TACOMA POWER
TACOMA PUBLIC UTILITIES

Customer Requirements
Clearance Requirements, Overhead, for Communications (non-RF)

C-OH-9000

Application

This standard establishes the clearances that are required on utility pole structures between electrical supply facilities owned and operated by Tacoma Power and communication facilities owned and operated by others.

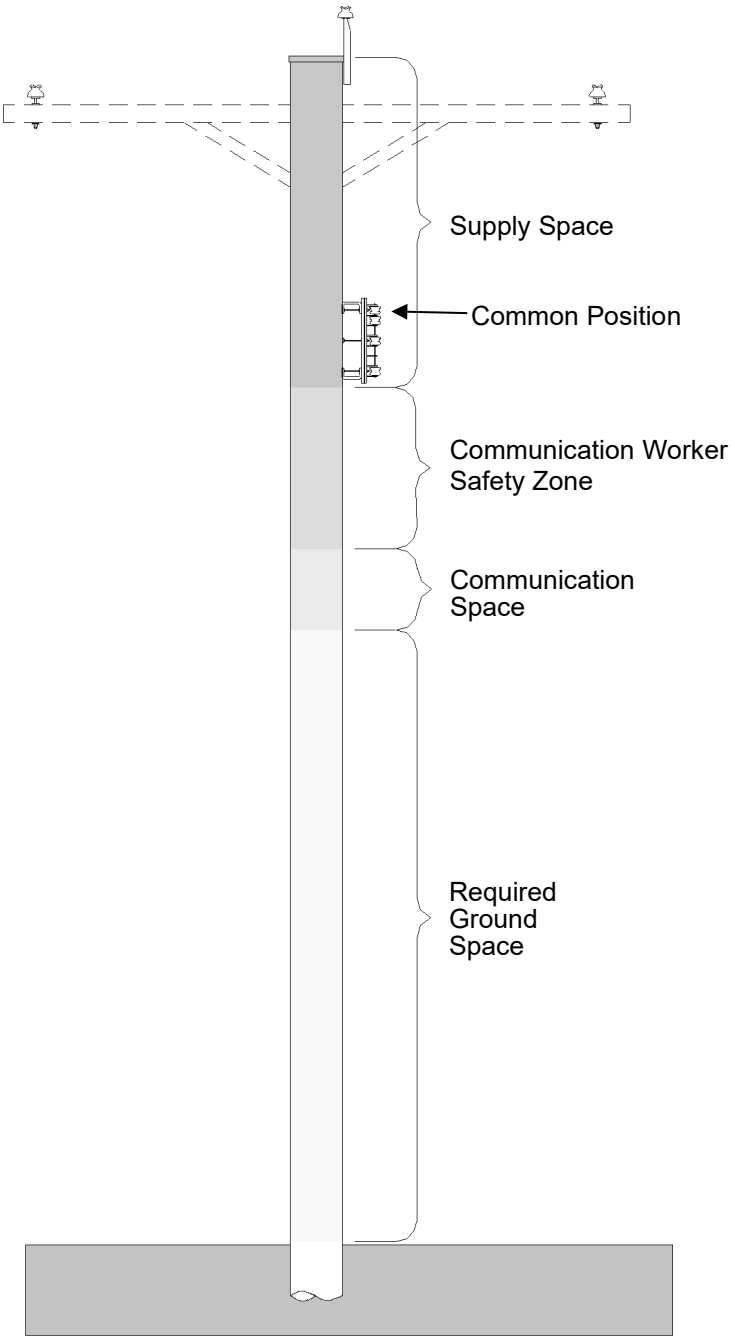
All clearances are subject to Tacoma Power Line Engineering review.

This standard does not apply to antennas or other radio frequency (RF) emitting communication devices.

