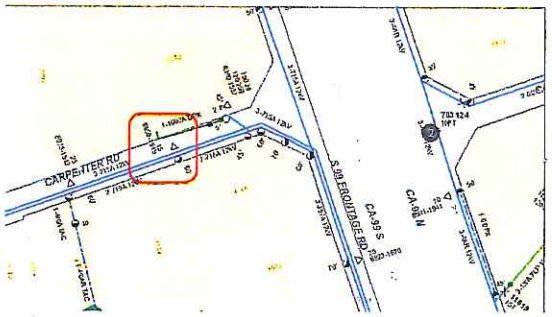
4. Install approximately 4ft of 1-1" (C1) PVC conduit from splice box to Compact RTU.

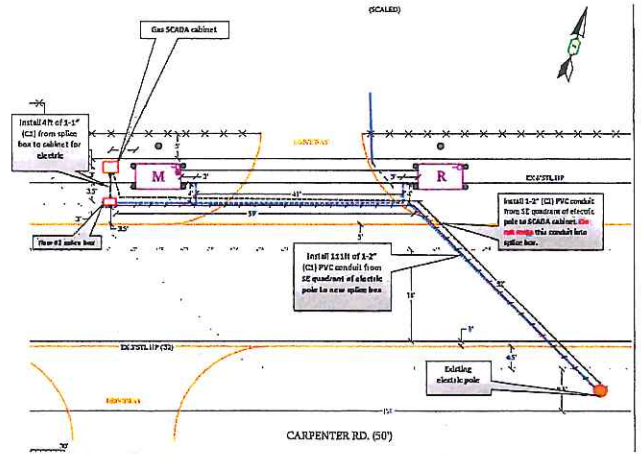
5. Install approximately 115ft of 1-2" PVC conduit from SE quadrant of electric pole to Compact RTU

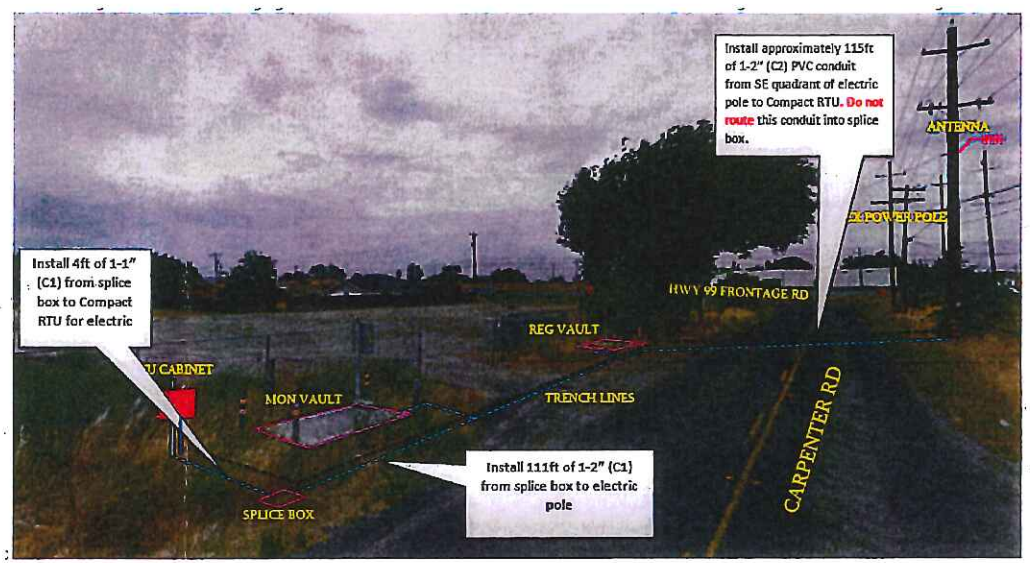
3. Install all ground rods, ground wires and conduits at electric pole and Compact RTU per requirements of Electric Standard 072248. Install pull string (mule tape)in both conduits.

Radio signal to Mt Oso 1 is neg 80 at 30ft 193 degrees SW

Prior to job start date PM to schedule pre construction meeting with Electric team to discuss all grounding and conduit requirements







ENGINEERING AND PLANNING DEPT.
6121 BOLLINGER CANYON RD.
SAN RAMON, CA 94583
PHONE #:925-244-3206 FAX #:925-244-3303
PG&E PACIFIC GAS AND ELECTRIC COMPANY

CO: Site: NOTIF.: 111386842 Other: SHT: 9 OF 9 SHEETS PM: 31233179 REV.

