

2023 Edition

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#### POLICY STATEMENT

#### **BLUEBOOK FOR ELECTRICAL SERVICE AND METER INSTALLATIONS**

This book represents the present policies and objectives of the Georgia Power Company within the revenue metering area. It is intended to provide guidance only regarding the design and installation of electric services and revenue metering equipment on the Georgia Power Company system. This book is not intended as a design specification or as an instruction manual. The accuracy and safety of each installation should be considered on a case-by-case basis.

#### SAFETY TAKES PRECEDENCE OVER ALL OTHER REQUIREMENTS. Make each job a NO ACCIDENT JOB.

The policies and procedures in this book are general and broad enough to meet our customer's needs, while ensuring prompt service and accurate metering. It is impossible, however, to cover all circumstances that may be encountered in providing electric service to our customers. It is necessary that common sense and good engineering practices are used where specific situations are not addressed by this book, or where customer service is adversely affected by these procedures. If rules within this document conflict with the Rates, Rules and Regulations filed with the Public Service Commission; the Rates, Rules and Regulations shall take precedence.

While every effort has been made to ensure that the policies and procedures in this book are up to date at the time of publication, circumstances such as legal considerations, new technology, or changes in Company policies, may require modifications from time to time.

**Approved:** 

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Cedric D. Estelle Metering Services Director Metering Services

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James Bennett Hancock Metering Services Engr Manager Metering Services

There may be two or more methods of service from which to choose. Before selecting a particular method, purchasing, or installing any equipment the Company and the customer should thoroughly discuss the alternatives to be sure the method selected is in the best interest of all concerned. Open, two-way communication between the Company and our customers is the best way to prevent misunderstandings, delays, and unnecessary expense.

While every effort has been made to ensure that the policies and procedures in this book are up to date at the time of publication, circumstances such as legal considerations, new technology, revisions to the National Electrical Code, National Electrical Safety Code, or changes in Company policy, may require modifications to be made from time to time.

For proposed changes, please submit via e-mail at:

gpcbluebook@southernco.com

BlueBook 2023 Committee Members

Cedric D. Estelle, Director, Metering Services Ben Hancock, Manager, Metering Services Engineering

Chantal Inverdale-Duncan, BlueBook Committee Chairman

- Jacob Colston Roger McDaniel Trent Christian Jason Overby Drew Hammett Mike McCowen John Foust Travis Jimperson Shaun Gunter Drew Henderson
- Keith Reese Zach Dew William Ellis Robert Reepe Christopher Roberson Neal Price Richard Hall Paul Hardy Albert Morris Carolina Sifuentes

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### 1.0 Definitions

<u>Abandonment</u>: If equipment is abandoned, a mutual agreement shall be reached between the **Customer** and the **Company** relinquishing ownership of this equipment to the **Customer**. The **Customer** shall agree to accept ownership and responsibility for any abandoned equipment.

<u>Auxiliary Gutter:</u> An enclosure (usually metallic) used to supplement wiring spaces at meter centers, distribution centers, switchgear, switchboards, and similar points of wiring systems. The enclosure has hinged or removable covers for housing and protecting electrical wires, cable, and busbar. The enclosure is designed for conductors to be laid or set in place after the enclosures have been installed as a complete system.

**<u>Bi-Directional</u>**: The ability of the utility meter to both register direction of flow and quantity of kWhs that are either delivered to the Customer or received from the Customer. Bidirectional programming also allows the Customer to offset kWh usage otherwise purchased from Georgia Power, and as applicable to the eligible renewables program, the Customer may receive credit for any excess renewable generation kWhs that Georgia Power receives from the Customer.

Approved: Acceptable to a qualified Georgia Power Company employee.

*Company*: Georgia Power Company.

<u>Customer</u>: The corporation, municipality, governmental agency, association, partnership, or individual using or planning to use electric service supplied by the **Company** or the architect, engineer or electrical contractor acting as the **Customer's** agent.

**Distributed Energy Resource (DER):** A source of electric power that is directly connected to Company's Distribution System. DER sources include Energy Storage Systems, fuel cells, solar photovoltaic (PV), biomass, natural gas, wind, etc. DER energy conversion technology includes inverters, induction generators, and synchronous generators, including reciprocating or turbine-driven generator.

*Energy Storage System:* A system that captures energy produced at one time, stores that energy for a period of time, then delivers that energy as electricity at a future time.

<u>Fifth Terminal Meter Jaw</u>: The extra jaw that shall be installed in a single-phase meter socket to allow metering 120/208V services. This fifth terminal meter jaw shall be located at the 6 or 9 o'clock position. This fifth terminal is available for Company issued meter sockets. It must be provided by the Electrician for Customer owned meter sockets or multi-position meter centers.

*Final Grade Level*: Ground levels after all construction and landscaping procedures have been completed.

*Fire Pump Service*: The service dedicated to fire pump equipment.

*Grounded Conductor*: A system or circuit conductor that is intentionally grounded.

<u>Grounding Electrode Conductor</u>: A conductor used to connect equipment or the grounded conductor (neutral) of a wiring system to a grounding electrode.

<u>Grounding Conductor, Equipment</u>: The conductor used to connect non-current carrying metal parts of equipment, raceways, and other enclosures to the system grounded conductor and/or the grounding electrode conductor at the service equipment.

*Interconnection Agreement*: The contract between Company and the Customer that stipulates terms and conditions for DER Interconnection and Parallel Operation of a DER connected to Company's Distribution System.

**Island:** A condition in which a portion of Company's Distribution System is energized solely by a DER, while that portion is electrically separated from the rest of Company's electric system on all phases to which the DER is connected. IEEE defines both intentional and unintentional islands. Intentional islands may be desirable in some cases, such as in a microgrid that is planned to operate independently during a weather event or unforeseen outage. An unintentional island is not planned and is considered undesirable because line worker practices, protective equipment, and grid control systems are not designed for those conditions.

*Isolated*: Not readily accessible to persons unless special means for access are used.

*Joint Agreement*: The understanding of two or more parties having the same consent, vision, and commitment for solution of a particular situation or circumstance.

*Line Side*: The top of any meter sockets used on GPC system.

*Load Side*: The bottom of any meter sockets used on GPC system.

**Listed**: Equipment or materials included in a list published by an organization acceptable to the authority having jurisdiction and concerned with product evaluation that maintains periodic inspection of production of listed equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

<u>Manufactured Home</u>: A single or multi-sectional structure built on a permanent chassis on or after June 15, 1976. Since it is built on a permanent chassis, it is considered re-locatable.

Master Meter: Company supplies electricity for entire load for the Customer through one metering point.

<u>Metal Anchor</u>: Metal device designed by manufacturer to mount equipment to masonry or concrete. Plastic anchors are not permitted.

<u>Mobile Home</u>: A single or multi-sectional structure built on a permanent chassis **prior to June 15, 1976**. Since it is built on a permanent chassis, it is considered re-locatable.

<u>Modular Home</u>: A structure consisting of sections built at a factory then transported and assembled at the permanent location. This structure is not considered re-locatable since it is not built on a permanent chassis.

<u>Permanent Marking</u>: Permanent letters or numbers in enamel paint at least 1 inch in height using a contrasting color. Permanent plastic or metal labels are acceptable, at least 1 inch in height. Permanent Ink Markers, such as Sharpies, are not acceptable.

**<u>Point of Interconnection (POI)</u>**: The point of connection of the DER to Company's Distribution System; this term is synonymous with point of common coupling (PCC) as used in IEEE 1547.

**Power Delivered:** Electricity supplied by Company to the DER.

#### **Power Received:** Electricity supplied by the DER to Company's Distribution System.

**Primary Voltage:** A voltage magnitude of more than 600 volts phase to phase or phase to ground.

**<u>NEC</u>**: National Electrical Code.

**<u>NESC</u>**: National Electrical Safety Code.

<u>*Oualified Employee*</u>: A Georgia Power Company employee responsible for company safety, regulations, construction, application, and operation of the equipment involved.

**<u>Readily Accessible</u>**: Capable of being reached easily without requiring tools or the removal of obstacles.

Secondary Voltage: A voltage magnitude of 600 volts or less, phase to phase.

<u>Service</u>: The conductors and equipment for delivering energy from the **Company's** electricity supply system to the wiring system of the premises served.

<u>Service Drop</u>: The overhead service conductors from the last pole or other aerial support including the splices, if any, connecting to the service entrance conductors at the building or other structure.

<u>Service Entrance</u>: An inclusive term describing the customer owned facilities from the meterbase to the connection point with the utility known as the service point.

<u>Service Entrance Conductors - Overhead System</u>: The service conductors between the terminals of the service equipment and a point usually outside the building, clear of building walls, where joined by tap or splice to the service drop.

<u>Service Entrance Conductor - Underground System</u>: The service conductors between the terminals of the service equipment and the point of connection to the service lateral.

<u>Service Equipment</u>: The necessary equipment, usually consisting of a circuit breaker or switch and fuses, and their accessories located near the point of entrance of supply conductors to a building or other structure or an otherwise defined area intended to constitute the main control and a means of disconnecting the supply.

<u>Service Lateral</u>: The underground service conductors between the street main, including any risers at a pole or other structure from transformers, and the first point of connection to the service entrance conductors in a terminal box, meter socket or other enclosure with adequate space, inside or outside the building wall. Where there is no terminal box, meter socket or other enclosure with adequate space, the point of connection shall be considered the point of entrance of the service conductor into the building.

*Service Point*: The point of connection between the Company's facilities and the Customer's facilities.

**Single Directional:** The utility meter's ability to only register direction of flow and quantity of kWhs in one direction, either all delivered to the Customer, or all received from the Customer. Typically, a customer who has connected a DER on the load side of the meter of an existing service that also serves existing loads will need the meter programmed bidirectional. Georgia Power will receive all generation through a single directional meter that is dedicated to serving a DER, and as applicable to the eligible renewables program, the Customer may receive credit for any excess renewable generation kWhs that Georgia Power receives from the Customer.

Solidly Grounded System: System that has at least one conductor or point intentionally grounded.

<u>Structurally Solid Enclosures</u>: An enclosure constructed of materials that allow no access or penetration of foreign objects from any direction or intrusion except through an approved entry point. Material types may vary but will always be sound, firm and well-constructed, not affected by weathering, water or high heat exposure. Examples are concrete, masonry, and steel.

<u>Sub-Metering</u>: The metering of individual loads within a facility for billing or load control purposes. For billing applications, where the facility is usually metered by a master meter, and the property owner desires to meter and charge individual tenants for their portion of the electricity consumed. This equipment is **Customer** owned and maintained.

<u>Temporary Service</u>: Service where the Company is only required to provide a service drop and a meter socket to construction jobs, fairs, carnivals, fruit stands, Christmas tree stands, and to similar locations and structures where such service is required for a specified time of twelve (12) months or less.

**Witness Testing:** Live testing of the DER while operating in parallel with Company's Distribution System.

# 2.0 General Information

- A. Application for Service, Availability and Classification of Service:
  - 1. When contacting the **Company** regarding new service, be prepared to provide all information related to phase requirements, voltage, loading, etc., including any information on specific requirements. (i.e., solar (PV) or generator)
  - 2. Application for service can be made through the **Builders Line** phone number and website below. The application should be made well in advance of the required service date.
  - 3. Builders Line & Generators Link: (877) 365-3276 or www.georgiapower.com/builders
  - 4. The **Company** shall connect only one service drop or service lateral to a building or structure for each class of service, except as permitted by the National Electrical Code. For the purpose of this rule, a communication tower shall be treated as a single structure. Refer to Section 3.5.H for additional information.
  - 5. Only one watt-hour meter shall be installed per Customer per class of service except as explained in Section 2.A.3 above. IN NO CASE SHALL METER READINGS OF TWO OR MORE WATT-HOUR METERS BE COMBINED FOR BILLING PURPOSES.
  - 6. Installations that qualify to be placed on an unmetered rate shall have a meter socket equipped with a bypass handle, NEMA Type 4 enclosure, or enclosure approved by the Customer Field Service Supervisor. A lockable disconnect shall be installed on the load side of the meter socket or enclosure.
  - 7. Services that require metering shall have control relaying installed on the load side of the metering equipment.

#### 2.1 Connections between Company and Customer

Final connections at the service point shall be made by the **Company**. **Customer** owned devices shall not be installed between the service point and **Customer's** meter socket (i.e., interbase adapters). The electric service and metering equipment are designed to serve the **Customer's** load as it exists when connected to the **Company's** distribution system. **The Company will not accept more than one conductor under one pressure device, unless approved by metering services personnel.** 

### **2.2 Inspections**

A. In areas where electrical inspection is provided, the Public Service Commission requires that all wiring and equipment in or upon the premises of the **Customer** to the point of the service connection shall have the approval of an inspector from the constituted authority (cities and counties, for example) prior to connecting the **Customer** service to the **Company's** system. Also, the Service Regulations of the **Company** on file with the Georgia Public Service Commission shall be met.

- B. For Customers that may be exempt from the local inspecting authority, such as some federal, state, and local governmental agencies or self-inspecting entities, or in areas where an electrical inspector does not exist; a **letter** should be obtained from an individual or entity qualified to make the statement that all wiring has been completed according to the National Electrical Code (NEC) before service is connected. **Letter in Lieu of Inspection please refer to page 14 (click template to fill out).**
- C. Regardless of whether a city or county employs inspectors, the **Company**, through a qualified employee, has the right to make the final determination about connecting the service. The **Company** shall not connect any service where an unsafe condition is observed. The **Customer** shall be notified of the unsafe condition and service will be provided when corrected by the **Customer**.

## 2.3 Letter in Lieu of Inspection

#### LETTER AGREEMENT IN-LIEU OF ELECTRICAL INSPECTION

May only be used for state of Georgia buildings, federal buildings, services on railroad property, or where the authority having jurisdiction is not under the authority of the Georgia Fire Prevention and Building Safety Commission.

Customer or Project Name:	
Service Address:	
City / Zip code:	

#### ACKNOWLEDGMET

The undersigned customer ("customer") has asked Georgia Power Company ("GPC") to energize its electrical facilities at the service address listed above. The customer understands it is the customer's obligation and responsibility to ensure that all facilities on the customer's side of the service point are installed, operating, and maintained in safe condition. This obligation and responsibility includes, without limitation, ensuring that the customer's electrical facilities comply with all state and local construction codes and safety standards. Further, customer must coordinate with architectural and engineering consultants, construction contractors, electricians, and/or subcontractors, as appropriate and obtain all necessary and appropriate professional maintenance and approvals, before the applicable electrical systems are energized. FAILURE TO DO SO MAY LEAD TO SERIOUS INJURY, DEATH, OR DAMAGE TO PERSON AND/OR PROPERTY RESULTING FROM UNSAFE CONDITIONS. GPC makes no representations or warranties regarding the suitability, fitness, workmanship, or safety of the customer's electrical wiring, equipment, or other facilities on the customer's side of the service point, and GPC is not responsible for any damages caused by or as a result of unsafe, unlawful, unapproved, deficient, or non-compliant conditions on the customer's side of the service point.

Customer/Representative's Initials

#### **Customer's Certification of Readiness and Waiver**

By signing below, the customer (or authorized representative) hereby certifies to GPC that they have read, initialed, and complied with the Acknowledgment above and have confirmed that all electrical systems and facilities at the service address written above comply with all applicable state and local construction and safety standards and requests Georgia Power Company to energize the subject facilities. The customer assumes full responsibility for any and all damages and injuries that may occur to property or persons as a result of or arising out of conditions on the customer's side of the service point at the service address noted above. The customer further agrees to waive, release, and discharge Georgia Power Company and its divisions, subsidiaries, affiliates, dealers, joint ventures, interrelated companies, insurers, shareholders, officers, agents, servants, directors, employees, successors, predecessors, and assigns from any and all liability for any injury, death, or property loss or damage arising out of the energization of the customer's facilities and promises to indemnify, hold harmless, and defend GPC and the persons and entities named above from any liability or claims made as a result of the energization of the customer's facilities so long as the damages are not proximately caused by GPC's sole negligence.

(If not the owner/customer, I certify that I have the owner/ customer's permission to act in their stead.)

Customers/ Representative Name:					
Business Name:					
Business Address:					
Telephone Number:					
If applicable:					
Professional Engineer, P.E. Or Electrical licenses					
Date:					

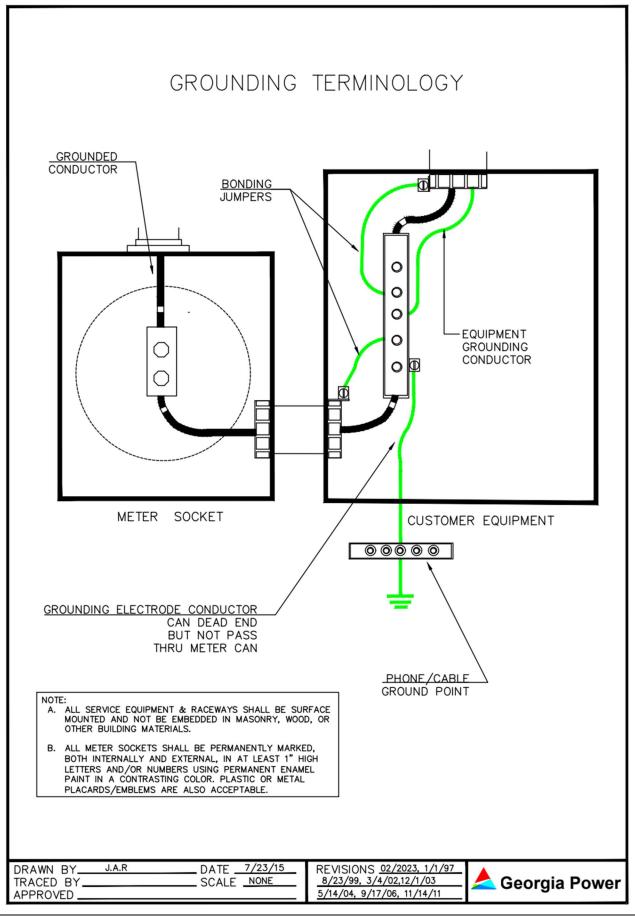
# <u>NOTES</u>

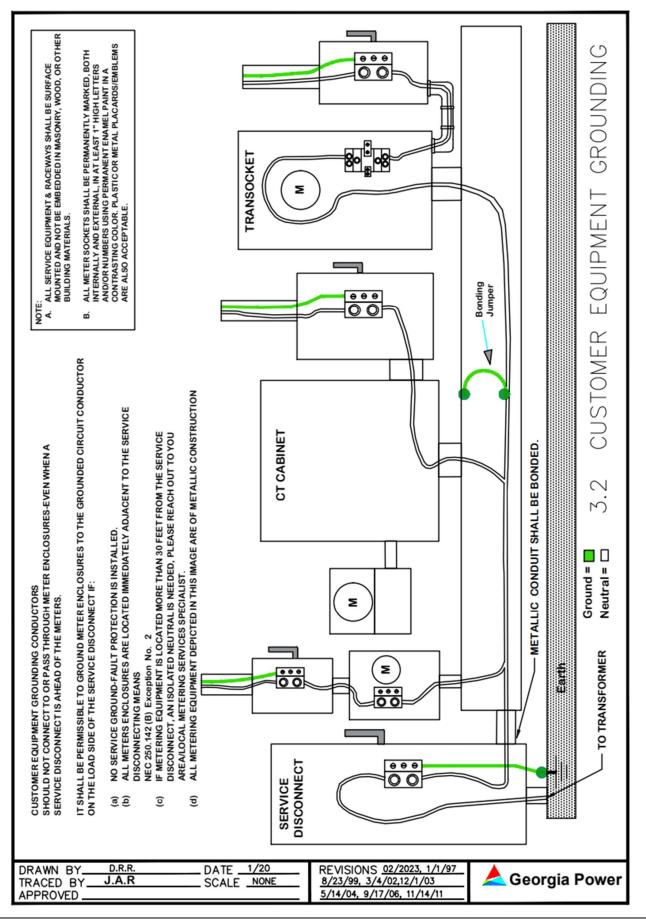
# 3.0 Bonding & Grounding of Meter Equipment

The **Customer** shall install a grounding electrode system and bond service equipment **in accordance with the currently adopted National Electrical Code (NEC) Din Georgia and local codes.** Installation shall be in compliance with the NEC before requesting the **Company** to energize the service. Failure to comply with the appropriate codes may result in personal injury or damage to property.

- A. Solidly Grounded Systems
  - 1. Bonding Line-Side Metering Equipment:
    - (a) Non-current carrying metal parts of metering equipment shall be bonded to the service grounded (neutral) conductor in a manner that establishes an effective ground-fault current path.
    - (b) In all cases where the metering equipment is on the **line-side** of the service disconnect, the metal enclosure shall be bonded to the grounded (**neutral**) conductor within the enclosure.
    - (c) No additional equipment grounding conductors (bond wires) or bonding jumpers are required, nor allowed to effectively bond the metal meter enclosure to adjacent service entrance equipment. No additional equipment grounding conductors (bond wires) or bonding jumpers shall not be allowed to attach to or pass through any GPC Metering Equipment.
    - (d) **Company** personnel are responsible for bonding current transformer cabinets and transformer rated sockets.
  - 2. Bonding Load-Side Metering Equipment:
    - (a) To prevent parallel neutral paths, metering equipment shall not be simultaneously bonded to the grounded (neutral) conductor and the **Customer's** equipment grounding conductor (bond wire).
    - (b) Where metering equipment is located on the load-side of a service disconnect that does not have equipment ground-fault protection and where the metering equipment is located within 30 feet of the service disconnect, the meter enclosure shall be bonded to the grounded (neutral) conductor within the enclosure.
    - (c) Where metering equipment is located on the **load-side** of equipment ground-fault protection or where **load-side** metering equipment is **not** located within 30 feet of the service disconnect, it shall be the responsibility of the **Customer** to coordinate a joint agreement between the AHJ (Authority Having Jurisdiction) and the **Company** for the proper isolation of the equipment grounding conductor and the service grounded (neutral) conductor within the meter enclosure.
    - (d) The **Customer** shall be responsible for bonding all non-current carrying metal equipment, located on the **load-side** of the metering equipment.
  - 3. Grounding of Meter Equipment:

- (a) To facilitate meeting NEC grounding requirements, the **Company** will allow a single grounding electrode conductor to be terminated in a self-contained meter socket or a transocket where a factory installed grounding connector is attached to the neutral bus.
- (b) The grounding electrode conductor shall be routed directly to the grounding electrode without passing through any other enclosure. No additional equipment grounding conductors (bond wires) or bonding jumpers shall not be allowed to attach to or pass through any GPC Metering Equipment.
- (c) The meter enclosure shall not be used as a junction point for bonding together different components of the **Customer's** grounding electrode system.
- 4. External Ground Wires Attached to Meter Equipment:
  - (a) **Company** metering equipment shall not be used as a point of grounding by the **Customer** or other utilities. Intersystem bonding conductors for cable TV, antennas, phone equipment, etc., shall not be connected to metering sockets, metering cabinets, and metal conduits housing meter control cable.
  - (b) Any ground wire as described in Section 3.5.A that interferes with **Company** personnel accessing the meter or that creates a hazard for **Company** personnel, will be subject to removal.
- B. Ungrounded Systems:
  - 1. All ungrounded systems shall be metered with the use of instrument transformers provided by the **Company**.
  - 2. **Company** issued transockets intended for use on a 3-wire ungrounded service are equipped with a removable bonding strap. The bonding strap shall be removed so that the service common phase conductor will be isolated from the socket enclosure.
  - 3. All metering equipment shall be grounded to a driven grounding electrode, provided, and installed by the **Customer**.





### **3.2** Customer Equipment Grounding (Within 30' of Disconnect)

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# 3.3 Single Phase Auxiliary Gutters

#### A. General Notes:

- 1. The Single-Phase Auxiliary Gutter shall be where the demarcation point from NESC to NEC is located. The **UL listed Insulated Multiport** connector shall be the demarcation point between GPC and customer facilities.
- 2. Unmetered and metered conductors shall not pass through the same Auxiliary Gutter.
- 3. Single phase Auxiliary Gutter shall be sized by the electrician to accommodate customer service wires and the GPC service wires to meet the NEC requirements. Auxiliary Gutter shall allow GPC to place a lock and meter seal on to the cover to prevent unauthorized access to the unmetered service conductors.
- 4. UL Listed Insulated multiport connector for each Phase and Neutral conductors provided by the electrician, total of three connectors. All phases shall terminate together via a single UL Listed insulated multiport connector per conductor.
- 5. The ungrounded conductors shall be tagged or identified to what load center they serve.
- 6. The Auxiliary Gutter shall be bonded by the electrician in accordance to NEC Article 250.142 and sized in accordance with NEC 250.102(C)1 for main bonding jumper.
- 7. The top of the Auxiliary Gutter shall not be installed higher than 8 feet from **level ground**, to allow for safe work access to the splice connection, with use of a ladder.
- 8. Service Lateral UG conduits where subject to physical damage Shall be SCHD 80 PVC.
- 9. Conduit to be supported by a minimum of 2 straps per conduit, 6" from auxiliary gutter, 3' spacing between each strap.
- 10. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials. (See Section 3.5 B. for mounting)
- 11. All meter sockets shall be ringless.



