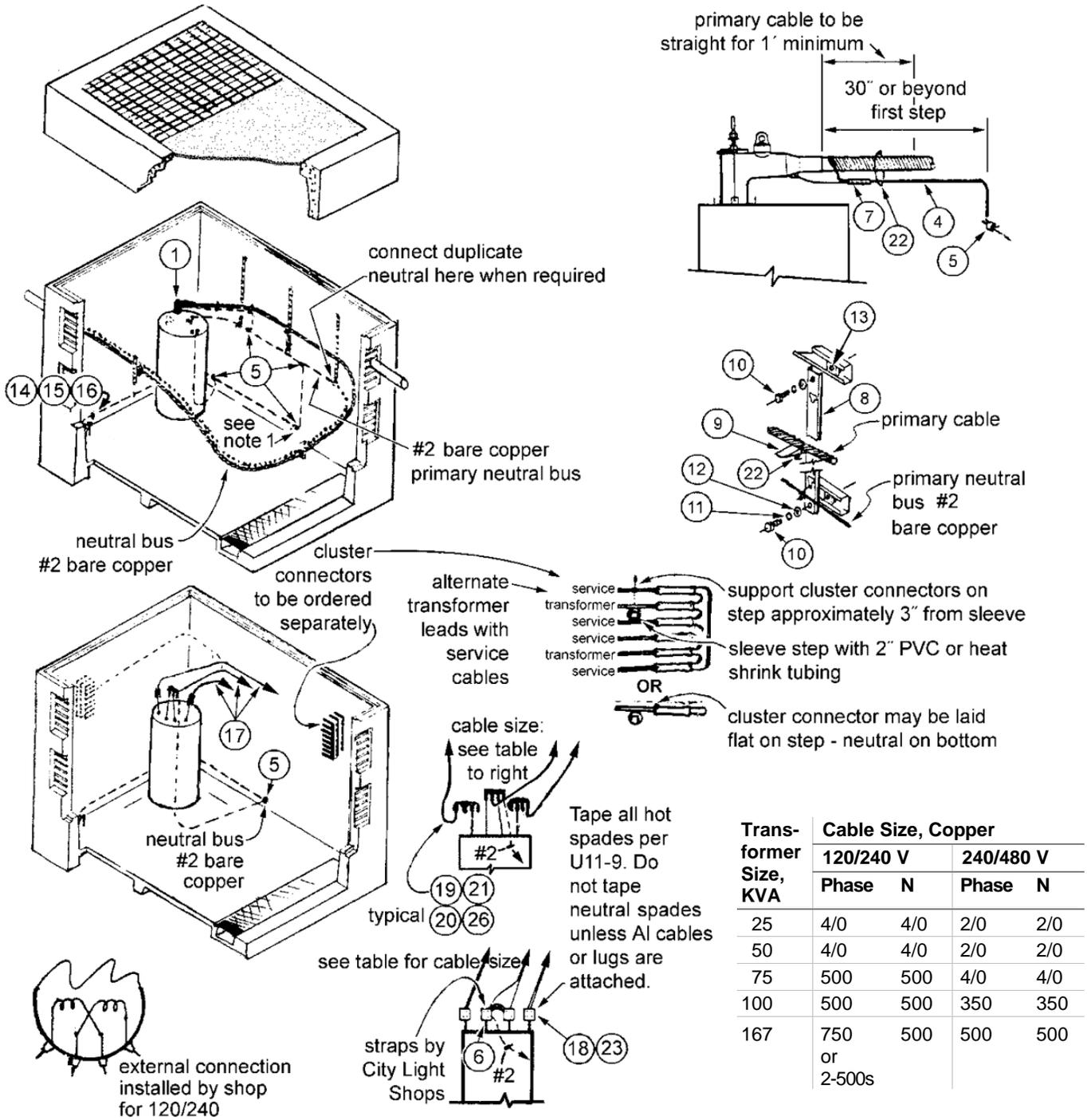


Grounding and Connection Diagram, Single Phase 26 kV Distribution Transformer



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Darnell Cola

Material List Item	Description	Quantity	Stock No.	
1	ELBOW, Dead Break, 15.2 kV to ground	1	686416	
4	WIRE, #2 Bare Stranded, copper	100'	610434	
5	TAP, #2 to #2 Crimpet, copper	6	677326E	
6	LUG, #2 Compression, copper, 1/2" stud	1	677071E	
7	SPLICE, Compression, straight, copper	1	677357E	
8	RACK, 18 Hole, galvanized, 30"	6 (estimate)	721666E	
9	HOOK, Cable Rack, galvanized steel	4"	6 (estimate)	720625E
		14"	2 (estimate)	720631E
10	BOLT, Zinc Plated	1/2" x 1"	6 (estimate)	784825E
		1/2" x 1-1/2"	6 (estimate)	784827E
11	LOCK WASHER, galvanized, 1/2"	12 (estimate)	584255E	
12	FLAT WASHER, galvanized, 1/2"	12 (estimate)	585025E	
13	NUT, Unistrut, P4010, 1/2"	12 (estimate)	723607E	
14	CABLE TIE, plastic, 0.184" x 7"	5 (estimate)	735805E	
15	MOUNTING BASE, for cable tie, 1/2"	5 (estimate)	735852	
16	ANCHOR, Stud Bolt, 1/4" x 1-3/4"	5 (estimate)	780091E	
17	CABLE, 600 Volt, XLP, copper	4/0	50'	613735
		500	50'	613740
		750	50'	613743
18	COMPRESSION LUG, copper	4/0	3	677081E
		500	3	677091E
		750	3	677100
19	CONNECTOR, 4 position, 1000 A	3	678707	
20	TERMINAL LUG, Cluster Connector, #2 copper, transformer ground	1	012729	
21	SLEEVE, Insulating	8	678620E	
22	TIE STRAP, plastic	7"	4 (estimate)	735805E
		14"	16 (estimate)	735811E
23	Nuts, Bolts, Washers, Tape (refer to Construction Guideline U11-9)		-	
26	Terminal Lug, Al-Cu	2/0	3	678687E
		4/0	3	678689E
		350	3	678699E
		500	3	678700E

Notes:

1. Attach copper ground bus to vault wall 6" above floor using cable ties, cable tie mounting base and anchor bolts, Material List Item No. 14, 15 and 16.
2. If J-Boxes, switches or other primary (equipment is installed in the same vault, connect primary neutrals to the primary neutral bus. Equipment grounds may be attached to the ground bus.)
