APN# 048-350-027-000

APN# 048-350-033-000

APN# 048-350-017-000

APN# 048-350-016-000

APN# 048-350-033-000

WATER AQUEDUCT

PROPOSED FENCING AROUND ARRAY FIELD. SEE SHEET S-100 FOR DETAILS

℄ = 1373'

℄ = 1258'

℄ = 1258'

(E) OVERHEAD TRANSMISSION EASEMENT

APN# 048-350-033-000

6' SECURITY FENCE W/ MANUAL GATE AT ENTRANCE ALONG ROAD

EQUIPMENT PAD (TYP.) SEE S-100

BATTERY STORAGE CONTAINER

PROPERTY LINE (℄)

UNDEDICATED DIRT ROAD

℄ = 1373'

3-POLE INTERCONNECT

PROPOSED POI
TWISSELMAN #1102 FEEDER
NOMINAL VOLTAGE = 12KV

(N) UTILITY LINE TO BE CONSTRUCTED

APN# 043-210-11-00-6

APN# 043-210-13-00-2

# LEGEND

PROPERTY LINE (℄)

DRIVE AISLE

12kV LINE

1 **SITE INFORMATION:**
- **PROPERTY OWNER:** APEX ENERGY SOLUTIONS, LLC
- **APPLICANT:** APEX ENERGY SOLUTIONS, LLC
- **ASSESSOR PARCEL #:** 048-350-016-000
- **PARCEL ACREAGE:** 40.0 AC.
- **SYSTEM FOOTPRINT:** 18.4 AC.

**SOLAR SYSTEM INFORMATION:**
- **(APPROX. 15,588) 385W PV MODULES**
- **(5) SOLECTRIA 1000kW INVERTERS**
- **HORIZONTAL SINGLE AXIS TRACKER SYSTEM**
- **SYSTEM SIZE:**
  - **5.0 MWDC**
  - **6.0 MWAC**

**BATTERY SYSTEM INFORMATION:**
- **5 MW / 20 MWh**

180° True

0 75' 150' 300'

Scale: 1" = 150'

# LEO SOLAR PROJECT

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| 1 | CF | CUP SUB #1 | 5/16/17 | |
| 2 | CK | CUP SUB #2 | 01/20/19 | |

1 inch
Scale to Confirm 24"x36" Plot

PLOT: 1/25/2019 12:20 PM

ZGLOBAL
Power Engineering & Energy Solutions

604 SUTTER ST, STE 250
FOLSOM, CA 95630
Phone : 916.985.9461
Fax: 916.985.9467

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SHEET TITLE:

SITE PLAN

| | |
|---|---|
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| SCALE: | AS NOTED |
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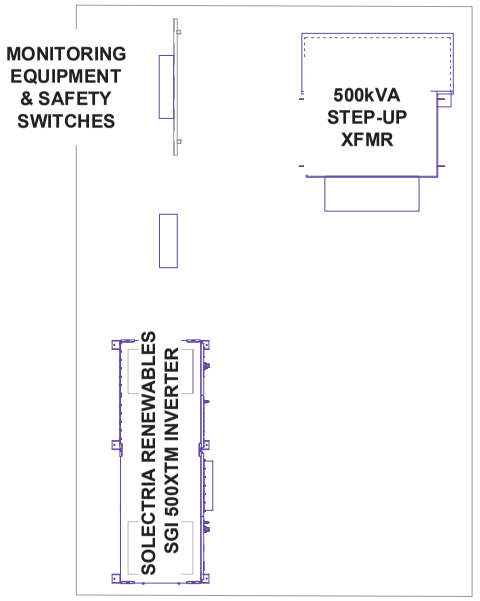
| DATE: | |

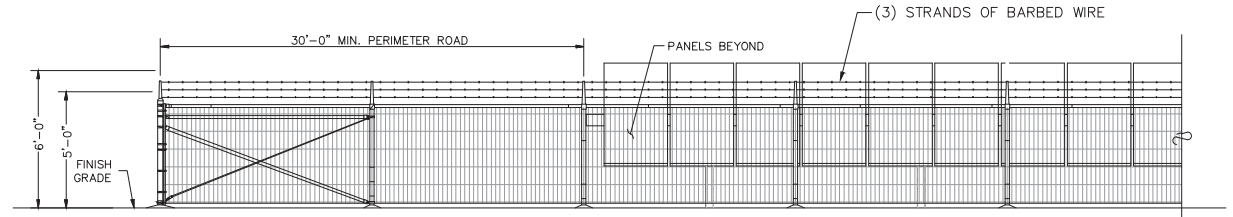
DRAWING No.

