

DIVISION 18 – PG&E INFRASTRUCTURE

By SqCWD through Giacalone Design Services, Inc.

SECTION 18010

PG&E TRANSFORMER AND ELECTRICAL

1.0 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Trenching
 - 2. Conduit.
 - 3. Electrical System
 - 4. As-builts

- B. Related Specification Sections include but are not necessarily limited to:
 - 1. Division 0 – Bidding and Contract Requirements.
 - 2. Division 1 – General Requirements.
 - 3. Division 3 – Concrete.

1.2 QUALITY ASSURANCE

- A. Referenced Standards:
 - 1. PG&E Greenbook UG-1: Conduits:
 - a. Section 062288, Underground Conduits.
 - 2. PG&E Greenbook UG-1: General:
 - a. Section 051122, Clearances and Location Requirements for Enclosures, Pads, and Underground Equipment.
- B. Contractor is responsible for complete coordination with all utility companies from initiation of construction through complete installation of all joint trench facilities.

1.3 NOT USED

1.4 SUBMITTALS

- A. Shop Drawings:
 - 1. See Division 1 for requirements for the mechanics and administration of the submittal process.
 - 2. For each structure provide dimensioned or scaled (minimum 1/8 inch = 1 foot) plan view drawings containing the following information:
 - a. Vertical and horizontal location of all required openings and penetrations.
 - b. Size of all openings and penetrations.
 - c. Opening type.
 - d. Seal type.
 - 3. Manufacturer's installation instructions for standard manufactured products.

1.5 UTILITY CONSTRUCTION CONSULTANT

- A. Giacalone Design Services, Inc Job # 17-254
 - 1. Contacts: Paul Giacalone, General Manager, ext 301
Andrew Cummins, Project Manager ext 409
5820 Stoneridge Mall Road, Suite 345
Pleasanton, CA 94588
(925) 467-1740

1.6 GENERAL

- A. Prior to submitting their bid, the bidder shall make themselves familiar with the site work. Improvement Plans by Civil: Hydrosience Engineers, Mike Miranda, 916-364-1490 & mmarandi@hydrosience.com.
- B. Nothing contained or omitted from Giacalone Design Services, Inc. (GDSI) drawings and attachments shall relieve the contractor of their responsibility to provide for a complete system that is acceptable to PG&E. Contractor must be familiar with PG&E specifications and construction practices.
- C. The utility inspectors will have the final say as to their area of responsibility. Contractor is responsible for any re-inspection fees necessitated by their work. Soquel Creek Water District reserves the right to reject any or all bids.

2.0 **PRODUCTS**

2.1 MATERIALS

- A. Contractor is directed to the attached "Job Inventory and Material List" for the Granite Way Well project by Lopes Utility Design Services.
- B.

3.0 **EXECUTION**

3.1 TRENCHING AND BACKFILL

- A. Contractor to become familiar with all existing site conditions. Contractor will include in trench unit prices any and all costs for remove and replace existing concrete, asphalt and or landscaping. Contractor will add 6" depth to trench when in pavement. Contractor to excavate any necessary bell holes and coordinate tie-ins.

3.2 CONDUITS

- A. Included temporary or permanent caps, sealing in transformers and boxes as required.

3.3 ELECTRICAL SYSTEM

- A. Contractor to furnish and install all material, labor and equipment necessary for complete system based upon plans drawn by GDSI. Attached are job instructions and material summary to aid in obtaining quantities and code numbers. Contractor

to make street light connections, tag all cable runs and "Hot-Pot" test entire system prior to PG&E energizing. PG&E to do "Hot" tie-ins..

3.4 AS-BUILTS

- A. Contractor to "Red Line" two (2) sets of electric drawings with the "As Built" information and forward to the Soquel Creek Water District after completion of the job.

3.5 WARRANTY

- A. ELECTRICAL SYSTEM: Contractor shall be responsible for the repair or replacement at their expense of any part of their work that develops defects due to faulty material or workmanship within a period of two (2) years from the date of final acceptance by PG&E.
- B. TRENCHES AND CONDUITS: Contractor shall guarantee that all trench material and conduits, and trench workmanship shall be satisfactory for a period of two (2) year from the date of final acceptance by PG&E.

