

1/2"x6" EYE BOLT WITH ROUND WASHER AND NUT. EYE TO POINT IN DIRECTION OF SERVICE DROP.

SERVICE WEATHERHEAD

CUSTOMER'S SERVICE ENTRANCE CONDUCTORS (18" MIN. LENGTH WITH NEUTRAL IDENTIFIED)

SERVICE ENTRANCE CABLE

STAPLE SUPPORTS

APPROVED METER SOCKET (WEATHERPROOF TYPE)

2"x4" TIMBER CROSS MEMBER BRACE

GROUND WIRE #6 SDBC

3" MAX.

6'-0" (MIN.)

GROUND CLAMP

(2 EACH) 5/8"x8' GROUND RODS ≥ 6 FT. APART

12" (MIN.)

18" (MIN.)

4"x4"x16' MIN. TREATED TIMBER  
4"x6"x16' MIN. IF 200A SERVICE OR GREATER THAN 100' (HAWAII ELECTRIC LIGHT)

2"x4"x16' MIN. TIMBER BRACE ATTACH 2/3 DISTANCE UP TEMP. POLE

3/4" PLYWOOD MOUNTING BOARD

WEATHERPROOF GFCI OUTLET(S) WITH COVER(S)

2"x4"x12' TIMBER BACK SUPPORT BRACE

NOTE: ALL MEMBERS MUST BE ONE PIECE. NO SPLICING OF TIMBER.

SOIL AREAS: 2"x4" WOODEN STAKE (DRIVEN INTO GROUND 2 FT. MIN.)

ROCKY AREAS : METAL CONCRETE FORM PEGS

NOTE: CUSTOMER'S CONNECTION TO GROUND MUST BE 25 OHMS OR LESS. IF THE GROUND CONNECTION IS GREATER THAN 25 OHMS, THE CUSTOMER IS REQUIRED TO INSTALL A SECONDARY GROUND ROD IN ACCORDANCE WITH NEC 250.56.

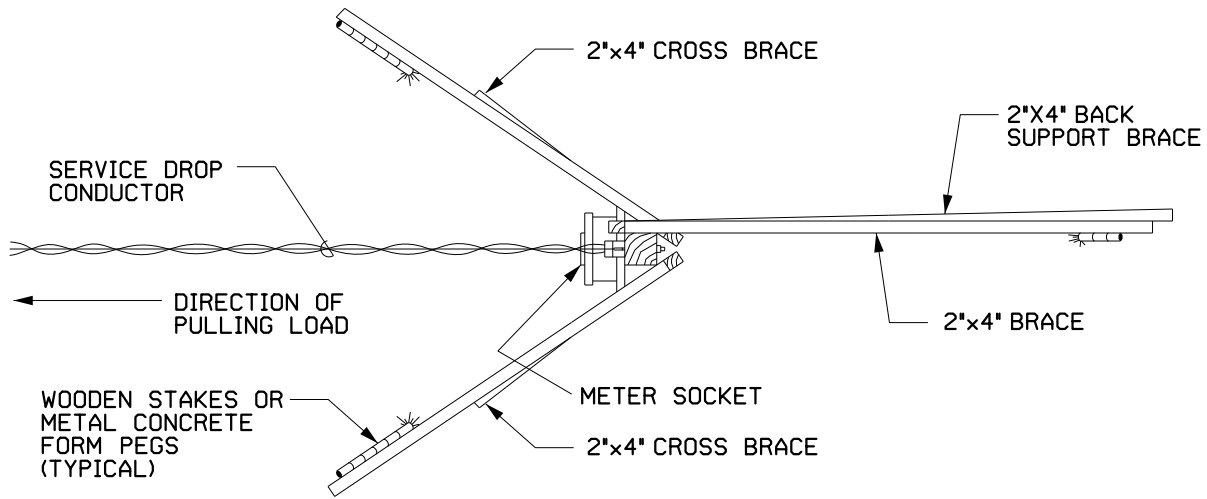
HAWAII ELECTRIC LIGHT REQUIRES TWO GROUND RODS SPACED A MINIMUM OF 6'-0" APART.



