

**I. APPLICATION**

- A. THE POLE TO BE WIRED 3-WIRE SPECIFICATION IS TO BE UTILIZED WHEN CONSTRUCTING A NEW STREET LIGHTING CIRCUIT. THIS SPECIFICATION IS ALSO TO BE APPLIED WHEN CONVERTING (RETRO-FIT) AN EXISTING 2-WIRE STREET LIGHTING CIRCUIT TO A 3-WIRE CONFIGURATION. THIS CONVERSION INCLUDES THE REMOVAL OF ANY FACILITIES OR ITEMS SPECIFIC TO THE EXISTING 2-WIRE CONFIGURATION AS REQUIRED.

**II. MATERIALS**

- A. THE GROUND ROD (AS PER THE APPROPRIATE FOUNDATION MIS SPECIFICATION) SHALL BE 1/2" X10' COPPER CLAD, PORCELAIN PRODUCT #8430; BLACKBURN #5010, GALVAN OR APPROVED EQUAL.
- B. THE GROUND ELECTRODE WIRE (WIRE FROM GROUND ROD TO THE POLE) SHALL BE #6 AWG SOLID COPPER. THE #8 AWG STRANDED COPPER GROUND WIRE SHALL BE GREEN 600V TYPE XHHW-2.
- C. THE GROUND ROD CLAMP SHALL BE 1/2" COPPER ALLOY, HEX OR SQUARE HEAD WITH 1/2"-13UNC SCREW; JOSLYN #J8591H; BLACKBURN #JAB 1/2"H OR APPROVED EQUAL.
- D. THE CRIMP COMPRESSION CONNECTORS SHALL BE COPPER, BURNDY YC4C4, PENN UNION OR APPROVED EQUAL.
- E. THE COPPER COMPRESSION TERMINAL LUG SHALL BE ONE HOLE TYPE TO FIT 1/4" MACHINE BOLT. THE SEAMLESS COPPER TUBING SHALL BE A MINIMUM OF 1" AND BE MARKED FOR #4 CONDUCTOR. THE LUG SHALL BE HOT TIN DIPPED TO PROVIDE CORROSION RESISTANCE AND BE HOMAC L4-14, BURNDY OR APPROVED EQUAL.
- F. THE FUSE KITS SHALL BE BUCHANAN 82S-EAFB1-C FOR THE PHASE (HOT) WIRE, AND BUCHANAN 83S-EAFB1-C FOR THE NEUTRAL WIRE. THE FUSE KIT FOR THE PHASE (HOT) WIRE SHALL HAVE A KTK-3 TYPE 3 AMP FUSE FOR LUMINAIRES 250 WATTS OR LESS, AND A 6 AMP FUSE FOR 400 WATT LUMINAIRES. THE FUSE KIT FOR THE NEUTRAL WIRE SHALL HAVE A SOLID SLUG (DUMMY FUSE) INSTALLED.
- G. THE POLE AND BRACKET WIRE SHALL BE #10AWG COPPER, 7 STRAND, THERMOSETTING CHEMICALLY CROSS LINKED POLYETHYLENE INSULATION, 600 VOLT AWG TYPE XHHW. THE HOT WIRE SHALL BE BLACK, NEUTRAL SHALL BE WHITE AND THE GROUND WIRE SHALL BE GREEN.
- H. THE CABLE GRIP SHALL BE SUITABLE FOR INSULATED WIRE.
- I. TAPE SHALL BE 1/2" VINYL TAPE. THE TAPE SHALL BE CODED RED OR WHITE, SCOTCH #35, TAPE-RITE CO. OR APPROVED EQUAL.

**III. INSTALLATION**

- A. THE GROUND ROD SHALL BE INSTALLED IN UN-DISTURBED EARTH. TESTING SHALL INDICATE 25 OHMS OR LESS. WHEN OHMS READING IS OVER 25, ADDITIONAL GROUND RODS SHALL BE INSTALLED TO ACHIEVE 25 OHMS OR LESS.
- B. FOR METAL POLES, THE #6 BARE COPPER GROUND WIRE FROM POLE SHALL BE CONNECTED TO THE GROUND ROD WITH A GROUND ROD CLAMP. THE GROUND WIRE SHALL BE CRIMPED TO THE TERMINAL LUG, BOLTED TO THE POLE, AND TIGHTENED UNTIL SECURE. USE A YC4C4 CRIMP CONNECTOR FOR EQUIPMENT GROUND CONDUCTORS RUNNING WITH CIRCUIT BETWEEN POLES (GREEN #8 AWG, XHHW-2, 600V COPPER) TO #6 BARE COPPER WIRE. SEE "DETAIL 1".

