

# ELECTRICAL METERING RESIDENTIAL

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## 2.0 SCOPE

This standard provides specific information for construction of metering facilities for residential customers.

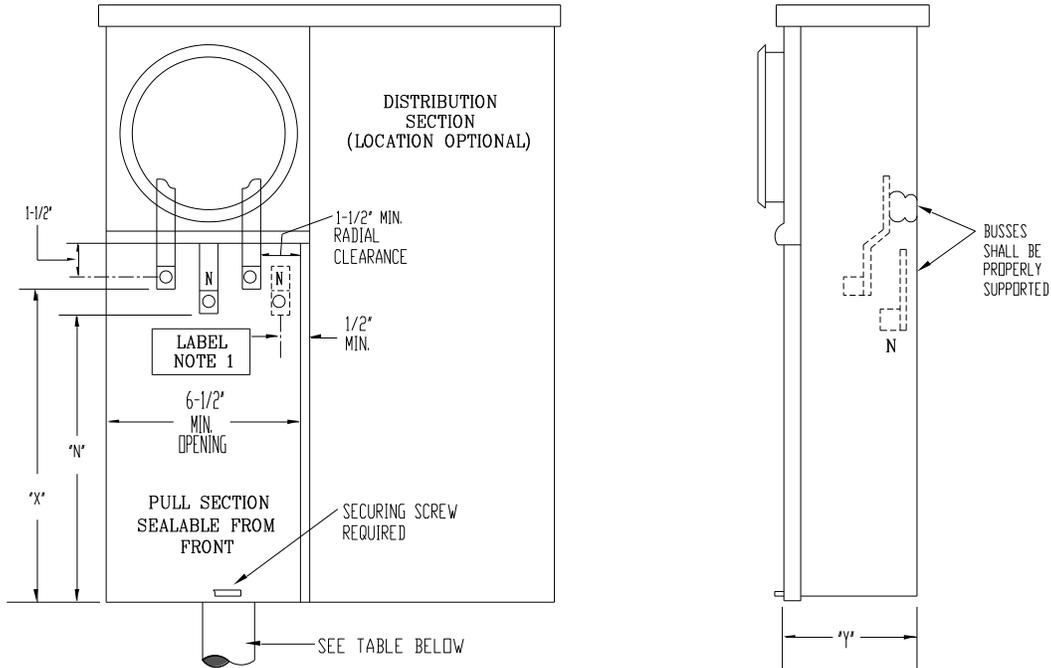
## 3.0 GENERAL REQUIREMENTS

- 3.1 The type of service available will normally be three wire single phase 120/240 volt. Three wire single phase 120/208 volt is available in certain areas. Custom built homes requiring three phase service will be considered under NVE standard CM0001M, Electric Metering Commercial & Industrial.
- 3.2 NVE should be contacted prior to purchase of equipment and wiring.
- 3.3 All meters and sockets shall be Underwriter's Laboratory listed. All installations and equipment shall comply with the latest requirements of Electrical Utility Service Equipment Requirements Committee, (EUSERC), as adopted by NVE.
- 3.4 Customer is responsible for installation and maintenance of all equipment beyond the attachment point with the exception of the meter and metering equipment.
- 3.5 No customer owned equipment is allowed in the metering section, pull section, or behind the meter.
- 3.6 Combination meter panels permitting either overhead or underground service supply conductors are acceptable as long as they meet NVE requirements for underground feed.

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**4.0 UNDERGROUND FED METER SOCKET (0-225 AMPS)**

The customer shall furnish, install, and maintain a self-contained four terminal socket for 120/240 service or a five terminal socket for 120/208 service (see 7.0 for 120/208V details). Lugs are to be provided by the customer.