Terms

Term	Definition
Joint Utility	For the purposes of this standard, any entity (utility, public agency, communications company, or other) other than the electrical supply utility that is attached to the structure.
Communication Space	The space on joint-use structures where communication facilities are separated from the supply space by the Communication Worker Safety Zone. This space is below the Communication Worker Safety Zone.
Communication Worker Safety Zone	That space as defined in National Electric Safety Code (NESC) Rule 235C4. This zone generally originates at the lowest point of the Supply Space. This space is intended to maintain a physical separation between supply and communication facilities. The minimum dimensions of this space shall at no time be violated.
Supply Space	The space on joint-use structures where supply facilities are separated from the Communication Space by the Communication Worker Safety Zone. This space is above the Communication Worker Safety Zone.
Transmission	Tacoma Power supply voltages of 115 kV or 230 kV.
Distribution	Tacoma Power supply voltages of 7.2 kV to 15 kV.
Secondary	Tacoma Power supply voltages of 600 V or less.
Supply Neutral	Multi-grounded conductor of the Distribution system.
Common Position	(8.5 ft.) below the distribution.

Figure 1 Illustration of Space Allocation on Pole



Clearance Requirements

Clearances to Transmission

Clearances from transmission to communication underbuild will be determined by the Tacoma Power Line Engineering Department. This standard does not list any clearances of communication cables to Tacoma Power transmission facilities.

Clearances to Distribution, Secondary and Supply Neutral

Clearances to distribution, secondary and supply neutral conductors will follow the most current version of the NESC unless otherwise noted. At no time will the minimum NESC clearances be compromised.

Minimum clearance values listed for existing attachments do not allow for additional communication facilities to be installed at a later date.

New Attachments

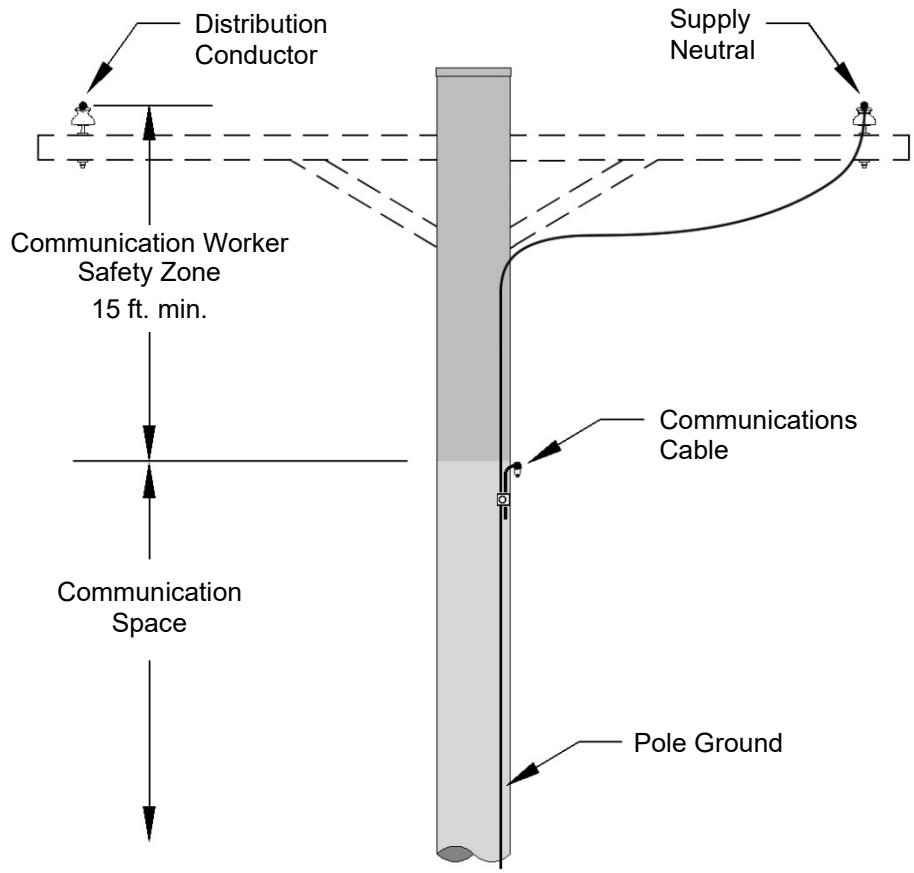
For new communication attachments to existing structures that wish to be installed above existing communications facilities the minimum clearance values must be present. If this is not the case, make ready work is likely to be required.