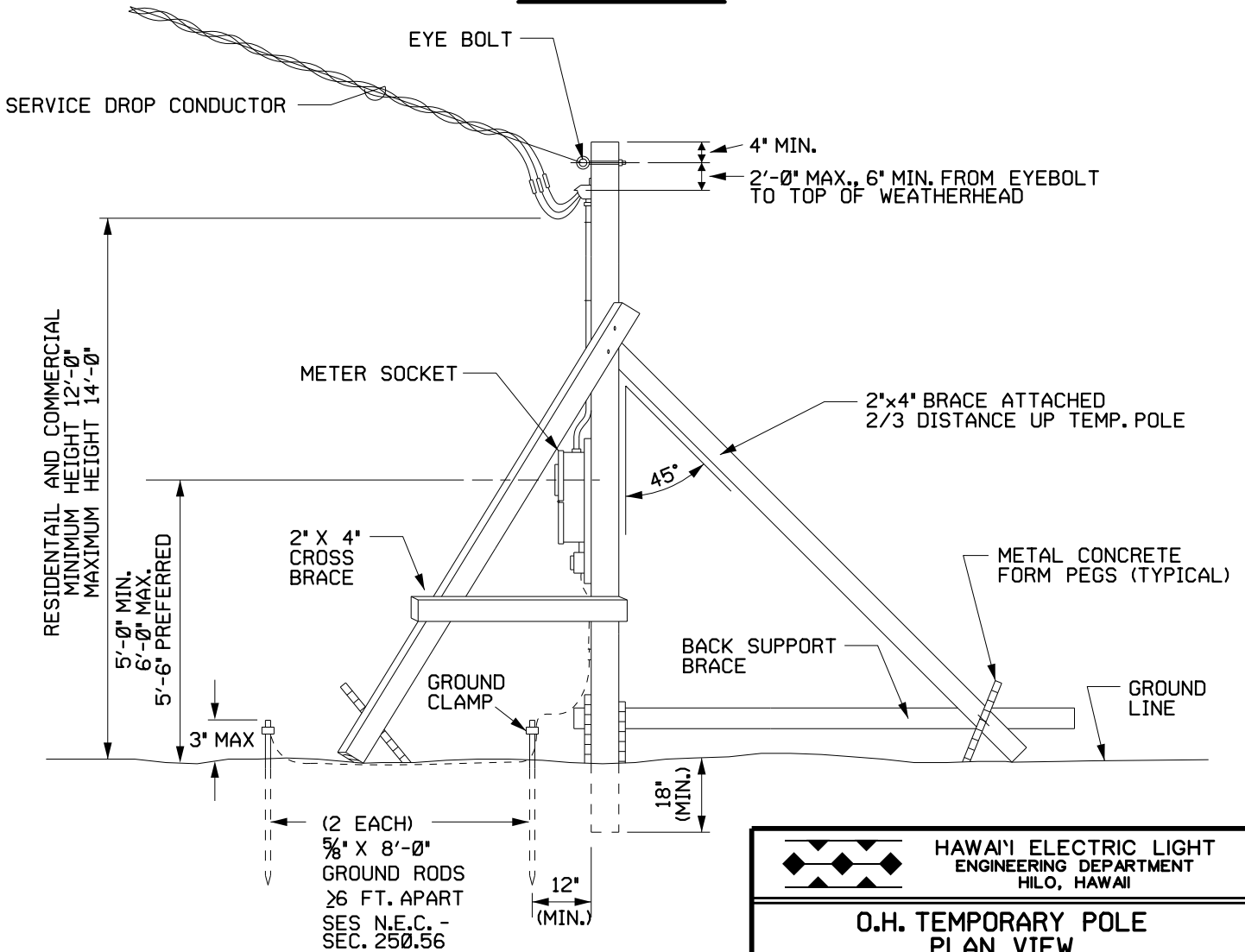
HAWAII ELECTRIC LIGHT  
ENGINEERING DEPARTMENT  
HILO, HAWAII

O.H. TEMPORARY POLE  
(SHEET 1 OF 7)


