
Attachments on Wood Poles



1. Scope

This standard provides the requirements for attachments on wood poles. Pole attachments may be owned by Seattle City Light (SCL) or renters (customers).

Wireless (cellular) antenna pole attachments and their associated enclosures are outside the scope of this standard.

For pole attachment identification and tagging requirements, see SCL 0093.12.

2. Application

This standard is directed at SCL engineers, crews, contractors, and customers regarding the required spacing and location of pole attachments. These attachments may be electric or communications.

3. Definitions

Clearance – The distance between two objects measured surface to surface.

Communications space – The space on the pole where communications cables and equipment can be located and accessed by a qualified communications worker.

Communications worker safety zone – The space between the communications space and supply space.

Spacing – The distance between two objects measured center to center.

Supply space – The space on the pole where supply cables and equipment can be located and accessed by a qualified electrical worker.

See Figure 5.2 for a graphic representation of the terms defined above.

4. Conflict

Where conflict exists, the following order of precedence shall apply:

1. Project-specific construction drawings
 2. This standard
 3. Other SCL standards
 4. Seattle Electrical Code (SEC)
 4. Washington Administrative Code (WAC)
 5. National Electrical Safety Code (NESC) and National Electrical Code (NEC)
 5. Other industry standards
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5. Requirements

5.1 Codes, Permits, and Approvals

Communications workers shall not perform work in the supply space. All work done in the supply space shall be performed by an SCL-qualified electrical worker or an SCL-approved contractor.

No customer or third-party attachment shall be allowed in the communications worker safety zone.

Pole attachment approvals are determined on a pole-by-pole basis as part of the Joint Use Engineering application and review process.

All pole attachments shall:

- Have a signed pole attachment agreement with SCL Joint Use Engineering
- Comply with the permitting jurisdiction (Burien, Lake Forest Park, Normandy Park, Renton, SeaTac, Shoreline, Tukwila, and unincorporated King County and Seattle)
- Comply with the strength requirements per the NESC
- Comply with the clearance requirements per the applicable SCL construction standards, which meet or exceed the NESC, NEC, or WAC

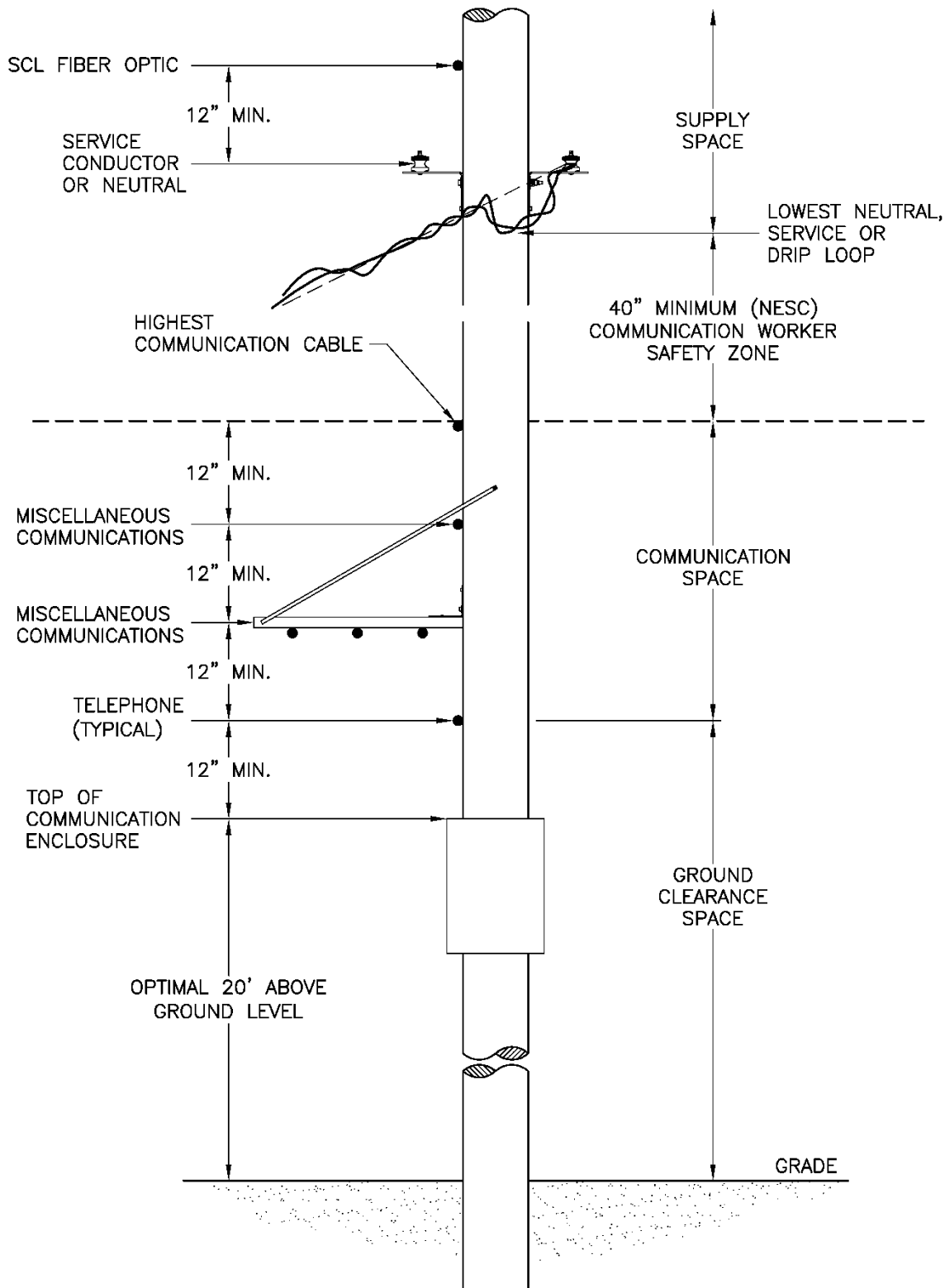
Communications cables and messengers in the communications space shall be attached to the same side of the pole as existing communications attachments, unless otherwise directed by SCL Joint Use Engineering.

