

METER LOOP SPECIFICATIONS FOR SINGLE PHASE SERVICE (Effective June 1, 2010)

As required by: Sam Houston Electric Cooperative, Inc.

Address: P.O. Box 1121
1157 E. Church St.
Livingston, TX 77351

Telephone: Livingston (936) 327-5711
Coldspring (936) 653-5400
Woodville (409) 283-8251
Toll Free 1-800-458-0381

Office Hours: 7:30 a.m. to 5:00 p.m. Monday through Friday

Sam Houston Electric Cooperative requires its members be responsible for providing all material (except the meter base) and labor for installing and maintaining the meter loops. Sam Houston Electric Cooperative also **REQUIRES** that you make contact with a Sam Houston Electric Cooperative inspector before a meter pole is purchased or set. **The location of the meter loop and meter pole must be in a mutually acceptable location to the member and Sam Houston Electric Cooperative.** Each member's meter loop must be inspected by a Sam Houston Electric Cooperative inspector and must be approved in its entirety before Sam Houston Electric Cooperative will extend, connect service conductors and install the meter. Moving or tampering with a ny flagged or marked material used to indicate Sam Houston Electric Cooperative's line extension is strictly prohibited and can result in extra charges for re-staking.

Approval of a ny meter loop design or specification not shown or mentioned in the specifications sheet shall be at the sole discretion of the cooperative. (Article 90.4 of the NEC)

METER LOOPS SHALL NOT BE ALLOWED ON MANUFACTURED HOMES, MOBILE HOMES OR PORTABLE BUILDINGS.

These specifications contain guidelines for meter loops, both overhead and underground service extensions. Several examples of meter loop constructions are shown on drawings in these specifications. These specifications are for meter loops rated 200 amps or less. For larger services, contact Sam Houston Electric Cooperative.

NOTE: New service will not be provided to the member if any of the member's facilities (meter pole, mobile home, house, barn, sign, structure, etc.) are within Sam Houston Electric Cooperatives "distribution easement". For a 20-foot easement, new services will not be allowed within 10 feet of either side of the pole, and for a 30-foot easement, new services will not be allowed within 15 feet of either side of the pole. Consult your property plat for the easement width on your property. The purpose of this rule is for the member's safety.

(Some counties require members to obtain a permit before receiving electric service.)

SPECIFICATIONS APPLYING TO BOTH OVERHEAD AND UNDERGROUND METER LOOPS

1. **SERVICE ENTRANCE CONDUCTORS** shall be copper only; aluminum is not acceptable. The minimum size HOT

conductor shall be #6 except when the service is for an y dwelling in such case the minimum size shall be #4. The member or a licensed electrician should be responsible for determining whether larger conductors are required based upon load requirements. The NEUTRAL conductor shall be the same size as the HOT conductors or one standard size smaller. No conductors shall be smaller than #6. The ampacity of all conductors shall be per the National Electric Code Article 310.15(B)(6), (see the Conductor Chart for minimum size HOT conductors). Each conductor shall extend a minimum of 18" out from the service head.

- GROUNDING CONDUCTORS** shall be copper and shall be #6 minimum for up to a 150 amp service and #4 for a 200 amp service. The grounding conductor for a larger service shall be sized according to Table 250-66 of the National Electric Code. Attaching the grounding conductor to the neutral bus bar or a lug in the service disconnect is preferred. A grounding conductor attached to the grounding lug in the meter base may be acceptable. If PVC conduit is used through the wall between the meter base and the service disconnect then the grounding conductor must be attached to the neutral bar in the service disconnect. The grounding conductor shall be protected by securing the conductor every 6 inches (to existing grade) or by installing it in 1/2-inch thick wall EMT conduit securely attached to the building or pole.
- SERVICE DISCONNECTS** shall be manually operable and shall have overcurrent protection (either fuses or circuit breakers) rated not to exceed the ampacity of the service entrance conductors and shall be UL listed for use as service equipment. The service disconnect shall be located within 3 feet of the meter base and if the meter loop is mounted on a pole, the service disconnect shall also be on the pole. It shall consist of no more than 6 circuit breakers or 6 sets of fuses. A circuit breaker panel with more than 6 positions for single pole circuit breakers shall be required to have a MAIN circuit breaker per NEC Article 230.71. If located outside it shall have a weatherproof enclosure. Make sure all unused holes are closed with approved knockout covers that comply with Article 314.41 of the NEC. If located inside, access must be approved for inspection.
- GROUND RODS** shall be a 5/8-inch galvanized steel or iron or 1/2-inch copper rod, 8 feet long, driven full length into the ground per Article 250.52(5) of the NEC. Attach the grounding conductor by means of an approved ground rod clamp. Rebar or galvanized pipe shall not be accepted.
- CONDUIT** shall be used to protect all service entrances and all underground service drop conductors. All exposed (visible) conduit shall be metallic or PVC, depending on placement as to which types shall be used. Where conduit extends above the roof, use only Rigid Galvanized Steel or Aluminum Rigid Galvanized Conduit. Conduit rising out of the ground shall be Rigid Galvanized Steel, Aluminum Rigid Galvanized Conduit or Grey Schedule 80 PVC only per Article 344 and Article 352 of the NEC. Conduit that is not exposed or at least 30 inches below ground level shall be Schedule 40 PVC (grey) electrical conduit and comply with Article 352 of the NEC. Water pipe (white PVC) is not allowed in ANY electrical application. When using a metallic-type conduit, the customer must ground and bond the conduit at the service by the methods stated by Article 250.90 of the NEC. A minimum of 2 inches of conduit is required between the meter base and the service disconnect.

