Metering Enclosure And Equipment Standards

REVISION DATE: 03-28-2019

To avoid the costs associated with having to replace unacceptable electric metering enclosures or equipment; all electric metering enclosures and equipment installed on the OEU system must comply with the following OEU Metering Enclosure and Equipment Standards. The requirements listed below are in addition to requirements of the latest version of the National Electrical Code and requirements of local code enforcement agencies. Failure to comply may result in service being denied.

General Requirements:

1. Installations which have a rated capacity between 200 and 400 amperes (as determined by the OEU engineering and meter divisions) shall, at the option of the OEU meter division, be metered with a self-contained socket type meter or a transformer rated socket type meter using instrument transformers.
2. Where service ampacity is greater than 400 amps or the service voltage is greater than 240 volts, transformer-rated metering equipment is required.
3. All electric services will normally be metered by a single secondary meter installation for each point of delivery. Customers with multiple points of delivery who desire the benefits of single point-of-service metering should contact the OEU meter division.
4. 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 OEU employees. The disconnecting means shall accept an OEU padlock, and will serve as a means to disconnect and reconnect service, without affecting other customers.
5. Installation of load conductors in line side raceway is prohibited, conductor exiting a load panel shall not pass through any portion of a metering enclosure, and secondary metering conductors shall occupy their own individual raceways exclusive of any other wiring, control systems or cables. Any variation of this requirement shall first be approved by the OEU meter division.

Metering Security:

The following provisions are applicable to sealing and/or locking of metering installations:

1. Metering enclosures shall provide a single latch or hasp for securing the enclosure cover with a seal and/or padlock. Enclosure covers attached with multiple bolts, screws or hasps are prohibited.
2. Metering enclosures and instrument transformer cabinets shall have provisions for locking and sealing exclusively by OEU personnel. OEU reserves the right to modify metering and/or equipment enclosures for the purposes of safety and security.
3. Security seals installed by OEU shall not be removed, altered, or damaged in any way. Only authorized OEU personnel or designees are permitted to install or remove security seals from metering equipment and enclosures. Unauthorized removal, altering, or damaging of OEU security seals is considered tampering and is subject to a tampering fee.

Metering Enclosure Requirements:

The following provisions are applicable to all metering installations:

1. All metering enclosures shall be labeled with the manufacturer's name, catalog number, electrical rating for volts, amps, service and load terminal conductor size for both copper and aluminum.
2. All metering enclosures, single or multi-position, shall have a ringless cover.
3. Metering enclosures used on underground services must accept three inch conduit and must allow adequate clearance for line conductors based on OEU standards.
4. Sockets must have pressure type jaws designed for full contact with both sides of the meter blades.
5. Self-contained metering enclosure terminals shall be equipped with 1/2 inch hex head bolts or Allen set screws no less than 5/16 inch, unless otherwise authorized by the OEU meter division.
6. Two neutral terminals shall be mounted on a common bus and connected to the grounding terminal.
7. Combination enclosures that would allow line side conductor to pass through the customer's load panel are permitted if acceptable safeguards are in place (See: FIGURE 1). On combination enclosures, a permanent metal barrier must be present between the meter enclosure and any attached load panel. This barrier must not be removable. (See: FIGURE 2)
8. For multi-socket assemblies, each meter socket position shall have an individual, ring-less cover capable of being removed and replaced without disturbing the other socket positions.
9. On any 3-wire, self-contained metering installation using a 120/208 volt supply source, the customer shall furnish and install a grounded fifth terminal. This terminal is to be mounted in the nine o'clock or six o'clock position, in the meter socket.

Self-contained Metering Installations:

The following provisions are applicable to Self-contained metering installations:

1. Self-contained meter enclosures and meter enclosures used for temporary power supply shall be the responsibility of the contractor and may be purchased from an equipment supplier. Meter enclosures provided by the contractor must be compatible with meters used by OEU and shall comply with all applicable OEU Meter Enclosure and Equipment Standards.
2. Unless approved by OEU, all three-phase self-contained enclosures, all single-phase self-contained enclosures rated over 200 amps, and all self-contained commercial meter enclosures, regardless of capacity; shall have sockets equipped with a load by-pass handle designed to allow for meter exchange without interruption of electric service to the customer. (See: FIGURE 3)
3. OEU assumes no responsibility for maintenance of self-contained meter enclosures.
4. Use of K-Base (bolt in) meter enclosures is prohibited.

Transformer-rated Metering Installations:

The following provisions are applicable to Transformer-rated metering installations:

1. For transformer-rated metering installations only: Contractors shall obtain metering enclosure, instrument transformers and equipment cabinet from the OEU Meter Division by presenting Electrical Permits for jobs located on the OEU system. Metering enclosures or associated metering equipment to be provided by the contractor for use on the OEU system, must have prior approval of the electric meter division. Metering enclosures and associated metering equipment and cabinets issued by the OEU meter division are customer-specific and shall be installed on the specified OEU metered service only.
2. No metering enclosure, metering equipment cabinet or instrument transformers shall be issued after 180 days from date of permit without special permission from the OEU meter division.
3. Instrument transformer cabinets shall not be used as a raceway for other conductors.
4. Instrument transformer cabinets and metering enclosures, used for residential or commercial applications, shall be installed by the electrical contractor to the specifications of the OEU meter division.
5. Metering enclosures and instrument transformer cabinets must share a common ground if located within 6' of each other.
6. OEU is responsible for the control wire harness at the instrument transformers and in the metering enclosure.
7. Instrument Transformer Cabinets will be supplied by Ocala Electric Utility. The dimensions of the cabinet are 34" Height x 32" Width x 10" Depth.

