



OPTION C STREETLIGHT INSTALLATION RESPONSIBILITIES

REVISED JULY 18, 2018

This letter states the installation service requirements for Tariff Schedules 91 and 95 Option C streetlights in the Portland General Electric (PGE) service territory. Its purpose is to clarify streetlight design and installation procedures. Option C is for energy only for equipment owned and maintained by the customer. This update supersedes all previous publications.

Design Responsibilities

1. Design Layout

The customer is responsible for the lighting design which shall be approved by the municipality. PGE will determine the power source, calculate fault current as needed, and approve the conduit design from the source to the designated point of connection. PGE requires a minimum 60-day lead time as stated in the PGE Electric Service Requirements book.

2. Termination / Demarcation Point

The developer needs to work with the municipality as to what type of termination is required. There are a few different types available it is up to the municipality to make that determination. PGE needs a place to terminate their cable which can be in a non-metered pedestal (if it has a separate lockable side for PGE connections and one for customer connections) or a PGE approved junction box. Anything beyond this point is 100% municipal owned – PGE stops at the customer's pedestal or in the j-box. Contact local municipality for additional details.

Note: Customer to provide and install a non-metered disconnect near PGE junction box with conduit and circuitry plumbed into PGE junction box. PGE to make electrical connections in PGE junction box; **please specify voltage to connect**. Contact local municipality for information regarding disconnect, conduit and circuit beyond PGE connection. **Note: Panel must be inspected and approved by municipality prior to PGE energizing it.**

3. Bioswale / Rain Gardens & Trees

PGE does not allow any facilities (conduit, junction box, streetlight pole, etc.) in bioswale / rain gardens. PGE does not have the resources to construct the bioswale / rain garden back to original design if a streetlight infrastructure needed replaced.

4. Design Alterations

In order to meet customer needs in a timely manner PGE must have adequate notice of design changes. When the developer, contractor, or the municipality alters the agreed upon connection point or the quantity or wattage of luminaires, it is their responsibility to notify the PGE Lighting Services Specialist in writing prior to installation. If PGE is not given adequate notification of design changes PGE reserves the right to bill the developer, the municipality, or

the designated contractor, responsible for the installation, for any costs to PGE associated with the changes. This billing may include, but is not limited to, the cost of additional trips, corrective trenching, conduit work, and alterations to PGE design sketches.

5. Approved Materials

Street lighting junction boxes must be on PGE's approved streetlight equipment list.

TRENCH AND INSTALLATION REQUIREMENTS FROM POWER SOURCE TO CONNECTION POINT

1. Trench Excavation

- **Only PGE-approved excavation contractors and contractors who have made special arrangements with PGE will be allowed to work under a PGE street right-of-way permit. The contractor must notify the local jurisdiction 48 hours before the work is to begin. A copy of the permit must be on site.**
- The developer is responsible from the PGE power source to the designated point of connection for all trench excavation, road crossings, conduits, elbows, vaults, junction boxes, and associated permits.
- Trenches are to be 48 inches deep when shared with other utilities, and **otherwise at least 36 inches in depth.**
- An on-site preconstruction meeting is required for all projects. All conduit routes must be approved by PGE prior to installation and conduit must be inspected by PGE before backfilling.
- Call PGE Service Coordinators at (503) 323-6700 to schedule a pre-construction meeting or an inspection. The developer is also responsible for all trench backfill and landscape restoration.

2. Conduits and Elbows

- All conduit routes must be approved by PGE prior to installation by the Customer, customer-installed conduit must be inspected by PGE before backfilling.
- All PGE conductors are to be installed in conduit. Three-inch diameter conduit is the minimum required size for all runs, unless otherwise specified by PGE.
- HDPE duct may be used for horizontal directional boring applications. The duct must meet the requirements of PGE specification L22501 (available upon request of your PGE project manager).
 - For safety reasons, the duct must be black with three equally spaced extruded red stripes, which is a specification requirement. Aluminum couplings with barbed threads on both ends must be used to join HDPE duct sections, and straight couplings with barbed threads on one end and NPT on the other end must be used for connecting to PVC duct.
- All conduits must be gray electrical grade schedule 40 PVC, flex conduit is NOT allowed.
- All conduits are to contain a 500-pound test non-conductive pull string with 6 feet of pull string extending beyond each end of the conduit.
- Bends are to be rigid steel or PGE approved fiberglass as noted in PGE's Electrical Service Requirements book: For conduit runs longer than 151 feet, or for any length run with more than 180 degrees in bends. No more than 3-90-degree elbows or a total of 270 degrees of bends in any conduit run.
- 36-inch radius elbows are required for all conduit runs longer than 6 feet.
- Sweeps must be separated by a minimum 5-foot straight section. There must be a 3-foot minimum straight section from a vault.
- All elbow bends must be factory made and all conduit and elbow ends shall be smooth and free of burrs and rough edges.

- If the power source is at a utility pole, the terminal elbow is to be installed eight inches from the pole, and attached to a PGE installed standoff bracket, at the quadrant specified by PGE.
- When a new conduit and/or pull line will be entering an existing PGE secondary vault or transformer, the installer is required to contact PGE prior to installation. A PGE crew will be scheduled to meet the installer at the site to assist with the installation. **To schedule a PGE stand-by crew, please call PGE Service Coordinators at (503) 323-6700 or toll-free (800) 542-8818.**
- **Oregon Utility Notification Center at, (800) 332-2344, 811, or online at www.callbeforeyoudig.org, must be called to locate any underground facilities at least two business days (48 business hours) prior to any digging.**
- The Customer is responsible for duct proofing all ducts installed for PGE jobs before the job is completed and before the installation of PGE conductors.

3. Junction Boxes

- All PGE junction boxes are to be 17" x 30" x 18" (available upon request of your PGE project manager), the lid must be secured with five-sided Penta-head bolts.
- Minimum 6 inches of 3/4-inch minus well-compacted backfill under and around the outside of the junction box
- Customer to install a PGE-provided ground rod inside the junction box, a maximum of 3 inches of ground rod must be showing inside the junction box.
- Junction box must be set 2 inches above final grade or on the high side of the slope. Junction boxes set on a sidewalk must be set to grade.
- A minimum of twelve inches working space is to be provided between the top of elbows and the junction box lid to allow bending wire without damage to the wire.
- The elbows are to be clustered at one end of the junction box.

BILLING AND AUTHORIZATION

1. Line Extension Charge

PGE will provide and install the line extension necessary to serve the streetlights. The line extension cost is the total material and labor cost for PGE to install as necessary, the conductors, transformers, pole conduits, anchors and guying, conductor support poles, and related hardware. The line extension charge is the line extension cost less the allowance based on anticipated revenue to PGE, as approved by the Oregon Public Utility Commission in the PGE tariff. **The line extension charge is to be paid in full prior to installation unless prior arrangements have been made.** A signed Streetlight Job Cost Agreement needs returned with payment to **PGE, Attn: Line Extensions, PO Box 3340, Portland, OR 97208** with PGE's job number on the check.

2. Authorization to Energize and Initiate Billing

PGE will request Authorization (LOA) from the local municipality to energize the streetlights and begin billing for them upon installation.

If you have any questions or if we can be of any assistance, please contact your local Outdoor Lighting Project Manager.