All conduit connections shall be made weather-tight with connectors made for the application. All conduit straps shall be full metallic straps; half straps are not allowed.

- 6. **METER BASES** will be furnished by Sam Houston Electric Cooperative, or the member may choose to purchase a meter base elsewhere. If the member chooses to purchase a meter base, it must be of the following manufacturer and specifications: **(MILBANK Series U-200 Type 3R Enclosure)**. Sam Houston Electric Cooperative has a available meter bases rated for a maximum of 200 amps or a maximum of 320 amps for overhead and underground services. Sam Houston Electric Cooperative must approve the member's need for a 320 amp meter base. Meter bases rated for 200 amps shall be supplied with a hub size of 2". Only one set of conductors shall be allowed under the lugs of a 200 amp meter base. Meter bases should be installed by the member or the member's licensed electrician.

SPECIFICATIONS APPLYING TO OVERHEAD METER LOOP ONLY

- 7. **NEUTRAL CONDUCTORS** shall be continuous from the service head to the service disconnect, strip the insulation away from the neutral conductor and connect at the neutral lug of the meter base. **DO NOT CUT THE NEUTRAL.** Mark the neutral at the service head by using white color-coded tape where the neutral exits the service head.
- 8. **METER POLES** shall be pressure treated, round wood poles with a minimum length of 23 feet and a minimum pole top diameter of 6 inches. Meter poles must also be buried at a minimum of 4.5 feet below ground level at an approved location by a Sam Houston Electric Cooperative inspector. 4"x6" timbers are not acceptable, even for temporary or construction power poles. Be sure to tam p the pole so lidly in the ground. Guying of the meter pole may also be required for additional support; taller poles may be required to obtain proper code clearances.
- 9. **SERVICE HEADS** shall be located high enough to provide the required vertical clearance of Sam Houston Electric Cooperative's service drop cable between Sam Houston Electric Cooperative's pole and the service head as determined by a Sam Houston Electric Cooperative inspector.

The service head must also be located so that it and Sam Houston Electric Cooperative's service drop cable shall have a clearance of not less than 3 feet from any windows, door, porch or similar accessible location per Rule 234C3d of the NESC and Article 230.9 of the NEC.

When the service head is to be extended above the roof, the conduit shall have a 2-inch minimum in diameter and shall be RGS, IMC or Rigid Aluminum and shall also comply with Article 230.28 of the NEC. It should be continuous without joints. If joints are necessary, only threaded connections below the roofline will be approved.

- 10. **SERVICE ATTACHMENTS** shall be installed at a height that maintains proper clearances for service drop conductors

and allows for a minimum overall clearance of 16 feet to the lowest section of service wire as stated in Rule 232 of the NESC. Service attachments shall also be provided and installed by Sam Houston Electric Cooperative except where the attachment is to be located on a metal building, in which case the consumer shall install a 5/8-inch eye bolt securely fastened. Sam Houston Electric Cooperative will furnish the eyebolt to the consumer if needed.