3. Primary cable is to route so that it is racked on at least two walls.
4. Generally, secondary is racked above the primary.
5. Install HIGH VOLTAGE sign (Stock No. 765181) on all above grade installations.
6. When specified, install receptacles and/or vault lights per Construction Standard NTP-60.
7. All secondary leads to be laid straight on steps (hooks) with no intertwining of the leads.
8. Cable tagging per U4-3.3.
9. To avoid induced currents and heating of the steps and racks, **DO NOT** lay separate phase conductors on separate steps.
10. Connect only the neutrals on all idle services.
11. Generally, up to 4 sets of service cables may be connected directly on the transformer spades or cluster connectors if:
 - 11.1 Service cables to be connected on cluster connectors are no larger than 500 kcmil.
 - 11.2 Service cables to be connected on the transformer spades are no larger than 750 kcmil.
12. Cluster connectors shown on the vault wall **are to be ordered separately** with the following considerations:
 - 12.1 Residential, light industrial or light commercial type;
 - Available in 3, 4, 6 or 8 position with streetlight tap (Stock No. 678800, 678707, 678713 and 678715).
 - Maximum cable size is 500 kcmil per position since the cluster connector requires 7/8" bolt spacing, hook type lugs (Stock No. 678687E through 678700E).
 - Each cluster connector weighs approximately 4-1/2 pounds.
 - 12.2 Heavy Duty Type;
 - Available in 4, 6 and 8 position (Stock No. 678760 through 678763).
 - Maximum cable size is 1000 kcmil per position. These connectors require 1-3/4" bolt spacing lugs (Stock No. 651255 through 651272 for Aluminum and 677065E through 677100 for copper).
 - **Each** heavy duty cluster connector weighs approximately 16 pounds.
13. Connect all installed grounding electrodes. See U2-15.1.