Location of metering equipment:

The following provisions are applicable to the physical location of metering equipment:

1. All metering equipment shall be located outdoors in fully accessible areas, which shall be kept free of obstructions at all times and open to utility representatives.
2. Meters shall not be located in commercial or residential garages, carports, screen porches or any other room or location that would cause unmetered conductors to be considered inside the building.
3. The location of the current transformers (secondary) shall be specified by OEU engineering division and approved by the OEU meter division.
4. Current transformers should typically be installed in a suitable enclosure supplied by OEU; but can also be installed inside a pad-mount type transformer when deemed applicable by the OEU Engineering Division and approved by the OEU Metering Division. Instrument transformers must be within 25 feet of the meter enclosure.
5. A minimum of 1-inch Schedule 40 PVC conduit shall be used from the instrument transformer location to the meter enclosure. Rigid Metallic Conduit may be allowed on a case-by-case basis, though it is not preferred in most installations. A junction box or other device which would allow access to the metering conductors will not be allowed. Contact the OEU meter division for information and details.
6. Meters shall be located on the line side of the individual customer's main disconnecting means. When used, current transformers should be located on the line side of the main disconnecting means. Exceptions shall be as specified and approved by the OEU meter division.

7. Metering equipment or cabinets must have four feet minimum clearance around congested areas and traffic areas for OEU maintenance and testing. (Drive thru, parking lot, back alleys, etc.)
8. Location of Primary metering equipment shall be specified by the OEU engineering division. Installation of primary metering equipment will be the responsibility of OEU personnel.

Mounting of meter enclosures and equipment cabinets:

The following provisions refer to the physical mounting of meter enclosures and associated metering equipment and cabinets.

1. The metering enclosure shall be mounted on the finished outside wall of all structures and shall not be fastened to a sub-wall and then surrounded by siding, brick, wood, plaster, stucco, etc. (Meter enclosure must not be covered or hidden by trees, bushes, another cabinet or any other structure. 48 inches of clearance is to be observed in front to allow for safe access during maintenance.
2. Individual and horizontal gang type meter enclosures shall maintain a maximum of five feet, six inches and a minimum of four feet, six inches in height to the centerline of the meter sockets, measured from finished grade.
3. Mounting heights for mobile home meter pedestals shall be subject to individual determination of the OEU meter division.

Multiple-occupancy dwellings and structures:

The following provisions are applicable to multiple-occupancy dwellings

1. All meter sockets or enclosures on multiple-occupancy dwellings or commercial structures requiring the use of more than one meter shall be permanently identified as to the apartment, store, suite or area served.
2. The meter enclosure cover and the interior of the enclosure shall both be permanently identified to correspond to the apartment or unit and building number. The use of a permanent marker or stamping of the enclosure will be acceptable for interior markings only. Exterior markings must be stamped or labeled with permanently affixed metal or plastic name plates. Numbers must be a minimum of 1/4 inch high to be acceptable. Use of plastic labeling tape, nameplates, or numbers fastened solely with adhesive backing is prohibited.
3. The contractor shall coordinate identification of multiple dwelling sites with the OEU meter division. Power will not be turned on until the buildings, apartment doors, meter sockets, and enclosures are permanently identified and wiring is verified by the OEU meter division.
4. *Multi-position (vertical) meter centers:* Vertical meter centers must be approved by OEU meter division prior to installation. Once approved, vertical meter centers, for either residential or commercial applications shall be furnished, installed and maintained by the customer. Vertical multiposition meter centers shall maintain a maximum height of six feet, zero inches, measured from finished grade to the center of the highest meter socket. In all cases, the upper row of meter sockets shall be between four feet, six inches and six feet, zero inches from finished grade; with no meter socket lower than three feet, zero inches as measured from finished grade.

