8. METERING

8.1 METERING BASIC REQUIREMENTS

8.1.1 General

This Section 8 of the PECO Electric Service Requirements covers the guidelines for installations of transformer-rated and self-contained meters.

ALL METERING EQUIPMENT SHALL BE INSTALLED OUTDOORS. SEE METER LOCATIONS IN SECTION 8.6. EXCEPTIONS MUST BE APPROVED BY METERING DEPARTMENT.

Please see index at the end of this Section for rapid search. For any questions on this Section, please contact Meter Services via email MeterServicesRequests@exeloncorp.com

No service equipment is permitted ahead of the metering unless such installation is required by the NEC or other regulating agencies and approved by PECO.
For more than six meters, a main disconnect shall be installed on the line side of the meters.

8.1.2 Replacement and Upgrades

When replacing or upgrading services, or modifying equipment, existing indoor meter installations of all self-contained socket-type meters and transformer-rated meters shall be relocated outdoors. PECO reserves the right to require meter relocations to outside of building in cases where there are building modifications/renovations. Regardless of current location, these replacements or upgrades, or modifications, shall be installed under the standards of the latest Revision of the PECO Blue Book.

8.1.3 Access to Company Equipment

The Company's identified employees shall have access to the premises of the Customer during and off business hours for the purpose of reading meters, and for installing, testing, inspecting, repairing, removing or changing any or all equipment belonging to the Company. If metering equipment are in locked rooms, a lock box with means for access shall be provided to the Company. CT Cabinets must have a minimum height of 6" and be no higher from grade than 36".

8.1.4 Clearances

The Customer shall maintain a minimum of 3 feet clear working space in front of each meter and metering equipment. Additional space will be required adjacent to moving machinery.
Meter equipment shall have a minimum clearance of 3 feet from shrubbery, trees, flowers, and other objects. Same distance is required for other systems such generators, backup systems, gas meters, etc.

8.1.5 Service Cable Connections to Metering and Service Equipment

UL listed connectors shall be used to connect the service entrance conductors (raceway or jacketed cable) to the metering and service equipment.
Entry in the top to meter sockets is permitted for self-contained meter applications only. In all cases of top entrance, the connectors and fittings shall create a weather tight seal.

8.1.6 Metering Equipment Fastening Requirements

All metering equipment shall be fastened securely, level, and plumb. Metering equipment shall not be fastened to floor joists. Manufactured fastening devices, such as expansion shields, anchors, toggle bolts, or wood screws specifically designed for the application are acceptable when properly applied. Drywall screws are not acceptable.
Cable connectors shall be properly installed on the service cable. This means securely fastened to the metering and service equipment in a way that prevents the insertion of foreign conductors into the meter socket.

8.1.7 Approved Terminals for Meter Sockets

Because of the different characteristics of copper and aluminum, terminals and connectors must be UL listed as suitable for the particular metal being used.
Suitably plated terminals of the lay-in or saddle type are preferred. The contact areas of aluminum conductors should be cleaned, coated with an acceptable oxide-inhibiting compound, and the terminal scratch brushed with a wire brush before connection is made.
Line side terminals may not be modified for dual or multiple conductors.
Load side terminals are permitted for parallel conductors in PECO-approved meter sockets.
Do not punch new holes in meter sockets. Use pre-made KOs provided by the manufacturer.

8.1.8 Pressure Pads for Meter Socket Terminals

The setscrew type of terminal will not be approved unless it employs a pressure pad. Cone screws in cylindrical barrel type terminals are not acceptable. Unplated copper terminals and connectors will be approved for use only with copper conductors.

8.1.9 Provisions for Sealing

All boxes, cabinets, troughs, fittings, condulets, and other enclosures containing unmetered service conductors or secondary wiring from Company metering transformers shall be provided with acceptable means for sealing. All unnecessary openings shall be adequately closed to prevent unauthorized access.
The latch in meter sockets shall be able to fully closed before a PECO lock is set.
All outdoor CT Cabinets or enclosures shall be furnished with a hasp or other means which enable locking with a 5/16" padlock

8.1.10 Metering Protection
The Customer may have to install protective enclosures in areas where the Company's metering equipment is subjected to excessive moisture, dust, metal filings, grindings or similar substances, or to mechanical injury or acts of vandalism.

8.1.11 Meter Collar Adapters
Approved meter socket adapters are reviewed and approved on a product basis. Applications are limited to ringless boards and single meter board installations. Details can be found in PECO's "Yellow Book" Requirements for Parallel Operation for customers with generation not exceeding 50kW and manufacturing specifications.

8.1.12 Ownership and Removal
All equipment supplied by the Company shall remain its exclusive property. PECO Company reserves the right to upgrade the metering equipment to keep pace with new technologies or to meet corporate missions. PECO shall have the right to remove the metering equipment from the premises of the Customer at any time after the termination of service for whatever cause. The Customer shall do all necessary work required because of change of service and meter facilities.

8.1.13 Metering Security
PECO maintains the right to lock and secure, with a PECO lock, customer equipment containing PECO metering equipment.

8.1.14 Solar Installations
All requirements containing in this Section 8 apply to photo-voltaic installations. For additional information refer to Yellow Book.

8.2 METER MOUNTING EQUIPMENT BASED ON CUSTOMER LOAD

The required types of meter mounting equipment for various classes of new and modernized secondary services and maximum initial loads are as follows:

Maximum Initial Load		Equipment Rating
Total kVA	Amperes per Phase	Amperes and Type
Single Phase 18	up to 75	100 Amp. socket (Note 2)
19 to 36 (Note 1)	76 to 150	200 Amp Socket
37 to 77	151 to 320	320 Amp Socket (Table 8.16) or 400 amp combination transformer-socket enclosure
over 77	over 320	transformer enclosure (Note 3) (Table 8.09 and 8.10)
Two Phase all loads	all currents	transformer enclosure (Note 3) (Table 8.09 and 8.10)
Three Phase up to 62 (Δ)	up to 150	200 amp socket (Table 8.07)
over to 62 (Δ)	over 150	Transformer enclosure (Note 3) (Table 8.09 and 8.10)
up to 54 (Y)	up to 150	200 amp socket (Table 8.07)
over 54 (Y)	over 150	transformer enclosure (Note 3) Table 8.09)

Note 1: For residential electric heating, may be up to 46 kW as computed according to N.E.C.

Note 2: 200 Amp. UG socket required on single position URD installations. For 6 meters or less, the service equipment shall be installed on the load side of each meter.

Note 3: Current transformers are sized in relation to the contracted load.

8.3 METERING EQUIPMENT MOUNTING REQUIREMENTS

8.3.1 Outdoor

Outdoor metering equipment may be mounted directly upon building walls or pedestals away from building (but still on customer property). All mounting holes provided by the manufacturer shall be utilized. All fastenings shall be made only to solid portions of the building material and not to structural joints.

8.3.2 Alternate Locations (Requires Approval by Company)

Metering equipment shall not be installed directly on indoor walls, which contribute to corrosion of the metal. Offset metal brackets providing a minimum of one-inch air space between the metering equipment and the wall shall be used, or a supporting backboard of wood on battens may be erected. Where wood is used, it shall be of good grade, at least one inch dressed thickness, or 3/4" exterior grade plywood, and shall be of sufficient area to fully support the equipment that is to be mounted on it. All fastenings, whether brackets or backboards are used, shall conform to Company guidelines. Supporting battens shall be used to provide a minimum of one-inch air space, and they shall extend beyond the backboard sufficiently to permit verification of fastenings employed. The backboard may be securely nailed to the battens which shall be minimum 1-1/4"x2". All wood shall be painted with a good grade of paint.

8.4 MOUNTING HEIGHT OF METERS

8.4.1 General

For the purposes of these Rules, the specified mounting heights for all locations meters shall be the distance between the horizontal center line of the meter and the floor or finished grade level.

8.4.2 Flood Prone Areas

For installation in flood prone areas, please coordinate with PECO New Business (Service and Meter Application).

8.4.3 Meter Socket and Self-Contained Meters

The preferred mounting height for all meter socket and self-contained meters, except those supplying temporary services, is four feet. Normally allowed variances from this dimension are shown in the references listed below:

Phases	No. of Meter Sockets	Service	Reference
1	Single & Multiple	Overhead	Fig. 8.03
1	Multiple	Underground	Fig. 8.03
1	Single	Underground	Fig. 8.05
3	Single & Multiple	Overhead & Underground	Fig. 8.08

8.4.4 Transformer-Rated Meters

Where the size of the metering transformer enclosure precludes compliance with the minimum elevations required by the National Electrical Code for classified areas, the height shall be the least, which will result in conformance.

8.4.4.1 Installations 600 volts or LESS

The top of all current transformer enclosures, above which meters are to be mounted, shall be approximately 45" above the floor. See Figures 8.15, 8.16, 8.18, and 8.21.

For pedestals, please refer to Figures 8.17, 8.19, 8.20, 8.22, and 8.34.

8.4.4.2 Installations OVER 600 volts

Refer to Figures 8.41 and 8.52 and contact PECO Customer Engineering.

8.5 ACCEPTED METERING EQUIPMENT

8.5.1 General

In order to meet the minimum specifications of these Electric Service Requirements, certain equipment must have the acceptance of the Company. Manufacturers of metering equipment covered by these regulations may be required to submit samples of such equipment for Company acceptance. The Company will list the manufacturer's catalog number of accepted equipment in the following tables of this section. Each table lists equipment that is accepted only for the class of service and conditions described in the table heading. Accepted equipment is not interchangeable between tables unless listed in each table by manufacturer's catalog number. ALL EQUIPMENT MUST MEET PECO APPROVAL PRIOR TO INSTALLATION. PECO reserves the right to require customers to remove unapproved equipment. PECO shall not be liable for any costs incurred on the customer due to installation and/or removal of unapproved equipment. Prefix/suffix, number/letter variations to catalog numbers as listed, that identify items such as hub size or hub plate, are acceptable with local regional approval.

The company reserves the right to install security devices on equipment that contains unmetered conductors.

8.5.2 Fifth-Jaw Socket

Where a 5th jaw is required in a meter socket, the Contractor should verify that the equipment selected has, or will accept, the 5th jaw in the 9 o'clock position. For connection diagrams of meter sockets, refer to Figure 8.07.
The 5-jaw in the self-contained meter board shall be used on 120/208-volt services only.

8.6 METER LOCATIONS

8.6.1 General

The Customer shall provide, free of expense to the Company and at a location in accordance with these Electric Service Requirements, equipment suitable for meters and accessories furnished by the Company and installed for billing the various types of electric services offered. All locations shall be clear to allow access to the meter and its accessories for the purpose of reading, testing, and maintenance.
The table below gives clarification and more clearly structure about the "Electric Service Requirements" (ESR) information around meter locations. *Customers must pay the cost of Company approved meter locations that require additional equipment in order to ensure sufficient RF communications.*

Type of Property	Standard Meter Location(s)	Standard Criteria	Reference Drawings and Policies	Notes	Charges
Residential, Single Homes	Outdoor, Front or Front-Side of structure	• Accessible for maintenance and manual meter reading • Not subject to future damage or obstruction • Readable by Automatic Meter Reading System • Adequate clearance/spacing of equipment	• Residential Meter Installation Drawings, Figures in Section 8. • Starting with Figure 8.01	• For existing rear bus, rear mounting of meter during upgrade is acceptable	
Residential, Multiple Meters (e.g. twins)	Outdoor, Front or Front-Side of structure	Same as above	• Residential Meter Installation Drawings, Figures in Section 8. • Starting with Figure 8.01	• For existing rear bus, rear mounting of meter during upgrade is acceptable	
Residential Condominiums	Outdoor, individual metering, Front or Front-Side of structure OR Approved outdoor ganged meter location	Same as above	• Residential Meter Installation Drawings, Figures in Section 8. • Starting with Figure 8.01	• Location of ganged meter must be approved by PECO during design. • Use of ganged meters may change the installation, maintenance, and ownership responsibilities of some facilities. These particulars should be discussed and understood by	Customers must pay the cost of Company approved meter locations that require additional equipment in order to ensure sufficient RF communications.

				the builder prior to construction.	
Commercial, Single Customer	Outdoor, Front, Side or Rear of structure	• Accessible for maintenance and manual meter reading • Not subject to future damage or obstruction • Readable by Automatic Meter Reading System • Adequate clearance/spacing of equipment	• Commercial Meter Installation Drawings, Figures in Section 8 • Starting with Figure 8.01	• All commercial meter locations should be reviewed with PECO prior to construction, to ensure a mutually agreeable location is determined during design.	Cost of commercial metering and associated work will be included in cost estimates per appropriate Tariff sections.
Commercial, Multiple-Customers	Outdoor, Front, Side or Rear of structure OR Approved outdoor ganged meter location	•	• Commercial Meter Installation Drawings, Figures in Section 8 • Starting with Figure 8.01	• All commercial meter locations should be reviewed with PECO prior to construction, to ensure a mutually agreeable location is determined during design. • Location of outdoor or indoor ganged meter must be approved by PECO during design. • Use of ganged meters may change the installation, maintenance, and ownership responsibilities of some facilities. These particulars should be discussed and understood by the builder prior to construction.	Cost of commercial metering and associated work will be included in cost estimates per appropriate Tariff sections. • Customers must pay the cost of Company approved meter locations that require additional equipment in order to ensure sufficient RF communications.

8.6.2 Locations

New installations of self-contained meter sockets for both, single-phase and three phase services, shall be located outdoors. New installations of transformer-rated meter with CT Cabinets, shall have pre-wired socket and CT Cabinet located outdoors and close proximity with each other (horizontal run within 30')– with both the pre-wired socket and CT cabinet on the same side of the wall. Where 7 or more meters are required at one location or where the Company determines that outdoor metering is impractical or inadvisable for other reasons, refer to PECO for alternate locations.

ALL meters shall have provisions for automatic meter reading. For RF communication, meter antenna cable cannot exceed 200 ft.
*Meters that communicate through a POTS line (MV90) shall have accommodations for a phone line (**Maintenance only, not for new installations**).
Meters that communicate through the RF network, (AMI) meters, shall be located where there is sufficient signal strength, and if necessary, have provisions for an antenna.

Customers must pay the cost of Company approved meter locations that require additional equipment in order to ensure sufficient RF communications.

Outdoor meters will not be installed on building walls close to highways, driveways, alleyways or sidewalks if the locations interfere with pedestrians, vehicular traffic, or subject the meter to the likelihood of physical damage. Meter locations shall not require access over property not owned by the Customer. See above table for more clarification

8.6.3 Unacceptable Locations

Under no circumstances shall meters be installed in any of the following locations:

Attics and Roof	Fire Towers	Manholes
Bathroom	Incinerator Rooms	Shafts
Bedrooms	Kitchens	Silos
Coal bins	Lavatories	Stairways
Crawl spaces	Living Rooms	Outdoor Showers

8.6.4 Unacceptable Areas

Meters shall not be installed behind, over, under, or adjacent to the following:

Boilers	Hatches	Steam pipes
Doors	Heaters	Stoves
Exposed machinery	Laundry Tubs	Tanks
Fire escapes	Radiators	Tracks for overhead doors
Furnaces	Sinks	Windows*

* In situations with limitations in meter location, adjacent mounting will be permitted only if window is inoperable. Applies to new locations only.

8.6.5 Unacceptable Environments

Meters and service equipment shall not be installed within 3 feet of any gas meter, gas valve, or disconnect able gas fitting. Meters shall not be installed in locations where there is excessive heat, moisture, vibration, fumes, dust, or against downspouts, or in locations subject to flooding. See above table for more clarifications.

Company reserves the right to refuse service if it is determined that meter location is unsafe.

8.7 METER ROOM

8.7.1 General

Where Meter Rooms are necessary, they shall be of sufficient size to allow ready access to the meter, metering transformers and accessories for the purpose of reading, testing, and maintenance. The required dimensions of such rooms for any particular installation should be secured from the local **PECO Company office in the Region in which the installation is located**. Minimum requirements for an outdoor meter house will be furnished on request. For high voltage services, the space provided for metering purposes in Customer's substation equipment must be acceptable to the Company as provided in Section 7 of these Electric Service Requirements. See above table for more information.

8.7.2 Outdoor Meter Houses or Enclosures

Where a meter socket is to be located in an outdoor house or enclosure, the Customer may be required to furnish suitable lighting and thermostatically controlled heaters to maintain a temperature of no less than 40° F at the metering instruments. Sufficient internal working space shall be provided as required by Fig. 8.39. Enclosure requirements depend on expected load and the number of meters involved. Typical outdoor enclosure requirements for metering installation are shown in Figure 8.40 and 8.41. See above table for more clarifications. Customer is responsible for maintenance of the structure.

8.8 SELF-CONTAINED SINGLE-PHASE METER INSTALLATIONS

8.8.1 General

All self-contained single-phase meter mounting equipment **shall be approved by PECO**. Meter sockets are of the ringless style except for factory-assembled meter installations. Self-contained meter sockets, for single-phase and three-phase services, shall not be used as splice box, nor raceway. If splices are needed, repairs must be done outside of the meter box and per NEC. Only compression sleeve connectors are allowed for repairs on the line side and must be appropriately insulated.

Acceptable socket type meter mounting equipment shall be provided by the Customer for single-phase loads up to approximately 320 continuous amperes, or up to 400-amp services as computed by the National Electrical Code.

All 240-volt self-contained single-phase meter sockets are 4-jaw only. A 5-jaw meter socket is unacceptable for 240-volt self-contained single-phase services.

For single-phase installations exceeding a maximum current of 320 amperes the Customer shall provide a current transformer enclosure.

For list of single-phase self-contained metering equipment, refer to the following Tables:
Table 8.01, Table 8.02, Table 8.03 (T-rated), Table 8.04, Table 8.05, Table 8.11 (For Mobile Homes), Table 8.14, and Table 8.16.

8.8.2 Metering Requirements for Mobile Homes

Meter sockets shall not be attached to mobile homes. Meter mounting equipment may consist of either factory constructed pedestal equipment (See Table 8.11) or of individual designed metal supports (See Fig. 8.34). In either case, the following conditions must be met:

- Final installation must be rigid, plumb, and suitably painted or coated to resist rust and corrosion.

- The supporting upright shall be of 3-inch steel pipe or other form of equivalent strength. All structural metal below grade must have a bitumastic coating such as Koppers #50 or equivalent.

- A factory-constructed pedestal must be set a minimum of 24" in the ground and be provided with an approved stabilizing foot as it base. An individually designed metal support must be set a minimum of 36" in the ground and be provided with a stabilizing foot as its base. The foot shall be of 12 gauge-galvanized steel and of at least 50 sq. in. in area.

- Adequate space for the entrance of Company service conductors shall be reserved in the bottom wall of the meter. This suggests the mounting of service equipment below and rotated 90 degrees with respect to the meter socket and precludes the use of the center knockout in the meter socket for wires to the service equipment.

- Nothing in the above is intended to prohibit the location of the service equipment remote from the meter socket and adjacent to the mobile home structure.

8.8.3 Multiple Meter Installations (Six Meters or Less)

On all installations involving more than one meter, each set of service entrance and metering equipment shall be legibly and permanently marked to designate the portion of the building that it supplies. Gang-type meter sockets are unacceptable for buildings not under common ownership. Service connections between individual meter sockets and troughs in multiple metering installations shall be installed in rigid metal conduit, electrical metallic tubing, or flexible metallic tubing, and shall be properly bonded. Mechanically unprotected service entrance cable shall not be used for connections between meter sockets and troughs. Customer shall provide provisions for PECO to lock and fasten any potential tamper points ahead of metering.

8.8.4 More than Six Meters

When more than six meters and associated disconnecting devices are installed at one location, a main sealable fused service switch or circuit breaker, of a type acceptable to the Company, may be provided as required by the National Electrical Code for all metering. If installed outdoors, it shall be in a rain-tight enclosure.

8.8.5 Connections in Multiple Meter Socket and Wireway

Multiple meter installations shall consist of a factory multi-gang assembly (refer to Yellow Book and Gray Book for solar installations). The service conductors shall not be tapped in existing meter assemblies. Not more than one set of load side conductors shall be installed from each meter to supply the Customer's service switches or circuit breakers. In cases where a meter supplies more than one service switch or circuit breaker, a single set of load conductors **(unless connectors supplied by the manufacturer are designed to accommodate more than one conductor)** shall be installed from the meter to a separate trough or splice box from which the conductors to each switch or circuit breaker shall be connected. Two service and load conductors in parallel, which conform to the requirements of the National Electrical code, will be permitted if required for capacity. Only manufacturer approved connectors shall be used.

8.8.6 Conductors Inside Trough

Line and load conductors shall NOT be run in the same trough. If trough is needed, trough for line conductors shall have means for PECO sealing.

8.9 SELF-CONTAINED POLYPHASE METERING INSTALLATIONS

8.9.1 Two-Phase (Maintenance Only - Not for New Construction)

Obsolete equipment in Figures 8.09 and 8.10 were removed from this Revision. For maintenance only applications acceptable equipment is listed in Figure 8.15.

If Customer requests to maintain two-phase service after equipment failure, they shall upgrade to current transformers. See Figure 8.15. and submit S&M (Service and Meter Application). Upon meeting load requirements, Customer may also convert to single-phase service.

8.9.2 Three-Phase

PECO-approved meter socket and meter mounting equipment shall be provided by the Customer for all three-phase four-wire installations, both Wye and Delta configurations, and arranged so that the meter socket is installed on the line side of the service equipment.

All self-contained three-phase meter sockets shall contain a bypass handle. Meter sockets shall not be used as splice box

8.9.2.1 Connections in Multiple Meter Socket and Wireway

Multiple meter installations shall consist of a factory multi-gang assembly. The service conductors shall not be tapped in existing meter assemblies. Not more than one set of load side conductors shall be installed from each meter to supply the Customer's service switches or circuit breakers. In cases where a meter supplies more than one service switch or circuit breaker, a single set of load conductors **(unless connectors supplied by the manufacturer are designed to accommodate more than one conductor)** shall be installed from the meter to a separate trough or splice box from which the conductors to each switch or circuit breaker shall be connected. Two service and load conductors in parallel, which conform to the requirements of the National Electrical code, will be permitted if required for capacity. Only manufacturer approved connectors shall be used.

8.9.3 Conductors Inside Trough

Line and load conductors shall NOT be run in the same trough. If trough is needed, trough for line conductors shall have means for PECO sealing.