3.3 Single Phase Meter Socket & Auxiliary Gutter Installation

3.3 SINGLE PHASE AUXILIARY GUTTER (TROUGH) UL LISTED INSULATED MULTI-PORT CONNECTOR BOND TO ENCLOSURE L1 L2 Œ UNMETERED 0 0 0 0 0 0 0 0 0 0 Õ 0 0 0 0 0 0 0 6" мах CONDUIT SCH 80 PVC 217 MIN METER METER 8' MAX METER 3' MAX SOCKE SOCKET SOCKET 0 0 0 0 0 0 3' MAX Φ METERED BOND TO ENCLOSURE -6" MAX alle 讍 NOTES: 1. UL LISTED INSULATED MULTI-TAP/ MULTI-PORT CONNECTORS SHALL 24" MAX BE FURNISHED BY CUSTOMER. 2. CONDUIT SHALL BE SUPPORTED AT A MINIMUM OF 2 STRAPS (6" FROM AUXILIARY GUTTER & 3' SPACING FROM STRAP TO STRAP) GROUND ROD 3. AUXILIARY GUTTERS SHALL ALLOW FOR COMPANY LOCK AND/OR SEAL. 45° 4. ALL SERVICE EQUIPMENT & RACEWAYS SHALL BE SURFACE MOUNTED AND NOT BE EMBEDDED IN MASONRY, WOOD, OR OTHER BUILDING ELBOW MATERIALS. 5. ALL METER SOCKETS SHALL BE PERMANENTLY MARKED, BOTH INTERNALLY AND EXTERNAL, IN AT LEAST 1" HIGH LETTERS AND/OR NUMBERS USING PERMANENT ENAMEL PAINT IN A CONTRASTING COLOR. PLASTIC OR METAL PLACARDS/EMBLEMS ARE ALSO ACCEPTABLE. 6. ALL SOCKETS SHALL BE OF RINGLESS DESIGN. F.K.B, C.S., C.I. \_\_\_ DATE \_\_\_ 2/09/23 REVISIONS 02/28/23 DRAWN BY\_ 🔁 Georgia Power \_ SCALE \_NONE TRACED BY\_ APPROVED

#### 3.3 Single Phase Auxiliary Gutter (Trough)

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# **3.4 Services at Secondary Distribution Voltages**

- A. Overhead Services:
  - 1. The service type should be confirmed prior to construction. All Commercial Services shall have a meter socket with a Bypass handle.
  - 2. The location of the service attachment point shall be determined by agreement with a representative of the **Company**. The **Customer** shall provide suitable means of supporting service wires to the building which will provide clearances as required shown in Section 4.1 (Service Clearances) and provided by Part II of the National Electric Safety Code.
  - 3. When necessary to install a service mast to obtain the clearance required, the mast shall not be less than 2-inch trade size rigid metal conduit. A service mast exceeding 3 feet in height above the roof or last means of support shall be adequately guyed to withstand the strain imposed by the service drop. See Section 4.1 for clearance requirements for a service drop attached to a mast. Service mast shall be surface mounted on exterior wall. At the point that the service mast conduit passes upward through a roof overhang, at its soffit or through any enclosed fascia area, the service mast conduit shall be one continuous section, with no conduit couplings. No conduit coupling shall be a part of the service mast conduit at any point above the roofline of the building.
  - 4. The **Company** will furnish hardware necessary for attaching the service drop to a building. The **Customer** is responsible for installing the hardware in a secure manner.
  - 5. Service entrance conductors connected to the **Company's** service drop shall comply with the National Electric Code (NEC), unless the inspection authority having jurisdiction has granted an exception.
  - 6. Conductors carrying unmetered energy shall not be contained in the same raceway, auxiliary gutter, or conduit with conductors carrying metered energy.
  - 7. Customer's service entrance conductors shall extend not less than 3 feet out of weatherhead.
  - 8. For safety reasons, the grounded conductor of service entrance conductors shall be clearly marked unless it is white, gray, or bare.
  - 9. For proper metering of a 4-Wire, 3-Phase delta service, the phase having the highest voltage to ground (high leg) must be in the right hand or "C" phase position in the meter socket. To ensure proper connections, the (high leg) shall be clearly marked at the weatherhead.
- B. Underground Services:
  - 1. The service type should be confirmed prior to construction. All Commercial Services shall have a meter socket with a Bypass handle.
  - Due to space limitations, the number of runs of Customer owned underground service cables in a 3-Phase padmount transformer shall be agreed upon between the Customer and a qualified Company employee prior to installation.

- 3. Metering equipment shall be located outside. Inside locations shall be approved by a Metering Services Field Supervisor. If metering equipment is approved for inside location it shall adhere to Section 3.5 guidelines.
- 4. **Company** owned service laterals may be terminated in factory assembled metering centers owned by the **Customer**. Metering centers shall be equipped with connectors satisfactory to the **Company** for termination. Adequate wireway space shall be provided for these laterals. See Section 9.4, Section 11.3, and Section 11.5.
- 5. If metering a padmount transformer, it shall be considered dedicated and can only serve one **Customer**. Any other arrangement must be approved by a Metering Services Supervisor. Meter sockets shall be mounted on **Company** supplied meter pedestal, **Company** approved structure or the **Customer's** building. Instrument transformers shall not be installed in single phase padmount transformers. No bonding/equipment ground wire shall be installed from the **Customer's** service equipment to the **Company's** transformer. (Any other arrangement shall be approved by a Metering Services Supervisor)
- C. For multi-level residential premises, the following will apply:
  - 1. The preferred method is for **Company** owned metering equipment to be located at ground floor level for all residential units.
  - 2. On high-rise installations (as defined by the NEC), **Company** owned metering equipment may be located on more than one level (as approved by the local Metering Services Field Supervisor).
    - (a) All metering equipment installations and locations shall satisfy the requirements as described in Section 3.4 and Section 3.5 and of the **Company's** "BlueBook for Electrical Service and Metering Installations".
    - (b) If a fire pump is required by local authority, a separate fire pump meter shall be installed as described in Section 3.5.1.
    - (c) Riser diagrams shall be provided to the local Metering Services Field Supervisor and Engineering before construction begins.
    - (d) If the property owner desires to meter and charge individual tenants for their portion of electricity consumed, (see Sub-Metering in Definitions Section) an alternate method (as approved by the local Metering Services Field Supervisor) is for one "master" meter to be installed in a switch gear, current transformer cabinet or at an underground padmount transformer as described in Section 3.4 and Section 3.5. The individual tenant metering equipment shall be **Customer** owned and maintained.
- D. In cases where service voltage is 277/480V or higher, the **Company** will meter at the service voltage only (first transformation point).
  - 1. The **Customer** has the option to sub-meter beyond any step-down transformer(s) with **Customer** owned and **Customer** maintained sub-metering equipment.

# **3.5 Metering Installations at Secondary Distribution Voltages**

#### A. General:

- 1. The **Company** shall install, test, and maintain metering equipment to accurately measure the **Customer's** use of electric energy.
- 2. Metering equipment (meter sockets, meter cabinets, etc.) furnished by the Company to be installed by the Customer will be supplied in good operating condition. This equipment is the property of the Company and shall be used for metering the Company's customers. The Company owned equipment shall not be altered or modified. The Company will not accept more than one conductor under one pressure device. Abandoned equipment shall become the responsibility of the Customer.
- 3. **Company** owned meter sockets or metering cabinets shall not be used as junction boxes for the connection of branch circuits, feeder conductors or the connection of subsets of service conductors supplying separate service locations for the same or different premises. This does not apply if the equipment has been abandoned by the **Company**.

NOTICE: ALL GPC ISSUED METERING EQUIPMENT MUST BE USED TO METER GPC CUSTOMER LOCATIONS ONLY. IF THE ADDRESS LISTED IS NOT A GPC CUSTOMER OR IF THE EQUIPMENT IS NOT USED AT THE ADDRESS LISTED THE CONTRACTOR/PERSON RECEIVING EQUIPMENT WILL BE RESPONSIBLE FOR RETURNING THE UNUSED EQUIPMENT. IF MISUSE OF GPC EQUIPMENT IS DETERMINED THE ELECTRICAL CONTRACTOR RECEIVING EQUIPMENT WILL BE RESPONSIBLE FOR ALL ASSOCIATED GPC LABOR AND MATERIAL COST.

- 4. Connections to all meters, instrument transformers and other equipment affecting the accuracy of these devices shall be made by a qualified **Company** employee.
- B. Mounting and Labeling of Meter Sockets, Metering Cabinets, and Auxiliary Gutters:
  - 1. Meter sockets, metering cabinets and conduit straps shall be installed with:
    - (a) Metal anchors brick or solid concrete.
    - (b) Toggle bolts other masonry siding.
    - (c) Wood screws solid wood.
    - (d) All mounting hardware shall be 1/4 inch (minimum) stainless steel.
    - (e) Minimum of (4) fasteners shall be used to install any socket or cabinet unless specifically stated otherwise.
    - (f) Conduit Straps: Conduit must be securely fastened to the wall within 12 inches of the meter socket and 6 inches of final grade level. Conduit straps shall be fastened to walls with the same type fasteners as meter sockets. Refer to Section 4.2.

- (g) All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
- (h) All meter sockets shall be permanently marked, both internally and external, in at least 1" high letters and/or numbers using permanent enamel paint in a contrasting color. plastic or metal placards/emblems are also acceptable.

#### (i) All meter sockets shall be ringless.

- C. Metering Equipment Locations:
  - 1. Metering equipment shall be located outdoors. For indoor installations, written consent shall be obtained from the local Metering Services Field Supervisor.
  - 2. Metering equipment for secondary voltages shall not be located on utility owned poles. For pole type installation, the equipment shall be installed on **Customer** owned pole or a free-standing structure adjacent to the utility pole.
  - 3. Metering equipment shall be located where it is **readily accessible** to **Company** employees. If metering equipment is to be located behind a locked door, the lock shall be keyed for a Georgia Power Meter Room key.
  - 4. Single position and duplex meter sockets shall be located so the center of the meter shall not be higher than 5 feet 6 inches or lower than 3 feet 6 inches, above final grade level.
  - 5. Multi position meter centers shall be located so the center of the upper most meter shall not exceed 5 feet 6 inches above final grade level, and the center of the lowest meter shall be not less than 3 feet 6 inches above final grade level.
  - 6. Safety dictates metering equipment shall be located so **Company** personnel are provided level, unobstructed working space. This working space shall extend a minimum distance of 3 feet in front and 18 inches to either side of the equipment, and a height of 7 feet from final grade level.
    - (a) For all other depth of work clearances please refer to latest NEC.
    - (b) Gas & water meters shall be located 3 feet away from electric metering equipment (outdoors).
    - (c) Vegetation around any metering equipment shall not encroach upon any workspace clearances.
  - 7. A clearance of at least 6 feet shall be provided from any machinery or devices having moving parts that are not physically isolated. (i.e., generators, AC, and air compressors)
  - 8. Where written consent is obtained to locate metering equipment indoors, adequate lighting shall be provided to allow safe installation, maintenance, and testing. One light per 8 feet of wall space or portion thereof.
  - 9. Metering equipment shall not be installed in a room, closet or any enclosed space with gas and water meters or appliances.

- 10. If necessary to locate metering equipment adjacent to a driveway, walkway, parking lot or any location that will subject the meter to damage, written consent shall be obtained from a qualified **Company** employee who will have the option to require the **Customer** to furnish and install protective barriers.
- D. General Requirements including **Customer** Furnished Sockets, Single Position, Multi Position and Combination Units (1-Phase & 3-Phase):
  - 1. If a **Customer** chooses to use meter sockets not furnished by the **Company**, he shall notify the **Company** well in advance of required service date.
  - 2. **Customer** purchased equipment shall be UL listed. The label, symbol or other identifying mark used by the testing laboratory shall be affixed to the unit.
  - 3. All service locations having 6 or more meters shall have a main disconnect installed before the meters.
  - 4. All Customer and Company furnished sockets shall be a ringless type.
  - 5. Each meter position's cover shall be removable without having to remove any other cover(s).
  - 6. Each meter position shall have a lockable **load side** disconnect for the **Company's** use. This applies to all meter installations.
  - 7. All customers metered with instrument transformers shall be required to provide a load side disconnecting means that is readily accessible to the Company. The disconnecting means shall accept a Company lock.
  - 8. For all multi-position services, the purpose of the disconnecting means is to enable the Company to disconnect and reconnect service to any customer without interruption of service to another customer served from the same service source.
  - 9. All meter spade jaws on residential **Customer** owned sockets shall be spring reinforced and rated at no less than 200 amps.
  - 10. All meter sockets above 225A and/or used on commercial applications shall have a lever by-pass handle.
  - 11. If the **Customer** furnishes multi-position meter centers and the supply source is 120/208V WYE service, the **Customer** shall furnish and install a grounded **Fifth Terminal Meter Jaw** mounted in the 6 o'clock or 9 o'clock position in each meter socket.
  - 12. If meter sockets are installed one above the other, a minimum 2 inches space shall be maintained between any two units.
  - 13. Conduit for underground service laterals shall extend vertically downward 2 feet below final grade level and conduit ends shall be equipped with a bushing to protect the conductors. The **Customer** shall extend the conduit below or beyond the concrete footing to provide a minimum 6 inches clearance between the concrete and the conduit end.

- 14. Conduit must be securely fastened to the wall within 12 inches of the meter socket and 6 inches of final grade level. Conduit straps shall be fastened to walls with the same type fasteners as meter sockets.
- 15. Safety dictates all meter positions shall be properly covered before the unit is energized.
- 16. Where service is 277/480V, a **load side** disconnect shall be installed immediately adjacent to meter socket. The disconnect shall be rated not less than the load to be carried and must have an interrupting rating at system voltage sufficient for the current that must be interrupted. The disconnect shall accept a **Company** lock in the off position.
- 17. Point of Connection Requirements:
  - (a) Single position, multi position, combination units, and **Customer** owned meter sockets shall be constructed so the dedicated **line side** wiring compartment is separate from breakers, disconnects and compartments housing service equipment or meter sockets and is accessible without having to remove any meter(s).
  - (b) **Company** owned **service laterals** may be terminated in factory assembled metering centers owned by the **Customer**. Adequate wire way space shall be provided for these laterals.
  - (c) Line side connectors of meter socket assemblies connected to Company service laterals shall be of a type satisfactory to the Company.
  - (d) Line side service termination facilities shall be designed to meet the NEMA spaced stud requirements shown in Section 11.5. Installations above 1600 amps shall require approval by a Company engineer.
  - (e) Any exposed buss work or connections must have a protective barrier.
- E. Metering Installations Greater Than 225 Amperes and Less Than 400 Amperes:
  - 1. On Single Phase service: Where the service ampacity rating is greater than 225 amperes, but not over 400 amperes, a self-contained class 320 ampere meter socket furnished by the **Company** shall be used on 1-Phase 120/240 or 120/208 volt service. When the service ampacity rating is greater than 400 amperes, but not exceeding 600 amperes, the preferred method of metering is a transocket.
- F. Metering Installations in **Mobile Home** Parks:
  - 1. Overhead Installations:
    - (a) The metering pole must be of sufficient height to provide service drop clearances as shown in Section 4.3 and Section 10.3.
    - (b) The **Company's** preferred method for multi-position metering is to furnish the meter sockets. If a **Customer** purchases meter socket assemblies, the **Customer** shall be solely responsible for all maintenance.

- (c) The **mobile home** feeder assembly shall terminate at the mobile home service equipment located adjacent to the mobile home. The feeder assembly shall not terminate in the meter socket.
- (d) The grounded conductor (neutral) and grounding conductor shall be bonded together at the service equipment according to the National Electrical Code.
- 2. Underground Installations:
  - (a) Mobile homes served by underground distribution must provide meter pedestals for the connection of **service laterals** and watt-hour meters. Refer to Section 9.3.
  - (b) A separate meter shall serve each **mobile home**.
  - (c) Meter pedestals must be manufactured by an approved manufacturer. Meter pedestals must be approved by the Company before the meter pedestals are installed. The Company does not assume ownership of meter pedestals and is not responsible for maintenance.
  - (d) Grounding should be in compliance with the National Electric Code (NEC) and applicable state or local codes.
  - (e) Service equipment and metering socket may be installed on a (manufactured) home, provided it is installed to the requirements of National Electric Code (NEC).
- G. Town Home Meter Installation, (Two options are allowed):
  - 1. Gang Metering and **Customer** Owned Meter Centers:
    - (a) Ganged meter sockets and Customer owned meter centers shall be mounted on the side of the building, on a pedestal just off the building, or in a kiosk. Customer conduit and conductors (either feeder conductors or service-entrance conductors, underground system) to each townhouse panel board shall be installed according to the National Electrical Code (NEC).
    - (b) Developer will file a private easement with the county for the **Customer** owned conduit and service cable and conductors before construction will begin where applicable. This easement shall also include permission to install any **Customer** owned service equipment or any associated gang metering equipment, especially if this electrical equipment is mounted directly on the building wall. If not mounted on the building, the metering equipment shall be mounted on a durable structure consisting of 6 inches galvanized channel iron or masonry substance of similar strength located in a common space of the association.
  - 2. Service in the Front:
    - (a) Individual meter sockets shall be mounted on the front of each of the dwellings for service. Any installation shall be approved before the project begins by a local qualified **Company** employee.
    - (b) Unrestricted access to metering equipment and service conductors is required.
- H. Communication Tower Meter Installations:

- 1. A minimum of one, six position gang meter socket, shall be provided on all pedestals, for new tower services meter installations. A qualified **Company** employee will determine location for this initial installation.
- 2. A qualified **Company** employee shall determine the metering requirements for additional service(s) to existing communication towers.
- 3. All Meter positions shall have a lever bypass handle and be ringless type. (All Commercial Services shall have meter socket with Bypass handle.)
- 4. Each meter shall be marked in accordance with Section 11.1.A.2. of this book.
- I. Fire Pumps
  - 1. Fire pump services are not required by the **Company** to have a disconnect.
  - 2. All fire pump services shall be metered with current transformers.
  - 3. All fire pump metering points shall be clearly identified with permanent letters and/or numbers at least 1 inch in height.
  - 4. All identification requirements are the responsibility of the **Customer**. Transockets may not be allowed by all local authorities having jurisdiction. On 4-wire 3-Phase services a neutral must be provided at the metering service point.

# **3.6 AMI Meter Room Requirements**

- A. Space Requirements
  - 1. Customer shall provide a 2' X 4' wall space within the meter room for AMI equipment installation. Bottom of provided space shall be at least 2' from the floor and top of space shall be a maximum of 8' from the floor of the meter room.
  - 2. Metering equipment shall not be installed in a room, closet or any enclosed space with gas and water meters or appliances.
  - 3. Safety dictates metering equipment shall be located so **Company** personnel are provided level, unobstructed working space. This working space shall extend a minimum distance of 3 feet in front and 18 inches to either side of the equipment, and a height of 7 feet from final grade level.
  - 4. A clearance of at least 6 feet shall be provided from machinery or devices having moving parts that are not physically isolated.
- B. Power Requirements
  - 1. Customer shall provide single phase 120 Volt, 15 Amp service easily accessible to the 2' X 4' AMI equipment space.
- C. Connectivity Requirements
  - 1. Customer shall provide a space for a 3" conduit exiting the meter room with a clear path to the exterior of the building for mounting of external antennas.
  - 2. For buildings with multiple meter rooms, it is preferred to connect the meter rooms with conduit as well as at least one path to the exterior of the building.
  - 3. Additionally, multiple meter rooms should be stacked (on top of each other with conduit between them) whenever possible.
- D. Questions can be directed to GPC's AMI group at G2AMIMeterRm@southernco.com.



3.6 Typical Install of AMI equipment in Meter Room

# <u>NOTES</u>

# 4.0 Temporary Installations, Single Phase (400 Amps or Less)

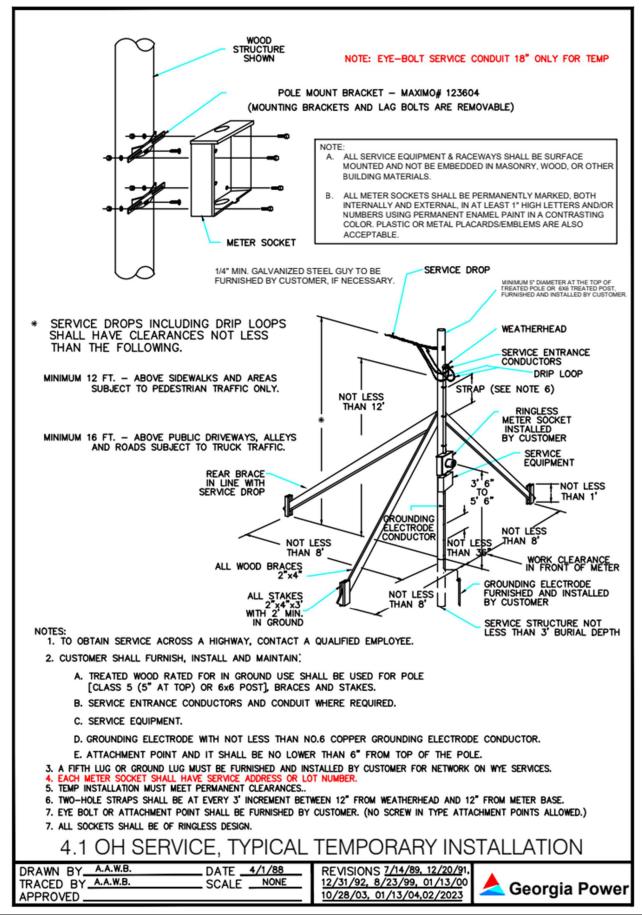
#### Overhead Temporary Services

- A. General Notes:
  - 1. A 6x6 inch post or pole with a minimum of 5 inches at top, shall be installed by the **Customer**. The post or pole shall be a minimum of 16 feet in length with a burial depth not less than 3 feet provided clearance requirements are met. When a post or pole 20 feet in length is installed to meet clearance requirements, the burial depth shall not be less than 4 feet.
  - 2. Overhead services shall have 16 feet clearance over public driveways, alleys, roads, and construction areas, or any other area where truck traffic is expected.
  - 3. Conductors, conduit, conduit straps, locking nut bushings, connectors, and miscellaneous mounting hardware shall be furnished and installed by the **Customer**. Conduit straps shall be of the 2- hole type and installed within 12 inches of the weather head and meterbase, and additional conduit straps shall be installed between these two at intervals not to exceed 3 feet as needed.
  - 4. No uninsulated portion of the entrance cable shall come into contact with the meter socket, except at designated termination points.
  - 5. Steel guy to be furnished by **Customer** if necessary.
  - 6. Connections to all meters, instrument transformers and other equipment affecting the accuracy of these devices shall be made by a **qualified employee** or **contractor**.
  - 7. Disconnection of service and removal of service laterals shall be made by **Company** only.
  - 8. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting co. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 9. All meter sockets shall be ringless.



4.0 OH Temporary Service Installation

# 4.1 OH Service, Typical Temporary Installation



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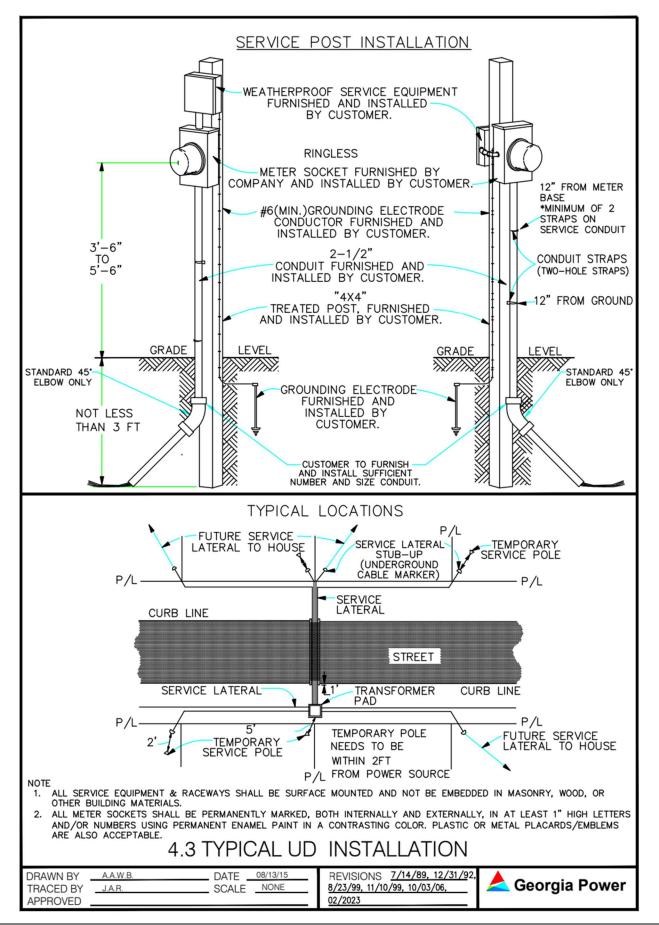
# 4.2 UD Service, Typical Temporary Installation

- A. General Notes:
  - 1. There shall be a minimum 4x4 inch post installed by the **Customer**.
  - 2. Conduit shall be  $2\frac{1}{2}$  inch minimum trade size furnished and installed by **Customer**.
  - 3. Installation to be within 2 feet of power source. Customer must call Georgia 811 before digging.
  - 4. All underground service connections shall be made by the **Company** only. Disconnections of all underground services shall be made by **Company** only.
  - 5. For **Temporary Services**, meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 6. All meter sockets shall be ringless.



