

Terminal Pole with Fused Cutouts

1. Scope

This standard covers the information necessary to construct a terminal pole with fused cutouts supporting #4 AWG copper, 397.5 ACSR, or 954 ACSR primary conductors on the 26 kV primary distribution system. Requirements for vertical spacing and hardware, and installation instructions to connect the primary conductor and underground cable to the pole are included.

2. Application

This standard provides direction to Seattle City Light (SCL) engineers, crews and contractors for the installation of the terminal pole with fused cutouts on 26 kV distribution poles with #4 AWG copper, 397.5 ACSR, or 954 ACSR conductors.

Terminal poles with fused cutouts are composed of multiple compatible units (CUs). SCL refers to assemblies involving multiple CUs as "structures." See Section 3.2 for more information.

3. General Requirements

Single-phase terminal poles with fused cutouts shall be constructed as shown in Figure 3a or 3b.

Three-phase terminal poles with fused cutouts shall be constructed as shown in Figure 3c.

Three-phase wing arm terminal poles with fused cutouts shall be constructed as shown in Figure 3d.

Wing arms are for temporary installation and maintenance only.

Wing arms are not part of regular construction and shall only be installed temporarily in locations where a standard crossarm cannot provide adequate clearance to meet code.

3.1 Pole Lengths

The minimum pole length required for a terminal pole with fused cutouts is shown in Table 3.1.



Table 3.1. Minimum Pole Lengths

Phase	Configuration	Length Required (ft)
1	Crossarm	50
3	Crossarm	50
3	Wing Arm	55

3.2 Compatible Units

Terminal poles with fused cutouts are structures composed of multiple compatible units (CUs). The CUs, installation details, and material lists are described in the standards listed in Table 3.2 and as shown in the figures.

Table 3.2. CU Standards

Construction Standard	Description
0100.25	Fused Overhead Jumpers
0121.01	Single-Phase Tangent Pole Top Assembly
0121.03	Single-Phase Angle Pole Top Assembly
0121.05	Single-Phase Deadend Pole Top Assembly
0123.01	Three-Phase Tangent Pole Top Assemblies
0123.03	Three-Phase Angle Pole Top Assemblies
0123.05	Three-Phase Dead End Pole Top Assemblies
0123.13	Three-Phase Tangent and Angle Wing Arm Pole Top Assembly
0123.15	Three-Phase Deadend Wing Arm Pole Top Assembly
0126.01	Primary Pole Termination Assemblies
0126.04	Riser Extensions
0224.34	Steel Conduit Riser Installation
0451.01	Grounding Electrodes for Distribution Poles