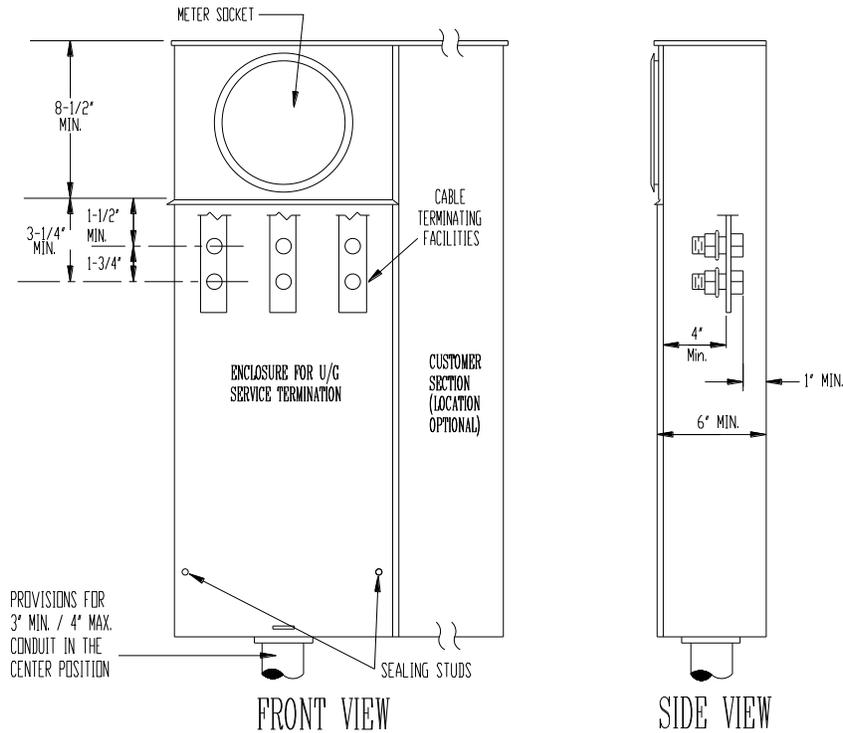
MAXIMUM AMPACITY	"X" MIN. DIM	"N" MIN. DIM.	"Y" MIN. DIM.	CONDUIT RANGE
125	8"	6"	4"	1-1/4" - 2-1/2"
225	11"	8-1/2"	5-1/2"	1-1/2" - 3"

**NOTES:**

1. A yellow caution label (2" x 3" minimum) shall be installed below the terminations in the pull section reading "**CAUTION: BUS ENERGIZED AT ALL TIMES**".
2. Terminals shall be aluminum lugs with a range of #6-1/0 AWG for the 0-125 amp panel and #4 AWG-250 KCM for the 225 amp panel.
3. Provide a bonding screw or jumper if the neutral terminal is insulated from the enclosure.
4. A minimum radial clearance of 1-1/2" shall be provided between terminal surfaces and ground surfaces.

**5.0 UNDERGROUND FED METER SOCKET (226-320 AMPS)**

For a single phase underground service the customer shall furnish, install, and maintain a service termination and meter mounting device designed for that purpose.