5.2 Clearances at the Structure

SCL clearances at the structure shall meet the clearances shown in Figure 5.2.

See Section 3 for definitions of terms.

Figure 5.2. Pole Attachment and Space Allocation Clearances



The highest communications cable attachment shall maintain a minimum 40 inches from the supply space (system neutral, secondary service or its drip loop). This clearance is measured from the lowest supply conductor surface to the top of the highest communications cable.

A 12-inch minimum clearance shall be maintained between each pole attachment in the communications space.

A 12-inch minimum clearance shall be maintained from the lowest communications cable to the top of the communications enclosure.

If any of the clearances in the communications space cannot be maintained, a written letter of agreement between the parties including the pole owner(s) shall be delivered to the pole owner(s) prior to installation.

5.3 Clearances at the Mid-Span (Pole-to-Pole)

At any point within the span, the following clearances shall be maintained:

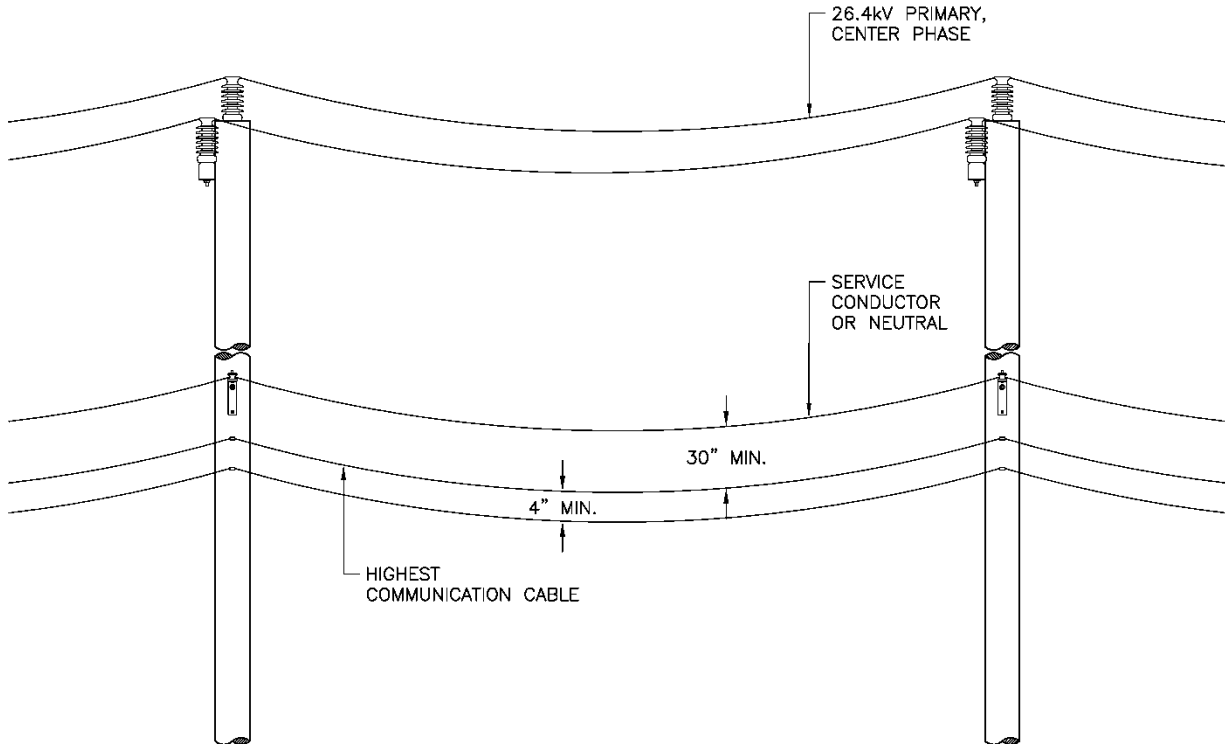
- Between the lowest supply conductor (secondary service, neutral) and highest communications cable (TV, telephone, fiber), the vertical clearance shall be no less than 30 inches.
- Between all communications cables or strand-mounted equipment:
 - The vertical clearance shall be no less than 4 inches.
 - The horizontal clearance shall be no less than 3 inches.