4.2 UD Temporary Service Installation





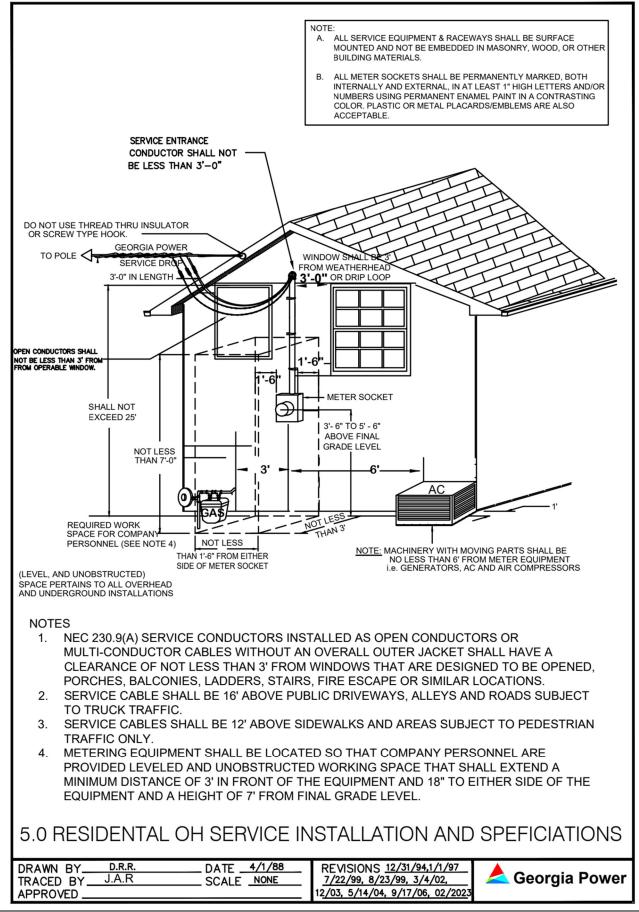
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# 5.0 Residential Specifications

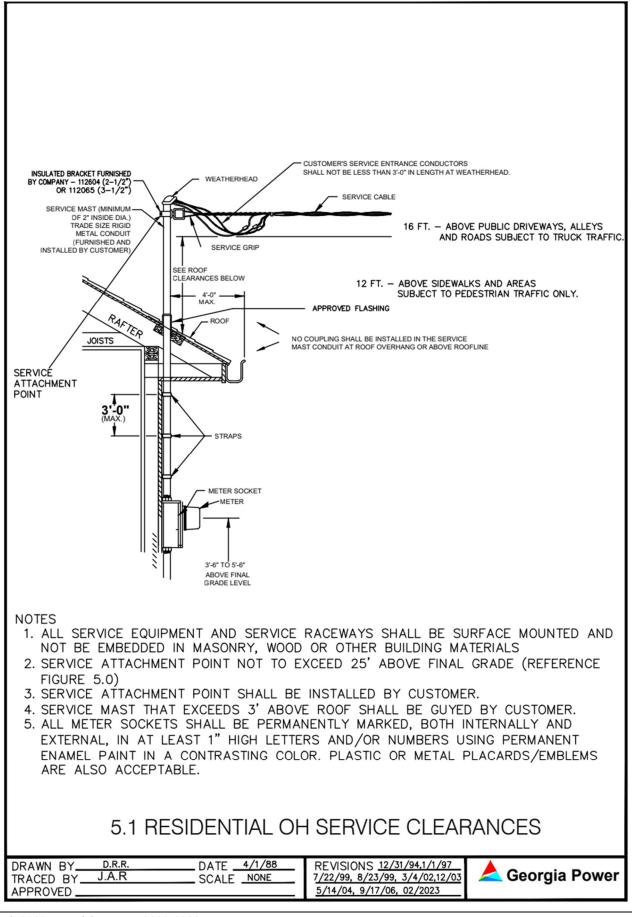
#### A. General Notes:

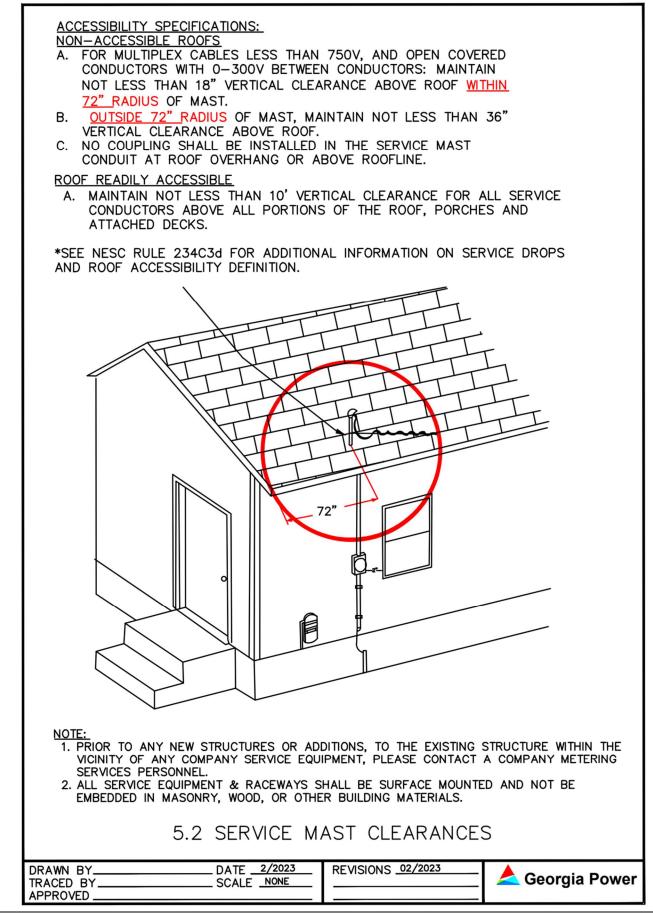
- 1. Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are:
  - a. There shall be 3 feet clearance in front of any metering equipment and shall be 18 inches clearance on either side of metering equipment. For all other depth of work clearances please refer to latest NEC.
  - b. Any machinery with moving parts shall be no less than 6 feet from metering equipment. (i.e., generators, AC and air compressors)
  - c. Gas & water meters shall be located 3 feet away from electric metering equipment.
  - d. Vegetation around any metering equipment shall not encroach upon any workspace clearances.
- 2. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
- 3. All meter sockets shall be permanently marked, both internally and external, in at least 1" high letters and/or numbers using permanent enamel paint in a contrasting color. plastic or metal placards/emblems are also acceptable.
- 4. All sockets shall be of ringless design.

#### **5.0 Residential OH Service Installation and Specifications**



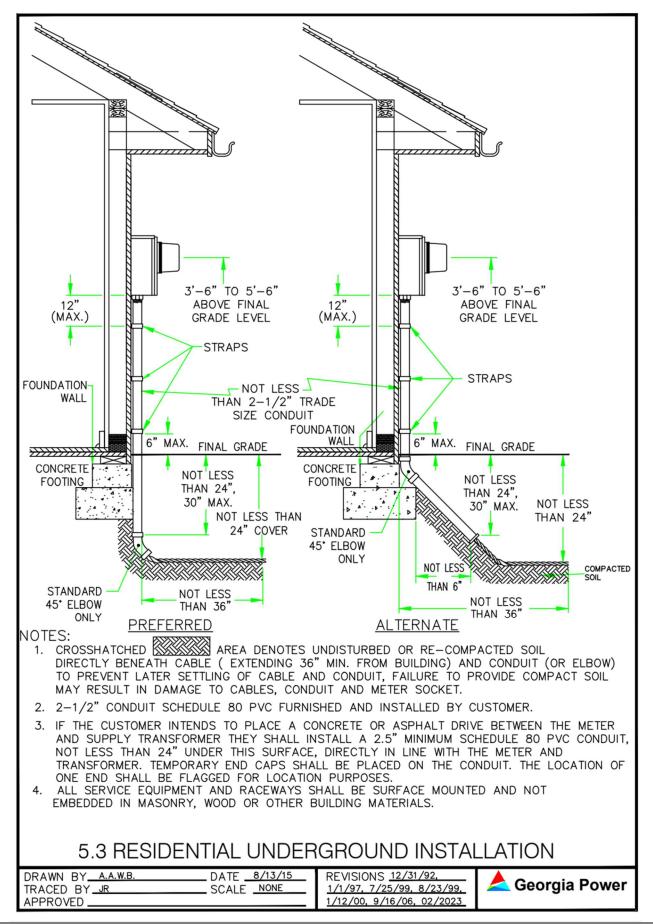
### 5.1 Residential OH Service Installation

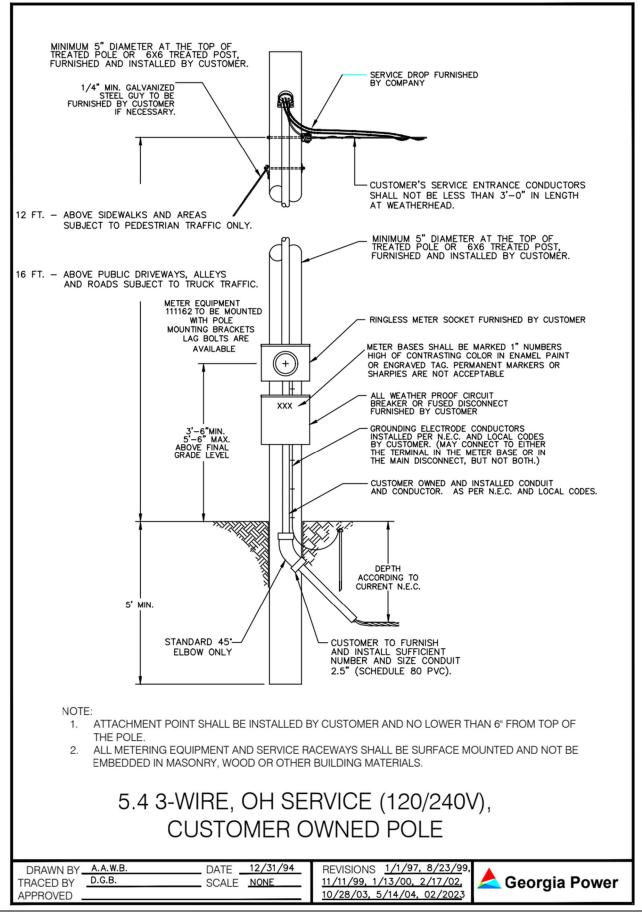




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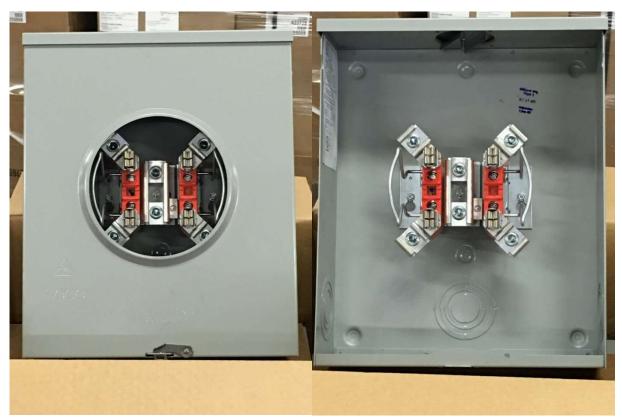
### 5.3 Residential Underground Service Installation





### 6.0 Overhead Company Owned Sockets

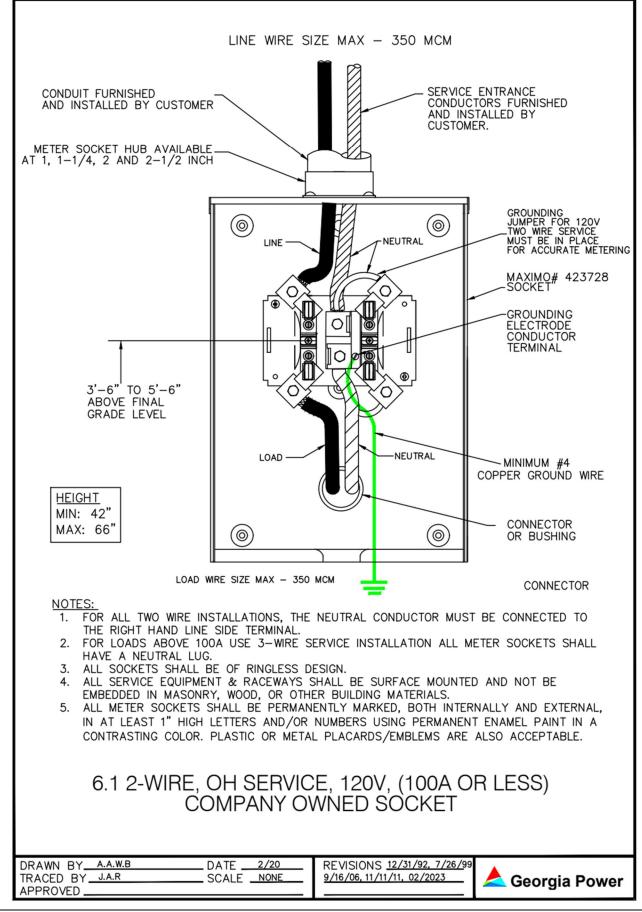
- A General Notes:
  - 1 Overhead services shall have 16 feet clearance over public driveways, alleys, roads, and construction areas, or any other areas where truck traffic is expected.
    - (a) Conductors, conduit, conduit straps, locking nut bushings, connectors, and miscellaneous mounting hardware furnished and installed by **Customer**.
    - (b) All service lateral connections shall be made by **Company** only. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable**.
    - (c) Where **aluminum** conductors are terminated in meter sockets or other **Company** owned equipment, inhibitors shall be used.
    - (d) Disconnection of service laterals and removal of service connections shall be made by **Company** only.
    - (e) All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.

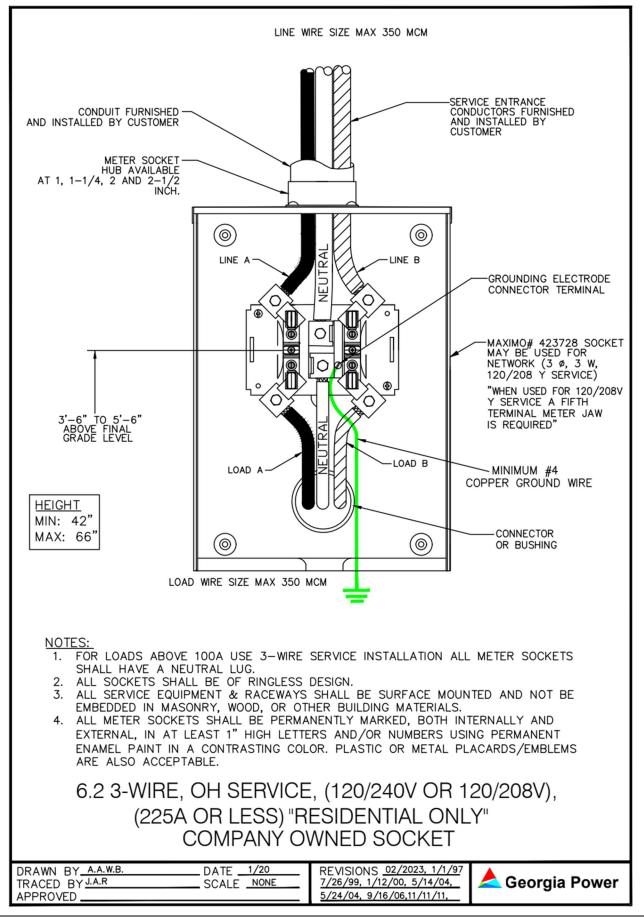


(f) All meter sockets shall be ringless.

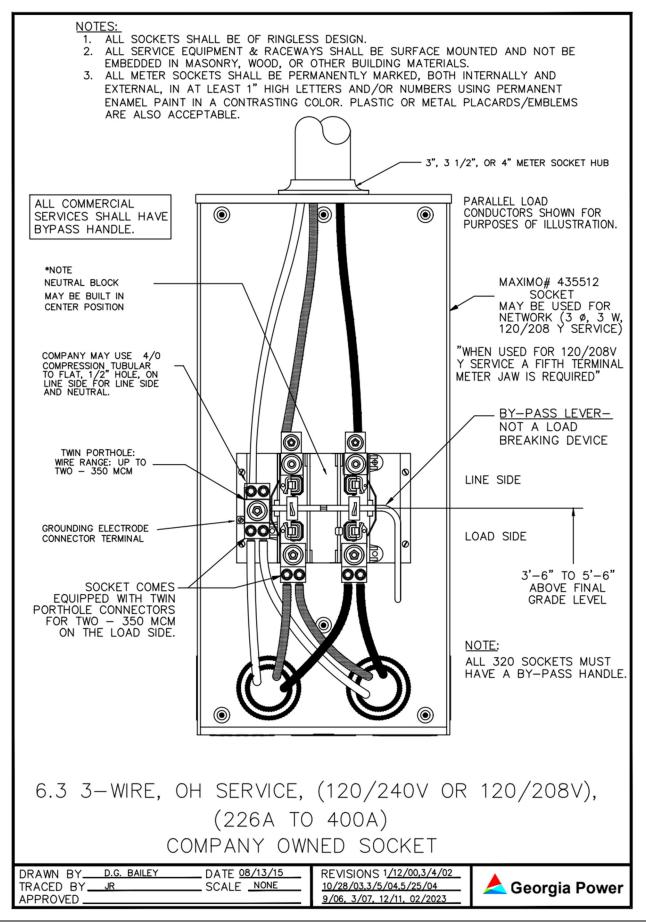
6.0 200 Amp, Self-Contained Single-Phase Residential Socket - Maximo # 423728

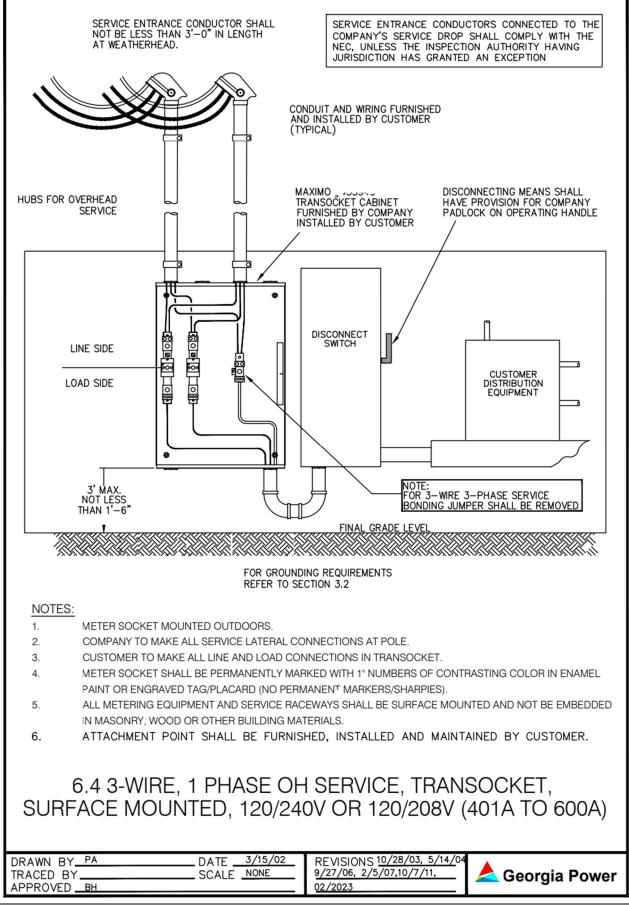
# 6.1 2-Wire, OH Service, (120V), (100A or Less)

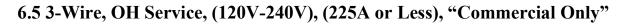


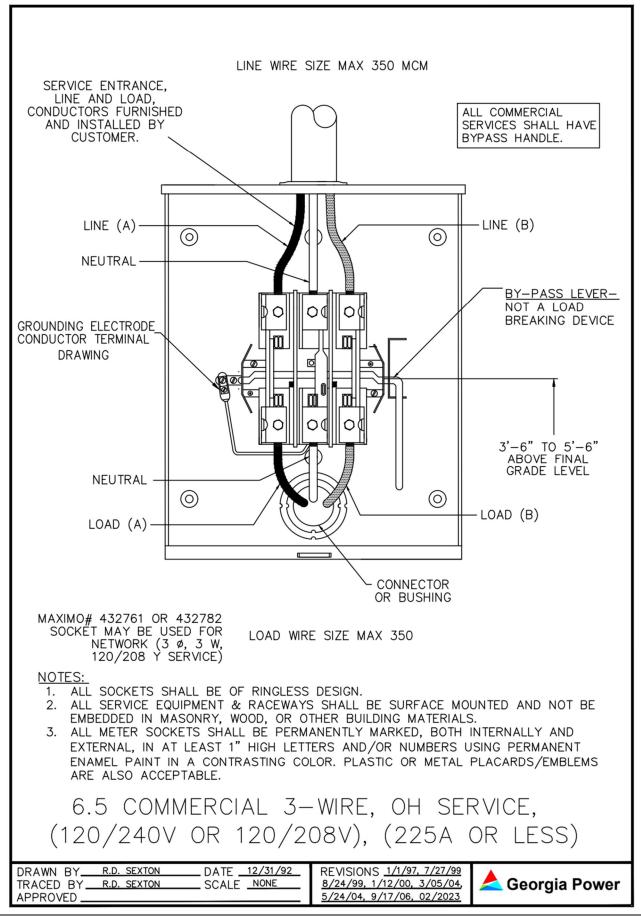


# 6.3 3-Wire, OH Service, (120V-240V), (226A to 400A)



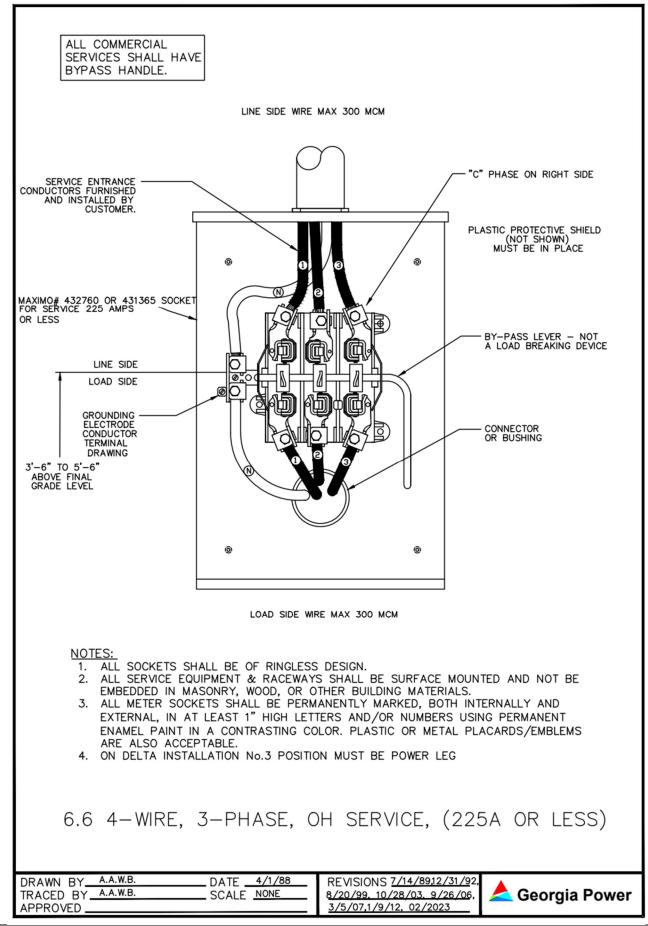




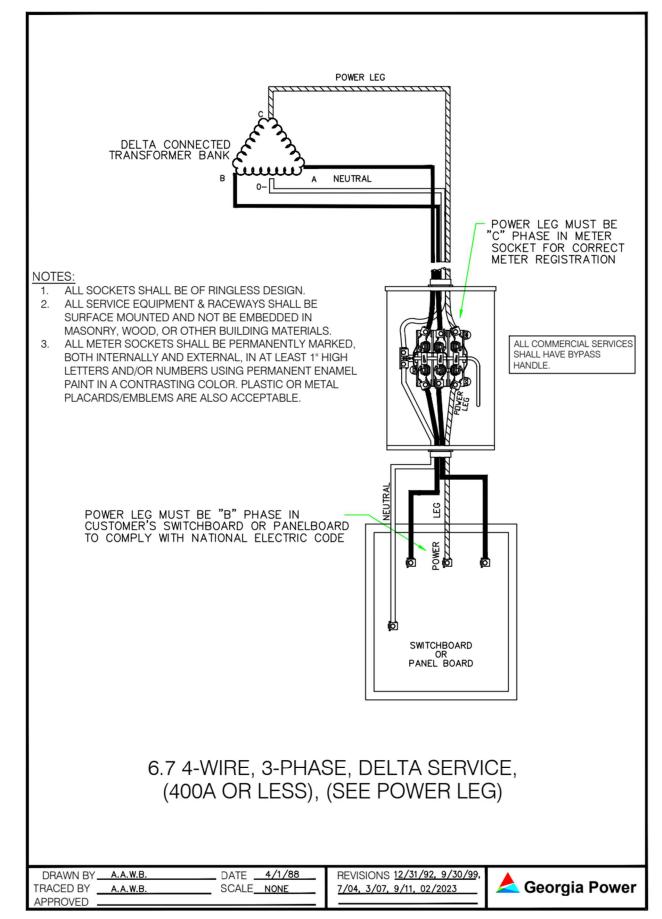


### 6.6 4-Wire, 3-Phase, OH Service, (225A or Less)

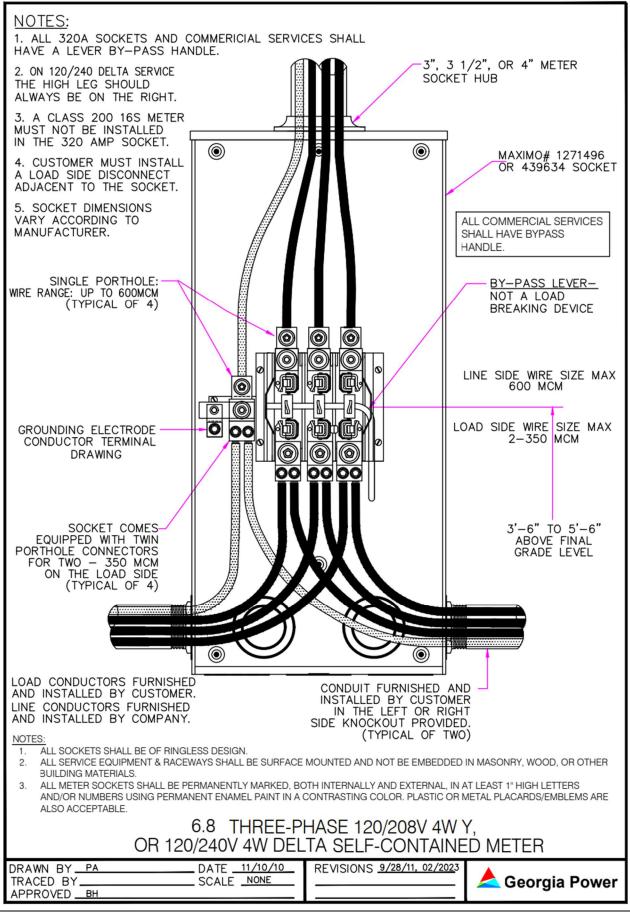
- A. General Notes:
  - 1. When this socket is utilized for 277/480Y volt, service, restrictions apply.
  - 2. A **load side** disconnect shall be used with this socket and be located immediately adjacent to the socket. The disconnecting means shall be rated not less than the load to be carried and shall have interrupting rating at system voltage sufficient for the current that must be interrupted.
  - 3. If service ground fault protection is installed ahead of the meter, the **Customer** shall be metered with instrument transformers.
  - 4. Overhead services shall have 16 feet clearance over public driveways, alleys, roads, and construction areas, or any other areas where truck traffic is expected.
  - 5. Conductors, conduit, conduit straps, locking nut bushings, connectors, and miscellaneous mounting hardware furnished and installed by **Customer**.
  - 6. All service laterals and connections shall be made by **Company** only. Disconnection of service laterals and removal of service connections shall be made by **Company** only.
  - 7. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 8. Where aluminum conductors are terminated in meter sockets or other **Company** owned equipment, inhibitor of the non-grit type shall be used in each conductor connector and around the circumference of each conductor including the grounded conductor (neutral).
  - 9. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 10. All meter sockets shall be ringless.
  - 11. All commercial applications shall have a Bypass Handle.