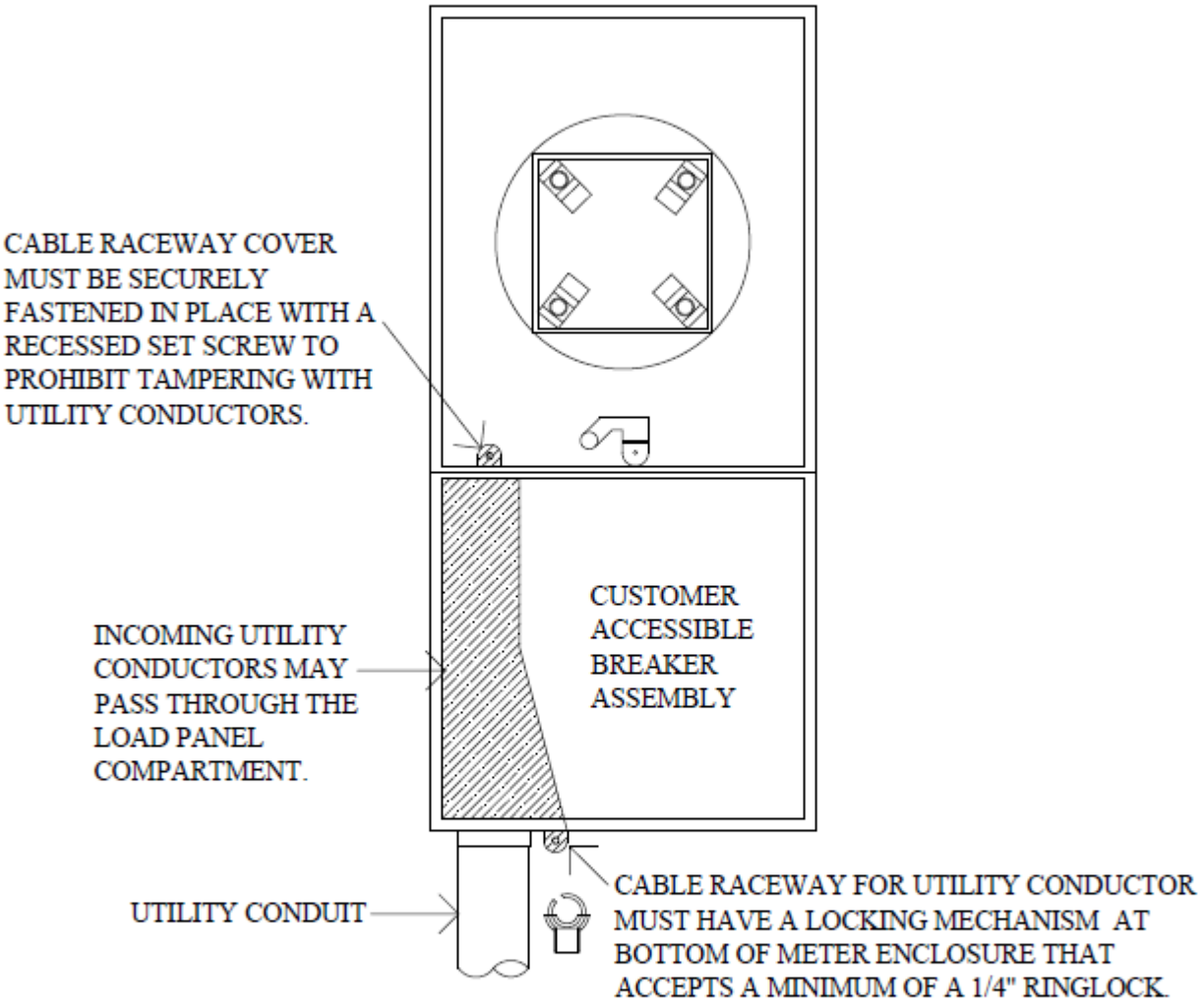
Service Entrance:

The following provisions shall apply to the customer's service entrance:

1. Service entrance conduits or metallic tubing should be continuous where practical. When fittings with removable covers are necessary, they shall not be concealed.
2. Service provided through more than one meter shall be provided with each set of load side conductors in its own individual conduit or raceway.
3. Service raceways, wireways and pull boxes housing individual or multiple service taps shall be fitted with an approved means for sealing or locking.
4. Aluminum conductors are approved for use provided all connectors used with them are suitable for aluminum and provided all terminations are treated with corrosion inhibiting compound in the manner prescribed by the cable manufacturer. Service entrance conductors shall be aluminum or copper; combinations of the two are prohibited.
5. All service entrance neutral conductors shall be permanently identified inside of self-contained meter enclosures or instrument transformer cabinets, and at the point of service with a permanent white marking system. All neutral conductors shall be insulated. Conductors that are intended for use as ungrounded conductors, whether used as single conductors or in multi-conductor cables, shall be identified to be clearly distinguishable from grounded or grounding conductors.
6. The four-wire, three-phase, 120/240 delta service entrance shall have the phase with the highest voltage to ground (high leg) plainly identified at the weatherhead, at the instrument transformer location, inside of the meter enclosure, and inside of the disconnecting means with an orange marking system. This high leg shall be located on the right outside (C- Phase) position, inside of the meter enclosure. When current transformers are used, the high leg shall be located on the bottom or right-hand side of the current transformer assembly.
7. The service entrance conductors shall project (three feet minimum) outside the weatherhead for connection to the service wires on overhead installations.
8. Except for the installation and maintenance of its own property, OEU does not normally install or repair wiring on customer's premises and therefore is not responsible for the quality of electricity provided beyond the point of delivery and does not assume any responsibility for, or liability arising because of, the condition of wires or apparatus on the premises of any customer beyond this point.
9. On metering enclosures with an underground service entrance, the left portion of the metering enclosure will be used only for OEU, and the customers load side conductors shall never crossover the line side conductors.