8.10 TRANSFORMER RATED (T-Rated) METERING BASIC REQUIREMENTS

8.10.1 General

All transformer-rated metering installations shall be arranged so that the metering transformers are installed on the source side of the service equipment. **WHEN PERMITTED** for transformer-rated metering, transformer-rated metering installations shall be located immediately adjacent to the point at which the service conductors enter the building.

No service equipment is permitted ahead of the metering unless such installation is required by the NEC or other regulating agencies.

8.10.2 Metering Transformers

The Contractor shall install the metering transformers and make all primary connections on the high side of the PTs.

For 4kV and 13kV metering, the voltage transformers will be supplied by the Company with fuses already mounted. For 34kV metering, the customer must install fuses directly ahead of the voltage transformers. Contact Customer Engineering for additional information regarding these voltages.

8.10.3 Pick up of Metering Equipment

When the equipment and connecting conduits have been installed and are ready for wiring, the Contractor shall obtain the metering transformers, and pre-wired socket from the local PECO Company office. An advance phone call will assure the Contractor that the metering equipment is ready for pickup.

8.10.4 Requirements When Metering Transformers and Meter Are Separated (all voltages)

Where metering transformers are installed in the secondary compartment of pad-mounted transformers, switchgear, or other acceptable enclosures remote from the meter location, a rigid metal conduit shall be provided and installed by the contractor between the meter transformer enclosure and the pre-wired socket location. The conduit and mounting equipment shall be adequately grounded – per NEC.

The meter and poly-phase pre-wired socket(s) will be supplied by PECO Company. The customer will install the pre-wired socket and PECO will complete the connections and set the meter(s). For secondary services, meters, CT Cabinets and switchgear containing metering equipment shall be located in close proximity of each other without physical barriers between them and on the same side of the wall (new installations shall be located outdoors).

8.10.5 Secondary Metering Conductors (Installed by the Company)

In general, it is desirable to design an installation so that the length of run for metering transformer secondary conductors shall be as short as practicable, less than 30 feet. The Company will furnish and install its standard color-coded wire in the conduit provided by the Contractor.

****High side of PT/VTs shall be wired by the contractor.***

Customer equipment shall not interfere with nor introduce burden in the metering circuit.

8.10.6 Current Transformers (CTs) Field Applications

***** Donut CTs and Window CTs shall not be installed in CT Cabinets.
* Bar/Spade CTs are to be installed in CT Cabinets, pad-mounted transformers, and switchgear.
* Donut CTs are to be installed in pad-mounted transformers only.
* Window CTs are to be installed in secondary switchgear only.

8.10.7 Meters

The Company will furnish, install, and connect the meter and associated meter secondary wiring prior to the service being energized.

8.10.8 Conductors Inside Trough

Line and load conductors shall NOT be run in the same trough. If trough is needed, trough for line conductors shall have means for PECO sealing.

8.10.8 Secondary Switchgear Specifications

Switchgear must abide by the following specifications below.

INDOOR CABINETS

1. NRTL Listed UL891 Switchboard required
2. NEMA 1 enclosure
3. Rust resistant steel, minimum 14 gauge

   a. Powder Coated
   b. Paint coated
4. Double doors open horizontally
   a. Door holds on all doors
   b. Corrosion resistant hinges
5. Provision for sealing all covers and doors intended for access
   a. Sealing bolts must be captive with wing nuts provided
   b. Top and bottom

OUTDOOR CABINETS

1. NRTL Listed UL891 Switchboard required
2. NEMA 3R enclosure
3. Rust resistant steel, minimum 14 gauge
   a. Powder Coated
   b. Paint coated
4. Double doors open horizontally
   a. Door holds on all doors
   b. Corrosion resistant hinges
5. A pad lockable sealable handle with a 3-point securement mechanism required
6. Provision for sealing all exterior covers and doors intended for access
   a. Sealing bolts must be captive with wing nuts provided
   b. Top and bottom
   c. Good quality gasketing and sealing materials
7. No openings are allowed on top of outdoor cabinet
8. Environmental control within the enclosure as needed for the installation location.
   a. Heater
   b. Air Conditioner

Certain companies, such as DVM, meet PECO specifications.

8.11 SINGLE-PHASE T-RATED INSTALLATIONS

8.11.1 General

This type of installation may also be used as an alternate to 320-amp self-contained metering.

For new construction single-phase T-rated installations, all equipment shall be located outdoors. Splices in CT Cabinets are not allowed.

8.11.2 Single-Phase T-Rated Meter and CT Cabinets

8.11.2.1 Tables and Figures

Refer to Figure 8.11 and 8.43. Also, refer to Table 8.03 (T-rated), Table 8.10, and Table 8.14.

8.11.2.2 Conductor Entrances and Termination

Service and load conduits shall be connected through the side, bottom or back of an enclosure, but shall not obstruct any metering equipment. Top penetration is permitted for indoor installations only.

Top penetration is NOT permitted for outdoor installations. There are no exceptions for weatherproof fittings on top of any outdoor cabinet.

In new installation/upgrades, the service conductors shall not be spliced inside the CT Cabinet. CT Cabinet shall not be used as wireway.

The run-through neutral conductors shall not be installed between phases. Installation must be run through the bottom of the CT Cabinet. Neutral conductors must be electrically isolated from the cabinet (straight run-through, using barrel sleeve/crimp connectors or isolated “Polaris” lugs, or isolation block is needed). Allow 3” of slack so meter technician can strip the insulation to make neutral connection to meter.

Before contacting Meter Services for scheduling meter wiring, at least one side of the conductors shall be landed on the CTs. Load side preferable.

8.11.2.3 Mounting Metering Transformers in Metering Enclosures (CT Cab)

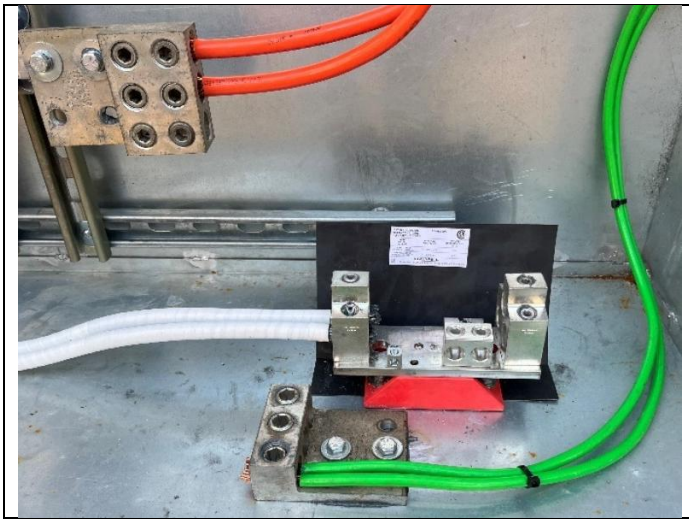
Unistrut shall be attached securely to the back of the metering transformer enclosure with a minimum of two 1/4" x 20 corrosion resistant machine screws or thread cutting machine screws per Unistrut section. **Sheet metal screws are not acceptable for new installations.** Installation of metering equipment on the side wall of the CT Cabinet is not permitted.

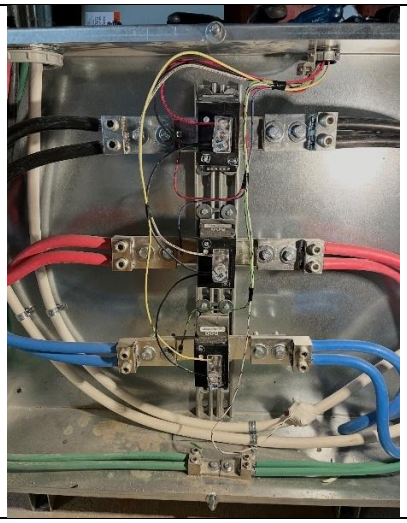
Metering transformers shall be attached to the Unistrut with spring nuts and machine bolts. Metering transformers and Unistrut shall not be installed on wood backing.

Space between CTs, neutral lug, and clearance from enclosure shall be at least 4”.

Potential transformers (PTs) shall also be mounted on Unistrut with spring nuts when required. Also, high side of the PTs shall be wired by the contractor.

For single-hole mechanical lugs, only use round opening in the spade CT for termination (do not use slotted opening on CT spade). For 2-hole mechanical lugs, use round and slotted openings in the spade CT for termination. Cabinet must be earth grounded and not bonded from neutral. If multiple grounding mechanical lugs are used, they must be electrically tied together. All grounding shall comply to NEC and local codes. Please see example reference photos regarding installation below. Any approved isolation block is acceptable.





8.11.2.4 Pre-Wired Socket Location

Outdoor: Nipple from side of the CT Cabinet only.

For clearances for pre-wired sockets and CT Cabinets refer to 8.1.3 and 8.1.4.

8.11.2.5 Installation of Metering Conduit for CT Cabinets

Meter conduit or nipple must be rigid metal conduit (RMC). Use 1 ¼" RMC for meter conduit where horizontal runs are under 5', and 1 ½" RMC for meter conduit where horizontal runs are between 5' and 30'. Horizontal conduit runs longer than 30' are not permitted.

Meter conduit or nipple inside the CT Cabinet requires a grounding bushing connected to ground.

Meter conduit shall be continuous and not exceed more than four quarter (90 degree) bends.

8.11.2.6 Condulet in Meter Conduit Run

Condulets are only permissible, if necessary, to facilitate immediate conduit entry into the pre-wired socket. Condulets shall not be used in any other application and must be RMC as the conduit run.
Condulet covers shall be facing forward and must have provisions for sealing by the Company with drilled holes minimum 1/8" – maximum 3/32".

8.11.2.7 Meter Wiring Appointment Scheduling

Refer to Figure 8.00

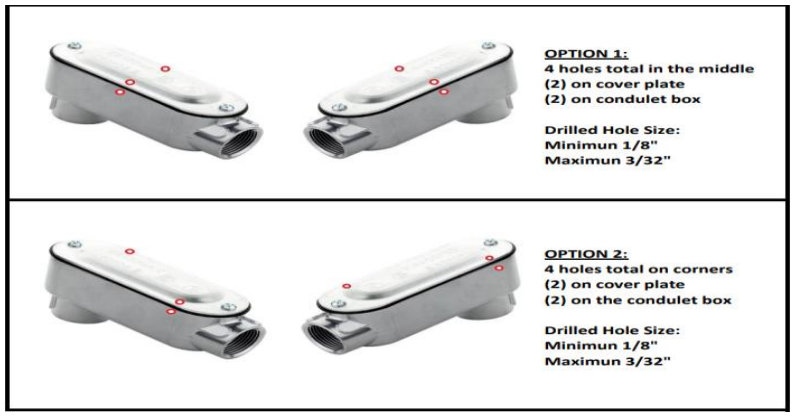
8.12 POLYPHASE T-RATED INSTALLATIONS

8.12.1 General

Depending upon the type of service installation, metering transformers for Polyphase services may be installed in the following: Metering transformer enclosures (CT Cabinets), secondary compartment of a pad-mounted transformer, secondary compartment of switchgear, and services over 600 volts.

8.12.2 Condulet in Meter Conduit Run

Condulets are only permissible, if necessary, to facilitate immediate conduit entry into the pre-wired socket. Condulets shall not be used in any other application and must be RMC.
Condulet covers shall be facing forward and must have provisions for sealing by the Company with drilled holes minimum 1/8" – maximum 3/32".
Condulets are not allowed in primary or secondary switchgear.



8.13 METERING TRANSFORMER ENCLOSURES (CT CABINETS)

8.13.1 Tables and Figures

Refer to these tables and figures for more info in CT Cabinets installations: Table 8.09 and Figs. 8.15, 8.16, 8.18, 8.21, and 8.23.

8.13.2 Conductor Entrances and Terminations

Service and load conduits shall be connected through the side, bottom or back of an enclosure, but shall not obstruct any metering equipment. Top penetration is permitted for indoor installations only.

Top penetration is NOT permitted for outdoor installations. There are no exceptions for weatherproof fittings on top of any outdoor cabinet.

In new installation/upgrades, the service conductors shall not be spliced inside the CT Cabinet. CT Cabinet shall not be used as wireway.

The run-through neutral conductors shall not be installed between phases. Installation must be run through the bottom of the CT Cabinet. Neutral conductors must be electrically isolated from the cabinet (straight run-through, using barrel sleeve/crimp connectors or isolated "Polaris" lugs, or isolation block is needed). Allow 3" of slack so meter technician can strip the insulation to make neutral connection to meter.

Before contacting Meter Services for scheduling meter wiring, at least one side of the conductors shall be landed on the CTs. Load side preferable.

For single-hole mechanical lugs, only use round opening in the spade CT for termination (do not use slotted opening on CT spade). For 2-hole mechanical lugs, use round and slotted openings on the spade CT for termination.

For two-phase 5-wire CTs, LINE and LOAD sides will be marked on the CT. The line side conductors shall land on the line side of the CTs.
Each CT gets a set of polarities (240 volts). Refer to Figure 8.15.

8.13.3 Enclosure Size ***

Please see Table 8.09 for indoor enclosures, previously approved by Meter Services. Minimum sizes of current transformer indoor enclosures acceptable for various sizes of service conductors are as follows:

Phases	Wires	Minimum Enclosure Size (W x H x D) ***	Maximum Number of Cables Per Bar ****	Maximum Cable Size (kcmil)
1	3	24" x 18" x 10" 32" x 24" x 10"	3 3	350 500
2	5	32" x 24" x 10" 42" x 32" x 10"	4 2 1	250 400 750
3	3Δ 4Δ	32" x 24" x 10" 54" x 42" x 12"** 32" x 32" x 10" 32" x 32" x 10"	3 4 4	500 500 400

Phases	Wires	Minimum Enclosure Size (W x H x D) ***	Maximum Number of Cables Per Bar ****	Maximum Cable Size (kcmil)
	4Y	42" x 32" x 10" 54" x 42" x 12"**	4 4	750 750

**277 and 480 volt installations require this enclosure. (See Fig. 8.21 and Fig. 8.24)

***Outdoor enclosures require minimum 15" depth

****Customer is responsible to see that installation is NEC compliant

For 277 and 480 volt service, CT Cabinet size shall be 54”W x 42”H x 12”D for indoor applications, and 54”W x 42”H x 15”D for outdoor applications. No exceptions.

Center of the CT Cabinet shall be between 3’ to 5’ from grade or finish floor (4’ preferable). For oversized CT Cabinets, please contact Meter Services for approval.

In instances where the NEC and/or amp capacity requires either a larger enclosure, more than the maximum number of cables, or larger than the maximum cable size, the customer shall provide a switchgear enclosure for the metering transformers.

8.13.4 Outdoor Weathertight Enclosures

See Figure 8.40

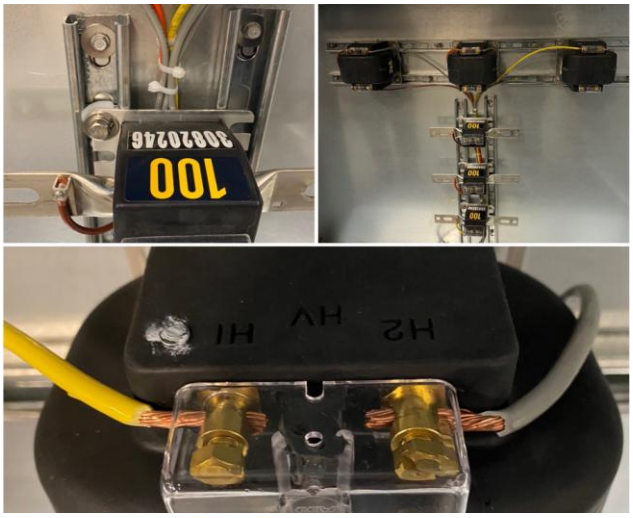
8.13.5 Mounting Metering Transformers in Metering Enclosures (CT Cab)

Unistrut shall be attached securely to the back of the metering transformer enclosure with a minimum of two 1/4" x 20 corrosion resistant machine screws or thread cutting machine screws per Unistrut section. **Sheet metal screws are not acceptable for new installations.** Installation of metering equipment on the side wall of the CT Cabinet not permitted.

Metering transformers shall be attached to the Unistrut with spring nuts and machine bolts. Metering transformers and Unistrut shall not be installed on wood backing. Cabinet must be earth grounded and not bonded from neutral. If multiple grounding mechanical lugs are used, they must be electrically tied together. All grounding shall comply to NEC and local codes.

Space between CTs, neutral lug, and clearance from enclosure shall be at least 4”.

Potential transformers (PTs) shall also be mounted on Unistrut with spring nuts when required. Also, High side of the PTs shall be wired by the contractor. Refer to Figure 8.21 and 8.23
For single hole mechanical lugs, only use round opening in the spade CT for termination (do not use slotted opening on CT spade). For 2-hole mechanical lugs, use round and slotted openings on the spade CT for termination.



277-480v Service. High Side of PTs Wired by Contractor



Secondary Service with neutral on isolation block

8.13.6 Pre-Wired Socket Location
Indoor: Nipple from top or side of CT Cabinet
Outdoor: Nipple from side of the CT Cabinet only.

For clearances for pre-wired sockets and CT Cabinets refer to 8.1.3 and 8.1.4.

8.13.7 Installation of Metering Conduit for CT Cabinets
Meter conduit or nipple must be rigid metal conduit (RMC). Use 1 ¼" RMC for meter conduit runs under 5', and 1 ½" RMC for meter conduit runs between 5' and 30'. Conduit runs longer than 30' not permitted.

Meter conduit must be a continuous run of rigid metal conduit (RMC). **PVC shall not be used at any point**. Condulets and junction boxes shall not be installed at any point in the conduit run. For more info, refer to 8.12.2.
Condulets and junction boxes shall not be installed in the transformer secondary compartment, vault below, or any point in the conduit run.

Meter conduit or nipple inside the CT Cabinet requires a grounding bushing.

8.13.8 Meter Wiring Appointment Scheduling
Refer to Figure 8.00

8.14 SECONDARY COMPARTMENT ON A THREE-PHASE PAD-MOUNTED TRANSFORMER

8.14.1 Tables and Figures

Refer to these Figures for more info for metering transformers in pad-mounted transformer installations: Figures. 8.17, 8.19, 8.20, 8.22, and 8.23

Mounting of metering transformers in a single-phase pad-mounted transformer is **prohibited.**

8.14.2 Mounting Metering Transformers in Pad-Mounted Transformers

When a three-phase pad-mounted transformer supplies a single customer, the metering transformers **may** be installed in the pad-mounted transformer (See Figure 8.17, 8.19, 8.20, 8.22 and 8.23). Metering transformers shall not be installed in pad-mounted transformers that initially supply multiple customers or **may** supply multiple customers in the future. In these cases, the metering transformers shall be installed in a metering transformer or switchgear enclosure per service.
The contractor shall make all metering transformer primary connections. The term "metering transformer" includes current and voltage transformers with voltage transformers required only when the service voltage is 277 volts or greater.

When the Company supplies bar type CTs for installation in a pad-mounted transformer, the metering current transformer primary bars shall always be bolted to the secondary spades of the pad mounted transformer. The base plate of the bar type CT shall be removed.
If pad-mounted (donut) type metering current transformers are supplied by the Company, for installation in a pad-mounted transformer, they shall be mounted directly over the secondary spades of the pad-mounted transformer.

Primary/High Side connections to the potential transformers (PTs) shall be fed from the LINE side of the current transformers (CTs). These primary connections are H1 and H2. In cases where the connection can be made only from the load side of the CTs, the potential feed conductor shall be routed through back of the donut CT and landed into the transformer spade. Manufacturers who mount the transformers in service control equipment may obtain the transformers from PECO Company. High side of PTs shall be on top.

It is permissible, but not required, to install the PTs on Unistrut on the left side of the secondary compartment as per Figures 8.22 and 8.23.



277-480v Service. Spade CTs. High Side of PTs Wired by Contractor



277-480v Service. Donut CTs. High Side of PTs Wired by Contractor



120-208v Service. Spade CTs.



120-208v Service. Donut CTs.

8.14.3 Pre-Wired Socket Location

Pre-wired socket location shall be located either on a pedestal within 12" to 36" off the vault, or permanent building wall within 30' of the transformer vault.
Pedestal shall be constructed of vertical bollards using 2" rigid metal conduit (RMC) which are to be concrete encased away from the vault between 12" and 36".
Unistrut is allowed to be used as horizontal support for the pre-wire socket. Refer to Figures 8.17, 8.19, 8.20, and 8.22.
Bollards shall NOT be supported to the transformer vault.
Unistrut shall NOT be used as bollards or vertical support.

8.14.4 Installation of Meter Conduit for Pad-Mounted Transformers

Meter conduit must be a continuous run of rigid metal conduit (RMC). **PVC shall not be used at any point**. Condulets and junction boxes shall not be installed in the transformer secondary compartment, vault below, or any point in the conduit run.

Meter conduit must be rigid metal conduit (RMC). Use 1 ¼" RMC for meter conduit where horizontal runs are under 5', and 1 ½" RMC for meter conduit where horizontal runs are between 5' and 30'. Horizontal conduit runs longer than 30' are not permitted.

Meter conduit from the pre-wired socket shall end in the secondary compartment of the transformer at an elevation of 6" above transformer base with grounding bushing connected to transformer ground. Meter conduit SHALL NOT run through the primary side of the pad-mounted transformer nor the primary side of the vault. Meter conduit preferably should end on the right-hand side of the secondary compartment near the transformer door. Meter conduit shall be located where technician can pull cable without any interference with customer conductors.

Meter conduit **shall not** be attached to the transformer itself. The concrete base shall be used to support the conduit inside the secondary compartment. Preferably, the pedestal shall be located on the right-hand side of the transformer. The meter pedestal shall be supported independently of the concrete transformer base.
For underground meter conduit run depth, refer to Figure 8.17, 8.19, 8.20, and 8.22.





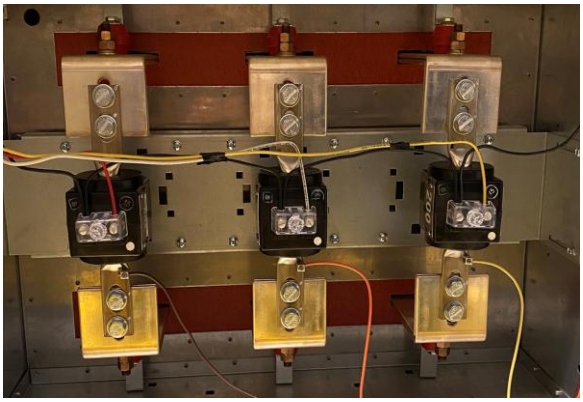
8.14.5 Meter Wiring Appointment Scheduling

Refer to Figure 8.00

8.15 METERING EQUIPMENT IN SWITCHGEAR

8.15.1 General

In secondary switchgear only window or bar type CTs are allowed. Window CTs shall be mounted with mounting brackets/feet that come with Window CT.