### 6.8 4-Wire, 3-Phase, OH Service, Class 320, Self-Contained



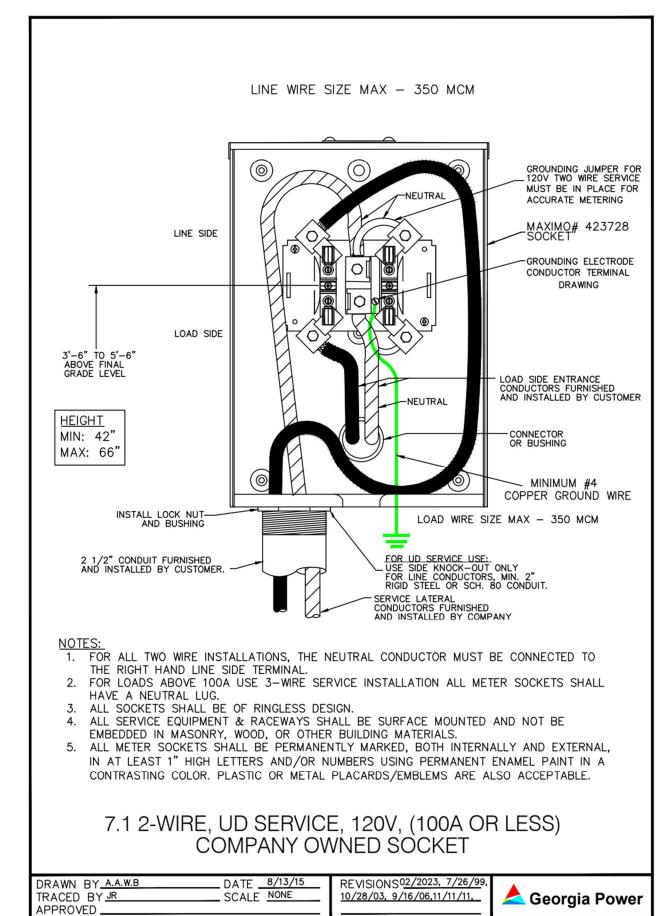
# 7.0 Underground Company Owned Sockets

- A. General Notes:
  - 1. Conduit shall be 3<sup>1</sup>/<sub>2</sub> inch minimum trade size furnished and installed by **Customer**.
  - 2. Panel installed adjacent to home where required is furnished by **Customer**.
  - 3. All underground service connections shall be made by the **Company** only.
  - 4. Disconnections of all underground services shall be made by **Company** only.
  - 5. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 6. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 7. **Company** metering equipment shall not be used as a point of grounding by the **Customer** or other utilities. Intersystem bonding conductors for cable TV, antennas, phone equipment, etc., shall not be connected to metering sockets, metering cabinets, and metal conduits housing meter control cable. No ground clamps shall be attached to Company equipment.

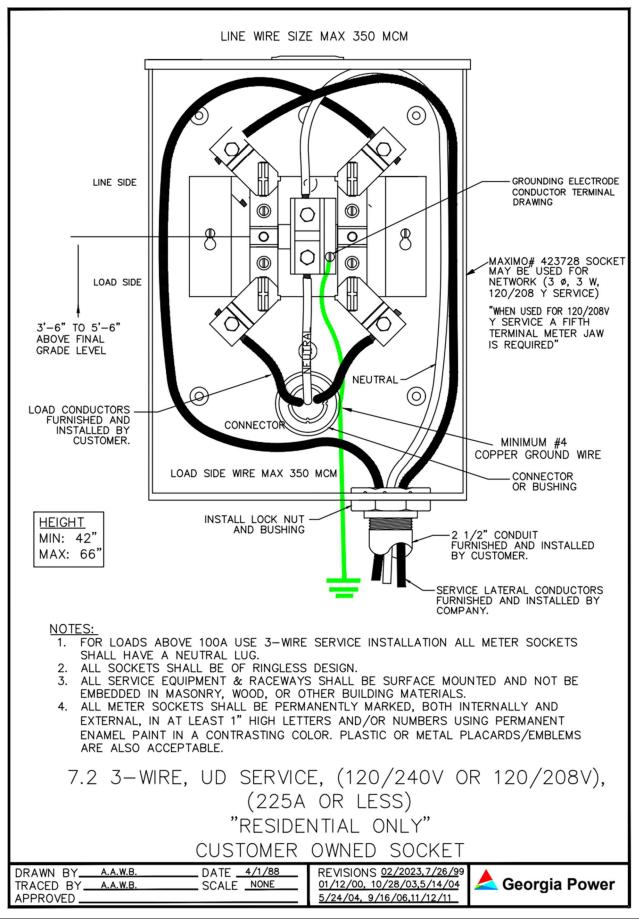


8. All meter sockets shall be ringless.

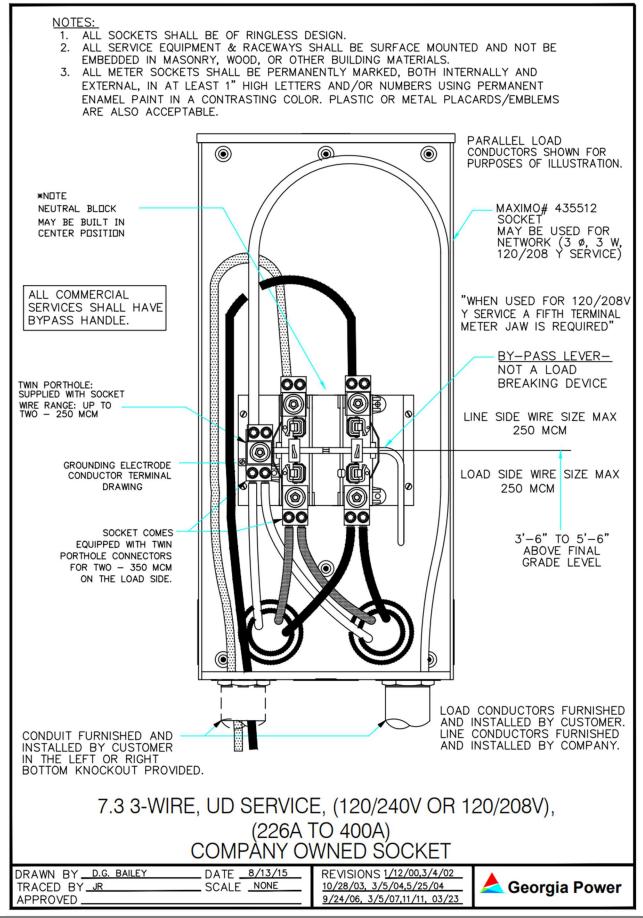
7.0 320 Amp, Self-Contained Single-Phase Residential or Commercial Socket - Maximo # 435512

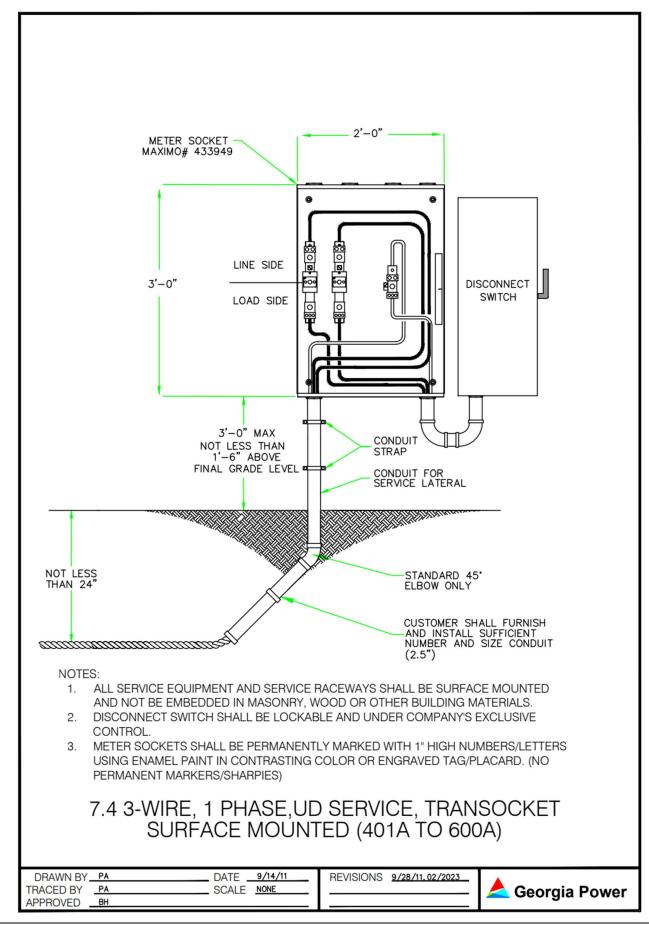


### 7.2 3-Wire, UD Service, (10-240V or 120-208V), (225A or Less)



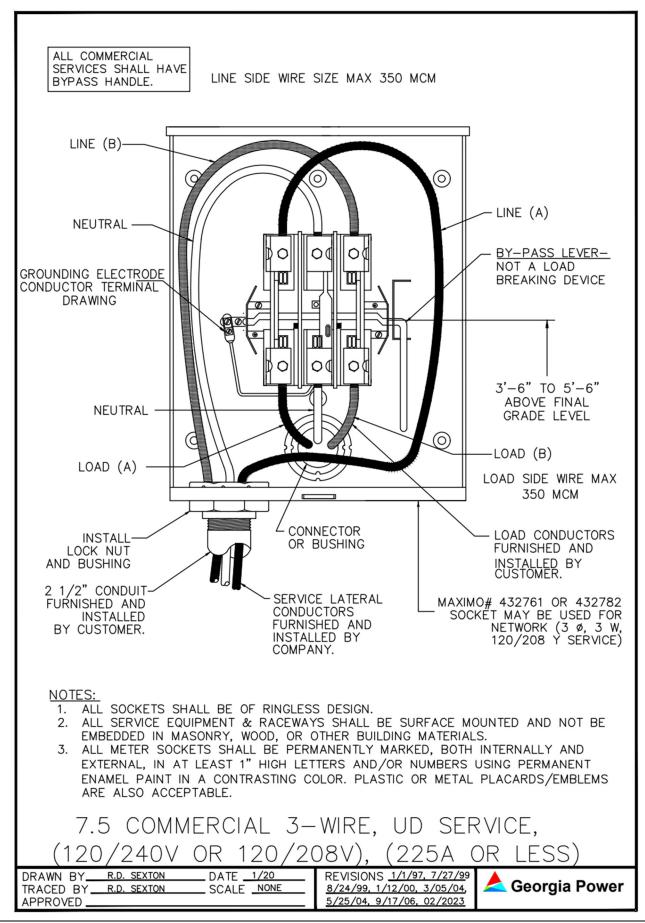
# 7.3 3-Wire, UD Service, (120V-240V), (226A to 400A)







# 7.5 3-Wire, UD Service, (120V-240V), (225A or Less), "Commercial Only"



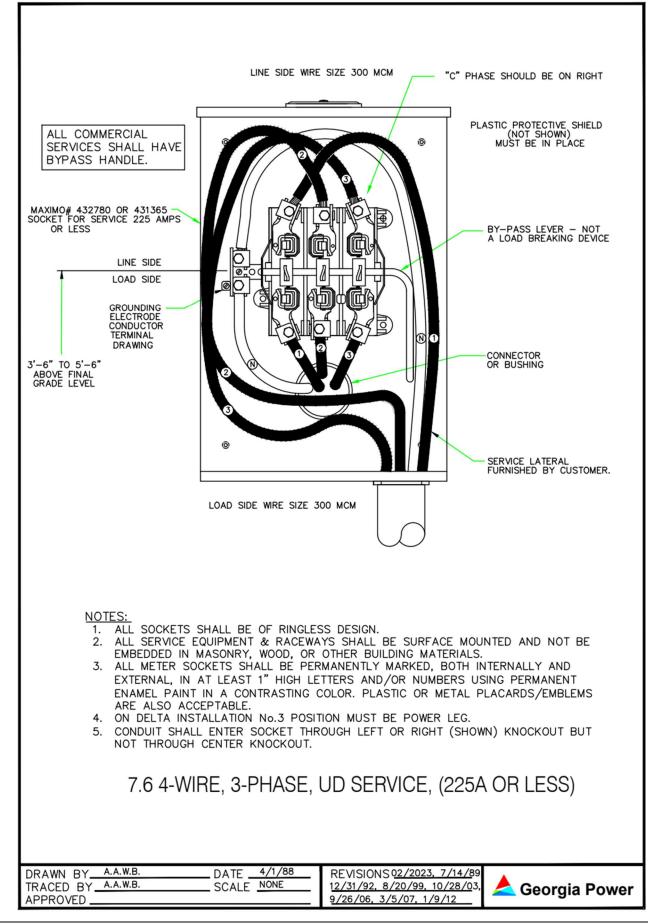
### 7.6 4-Wire, 3-Phase, UD Service, (225A or Less)

- A. General Notes:
  - 1. When this socket is utilized for 277/480Y volt service, restrictions apply.
  - 2. A lockable **load side** disconnect shall be used with this socket and be located immediately adjacent to the socket. The disconnecting means shall be rated not less than the load to be carried and shall have interrupting rating at system voltage sufficient for the current that must be interrupted.
  - 3. If service ground fault protection is installed ahead of the meter, **Customer** shall be metered with instrument transformers.
  - 4. Conduit shall be  $2\frac{1}{2}$  inch minimum trade size furnished and installed by **Customer**.
  - 5. Panel installed adjacent to home where required is furnished by **Customer**.
  - 6. All underground service connections shall be made by the **Company** only.
  - 7. Disconnections of all underground services shall be made by **Company** only.
  - 8. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 9. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**

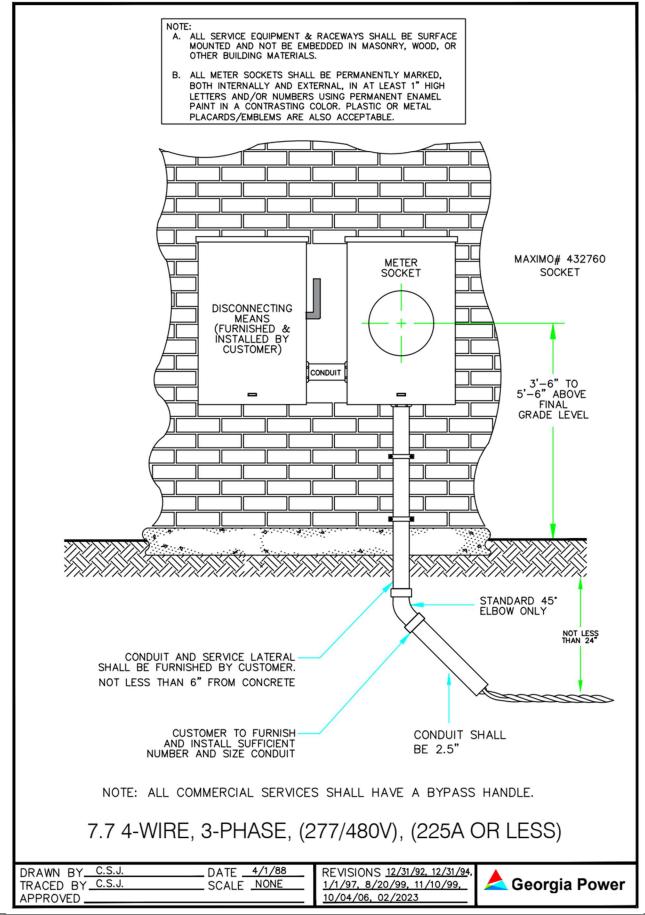
#### 10. All Commercial Services shall have Bypass Handle.

11. All meter sockets shall be ringless.

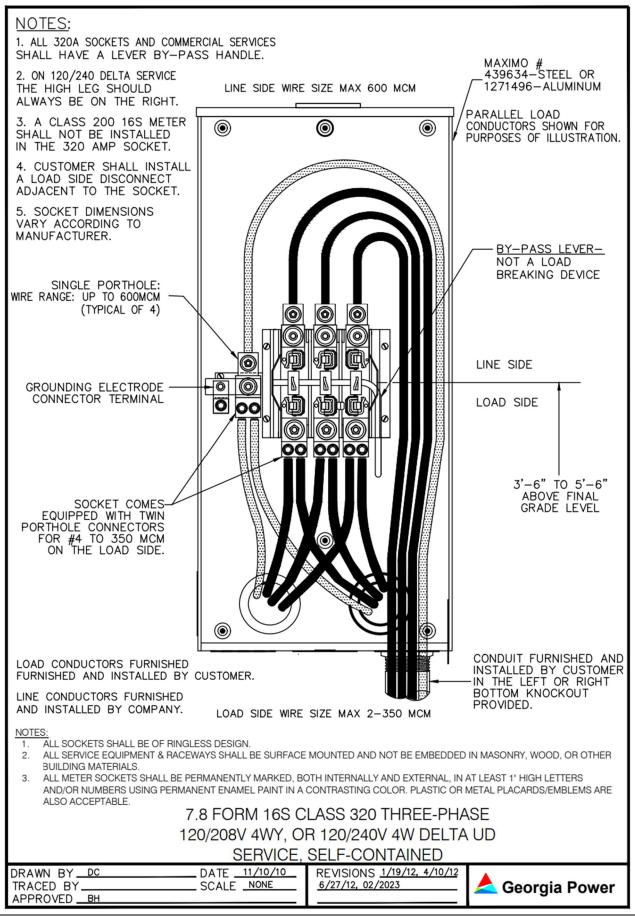
# 7.6 4-Wire, 3-Phase, UD Service, (225A or Less)



# 7.7 4-Wire, 3-Phase, UD Service, (277/480V), (225A or Less)



### 7.8 4-Wire, 3-Phase, UD Service, Class 320, Self-Contained



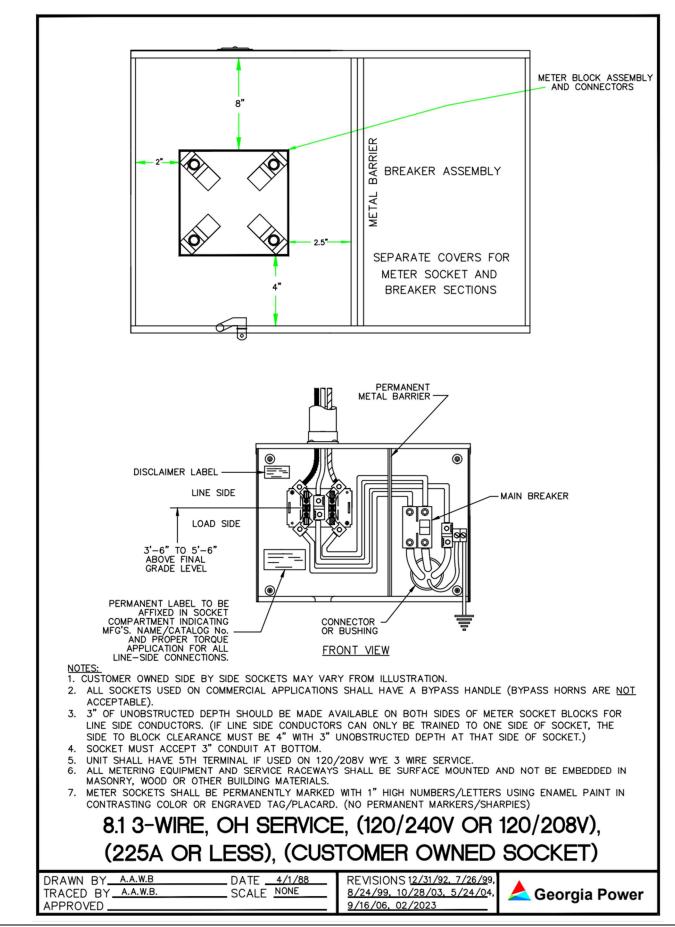
- A. General Notes:
  - 1. Overhead services shall have 16 feet clearance over public driveways, alleys, roads, and construction areas, or any other area where truck traffic is expected.
  - 2. Conductors, conduit, conduit straps, locking nut bushings, connectors, and miscellaneous mounting hardware furnished and installed by **Customer**. (Refer to Section 5.1)
  - 3. All service laterals and connections shall be made by **Company** only.
  - 4. Where **aluminum** conductors are terminated in meter sockets or other **Company** owned equipment, inhibitor of the non-grit type shall be used in each conductor connector and around the circumference of each conductor including the grounded conductor (neutral).
  - 5. Disconnection of service laterals and removal of service connections shall be made by **Company** only.
  - 6. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 7. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 8. All meter sockets shall be ringless.



8.0 200 Amp, Customer Owned, OH Single-Phase Residential Socket (1279894 AL or 1266107 ST)

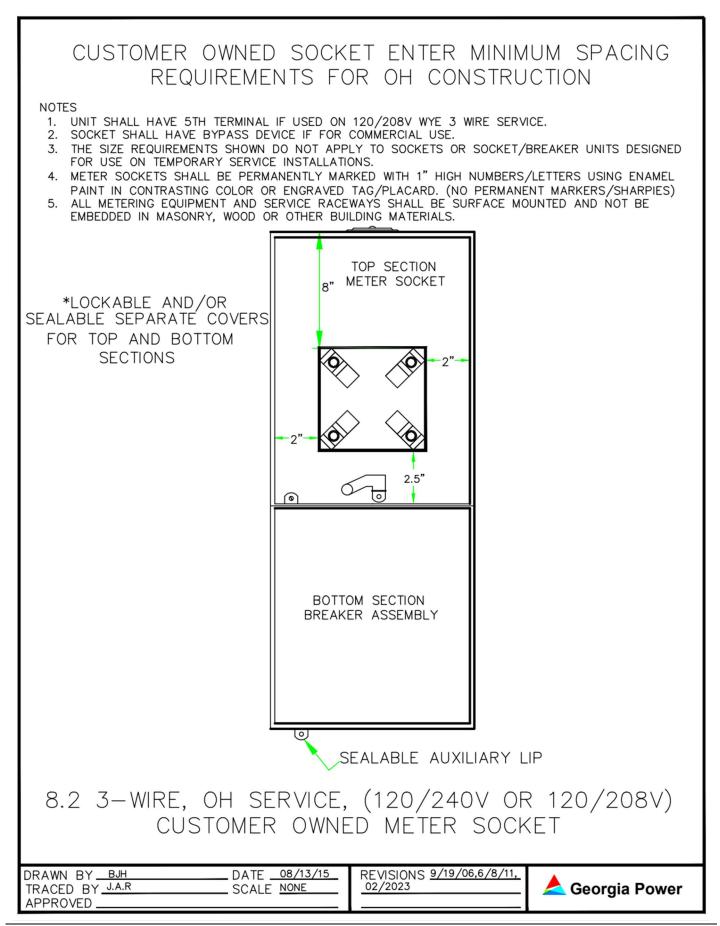
# 8.1 3-Wire, OH Service, (120V-240V), (225A or Less), Side-by-Side Construction

- A. General Notes:
  - 1. If the socket is used for U.D. service and is built with no obstruction to full depth on either side of block assembly area, minimum 2.5" clearance to each side is acceptable **provided** 3" of **unobstructed** depth is also made available at both sides of socket blocks for line side conductors.
  - 2. If line side conductors can only be trained to one side of socket, side to block clearance must be 4" with 3" unobstructed depth at that side, and 2.5" block clearance to other side.
  - 3. Socket shall accept 3" conduit at bottom.
  - 4. Bypass horns are not acceptable.
  - 5. Unit shall have 5<sup>th</sup> terminal if used on 120/208 3 Wire service.
  - 6. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 7. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 8. Socket shall have bypass handle if for commercial use.
  - 9. All meter sockets shall be ringless.



8.1 3-Wire, OH Service, (120V-240V), (225A or Less), Side-by-Side Construction

## 8.2 3-Wire, OH Service, (120V-240V), (225A or Less) OH Construction



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### 9.0 Underground Customer Owned Sockets

#### A. General Notes:

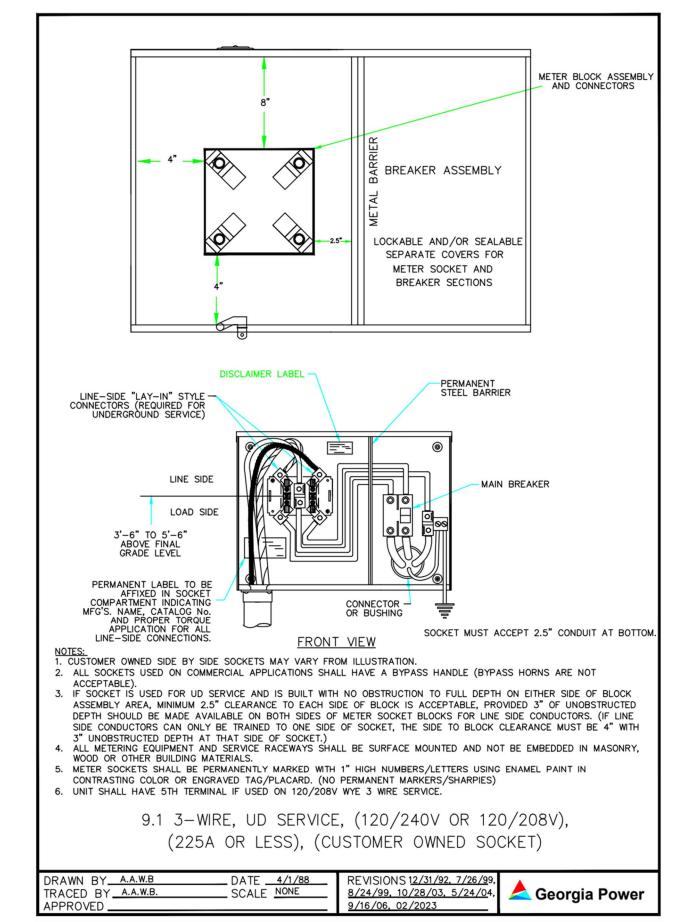
- 1. Weatherproof service equipment furnished and installed by the **Customer**.
- 2. Conduit shall be 2 1/2-inch minimum trade size and with a minimum of two (2) conduit straps, furnished and installed by **Customer**.
- 3. Where required, a Panel installed adjacent to home, shall be furnished by Customer.
- 4. All underground service installations and connections shall be made by the **Company** only.
- 5. Where **aluminum** conductors are terminated in meter sockets, inhibitor of the non-grit type shall be used in each conductor connector and around the circumference of each conductor including the grounded conductor (neutral).
- 5. Disconnection of all underground service installations and connections shall be made by **Company** only.
- 6. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
- 7. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
- 8. All meter sockets shall be ringless.