LOPES UTILITY DESIGN SERVICES JOB INVENTORY AND MATERIAL LIST

JOB INVENTORY AND MATERIAL LIST

**GRANITE WAY WELL
TROUTE GULCH RD AND CATHEDRAL DR.**

SOQUEL CREEK WATER DISTRICT

APTOS

PM 31377496

<p><u>PG&E APPLICANT DESIGN APPROVAL</u></p> <p>PG&E Plan Check does not release the Applicant from responsibility to construct the facilities according to PG&E Standards. In the event of a conflict during construction, PG&E Standards take precedence.</p> <p>Electric ADE: <u>Ed Brown</u> Desk Phone: <u>925-270-2273</u></p> <p>Approval Signature: <u><i>Ed Brown</i></u></p> <p>Date: <u>5/8/18</u></p>

5/7/2018

JOB# 17-254



*Project Manager: ANDREW CUMMINS-GDSI
Designed by: CLIFF LOPES*

Qty	Unit	Code	Job Instructions
Install Loc 1			
60	FT	01-6472	CONDUIT,PVC, 4", DB
1	EA	36-0423	BELL END, CONDUIT, 4"
1	EA	36-0443	CAP,CONDUIT,TEMP DB 4"
3	EA	36-0761	BEND,CONDUIT,DB, 4", 22DEG, 60"R
1	EA	36-0414	BEND,CONDUIT,DB, 4", 90DEG, 36"R
1	EA	36-0778	SWEDGE REDUCER, 6" X 5" DB
1	EA	36-0401	COUPLING,CONDUIT, 5" DB
1	EA	36-0777	SWEDGE REDUCER, 5" X 4" DB
1	EA	36-0494	CAP,CONDUIT,TEMP DB 6"
Install Loc 2			
1	EA	26-1446	TX,3PH PM,IIIE,75KVA,12/21 DUAL RATED 277/480 SS
3	EA	33-2439	FUSE, TYPE E, 8AMP (12KV OR 21KV)
3	EA	30-0486	BUSHING WELL PLUG 200AMP
3	EA	30-0481	BUSHING INSERT, LB,200A
1	EA	Assy	TRANSFORMER, PADMOUNT, MISC. ITEMS (11 items)
1	EA	04-0292	106"X90" PRECAST PAD
1	EA	Assy	GROUND MATERIAL w/ Ground RodS (3 items)
Install Loc 3			
34	FT	29-0373	CABLE,SEC,XLPE,QPX 600V 750AL
2	EA	38-4199	CAP CABLE PERM,600V, 4/0ALUM
6	EA	38-4201	CAP CABLE PERM,600V, 750ALUM
2	EA	50-0117	FRONT END PULL PACK, 4-6"
3	EA	30-3833	CONNECTOR,CABLE,TO SPADE, 750ALUM.
1	EA	30-3759	CONNECTOR,CABLE,TO SPADE, 4/0ALUM.
3	EA	Assy	CONN.CBL,TO SPADE 750AL W/NUT (5 items)
1	EA	Assy	CONNECTOR.CABLE,TO SPADE 4/0AL W/NUT (5 items)
40	FT	01-6473	CONDUIT,PVC, 5", DB
2	EA	36-0424	BELL END, CNDT, 5"
2	EA	36-0444	CAP,CNDT,TEMP DB 5"
2	EA	36-0763	BEND,CONDUIT,DB, 5", 22DEG, 60"R
2	EA	36-0418	BEND,CNDT,DB, 5", 90DEG, 36"R

Qty	Unit	Code	Job Instructions
			Remove Loc 800
3	EA	N/A	INSULATED CAP TEST POINT
			Install Loc 800
3	EA	30-0480	ELBOW RECEPTACLE,LB,25KV 1/0AL
1	EA	36-2624	FAULT IND, 450A,FIXED TRIP,AR, 3W
			Install Loc 801
97	FT	29-0047	3-1/0AL 25KV EPR-CONC-ENCAP-PE
6	EA	38-4202	CABLE PERM CAP,25KV,1/0 EPR-CONC
2	EA	50-0117	FRONT END PULL PACK,4-6"
			Install Loc 802
3	EA	30-0480	ELBOW RECEPTACLE,LB,25KV 1/0AL
			Install Loc 3
1	EA	long lead	SMART METER,3PH,4W,277/480V,401-800 AMP,DEM W/CTs