Spade CTs in Switchgear
Meter Wiring by PECO



Window CTs in Switchgear
Use Brackets to Mount on Wall

8.15.2 Secondary Conduit from Switchgear

The Customer's Contractor shall furnish and install an adequate rigid metal conduit connection for the meter secondary wiring between the metering transformer compartment and a pre-wired socket location acceptable to the Company. Minimum sizes of conduit for meter transformer secondary wiring shall be as follows:

Length of Run	Exposed Conduit	Concealed Conduit
30 ft max.	1-1/4″	1-1/2″

For conduit runs not exceeding nominally 5 ft. totally within equipment, 1 in. conduit is acceptable.

Conduit completely inside the switchgear may be EMT, but must transition to rigid metal conduit outside the switchgear.

8.15.3 Metering Transformer Connections

The Contractor shall terminate the service and load conductors with approved solderless connectors and securely bolt these to the terminals of the metering current transformers. Each service conductor shall be of sufficient length to permit it to be connected to a service terminal of any transformer in the enclosure.

Meter conduit run shall be continuous and not exceed more than four quarter bends.

A bolted connection shall be made to each primary terminal of a metering current transformer or secondary spade of a pad-mount transformer. Where parallel conductors are required for capacity, all conductors shall terminate in multi-conductor connectors or on short pieces of suitable copper bus that, in turn, shall be the only bolted connection to the current transformer primary terminal, or secondary spade of a pad-mount transformer. All primary terminals shall be properly insulated without concealing polarity markings or meter potential connection points.

Metering transformer enclosures shall not be used as splicing enclosures to supply multiple disconnecting devices. If the load side conductors extended from the metering transformer enclosure are to supply more than one disconnecting device, a splicing trough or gutter shall be installed between the metering transformer enclosure and the multiple disconnecting devices. Alternatively, on the load side only, a multi-position mechanical lug can be used. The line side of the metering transformers shall not be used as a splice or tap for other services

CT compartments must be sized so that the CTs and PTs can be installed, wired, and removed with adequate access and without use of a ladder. The compartment shall have a door with hinges, handle, and locking hasp or another provision for sealing. The door shall have a label that reads "PECO METERING EQUIPMENT". There must be a neutral bus connection provided in the PECO metering compartment. RMC with grounded bushings from the meter panel must go into the CT compartment.

*Specs to follow and shelving for PTs if necessary.
All window CTs come with mounting brackets whether they are on it or inside the box.

8.16 METERING FOR SERVICES OVER 600 VOLTS

8.16.1 Customer's Responsibility

In addition to the general requirements for metering outlined earlier in this section, the Customer shall furnish and install all acceptable equipment necessary to accommodate the Company's metering devices required for the high voltage service. PECO shall provide the metering voltage and current transformers to be installed by the customer in acceptable enclosures or on adequate outdoor structures. The customer shall install the metering transformers and make all primary connections. VTs shall be connected on the source side of the CTs. CTs shall be mounted with the polarity marks toward the source. Depending upon such factors as service voltage, conductor size, and size of load to be served, metering transformers may be supplied separately or as assemblies (pre-mounted with secondaries wired) on flat type standard frames.

When the Company determines that compensated metering is to be used on high tension services through customer owned transformer, the Customer shall connect the metering transformers on the secondary side of the customer owned transformer at a suitable location ahead of any disconnecting devices. The Customer

must provide a certified test report and a copy of the nameplate drawing for each transformer that is to have compensated metering. The certified test report shall include the following information: Manufacturer's Name, Transformer Serial Number, KVA rating, Primary Voltage Rating, Secondary Voltage Rating, % Impedance, % Exciting Current, No Load Core Loss in Watts, and Full Load Winding Loss in Watts.

A bolted connection shall be made to each primary terminal of a metering transformer or secondary spade of a pad-mounted transformer. Where parallel conductors are required for capacity, all conductors shall terminate in multi-conductor connectors or on short pieces of suitable copper bus that, in turn, shall be the only bolted connection to the current transformer primary terminal or secondary spade of a pad-mounted transformer. Secondary terminals of current transformers should be faced to allow dressing of secondary wires with maximum clearance from the high voltage conductors. After primary connections for meter voltage transformers have been made, all primary terminals of the current transformers shall be properly insulated without concealing polarity markings. All conductors connected to metering current transformers or passing through current transformer window/donut shall have the phases clearly and permanently identified.

Meter conduit or nipple must be rigid metal conduit (RMC). Use 1 ¼" RMC where horizontal conduit runs are under 5', and 1 ½" RMC where horizontal conduit runs are between 5' and 30'. Horizontal conduit runs longer than 30' are not permitted.

8.17 33 kV METERING REQUIREMENTS

8.17.1 Availability

PECO's New Business Customer Engineering shall determine the metering voltage for all 33 KV high-voltage services. The preferred method, for up to 4 transformers per service, is to meter on the low voltage side of each transformer and compensate each meter for the associated transformer loss. A decision to meter at the primary voltage, for 33 KV customers, is based on economic impact to PECO's metering installation. Typically, 33 KV primary meter installations are used for services with more than 4 transformers, or where the customer's facility is a campus setting with customer owned 33 KV distribution, having transformers that are remote from one another.

Meter conduit or nipple must be rigid metal conduit (RMC). Use 1 ¼" RMC for horizontal conduit runs under 5', and 1 ½" RMC for horizontal conduit runs between 5' and 30'. Horizontal conduit runs longer than 30' are not permitted.

8.17.2 33 KV Primary Metering Requirements

The customer shall provide a switchgear compartment or outdoor structure for mounting of the Company's metering voltage transformers, primary fuses, and

current transformers. The metering structure or enclosure shall include surge protection and the required live parts to accommodate 3 - GECO EJO-1 38 KV, 2E current limiting fuses, and GECO catalogue #9F60FPK002. Metal Clad or metal enclosed metering compartments incorporated into a 33 KV service equipment line-up, equipped with surge arresters in the service cable compartment do not require additional surge protection in the metering compartment. The customer's transformer winding configurations and the expected load shall determine the number and rating of voltage transformers. Grounded-wye primary and secondary power transformer winding configurations are preferred to limit the impacts of ferro-resonance. Such installations are metered with 3 element metering. Three (3) VTs rated 20,125-115 Volts and three (3) CTs are specified. Customers with services that do not include a PECO system neutral are metered with 2 element meters. Two (2) VTs rated 34,500-115 Volts and two (2) CTs are specified.

8.17.3 Metering Socket Mounting

For pre-wired socket mounting, the Customer's Contractor is required to furnish and install mounting facilities for the pre-wired socket in accordance with Fig. 8.39 & 8.40, 8.41 or 8.53. For metering 3 or more services at any voltage, consult the Company for mounting instructions.

In instances where the pre-wired socket is mounted on a standalone pedestal, the bollards shall be rigid metal conduit. The bollards shall be set in 36" (minimum depth) of concrete. The pedestal shall be installed between 12" and 36" from the transformer vault. The pedestal shall be unattached from the transformer pad. The exception is for temporary metering where construction will be to PECO Customer Engineering discretion.

8.17.4 Company's Responsibility - Meters and Accessories

The Company will furnish the pre-wired socket, accessory equipment and will wire the associated meter secondary wiring between the metering transformers and the pre-wired socket **prior to the service being energized.**

8.17.5 Antennas for Metering

Preferred meter location is outdoors. If other location is necessary (must obtain Company approval) meter should be located as close to an outside wall as possible where antenna length will be under 100 ft. Maximum antenna length is 200 ft. and this will require provisions for LMR 400 Coax cable.

Table 8.01

Single Phase Socket Metering Equipment – Self-Contained
(Form 2S Ringless) 120/240 Volts, with Horn Bypass

Ampere Capacity	Meter Position	Anchor	Durham (3)	Talon (Landis & Gyr)	Milbank	Midwest	Siemens	Murray
100 100	1 1	URS1004B K3 HO	UBH-RS101B UBHTTZRSS101B	UAT111-OPZA	U7487-RL-KK-BL	LRLPU412UALK	-------	RJ192PX
200	1 Oh.	URS1804B K3 HO	UBH-RS202B	UAT317-OPZA	U7021-RL-KK-BL	LQRLPU414BALK	WRS192PX	RS192PX
200 200 200	1 Ug.	1URS1804B K3 ---------- ----------	UBH-RS212B ---------- ----------	UAS817-PPZA *UAT417-PPQG* *UAT417-XPQG*	U1980-0-KK-BL U3126-0-KK-BL ---------- U4413-0-KK-BL	LQRLPU41412BALK ------- ------- -------	------- ------- ------- -------	R499P ------- ------- -------
200	1 Ug.	Side Wire	UBH-RS223A	UAS877-PPZA	LTU276BALK	-------	WRL199P	-------
100	2 Hor.	2URS1004L B K3 C350 HO	UBH-2R1121B	UA2311-0PZA	U8032-XL-KK-BL	-------	WRN291AR	RN291PR
100	3 Hor.	3URS1004L B K3 C350 HO	UBH-3R1121B	UA3311-0PZA	U8033-XL-KK-BL	-------	WRN391AR	RN391PR
100	4 Hor.	4URS100RL B K3 C350 HO	UBH-4R1121B	UA4311-0PZA	U8034-XL-KK-BL	-------	WRN491AR	RN491PR
100	5 Hor.	5URS1004L B K3 C350 HO	UBH-5R1121B		U8035-XL-KK-BL	-------	-------	-------
100	6 Hor.	6URS1004L B K3 C350 HO	UBH-6R1131B		U8036-XL-KK-BL	-------	-------	-------
200	2 Hor.	2URS1804 B K3 C600 HLO	UBH-2R2332T	UA2717-YPZA	U1252-X-KK-BL-K3	-------	-------	RM291PR
200	3 Hor.	3URS1804 B K3 C600 HLO	UBH-3R2332T	UA3717-YPZA	U1253-X-KK-BL-K3	-------	-------	RM391PR
200	4 Hor.	4URS1804 B K3 C600 HLO	UBH-4R2352T	UA4717-YPZA	U1254-X-KK-BL-K3(1)	-------	-------	RM491PR
200	5 Hor	5URS1804 B K3 C600 HLO	UBH-5R2392TT	UA5719-KPZA	U1255-X-KK-BL-K3(1)	-------	-------	-------
200 200 200	6 Hor.	6URS1804 B K3 C600 HLO **Eaton** *UHTR213CE* *UHTR213BE*	UBH-6R2392TT	UA6719-KPZA	U1256-X-KK-BL-K3(2)	-------	-------	-------

Note: Ringless meter socket covers have a 7/16" knockout provision for a barrel lock.

(1) OH Service requires #K3923 extension kit (2) OH Service requires #K3955 extension kit

(3) Durham manufactures boards under Square D (SQD), Eaton (CH) and Midwest (MEP) brand labels.

Table 8.02
Single Phase Metering Equipment – Self-Contained
120/240 Volts (Form 2S Ringed & Ringless)

Ampere Capacity	Meter Positions	Anchor	Talon (L&G)	Milbank	Murray	Siemens
100	2 Vertical	2USV1004-HOSR2 (1)	-----	U2692-XL-KK-BL	-----	-----
100	3 Vertical	3SV1004-HOSR2 (1)		U2693-XL-KK-BL	-----	-----
125	2 Vertical		UA2B11-OPZA	-----	RV291AX	SUA2B11-OPZA
125	3 Vertical		UA3B11-OPZA			

Table 8.03

Single-Phase Socket Metering Equipment – Transformer-Rated (Provided by Customer's Contractor)

240 Volt, Ringless - Indoor and Outdoor - 6 Jaws, Form 4S

Milbank	CE-136	w/Test Switches
Eaton/Cutler Hammer	USTH61A195CH	w/Test Switches

Table 8.04

Combination Single-Phase Meter Socket and Service Equipment – Self-Contained
100, 150 & 200 Amperes, 120/240 Volts (Form 2S) & 120/208 Volts (Form 25S)

Meter Positions	Anchor	Cutler Hammer	Midwest	Murray	Siemens
1	US7511 FP 100 HO (7)	MBP200BTSD (5)	MO36G(1)(3)	JC002CZ (7)	
1			M100C(3)	JC0406L1200RH(6)(7)	MM0406ML1200F/S/H (7)
1			M101C(3)		MM0406L1200RH (7)
1			M281C1(3)		
1			R256EV-1 (4)		

	Milbank	Talon
1	U5168-XTL-100-KK-BL	UAB111-OPCH
1	U5168-XTL-150-KK-BL	UAB317-OPCH
1	U5168-XTL-200-KK-BL	
1	U5898-O-200-KK-BL	

(1) For temporary and construction applications
(2) Note has been deleted
(3) Substitute an 'R' for 'M' to indicate ringless
(4) Replaces RS250C & MS250C which are still acceptable
(5) Replaces CGBT2125S & CGBT2200S which are still acceptable
(6) Replaces JC904CZ which is still acceptable
(7) Obsolete but still on system
(8) 120/240V four jaw
(9) 120/208V five jaw

Table 8.05

Single-Phase Multiple Meter Breaker Equipment – Self-Contained
100 and 200 Amperes, 120/240 Volts (Form 2S) & 120/208 Volts (Form 25S)
STEEL Trough - Indoor and Outdoor

Eaton Cutler Hammer

1MM Series (5)(9)
3 through 6 positions

1MP Series (5)(9)
2 through 6 positions

General Electric

Mini Mod III
TMM Series (4)(5)(6)
2 through 6 positions

Murray (Obsolete)

UM (10) Series (5)(6)
AM (10) Series (4)(5)
DC, DG Series (4)(5
AC (10) Series
MP (PAK) Series (4)
2 through 6 positions

Siemens ITE

WMM Series (4)(9)
2 through 6 positions

WP (PAK) Series (4)
2 through 6 positions

Square D

EZM Series
3 through 10 positions

MP Series (3)
2 through 6 positions

Milbank

U5902-X-KK-BL
U5903-X-KK-BL
U5904-X-KK-BL
U5905-X-KK-BL
U5906-X-KK-BL
U5882-X-KK-BL
U5883-X-KK-BL
U5884-X-KK-BL
U5885-X-KK-BL
U5886-X-KK-BL

ABB ReliaMod

RMS Series
Residential 125 amp
2-5 positions
Residential 200 amp
2-4 positions
Commercial 225 amp
1-3 positions

(1)(2) These notes have been deleted
(3) Add a suffix of "R" for ringless
(4) 200 ampere per position available
(5) Acceptable for outdoor installations
(6) Use adapter HDRXA and Hub RX200 for underground entrance
(7) This note has been deleted
(8) 200 Amp per position
(9) Totalizer/General
(10) Obsolete but still acceptable

Table 8.07

Three-Phase Socket Metering Equipment – Self-Contained
100 & 200 Amperes, 4 Wire, Wye or Delta, 250-Volt Max.

Manufacturer	Catalogue No.
Anchor	TB2072-HO/HLO U22572-HO
Eaton/ Cutler Hammer	SCMM(2) 37MM120(2) 37MM220(2) 37MM320(2) 37MM420(2)
Siemens	WRH173GR S40407-025 WML13100RJ WML13225RJ WML23100RJ WML23225RJ WML33100RJ WML33225RJ WML43100RJ WML43225RJ
ABB	RMS Series 1-3 position
General Electric	TMP Series (1)(2)
Talon (Landis & Gyr)	40407-025 40407-9 40007-01
(3)	UB-C 7213B UB-H7213-(1) EZM743200R
Square D	EZM742200R
Milbank	U7423-RXL U4184-X
Murray	RH173GR DL141W7 DL241W7 DL341W7 DL441W7 DL142W7 DL242W7 DL342W7 DL442W7

(1) With clamping jaw (2) Totalizer (3) Square D (SQD), Cutler Hammer (CH), Midwest (MEP)

Table 8.08
Primary Metering Transformer Enclosures (2.4/4kv)

Type	Penn Panel
Indoor	ISTC
Outdoor	OSTC

Where means for primary disconnections are required within these enclosures use cutouts with solid links rated 200 Amperes, 5.5kV, 10,000 Amp. momentary.

Table 8.09
Secondary Metering Transformer Enclosures
Indoor Only

Enclosure Size* H x W x D	Austin	Penn Panel	Unity	East Coast	K & S
18" x 24" x 10"	-----	241810	PEC241810DDCT	PE-182410	1-10
24" x 32" x 10"	AB243210CTD-PECO	322410	PEC322410DDCT	PE243210	2-10
32" x 32" x 10"	AB323210CTD-PECO	323210	PEC323210DDCT	PE323210	3-10
32" x 42" x 10"	AB324210CTD-PECO	423210	PEC423210DDCT	PE324210	4-10
42" x 54" x 12"	AB425412CTD-PECO	544212	PEC544212DDCT	PE425412	5-10

Enclosure Size* H x W x D	C & I	Hoffman	Milbank	Sullivan	Navtech
18" x 24" x 10"	C-182410DCT-PECO	A241810CTDP-PECO	182410-CTC1-SP	PECOCT18241	NAV-PECO-CT-182410
24" x 32" x 10"	C-243210DCT-PECO	A322410CTDP-PECO	243210-CTC1-SP	PECOCT24321	NAV-PECO-CT-243210
32" x 32" x 10"	C-323210DCT-PECO	A323210CTDP-PECO	323210-CTC1-SP	PECOCT32321	NAV-PECO-CT-323210
32" x 42" x 10"	C-324210DCT-PECO	A423210CTDP-PECO	324210-CTC1-SP	PECOCT32421	NAV-PECO-CT-324210
42" x 54" x 12"	C-425412DCT-PECO	A544212CTDP-PECO	324210-CTC1-SP	PECOCT42541	NAV-PECO-CT-425412

***Refer to Paragraph 8.13.3 for application**

Table 8.10
Secondary Metering Outdoor Transformer Enclosures

Enclosure Size* H x W x D	Austin	C & I	Penn Panel	Unity	K & S
28" x 18" x 15"	-----	C-281815WD3R-PECO	OWM-281815	PEC182815SDCT3	M2810
35" x 30" x 15"	AB353015WLD-PECO	C-353015WD3R-PECO	OWM-353015	PEC303515DDCT3	M3530
35" x 40" x 15"	AB354015WLD-PECO	C-354015WD3R-PECO	OWM-354015	PEC403515DDCT3	M3540
42" x 32" x 15"	AB423215WLD-PECO	C-423215WD3R-PECO	OWM-423215	PEC324215DDCT3	M4232
42" x 54" x 15"	AB425415WLD-PECO	C-425415WD3R-PECO	OWM-425415	PEC544215DDCT3	M5442

Enclosure Size* H x W x D	Hoffman	Milbank	East Coast	Sullivan
28" x 18" x 15"	A281815CTDP-PECO3R	182815-CT3R-SP		PECOCT28183
35" x 30" x 15"	A353015CTDP-PECO3R	303515-CT3R-SP		PECOCT35303
35" x 40" x 15"	A354015CTDP-PECO3R	324215-CT3R-SP		PECOCT35403
42" x 32" x 15"	A423215CTDP-PECO3R	403515-CT3R-SP	PE-423215R	PECOCT42323
42" x 54" x 15"	A425415CTDP-PECO3R	544215-CT3R-SP	PE-425415R	PECOCT42543

Table 8.11
Single-Phase Meter Pedestals – Mobile Homes
100 and 200 Amperes, 125/250 Volts
With Service Equipment (1)

Ampere Capacity	Positions	Midwest
100	1	M100CP6
100	2	M100CB6
200	1	M101CB6
200	2	M200CP6(2)
		M200CB6(2)

(1) Use with post and stabilizing foot
(2) Available w/150 amp main breaker

Table 8.14
End Boxes for Underground Secondary Services – Single-Phase

Size of Box H x W x D	H & R	K & S	Penn Panel	Standard Queen Products	Standard Elec. Supply
12” x 12” x 5”	UGB-12125	5-12	12125	USB 12125 PE	125
16” x 16” x 6”	UGB-16166	6-16	16166	USB 16166 PE	166
20” x 20” x 8”	UGB-20208	8-20	20208	USB 20208 PE	228
24” x 24” x 10”	UGB-242410	10-24	242410	USB 242410 PE	248
36” x 36” x 18”	UGB-363618	36-18	-----	-----	-----
42” x 42” x 24”	UGB-424224	42-24	-----	-----	-----

Table 8.16
Single-Phase Metering Equipment – Self Contained
240 Volt Ringless – 320 Amp Continuous

Manufacturer	**Catalog Number**
Talon, Siemens, and Landis & Gyr	44704-8265 (1) *44704-82 (1)* 48704-82(GP) MK0402L1400RLM (3)
Milbank	U3000-0-2/K3L-BL U1079-X U4912-X-K3-BLG S6142-X-INV-DPL U4905-X-BLG U1797-O-K3L-K2L-(BLG) U1129-O-DTE U5073-X-K3L-K2L-LIS U1129-0-K3L-K2L- (BLG)
Cutler Hammer	1008435-ECH (2)
Midwest	1008435-MEP (2)
Square D	1008435-SQD (2)
General Electric	1008435-GE (2)
Eaton	1004984ACH 1008435-CH 1009444CH 1009788ACH

(1) Murray & Siemens offer identical unit with "S" prefix
(2) Cutler Hammer, Midwest, GE and Square D boards manufactured by Durham.
(3) Contains combination service equipment

METER WIRING APPOINTMENT SCHEDULING

AFTER THE METERING TRANSFORMERS ARE INSTALLED, CONTACT METER SERVICES 7 TO 10 BUSINESS DAYS PRIOR TO ENERGIZATION DATE VIA BOTH PHONE 610-648-7869 AND E-MAIL AT MeterServicesRequests@exeloncorp.com BEFORE PROVIDING CONFIRMATION DATE.

E-MAIL SHALL INCLUDE:
1) ADDRESS AND WO# IN THE EMAIL SUBJECT.
2) ATTACHED IMAGES OF INSTALLATION AS PROOF OF JOB READINESS.
3) ADDITIONAL INFORMATION IN THE BODY OF THE EMAIL.

