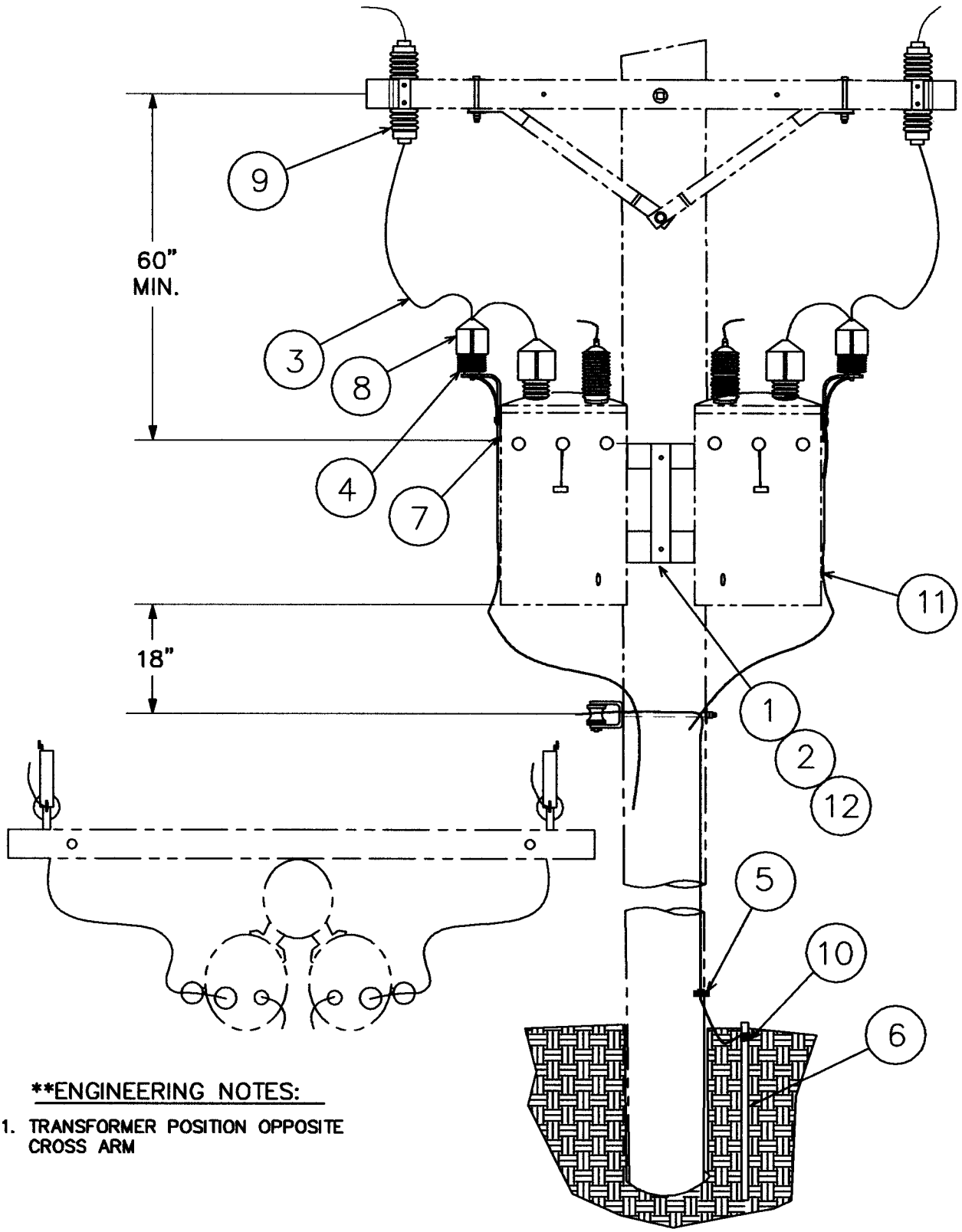


**ENGINEERING NOTES:

1. TRANSFORMER POSITION OPPOSITE CROSS ARM

DRAWN BY:	DATE:	APPROVED BY:
GL	7/27/04	CP
REVISED BY:	DATE:	APPROVED BY:

TITLE:

TWO TRANSFORMERS ON MULTI PHASE LINE WOOD/FIBER ARM

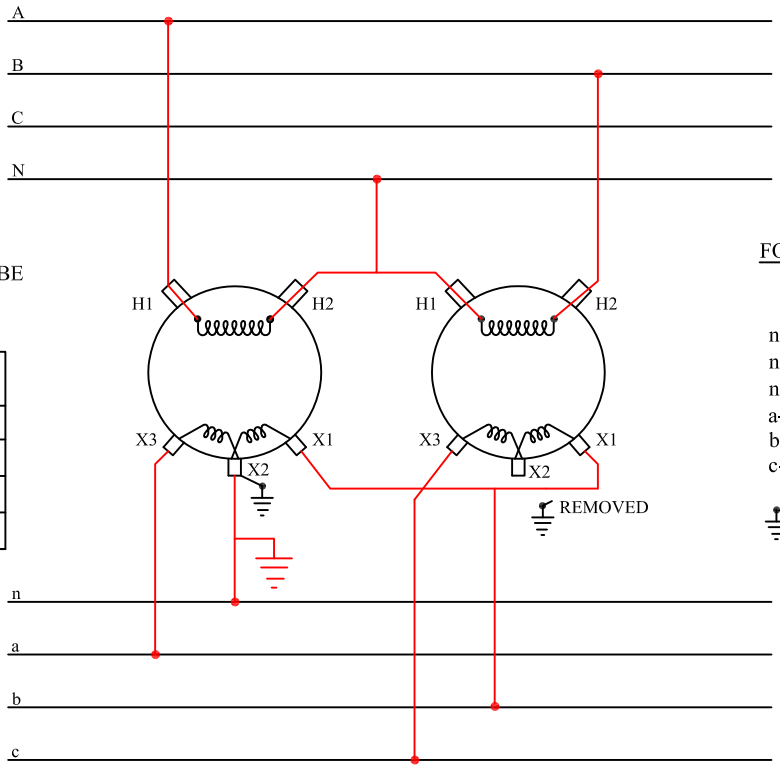
GARLAND POWER & LIGHT

STANDARD NO.:

OH-1105

PRIMARY: OPEN-WYE-connected

Each transformer is energized from a different phase of the primary circuit. Always install the "lighting pot" on the leading phase of the primary circuit. It is GP&L standard practice to connect to the neutral conductor the respective high-side bushings of the transformers which are closest to the pole. Doing this causes the polarity of the secondary bushings to be reversed (on the transformer whose H1 bushing has been grounded). It is, therefore, necessary to reverse the connection at the secondary bushings as shown in the diagram. In this 4-wire connection, the X2 ground on the "power pot" is left unconnected (it is not grounded); only the X2 bushing on the "lighting pot" is grounded.



LIGHTING POT SHALL ALWAYS BE INSTALLED ON LEADING PHASE

CORRECT PHASE CONNECTION	
LIGHTING	POWER
A	B
B	C
C	A

VOLTAGES
FOUR WIRE DELTA

120/240

n-a	120
n-b	120
n-c	208
a-b	240
b-c	240
c-a	240

TANK GROUND

SECONDARY: OPEN-DELTA-connected

This connection is used to supply both single- and three-phase power loads. It is usually 120/240V. The wild leg (Phase C) has a voltage of 208 Volts to ground and cannot be used in a single-phase 120/240V circuit. The wild leg can easily be identified as the phase connected to the transformer which has the ground removed from its X2 bushing. Remove the tank ground strap from the X2 bushing on the power pot.

DRAWN BY:	DATE:	APPROVED BY:
SJ/JC	7/18/12	
REVISED BY:	DATE:	APPROVED BY:
JB/DM	11/8/13	

TITLE:

OPEN WYE–OPEN DELTA 3 PHASE – 4 WIRE

GARLAND POWER & LIGHT

REFERENCE NO.:
OH-1105A
OPEN WYE-OPEN DELTA
4 -W

Construction Standard Material

OH-1105 Open Wye-Open Delta 4 Wire

Title:

Rev. Date: 11/13/2013

Pic #	Description	WAREHOUSE #	Qty	UOM
1	BOLT MACHINE 3/4" X 14" W/NUT	285-08-10814	1	EA
2	WASHER SQUARE 3/4"	285-08-15315	1	EA
3	CABLE, 5 KV # 2 AWG OKOGUARD	280-42-50005	20	FT
4	ARRESTOR LIGHTING MOV TYPE 10KV, POLYMER	286-04-10010	1	EA
5	CONNECTOR CRIMPIT CU. #6 - #6	285-18-17010	1	EA
6	ROD GROUNDING 5/8" X 8'	285-36-15108	1	EA
7	BRACKET LIGHTNING ARRESTOR OH1	285-38-19191	1	EA
8	BIRD GUARD COVER, FARGO GS-555	285-39-24101	2	EA
9	CUTOUT 100 AMP 15 KV	286-19-10250	1	EA
10	CLAMP GROUND ROD 5/8"	285-13-16025	1	EA
11	LUG TRANSFORMER GROUNDING 8 SOL TO 2/O STR	285-49-17325	2	EA
12	MOUNT TRANSFORMER TWIN TYPE CLUSTER	285-38-15163	1	EA
13				
14				
15				
16				
17				
18				
19				
20				

Garland Power & Light

OH-1105 Open Wye-Open Delta 4 Wire