Figure 3a. Single-Phase Terminal Pole with Pole Mounted Fused Cutouts

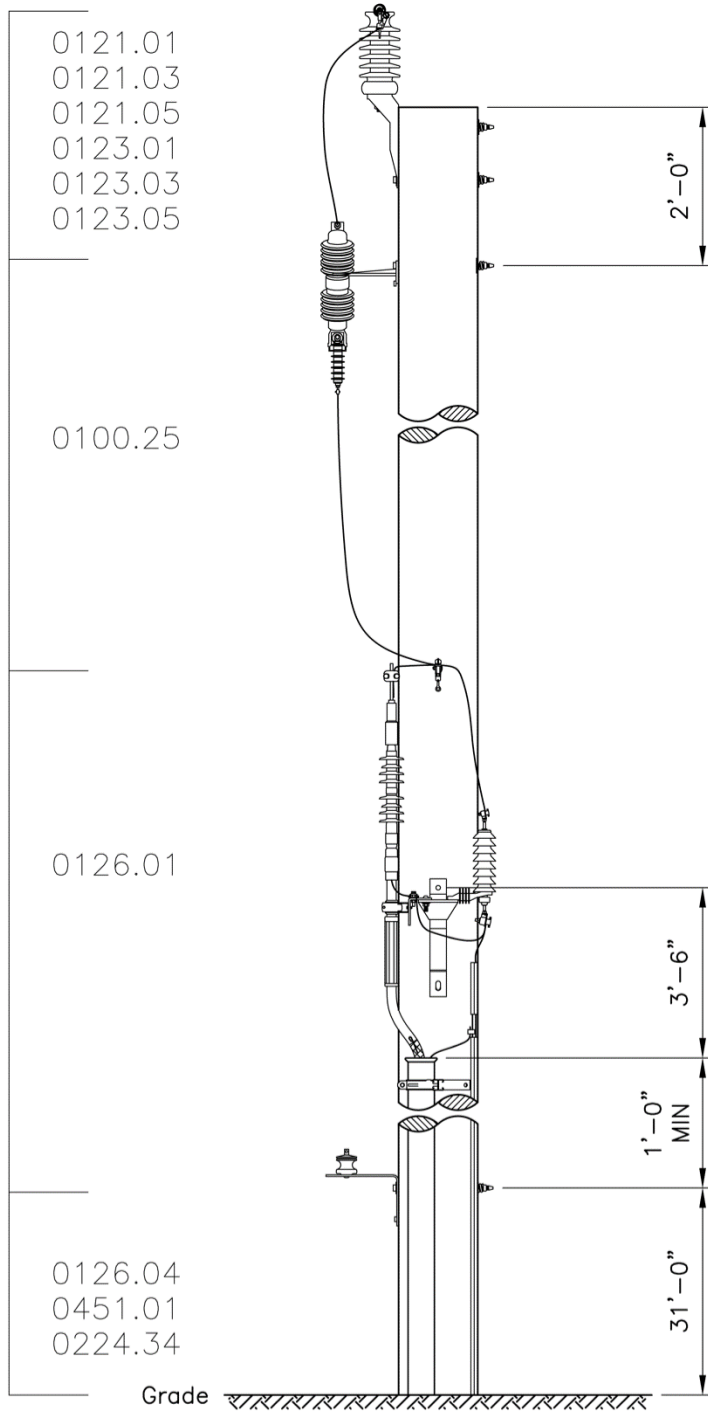