FINAL DECISION ON METER WIRING IS EXCLUSIVELY ON THE METER TECH IN THE FIELD.

CONFIRMATION DATE IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE DUE TO STAFFING, WEATHER AND/OR EMERGENCIES.

NOTE: White dot is line side of CT (H1). For two-phase 5-wire CTs, LINE and LOAD sides will be marked on the CT.
DO NOT REMOVE THE SHUNTS FROM THE CTs.

Meter Services will complete secondary CT & PT wiring BEFORE service is energized
****High side of PT/VTs shall be wired by the contractor.***

NOTE: All CT Cabinet figures are examples. The setup depends on point of service entry into the cabinet. Please folow the guidelines and orient CT's appropriately.

EXPLANATION OF TERMS USED IN TYPICAL
SERVICES TO SINGLE RESIDENTIAL PROPERTIES

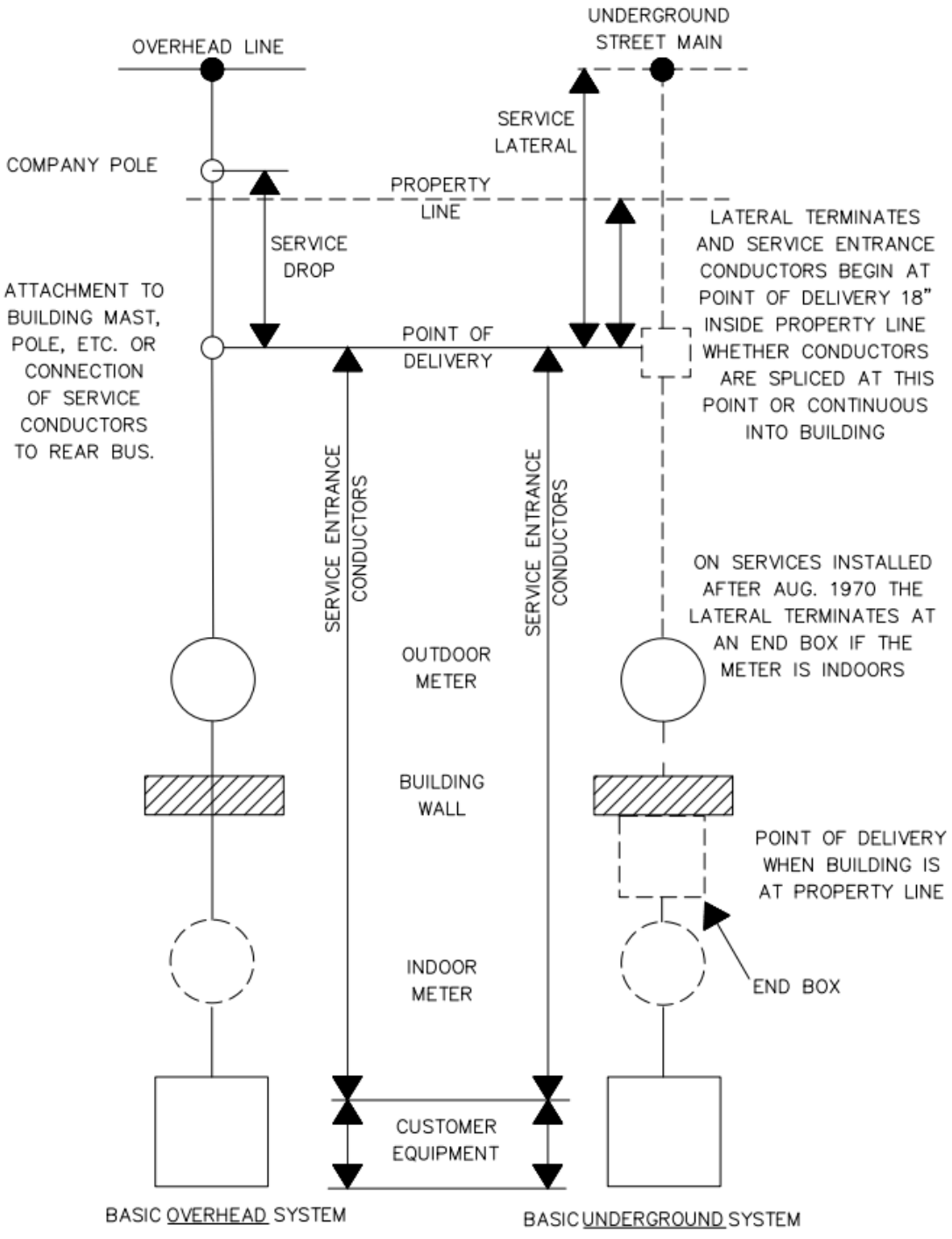
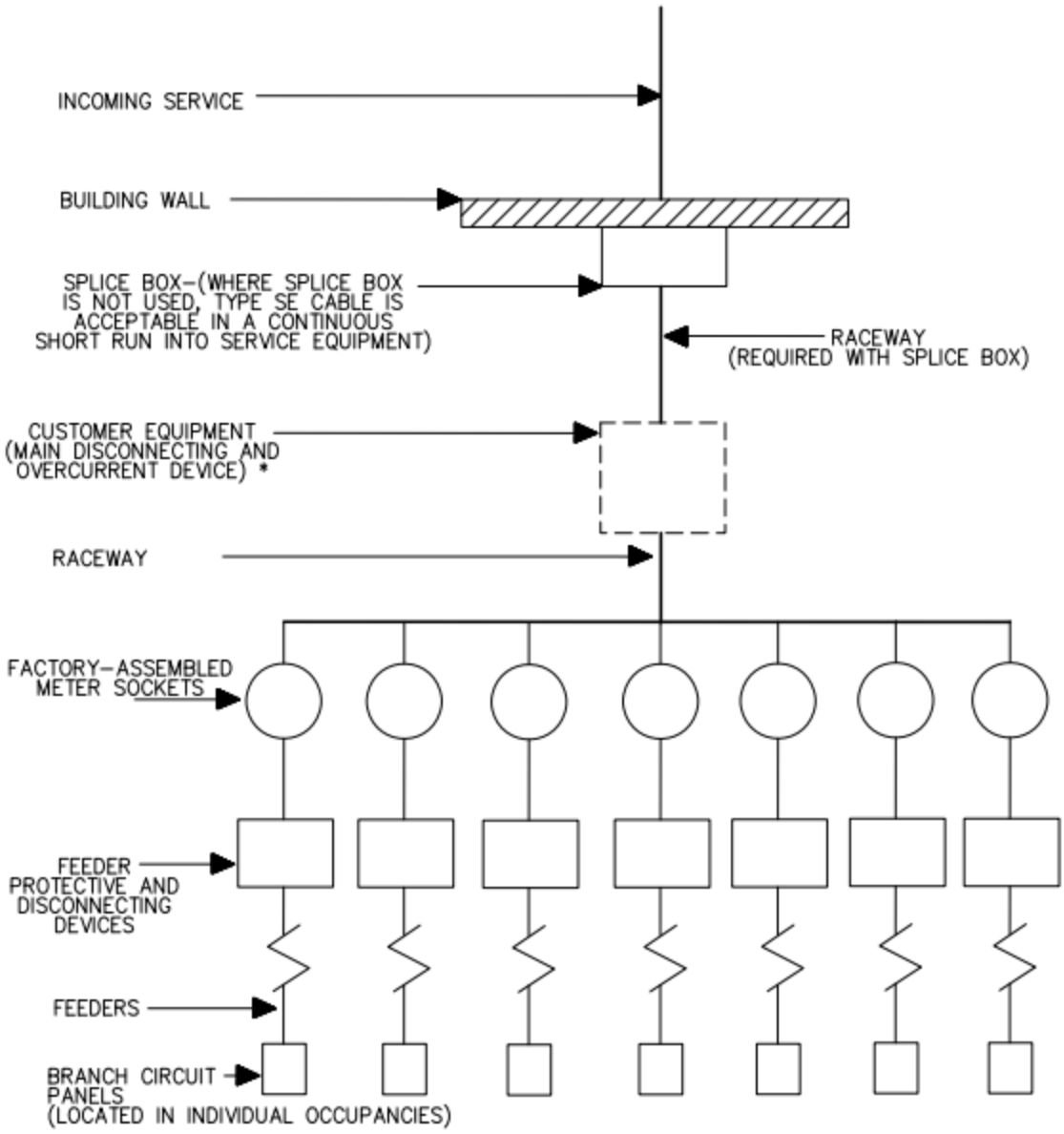


Figure 8.01

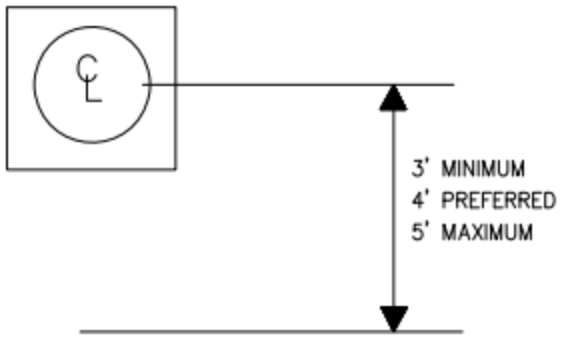
SEQUENCE OF METERING AND SERVICE EQUIPMENT
FACTORY–ASSEMBLED METER SOCKETS FOR MULTIPLE OCCUPANCIES



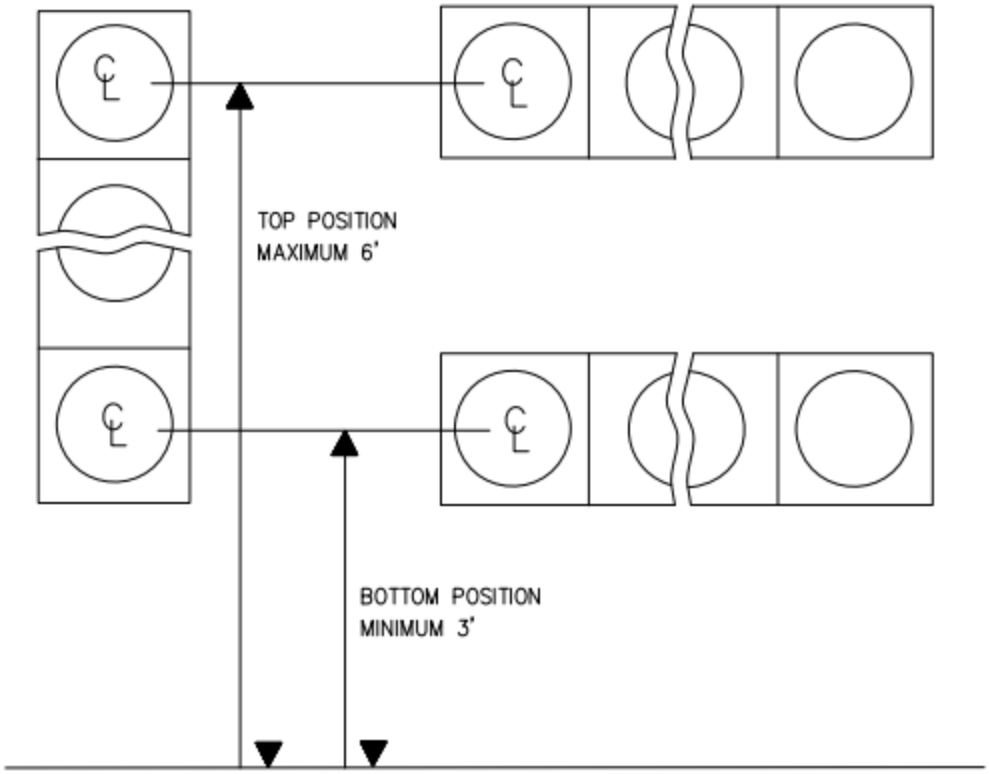
* FOR MORE THAN 6 METERS, A MAIN DISCONNECTING AND OVERCURRENT DEVICE MAY BE USED TO COMPLY WITH THE N.E.C

Figure 8.02

MOUNTING HEIGHT OF METER SOCKETS
INDOOR AND OUTDOOR



SINGLE SOCKET OR SINGLE ROW OF
HORIZONTALLY FACTORY–ASSEMBLED METER SOCKETS (SEE NOTE)

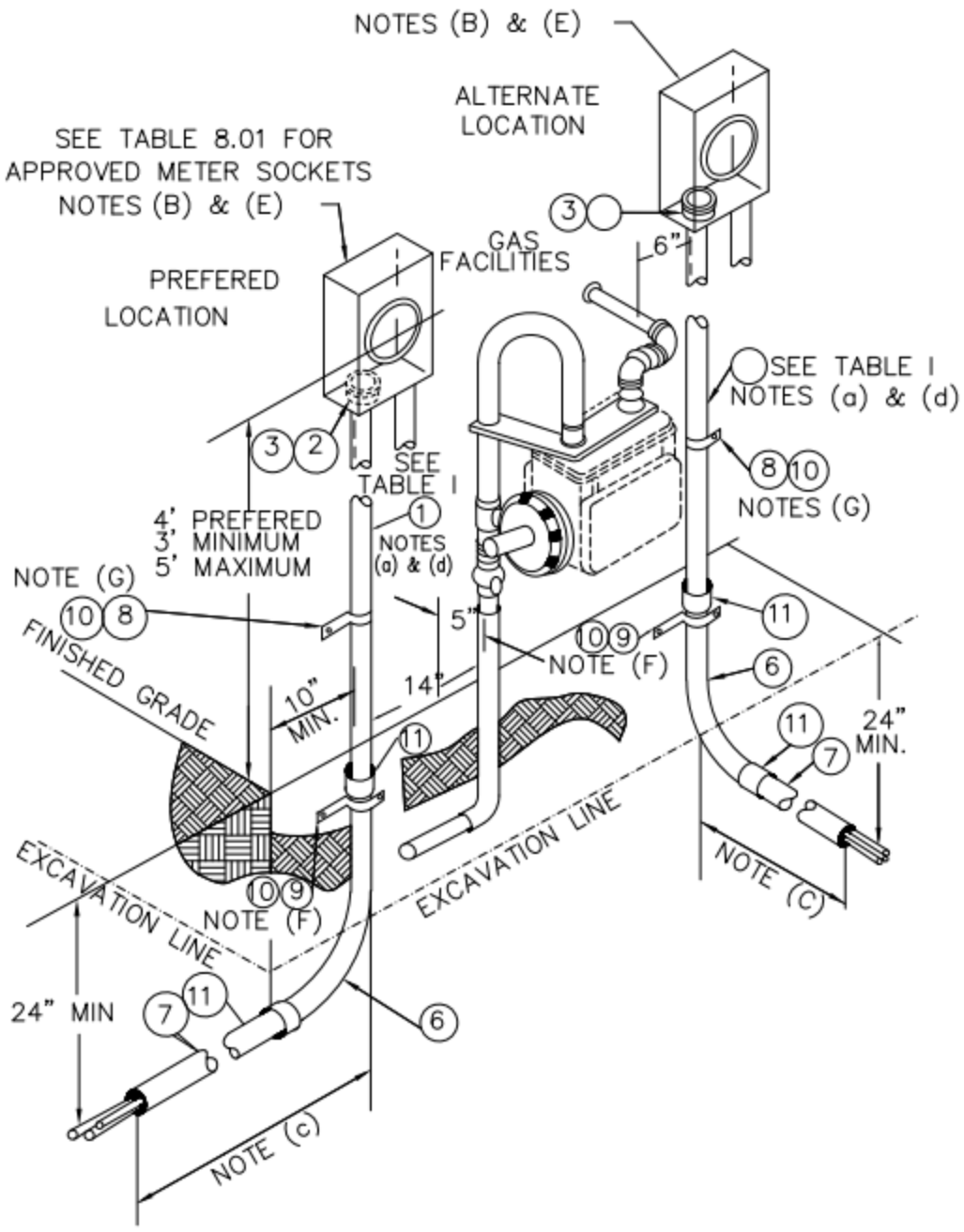


VERTICALLY FACTORY–ASSEMBLED METER SOCKETS OR MULTIPLE ROWS
OF HORIZONTALLY FACTORY–ASSEMBLED METER SOCKETS (SEE NOTE)

NOTE: THREE FEET OF CLEAR WORKING SPACE MUST BE
MAINTAINED IN FRONT OF EACH METER.

FOR 6 POSITION BOARD MIN AND MAX POSITIONS ARE 2.5' TO 6.5'

Figure 8.03



UNDERGROUND RESIDENTAIL DIST. SECONDAY SERVICE INSTALLATION

FIGURE 8.05–1

Ref. Constr. Std. S–5537 G–2600

NOTES

(A) CONDUIT AND STRAPS TO BE PROVIDED BY DEVELOPER.
(B) APPROVED BY PECO METER SOCKET TO BE PROVIDED BY DEVELOPER
(C) EXTEND CONDUIT (ITEM 7) TO UNDISTURBED EARTH 2'–0" BEYOND EXCAVATION LINE.
(D) USE CEMENT (ITEM 4) ON ALL CONDUIT JOINTS.
(E) CLEAN ALL CONDUCTORS. COAT WITH COMPOUND (ITEM 5). THEN TIGHTEN METER CONNECTION FIRMLY
(F) INSTALL STRAP (ITEM 9) JUST BELOW BEND COUPLING. ANCHOR SECURELY INTO MASONRY USING ITEM 10.
(G) INSTALL N.E.C. CONDUIT STRAP (ITEM 8) APPROX. HALF WAY UP EXPOSED CONDUIT. ANCHOR SECURELY INTO WALL USING ITEM 10.

100A	2 1/2"	3–#2AL.
200A	2 1/2"	3–#2/0AL.
300A	2 1/2"	2–#4/0AL. &1–2 0AL.
400A	3"	2–350kcmil AL. & 1–4 0AL
400A	3"	2–500kcmil AL. & 1–4 0AL

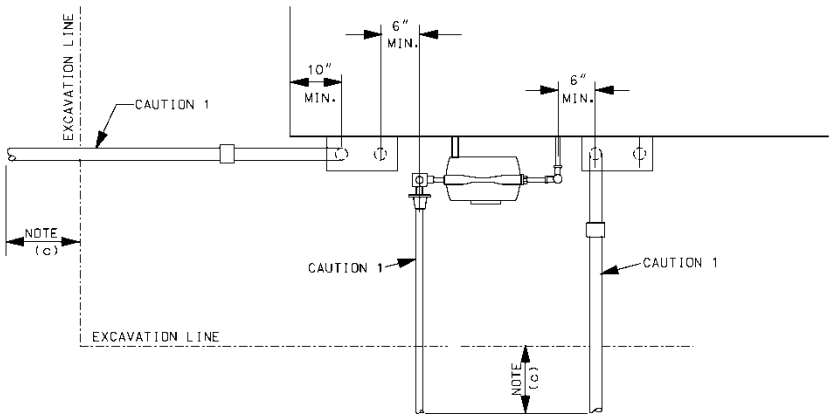
INSTALLED BILL OF MATERIAL

ITEM	CODE NO.	DESCRIPTION	QUANTITY
1	**	RISER. 2–1 2" X 10' PVC W/TERM ADAPTER	1
	**	RISER. 3" X 10' PVC W/TERM ADAPTER	
2	**	LOCKNUT 2–1/2"	1
	**	LOCKNUT 3"	
3	**	2–1/2" PVC TERMINAL ADAPTER	*
	**	3" PVC TERMINAL ADAPTER	
4	**	PVC CEMENT.PINT	*
5		COMPOUND. ELECRICAL CONNECTION	*
6	**	2–1/2" 90 BEND 18" MIN.R	1
	**	3" 90 BEND 18" MIN.R	
7	**	2–1/2" S40 CONDUIT	1
	**	3" S40 CONDUIT	
8	**	N.E.C CONDUIT STRAP	1
9	**	GALV. HEAVY GAUGE 2 HOLE STRAP	1
10	**	3/8" GALV. FASTENER	*
11	**	2–1/2" S40 CONDUIT COUPLINGS	*
	**	3" S40 CONDUIT COUPLINGS	

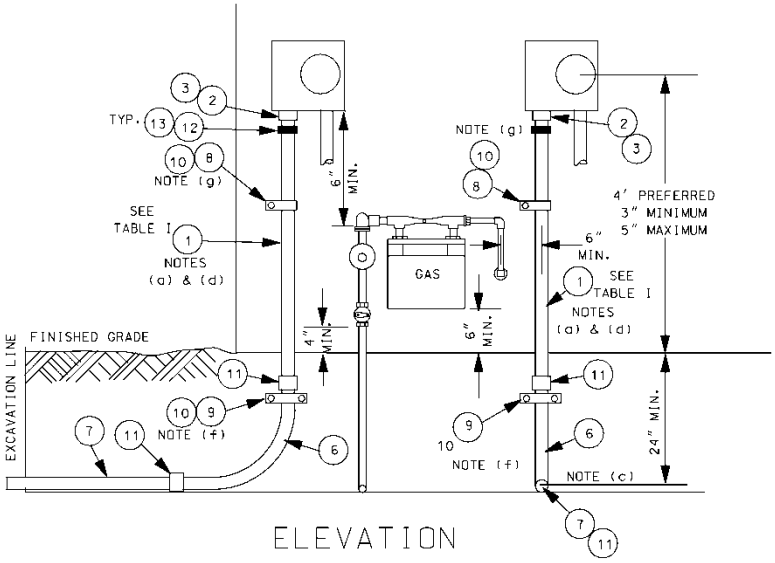
* AS REQUIRED
** SUPPLIES BY DEVELOPER

UNDERGROUND RESIDENTAIL DIST. SECONDAY SERVICE INSTALLATION

FIGURE 8.05 Ref. Constr. Std. S–5537 G–2600



PLAN VIEW



ELEVATION

TABLE 1

100A 2 1/2"	3-#2AL.
200A 2 1/2"	3-#2/0AL.
300A 2 1/2"	2-#4/0AL.&1-2/0AL.
400A 3"	2-350kcmil AL.&1-4/0AL
400A 3"	2-500kcmil AL.& 1-4/0AL