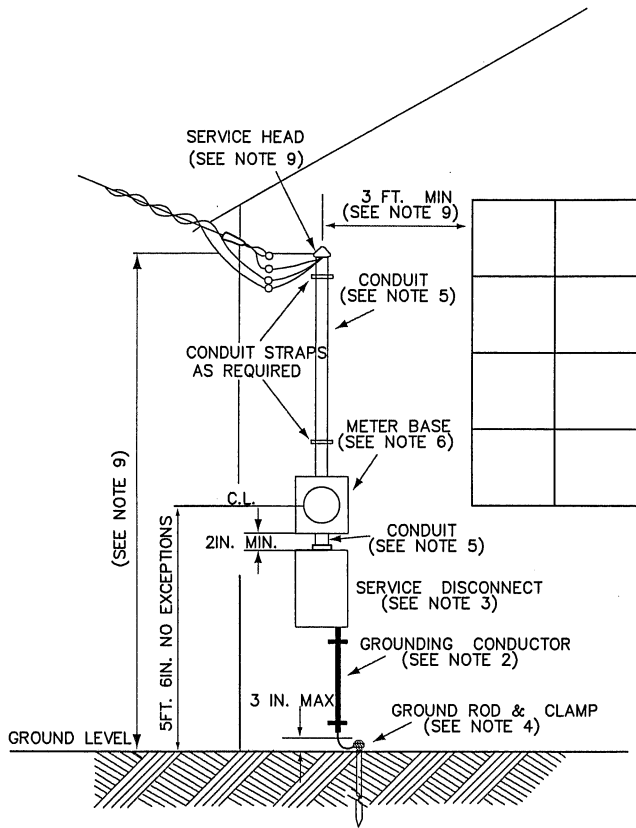
SPECIFICATIONS APPLYING TO UNDERGROUND METER LOOPS ONLY

- 11. **METER POLES** shall be pressure treated 4"x6" timbers, 8 feet long for underground services only.
- 12. **FOR TEMPORARY SERVICES** in subdivisions with underground distribution lines lay the meter pole by the pedestal or pad mounted transformer and Sam Houston Electric Cooperative will install the meter pole, finished digging the trench and install the underground service conductors. **CAUTION:** Do not install the meter pole within Sam Houston Electric's easement. High voltage lines are buried and are dangerous.
- 13. **TRENCHING** will be provided by Sam Houston Electric Cooperative under the current line extension policy. All existing buried lines (water, sewer, etc.) shall be exposed by the member before Sam Houston Electric Cooperative will trench. An expected amount of settling will occur after the trench has been covered up, to which Sam Houston Electric Cooperative is not responsible.
- 14. **RISER CONDUIT** shall be RGS, Rigid Aluminum or Grey Schedule 80 PVC conduit only, 2.5-inches in diameter minimum.
- 15. **NEUTRAL** conductors will only be attached to the lower lug of the meter base for underground service only.

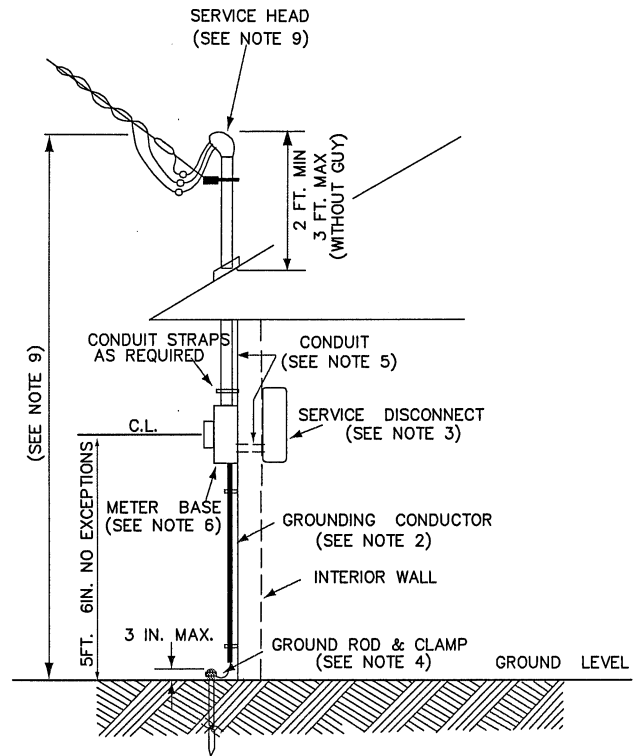
All codes referenced in this document are based on or taken from the 2007 National Electric Safety Code (NESC) or the 2008 National Electric Code (NEC).