EST: BRENT WOLLENWEBER
ADE: SCOTT HUGH
SUPV: GERALD GABRIEL
REP: JACK PINGE
PLNR: THACH HA
SCALE: 1=10' DATE: 7/14/2016

NO.	DATE	DESCRIPTION	DRAWN #	DWG CHKD	SUPV	APVD BY
		REVISIONS				

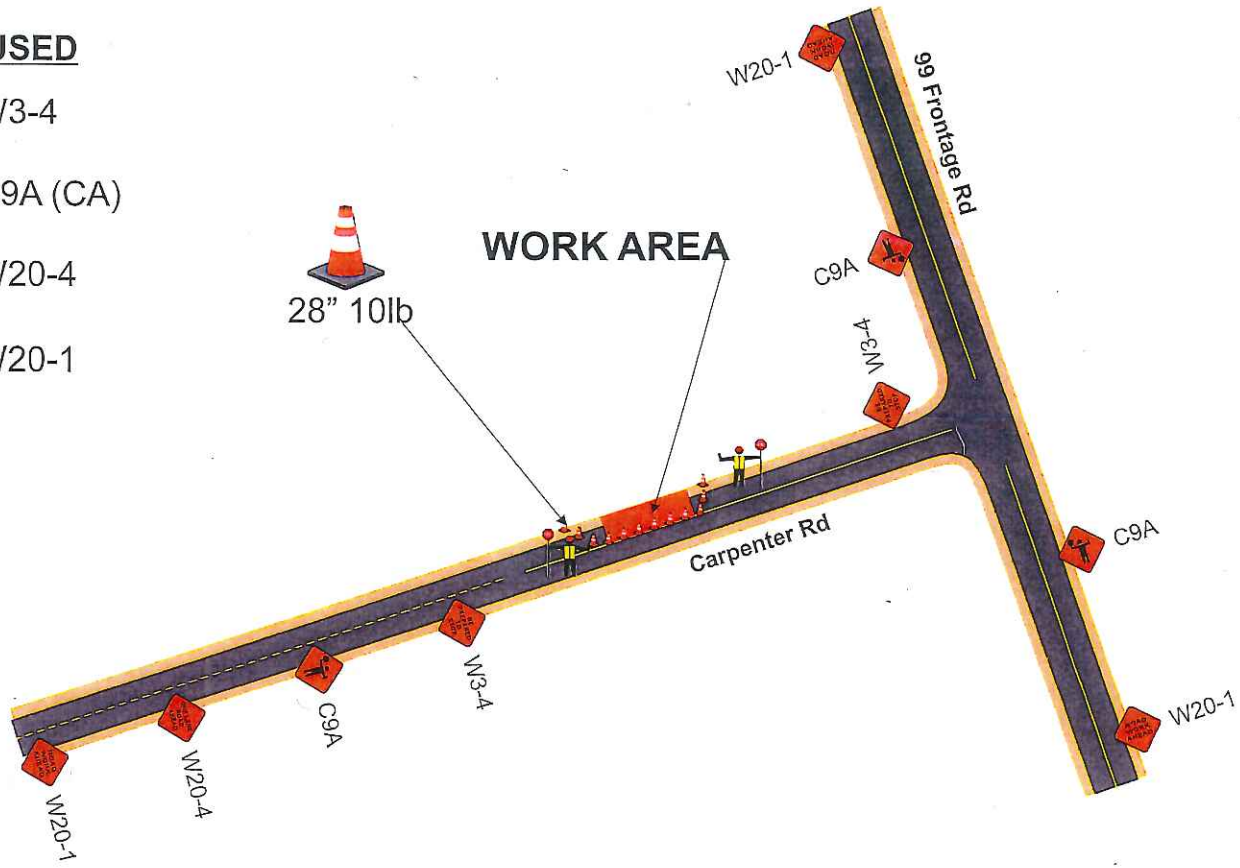
CONSTRUCTION SKETCH
SCADA TYPE 1AN/3M INSTALLATION
CARPENTER RD. & HWY 99
STOCKTON, CA