OCALA ELECTRIC UTILITY STANDARDS

ACCEPTABLE
FOR UNDERGROUND SERVICE



3–WIRE, UG SERVICE, (120/240V OR 120/208V)
CUSTOMER OWNED METER SOCKET

REVISED DATE: FEBRUARY 13, 2019 | REVISED BY: FRANK BROWN | APPROVED BY: BEAU SPEARS

METERING ENCLOSURE & EQUIPMENT STANDARDS

COMBINATION METER SOCKET WITH BREAKER PANEL

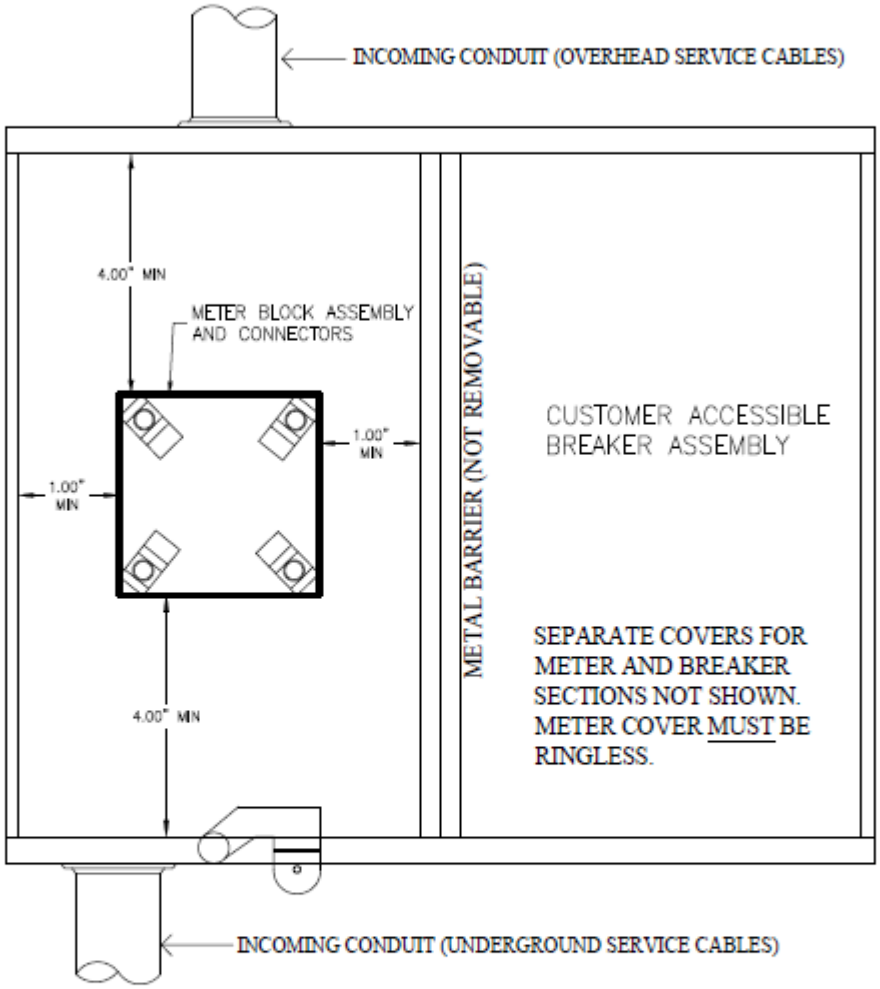
EXHIBIT 1

OCALA ELECTRIC UTILITY STANDARDS

RESIDENTIAL METER SOCKET

SPACING REQUIREMENTS

3–WIRE, OH/URD SERVICE (120/240V OR 120/208V, 200 AMP OR LESS)



NOTES:

1. IF THE SOCKET IS USED FOR U.G. SERVICE AND IS BUILT WITH NO OBSTRUCTION TO FULL DEPTH ON EITHER SIDE OF THE BLOCK ASSEMBLY AREA, (SEE BOLD SQUARE IN DRAWING), MIN 1.00" CLEARANCE TO LEFT SIDE, AND MIN 1.00" CLEARANCE TO RIGHT SIDE IS ACCEPTABLE (AS SHOWN) PROVIDED 3.00" OF UNOBSTRUCTED DEPTH IS ALSO MADE AVAILABLE AT BOTH SIDES OF SOCKET BLOCKS FOR LINE SIDE CONDUCTORS.
2. SOCKET MUST ACCEPT 3" SCHEDULE 40 PVC CONDUIT AT BOTTOM.
3. BYPASS HORNS ARE NOT ACCEPTABLE.
4. METER HOUSING MUST BE GROUNDED.
5. 5TH TERMINAL REQUIRED IF USED ON 3–WIRE 120/208V SERVICE.

REVISED DATE: FEBRUARY 14, 2019 | REVISED BY: FRANK BROWN | APPROVED BY: BEAU SPEARS

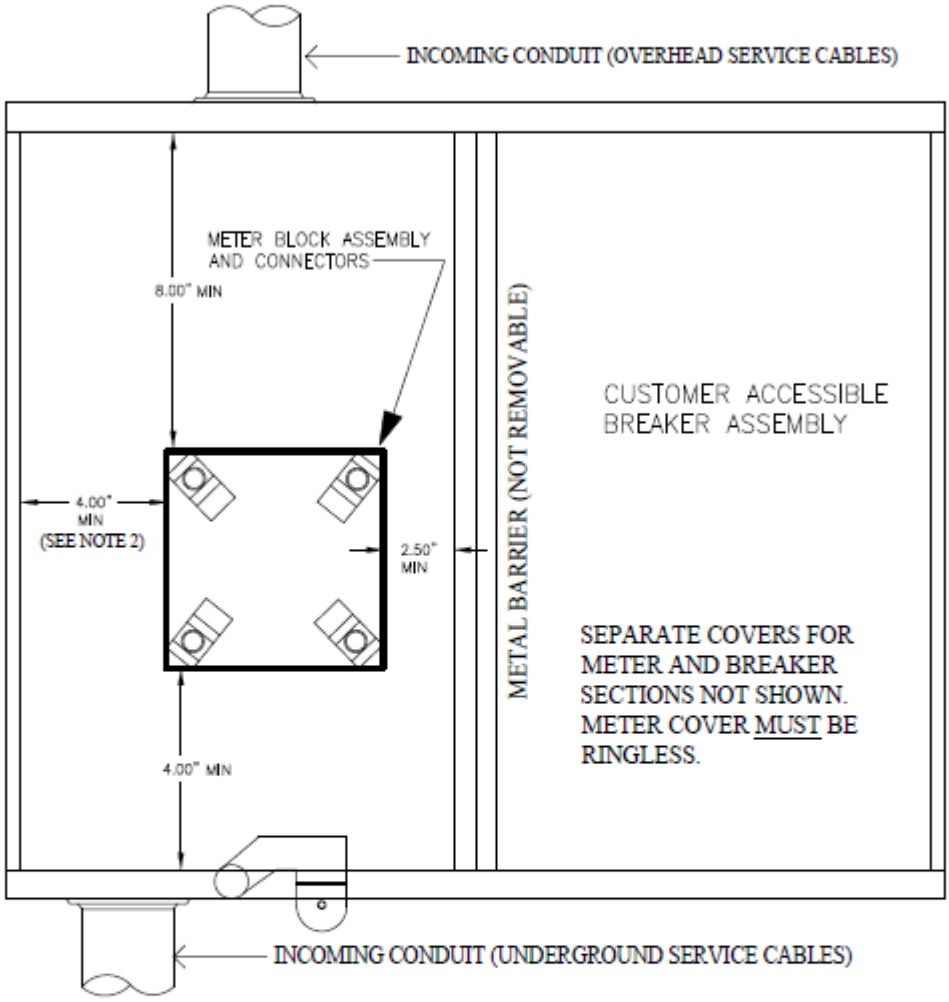
METERING ENCLOSURE & EQUIPMENT STANDARDS