EST./REQ. NO.	DESIGNED/DRAWN	MM/KO	
CHK'D/APP'D	SCALE	AS NOTED	
PROJ. NO.	JP. NO.	DATE	1/16/17
REVISION	1/16/17	NUMBER	OHTEMP.dgn



**TOP VIEW**




**SIDE VIEW**

 <b>HAWAIIAN ELECTRIC LIGHT ENGINEERING DEPARTMENT HILO, HAWAII</b>	
<b>O.H. TEMPORARY POLE PLAN VIEW (SHEET 2 OF 7)</b>	
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# HELCO Temporary Pole Addendum

## General:

- Installation of temporary service (Overhead Wooden Temporary Pole design) for temporary construction power requirements cannot exceed 1 year of use. An application for a 12 month extension can be made by written request.
- Temporary service is only for construction or special event power needs for a maximum of 12 months. Residential or ongoing commercial needs are not to be supported. Once temporary pole has been inspected and approved by HELCO, it shall not be moved or tampered with. Consult HELCO Engineering to approve any relocation or modifications.
- Any modifications to the HELCO approved design may result in immediate suspension of service with no advance notification.
- Customer facilities shall meet all requirements of the latest editions of HELCO Electric Service Installation Manual (ESIM), National Electric Code (NEC), and National Electric Safety Code (NEC 2002).
- Physical location of pole and any additional guying, bracing or support (as needed) is subject to approval by HELCO Planner.
- The pole shall be strong enough to safely support an adult on a ladder terminating the service conductor as well as wind forces outlined in the National Electric Safety Code (NEC 2002).
- HELCO will provide service drop conductors, 'grip', and meter. Customer is to provide, install and maintain all other equipment.
- Floodlights, signs, telephone/cable wires and similar equipment shall not be attached to pole.
- Foot path from HELCO's service drop attachment point to customer's temporary pole must be provided and in parallel with the location of projected service conductor, and is subject to inspection prior to acceptance. Path should be approximately 24" wide and ground must be visible.
- Tree trimming must meet HELCO's tree trimming standard.
- All materials shall be for outdoor applications. All lumber may be rough.

		HAWAII ELECTRIC LIGHT ENGINEERING DEPARTMENT HILO, HAWAII	
<b>O.H. TEMPORARY POLE ADDENDUM (SHEET 3 OF 7)</b>			
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# HELCO Temporary Pole Addendum

(Continued)

## Construction:

### I. Center Post:

- Must be 4" x 4" x 16' minimum where service is equal to or less than 100' in length.
- Must be 4"x6"x16' post where service is greater than 100' in length with 6" dimension parallel to service drop.
- Must have 18" buried in the ground and soil compacted around post.
- No splicing of lumber is allowed. Lumber must be pressure treated, and new or very recent. No previous nail holes are allowed.

Note: A service conductor that crosses a driveway or road is required by the NESC to have a higher clearance above ground. This will normally require installation of a taller and more robust pole.

### II. Bracing:

- No splicing of lumber is allowed. Lumber must be pressure treated, plus new or very recent. No previous nail holes are allowed.
- Braces shall be attached to pole stakes (or concrete form pins) with bolts or nails in such a manner to assure stability.
- Attach wood braces at a point 2/3 of the height (above-ground-level) of the center post.
- Rear brace should be attached at a 45 degree angle to the center post.
- All lumber shall be treated.

### III. Weatherhead:

- A minimum of 18" of each conductor shall extend beyond the weatherhead.
- If conduit is used, weatherhead should be made of the same material as per NEC 230.54.
- Distance from weatherhead to eyebolt must be between 6" to 24".
- Bottom of weatherhead SE cable drip loop must be a minimum of 12' AGL (Above Ground Level).