Figure 3b. Single-Phase Terminal Pole with Crossarm Mounted Fused Cutouts

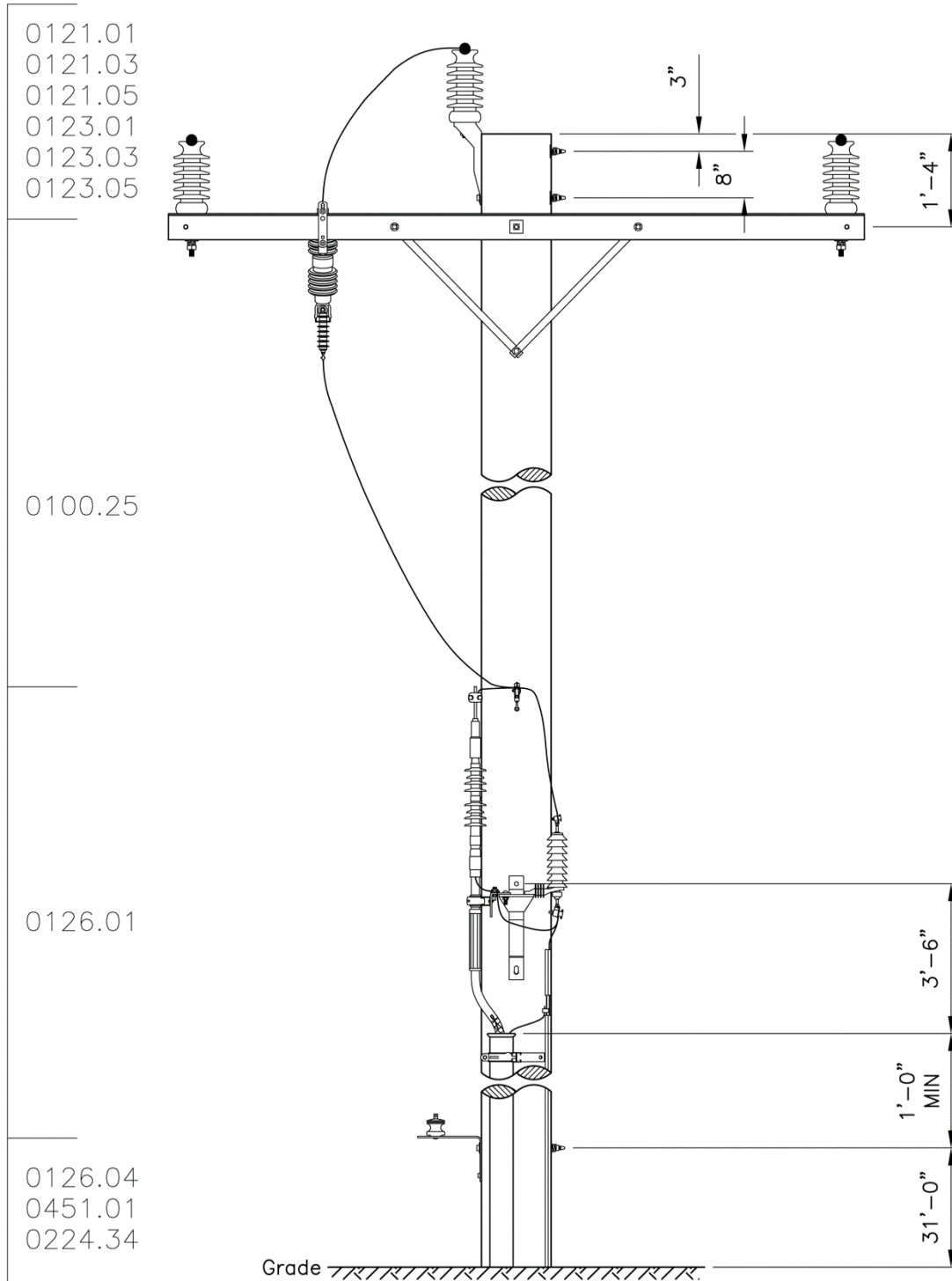