COMBINATION METER SOCKET WITH BREAKER PANEL

EXHIBIT 2

OCALA ELECTRIC UTILITY STANDARDS

RESIDENTIAL METER SOCKET
SPACING REQUIREMENTS
3–WIRE, OH/UG SERVICE (120/240V OR 120/208V, 400 AMP OR LESS)



NOTES:

1. IF THE SOCKET IS USED FOR U.G. SERVICE AND IS BUILT WITH NO OBSTRUCTION TO FULL DEPTH ON EITHER SIDE OF THE BLOCK ASSEMBLY AREA, (SEE BOLD SQUARE IN DRAWING), MIN 4.00" CLEARANCE TO LEFT SIDE, AND MIN 2.5" CLEARANCE TO RIGHT SIDE IS ACCEPTABLE (AS SHOWN) PROVIDED 3.00" OF UNOBSTRUCTED DEPTH IS ALSO MADE AVAILABLE AT BOTH SIDES OF SOCKET BLOCKS FOR LINE SIDE CONDUCTORS.
2. IF LINE CONDUCTORS COME IN FROM THE TOP OF THE SOCKET, SIDE TO BLOCK CLEARANCE MAY BE REDUCED TO 2.5" WITH 3" OBSTRUCTION DEPTH AT THAT SIDE, AND 2.5" BLOCK CLEARANCE TO THE OTHER SIDE.
3. SOCKET MUST ACCEPT 3" SCHEDULE 40 PVC AT BOTTOM.
4. BYPASS HORNS ARE NOT ACCEPTABLE.
5. METER HOUSING MUST BE GROUNDED.
6. 5TH TERMINAL REQUIRED IF USED ON 3–WIRE 120/208V SERVICE.

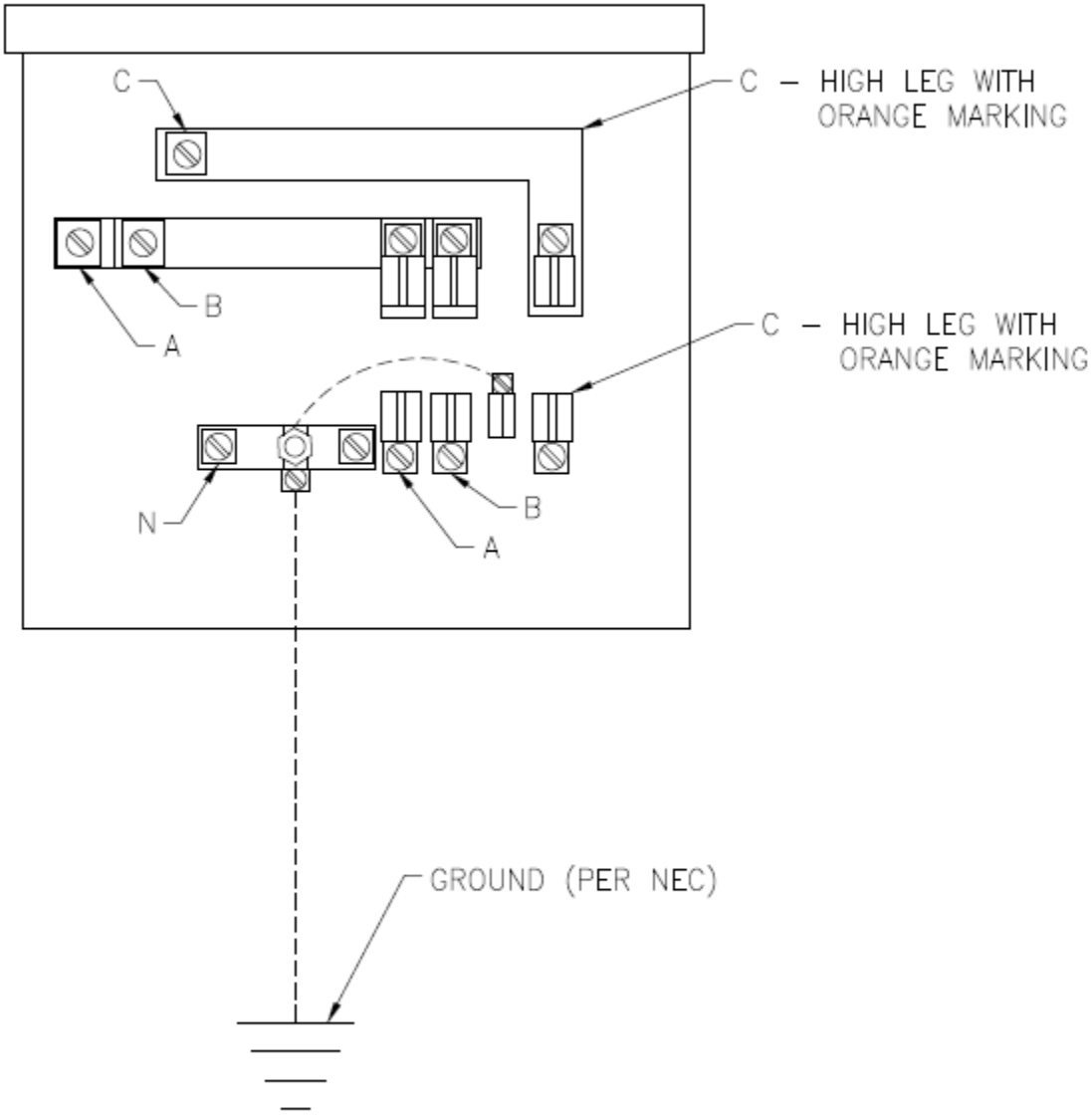
REVISED DATE: FEBRUARY 14, 2019 | REVISED BY: FRANK BROWN | APPROVED BY: BEAU SPEARS