S-000

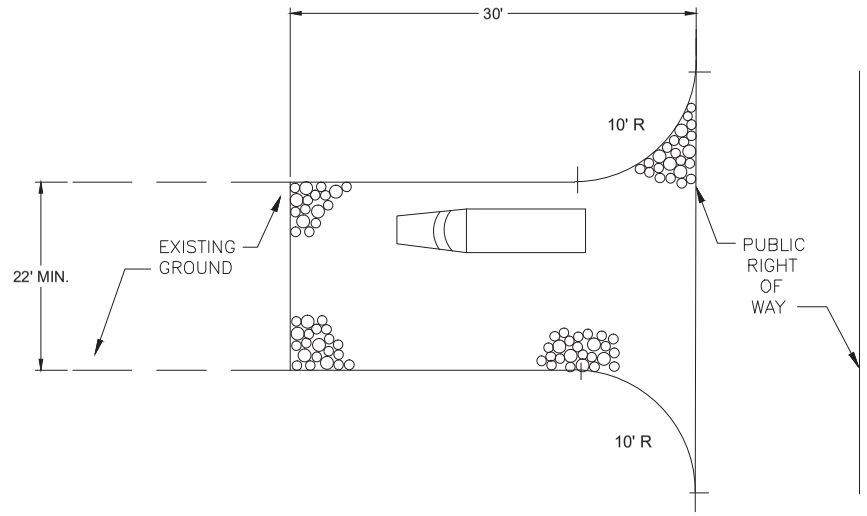
REV No. 1



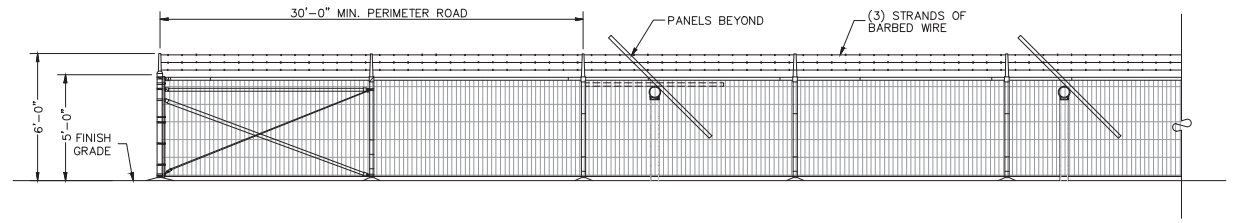

1 EQUIPMENT PAD LAYOUT (TYPICAL OF 6)
N.T.S.



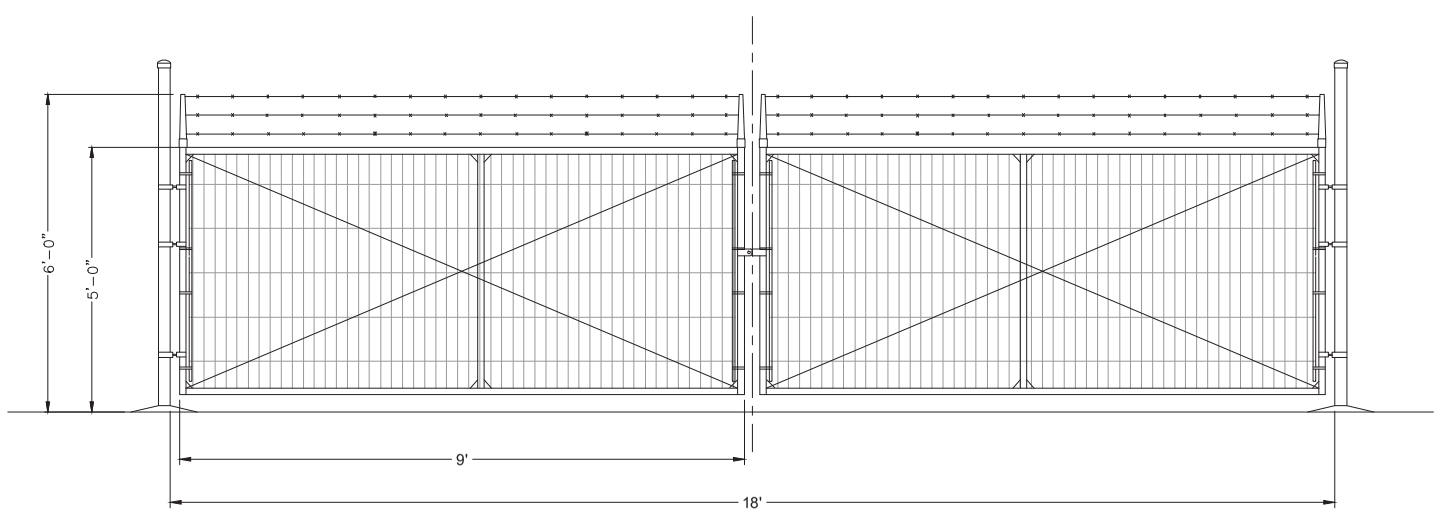

2 EAST OR WEST PERIMETER ELEVATION, TYP.
N.T.S.



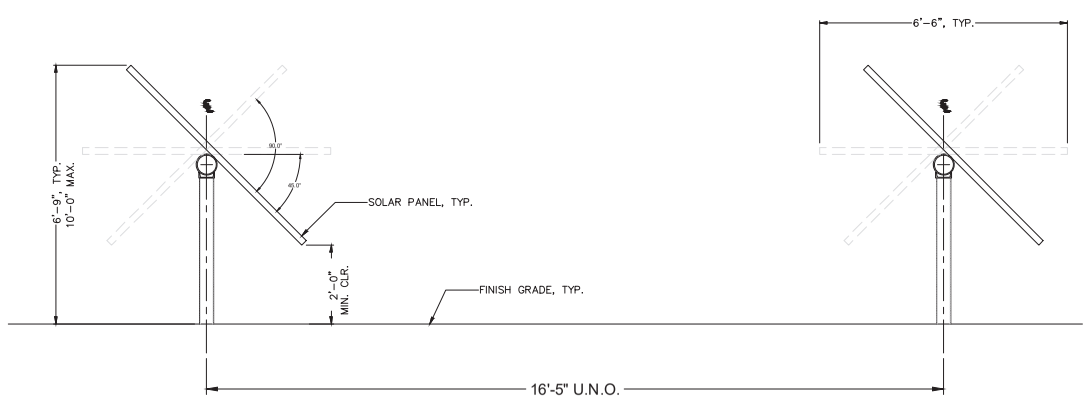

3 SITE ENTRANCE (PLAN VIEW)
N.T.S.




4 NORTH OR SOUTH PERIMETER ELEVATION, TYP.
N.T.S.




5 BI-DIRECTIONAL GATE ELEVATION
N.T.S.




6 NORTH OR SOUTH TRACKER ELEVATION, TYP.
N.T.S.

# LEO
# SOLAR PROJECT

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1 inch
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SHEET TITLE:

## SITE DETAILS

| | |
|---|---|
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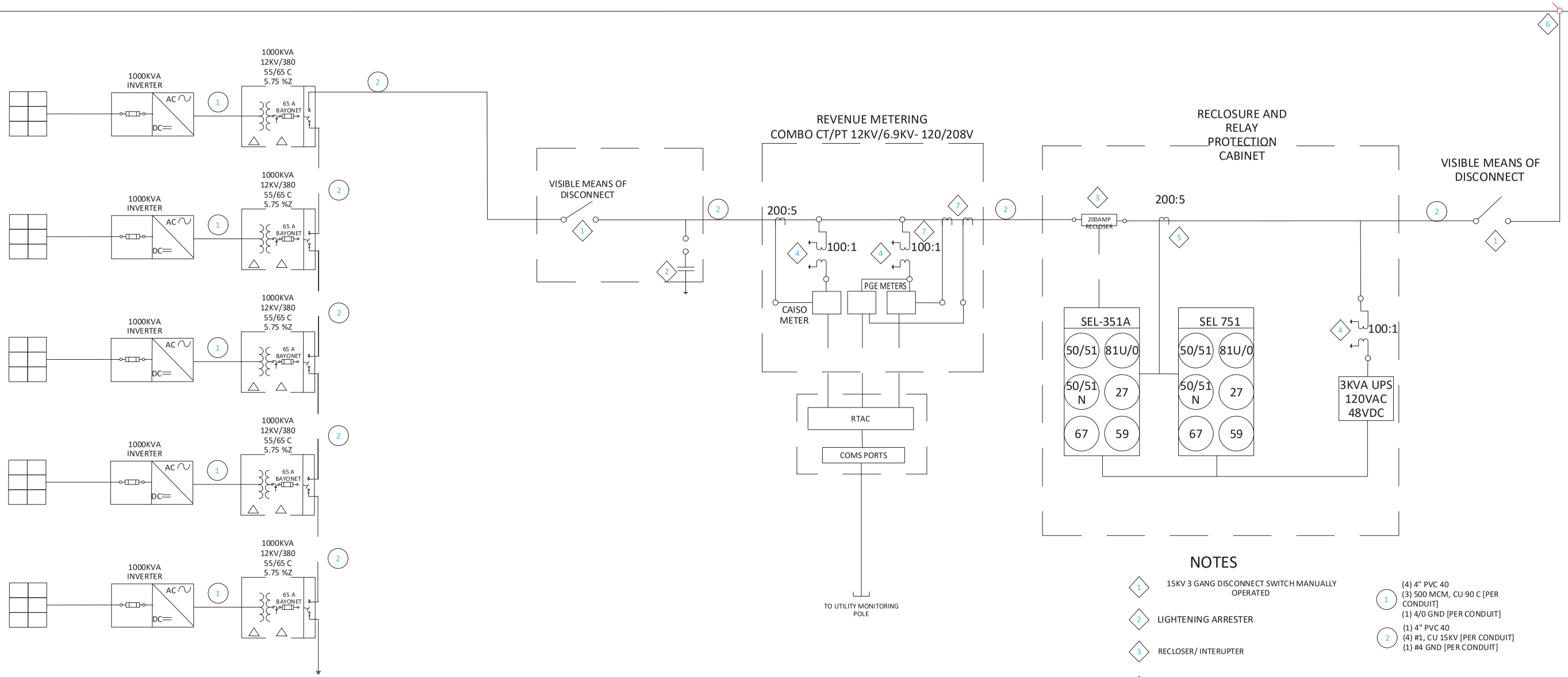
| DATE: | |

DRAWING No.
S-100

REV No. 1

# 12 KV TWISSELMAN #1102 LINE




## NOTES

1. 15KV 3 GANG DISCONNECT SWITCH MANUALLY OPERATED
2. LIGHTENING ARRESTER
3. RECLOSER/ INTERUPTER
4. POTENTIAL TRANSFORMER
5. CURRENT TRANSFORMER
6. POLE INTERCONNECTION
7. UTILITY SUPPLIED CT/PT

1. (4) 4" PVC 40
   (3) 500 MCM, CU 90 C [PER CONDUIT]
   (1) 4/0 GND [PER CONDUIT]
2. (1) 4" PVC 40
   (4) #1, CU 15KV [PER CONDUIT]
   (1) #4 GND [PER CONDUIT]

LEO
SOLAR PROJECT

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SHEET TITLE:

SINGLE LINE DIAGRAM

| | |
|---|---|
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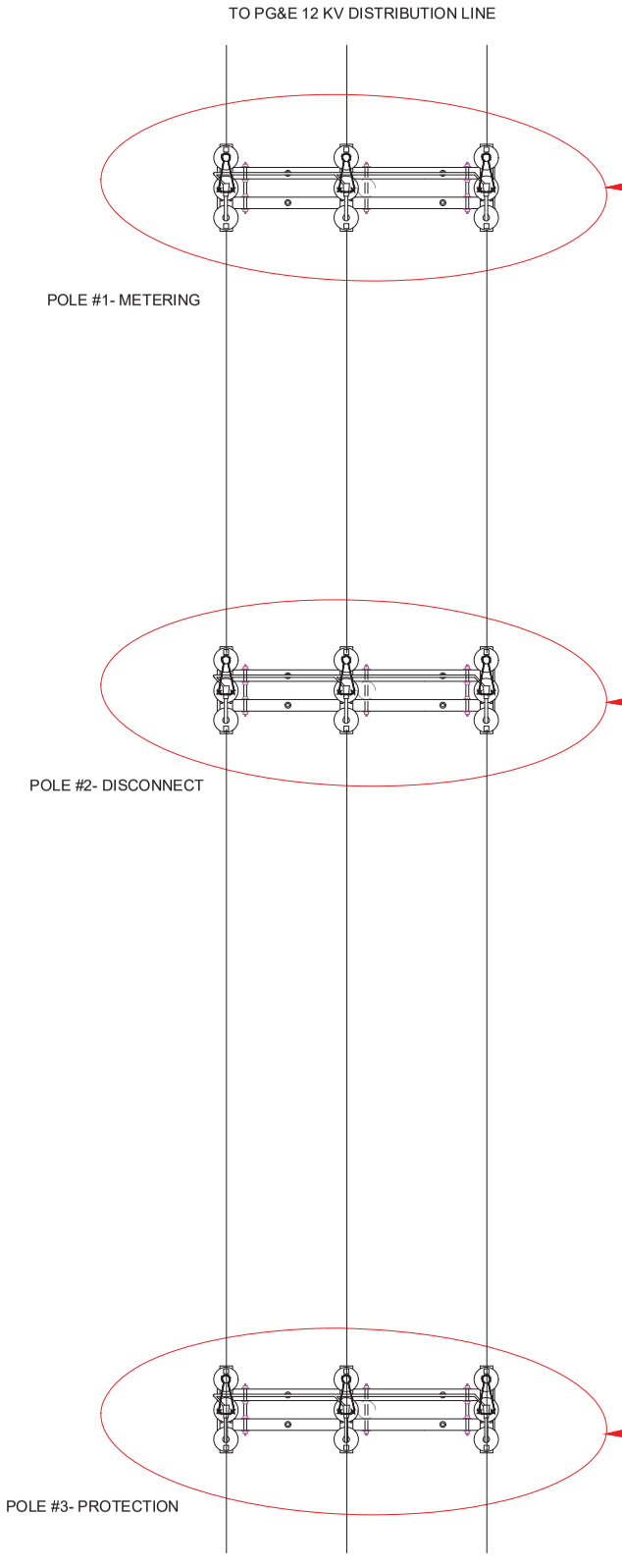
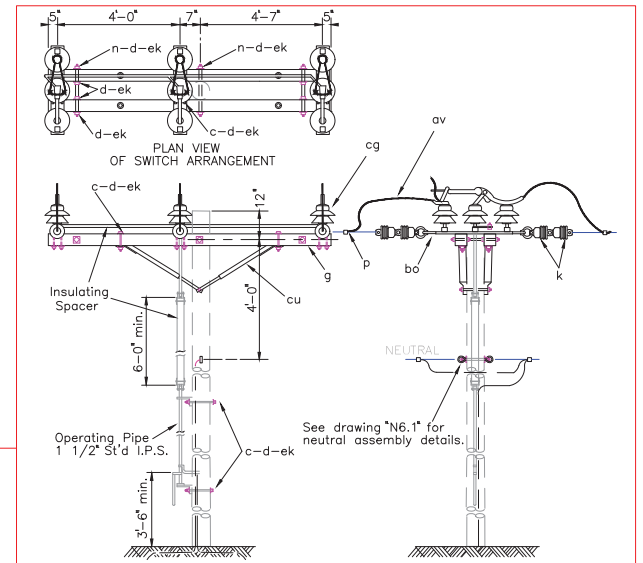
| SCALE: | AS NOTED |
| JOB NO: | |
| DATE: | |

DRAWING No.