### IV. Meter Socket / Distribution Panel:

- All unused or open holes in the meter base or main disconnect distribution panel shall be plugged with watertight plugs.
- Box shall be NEMA 3R (rainproof) as a minimum, and in good condition with no holes or corrosion, not bent or damaged, and plumb in all directions.
- Meter must face property access or the road (as per Planner guidance).
- Meter socket must be on HELCO Approved Meter Socket list. To determine if your meter socket is on HELCO's list, contact your Planner.
- To determine if a particular meter socket can be placed onto HELCO's Approved Meter Socket List, contact your planner and provide all technical information on the meter socket.
- Backboard, if used, must be constructed of  $\frac{3}{4}$ " thick treated plywood and be new or very recent.
- Height of Meter (to the center of the meter socket) must be between 5' to 6' above ground level.
- Clearance in front of meter socket must be at least 4'.
- Main Disconnect Circuit Breakers must be sized according to plug outlet size (usually 15A or 20A).



HAWAII ELECTRIC LIGHT  
ENGINEERING DEPARTMENT  
HILO, HAWAII


## O.H. TEMPORARY POLE ADDENDUM (SHEET 4 OF 7)

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# HELCO Temporary Pole Addendum

(Continued)

- V. Service Conductor (by HELCO):
- Maximum distance for service conductors attached to HELCO's distribution pole shall be no more than 140' from HELCO pole for 100A service and 100' for 200A service. Note that distances allowed will vary depending on the clearances available.
  - No temporary pole utility service conductors will be installed over any structures.
- VI. Service Attachment:
- 1/2" (minimum) galvanized eyebolt with 2" x 2" square or round washer.
  - Eyebolt must face location of HELCO service drop attachment point (+/- 5 degrees)
  - Do not countersink eyebolt. Entire length of center pole must be utilized to provide structural support.
- VII. Service Entrance (SE) Cable Conduit (if required by NEC):
- Conduit clamps shall be spaced a maximum of 5' apart.
  - All conduit connections must be rain tight.
  - Minimum 1" rigid/intermediate metal (steel), rigid aluminum, schedule 80 grey PVC electrical conduit with UV protection, or EMT.
  - If conduit is used, weatherhead should be made of the same material as per NEC 230.54.
- VIII. SE Cable:
- Size #6 copper or #4 aluminum, minimum.
  - All wires should be the same size per NEC 250.24(B)
  - SE cable clamps shall be spaced per NEC.
  - Neutral shall be marked on both ends with white tape and may be bare wire.
- IX. Ground Wire:
- Ground wire must be fastened to the pole and sized per NEC (minimum 6 AWG).
  - Ground wire must be (min.) #65DBC soft-drawn solid copper wire.
  - Ground wire must be stapled every six (6) inches.
- X. Plug Outlets:
- Customer connection to temporary service is provided via GFCI outlets only. Note: GFCI Circuit Breakers may be used in lieu of GFCI plug outlets.
  - Weather protection of plug outlets requires "In-Use" or "Bubble-type" protection.
- XI. Ground Rods (2 each):
- Ground rods must be a minimum of 12" away from the center post and a minimum of 6' away from each other.
  - 2 each 5/8" x 8'-0" copper clad ground rods and clamps.
  - Upper end of ground rod should be flush with or below grade, but can extend up to a maximum of 3" above finished grade.

 <b>HAWAII ELECTRIC LIGHT ENGINEERING DEPARTMENT HILO, HAWAII</b>			
<b>O.H. TEMPORARY POLE ADDENDUM (SHEET 5 OF 7)</b>			
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# HELCO Temporary Pole Addendum

(Continued)

- Ground in accordance with the latest issue of NEC (Article 250 Grounding).
- HELCO requires grounding connection to be visible when electrical inspection is performed. However, for safety reasons, top of ground rod should be flush with or below ground level after inspection by HELCO.
- Ground Plates are not allowed.
- Ground Rods must not be bent or cut-off.

Note: Any alteration to the ground rod will result in immediate suspension of electrical service request.