9.0 200 Amp, Customer Owned, UD Single-Phase Residential Socket

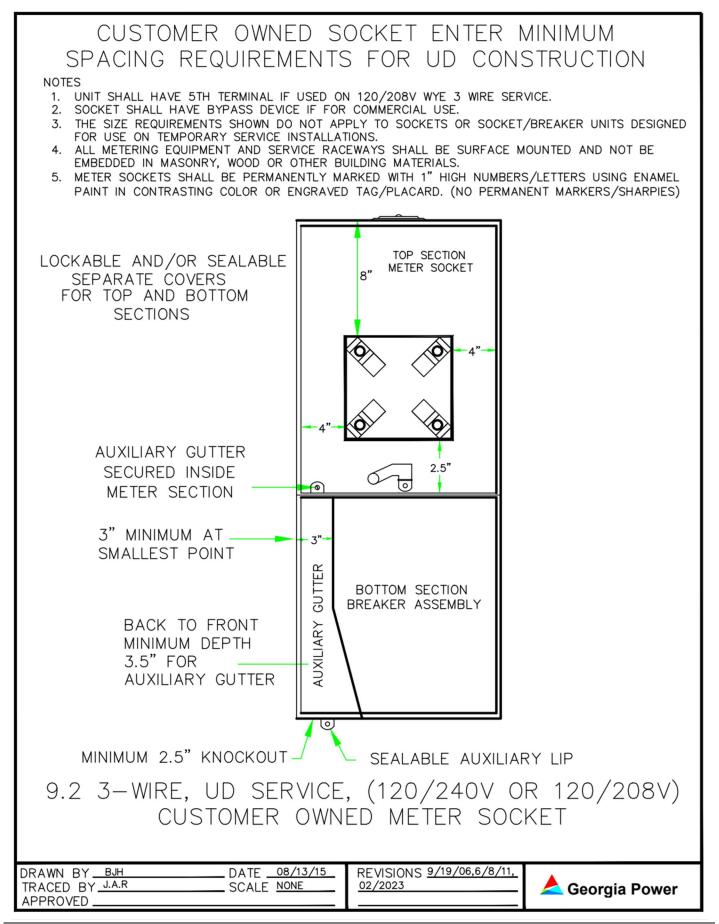
# 9.1 3-Wire, UD Service, (120V-240V), (225A or Less), Side-by-Side Construction

- A. General Notes:
  - 1. If the socket is used for U.D. service and is built with no obstruction to full depth on either side of block assembly area, minimum 2.5" clearance to each side is acceptable **provided** 3" of **unobstructed** depth is also made available at both sides of socket blocks for line side conductors.
  - 2. If line side conductors can only be trained to one side of socket, side to block clearance must be 4" with 3" unobstructed depth at that side, and 2.5" block clearance to other side.
  - 3. Socket shall accept 3" conduit at bottom.
  - 4. Bypass horns are not acceptable.
  - 5. Unit shall have 5<sup>th</sup> terminal if used on 120/208 3 Wire service.
  - 6. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 7. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels**, **permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable**.
  - 8. Socket shall have bypass handle if for commercial use.
  - 9. All meter sockets shall be ringless.



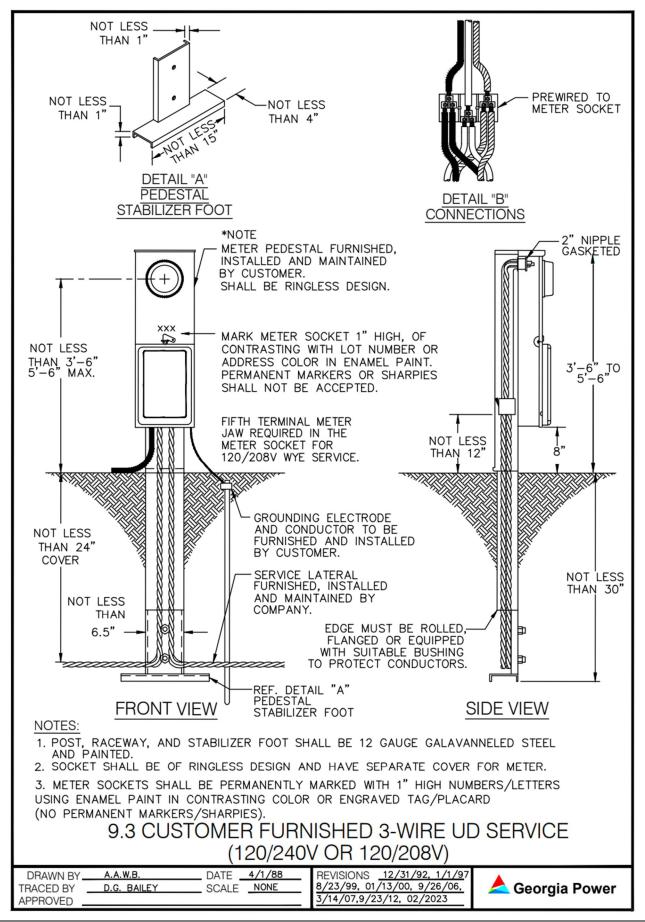
9.1 3-Wire, UD Service, (120V-240V), (225A or Less), Side-by-Side Construction

# 9.2 3-Wire, UD Service, (120V-240V), (225A or Less), UD Construction



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9.3 3-Wire, UD Service, Customer Furnished, (120V-240V)



# <u>NOTES</u>

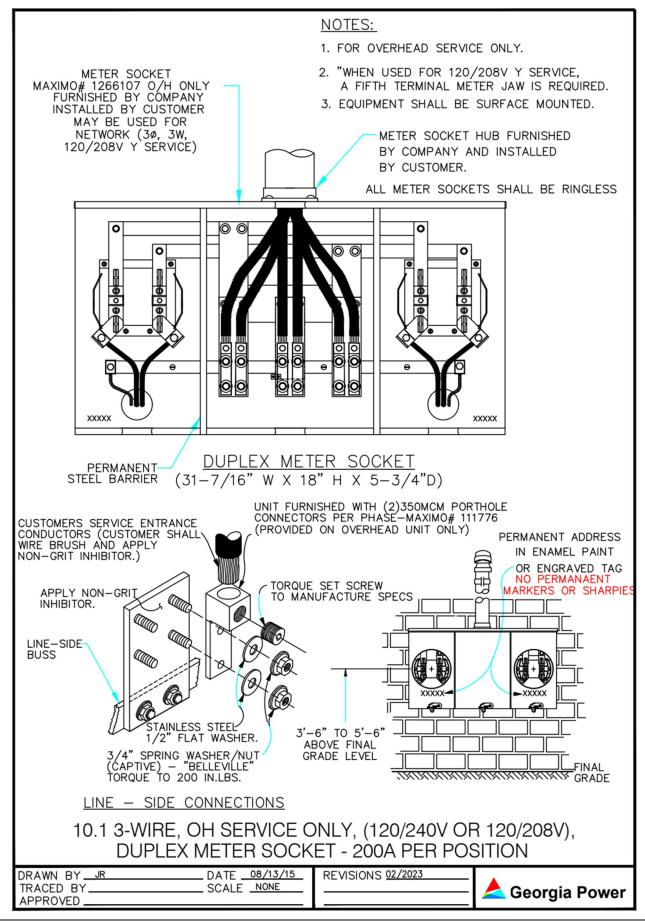
### 10.0 Duplex Sockets, OH/UD

- A. General Notes:
  - 1. Service entrance line and load conductors, conduit, conduit straps, weatherhead, lock nuts, bushings, connectors, and miscellaneous mounting hardware furnished by **Customer**.
  - 2. Meter socket, meter socket hub and service drop attachment device furnished (normally) by Company and installed by **Customer**.
  - 3. Meter and service drop furnished and installed by **Company**.
  - 4. All service equipment, enclosures, and raceways shall be surface mounted, and not embedded in masonry, wood, or any other building material.
  - 5. Meter socket, conduit straps and weatherhead shall be securely fastened to the building using appropriate hardware for the construction type.
  - 6. Conduit ends shall be equipped with proper bushing to protect conductors.
  - 7. **Customer** shall wire brush all conductors, apply a non-grit type inhibitor and terminate them by torquing to manufacturer's specifications.
  - 8. All line (including neutral) porthole connectors for these devices shall be rated for conductor sizes #6 through 350 MCM (line & neutral). Recommended connector torque shall be clearly labeled inside the socket.
  - 9. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 10. All meter sockets shall be ringless.

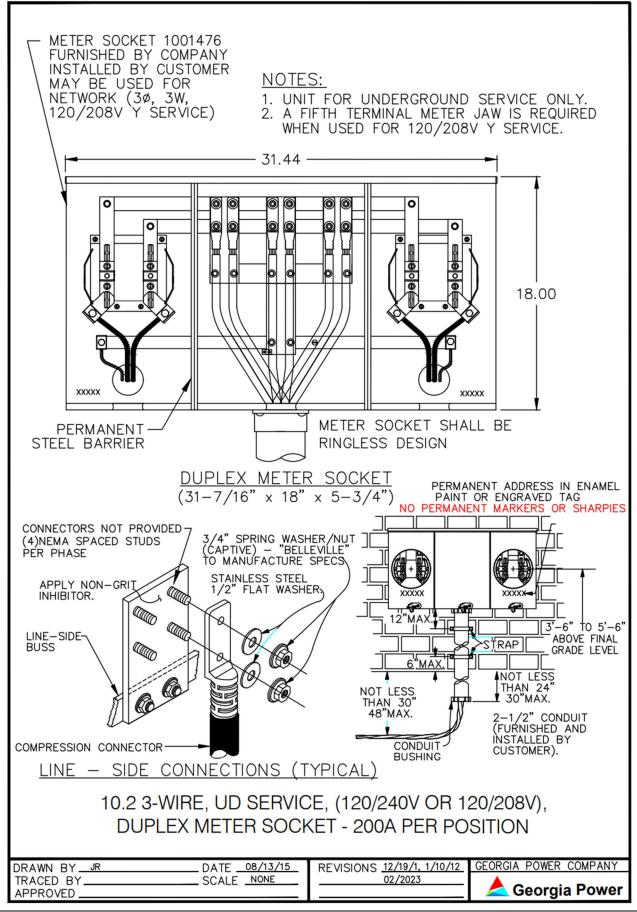


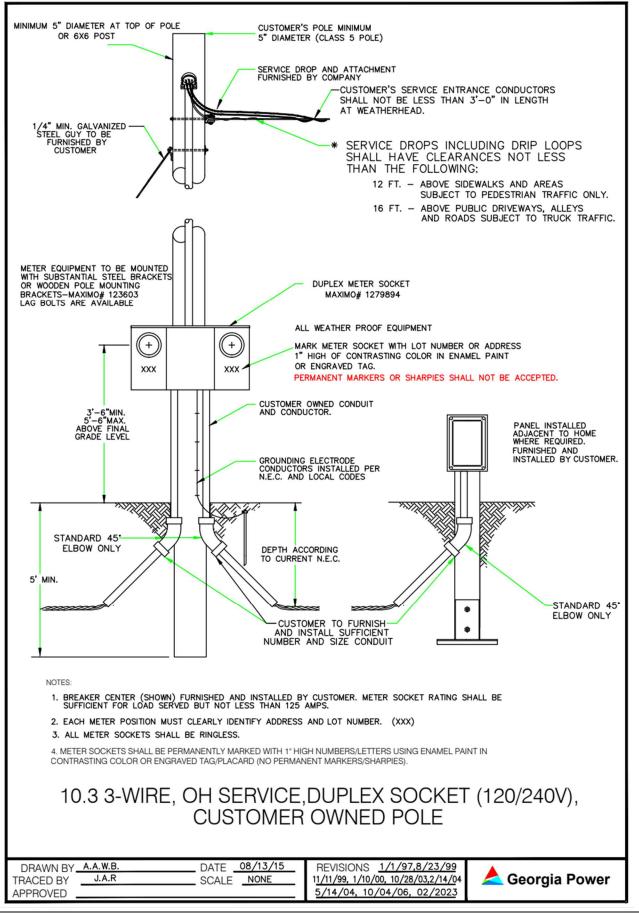
10.0 200 Amp, Duplex Socket, Maximo # 1001476

# 10.1 3-Wire, OH Service, Duplex Socket, (120/240V or 120/208V)



# 10.2 3-Wire, UD Service, Duplex Socket, (120/240V or 120/208V)





#### **11.0 Multifamily Single Phase Section**

### 11.1 3-Wire, OH Service, (120V-240V), (2-6 Positions)

- A. General Notes:
  - 1. Requirements for the metering center are the same as underground except the line side connection arrangement is not specified. All service entrance conductors and connectors shall be furnished and installed by Customer.
  - 2. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 3. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 4. Buildings, Meter sockets, Entrance doors and breaker panels shall be permanently marked with a permanent address. Temporary labeling of any kind such as tape markings or handwritten suite labels will not be accepted.
  - 5. Meter Sockets, Entrance Doors, and Breaker Panels shall be **permanently** marked with a Permanent address.
  - 6. All meter sockets shall be ringless.



11.1 150 Amp, OH Multi-Gang Socket, 2-6 Positions

### 11.2 3-Wire, UD Service, (120V-240V), (2-6 Positions)

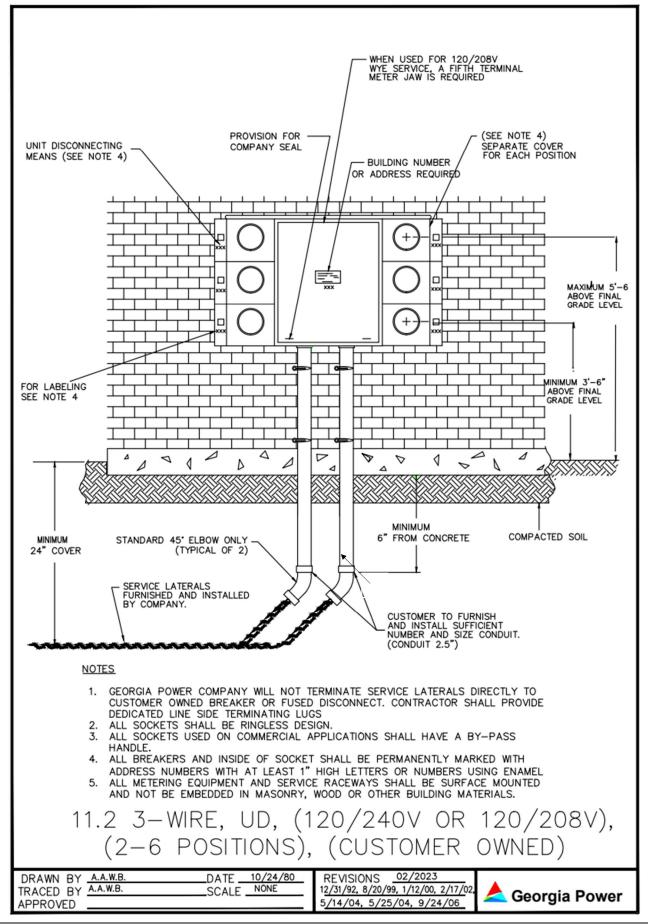
- A. General Notes:
  - 1. Figure 11.2 may be used when the inspection authority having jurisdiction requires the installation of a service disconnecting means adjacent to the meter.
  - 2. The **Customer** shall install a grounded **Manufacturer Specified Fifth Terminal Meter Jaw** in this equipment if the supply source is 120/208V WYE service. (**Can be in 9 o'clock or 6 o'clock position**)
  - 3. Line side studs shall be equipped with nut, flat washer, and pressure maintaining (as a "Belleville") spring washer.
  - 4. Where **Customer** furnished connectors are used, they shall meet the requirements of U.L. 486B.
  - 5. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels**, **permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable**.
  - 6. Entrance doors and Breaker panels shall be permanently marked with a Permanent address.
  - 7. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 8. Metering center and conduit straps shall be securely fastened to the building using appropriate hardware for the construction type.
  - 9. Minimum Conduit Requirements:
    - (a) Two Positions: (1)  $2\frac{1}{2}$  inch conduit.
    - (b) Three or Four Positions: (2)  $2\frac{1}{2}$  inch or (1) 3 inch conduit.
    - (c) Five or Six Positions: (3)  $2\frac{1}{2}$  inch, or (1) 3 inch and (1)  $2\frac{1}{2}$  inch or (1) 4 inch conduit.

#### 10. All meter sockets shall be ringless.



11.2 150 Amp, UD Multi-Gang Socket, 2-6 Positions

#### 11.2 3-Wire, UD Service, (120V-240V), (2-6 Positions)



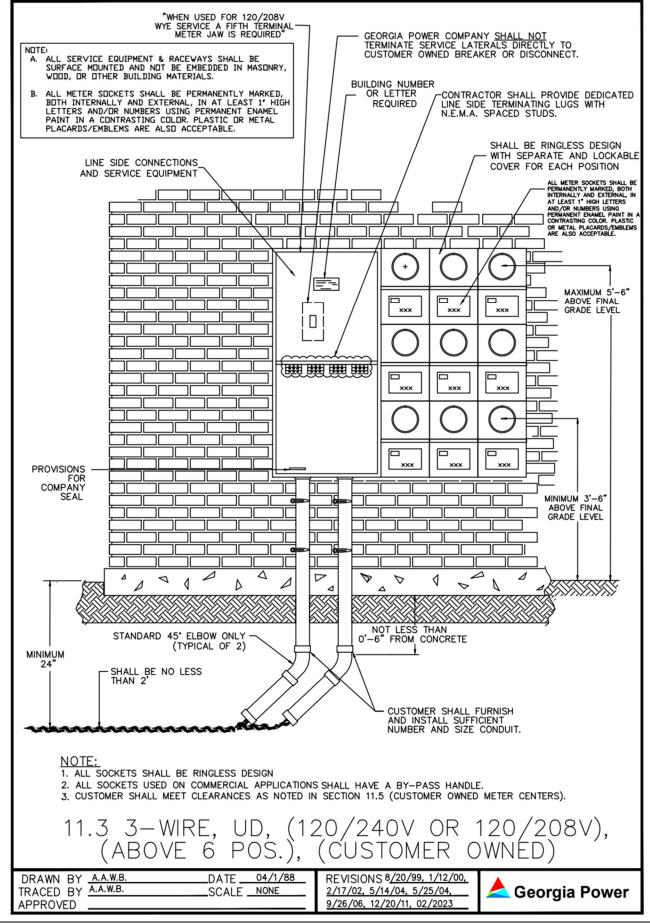
### 11.3 3-Wire, UD Service, (120V-240V), (Above 6 Pos.)

- A. General Notes:
  - 1. Figure 11.3 is an example of NEC requirement 230.71; where a single service disconnect is required ahead of a grouping of more than 6 meter/ disconnect units.
  - 2. The **Customer** shall install a grounded **Fifth Terminal Meter Jaw** in this equipment if the supply source is 120/208V WYE service.
  - 3. Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are:
    - (a) There shall be 3 feet clearance in front of any metering equipment and shall be 18 inches clearance on either side of metering equipment. For all other depth of work clearances please refer to latest NEC.
    - (b) Any machinery with moving parts shall be no less than 6 feet from metering equipment. (i.e., generators, AC and air compressors)
    - (c) Gas & water meters shall be located 3 feet away from electric metering equipment.
    - (d) Vegetation around any metering equipment shall not encroach upon any workspace clearances.
  - 4. Where **Customer** furnished connectors are used, they shall meet the requirements of U.L.486 B.
  - 5. Torquing requirements shall be clearly marked in the line side compartment.
  - 6. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 7. Metering center and conduit straps shall be securely fastened to the building using appropriate hardware for the construction type.
  - 8. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 9. Entrance Doors, and Breaker Panels shall be **permanently** marked with a Permanent address.
  - 10. All meter sockets shall be ringless.



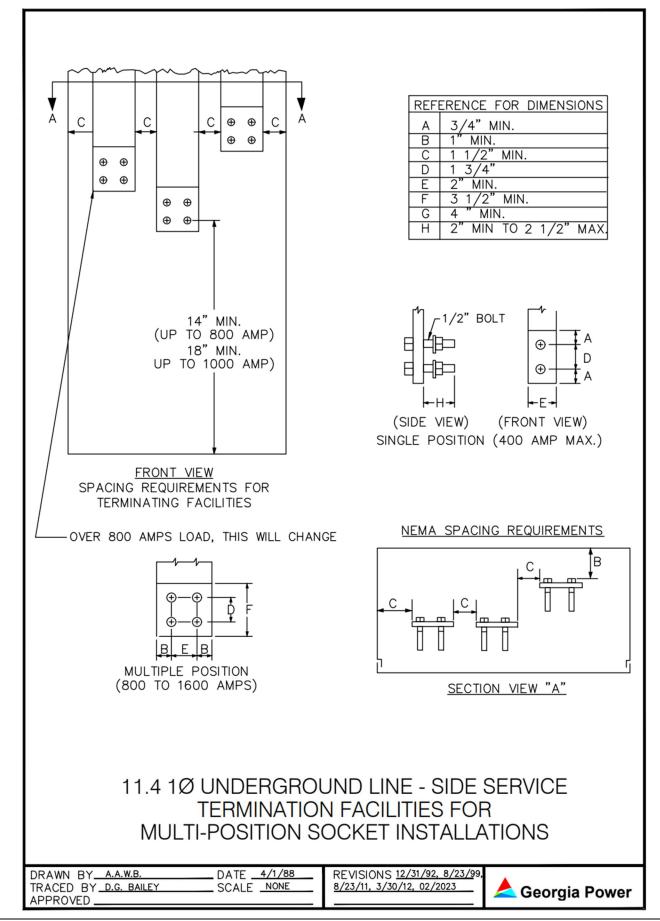
11.3 200 Amp, UD Multi-Gang Socket, Above 6 Positions

#### 11.3 3-Wire, UD Service, (120V-240V), (Above 6 Pos.)



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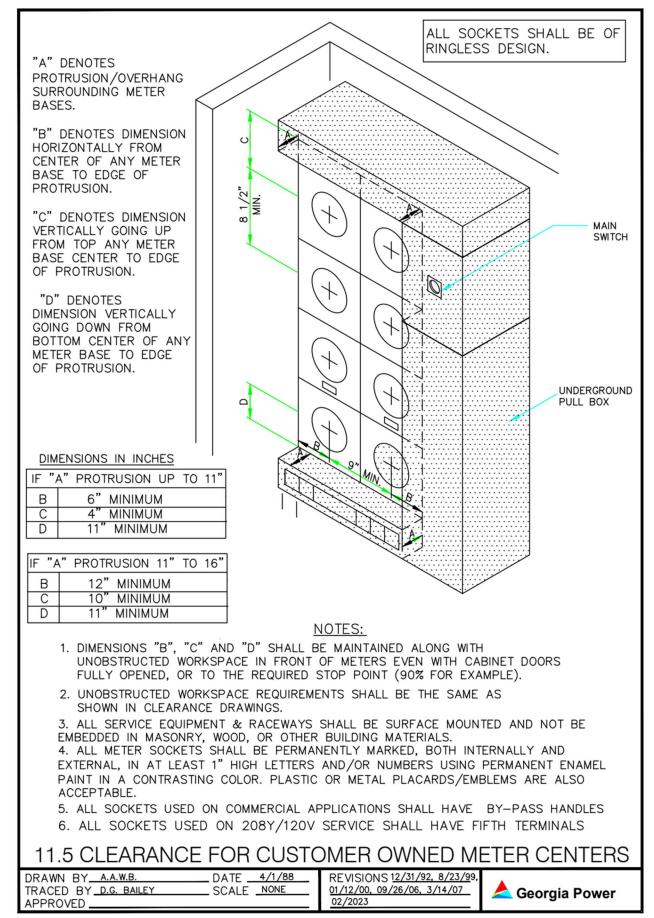
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#### 11.4 1-Phase, UD Service, Termination Facilities for Multi-Position Socket Installations

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## 11.5 Clearance for Customer Owned Meter Centers



# <u>NOTES</u>

### 12.0 4-Wire, 3-Phase, Transockets, OH/UD Service

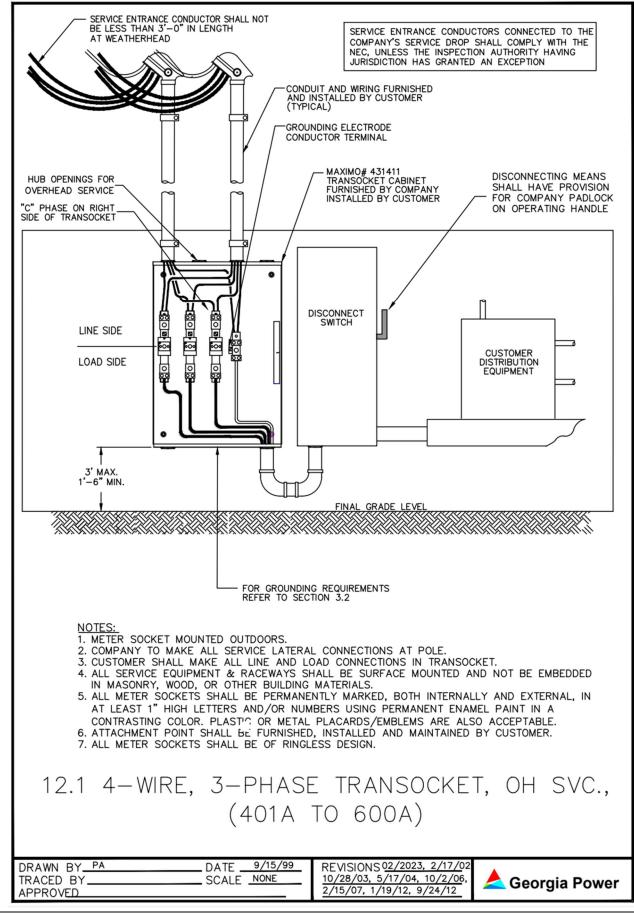
#### A. General Notes:

- 1. This arrangement may be utilized for services above 401 amperes and up to 600 amperes.
- 2. Service drop and meter furnished and installed by **Company**.
- 3. Transocket furnished by Company and installed by Customer.
- 4. On a Delta service the phase having the highest voltage (high leg) shall be in the right hand or "C" phase position in the transocket.
- 5. If the Transocket is mounted to a **Customer** pole, it shall be mounted with equipment furnished by **Company** and installed by **Customer**.
- 6. Meter equipment, sockets, and conduits shall be surface mounted (not embedded in any material).
- 7. Special permission may be granted to mount a Transocket on pedestals. It shall be mounted on two pedestals, placed side by side. Pedestals shall be 2 inch x 6 inch x <sup>1</sup>/<sub>4</sub> inch galvanized steel channel, 8 feet in length. Pedestals shall be set in at least 24 inches of concrete.
- 8. **Customer** shall wire brush all conductors, apply a non-grit type inhibitor, and terminate them by manufacturer's specification.
- 9. **Customer** is responsible for line and load connections in Transocket as to manufacturer specification listed inside.
- 10. Company will check torque on all connectors prior to setting meters.
- 11. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
- 12. Where multiple customers can be served by a common distribution point, all customers metered with instrument transformers shall be required to provide a load side disconnecting means that is readily **accessible** to the **Company**. The disconnecting means shall accept a **Company** lock. The purpose of the disconnecting means is to enable the **Company** to disconnect and reconnect service to these customers without interruption of service to other customers served from the same service source.