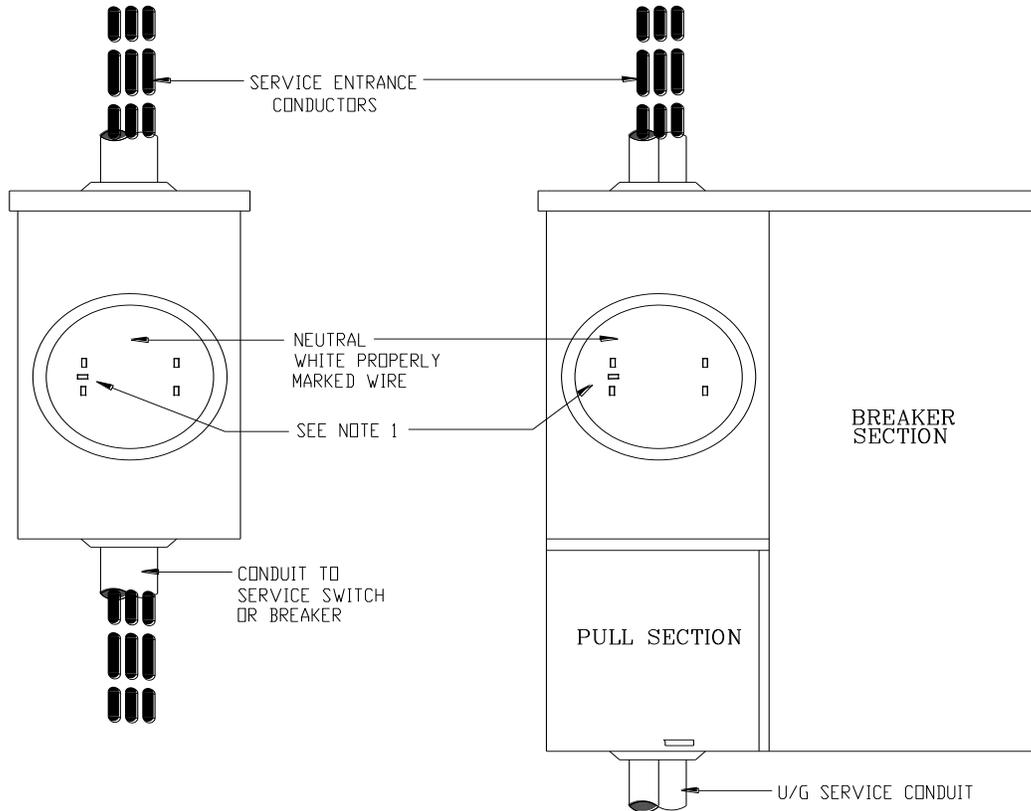
**NOTES:**

1. Ring sockets are required. **Bolt-in socket meters are not approved.**
2. Sockets may include manual bypass facilities which maintain service continuity when the meter is removed for testing and inspection.
3. Underground Only - The meter socket may be located above, left, or right of the pull section.
4. Underground Only - Pull section cover panels shall be removable, sealable, equipped with two lifting handles (rated for lifting 75#), and not exceed nine square feet in size. Sealing provisions are to be provided on both sides of the panel.

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**6.0 METER SOCKET (0 - 320 AMPERES 120/208 VOLTS)**

When this service is available from NVE to a separately metered residence or other domestic unit, *the customer shall furnish and completely wire a five-terminal socket for 120/208 volt service*, similar to that shown below. If the service is overhead, the customer shall provide, install and maintain the required overhead entrance conductors, conduit, and service head to the point of attachment of NVE's overhead service conductors. NOTE: The 120/240 Volt socket has a 4-jaw meter clip.