METERING ENCLOSURE & EQUIPMENT STANDARDS

COMBINATION METER SOCKET WITH BREAKER PANEL

EXHIBIT 3

120/240V DELTA 3–PHASE METER SOCKET DIAGRAM



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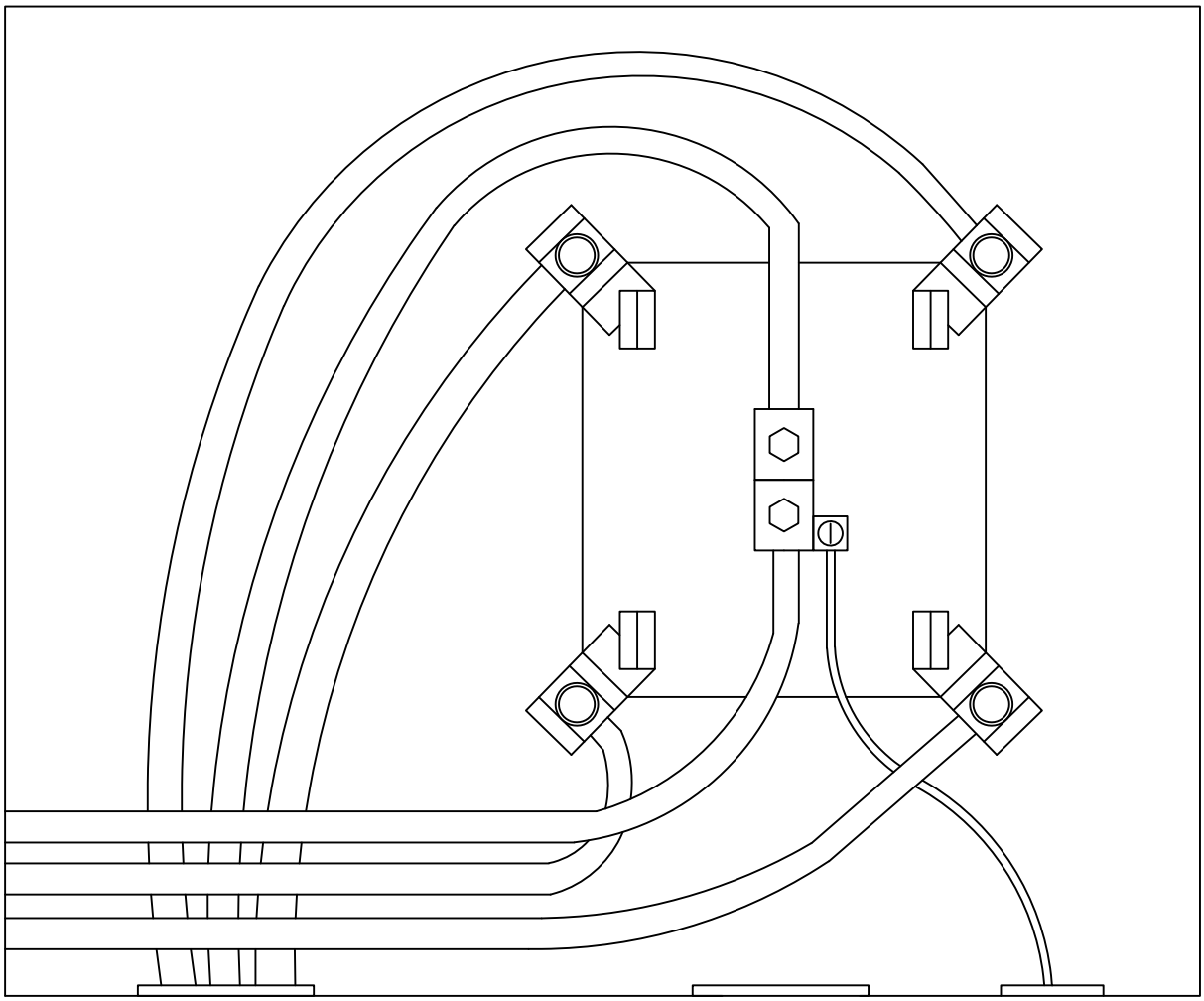
METERING ENCLOSURE & EQUIPMENT STANDARDS