Figure 3c. Three-Phase Terminal Pole with Fused Cutouts

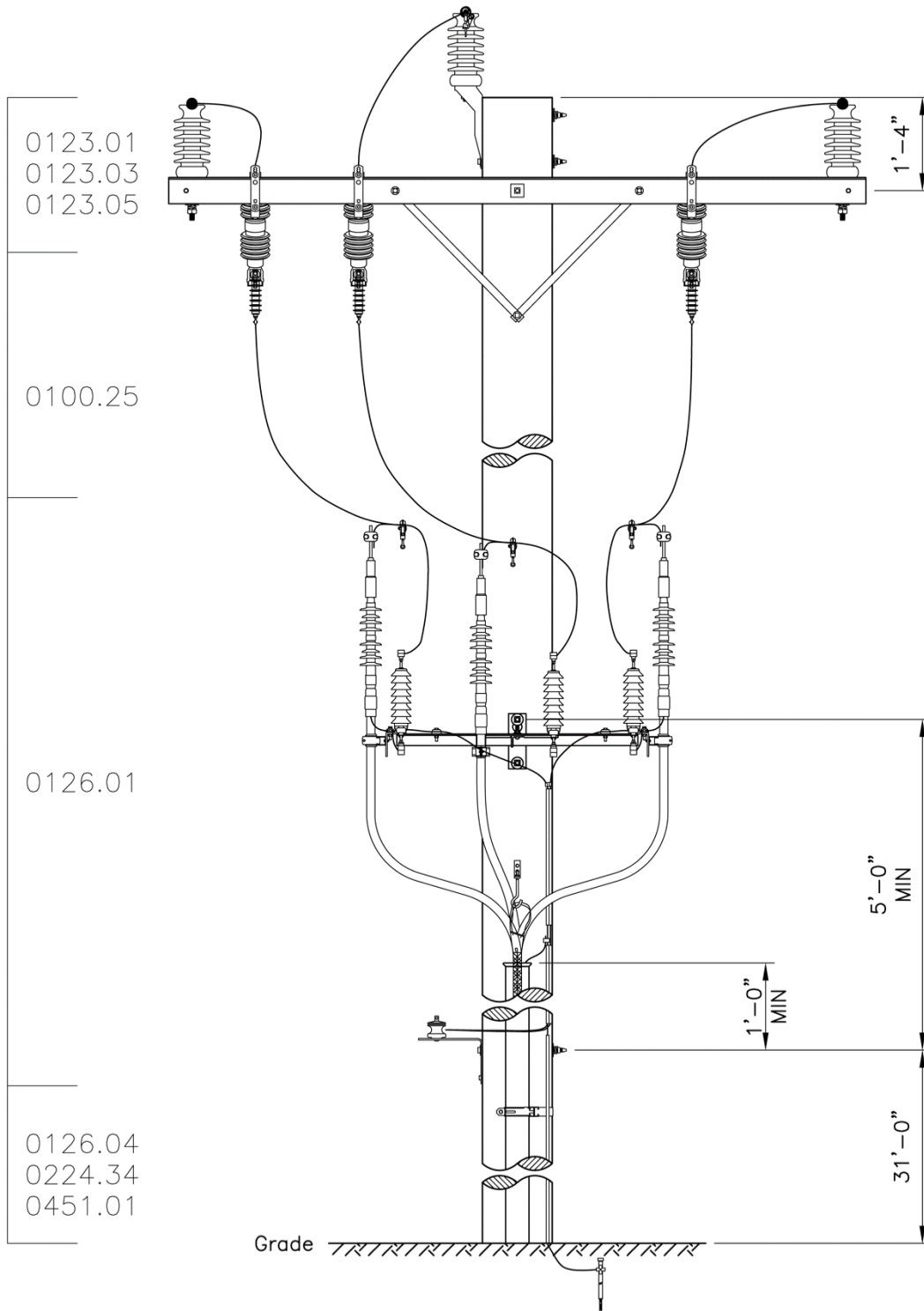
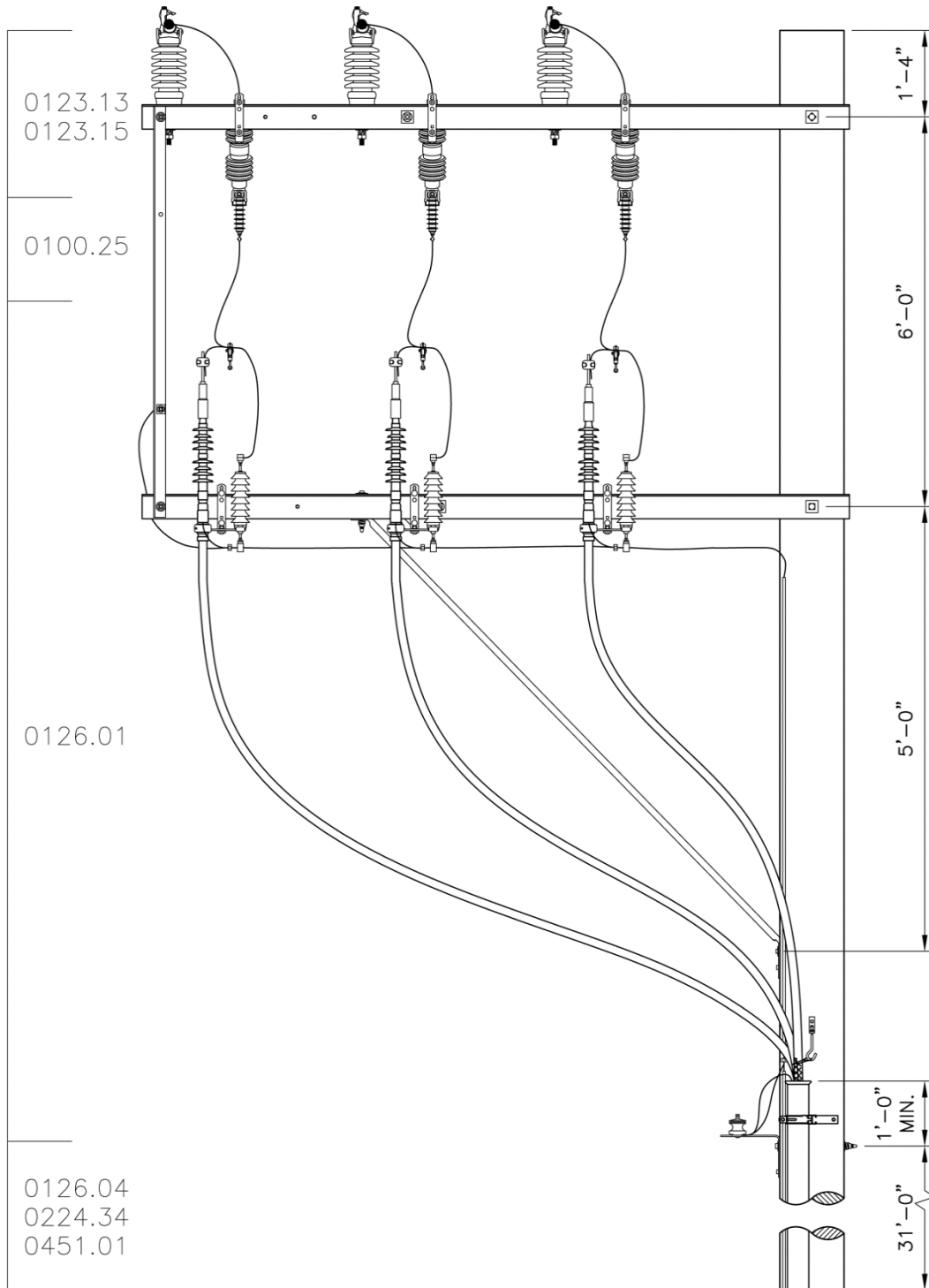