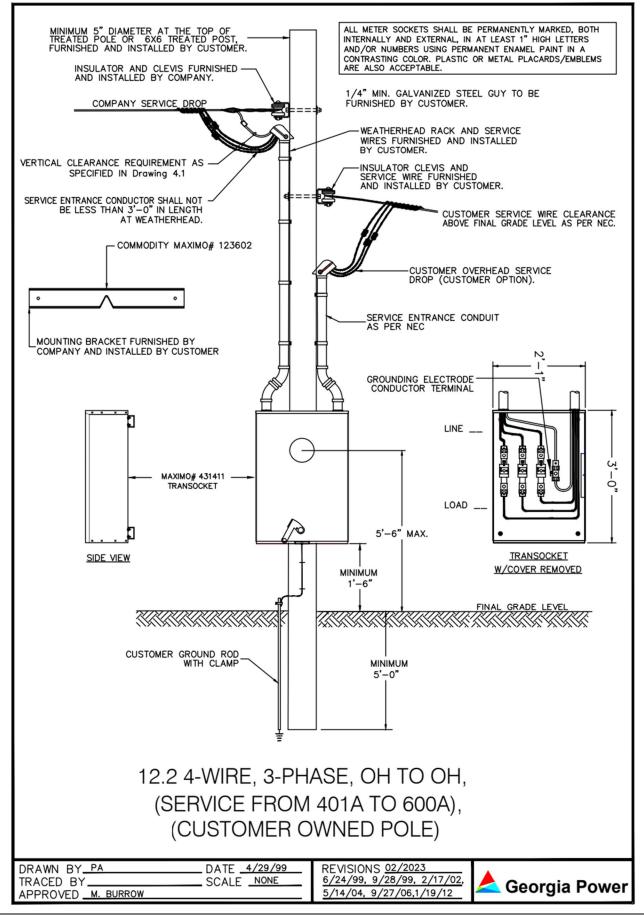


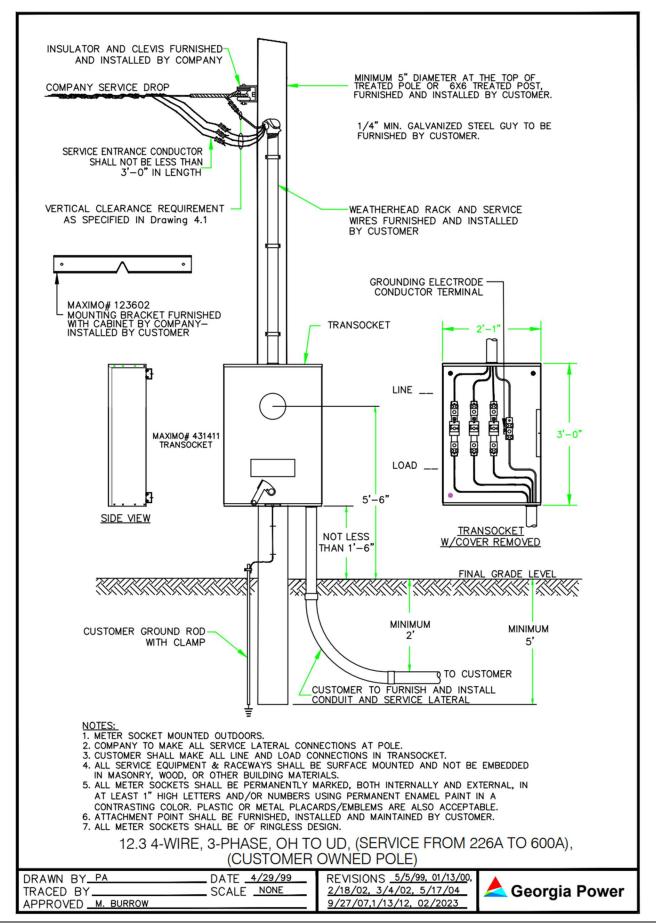
12.0 401-600 Amp, 3-Phase Transocket, Maximo# 431411

### 12.1 4-Wire, 3-Phase, Transocket, OH Service (401A to 600A)



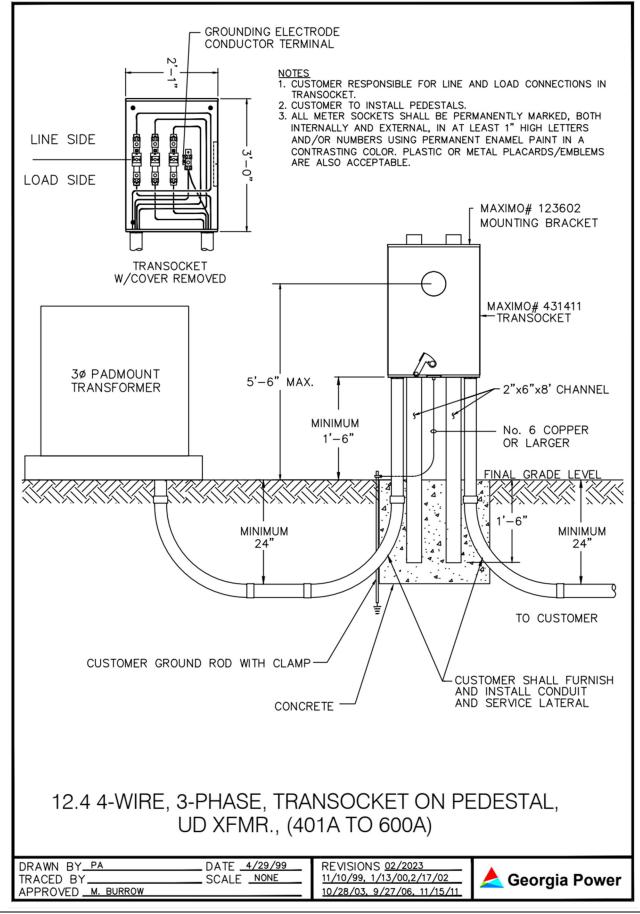
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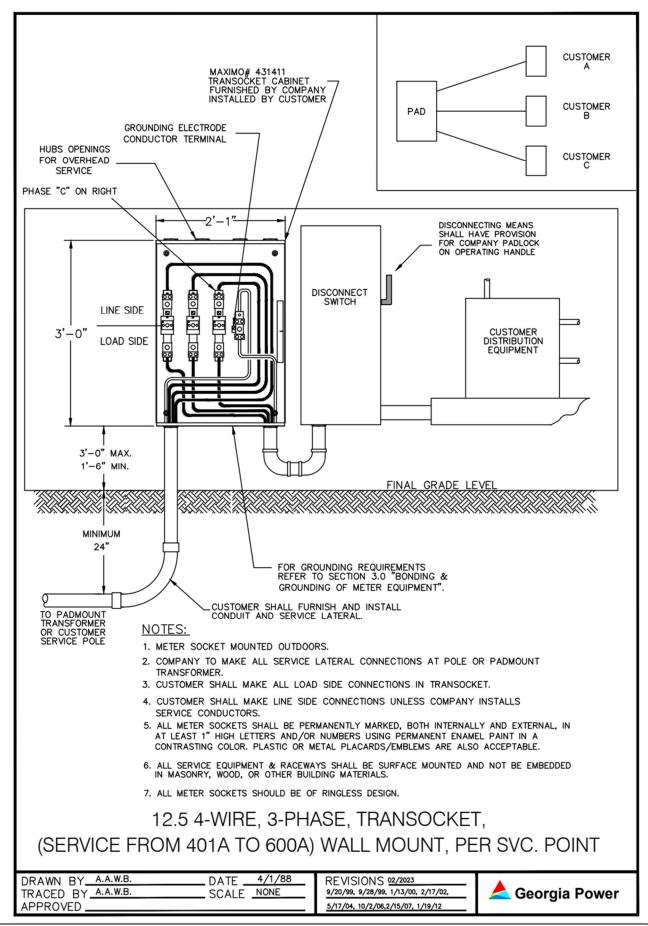


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#### 12.4 4-Wire, 3-Phase, CT Transocket, on Pedestal



12.5 4-Wire, 3-Phase, Transocket, (400A – 600A)



# 13.0 Interconnection of Non-exporting Generators (NEG)

#### A. General Notes:

- 1. Improperly installed generation equipment can create serious hazards for Company personnel working on the distribution system as well as for other customers connected to the distribution system. The operation of improperly installed generators can also result in damage to Customer's wiring, electrical equipment, or the generator itself. To safeguard against these hazards, Customer owned generators shall be installed as follows:
  - a. NEG generators are intended to supply the customer's load and not allowed to export power to the GPC distribution system. NEG generators shall be installed in compliance with the National Electrical Code, and local codes. They shall be properly connected through transfer switches, so they are completely isolated from the Company's distribution system. Any Georgia Power Company Customer desiring to operate a Non-Exporting Generator must meet the technical specifications and requirements of Distribution Bulletin 18-23 Interconnection Requirements for Non-Exporting Generators. Contact an area GPC distribution engineering representative for a copy of the latest revision of this bulletin.
  - b. Customers can also obtain an electronic copy of the bulletin via the internet by entering the following link: <u>PD DB 18-23: Interconnection Requirements For Non-Exporting Generators (georgiapower.com).</u>
  - c. A GPC Customer who wishes to own, install, and operate a NEG is required to complete the Non-Exporting Generation Installation & Operation Application which can be found in the DB18-23 bulletin. The completed application is to be returned to the area GPC distribution engineering representative.
  - d. Requirements for customer-owned generators that are intended to export power to the electric utility system are not addressed by the DB18-23 Bulletin. The Southern Company Document entitled "Southern Company Distribution Interconnection Policy: Operation of Distributed Energy Resources in Parallel with the Distribution System Policy (SOCO DER Policy)" covers generators that export power to the GPC distribution system. <a href="https://www.georgiapower.com/business/products-programs/business-solutions/commercial-solar-solutions/distributed-generation.html">https://www.georgiapower.com/business/products-programs/business-solutions/commercial-solar-solutions/distributed-generation.html</a>.
  - e. No customer standby generation equipment shall be installed between the Company's meter and customer's meter socket.

# <u>NOTES</u>

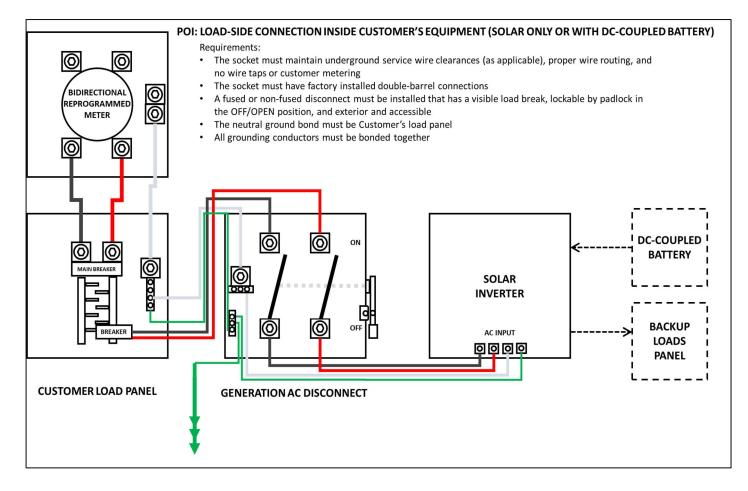
### 14.0 Distributed Energy Resources and Energy Storage

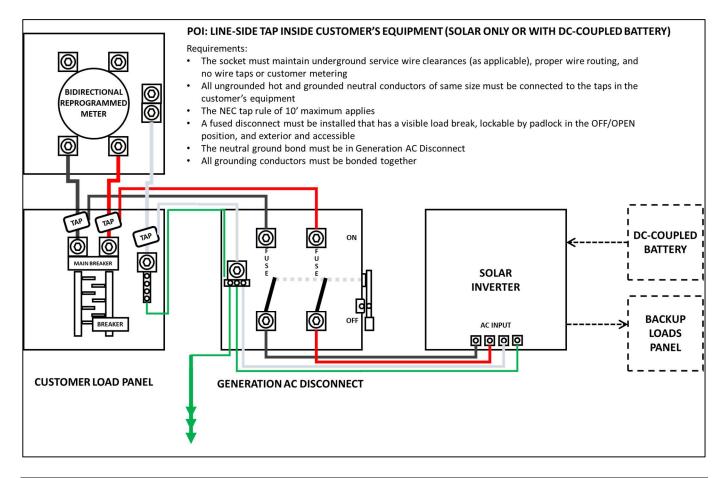
- A. General Notes:
  - 1. The following requirements address DER and Energy Storage Systems that are utility interactive and are directly or indirectly connected to Georgia Power's distribution system.
  - 2. All customer DER and/or Energy Storage System equipment must be UL1741 and IEEE1547 listed.
  - 3. A generation AC Disconnect(s) shall be installed that isolates all DER Owner generation from the grid.
  - 4. The Georgia Power Distribution System is a dynamic and changing system. Company reserves the right to modify or reconfigure the Distribution System as necessary to ensure safe and reliable operation of the System. The DER Owner will be responsible for paying for modifications required for reconnecting the DER to the Company's reconfigured Distribution System.
  - 5. Temporary Disconnection. On a non-discriminatory basis, Company may temporarily disconnect the DER from Company's Distribution System: (i) During the DER Initial Synchronization, if the period of Initial Synchronization exceeds seven (7) days or after Initial Synchronization if DER testing is not successfully completed; or (ii) During an emergency (e.g., a situation imminently likely to endanger life or property); or (iii) On occurrence of one of the following, if the Company could reasonably expect that the event/condition could materially and adversely affect Company's Distribution System equipment or the safe and reliable operation of the Distribution System: (iv) Noncompliant DER operation or output; or (v) Hazardous condition, lack of scheduled maintenance or testing, or an operating characteristic revealed by DER assessment; or (vi) Modification of DER equipment or interconnection protection and control device or scheme without Company approval; or (vii) Tampering with, or unauthorized use of Company's Distribution System equipment; or (viii) Failure of Distribution System equipment; or (ix) Failure of DER, after reasonable notice, to curtail per Section 11.2 (Curtailment) of the SOCO DER Policy (x) For routine or emergency maintenance, repair, testing, modification, or replacement of the Distribution System, including manual or automatic Company Distribution System re-configuration that could result in the DER's interconnection with parts of the Distribution System that were not studied for parallel operation with the DER; or (xi) For DER Owner's failure to fulfill its payment or security obligations or for any other default under the Interconnection Agreement; or (xii) Under normal operation of protection and control devices or schemes.
- B. Interconnection Process. The interconnection process begins with formal submission of an Interconnection Application by the Customer and ends formally with Georgia Power's notification of Permission to Operate or Commercial Operation Authorization. The duration of the interconnection process can vary significantly, depending on several factors, including complexity of studies; timeliness and accuracy of data submission and the engineering design of the DER; and the engineering and construction of any Distribution System upgrade or modification identified during the study process. For more information regarding the Interconnection's process, email G2GPCRDI@southernco.com.
- C. Reference Documents:

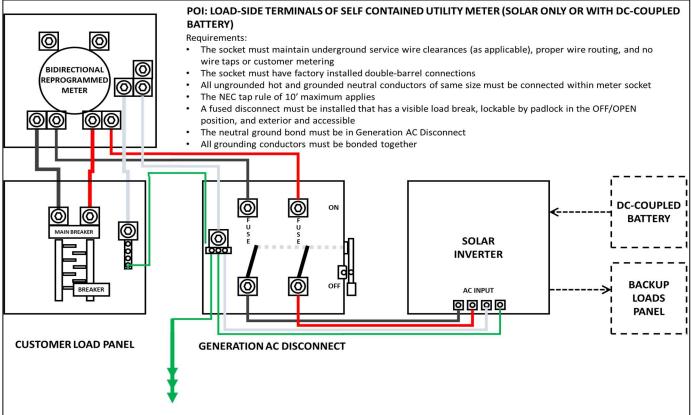
- 1. Southern Company Operation of Distributed Energy Resources (DER) in Parallel with the Distribution System Policy
- 2. Behind-the-Meter (DER) Interconnection Construction Guidelines
- 3. Distributed Generation Interconnection Construction Guidelines
- 4. Distribution Test Policy

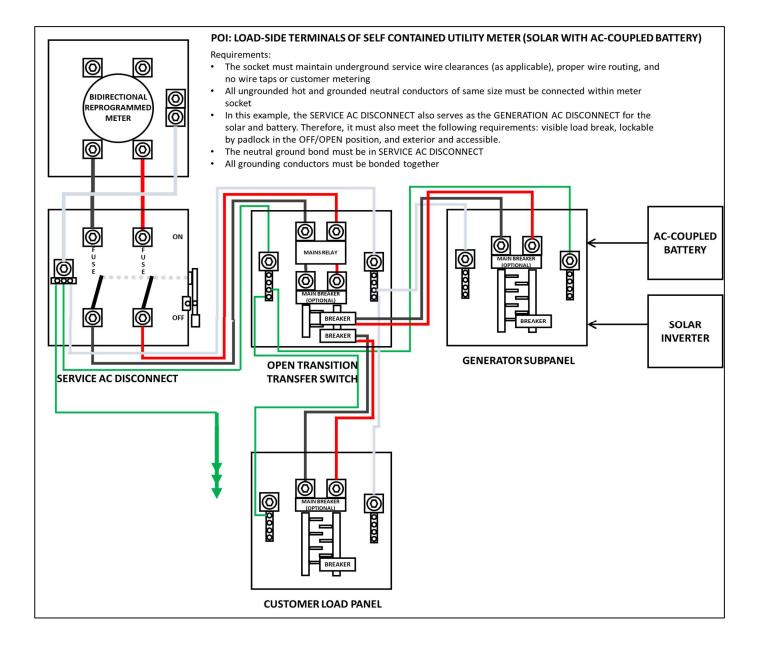
# 14.1 Behind-the-Meter DER and Energy Storage System Diagrams

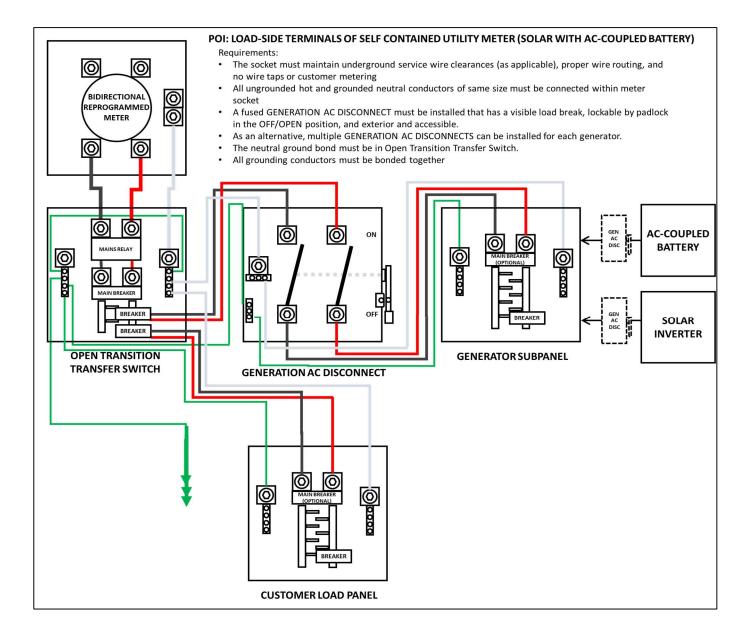
- 1. General Notes:
  - A. The diagrams below pertain to DER and Energy Storage Systems installed in parallel with the Customer's load and behind the Customer's meter.
  - B. The diagrams below are for reference only and represent typical installation and wiring practices. The actual installation may vary based on site-specific requirements.
  - C. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - D. All meter sockets shall be permanently marked, both internally and external, in at least 1" high letters and/or numbers using permanent enamel paint in a contrasting color. plastic or metal placards/emblems are also acceptable.
  - E. All Sockets shall be ringless.

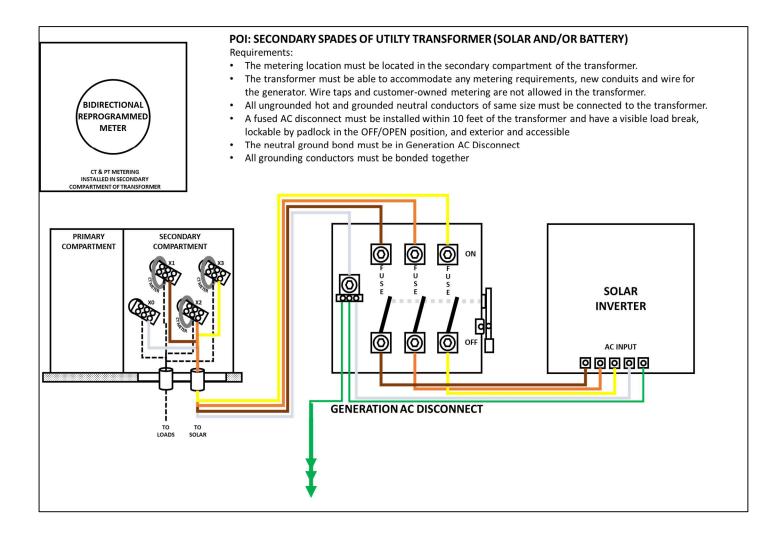


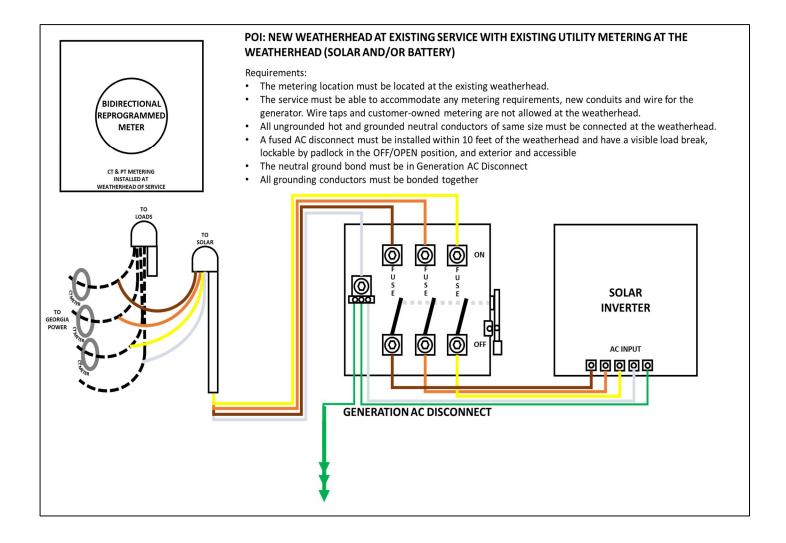






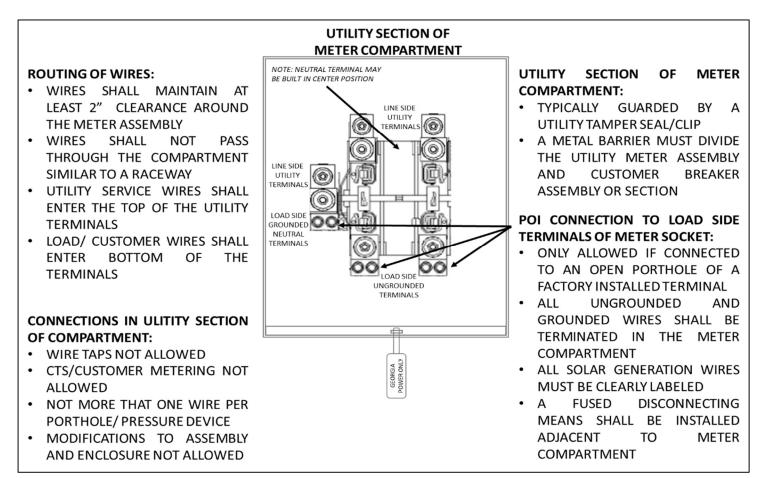






#### 14.2 Behind-the Meter Interconnections

Additional Requirements for Behind-the-Meter Interconnections with a POI at the Load-Side Terminals of the Self-Contained Utility Meter:



### 14.2 Not Allowed in the Meter Compartment

- A. Georgia Power does not accept:
  - 1. Modification to the Factory meter socket including "accessory" chair lugs or hip clips to add the extra customer generator wires.
  - 2. Wire taps, Utilco's, or other clamp-on wire piercing devices in the utility section of the metercan.
  - 3. Improper routing of wires in the metercan, which does not allow proper clearance around the socket.
  - 4. Socket lugs with factory "bypass horns" that allow the customer to easily add a wire to bypass the meter.