Clearances at Supports

The minimum clearances at supports between Tacoma Power electrical supply conductors, equipment, and hardware and communication conductors and hardware attached to the same supports are listed in the figures that follow:

If…	and…	then refer to…
distribution/supply neutral conductors are mounted on a crossarm at the same level (either single or double arm construction)	there are no additional Tacoma Power conductors or equipment below the crossarm	Figure 2 (The clearance is measured from the tie wire or conductor clamp on the insulator to the top of the Communication Space)
the supply neutral is located in the common position on the pole	there are no secondary conductors on the pole	Figure 3
a secondary conductor is located in the common position		Figure 4
a secondary riser is located on the pole		Figure 5

Figure 2 Clearance to Distribution/Supply Neutral Conductors on Pole with No Other Equipment or Conductors (e.g. 13.8 kV System or Supply Neutral on arm, etc.)



Clearances are designed so that Tacoma Power manlift equipment can move from the road side of the structure to the field side of the structure. The clearances exceed the NESC minimum clearance of 40 in.

Figure 3 Clearance to Supply Neutral in the Common Position

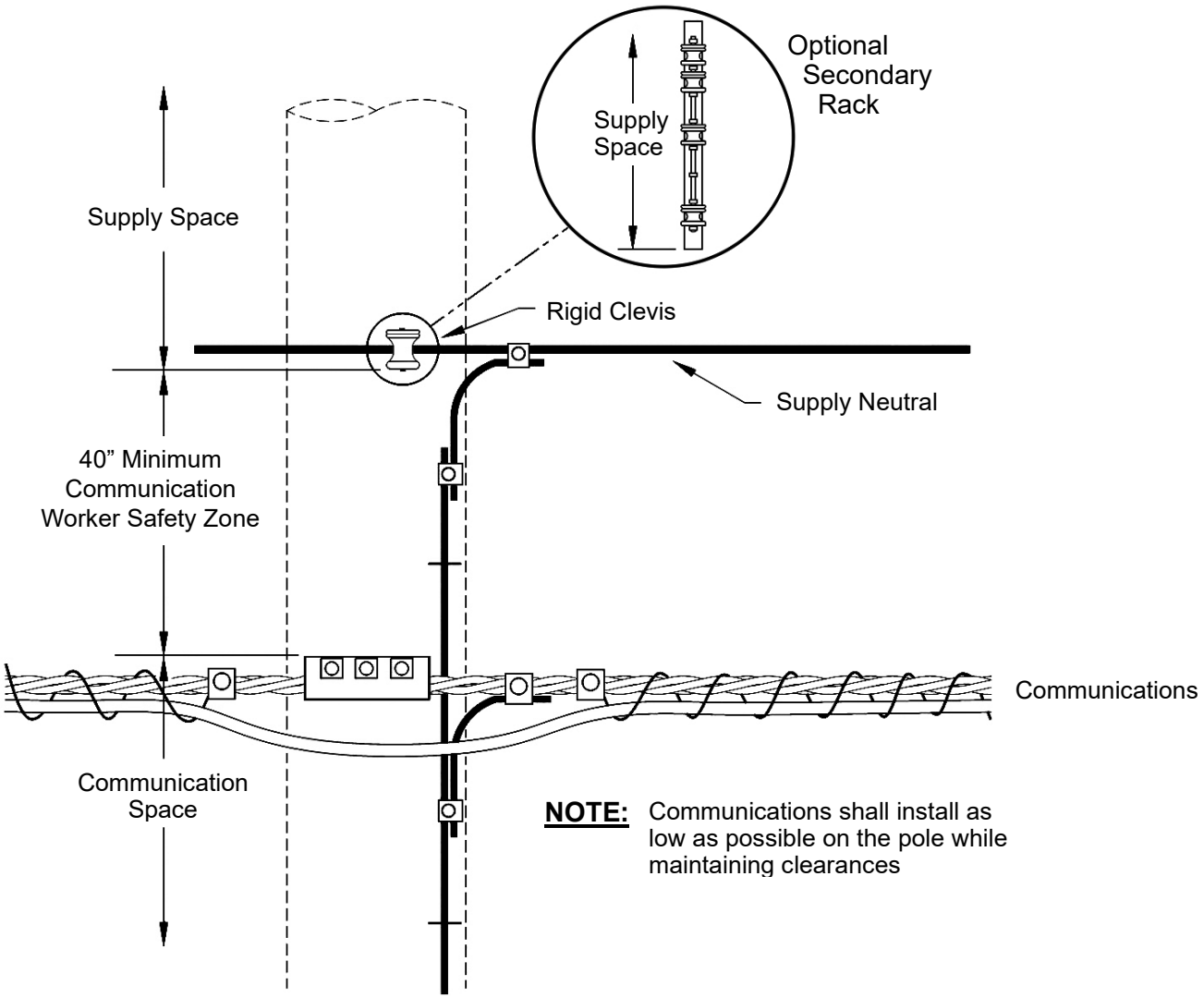


Figure 4 Clearance to Secondary Conductor Drip Loop

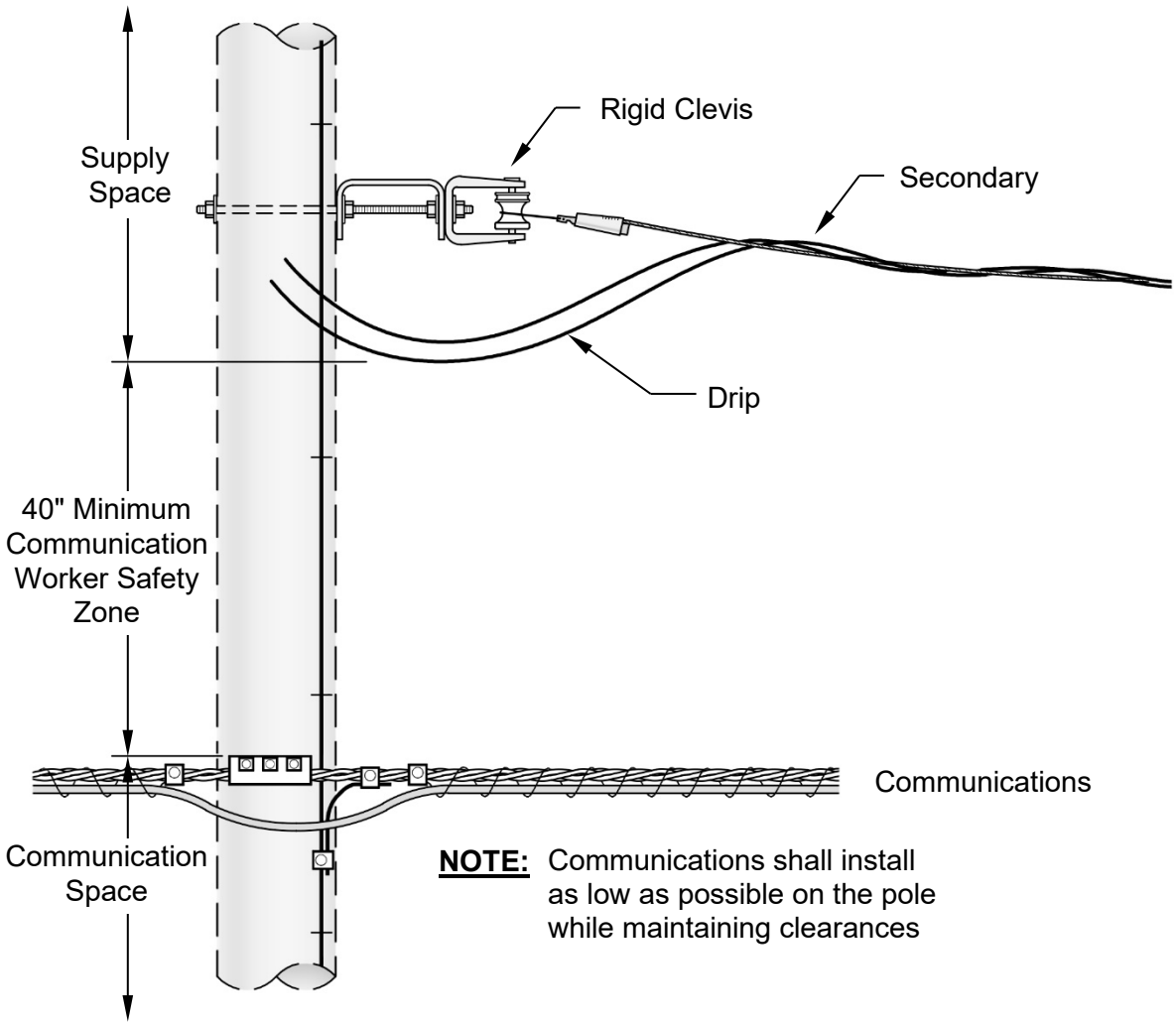
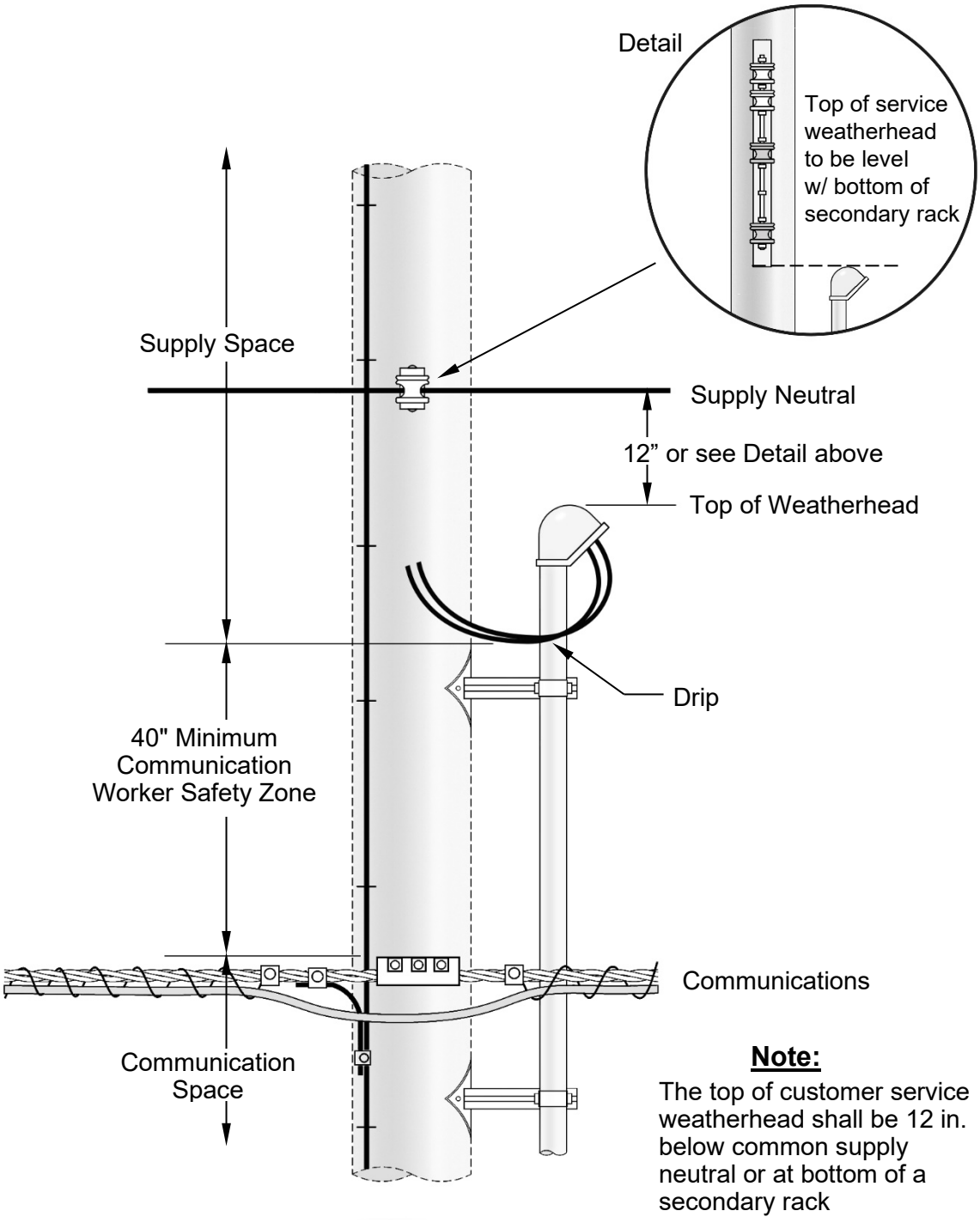