E-000

REV No. 1




NOTES: See Dwg. "H4.1" (Preferred) or "H3.1" for required grounding assembly. RUS accepted pre-assembled, group operated, airbreak switches may be used. Install according to manufacturer's instructions.

| ITEM | QTY | MATERIAL |
|---|---|---|
| c | 4 | Bolt, machine, 1/2"x req'd length |
| c | 15 | Bolt, machine, 5/8" x req'd length |
| d | 4 | Washer, round, 1 3/8" |
| d | 25 | Washer, square, 2 1/4" |
| d | 2 | Washer, square, 3" |
| g | 2 | Crossarm, 3 5/8"x 4 5/8"x 10'-0" |
| k | 12 | Insulator, suspension, 4 1/4" |
| n | 4 | Bolt, double arm, 5/8"x req'd length |
| p | | Connectors, as required |

| ITEM | QTY | MATERIAL |
|---|---|---|
| aa | 2 | Nut, eye, 5/8" |
| av | | Jumpers, as required |
| bo | 6 | Shackle, anchor |
| cg | 1 | Switch, airbreak, group operated |
| | | 15 kV, w/ operating mechanism |
| cu | 2 | Brace, wood, 60° span |
| ek | 33 | Locknuts |
| | | |
| | | |

GROUP-OPERATED AIRBREAK SWITCH (THREE-PHASE)