Modification to Factory Equipment including "accessory" chair lugs or hip clips



Wire taps, Utilco's, or other clamp-on wire piercing devices



Improper routing of wires in the meter compartment, which does not allow proper clearance around the socket



Socket lugs with factory "bypass horns"



Customer owned CT meters and instrument transformers

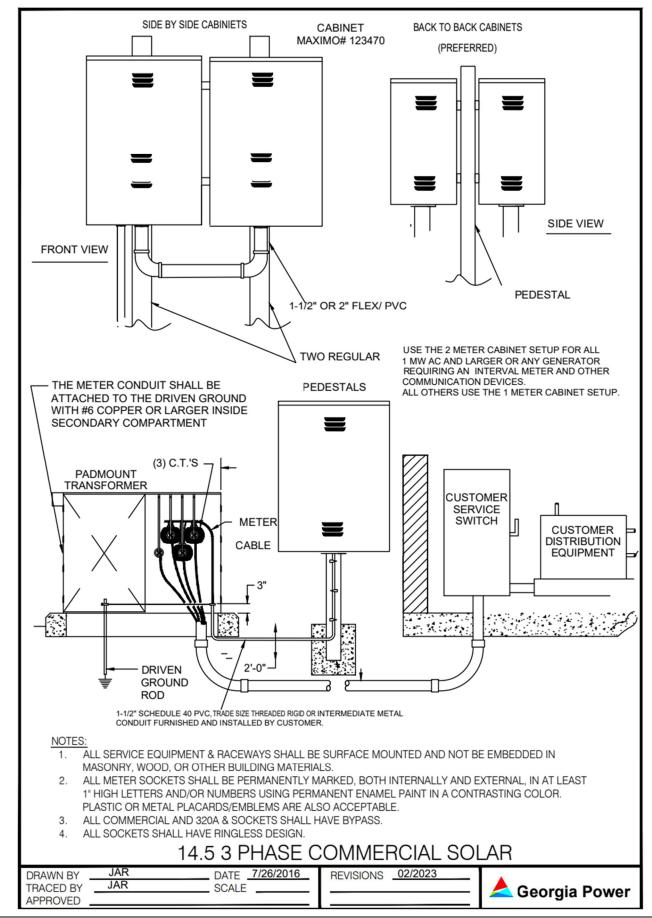
#### 14.2 Customer owned CT Meters and Instrument Transformers in the utility section of the Metercan

## 14.3 Generation AC Disconnect Requirements

- A. Company requires that a generation AC Disconnect to be installed that isolates all DER Owner generation from the grid. Company reserves the right to operate the AC Disconnect as noted in Section 11.0 of the SOCO DER policy. It is recommended that the AC Disconnect be dedicated to the generation, but at the DER Owner's request, the main service disconnect that that also disconnects the building loads can be used in place of the generation AC Disconnect. Special labeling may apply.
- B. The generation AC Disconnect must meet the following requirements:
  - The AC Disconnect must be accessible by Company. Accessible means located exterior of the building and not within any locked or restricted access area. AC Disconnects located on the roof, in attics, mezzanine areas, or other areas only accessible by ladder are not permitted. Company recommends installing the generation AC Disconnect adjacent to the Company electric meter. If the NEC or the local AHJ requires that the AC Disconnect to be installed in another location that is not accessible by Company, another AC Disconnect will need to be installed and wired in series in an approved Company location.
  - 2. The AC Disconnect must have a visible load break of the ungrounded wire conductors carrying load to and from the DER Owner's generation. Circuit breaker disconnects are not permitted, as they do not have a visible load break (you cannot see inside the breaker). In some cases, commercial switchgear with a "racked" breaker design may be permitted at Company's discretion. The use of an AC Disconnect to break a control circuit of a relay, contactor or shunt is not permitted. Indicators or signals of a break are not sufficient alone. Additionally, the visible load break must be visually accessible to a Company employee within eyesight without the aid of any other device in front of the AC disconnect. Monitors, videography, or other remote viewing are not permitted.
  - 3. The generation AC Disconnect must be lockable by Company padlock in the OPEN/OFF visible load break position. Pull out and reversible disconnects are not permitted, as you can only lock the access door to the pullout and not lock the pullout in the OPEN/OFF position. In some cases, commercial switchgear with a "racked" breaker design with factory installed or aftermarket locking in the OPEN/ OFF position may be permitted at Company's discretion.
  - 4. The generation AC Disconnect may be fusible or non-fusible. If the point of interconnection (POI) is directly to the secondary of the transformer, weatherhead, load-side terminals of the meter socket or other service connection where overcurrent protection is not previously provided upstream, a fusible disconnect is required and must be located adjacent to the Company service. The NEC or local AHJ may have additional requirements.
  - 5. The generation AC Disconnect can isolate a generation electric sub-panel that feeds multiple renewables equipment or batteries.
  - 6. Up to three generation AC Disconnects may be installed if neither is also serving as the main service AC Disconnect. All must be physically located adjacent of each other and include labeling as noted in the Labeling section below.
  - 7. The generation AC Disconnect must have applicable labeling installed, as noted in the Labeling section below.

I

WARNING LABEL FOR DISTRIBUTED GENERATION ENCLOSURES	
Co-Generation System Present Disconnect from source before working on equipment Can cause: Electrical Shock, Burn or Death	
THIS LABEL IS TO BE INSTALLED ON METER SOCKET	
DRAWN BY	/PANY



## 14.5 4-Wire, 3-Phase, Large Distributed Generation Solar Facilities

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# <u>NOTES</u>

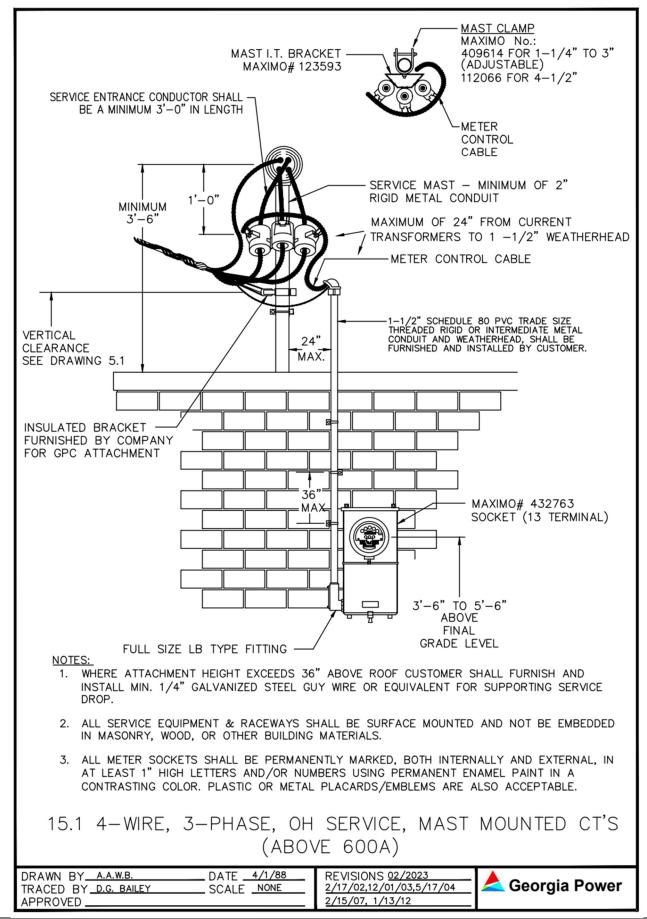
### 15.0 4-Wire, 3-Phase CT Installation, OH/UD Service (Above 600A)

- A. General Notes:
  - 1. Service drops and meter furnished by **Company**.
  - 2. Current Transformers provided by company and may be issued to **Customer** for installation or installed by company employee.
  - 3. Meter control cable furnished and installed by **Company**.
  - 4. Meter socket furnished by company and installed by Customer.
  - 5. 1<sup>1</sup>/<sub>2</sub> inch schedule 80 PVC trade size threaded rigid or intermediate conduit furnished and installed by customer.
  - 6. Transocket shall be mounted to pole with equipment furnished by **Company** and installed by **Customer**.
  - 7. Meter equipment, sockets, and conduits shall be surface mounted (not embedded in any material).
  - 8. **Customer** shall wire brush all conductors, apply a non-grit type inhibitor and terminate them by manufacturer's specification.
  - 9. **Customer** is responsible for line and load connections in Transocket as to manufacturer specification listed inside.
  - 10. Company will check torque on all connectors prior to setting meters.
  - 11. Meter socket(s) shall be marked with an address number in permanent letters and/or numbers at least 1 inch high height using a contrasting color with enamel paint inside and outside of the socket. Permanent plastic or metal labels are acceptable, at least 1 inch in height. **Permanent Ink Markers, such as Sharpies, are not acceptable**.
  - 12. Where multiple customers can be served by a common distribution point, all customers metered with instrument transformers shall be required to provide a load side disconnecting means that is readily **accessible** to the **Company**. The disconnecting means shall accept a **Company** lock. The purpose of the disconnecting means is to enable the **Company** to disconnect and reconnect service to these customers without interruption of service to other customers served from the same service source.



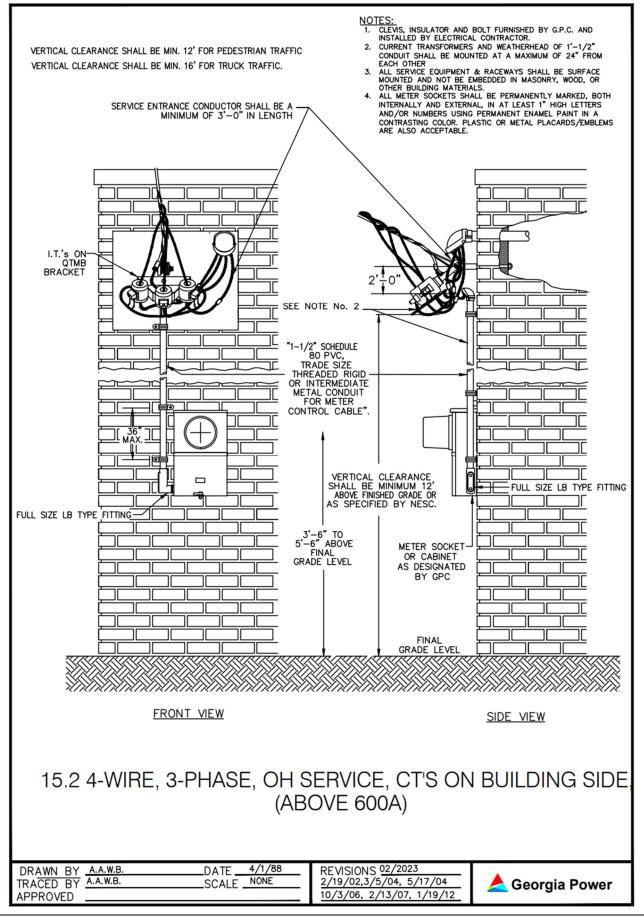
15.0 Pad Mount CT Installation and Wall Mount CT Installation

15.1 4-Wire, 3-Phase, OH Service Mast Mounted CT's (Above 600A)

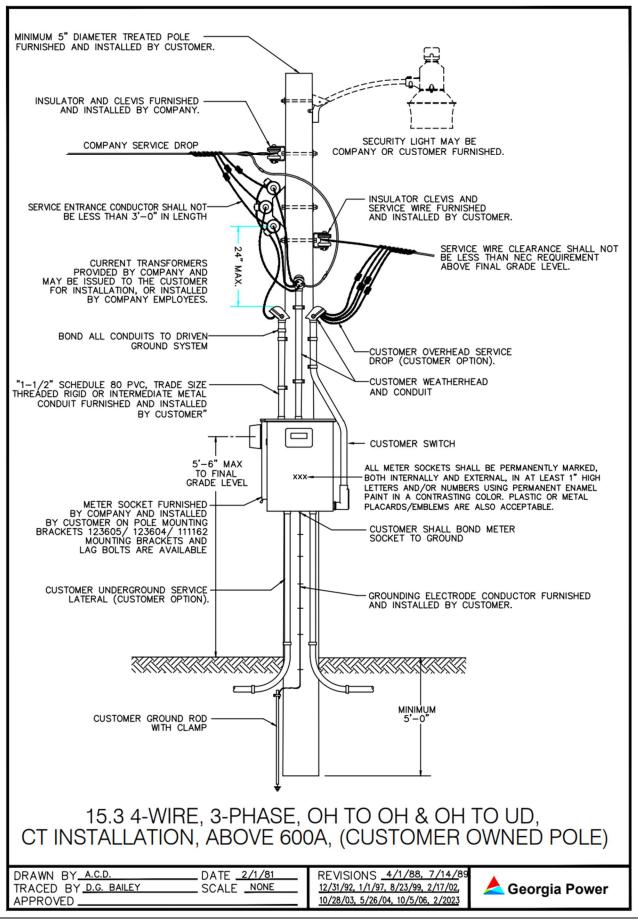


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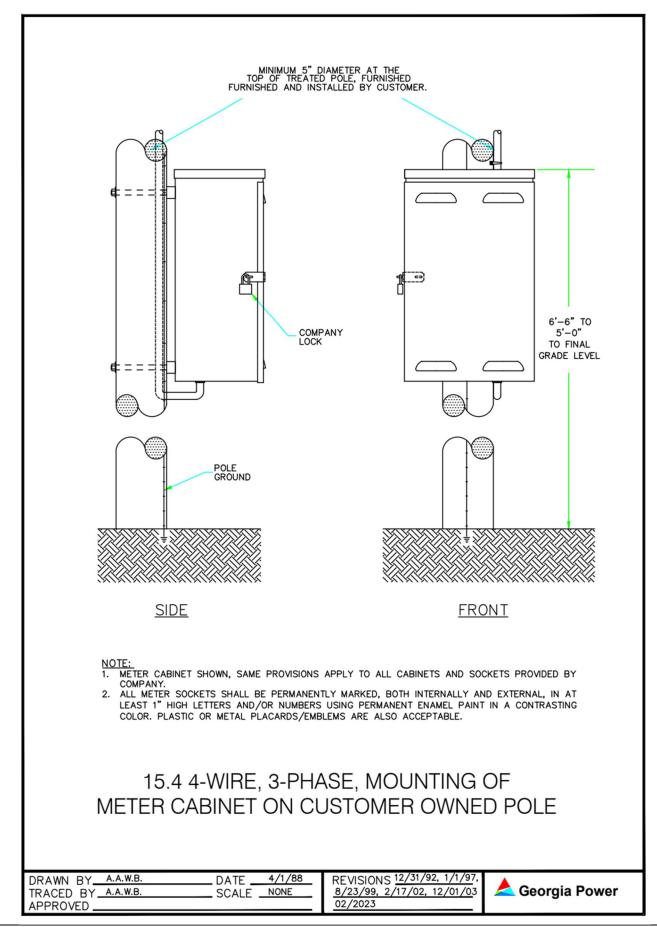
# 15.2 4-Wire, 3-Phase, OH Service CT's on Building (Above 600A)

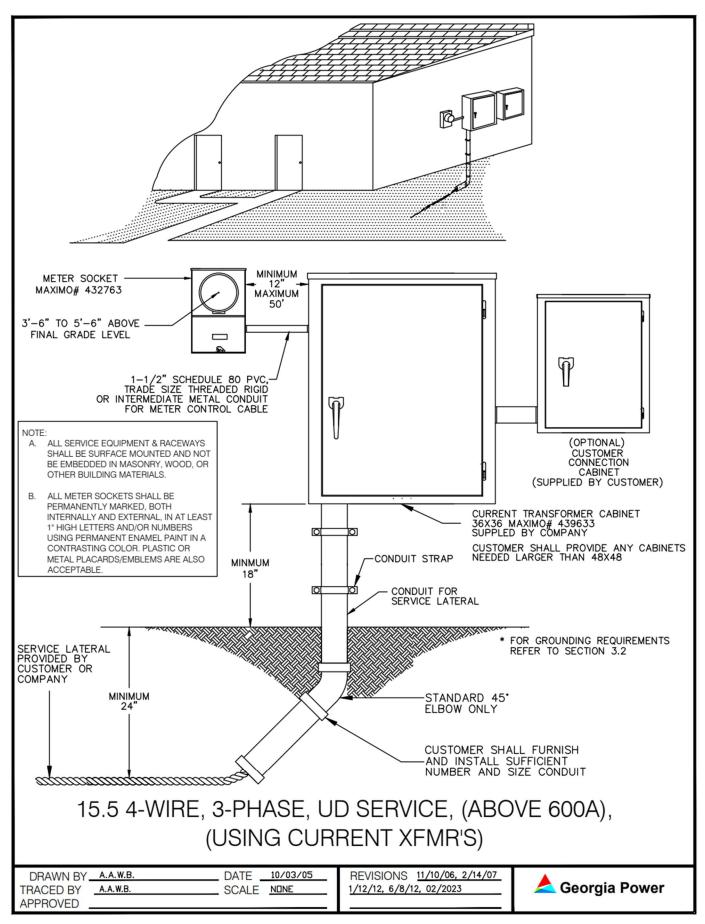


15.3 4-Wire, 3-Phase, OH to OH and OH to UD CT Installation (Above 600A)



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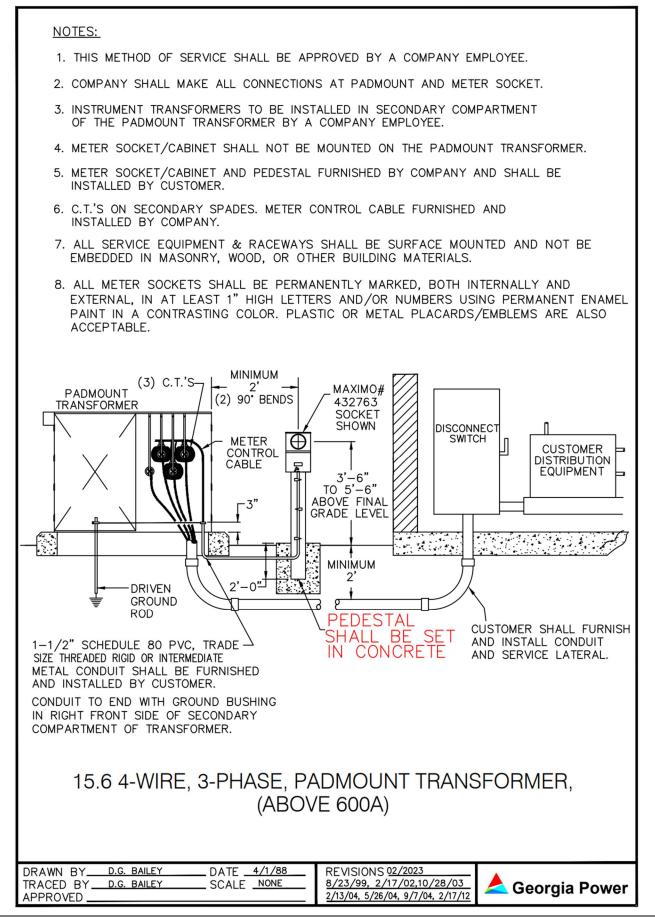




15.5 4-Wire, 3-Phase, UD Service using CTs (Above 600A)

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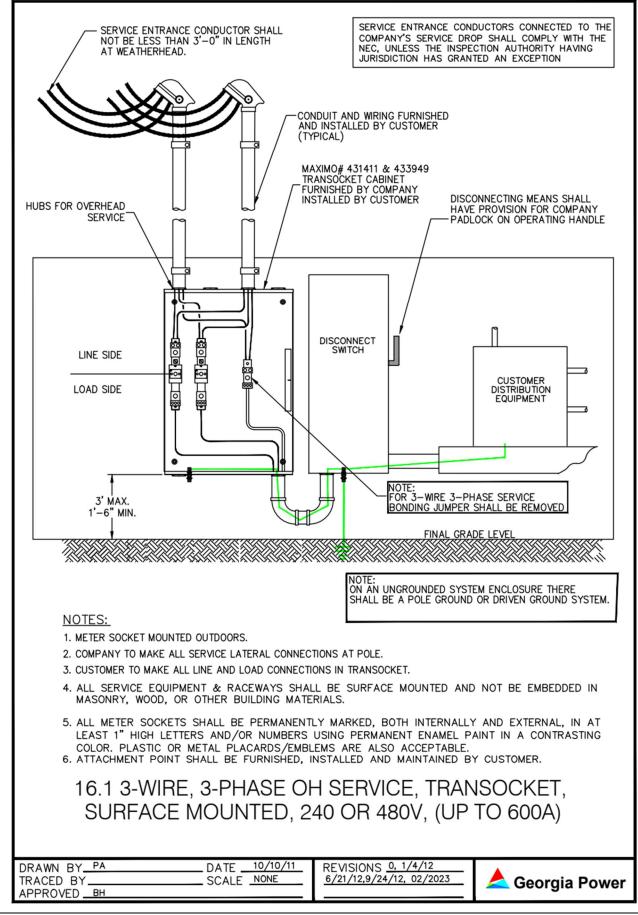
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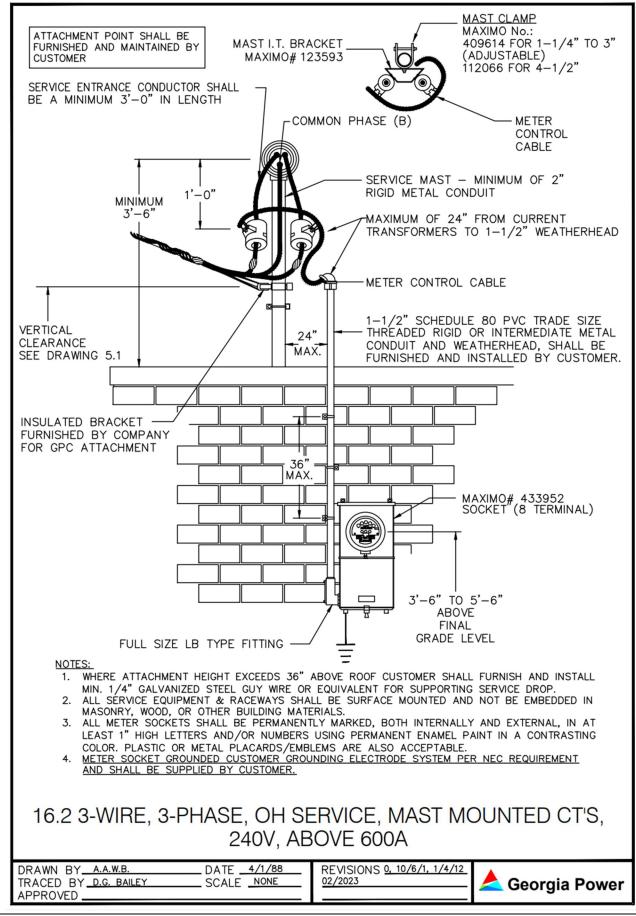
# 16.03-Wire, 3-Phase OH Service (240V or 480V), (225A or Less)

- A. General Notes:
  - 1. 3-Wire, 3-Phase service must be provided from an ungrounded transformer secondary and shall not be provided from a 4-Wire Wye or 4-Wire Delta transformer bank.
  - 2. Conductors, conduit, conduit straps, locking nut bushings, connectors, and miscellaneous mounting hardware furnished and installed by **Customer**.
  - 3. Transrated equipment furnished by Company and installed by Customer.
  - 4. The bonding jumper must be removed from transocket to isolate the socket enclosure from the phase conductor.
  - 5. Transrated equipment may be mounted on building, Customer owned pole or pedestal.
  - 6. If the transrated equipment is mounted on the building, **Customer** shall bond the equipment to the **Customer's** grounding electrode system. If the transrated equipment is mounted on a **Customer** owned pole or pedestal, the **Customer** shall provide a driven ground system.
  - 7. Transrated equipment and meter socket furnished by the **Company** and installed by the **Customer**.
  - 8. All 600 Volt installations shall utilize and potential transformers.
  - 9. **Customer** shall install all phase conductors with a continuous run through the cabinet if CT Cabinet is used.
  - 10. All customers metered with instrument transformers shall be required to provide a load side disconnecting means that is readily accessible to the Company. The disconnecting means shall accept a Company lock.
  - 11. For all multi-position services, the purpose of the disconnecting means is to enable the Company to disconnect and reconnect service to any customer without interruption of service to another customer served from the same service source.
  - 12. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 13. All meter sockets shall be permanently marked, both internally and external, in at least 1" high letters and/or numbers using permanent enamel paint in a contrasting color. plastic or metal placards/emblems are also acceptable.
  - 14. All sockets shall be of ringless design.

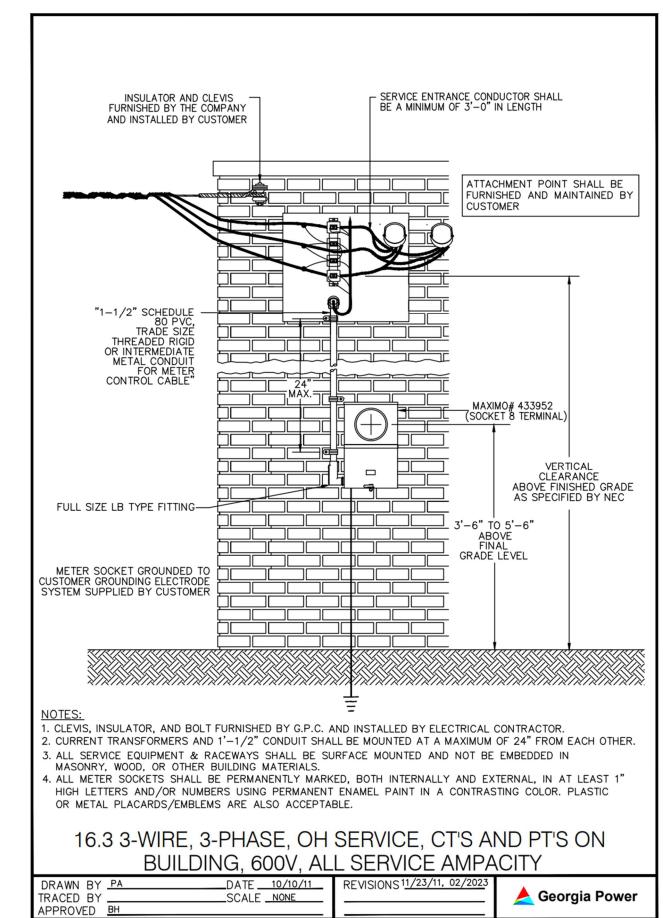
### 16.1 3-Wire, 3-Phase, OH Service Transocket Wall Mounted, Ungrounded



# 16.2 3-Wire, 3Phase OH Service, Mast Mounted, Underground

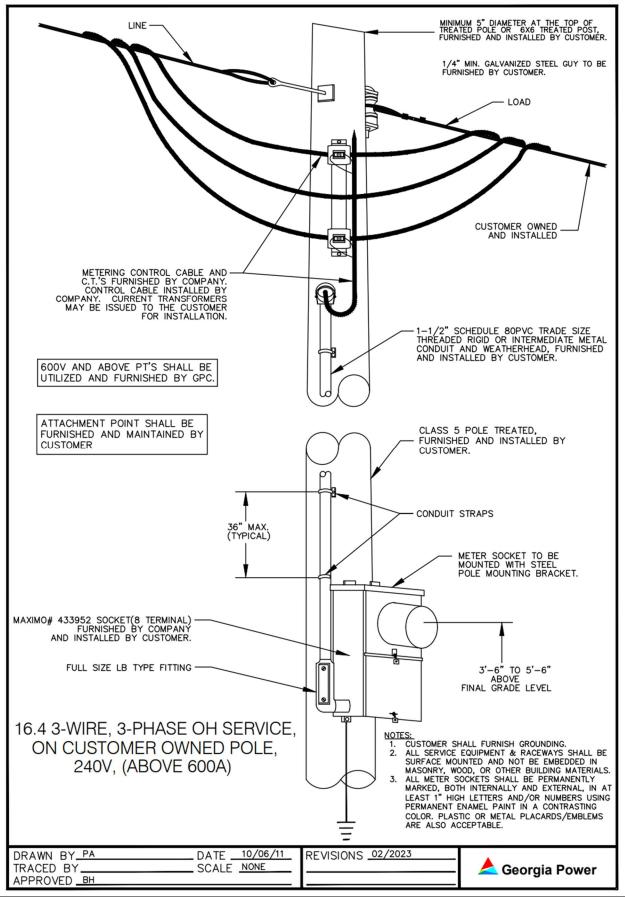


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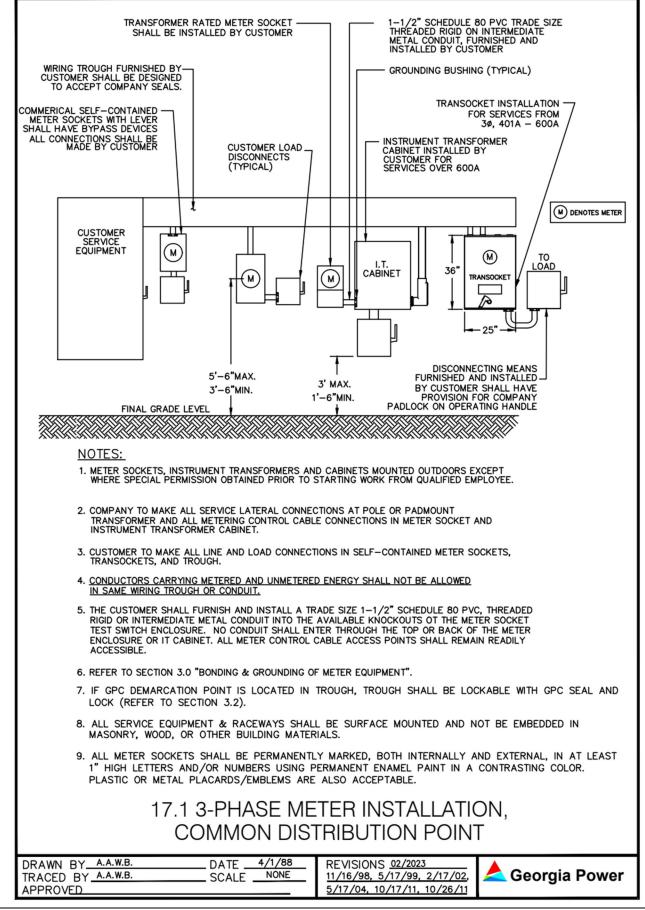
#### 16.4 3-Wire, 3-Phase, OH Service, Customer Owned Pole, Ungrounded



# 17.03-Phase Meter Installation, Common Distribution Point

- A. General Notes:
  - 1. This arrangement may be utilized for services above 225 amperes.
  - 2. Conductors, conduit, conduit straps, lock nuts, bushing connectors, and miscellaneous mounting hardware furnished and installed by **Customer**.
  - 3. Meter sockets may be furnished by **Company** and shall be installed by **Customer**.
  - 4. Requirements regarding accessibility to equipment and unobstructed working space adjacent to metering equipment are specified in Section 3.5.C and Section 4.1.
  - 5. All service equipment, enclosures, and raceways shall be surface mounted and not embedded in masonry, wood, or other building materials.
  - 6. Meter socket, instrument transformer cabinet and conduit straps shall be fastened to building using metal anchors (brick or solid masonry), toggle bolts (other masonry siding), or wood screws (studs, solid lumber). All screws and bolts shall be <sup>1</sup>/<sub>4</sub> inch diameter (minimum) stainless steel. A minimum of four (4) fasteners shall be used to mount socket or cabinet. No conduit shall enter at the top of the transformer rated meter socket. (As specified in Section 16.1)
  - 7. Conduit ends shall be equipped with proper bushing to protect conductors.
  - 8. **Customer** is responsible for line and load connection in Transocket as to manufacturer specification listed inside Transocket. The transocket is provided with 600 MCM dual rated, two port, non-rotational connectors.
  - 9. Meter sockets shall be permanently marked, both internally and externally, with the address numbers in at least 1 inch high letters and/or numbers using enamel paint in a contrasting color. Plastic or metal placards/emblems of at least 1 inch in height are also acceptable. Labeling shall be put on the body of the socket above or below the breaker, not on the lids. **Paper labels, permanent ink markers, sharpies, paint pens or any handwritten labels are not acceptable.**
  - 10. All meter sockets shall be ringless.