Figure 5 Clearance to Top of Secondary Riser Conduit



Clearances at Midspan between Poles

The minimum clearances at midspan between Tacoma Power electrical supply conductors and communication conductors attached to the same poles are listed in the figures that follow:

If…	and…	then refer to…
the supply neutral is located in the common position on the pole	there are no secondary conductors on the pole	Figure 6
secondary conductor is located in the common position		Figure 7

Figure 6 Midspan Clearance between Supply Neutral and Communications Cable

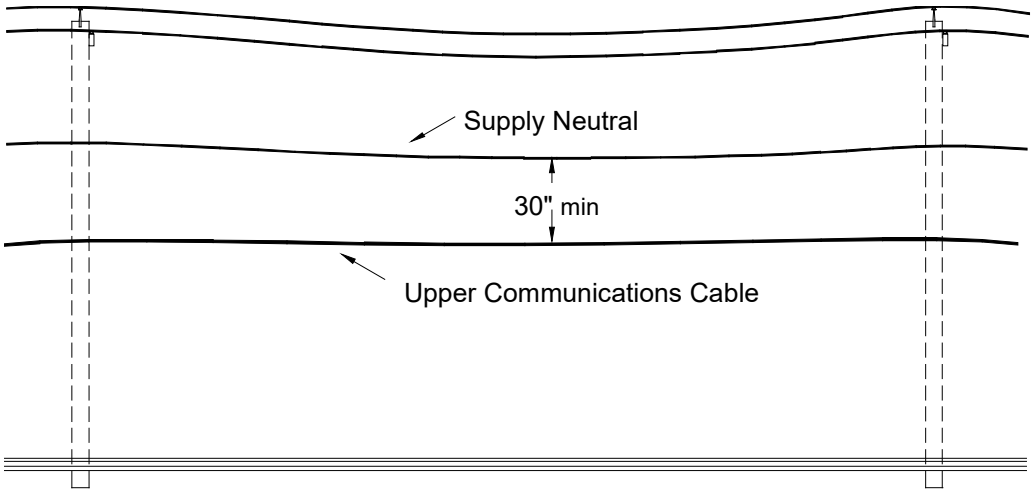
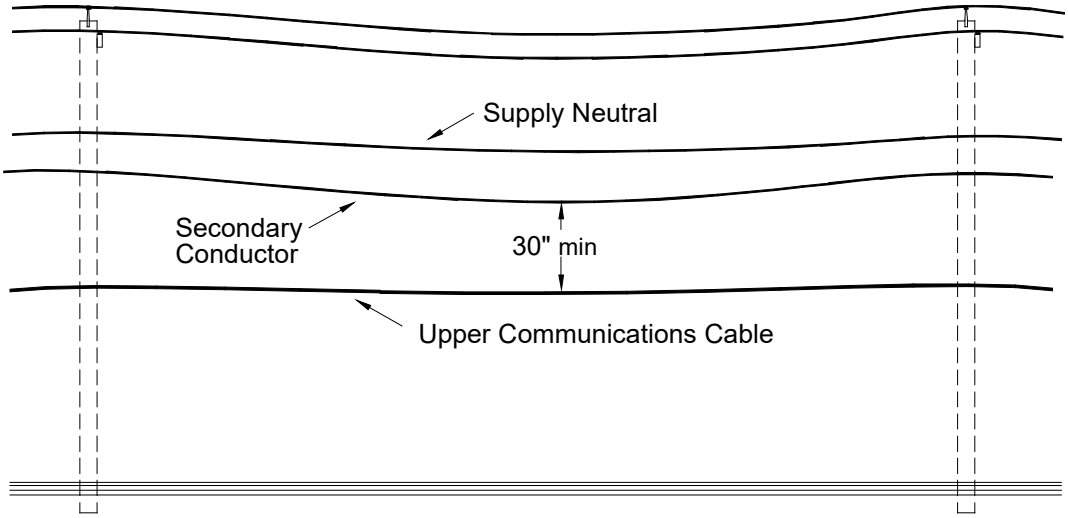