INDIVIDUAL  
METER SOCKET  
SEE NOTE 2

COMBINATION METER  
SOCKET LOAD CENTER  
SEE NOTE 3

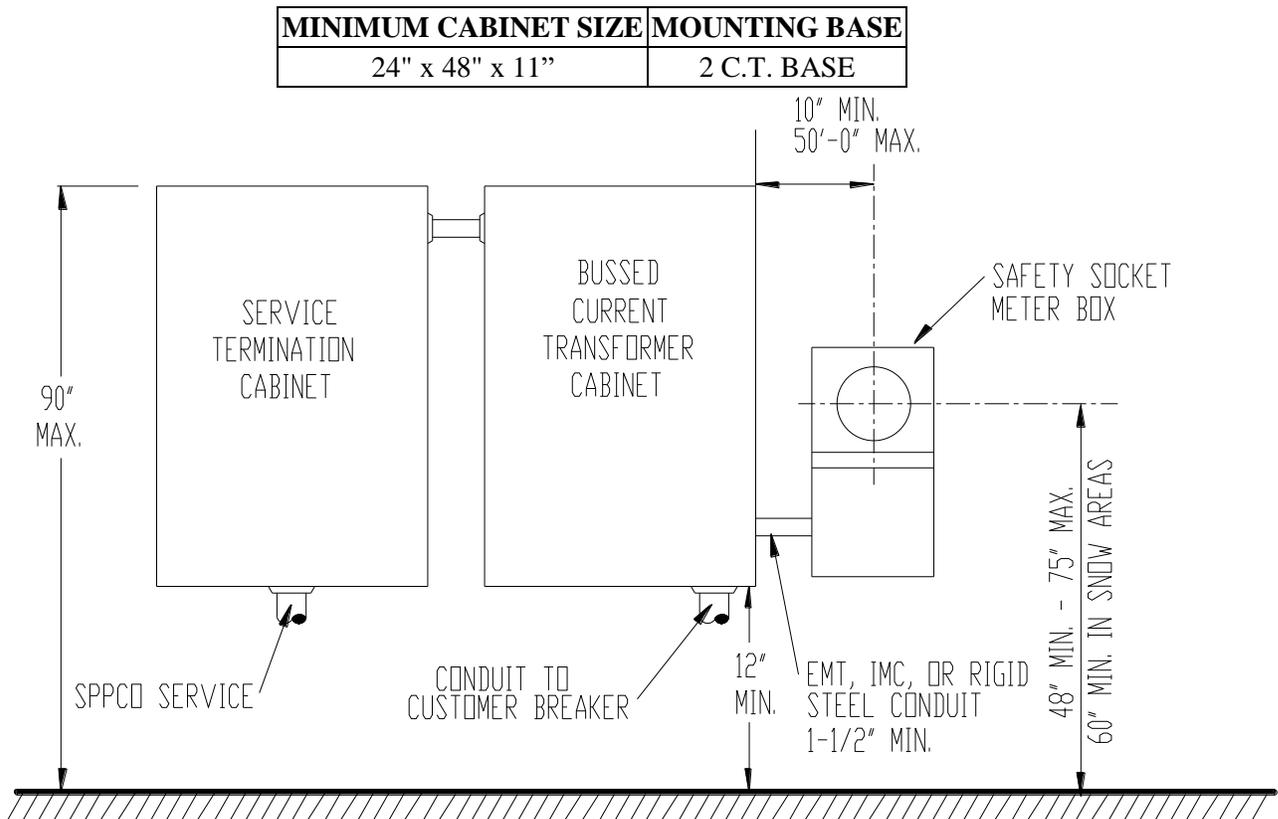
**NOTES:**

1. Sockets for 120/208 volt service shall be supplied with a fifth terminal which must be located in the nine o'clock position.
2. Overhead service only.
3. Overhead or underground service.

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**7.0 UNDERGROUND SERVICE W/CURRENT TRANSFORMER METERING (400 - 1000 AMPS)**

For a service which is to be metered using current transformers, the customer shall furnish, install and maintain a separate termination cabinet, current transformer cabinet and safety socket meter box.



**NOTES:**

1. Fault duty rating will match or exceed panel rating.
2. **The neutral conductor shall be continuous without a splice through the current transformer cabinet.**
3. Cover shall be sealable and include the caution sign "No Fuses Inside"
4. A 24" x 48" min. CT cabinet with a two-CT mounting base shall be furnished and installed by the customer. A **hinged** cover must be used. At least three feet of clearance in front of the cabinet is required to open the cover.
5. A **16-1/2" x 26" x 11" min.** service termination cabinet will be furnished and installed.
6. A 12" x 20" x 4-1/2" safety socket meter box will be furnished and installed.

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**8.0 CONNECTION OF AUXILIARY AND STANDBY POWER SOURCES**

**NOTE:** REFER TO NEC, ARTICLE 700, and NVE STANDARDS VOLUME 5, ENG 04U, for details.

**All auxiliary/standby power sources must be installed in compliance with all National Electric Codes (NEC) and local/state/federal ordinances.**

*Any portable electric generator which is capable of being temporarily connected to a customer's electrical system, which is normally supplied by NVE, shall be connected only after opening the customer's main service switch so as to isolate the customer's electrical system from NVE's system.* Also, the generator must be disconnected before reclosing the main service switch to restore normal electric service.

Any electrical generator, other than one authorized by NVE to run in parallel with NVE, or standby power source capable of being permanently or temporarily connected to a customer's electrical system shall be *connected only by means of a visibly open double throw-switch*, to isolate the customer's electrical system from NVE's system. Failure to isolate the customer's electrical system from NVE's system can cause electrical feedback and endanger both life and property.

**Any person who possesses and intends to use any such auxiliary generator or standby power source on an electrical system normally supplied by NVE must notify the appropriate NVE District Office of the units' installation location and how it is intended to be used and operated.**

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