Figure 3d. Three-Phase Wing Arm Terminal Pole with Fused Cutouts



4. Construction Notes

If two neutrals are required, mount the second neutral on the street side 1 ft below the top bolt hole of the original neutral (typically at 30 ft).

If poor soil is found in the field, contact the SCL Design Engineer.

If there are avian and wildlife concerns, refer SCL 0072.01 and contact the SCL Design Engineer.

If there are salt spray concerns, contact the SCL Design Engineer.

When connecting to an arrester with a ground lead disconnect, make sure the connection is as short and as direct as possible. The ground lead must be flexible enough to allow the disconnect to operate properly.

5. Material List

Table 5a. Materials for a Single-Phase Terminal Pole with Fused Cutouts

Fig	Compatible Unit		Quantity	
3a	1-#4 AWG Terminal Pole with Pole Mounted Fused Cutout			
3b	1-#4 AWG Terminal Pole with Crossarm Mounted Fused Cutout			
	Standard Compatible Unit	ID		
0121.01	Single-phase #4 AWG single tangent pole top	PLT#4-1TANHP	-	1*
0121.03	Single-phase #4 AWG angle pole top	PLT#4-1ANG	-	1*
0121.05	Single-phase #4 AWG single deadend pole top	PLT#4-1DE	-	1*
0123.01	Three-phase tangent pole top assemblies	PLT#4-3TANHP	1*	-
0123.03	Three-phase angle pole top assemblies	PLT#4-3ANG	1*	-
0123.05	Three-phase deadend pole top assemblies	PLT#4-3DE	1*	-
0100.25	Single-phase #4 AWG pole mount cutout	FUSECO1#41	-	1
0100.25	#4 AWG cutout crossarm	FUSECO3#41	1	-
0126.01	200 A single-phase termination, 1/0	JTERM-200-1-1/0	1	1
0224.34	4" steel conduit riser	DRGS-RISER4	1	1