Figure 7 Midspan Clearance between Secondary Conductors and Communications Cable



Clearances to Street Lights

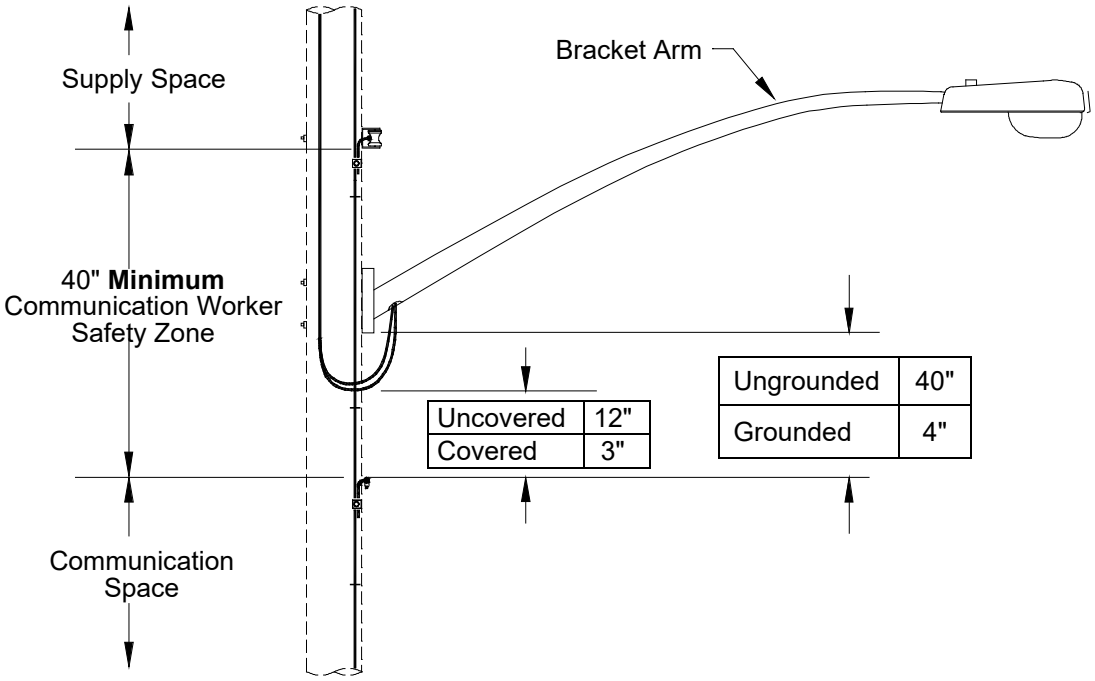
Clearances to street lights have been modified from the clearances to other electric supply facilities due to the nature of their installation.