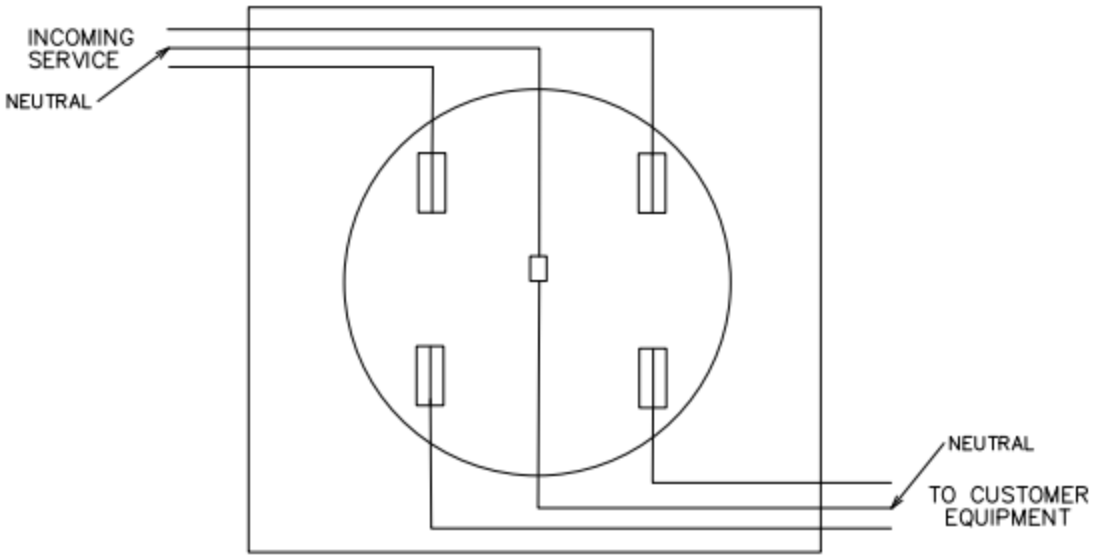
UNDERGROUND RESIDENTIAL DIST. SECONDARY SERVICE INSTALLATION

Figure 8.05-A

Ref. Constr. Std.S-5537/G-2600

SINGLE–PHASE METER SOCKET CONNECTIONS

APPLY TAPE TO BARE NEUTRAL INSIDE METER SOCKETS

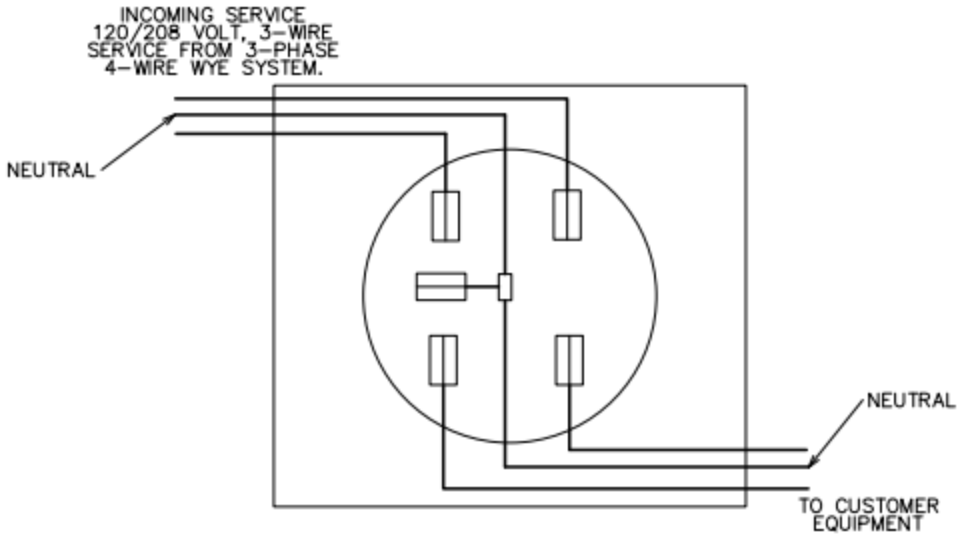


120/240 VOLT, 3–WIRE

FIGURE 8.06–A

FIGURE 8.06–A

SINGLE–PHASE 120/208 VOLT METER SOCKET CONNECTIONS FOR RESIDENTIAL APPLICATIONS



APPLY TAPE TO BARE NEUTRAL INSIDE METER

FOR METERING NETWORK 120/208 VOLT SERVICE WHEN DERIVED 2 PHASES OF A 3–PHASE, 4–WIRE WYE SYSTEM

CONTRACTOR TO SUPPLY AND INSTALL 5TH JAW AND CONNECTION TO NEUTRAL TERMINAL WITH #14 AWG WIRE.

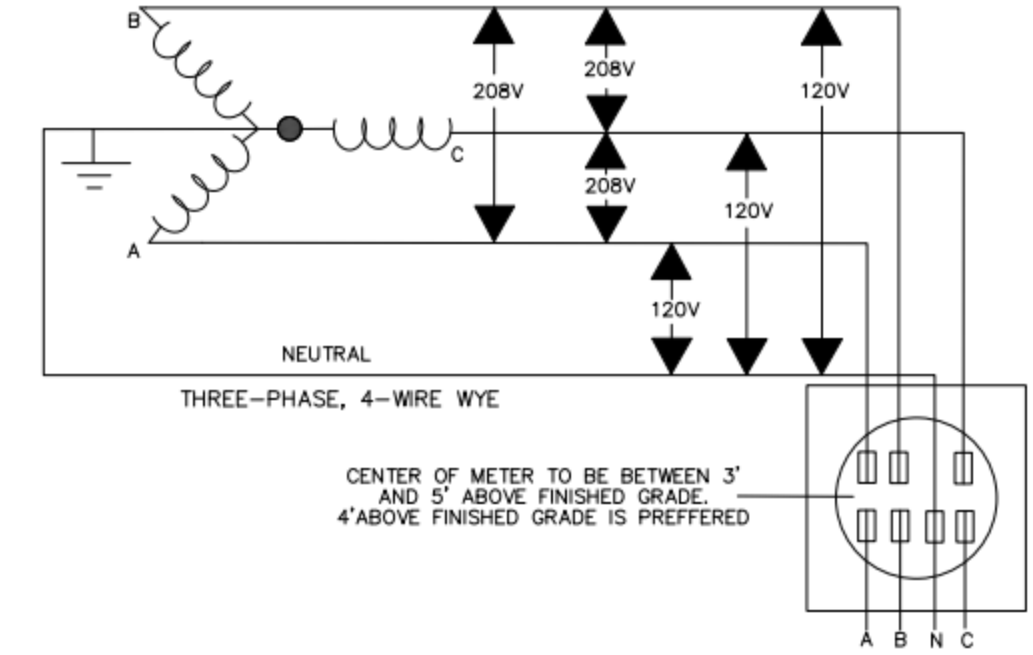
NOTES:

1. PRIOR TO PURCHASING EQUIPMENT OR INSTALLING THESE METERS CHECK WITH COMPANY TO DETERMINE AVAILABILITY OF THIS VOLTAGE.

2. THE 5TH JAW SHALL BE USED ON 120/208 SERVICES ONLY. IT IS NOT TO BE USED ON 240 VOLT SERVICES.

FIGURE 8.07

THREE–PHASE METER SOCKET CONNECTIONS



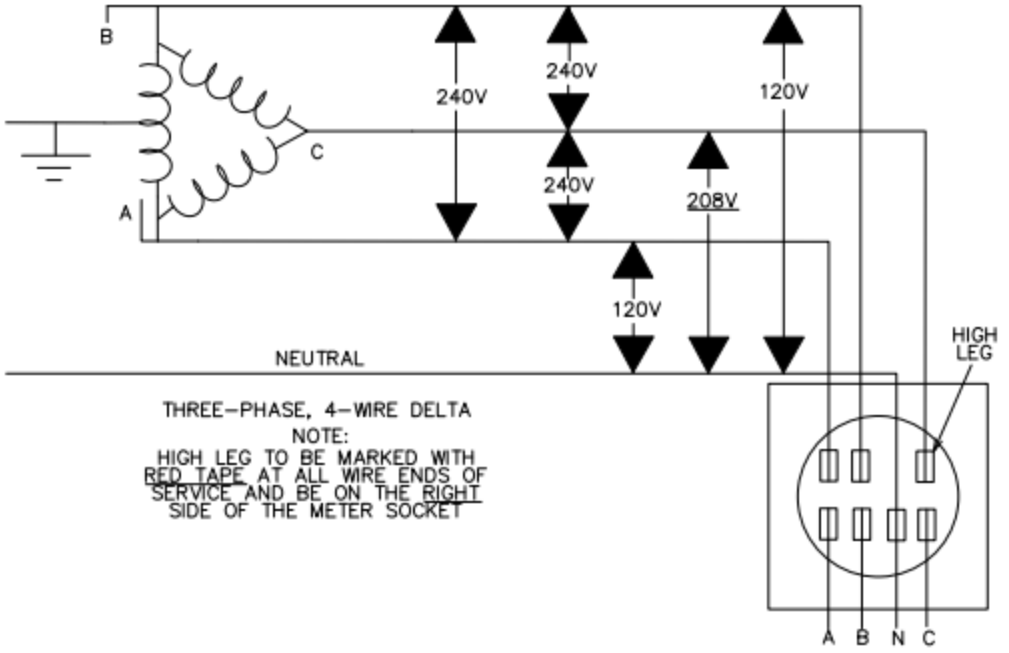


Figure 8.08

CURRENT TRANSFORMER METERING INSTALLATION SINGLE-PHASE SERVICE
120/240 VOLT 3-WIRE SERVICES IN EXCESS OF 400 AMPS*
(*CAN BE USED FOR 400 AMP SERVICE UPON COMPANY APPROVAL)

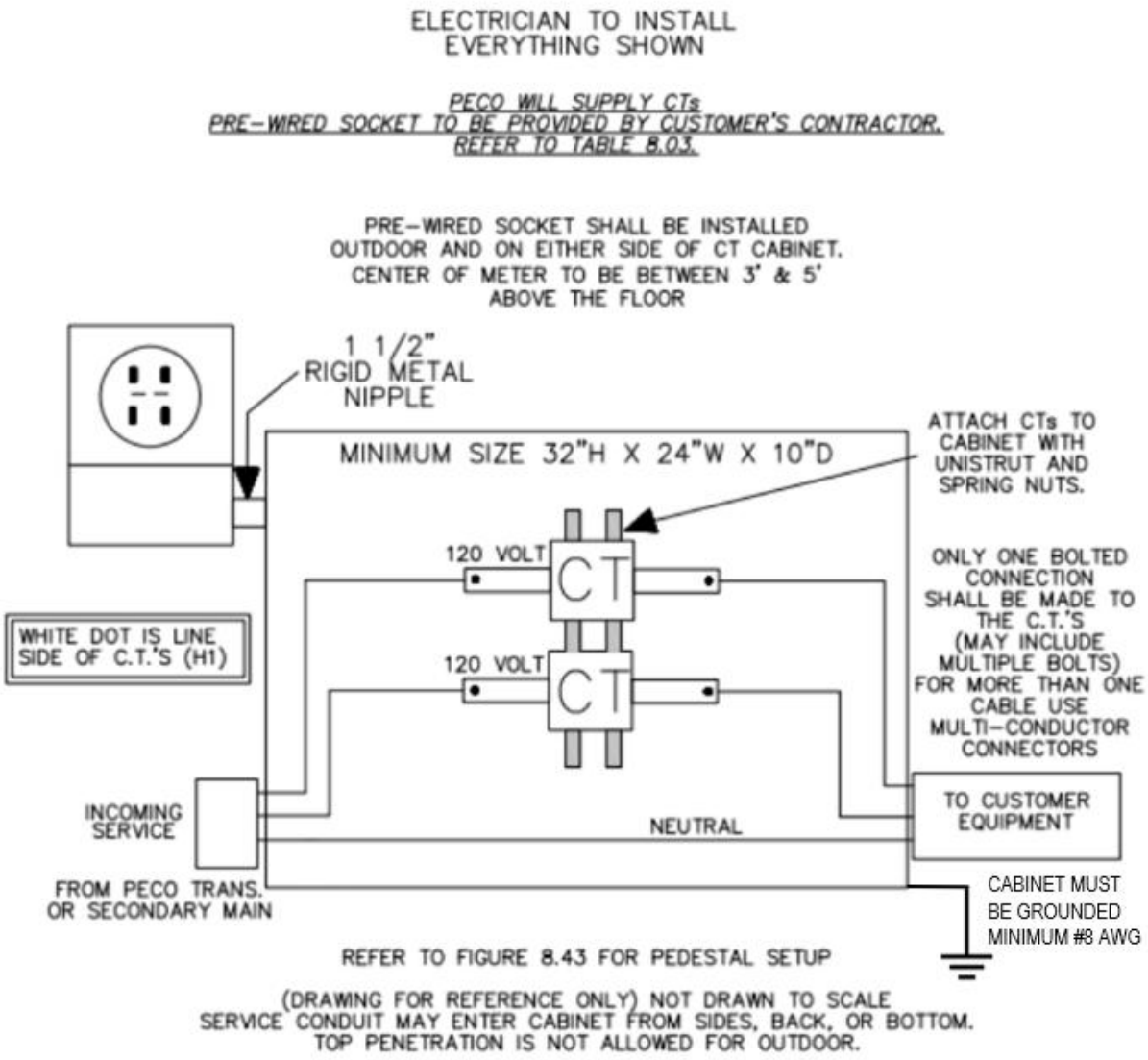
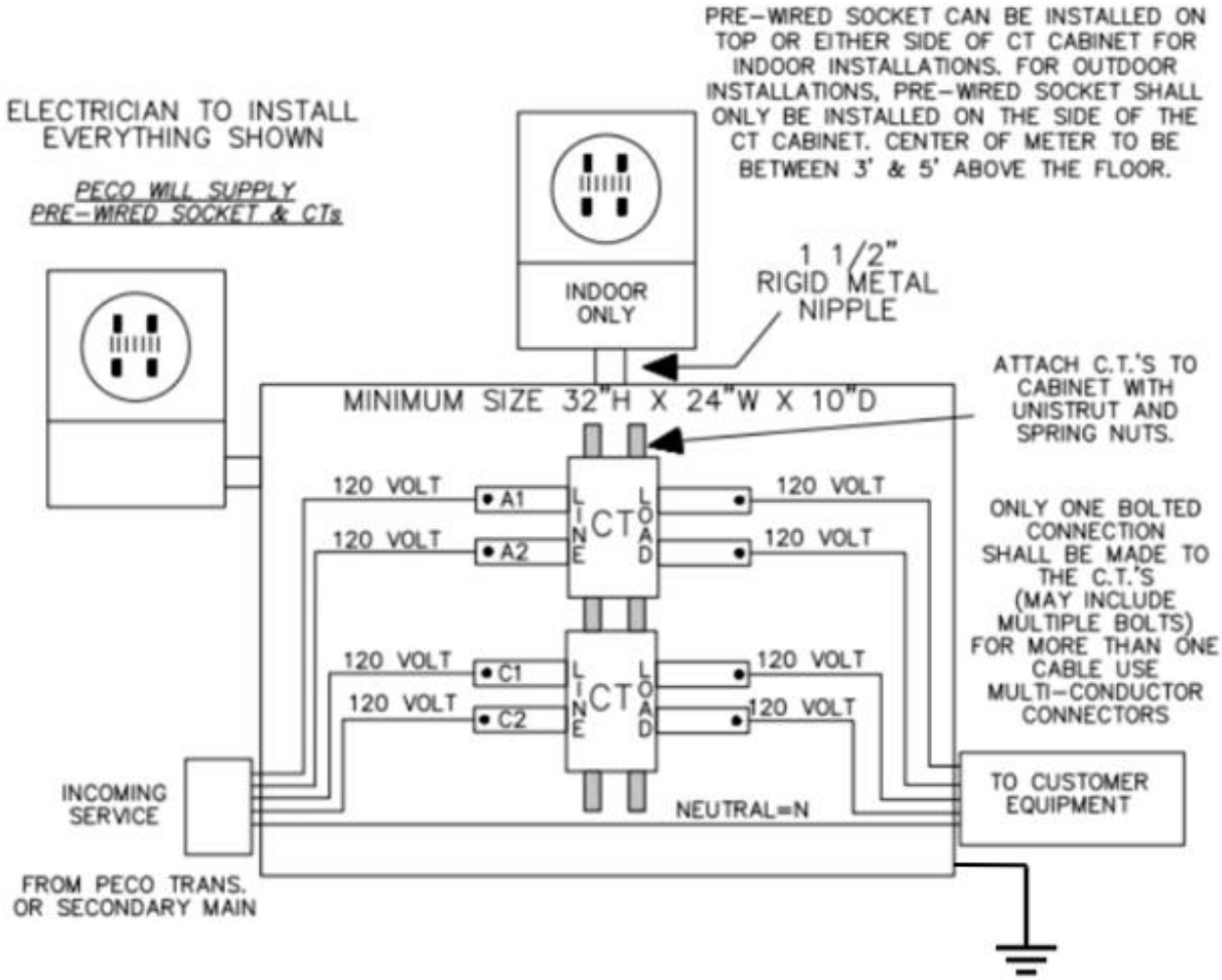


Figure 8.11



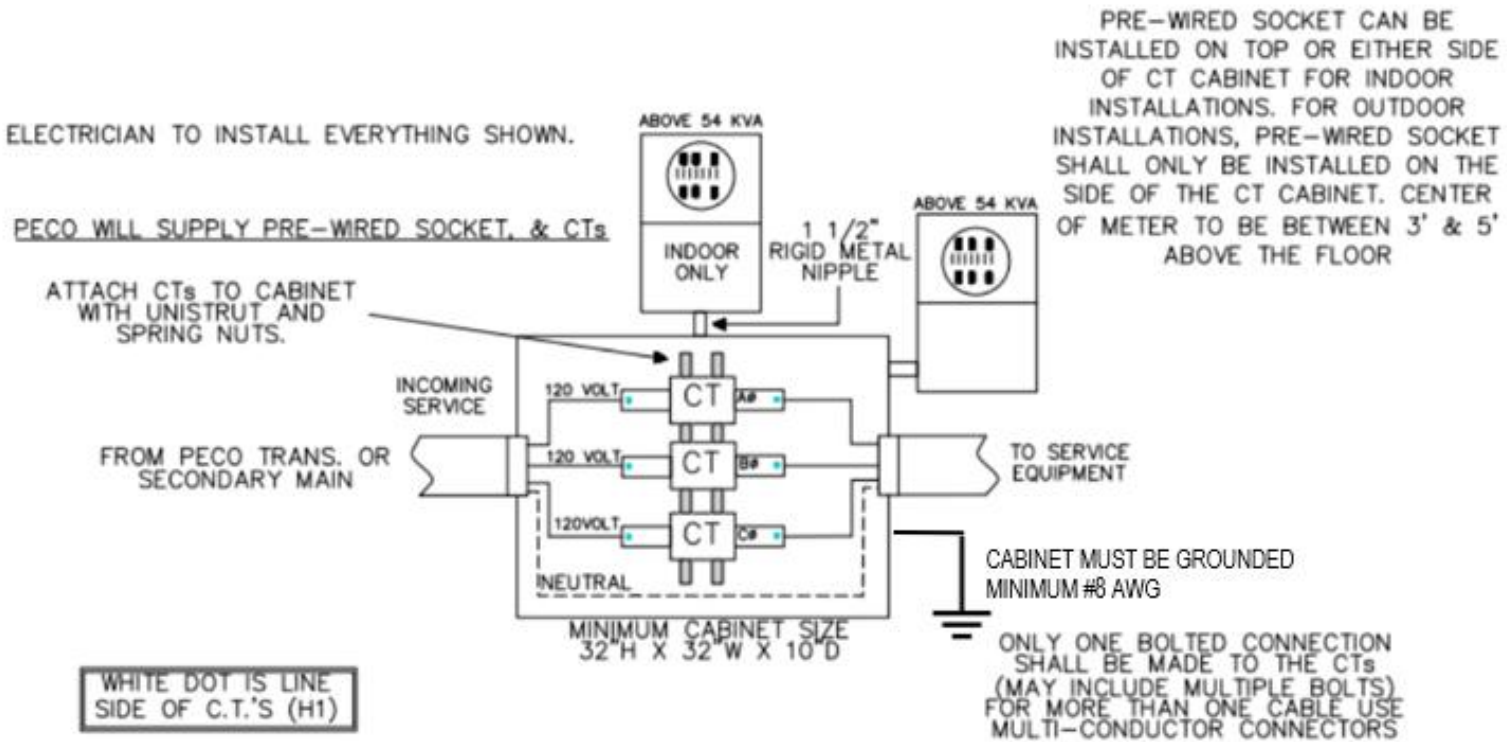
FOR VOLTAGE TESTING PURPOSES, TEST BETWEEN:

A1 TO C1 = 170V	N-A1=120V
A1 TO C2 = 170V	N-A2=120V
A2 TO C1 = 170V	N-C1=120V
A2 TO C2 = 170V	N-C2=120V
A1 TO A2 = 240V	
C1 TO C2 = 240V	

(DRAWING FOR REFERENCE ONLY) NOT DRAWN TO SCALE.
SERVICE CONDUIT MAY ENTER CABINET FROM SIDES, BACK, OR BOTTOM.
TOP PENETRATION IS NOT ALLOWED FOR OUTDOOR.