Conductor Chart illustration 310.15(B)(6) of the NEC

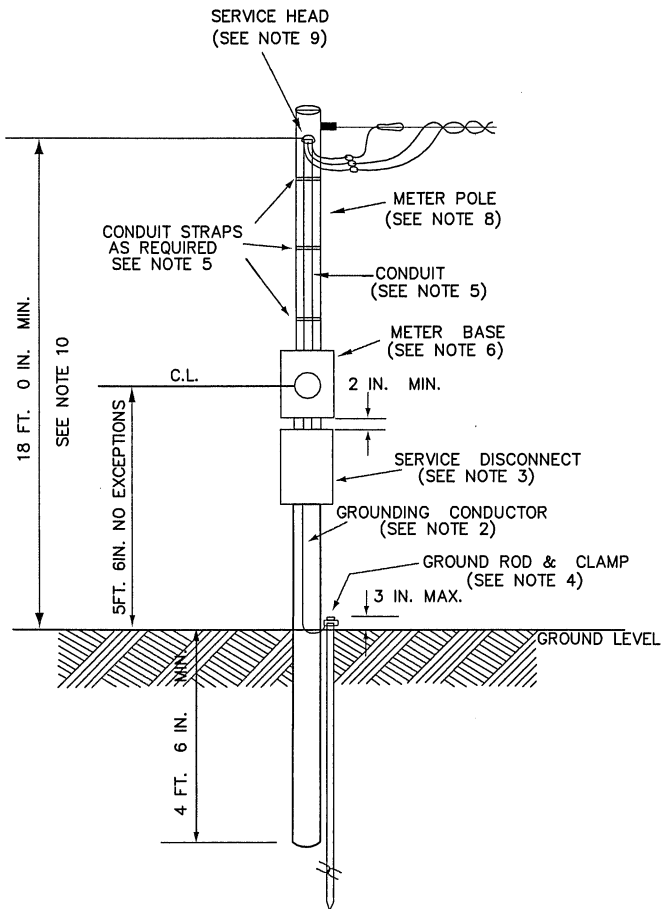
Size of Main Disconnect	Minimum Size of Conductor		Minimum Size of Conduit
	Dwelling	Non-Dwelling	
50 amp	Not Allowed	#6	1"
100 amp	#4	#3	1 1/4"
125 amp	#2	#1	1 1/4"
150 amp	#1	1/0	1 1/2"
200 amp	2/0	3/0	2"