See Figure 5.3.

If any of the clearances in the span cannot be maintained, a written letter of agreement between the parties, including the pole owner(s), shall be delivered to the pole owner(s) prior to installation.

There shall be no crossing or transposition of communications lines at any point within the span.

Figure 5.3. Mid-Span Clearance Between Supply and Communications Cables



6. Guying and Anchoring

Attachments shall be guyed and tensioned to offset the added load on the pole.

Guying and tensioning shall not change the sag characteristics of existing parties' conductors on the pole, or compromise the pole alignment, or cause buckling.

Anchors for communications attachments shall be installed by the attachment owner(s) or its contractor at the installer's expense.

New anchors shall not be installed within 5 ft of existing anchors.

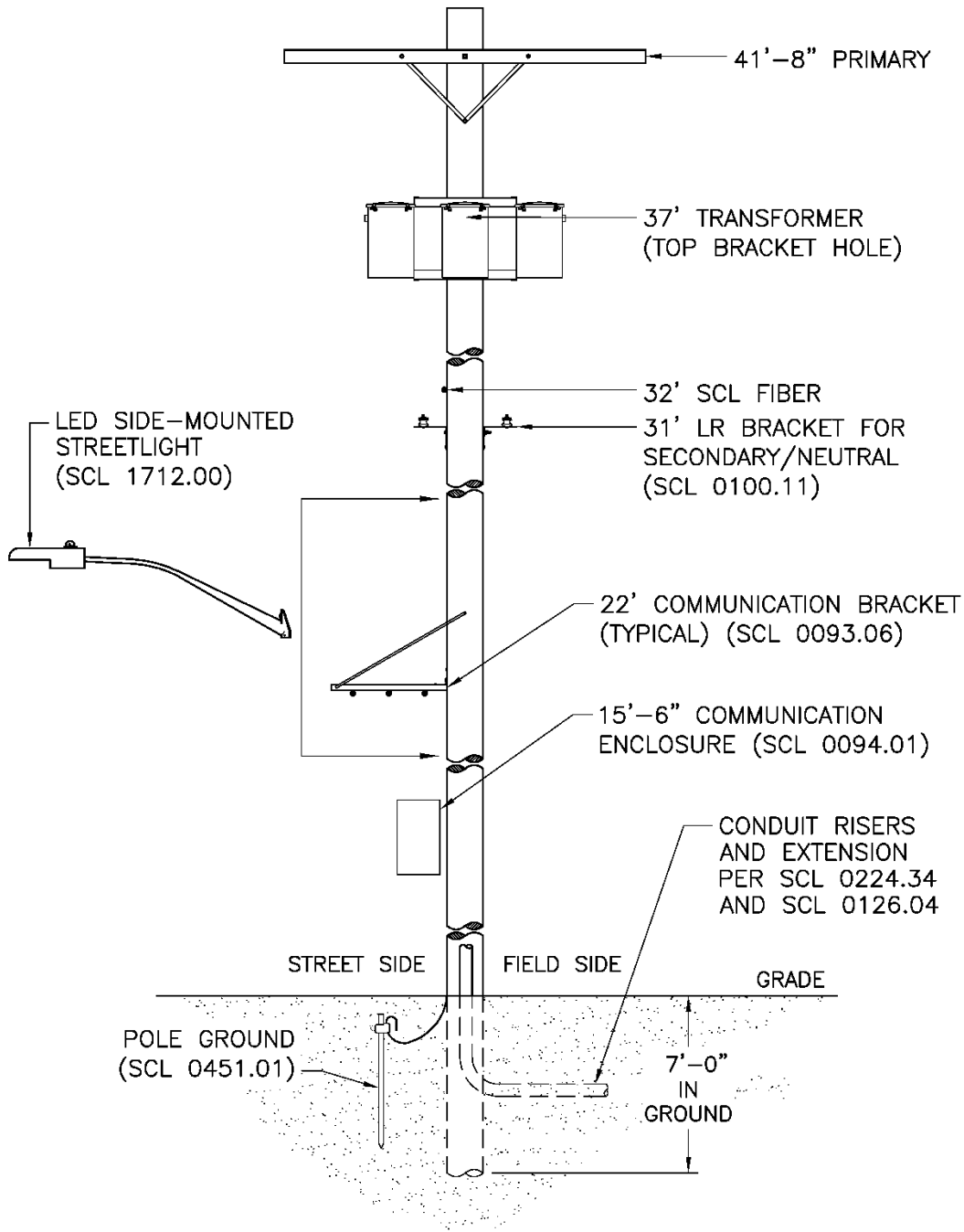
Anchor attachments to existing SCL anchors shall not be allowed.