CLOSURE STIPULATIONS AND REQUIREMENTS THAT MUST BE FOLLOWED AT ALL TIMES
DRIVEWAY ACCESS SHALL REMAIN OPEN OR ACCESSIBLE AT ALL TIMES

- **All lane closures shall meet or exceed CA MUTCD 2014 specifications as well as conform to hours of work set forth by the County.**
- All areas of work when encroaching upon sidewalk access OR pedestrian safety shall have the latest CA MUTCD 2014 Edition, Temporary Traffic Control, sidewalk closure detour detail in place to ensure pedestrian and public safety.
- Pedestrian traffic shall at all time have a minimum 4 feet wide area of travel.
- All open excavation areas shall be backfilled or trench plated prior to public usage.
- All closures set forth in this TCP are the minimum allowed on project, field conditions may change requiring further traffic safety devices or traffic control person to ensure safety of traveling public, pedestrians as well as work forces.
- All changes to ensure safety will be made immediately to ensure a safe environment for all parties.
- All traffic control devices, vehicles and personnel must be suited for the purpose intended as well as meet or exceed latest CA MUTCD 2014 Edition, Temporary Traffic Control requirements as well as County requirements.
- All Devices shall be removed when no longer required.
- All flaggers shall be certified and all intersections shall be flagged when required as shown on plans.
- If work is done at night or encroaches on the hours of darkness all road work ahead signs shall have a flashing beacon, light towers will be used for flaggers and work areas and all other latest CA MUTCD 2014 Edition, Temporary Traffic Control requirements shall be met or exceeded as well.
- NOT TO SCALE—SPACING OF SIGNS, TAPER AND TANGENTS WILL BE SPACED AS PER TABLE HAS SET FORTH AS GOVERNED BY TRAVEL SPEEDS.
- All traffic devices shall meet or exceed latest CA MUTCD 2014 Edition, Temporary Traffic Control. All signs shall be high intensity night time reflective, 48"x48" roll up signs. All signs shall have a minimum of 2, 18" day time flags attached to sign stands during day time hours and if applicable flashing 12", 12v beacons for night time work.
- Sign stands shall meet latest CA MUTCD 2014 Edition, Temporary Traffic Control, as well as allowing for 18" to 7' height for signs and spring equipped for windy conditions.
- All hours of work shall be dictated by the County specified lane closure charts or as directed by the County Inspector.
- Vehicle path of travel shall never be less than 12' in width. Closures and excavation not to exceed what forces expect to excavate per the daily shift.
- Roadway shall not be opened until safe for public use. All open trenches must be plated or backfilled prior to public usage.
- All areas of excavation must have a valid USA dig tag with corresponding dig ticket number. Proof must be carried with the excavating forces at all times.

SIGNS BEING USED

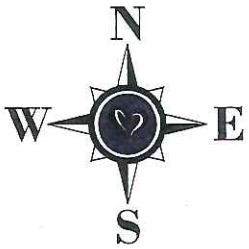
- 48X48" W3-4
- 48X48" C9A (CA)
- 48X48" W20-4
- 48X48" W20-1



mph	feet		Cones Spacing - feet	
SPEED	TAPER	SIGN SPACING	TAPER	TANGENT
25	125'	100'	25	50
30	180'	250'	30	60
35	245'	500'	35	70
40	320'		40	80
45	540		45	90
50	600'		50	100

Shifting(1/2taper) Shoulder(1/3taper)

GAS



R30 24X24" Barricade mounted, placed on both sides of the street 20' apart 72hrs prior to the start of work.

SEE **SPEC SHEET 2** FOR ADDITIONAL TRAFFIC CONTROL STIPULATIONS

Pedestrian and Bicycle Access to remain open at all times.