# 17.1 3-Phase, Meter Installation Distribution Point



# **18.0** Meter Compartment in Switch Gear, (Customer Owned Facilities)

#### A. General Notes:

- 1. Metering compartment shall be constructed to separate and permanently serve as a barrier line and load conductors.
- 2. Compartment must provide control cable connections for each phase, neutral and the grounding conductors. Buss connections shall be a <sup>1</sup>/<sub>4</sub> inch x 20 course thread, female tap.
- 3. Instrument transformers shall be supplied by the **Company** and installed by **Customer**.
- 4. All possible access doors and panels shall be secured with wing nut and threaded post drilled for wire seals.
- 5. A hinged and sealable lockable door shall be provided.
- 6. 1½ inch schedule 80 PVC, trade size threaded rigid or intermediate metal conduit for control cable shall be furnished and installed by **Customer**.
- 7. A maximum of two 90 degree bends or sweeps is allowed in each run of conduit.
- 8. The metering compartment shall be at minimum of 45 inches wide and located not be less than 24 inches and not more than 72 inches from floor level to the center of the compartment.
- 9. Where instrument transformers are to be located in the Customer's switchgear, they shall use company provided CTs, installed by the switchgear manufacturer or the electrical contractor at the Customer's expense. Such instrument transformers shall be installed AHEAD OF ALL LOAD and in a separate compartment of the switchgear for each service. Each compartment shall be equipped with a hinged sealable door and shall be located such that metering personnel will have clear and unobstructed access to the instrument transformers. Clear removable barriers shall be provided behind the doors at the instrument transformers. The switchgear buss work shall also be constructed to have a removable link for installation or replacement of the CTs, as needed. The Customer shall be responsible for all connections and torque specifications. The Customer is also responsible for the shipping instructions along with a one-line diagram showing the location of the instrument transformers within the switchgear which shall be sent to the Company's Metering Services Engineering Section.
- 10. The metering cabinet shall be mounted securely and in a workman like manner on an adjacent wall immediately accessible and visible from the switch gear.
- 11. Conduits shall be grounded to the **Customer's** grounding system and grounded completely from the gear to the cabinets.
- 12. Conduit ends shall be equipped with proper bushing to protect conductors.
- 13. All electrical connections to metering equipment shall be made by the **Company**.

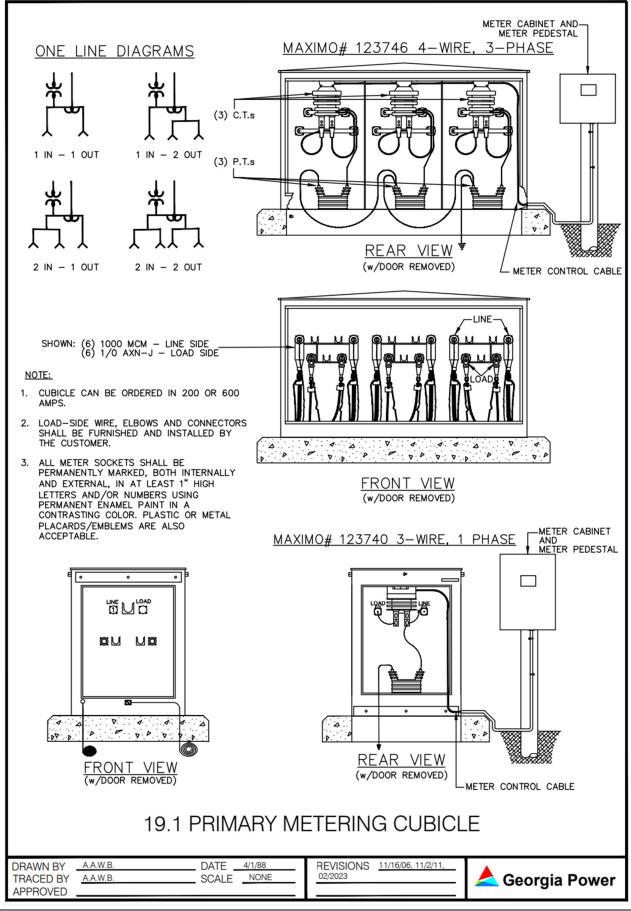
METER COMPARTMENT SWITCHGEAR,
(CUSTOMER OWNED FACILITIES)
NOTES: 1. METERING COMPARTMENT MUST BE SEPARATE AND SECURE, 2. ONLY LINE SIDE BUS BARS OR CONDUCTORS MAY BE CONTAINED IN METERING COMPARTMENT 3. METERING COMPARTMENT WILL BE SUPPLIED BY CUSTOMER, 4. INSTRUMENTS TRANSFORMER OR PT'S WILL BE SUPPLIED BY CO. AND INSTALLED BY CUSTOMER, 5. ALL POTENTIAL, NEUTRAL AND GROUNDING CONNECTIONS SHALL BE PROVIDED INSIDE METERING COMPARTMENT. 6. HINGED LOCKABLE DOOR. 7. THREADED POST WITH WING NUTS DRILLED FOR WIRE SEALS.
DRAWN BY         PA         DATE         10/6/99         REVISIONS         11/10/99.01/13/00         GEORGIA POWER COMPANY           TRACED BY         SCALE         NONE         2/17/02.11/10/06.         GEORGIA POWER COMPANY

### **19.0 Metering Installations at Primary Distribution Voltages**

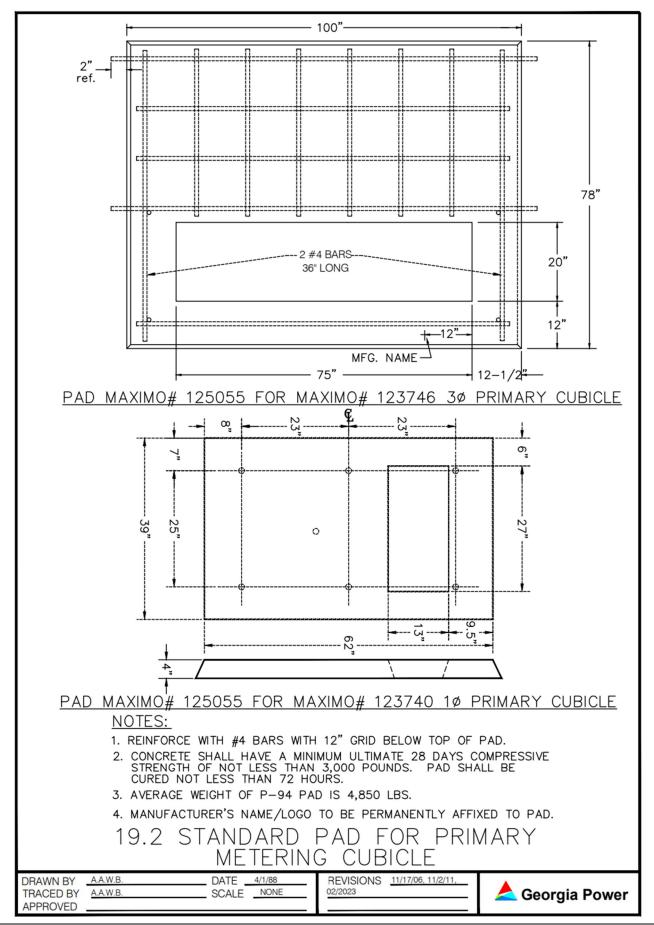
#### A. General Notes:

- 1. Service at more than 600 volts, nominal, will be measured using practical, sound, and accepted metering practices as approved by Metering Services using one of the following methods:
  - (a) A standard substation feeder.
  - (b) A standard over-head primary voltage metering cluster.
  - (c) A standard primary voltage underground metering cubicle.
  - (d) Approved customer switchgear with drawings and designs for the instrument transformer compartment.
  - (e) A low-side primary voltage meter installation immediately adjacent to a customer owned transformer, where the transformer loss compensation can be correctly applied to the revenue meter registers, and the high-side voltage of the customer transformer is the service point and is a voltage greater than or equal to 46 kV, upon review and approval by GPC Metering Services.
- 2. No service voltage more than 600 volts will be measured inside a Georgia Power Co. owned transformer enclosure or any part thereof for the purpose of revenue metering.
  - (a) No instrument transformers shall be installed in a customer owned transformer for the purpose revenue metering of any service voltage.
  - (b) No meter cabinet, sockets, or compartments shall be installed onto a customer owned transformer for the purpose of revenue metering of any service voltage.
  - (c) Service at more than 600 volts, nominal, is subject to special negotiations between the **Customer** and **Company** since the metering and service installations for such service require special engineering consideration. It is necessary to consult the **Company** well in advance of the time such service will be required so the **Customer's** and **Company's** design and construction work can be properly coordinated.
  - (d) Because special requirements are involved and added time must be devoted to these installations to order and build the equipment needed, Metering Services must have a lead time of at least six weeks prior to the date the equipment will be required.
  - (e) A detailed print of the installation to be metered shall be provided to the local area Metering Specialist.

# **19.1 Primary Metering Cubicle**

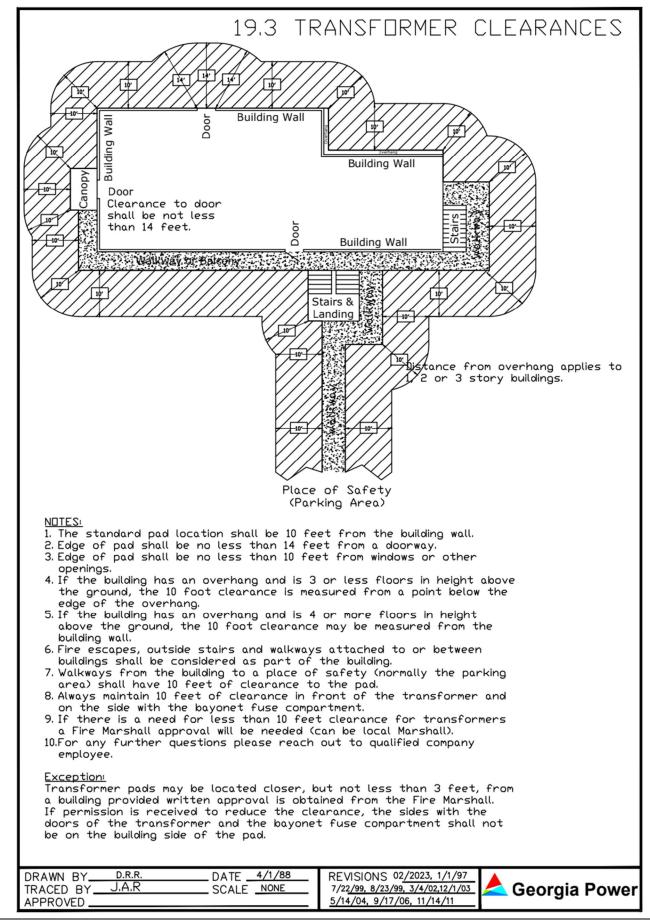


# 19.2 Standard Pad for Primary Cubicle



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### **19.3 Transformer Clearances**



### 20.0 GPC Meter and Socket Reference Documents

#### 20.1 GPC Meter and Socket Selection Chart

Service Type		Socket		
	Amps	Maximo Commodity #	Meter Type	
Single Phase 2- Wire, 120 Volt	<b>Up to 100 A</b>	423728	Form 1S Class 100	
Single Phase 3-Wire 120/240 Volt	Up to 225A	423728 (Residential) 432761 (Commercial)	Form 2S * Class 200	
	226-400A	435512	Form 2S Class 320	
	Above 600A	433955	Form 4S ** Class 200	
Single Phase 3-Wire 120/208 Volt This service consists of two energized conductors and the neutral from a 4-Wire WYE transformer. It is sometimes referred to as "Network" service.	Up to 225A	432761	Form 12S*** Class 200	
	226-400A	435512	Form 12S*** Class 200	
	Above 600A	433952	Form 35S (5S) ** Class 200	
Three Phase 4-Wire 120/208 Volt Wye 277/480 Volt Wye 120/240 Volt Delta	Up to 225A	431365	Form 16S Class 200	
	226-400A	439634	Form 16S Class 320	
	401-600A	431411	Form 9S Class 20	
	Above 600A	432763	Form 9S ** Class 20	
Three Phase 3-Wire 240 Volt Delta 480 Volt Delta	Up to 600A	4314411	Form 35S (5S) **** Class 200	
	Above 600A	433952	Form 35S (5S) ** Class 200	

Note:

1. Sockets listed above can have aluminum or steel enclosures. Refer to the "Socket and Cabinet Sizes" chart on the following page.

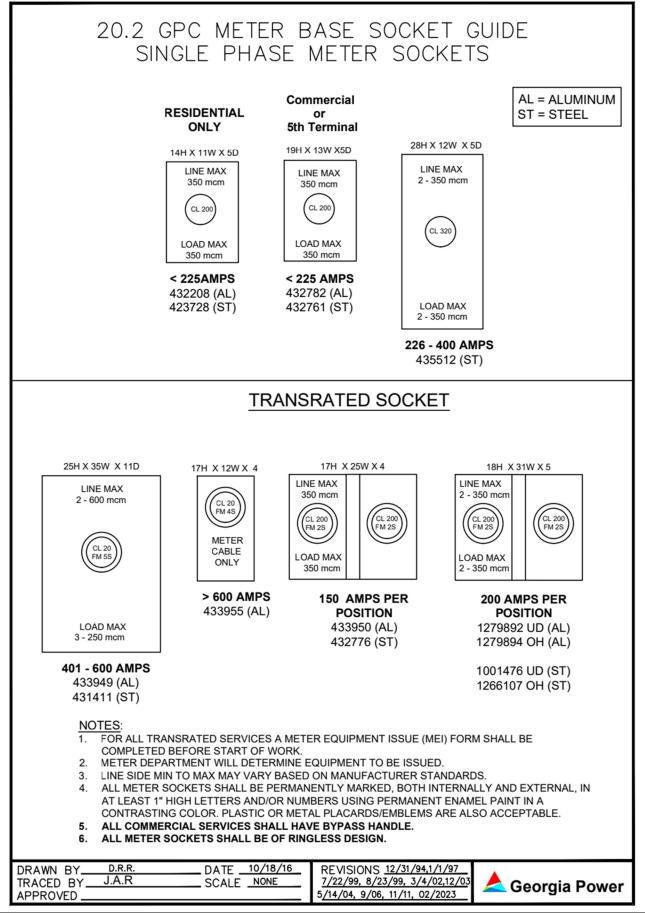
2. Class 100, 200, and 320 meters are self-contained meters. Class 20 meters are transformer-rated meters.

\*The 432761 socket is equipped with a bypass handle for commercial use.

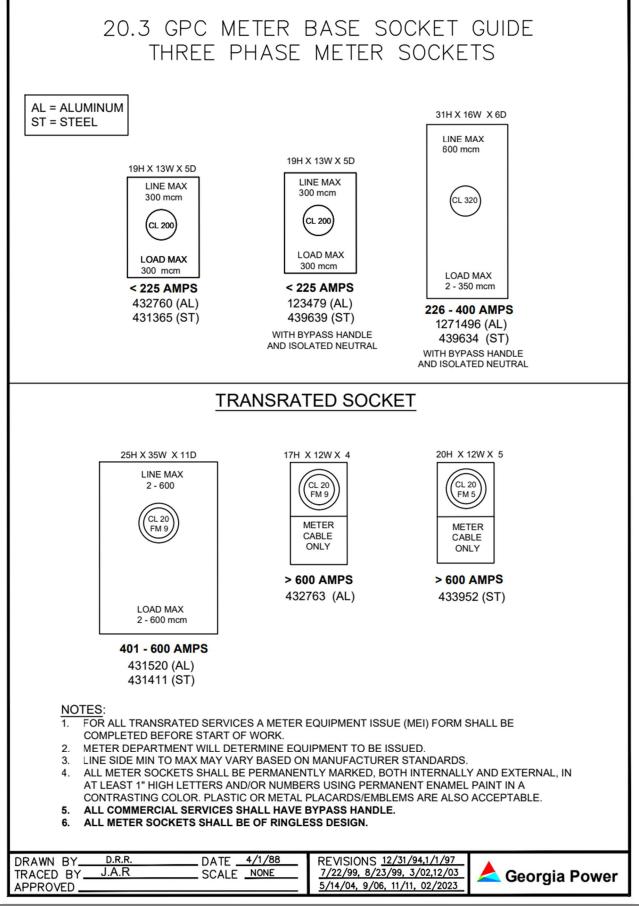
\*\* These sockets are used in conjunction with either a CT cabinet or CTs mounted on an overhead bracket. The 123465 or 123466 cabinet may be use in place of the 433955, 433952, and 432763 transformer-rated sockets if it is desirable to have the meter fully enclosed.

\*\*\*The Form 2S meter cannot be used in place of the Form 12S meter because it will only register 75% of phase-to-neutral load on 120/208 Volt service.

\*\*\*\*The bonding strap must be removed when these sockets are used on 3-Wire, 3-Phase Delta service to isolate the common phase from the meter socket enclosure.



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# 20.4 Socket and Cabinet Sizes Table

SOCKET AND CABINET SIZES (All me	asurements in appro	oximate inches unles	s stated in fee	t)	
ITEM DESCRIPTION	OLD GPC COMMODITY #	MAXIMO COMMODITIIY #	HEIGHT	WIDTH	DEPTH
METER CABINET – 14 GAUGE STEEL WITH HANGER	M-2090	123465	33	16	12 TO 13
METER CABINET – 14 GAGUE STEEL WITHOUT HANGER	M-2091	123466	33	16	12 TO 13
METER CABINET – ALUMINUM WITH HANGER	M-2092	123467	33	16	12
METER CABINET – ALUMINUM WITHOUT HANGER	M-2093	123468	33	16	12
METER CABINET - STEEL WITH MOUNTING BARS	M-2119	123469	40	25	12
METER CABINET – ALUMINUM WITH MOUNTING BARS	M-2120	123470	40	25	12
METER CABINET – ALUMINUM WITHOUT BARS	M-2121	123471	52	25	12
METER CABINET – 14 GAUGE STEEL	M-2122	123472	52	25	12
CT CABINET – STEEL – SINGLE PHASE	M-2240	439635	25	24	14
CT CABINET - ALUMINUM - SINGLE PHASE	M-2241	439636	25	24	14
CT CABINET - STEEL - THREE PHASE	M-2245	439637	36	32	14
CT CABINET - ALUMINUM - THREE PHASE	M-2246	439638	36	32	14
METER SOCKET – STEEL T/R 3W, 3PH, 8 TERMINAL	M-2391	433952	20	12	5
METER SOCKET – STEEL T/R 4W, 3 PH, 13 TERMINAL	M-2392	433953	20	12	4 3/8
METER SOCKET – ALUMINUM T/R 4W, 3 PH, 13 TERMINAL	M-2393	433954	20	12	4 3/8
METER SOCKET – STEEL T/R 3W, 1 PH 6 TERMINAL	M-2400	433955	20	12	4 3/8
METER SOCKET – STEEL T/R 3W, 1 PH, 6 TERMINAL W/HUB	M-2402	433957	17	12 3/10	4 7/8
METER SOCKET – ALUMINUM T/R 3W, 1 PH 6 TERMINAL W/HUB	M-2403	433958	17	12 3/10	4 7/8
METER SOCKET - STEEL S/C 3W, 1 PH, 200 AMP, 5 TERMINAL W/BYP	M-2480	432761	19	13	4 27/32
METER SOCKET - ALUMINUM S/C 3W, 1 PH, 200 AMP, 5 TERMINAL W/BYP	M-2481	432782	19	13	5
METER SOCKET - STEEL S/C 3W, 1 PH, 200 AMP, 4 TERMINAL	M-2500	423728	14 TO 16	11 TO 13	4 TO 5
METER SOCKET - ALUMINUM S/C 3W, 1 PH, 200 AMP, 4 TERMINAL	M-2505	432208	14 TO 16	11 TO 13	4 TO 5
METER SOCKET - 2 GANG STEEL S/C 3W, 1 PH, O/H OR U/G, 150A PER POSITION	M-2520	432776	17 3/8 TO 19	24 ½ TO 25 9/32	4 1/8 TO 4 7/8
METER SOCKET - 2 GANG ALUMINUM S/C 3W, 1 PH, O/H OR U/G, 150A PER POSITION	M-2525	433950	17 3/8	25 9/32	4 7/8
METER SOCKET - 2 GANG STEEL S/C 3W, 1 PH, U/G ONLY, 200A PER POSITION (NEW)	M-2526	1001476	18	31	5 3/4
METER SOCKET - 2 GANG STEEL S/C 3W, 1 PH, O/H ONLY, 200A PER POSITION (NEW)	M-2528	1266107	18	31	5 3/4
METER SOCKET - STEEL 3W, 1 PH, 320 AMP, W/BYP	M-2643	432777	34 ½ TO 36	16 TO 17 3/8	5 11/16 TO 6
METER SOCKET - ALUMINUM 3W, 1 PH, 320 AMP, W/BVP	M-2644	432778	28 TO 36	12 8/10 TO 17 3/4	5 TO 6
METER SOCKET - STEEL 4W, 3 PH 200 AMP, W/BYP	M-2650	431365	19	13	5
METER SOCKET - STEEL S/C 4W. 3 PH W/BYP ISOLATED NEUTRAL, 200 AMP	M-2652	439639	19	13	5
METER SOCKET – ALUMINUM 4W, 3 PH 200 AMP, W/BYP	M-2655	432760	19	13	5
METER SOCKET – ALUMINUM S/C 4W, 3 PH W/BYP ISOLATED NEUTRAL, 200 AMP	M-2657	123479	19	13	5
METER SOCKET - STEEL 4W, 3 PH 320 AMP W/BYP	M-2672	439634	31 1/8 TO 35 ½	16 TO 20 ¼	6 TO 6 ½
METER SOCKET – ALUMINUM 4W, 3 PH 320 AMP W/BYP	M-2676	1271496	31 1/8 TO 35 ½	16 TO 20 ¼	6 TO 6 ½
METER TRANSOCKET - STEEL 4W, 3 PH 13 TERMINAL	MC-600	431411	36	25	11 1/4
METER TRANSOCKET - ALUMINUM 4W, 3 PH 13 TERMINAL	MC-601	431520	36	25	11 1/4
METER TRANSOCKET - STEEL 3W, 1 PH 8 TERMINAL	MC-602	433948	36	25	11 1/4
METER TRANSOCKET – ALUMINUM 3W, 1 PH 8 TERMINAL	MC-602	433949	36	25	11 1/4
METER PULSE CAN - SMALL	MC-1000	123739	8	6	41/4
METER PULSE CAN - LARGE	MC-1000	123739	15 1/2	8	4 1/8
METER - CELL PHONE BOX	MC-1001 MC-1002	123741	23 7/8	3 16	5 3/8
METER CUBICLE - SINGLE PHASE PRIMARY	MC-1002 MC-10000	123742	54	31	5 3/8
METER CONCLETINGETHINGETHING	MIC-10000	125740	34	51	34
METER CUBICLE - THREE PHASE PRIMARY	MC-20000	123746	54	79	54

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