Figure 8.15

COMMERCIAL CUSTOMER, 3-PHASE 120/208 VOLT RATE CM



(DRAWING FOR REFERENCE ONLY) NOT DRAWN TO SCALE
SERVICE CONDUIT MAY ENTER CABINET FROM SIDES, BACK, OR BOTTOM
TOP PENETRATION IS NOT ALLOWED FOR OUTDOORS

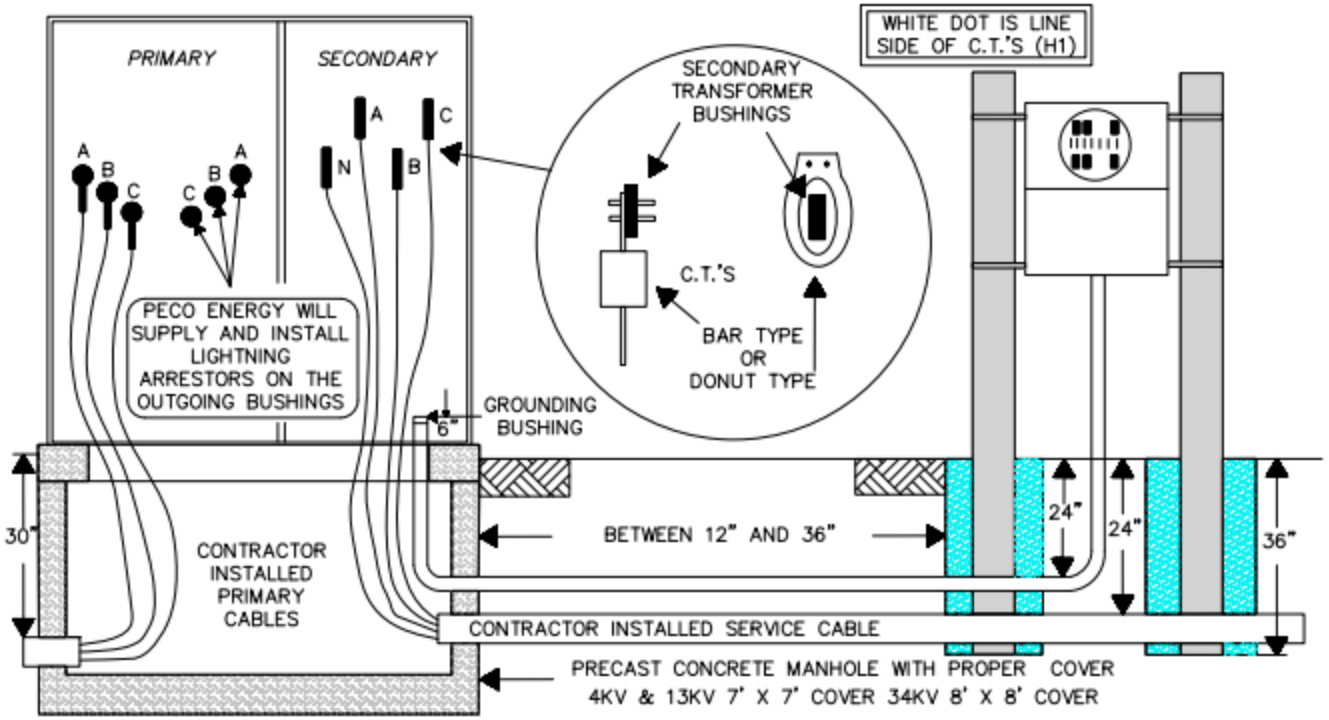
Figure 8.16

COMMERCIAL CUSTOMER, 3–PHASE 120/208 VOLT

RATE CM (OUTDOOR METER)

PECO WILL INSTALL TRANSFORMER. CONTRACTOR TO SUPPLY PRIMARY AND SECONDARY CABLES AND MAKE ALL CONNECTIONS.
PECO WILL SUPPLY PRE–WIRED SOCKET AND CTs
(CONTRACTOR TO INSTALL EVERYTHING SHOWN)

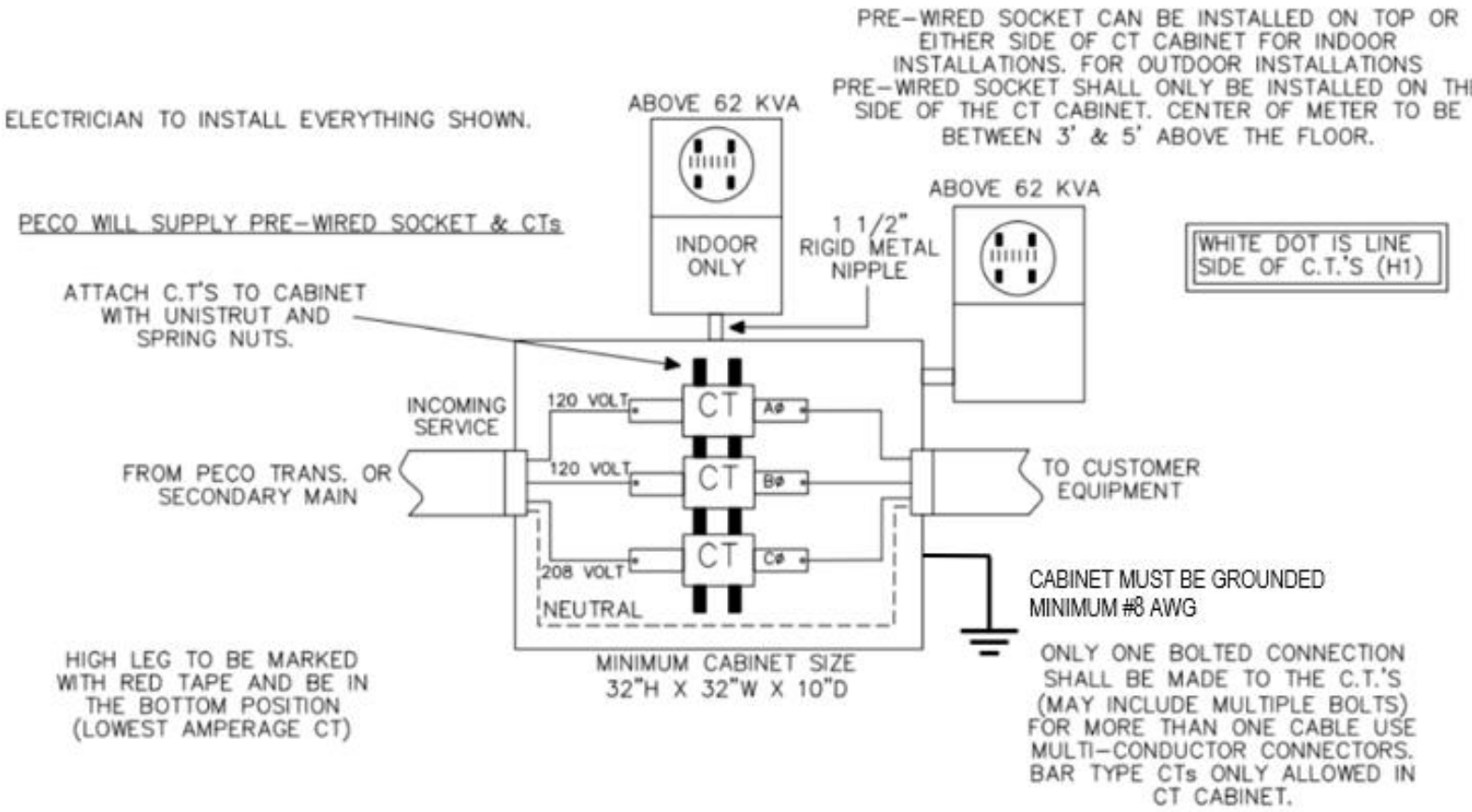
PRE–WIRED SOCKET TO BE INSTALLED ON UNISTRUT MOUNTED BETWEEN TWO RIGID METAL 1–7/8" (MIN) OD STEEL PIPES ENCASED IN CONCRETE OR ON AN OUTSIDE WALL AWAY FROM VEHICLE AND PEDESTRIAN TRAFFIC. CENTER OF METER TO BE BETWEEN 3' AND 5' ABOVE GROUND.



THE PEDESTAL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD. PEDESTAL SHALL BE PROPERLY GROUNDED AS PER NEC.

FIGURE 8.17

COMMERCIAL CUSTOMER, 3–PHASE 240 VOLT
4–WIRE DELTA RATE CM



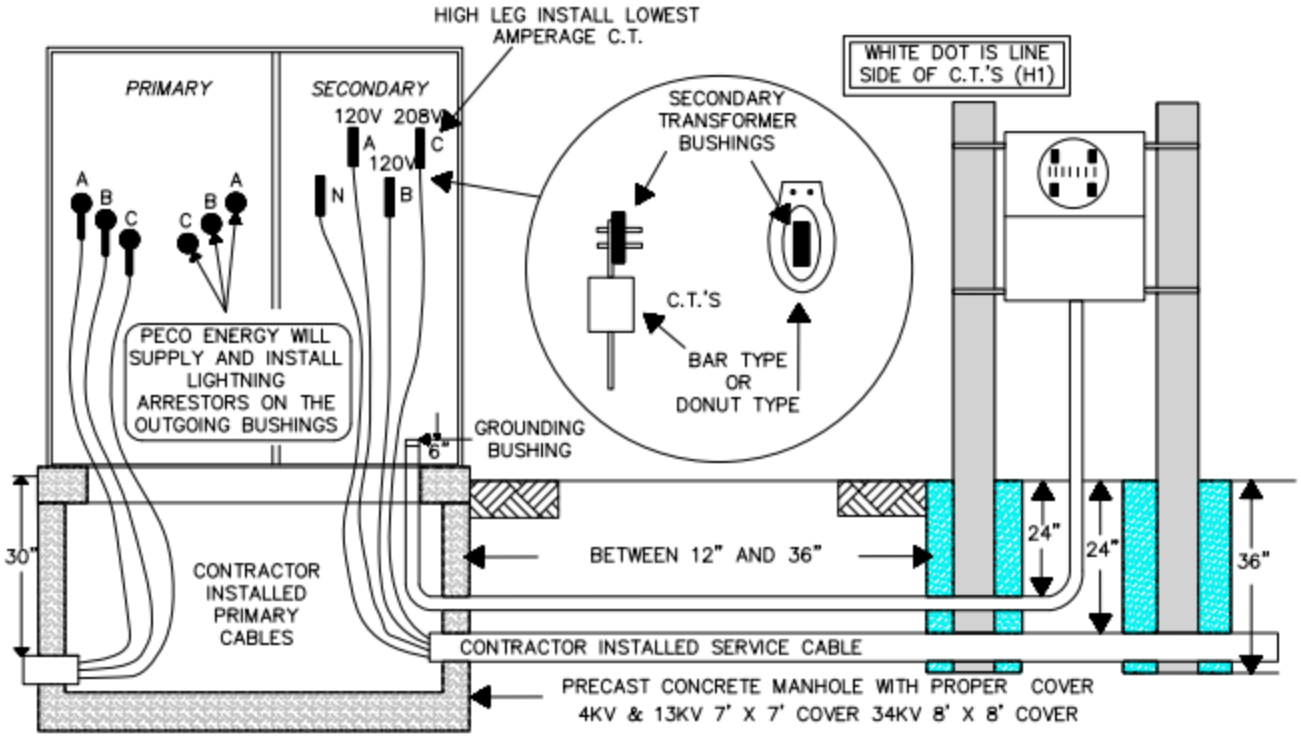
(DRAWING FOR REFERENCE ONLY) NOT DRAWN TO SCALE.
SERVICE CONDUIT MAY ENTER CABINET FROM SIDES, BACK, OR BOTTOM.
TOP PENETRATION IS NOT ALLOWED FOR OUTDOOR.

Figure 8.18

COMMERCIAL CUSTOMER, 3–PHASE 120/240 VOLT
4–WIRE DELTA RATE CM (OUTDOOR METER) 13KV DISTRIBUTION AREA ONLY

PECO WILL INSTALL TRANSFORMER, CONTRACTOR TO SUPPLY PRIMARY AND SECONDARY CABLES AND MAKE ALL CONNECTIONS
PECO WILL SUPPLY PRE–WIRED SOCKET AND CTs.
(CONTRACTOR TO INSTALL EVERYTHING SHOWN)

METER BOARD TO BE INSTALLED ON UNISTRUT MOUNTED BETWEEN TWO RIGID METAL 1–7/8" (MIN) OD STEEL PIPES ENCASED IN CONCRETE OR ON AN OUTSIDE WALL AWAY FROM VEHICLE AND PEDESTRIAN TRAFFIC. CENTER OF METER TO BE BETWEEN 3' AND 5' ABOVE GROUND.



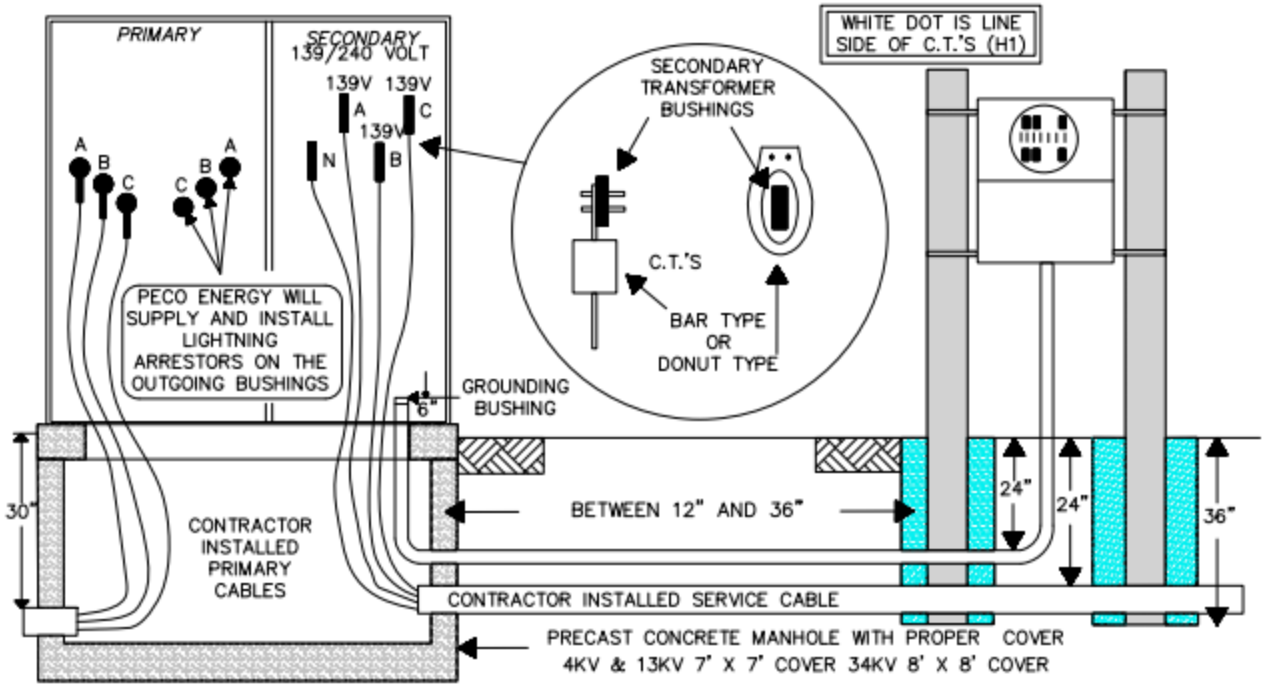
THE PEDESTAL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD. PEDESTAL SHALL BE PROPERLY GROUNDED AS PER NEC.

FIGURE 8.19

COMMERCIAL CUSTOMER, 3–PHASE 139/240 VOLT
RATE CM (OUTDOOR METER)

PECO WILL INSTALL TRANSFORMER, CONTRACTOR TO SUPPLY PRIMARY AND SECONDARY CABLES AND MAKE ALL CONNECTIONS
PECO WILL SUPPLY PRE–WIRED SOCKET AND CTs.
(CONTRACTOR TO INSTALL EVERYTHING SHOWN)

PRE–WIRED SOCKET TO BE INSTALLED ON UNISTRUT MOUNTED BETWEEN TWO RIGID METAL 1–7/8" (MIN) OD STEEL PIPES ENCASED IN CONCRETE OR ON AN OUTSIDE WALL AWAY FROM VEHICLE AND PEDESTRIAN TRAFFIC. CENTER OF METER TO BE BETWEEN 3' AND 5' ABOVE GROUND.



THE PEDESTAL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD. PEDESTAL SHALL BE PROPERLY GROUNDED AS PER NEC.

FIGURE 8.20

COMMERCIAL CUSTOMER, 3-PHASE 277/480 VOLT RATE CM

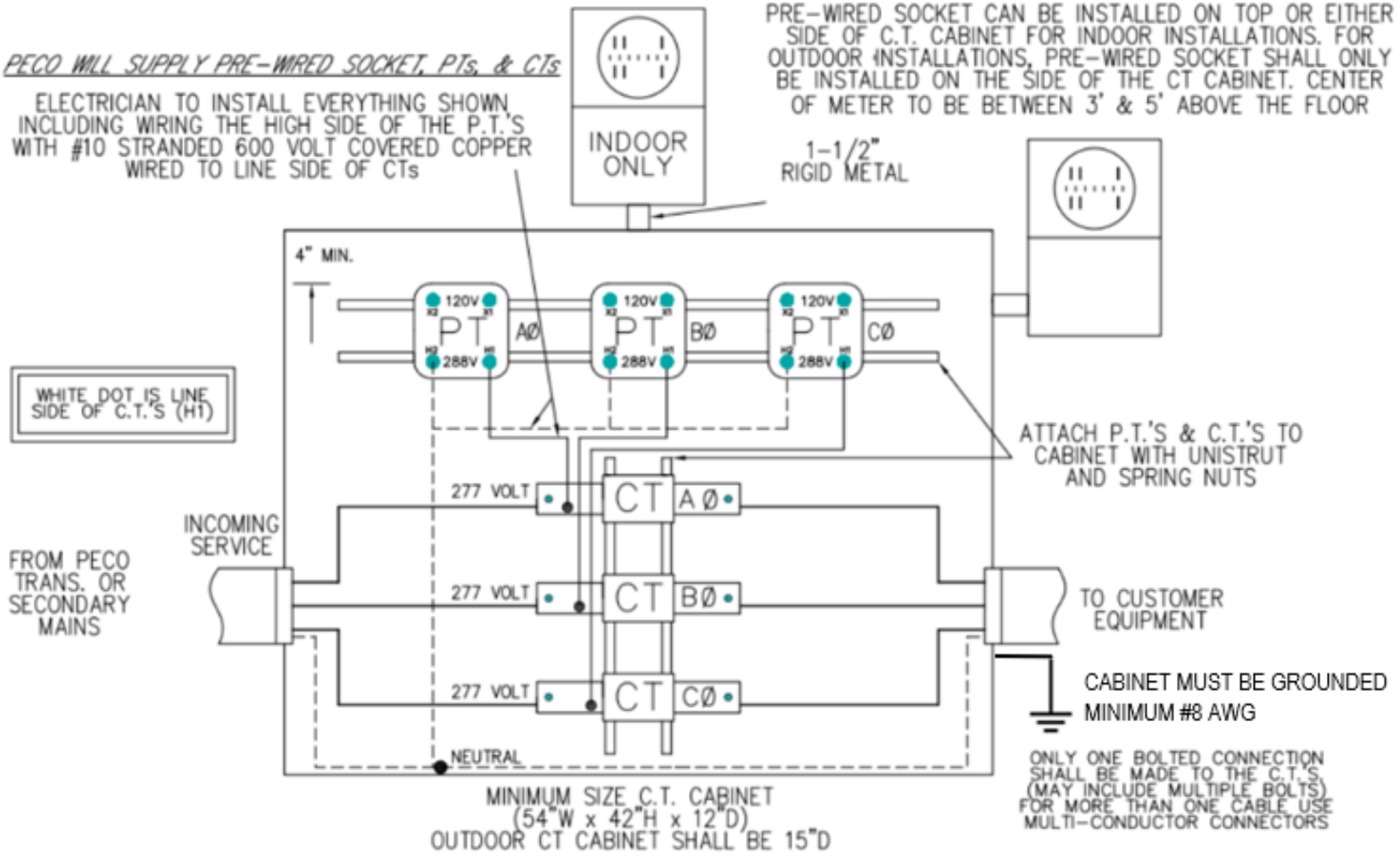
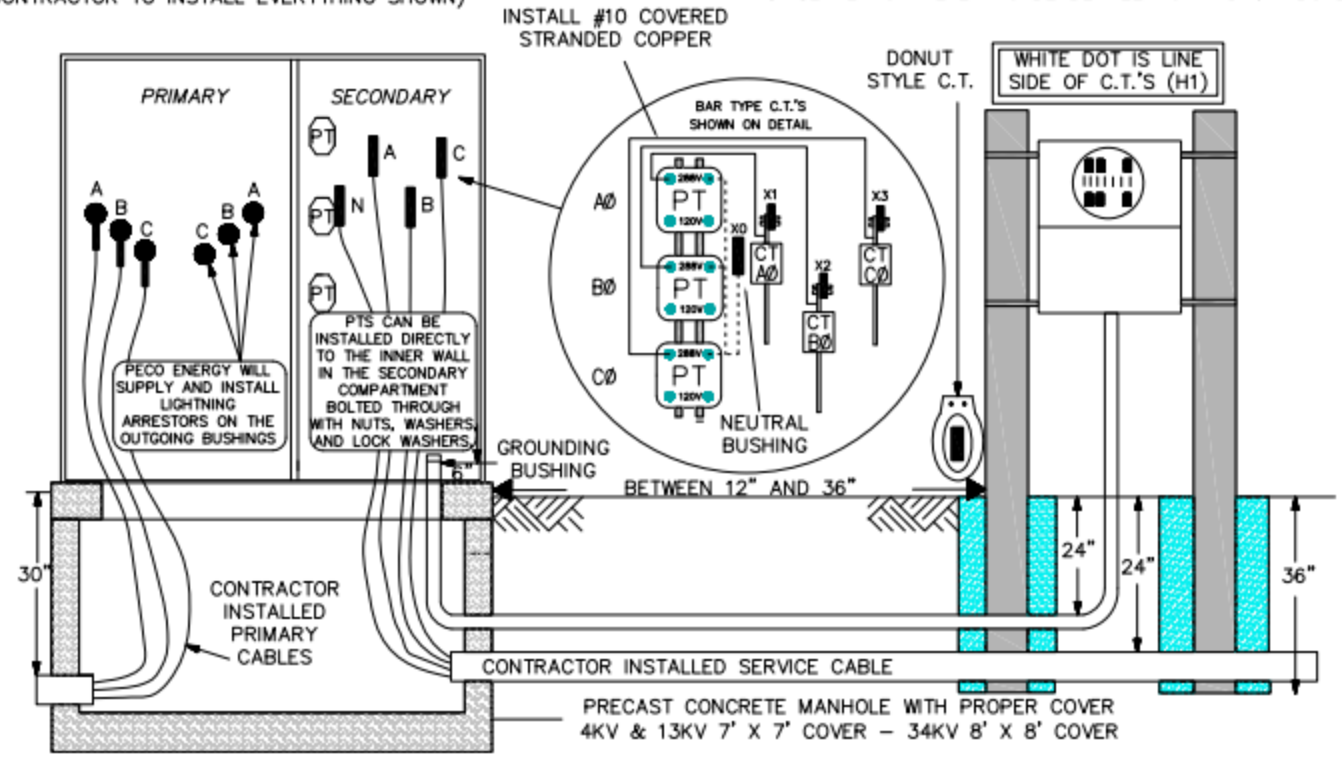


Figure 8.21

SINGLE COMMERCIAL CUSTOMER, 3–PHASE 277/480 VOLT
RATE CM (OUTDOOR METER)

PECO WILL INSTALL TRANSFORMER. CONTRACTOR TO SUPPLY PRIMARY AND SECONDARY CABLES AND MAKE ALL CONNECTIONS PECO WILL SUPPLY PRE–WIRED SOCKET AND CTs. (CONTRACTOR TO INSTALL EVERYTHING SHOWN)

PRE–WIRED SOCKET TO BE INSTALLED ON UNISTRUT MOUNTED BETWEEN TWO RIGID METAL 1–7/8" (MIN) OD STEEL PIPES ENCASED IN CONCRETE OR ON AN OUTSIDE WALL AWAY FROM VEHICLE AND PEDESTRIAN TRAFFIC. CENTER OF METER TO BE BETWEEN 3' AND 5' ABOVE GROUND.