Minimum 12ft clearance for traffic

Work shall not exceed 12 hours

All flaggers will communicate through hand signals and walkie talkies with one another

ADDITIONAL FLAGGER TO MAINTAIN CLOSURE AND ASSIST BICYCLE, PEDESTRIAN AND DRIVE WAY TRAFFIC SHOULD NEED ARISE

For TCP questions call
Robert at 209-200-3351

PM# 31233179

Owner: COUNTY OF SAN JOAQUIN		
Project Location: Carpenter Rd @ 99 Frontage Rd		Project City: Stockton, CA
Prime Contractor: *PG&E*		Traffic Control Contractor: City Rise Services, Inc.
Phone: 209-333-0807	Sheet Number: PS-1	Date: 6-27-2016
Prepared By: CITY RISE SERVICES, INC		

NOT TO SCALE

HOURS OF WORK SHALL BE DETERMINED BY THE COUNTY OF SAN JOAQUIN

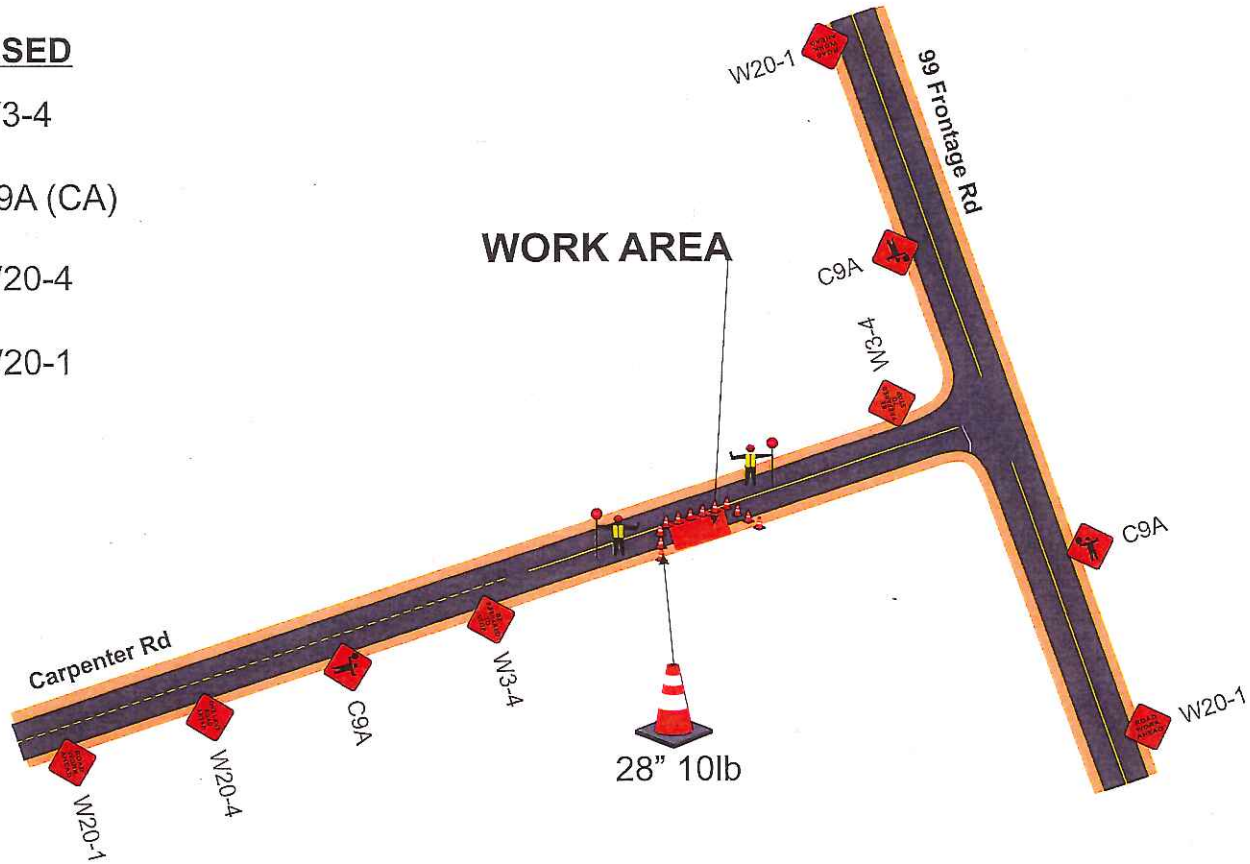
SIGNS BEING USED

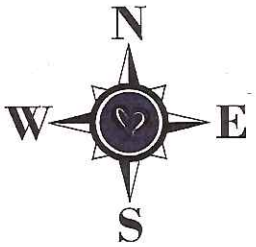
- 48X48" W3-4
- 48X48" C9A (CA)
- 48X48" W20-4
- 48X48" W20-1

mph	feet		Cones Spacing - feet	
SPEED	TAPER	SIGN SPACING	TAPER	TANGENT
25	125'	100'	25	50
30	180'	250'	30	60
35	245'	500'	35	70
40	320'		40	80
45	540		45	90
50	600'		50	100

Shifting(1/2taper) Shoulder(1/3taper)

GAS





R30 24X24" Barricade mounted, placed on both sides of the street 20' apart 72hrs prior to the start of work.