Clearances for Comm Cables Below Street Lights

When communication cables are installed below a street light on a structure, all of the following minimum clearances shall be met (see Figure 8):

Between the bottom of…	and the top of the…	The minimum clearance is…
street light bracket arm	Communication Space.	Ungrounded bracket arm: 40 inches Grounded bracket arm: 4 inches
drip loop of street light supply wire	Communication Space.	Uncovered drip loop: 12 inches Covered drip loop: 3 inches

Figure 8 Clearances for Communication Cables Below Street Lights



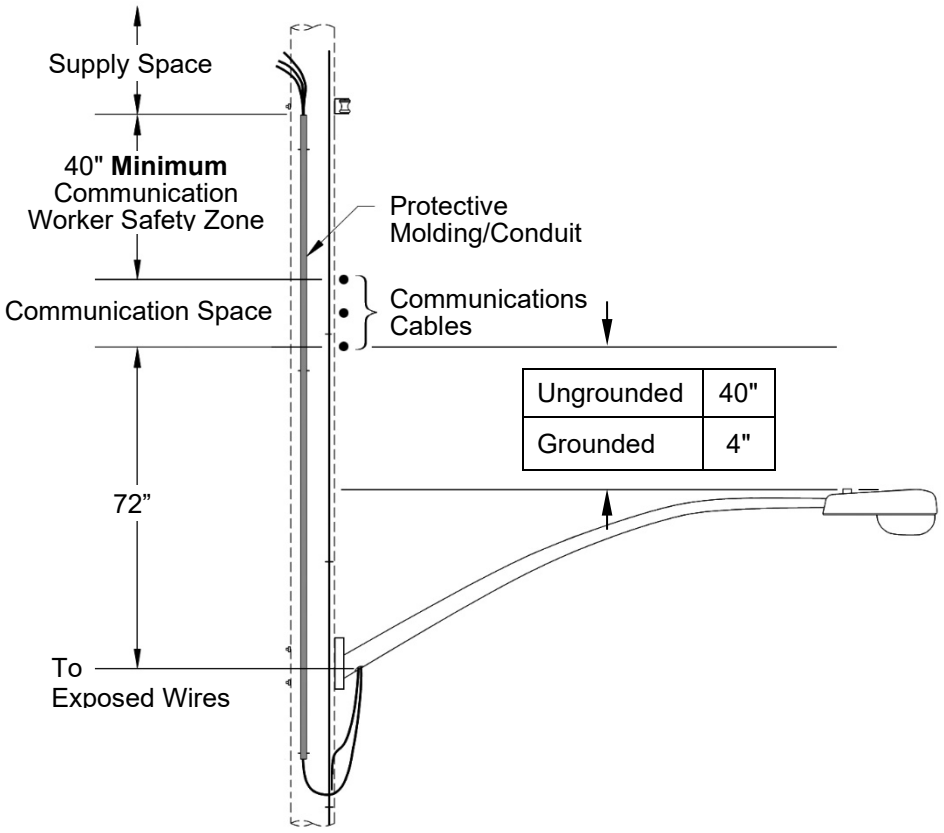
Clearances to Street Lights *(continued)*

Clearances for Comm Cables/ Support arms Above Street Lights

When communication cables/support arms are installed above a street light on a structure, all of the following minimum clearances shall be met (see Figures 9 and 10):

Between the…	and the…	The minimum clearance is…
top of the street light bracket arm	lowest communication attachment	Ungrounded bracket arm: 40 inches Grounded bracket arm: 4 inches
top of the street light bracket arm	bottom of any communication support arm.	Ungrounded bracket arm: 40 inches Grounded bracket arm: 24 inches
bottom of the street light supply wire molding/conduit (where the wire is exposed at the drip loop)	lowest communication attachment.	72 inches
top of the street light supply wire molding/conduit (where the wire is exposed)	highest communication attachment.	40 inches

Figure 9 Clearances for Communication Cables Above Street Lights



Clearances to Street Lights *(continued)*

Figure 10 Clearances for Communication Support Arms Above Street Lights