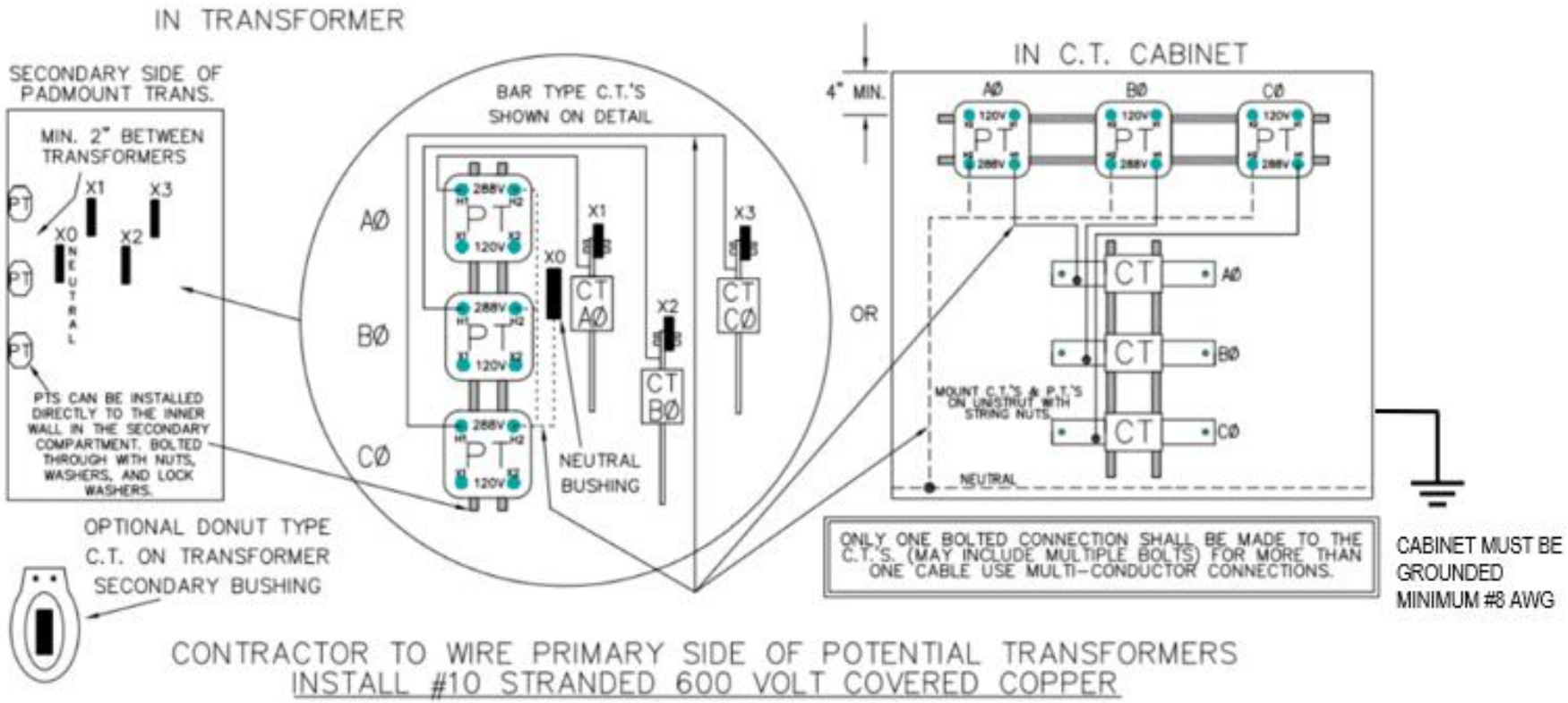


THE METER PANEL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD.

NOTE: PRIMARY CONNECTIONS TO THE POTENTIAL TRANSFORMERS (PTs) SHALL BE FED FROM THE LINE SIDE OF THE CURRENT TRANSFORMERS (CTs). IN CASES WHERE THE CONNECTION CAN BE MADE ONLY FROM THE LOAD SIDE OF THE CTs, THE POTENTIAL FEED CONDUCTOR SHALL BE ROUTED THROUGH THE CT.

FIGURE 8.22

277/480 VOLT SERVICE



CONTRACTOR TO WIRE PRIMARY SIDE OF POTENTIAL TRANSFORMERS
INSTALL #10 STRANDED 600 VOLT COVERED COPPER

WIRED TO LINE SIDE OF CTs

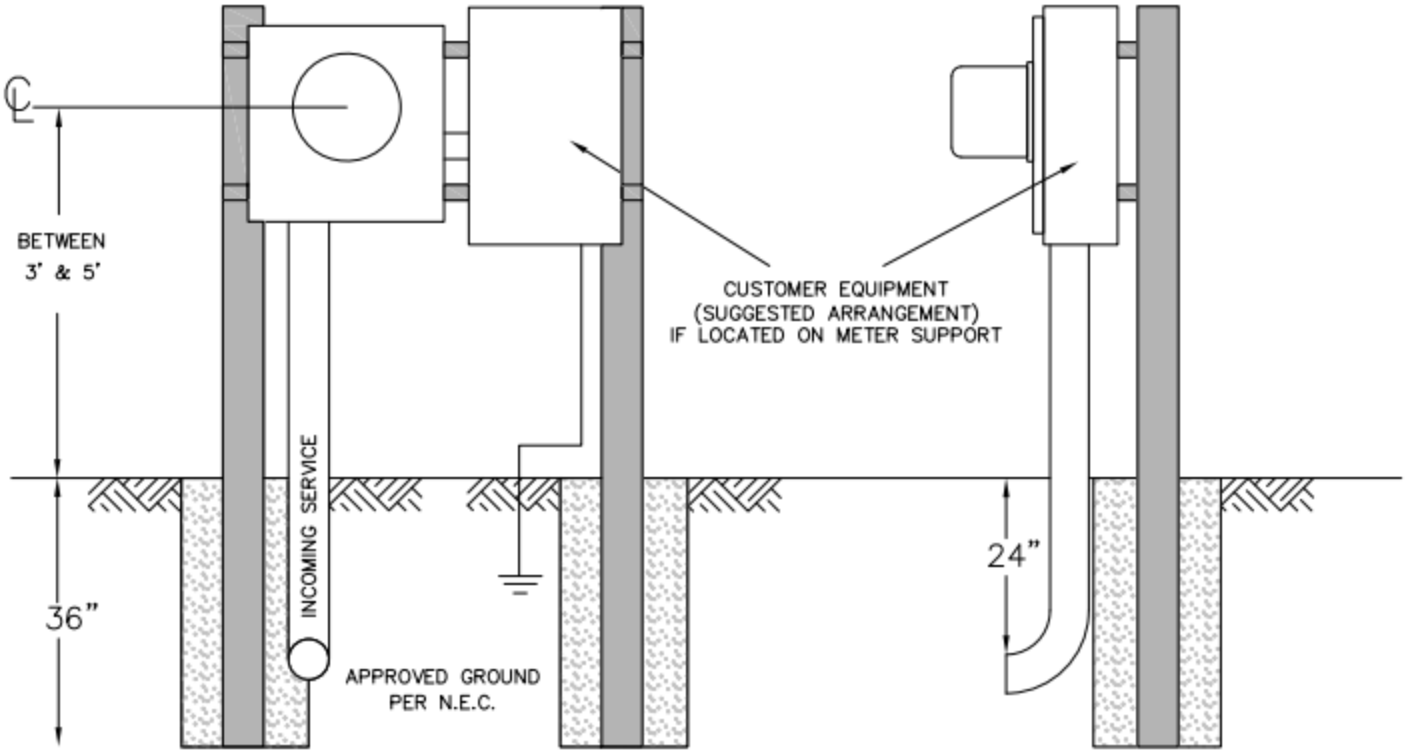
METER SERVICES TO COMPLETE THEIR WIRING BEFORE SERVICE WILL BE ENERGIZED

WHITE DOT IS LINE SIDE OF C.T. (H1) DO NOT REMOVE THE SHUNTS FROM THE C.T.'S

FIGURE 8.23

MINIMUM REQUIREMENTS FOR INIVIDUALLY DESIGNED OUTDOOR METER SUPPORT

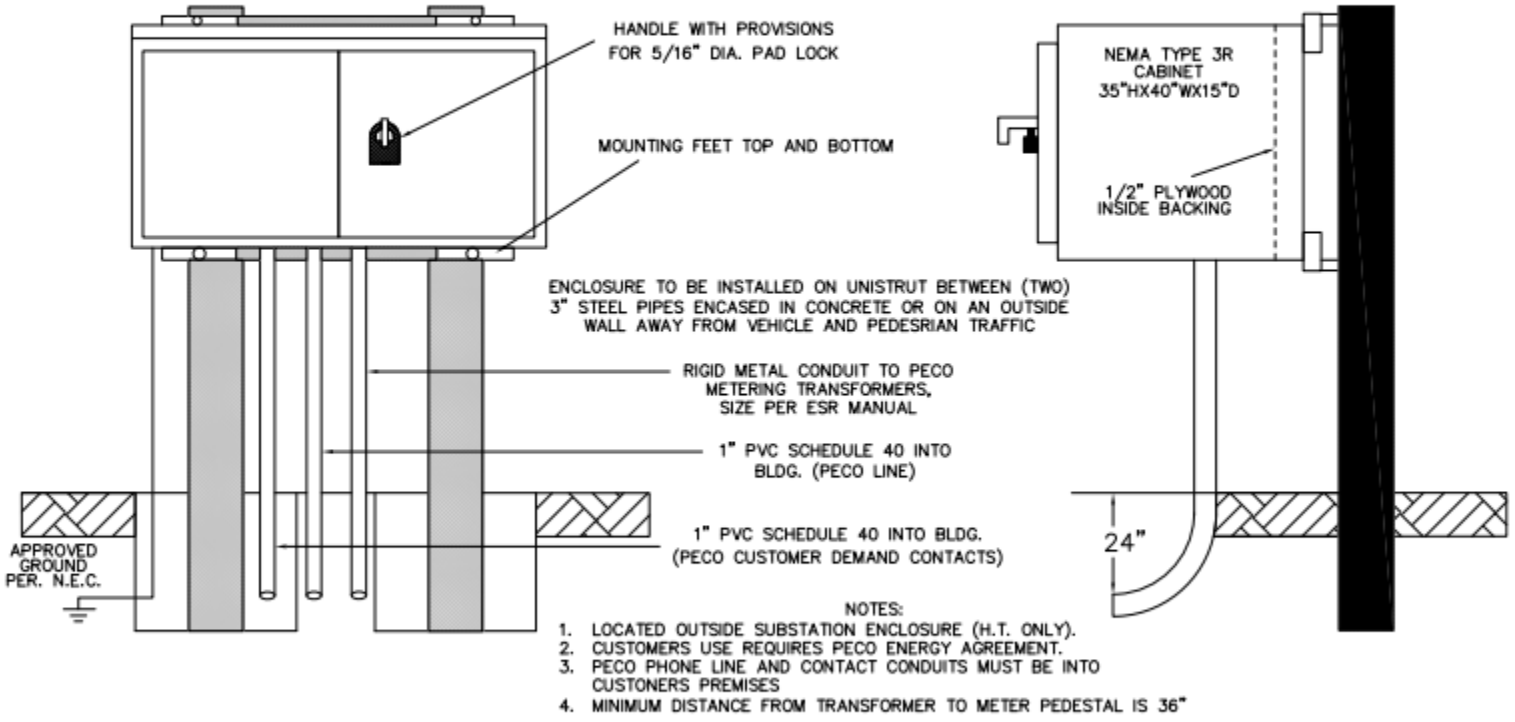
METER BOARD TO BE INSTALLED ON UNISTRUT MOUNTED BETWEEN TWO 2" STEEL PIPES ENCASED IN CONCRETE AWAY FROM VEHICLE AND PEDESTRIAN TRAFFIC. THERE MUST BE 3' OF CLEAR WORKING SPACE IN FRONT OF THE METER.



THE PEDESTAL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD. PEDESTAL SHALL BE PROPERLY GROUNDED AS PER NEC.

FIGURE 8.34

OUTDOOR METER PANEL INSTALLATION
(OUTDOOR METER PEDESTAL ENCLOSURE)



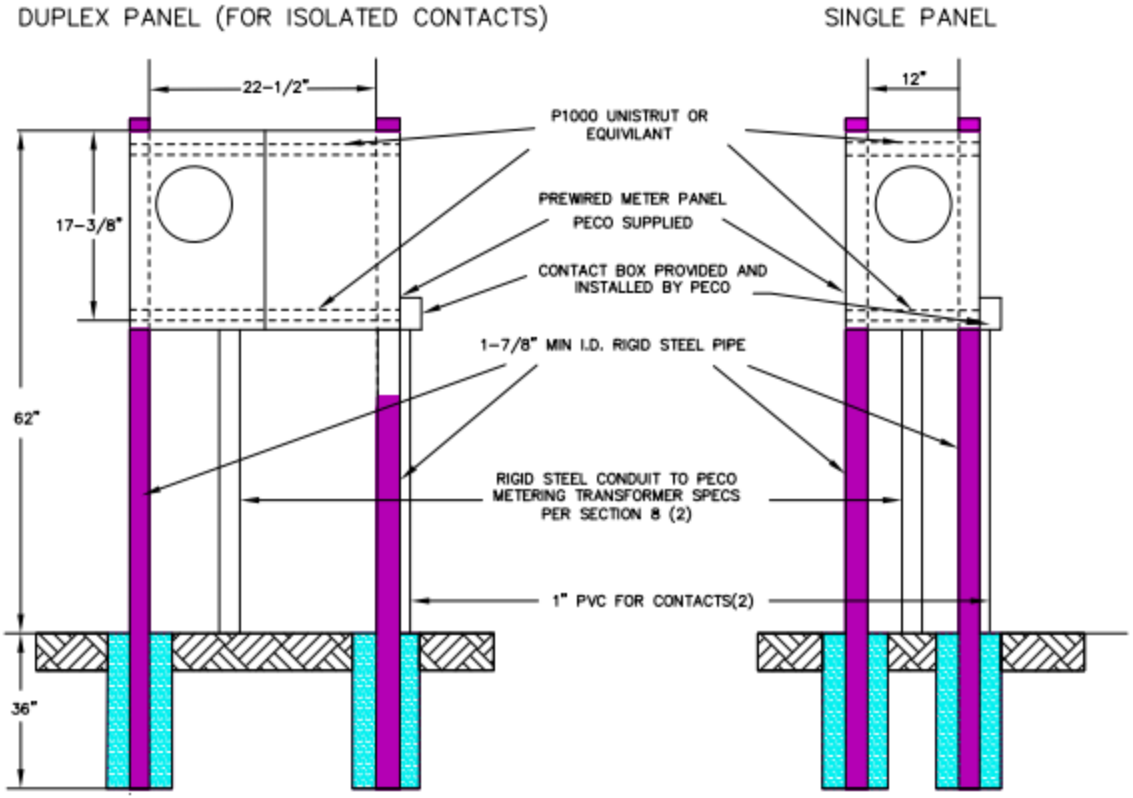
NOTES:

1. LOCATED OUTSIDE SUBSTATION ENCLOSURE (H.T. ONLY).
2. CUSTOMERS USE REQUIRES PECO ENERGY AGREEMENT.
3. PECO PHONE LINE AND CONTACT CONDUITS MUST BE INTO CUSTONERS PREMISES
4. MINIMUM DISTANCE FROM TRANSFORMER TO METER PEDESTAL IS 36"

THE METER PANEL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD.

Figure 8.40

MODEM UNDER GLASS METER PANEL INSTALLATION FOR SINGLE SERVICE



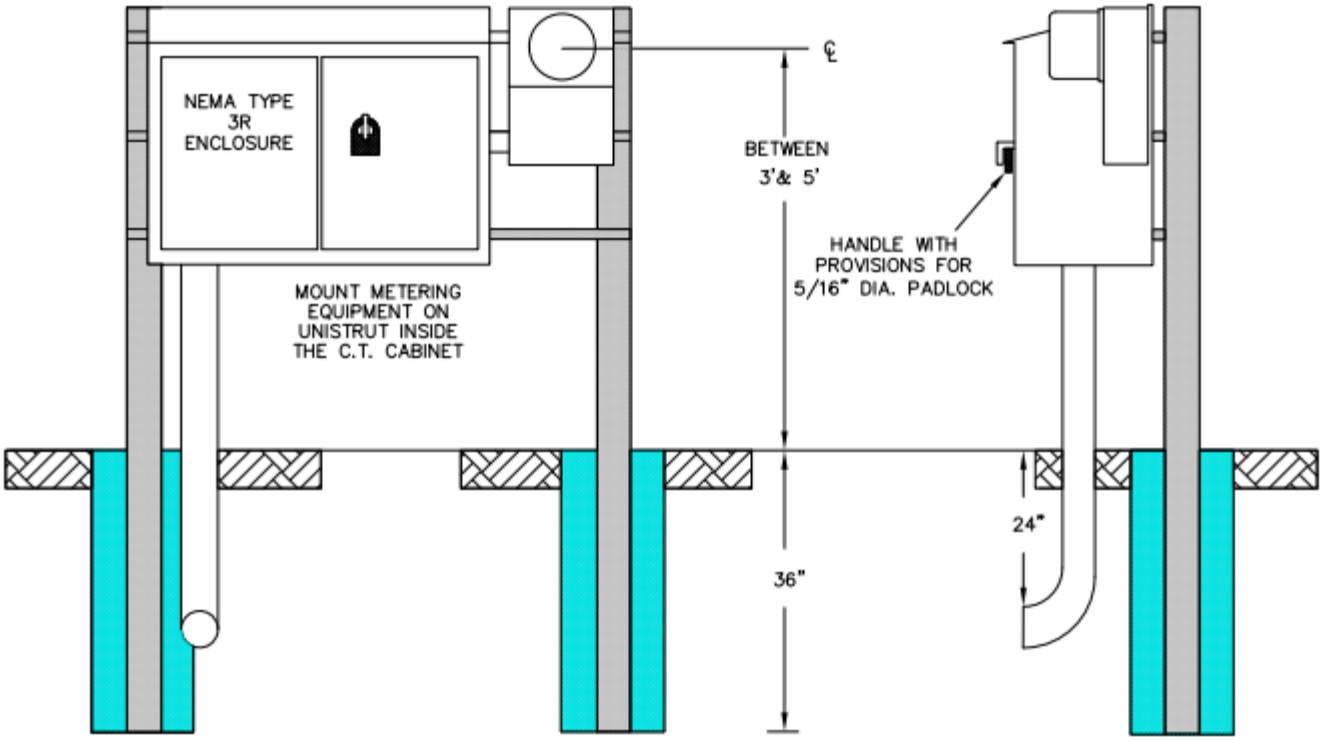
THE METER PANEL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD.

FIGURE 8.41

NOTES:
(1) CONTACT BOX TO BE FITTED TO SUIT IN FIELD.
(2) CONDUIT TO BE ALIGNED WITH PANEL KNOCKOUTS.
(3) FOR INDOOR INSTALLATIONS, ELIMINATE BALLARDS. MOUNT UNISTRUT ON WALL.

OUTDOOR C.T. CABINET ON PEDESTAL

C.T. CABINET TO BE INSTALLED ON UNISTRUT MOUNTED BETWEEN TWO 3" RIGID STEEL PIPES ENCASED IN CONCRETE OR ON AN OUTSIDE WALL AWAY FROM VEHICLE AND PEDESTRIAN TRAFFIC.
PRE-WIRED SOCKET BE INSTALLED ON EITHER SIDE, PECO WILL SUPPLY PRE-WIRED SOCKET & CTs. ELECTRICIAN TO INSTALL EVERYTHING SHOWN. SEE THE APPROPRIATE OUTDOOR C.T. CABINET FOR THE PROPER WIRING DIAGRAM.



DISTANCE FROM TRANSFORMER TO METAL PEDESTAL IS BETWEEN 12" AND 36"

THE METER PANEL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD. PEDESTAL SHALL BE PROPERLY GROUNDED AS PER NEC.