## XII. Soil Conditions:

- Soil surrounding post and supporting braces must be compacted to provide stability.

## XIII. NESC Minimum Clearances for Service Conductors:

- 18' above roadways
- 12' above residential property & driveways
- Clearance to other structures must be sufficient. At least 8' from any wall and greater than 5' from any roofline.

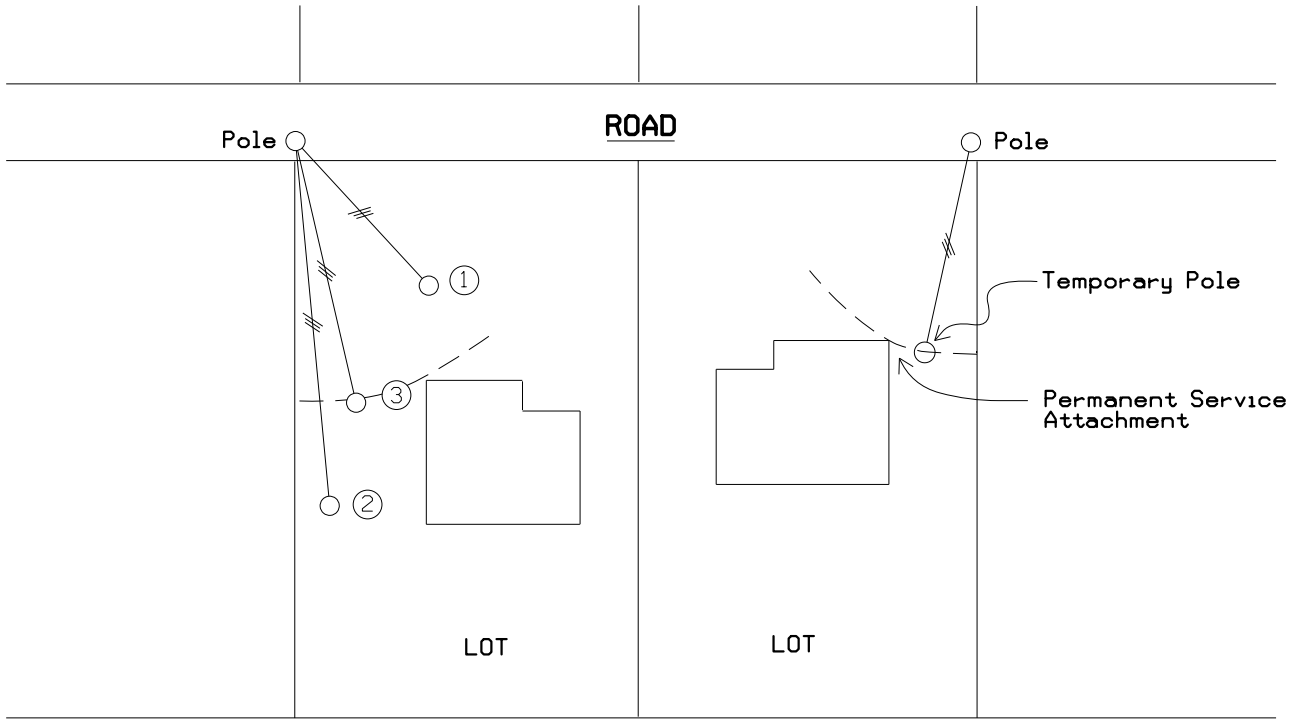
Note: this means that no portion of the Service Conductor may be lower than the value shown above during any and all loading conditions (wind, animals, rain, etc.).



HAWAII ELECTRIC LIGHT  
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### O.H. TEMPORARY POLE ADDENDUM (SHEET 6 OF 7)

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1

2

= Installation & removal charge for temporary service per detail above

3

= Installation Charge

 <b>HAWAII ELECTRIC LIGHT ENGINEERING DEPARTMENT HILO, HAWAII</b>			
<b>O.H. TEMPORARY POLE SWING OVER (SHEET 7 OF 7)</b>			
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