SEE **SPEC SHEET 2** FOR ADDITIONAL TRAFFIC CONTROL STIPULATIONS

Pedestrian and Bicycle Access to remain open at all times.

Minimum 12ft clearance for traffic

Work shall not exceed 12 hours

All flaggers will communicate through hand signals and walkie talkies with one another

ADDITIONAL FLAGGER TO MAINTAIN CLOSURE AND ASSIST BICYCLE, PEDESTRIAN AND DRIVE WAY TRAFFIC SHOULD NEED ARISE

For TCP questions call
Robert at 209-200-3351

PM# 31233179

Owner: COUNTY OF SAN JOAQUIN		
Project Location: Carpenter Rd @ 99 Frontage Rd		Project City: Stockton, CA
Prime Contractor: PG&E		Traffic Control Contractor: City Rise Services, Inc.
Phone: 209-333-0807	Sheet Number: PS-2	Date: 6-27-2016
Prepared By: CITY RISE SERVICES, INC		

NOT TO SCALE

HOURS OF WORK SHALL BE DETERMINED BY THE COUNTY OF SAN JOAQUIN

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 in-kind or better materials. Restored fences shall not encroach into County right-of-way.

6. Work shall not be permitted within the San Joaquin County right-of-way between November 1 and March 31 without prior authorization from the San Joaquin County Department of Public Works Field Engineering Division, contact them at 209-953-7421

7. 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.

8. 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)

9. 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)

10. All future maintenance of the pipeline and related facilities within the County right-of-way will require a San Joaquin County Encroachment Permit.

11. Trenches shall be maintained in a smooth and even condition to the satisfaction of the County throughout the project limits at all times.

12. 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.

13. 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.

14. Carpenter Rd subject to pavement cuts shall receive a Slurry Seal 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.

15. Final paving for trench repair or road resurfacing shall be per Caltrans' specifications and shall not occur between November 1 and March 31, without prior authorization from the San Joaquin County Department of Public Works Field Engineering Division, contact them at 209-953-7421.

16. No paving joints are allowed within paved shoulder; contractor shall pave all the way to outer edge of paved shoulder.

17. Class II Aggregate Base shoulder backing is required from the edge of pavement, a minimum of 4-inches thick by 4-feet wide.

18. 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.

19. 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.

20. 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.

21. 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.

22. The contractor shall not conduct construction operations in rain or heavy fog conditions.

2-5.0 TRENCH CUT POLICY

2-5.01 General Requirements

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

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:

   1. 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).

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:

A. 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.

D. For service for buildings where no other reasonable means of providing service exists.

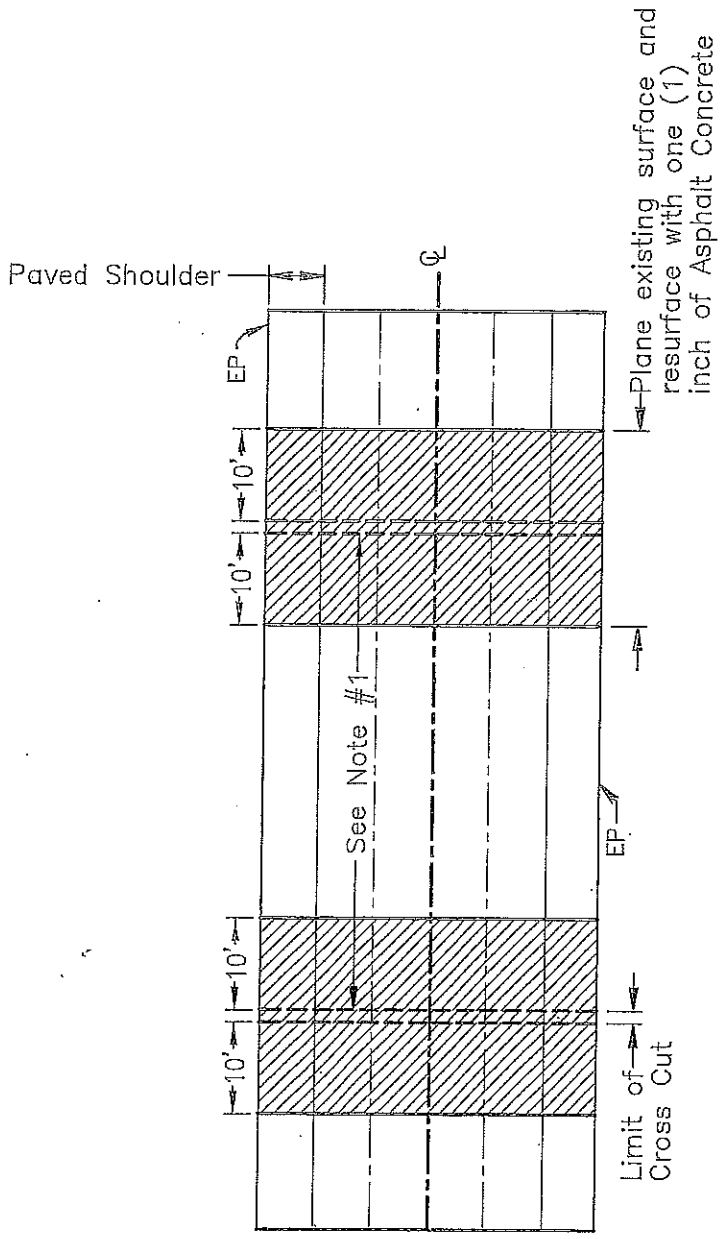
E. For potholing to verify utility depth or location.

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.

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).



Public Works
San Joaquin County
Working for YOU

TRENCH CUTTING POLICY CROSS CUTTING OF COUNTY ROADWAYS

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS

Date: MAY 2015

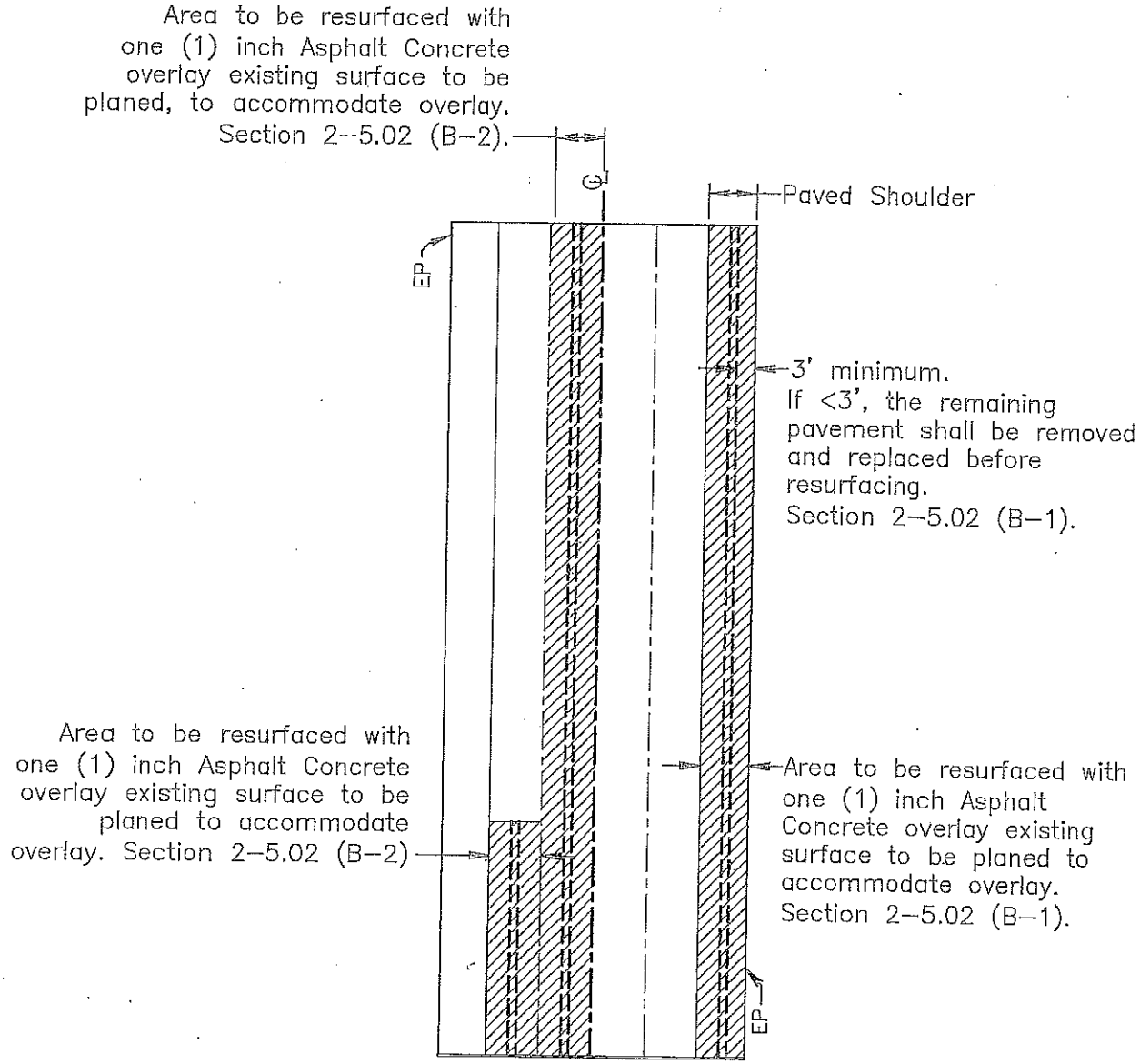
Approved by:

No.	Revision Description	Date

Std. Dwg. No. **R-36**

NOTES:

1. The resurfacing requirements shall be in addition to County Standard 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).



Public Works San Joaquin County
Working for YOU

TRENCH CUTTING POLICY
LONGITUDINAL CUTTING
OF COUNTY ROADWAYS

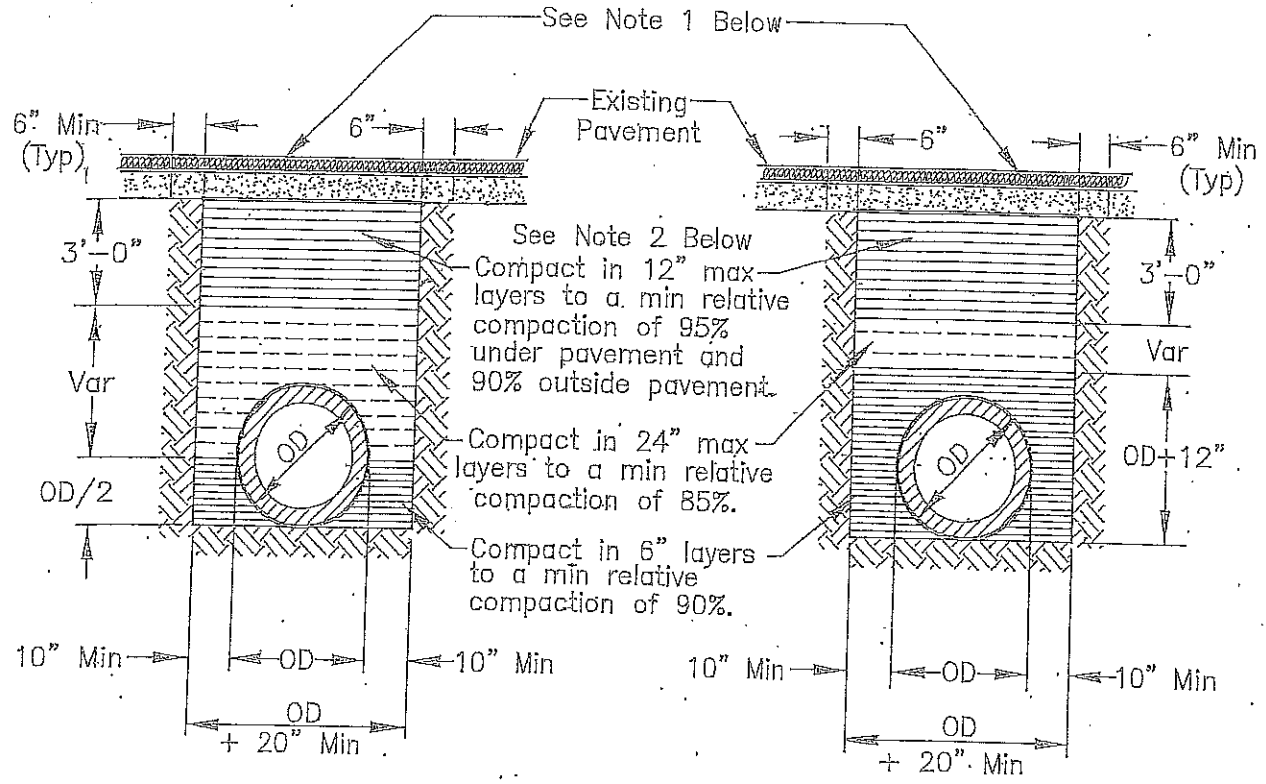
COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS

Date: MAY 2015

Approved by:

No.	Revision Description	Date

Std. Dwg. No. **R-37**



RIGID CONDUIT

FLEXIBLE CONDUIT

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.

Public Works San Joaquin County
Working for YOU

TYIPCAL TRENCH BACKFILL

COUNTY OF SAN JOAQUIN
DEPARTMENT OF PUBLIC WORKS

Date: DEC 2014

Approved by: Thomas M. Flow

No.	Revision Description	Date

Std. Dwg. No. R-29

GENERAL PROVISIONS

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

PUBLIC CONVENIENCE AND SAFETY:

A. 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 thoroughfare(s) involved, and shall provide access for vehicular and pedestrian traffic to and from the road.

1. 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.
2. 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 detour route at least twenty-four (24) hours prior to said road closure.
   a. The County of San Joaquin Public Works Department
   b. The County of San Joaquin Sheriff's Office
   c. The local postal service
   d. The local fire district
   e. The local school district
   f. The local residents involved

B. 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.

C. 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 or 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 concrete pipe placed under county road rights-of-way shall conform to the following American Association of State Highway and transportation Officials (AASHTO) designations.

1. For concrete pipe up to and including thirty-three inches (33") inside diameter, extra strength concrete conforming to AASHTO Designation M 170M.
2. For concrete pipe thirty-six inches (36") inside diameter and larger, reinforced concrete pipe conforming to AASHTO Designation M 170M Class III.
3. Plastic pipe conforming to AASHTO Designation M294.

B. All concrete pipe joints with County road rights-of-way shall be sealed 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.

C. Cast-in-place concrete pipe, vitrified clay pipe, spiral welded steel pipe, or corrugated aluminum 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.

D. All structures to be buried 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 bottoms 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; manholes, 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.

E. The County hereby reserves the right to specify in the Special Provisions the gage and surface treatment of any galvanized corrugated metal pipe that is to be installed.

F. 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:

A. All excavations shall be backfilled and compacted immediately after work therein has been completed.

B. 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 Engineer.

C. Unless otherwise permitted under the Special Provisions, backfill shall be placed and mechanically compacted in such a manner that the relative compaction throughout the entire fill within the County road right-of-way shall conform to the percentages of compaction as shown on the Trench detail.

D. 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-feet where 80% compaction is required.

E. No portion of the excavation(s) shall be compacted by ponding or jetting unless a maintenance bond is provided.

F. 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 internal vibrator, the compactor to be a size and type approved by the Engineer. Points of compaction shall not be greater than 18" centers and to the full depth of the lift.

G. All pavements, curbs, gutters, sidewalks, borrow ditches, pipes, head walls, road signs, trees, shrubbery, and/or other permanent road facilities impaired by 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.

H. All surfacing materials of roadways and driveway approaches cut or damaged by or as a result of construction operations, shall be replaced within ONE WEEK 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.

1. 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 paving 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.
2. 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.

I. 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).

1. If necessary, County road traveled way and driveway pavements shall be washed with water to remove dirt and dust.
2. Driveway approaches and field entrance pavements damaged by equipment or spoil banks shall be repaired as directed by the Engineer.

J. 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. SUPERVISION: The utility company (permittee) shall furnish full-time supervision of all work to insure compliance with the permit provision.

2. 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.