* As needed

Table 5b. Materials for a Three-Phase Crossarm Terminal Pole with Fused Cutouts

Fig	Compatible Unit	Quantity			
3c	954 kcmil Terminal Pole with Fused Cutouts				
3c	397 kcmil Terminal Pole with Fused Cutouts				
3c	3-#4 AWG Terminal Pole with Fused Cutouts				
Standard	Compatible Unit	ID			
0123.01	Three-phase #4 AWG single tangent assembly	PLT#4-3TANHP	1*	-	-
0123.01	Three-phase 397.5 kcmil single tangent pole top assembly	PLT397-3TANHP	-	1*	-
0123.01	Three-phase 954 kcmil single tangent pole top assembly	PLT954-3TANHP	-	-	1*
0123.05	Three-phase #4 AWG single deadend pole top assembly	PLT#4-3DE	1*	-	-
0123.05	Three-phase 397.5 kcmil single deadend pole top assembly	PLT397-3DE	-	1*	-
0123.05	Three-phase 954 kcmil single deadend pole top assembly	PLT954-3DE	-	-	1*
0100.25	#4 AWG cutout crossarm	FUSECO3#41	3	-	-
0100.25	397 cutout	FUSECO3971	-	3	-
0100.25	954 cutout	FUSECO9541	-	-	3
0126.01	600A three-phase termination, 1/0	JTERM-200-1-1/0	1	1	1
0224.34	4" steel conduit riser	DRGS-RISER4	2	2	2

* As needed

Table 5c. Wing Arm Terminal Pole Materials

Fig	Compatible Unit	Quantity		
3d	954 kcmil - Wing Arm with Fused Cutouts			
3d	397 kcmil - Wing Arm with Fused Cutouts			
3d	3-#4 AWG - Wing Arm with Fused Cutouts			
Standard	Compatible Unit	ID		
0123.13	Three-phase #4 AWG single tangent wing arm pole top assy	PLT#4-3WING	1*	-
0123.13	Three-phase 397.5 kcmil single tangent wing arm pole top assy	PLT397-WING	-	1*
0123.13	Three-phase 954 kcmil single tangent wing arm pole top assy	PLT954-WING	-	1*
0123.15	Three-phase #4 AWG single deadend wing arm pole top assy	PLT#4-3MOWINGDE	1*	-
0123.15	Three-phase 397.5 kcmil single deadend wing arm pole top assy	PLT397-MOWINGDE	-	1*
0123.15	Three-phase 954 kcmil single deadend wing arm pole top assy	PLT954-MOWINGDE	-	1*
0100.25	#4 AWG cutout crossarm	FUSECO3#41	3	-
0100.25	397 cutout	FUSECO3971	-	3
0100.25	954 cutout	FUSECO9541	-	3
0126.01	600 A three-phase wing arm termination, 1/0	JTERM-200-1/0W	1	1
0224.34	4" steel conduit riser	DRGS-RISER4	2	2

* As needed

6. References

- SCL Construction Standard 0072.01**; “Wildlife Protection, Small Birds and Animals”
- SCL Construction Standard 0100.25**; “Fused Overhead Jumpers”
- SCL Construction Standard 0121.01**; “Single-Phase #4 AWG Single Tangent Assembly”
- SCL Construction Standard 0121.03**; “Single-Phase #4 AWG Single Angle Assembly”
- SCL Construction Standard 0121.05**; “Single-Phase #4 AWG Single Dead End Assembly”
- SCL Construction Standard 0123.01**; “Three-Phase Tangent Pole Top Assemblies”
- SCL Construction Standard 0123.03**; “Three-Phase Angle Pole Top Assemblies”
- SCL Construction Standard 0123.05**; “Three-Phase Dead End Pole Top Assemblies”
- SCL Construction Standard 0123.13**; “Three-Phase Tangent and Angle Wing Arm Pole Top Assemblies”
- SCL Construction Standard 0123.15**; “Three-Phase Deadend Wing Arm Pole Top Assemblies”
- SCL Construction Standard 0126.01**; “Primary Pole Termination Installation”
- SCL Construction Standard 0126.04**; “Riser Extensions”
- SCL Construction Standard 0224.34**; “Steel Conduit Riser Installation”
- SCL Construction Standard 0451.01**; “Grounding Electrodes for Distribution Poles”

7. Sources

Hall, Alan; SCL Engineer and subject matter expert for 0127.03 (alan.hall@seattle.gov)

Lu, Curtis; SCL Standards Engineer and originator of 0127.03 (curtis.lu@seattle.gov)

SCL Construction Guideline DU5-15.3 (canceled)

SCL Construction Guideline DU5-15.31 (canceled)

SCL Construction Guideline DU5-15.8 (canceled)