Qty	Unit	Code	Description
1	EA	17-0115	LOCK SAFETY EQUIPMENT 1" RING SIZE
2	EA	18-7012	CLAMP GROUND ROD 5/8"
2	EA	18-7013	ROD GROUND 5/8" X 8'
1	EA	18-7017	CLAMP GROUND ROD 3/4" #6-#1/0 AWG COP CA
2	EA	19-0445	BOLT ANCHOR 1/2" X 3-3/4" SS WEDGE 13TPI
8	EA	19-5013	NUT HEX 1/2" DIA SILICON-BRZ ALY 13 TPI
8	EA	19-5193	WASHER LOCK SPLIT 1/2" SILICON-BRZ ALY
8	EA	19-5252	WASHER FLAT 1/2" SILICON-BRZ ALY ROUND
7	LB	29-0074	WIRE ELEC BARE COP 2 AWG 10 LB HAND COIL
1	EA	30-3214	CONNECTOR GROUND #10-#1 CABLE-POST
1	EA	30-3221	TERMINAL CBL-FLT CPRSN #2 STR COP
1	EA	30-3759	CONNECTOR,CABLE.TO SPADE, 4/0ALUM.
1	EA	30-3759	TERMINAL CBL-FLT BAR #4/0 AL STR
2	EA	30-5844	CONNECTOR CABLE SVCE TAP COP #6-#2
0.5	LB	49-5228	CONCRETE CAULKING
1	EA	62-1599	LABEL HIGH VOLTAGE/CLEARANCE 7" X 10"
60	FT	01-6472	CONDUIT,PVC, 4", DB
40	FT	01-6473	CONDUIT,PVC, 5", DB
1	EA	01-6593	PADLOCK SHACKLE STAMPED PG&E 1-1/4"
1	EA	04-0292	106"X90" PRECAST PAD
4	EA	19-0653	EXPANSION ANCHOR SEISMIC
3	EA	19-3023	SCREW, CAP EVERDUR, HEX HEAD 1/2" X 1 1/2"
1	EA	26-1446	TX,3PH PM.IIE,75KVA,12/21 DUAL RATED 277/480 SS
34	FT	29-0373	CABLE,SEC,XLPE,QPX 600V 750AL
3	EA	30-0481	BUSHING INSERT, LB,200A
3	EA	30-0486	BUSHING WELL PLUG 200AMP
6	EA	30-3833	CONNECTOR,CABLE.TO SPADE, 750ALUM.
3	EA	33-2439	FUSE, TYPE E, 8AMP (12KV OR 21KV)
1	EA	36-0401	COUPLING,CONDUIT, 5" DB
1	EA	36-0414	BEND,CONDUIT,DB, 4", 90DEG, 36"R
2	EA	36-0418	BEND,CNDT,DB, 5", 90DEG, 36"R
1	EA	36-0423	BELL END, CONDUIT, 4"
2	EA	36-0424	BELL END, CNDT, 5"
1	EA	36-0443	CAP,CONDUIT,TEMP DB 4"
2	EA	36-0444	CAP,CNDT,TEMP DB 5"
1	EA	36-0494	CAP,CONDUIT,TEMP DB 6"
3	EA	36-0761	BEND,CONDUIT,DB, 4", 22DEG, 60"R
2	EA	36-0763	BEND,CONDUIT,DB, 5", 22DEG, 60"R
1	EA	36-0777	SWEDGE REDUCER, 5" X 4" DB
1	EA	36-0778	SWEDGE REDUCER, 6" X 5" DB
2	EA	38-4199	CAP CABLE PERM,600V, 4/0ALUM
6	EA	38-4201	CAP CABLE PERM,600V, 750ALUM
2	EA	50-0117	FRONT END PULL PACK, 4-6"

Qty	Unit	Code	Description
97	FT	29-0047	3-1/0AL 25KV EPR-CONC-ENCAP-PE
6	EA	30-0480	ELBOW RECEPTACLE, LB, 25KV 1/0AL
1	EA	36-2624	FAULT IND, 450A, FIXED TRIP, AR, 3W
6	EA	38-4202	CABLE PERM CAP, 25KV, 1/0 EPR-CONC
2	EA	50-0117	FRONT END PULL PACK, 4-6"
1	EA	long lead	SMART METER, 3PH, 4W, 277/480V, 401-800 AMP, DEM W/CTs

*****END OF SECTION*****