POLE #2- DISCONNECT

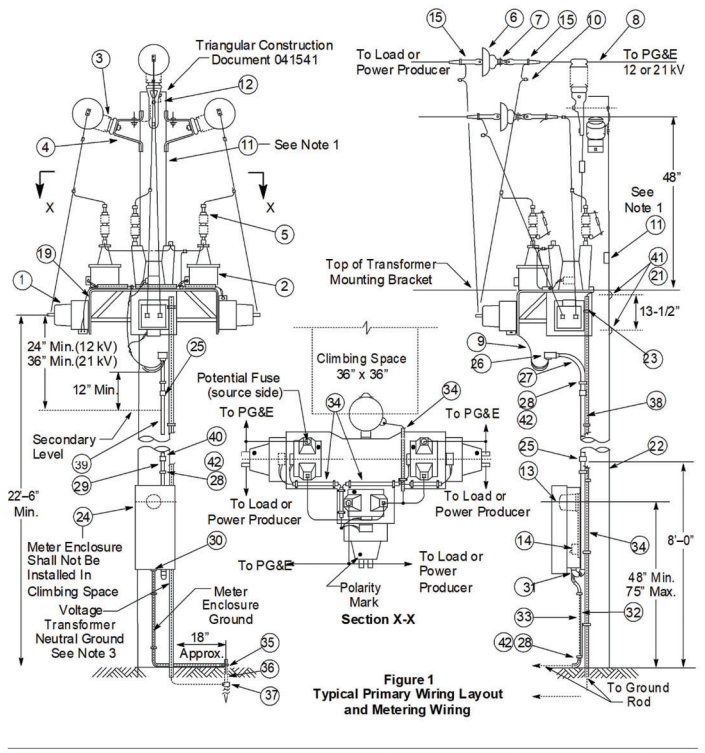



Figure 1
Typical Primary Wiring Layout
and Metering Wiring

**Table 1 List of Materials to Be Furnished and Installed by PG&E**

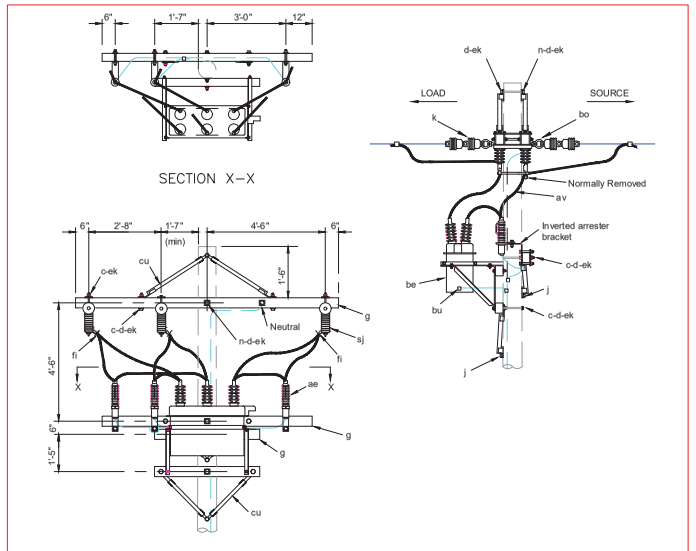
| Item | Description | Code | Document Number |
|---|---|---|---|
| 1 | Transformer, Current, Outdoor-Type (12 kV) | – | |
| 2 | Transformer, Potential, Outdoor-Type (12 kV) | – | **054340** |
| 3 | Insulator, Post-Type (12 kV) | – | 044490 |
| 4 | Bracket, Pole-Top, for Post Insulator | – | 015190 |
| 5 | Fuse, Bushing Mounted (12 kV) | – | 015225 |
| 6 | Insulator, Suspension, 9" | 344066 | 015014 |
| 7 | Link, Strain, Ohio Brass Catalog Number 79688 | 182086 | – |
| 8 | Wire, Overhead (#4 AWG) | – | 059626 |
| 9 | Wire, Coded, Meter, #10, 600 V | – | Spec. 26 |
| 10 | Lead Wire, Connectors (as required) | – | – |
| 11 | High Voltage Signs | 373038 | 015070 |
| 12 | Bonding Material (as required) | – | 06567 |
| 13 | Meter - watthour, watthour demand, etc. (By PG&E) | – | – |
| 14 | Test Switch, Reactiformer (as required) | – | 026237 |
| 15 | Dead-End Attachment, for Aluminum, Document 028851, for Copper, Document 015218 | – | – |
| 16 | Guy Material (as required) | – | 022178 |
| 17 | Insulator Clearance Bracket, 1" Pin Thread, Code 181215; 1-3/8" Pin Thread, Code 181216 | – | 015190 |
| 18 | Insulator, Pin-Type (12 kV) | – | 022088 |
| 19 | Bracket, for Instrument Transformers (Alurma-Form Catalog Number GPMM-6 or Barfield Manufacturing Catalog Number BAPMMG) | 181268 | – |
| 20 | Air Switch, Install per Document 033131 | – | 022635 |
| 21 | Bolt, Machine, 5/8" x Length (as required), With Square Washer | – | 058778 |