120/240V DELTA 3–PHASE METER SOCKET DIAGRAM

EXHIBIT 4

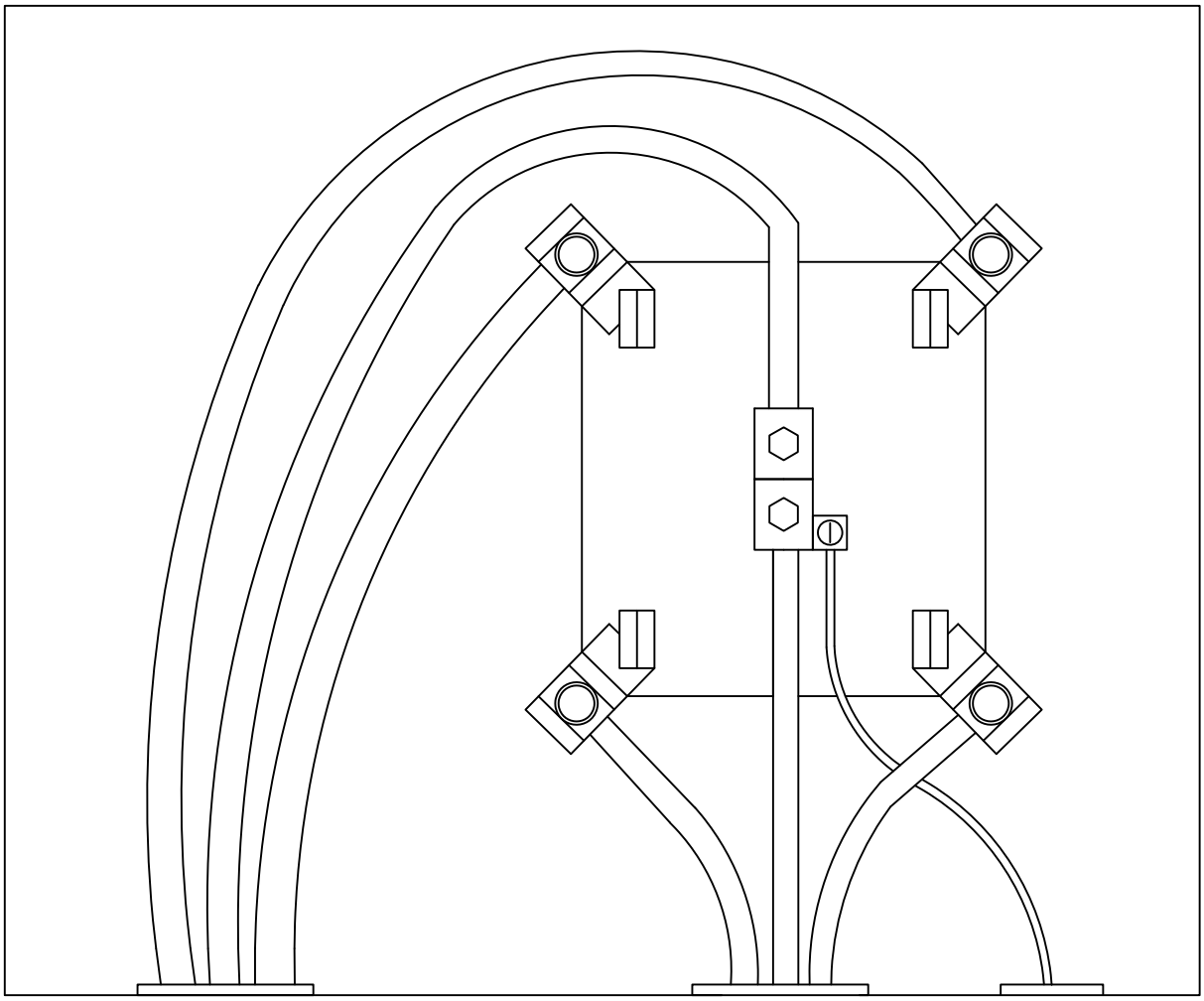
NOT ACCEPTABLE / LINE CROSSING LOAD



NOTES:

1. ON METERING ENCLOSURES WITH AN UNDERGROUND SERVICE ENTRANCE, THE LEFT PORTION OF THE METERING ENCLOSURE SHALL BE RESERVED FOR OEU LINE SIDE CABLES ONLY. THE CUSTOMER'S LOAD SIDE CABLES SHALL NEVER CROSS OVER OEU'S LINE SIDE CABLES.