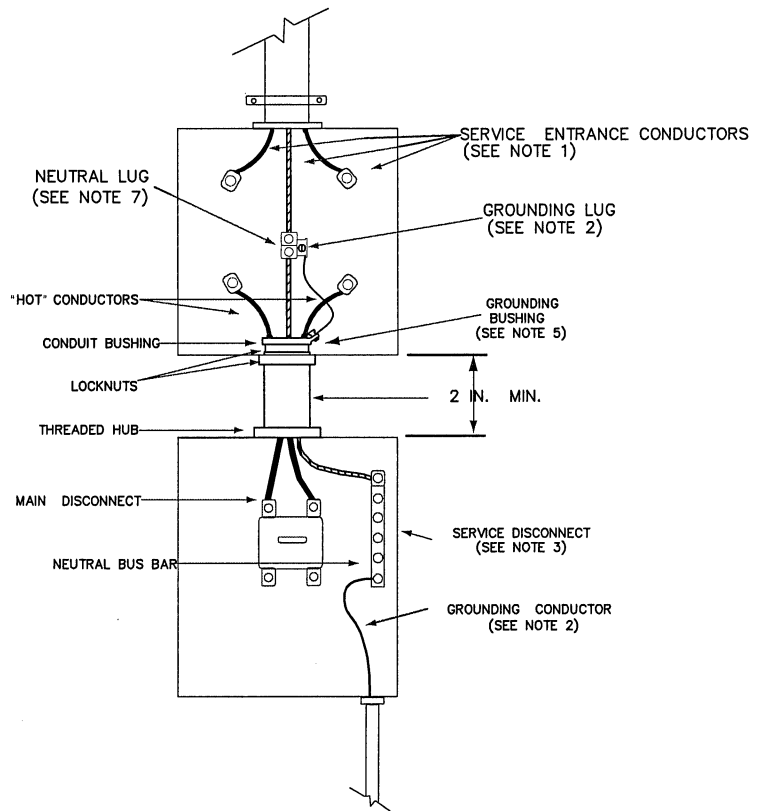
OVERHEAD METER LOOP ON BUILDING



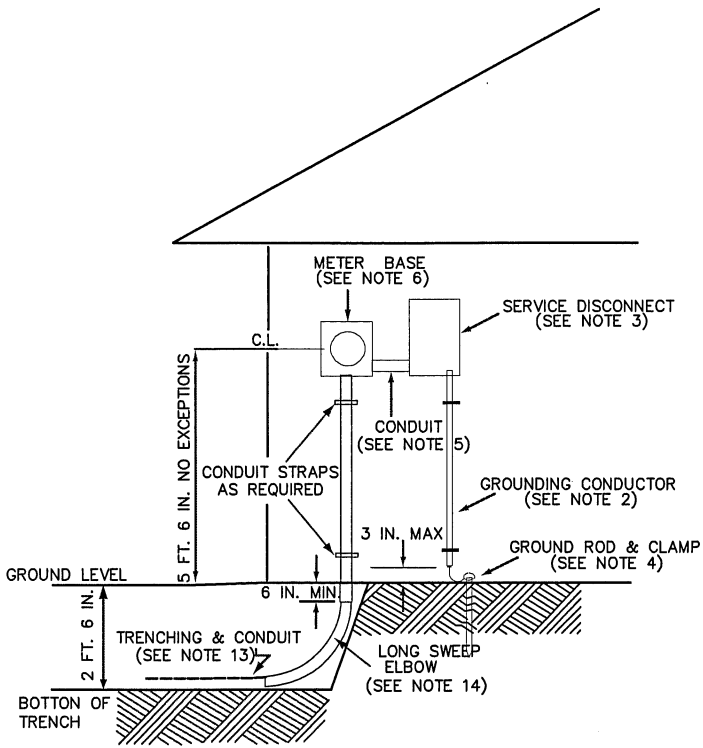
OVERHEAD METER LOOP WITH MAST



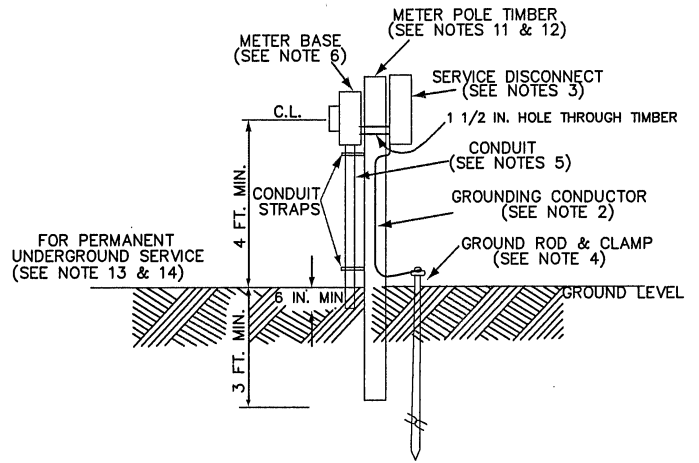
OVERHEAD METER POLE



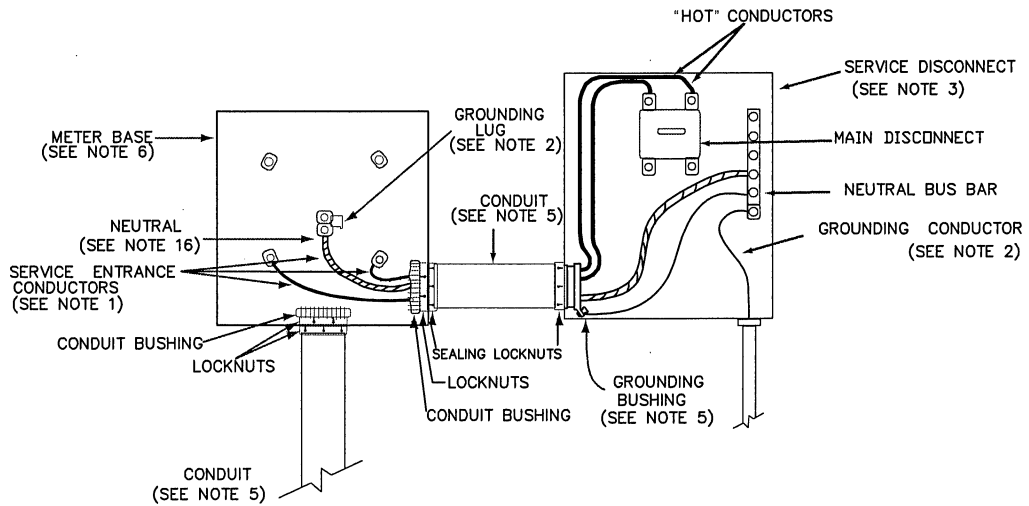
WIRING DETAIL - OVERHEAD METER LOOP



UNDERGROUND METER LOOP ON BUILDING



UNDERGROUND METER POLE



WIRING DETAIL-UNDERGROUND METER LOOP