FIGURE 8.43

PRIMARY WIRING DIAGRAM FOR 3–PHASE 3 WIRE
TWO ELEMENT METERING OVER 600 VOLTS
W/CEILING MOUNTED PTS, GRIDS OR REAR SHELF MOUNT [1]

[1] INVERTED MOUNTED OF PTS IS NOT ALLOWED IN NEW CONSTRUCTION

[2] METERING TRANSFORMER SECONDARY CONNECTIONS TO BE COMPLETED BY PECO METER SERVICES

[3] METERING TRANSFORMER PRIMARY CONNECTIONS TO BE COMPLETED BY CUSTOMER/CONTRACTOR

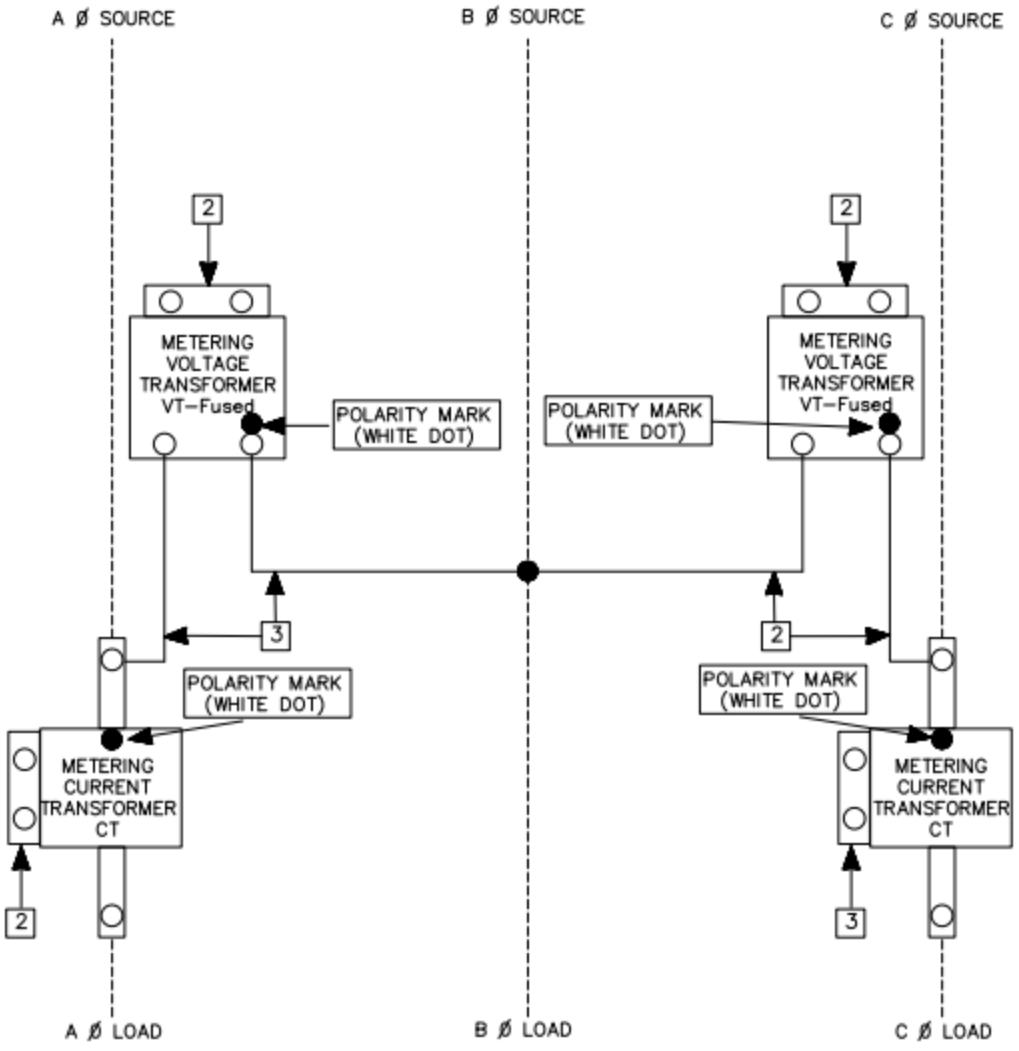


Figure 8.47

PRIMARY WIRING DIAGRAM FOR 3–PHASE 3 WIRE
TWO ELEMENT METERING OVER 600 VOLTS
W/FLOOR OR SHELF MOUNTED PTS [1]

[1] INVERTED MOUNTED OF PTS IS NOT ALLOWED IN NEW CONSTRUCTION

[2] METERING TRANSFORMER SECONDARY CONNECTIONS TO BE COMPLETED BY PECO METER SERVICES

[3] METERING TRANSFORMER PRIMARY CONNECTIONS TO BE COMPLETED BY CUSTOMER/CONTRACTOR

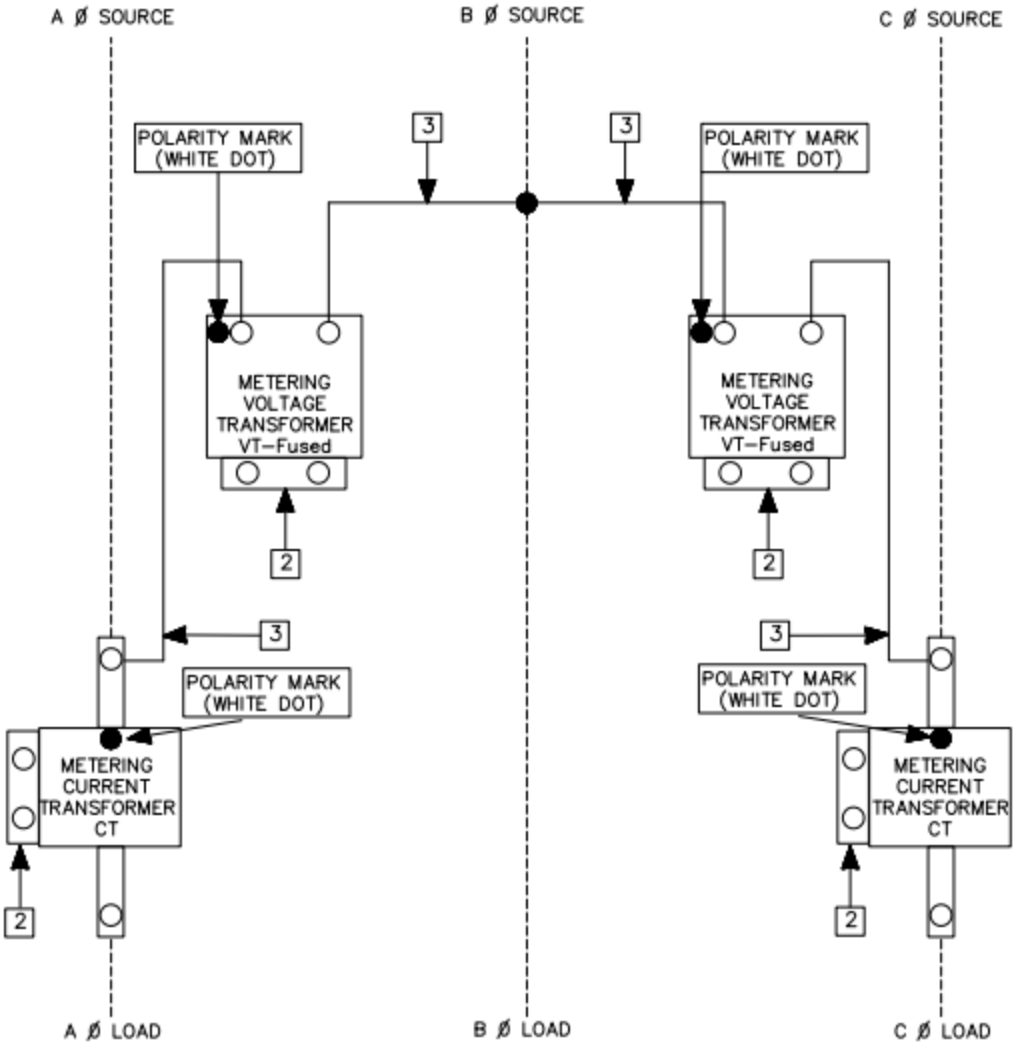
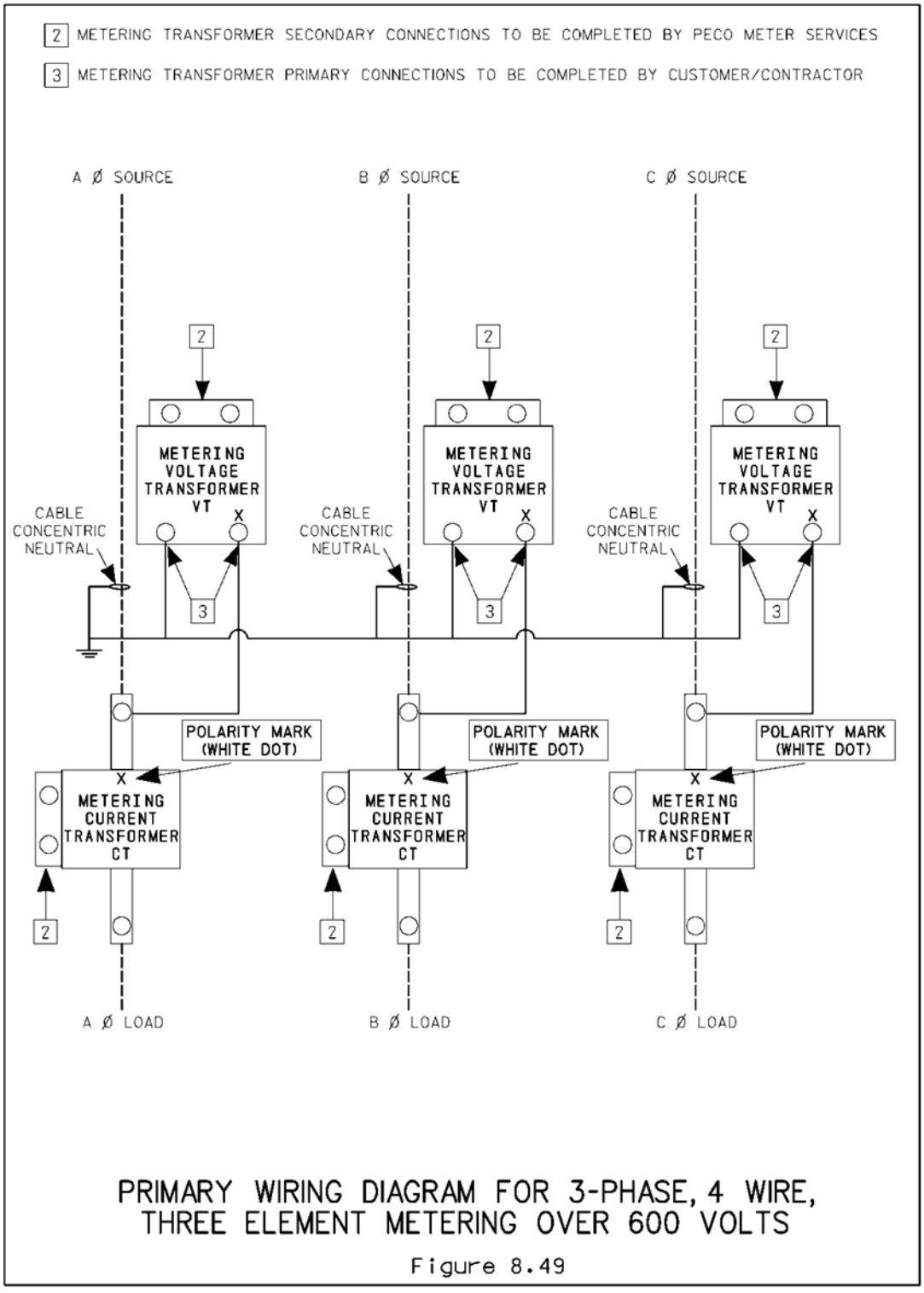


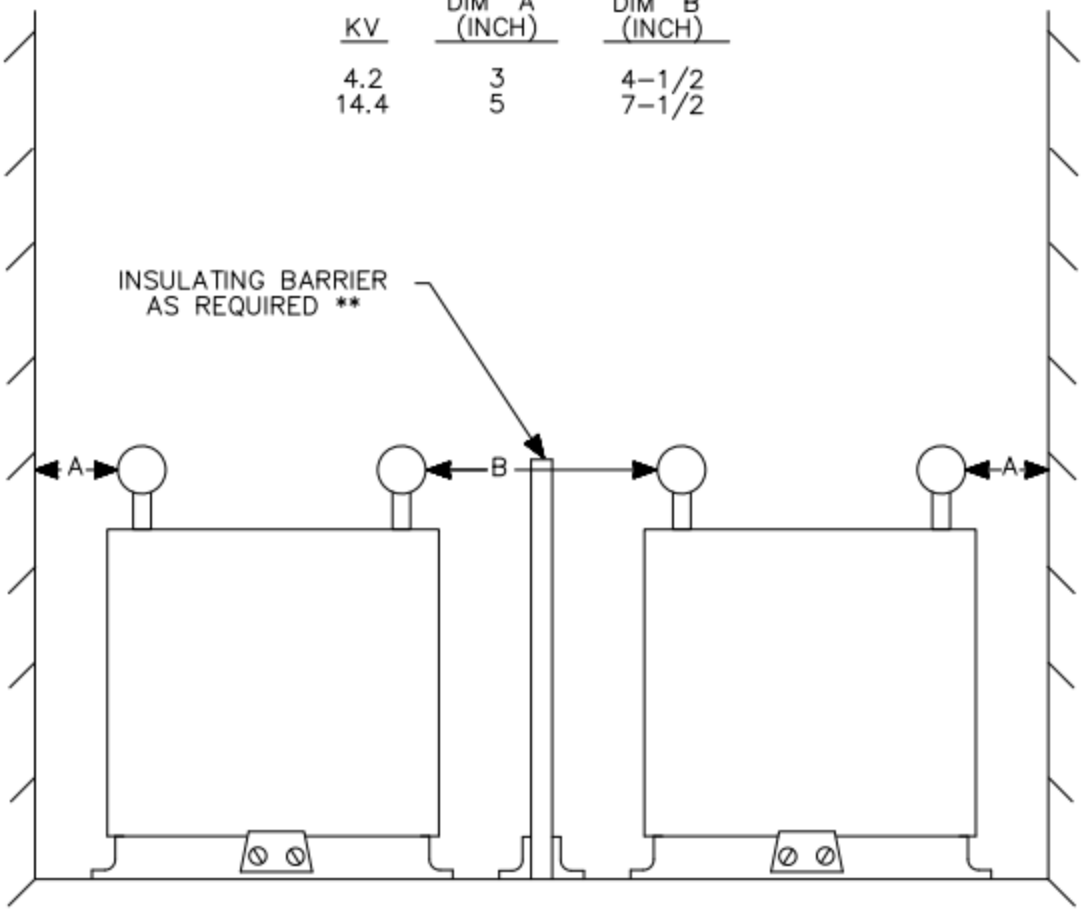
Figure 8.48



PRIMARY WIRING DIAGRAM FOR 3-PHASE, 4 WIRE, THREE ELEMENT METERING OVER 600 VOLTS

Figure 8.49

KV	Ø–GRD DIM "A" (INCH)	Ø–Ø DIM "B" (INCH)
4.2	3	4–1/2
14.4	5	7–1/2

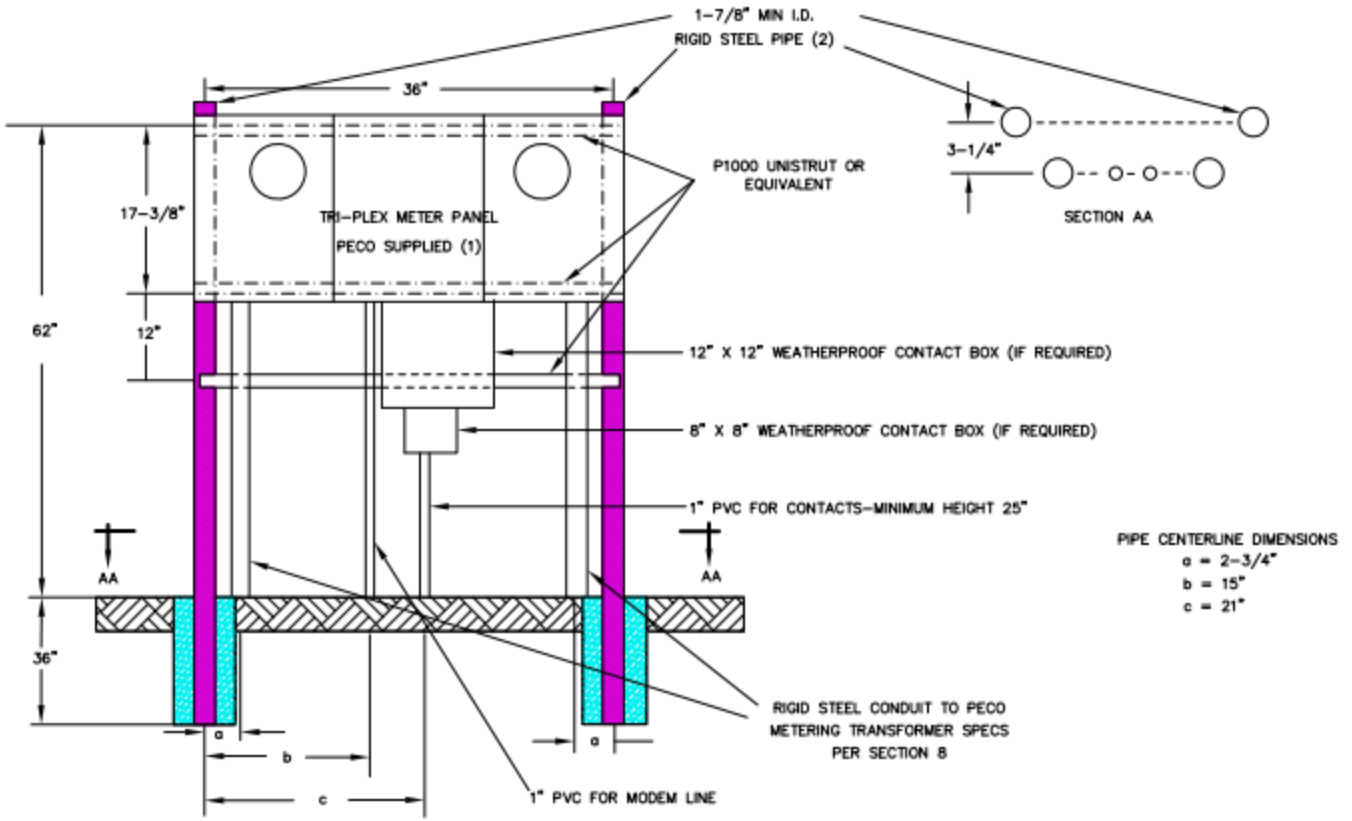


** IF CLEARENCES ARE LESS THAN LISTED
AN INTER PHASE BARRIER OF INSULATING
MATERIAL IS REQUIRED

13.2 & 4.16KV PECO METERING
VT CLEARANCE REQUIREMENTS

Figure 8.51

MODEM UNDER GLASS METER PANEL INSTALLATIONS FOR DUAL SERVICE



THE METER PANEL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD.

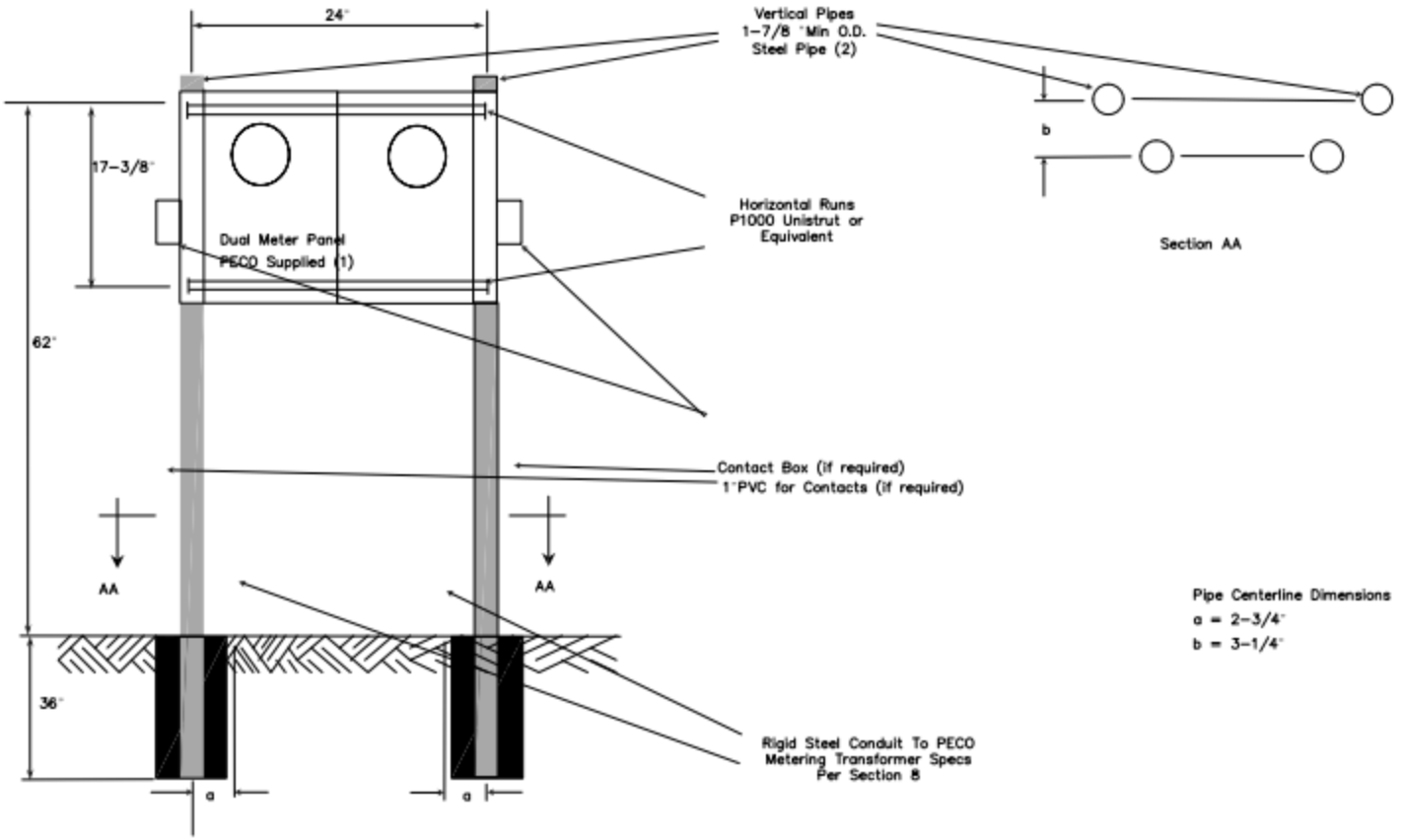
NOTES:

(1) PECO CATALOG # 12981 FOR 13 JAW BOARD (WYE SREVICE) AND 12982 FOR 11 JAW BOARD (DELTA SERVICE)

(2) FOR INDOOR INSTALLATIONS, ELIMINATE BALLARDS. MOUNT UNISTRUT ON WALL.

FIGURE 8.52

METER PANEL INSTALLATION FOR AMI DUAL SERVICE



THE METER PANEL STRUCTURE MUST BE FREE STANDING. IT SHALL NOT BE MOUNTED OR SUPPORTED BY THE TRANSFORMER PAD.

Notes:

(1) PECO catalog # 1664300 for 13 jaw board (wye service) and 1664299 for 11 jaw board (delta service).

(2) For indoor installations, eliminate ballards. Mount Unistrut on wall.

FIGURE 8.53

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