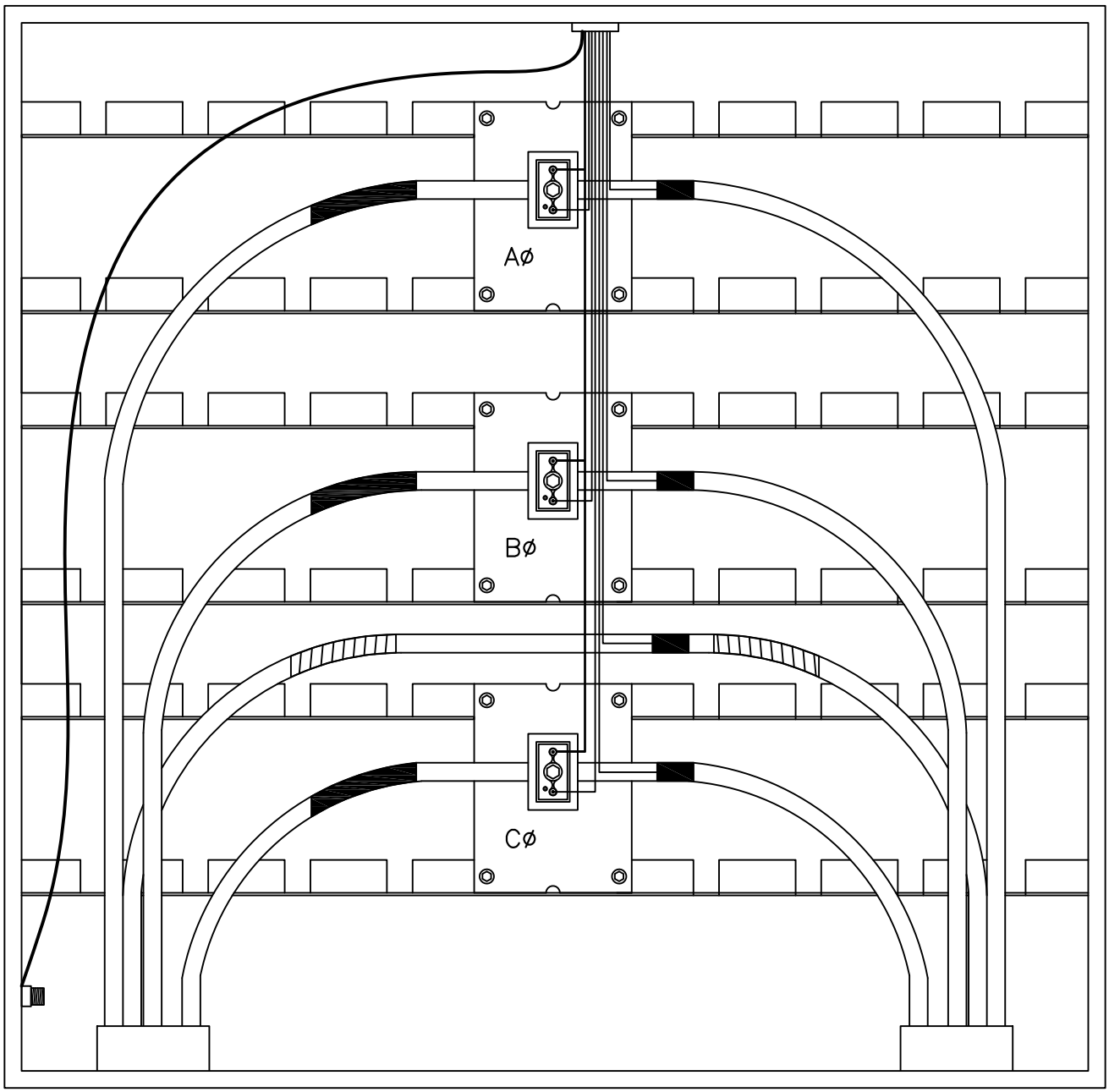
ACCEPTABLE / LINE NOT CROSSING LOAD



NOTES:

1. ON METERING ENCLOSURES WITH AN UNDERGROUND SERVICE ENTRANCE, THE LEFT PORTION OF THE METERING ENCLOSURE SHALL BE RESERVED FOR OEU LINE SIDE CABLES ONLY. THE CUSTOMER'S LOAD SIDE CABLES SHALL NEVER CROSS OVER OEU'S LINE SIDE CABLES.

3Ø SECONDARY C.T. CABINET WIRING GUIDE



NOTES:

1. CURRENT TRANSFORMERS (CT's) CAN BE MOUNTED VERTICALLY OR HORIZONTALLY.
2. THE DOT ON THE CT's MUST FACE TOWARDS THE SOURCE SIDE (TRANSFORMER).
3. MARK CABLES WITH COLORED TAPE AS FOLLOWS:
   Aø = BROWN, Bø = ORANGE, Cø = YELLOW, NEUTRAL = WHITE

APPROVALS

Engineering Supervisor — Date: 3 / 28 / 2019

AMI Division Supervisor — Date: 4 / 2 / 2019

AMI Division Foreman — Date: 3/28/ 2019

REVISION HISTORY

Revision Date	Revision Made By	Description of Revision Made
03-28-2019	Frank Brown	Added Approval and Revisions Page
03-06-2019	Frank Brown	Minor text changes to page 4, Transformer-rated Meter Installations
03-06-2019	Frank Brown	Minor text changes to page 4, Location of Metering Equipment
03-06-2019	Frank Brown	Modified logo and added page numbers to document
02-13-2019	Frank Brown	Modified page 7, Exhibit 1 (Now Acceptable for UG Installations)
02-13-2019	Frank Brown	Modified page 8, Exhibit 2 (Format and Border Changes Only)
02-13-2019	Frank Brown	Modified page 9, Exhibit 3 (Format and Border Changes Only)
02-13-2019	Frank Brown	Modified page 10, Exhibit 4 (Format and Border Changes Only)
02-13-2019	Frank Brown	Re-formatted document slightly and modified margins for printing
03-02-2017	Byron Hutto	Previous Standards Version accepted by AMI Division