**Table 1 List of Materials to Be Furnished by Customer**

| Item | Description | Code | Document Number |
|---|---|---|---|
| 22 | Pole, Wood, Fully Treated and PG&E Inspected | – | Spec. 57 |
| 23 | Staple, Steel, Galvanized, 2-1/2" x 29/32" x 0.187" (a) | 197156 | – |
| 24 | Meter Enclosure, Weatherproof (see Document 033584) | – | – |
| 25 | Coupling, PVC, 1-1/4", Slip Fit, Sloane Catalog Number CG405 or Equivalent | 360410 | – |
| 26 | Elbow, Type LR, PVC, 1-1/4", Female, Slip Fit, Sloane Catalog Number LR40S or Equiv. | 360508 | – |
| 27 | Bend, PVC, 1-1/4", 90°, R=5-3/4", Slip Fit, Schedule 80, Gray | 360509 | – |
| 28 | Strap, Pipe, Galvanized, Two-Hole (as required) | – | 057577 |
| 29 | Conduit, Rigid Steel, 1-1/4", Galvanized | 390121 | – |
| 30 | Conduit Fitting, Threaded (for armor wire or steel conduit, Item 33) | – | – |
| 31 | Conduit Fitting, Threaded, (for Item 29) | – | – |
| 32 | Wire, Ground, #6 Minimum Copper, Bare (b) | – | – |
| 33 | Conduit, Rigid Steel, 1/2", Galvanized (for meter enclosure ground wire) (b) | 390118 | – |
| 34 | Conduit, Rigid PVC, 1/2", Schedule 40 With/Coupling 10' Lengths | 360368 | 021924 |
| 35 | Conduit Grounding Hub and Clamp, (for conduit, Thomas & Betts catalog number 3932 or equivalent; for armor, Thomas & Betts catalog number 3963, or equivalent) | – | – |
| 36 | Rod, Ground, 5/8" x 8'-0" Copper Covered Steel Rod | 187013 | **013109** |
| 37 | Clamp, Ground Rod | 187012 | |
| 38 | Wire, Ground, PT Neutral, #6 Minimum Bare Copper | 290033 | – |
| 39 | Conduit, Rigid PVC, 1-1/4" Schedule 80, Gray | 360408 | – |
| 40 | Adapter, Female, PVC, 1-1/4", Thread to Slip Fit, Sloane Catalog Number FA1303 (or equivalent) | 360511 | – |
| 41 | Cover, Insulating | 149042 | 058778 |
| 42 | Nail, Galvanized, 10d Common, Code 197036 for Cedar Poles; 6d Common, Code 187034 for Douglas Fir or Pine Poles | – | – |
| 43 | Riser Assembly (as required) | – | 027742 |

(a) Substitute pipe strap and nails, Items 28 and 42
(b) Armor clad ground wire may be used for meter enclosure ground. Omit rigid steel (Item 33) when armor cladding is used.

POLE #1- METERING




| ITEM | NO. | MATERIAL | ITEM | NO. | MATERIAL |
|---|---|---|---|---|---|
| c | 3 | Bolt, machine, 5/8"x req'd length | aa | 2 | Nut, eye, 5/8" |
| c | 4 | Bolt, machine, 1/2"x req'd length | ae | 3 | Surge arrester |
| d | 12 | Washer, sq. 2-1/4"x 3/16", 13/16"hole | av | " | Jumpers, stranded, as req'd |
| d | 4 | Washer, rd. 1-3/8" dia., 9/16" hole | be | 1 | Recloser, oil circuit - 3 phase |
| g | 2 | Crossarm, 3-5/8"x 4-5/8"x 10'-0" | " | 1 | Mounting bracket for 3 phase recloser |
| g | 1 | Crossarm, 3-5/8"x 4-5/8"x 8'-0" | bo | 6 | Shackle, anchor |
| g | 2 | Crossarm, 3-5/8"x 4-5/8"x 4'-0" | bu | 1 | Connector, solderless |
| j | 2 | Screw, lag, 5/8"x req'd length | cu | 2 | Brace, crossarm, wood, 60° span |
| k | 12 | Insulator, suspension | cu | 4 | Brace, crossarm, wood, 28° |
| l | 6 | Clamp, deadend | ek | " | Locknuts, as req'd |
| n | 3 | Bolt, double arming, 5/8"x req'd length | fi | 6 | Connector, hot line |
| p | " | Connectors, as req'd | sj | 3 | Switch, recloser by-pass |

POLE #3- PROTECTION

THREE-PHASE CIRCUIT RECLOSER
WITH BY-PASS SWITCHES

# LEO
# SOLAR PROJECT

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1 inch
Scale to Confirm 24"x36" Plot

PLOT: 1/25/2019 12:58 PM

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SHEET TITLE:

## SITE PLAN

| | |
|---|---|
| DRAWN BY: | CK |
| CHECKED: | HB |
| SCALE: | AS NOTED |
| JOB NO: | |
| DATE: | |

DRAWING No.
E-100
REV No. 1