7. Installation

A minimum 7-ft spacing is required between the SCL primary circuit and the next SCL attachment (crossarms or neutral) down the pole.

See Figure 7 for location requirements for all attachments discussed in this section.

Figure 7. Pole Attachment Locations Above Grade and Associated SCL Standards



7.1 LR Brackets for Secondary and Neutral

LR brackets shall be installed per SCL 0100.11.

7.2 SCL Fiber

SCL fiber optic ducts shall be installed 1 ft above the system neutral, on the same side of the pole as the neutral, using a serpentine messenger suspension clamp.

SCL fiber is allowed in the Supply Space and Communications Worker Safety Zone.

7.3 Streetlight

LED side-mounted streetlights shall be installed per SCL 1712.00.

7.4 Communications Bracket

Communications brackets shall be approved by Joint Use Engineering to optimize the number of pole attachments in the communications space.

Brackets shall be provided by SCL upon request.

Brackets shall be installed per SCL 0093.06.

7.5 Communications Enclosure

Communications enclosures and corresponding electric supply equipment shall be installed per SCL 0094.01.

7.6 Pole Ground and Ground Rod

Grounding electrodes for wood pole application and assemblies shall be installed per SCL 0451.01.

7.7 Identification and Tagging

All attachments shall be identified and tagged per SCL 0093.12.

7.8 Conduit Risers

Conduit risers and extensions shall be installed per SCL 0126.04 and SCL 0224.34.

8. References

SCL Construction Standard 0093.06; "Communications Bracket Installation"

SCL Construction Standard 0093.12; "Pole Attachments, Identification and Tagging Requirements"

SCL Construction Standard 0094.01; "Communications Enclosures on Wood Poles"

SCL Construction Standard 0100.11; "LR Bracket Installation"

SCL Construction Standard 0126.04; "Riser Extensions"

SCL Construction Standard 0224.34; "Steel Conduit Risers"

SCL Construction Standard 0451.01; "Grounding Electrodes for Distribution Poles"

SCL Construction Standard 1712.00; "Streetlight Luminaire Installation on Wood Poles"

9. Sources

Lee, Christopher; Joint Use Engineer and subject matter expert for 0093.04
(christopher.lee@seattle.gov)

Munyao, Manfred; Joint Use Engineer and subject matter expert for 0093.04
(manfred.munyao@seattle.gov)

National Electrical Safety Code (NESC), C2-2017 Edition; Institute of Electrical and Electronics Engineers, Inc. (IEEE), New York, NY, 2011

NFPA 70, National Electrical Code (NEC); 2014 Edition; National Fire Protection Association, Quincy, MA, 2010

Neuansourinh, Ponet; SCL Standards Engineer, originator and subject matter expert for 0093.04 (ponet.neuansourinh@seattle.gov)

SCL Construction Standard 0093.02 (canceled); "Utility Pole Attachments"

Seattle Electrical Code (SEC); 2017 Edition; Seattle Department of Construction and Inspections (SDCI)

Seattle Municipal Code (SMC) 15.32.300; "Attachments to City-Owned Poles"

Revised Code of Washington (RCW); 19-29-010; "Rules for use of electrical apparatus or construction"