- C. FOR FIBERGLASS POLES, THE BARE GROUND WIRE SHALL BE CONNECTED TO THE GROUND ROD WITH A GROUND ROD CLAMP. THE GROUND WIRE SHALL BE WRAPPED AROUND AN ANCHOR BOLT AND TIGHTENED WITH THE ANCHOR NUT AND WASHER UNTIL SECURE. SEE "DETAIL 2".

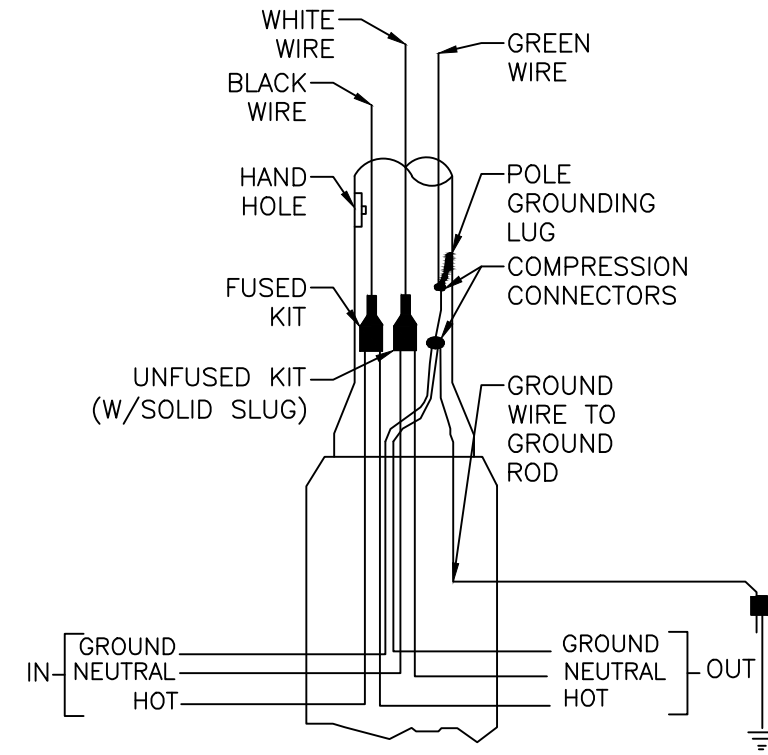
IN LIEU OF WRAPPING THE GROUND WIRE AROUND THE ANCHOR BOLT OF THE FIBERGLASS POLES AS NOTED ABOVE, THE CONTRACTOR MAY ATTACH THE GROUND WIRE TO THE BOLT CONNECTING THE METAL PLATE TO THE FIBERGLASS POLE WITH THE USE OF A BURNDY YAZV6CTC38FX (OR APPROVED EQUAL) COMPRESSION TERMINAL LUG. ALL OTHER CONNECTIONS ARE TO BE COMPLETED AS NOTED.

- D. THE #4, PHASE (HOT) WIRE AND THE BLACK, #10 POLE WIRE SHALL BE CONNECTED TO THE TERMINAL BLOCK FUSE KIT. RED TAPE SHALL BE WRAPPED FIVE (5) TIMES AROUND THE HOT WIRE BELOW THE FUSE KIT. THE #10 BLACK WIRE SHALL RUN FROM THE FUSE KIT THROUGH THE POLE SHAFT TO THE LUMINAIRE
- E. THE #4, NEUTRAL WIRE AND THE WHITE, #10 POLE WIRE SHALL BE CONNECTED TO THE TERMINAL BLOCK UN-FUSED KIT (WITH SOLID SLUG INSTALLED). WHITE TAPE SHALL BE WRAPPED FIVE (5) TIMES AROUND THE NEUTRAL WIRE BELOW THE FUSE KIT. THE #10 WHITE WIRE SHALL RUN FROM THE UN-FUSED KIT THROUGH THE POLE SHAFT TO THE LUMINAIRE.
- F. THE GREEN #10 WIRE SHALL RUN FROM THE COMPRESSION CRIMP OF THE #6 GROUND WIRE, THROUGH THE POLE SHAFT TO THE LUMINAIRE.
- G. THE #10 BLACK, GREEN AND WHITE POLE WIRES SHALL BE SUPPORTED BY THE CABLE GRIP NEAR THE MAST ARM OR LUMINAIRE ENTRANCE.

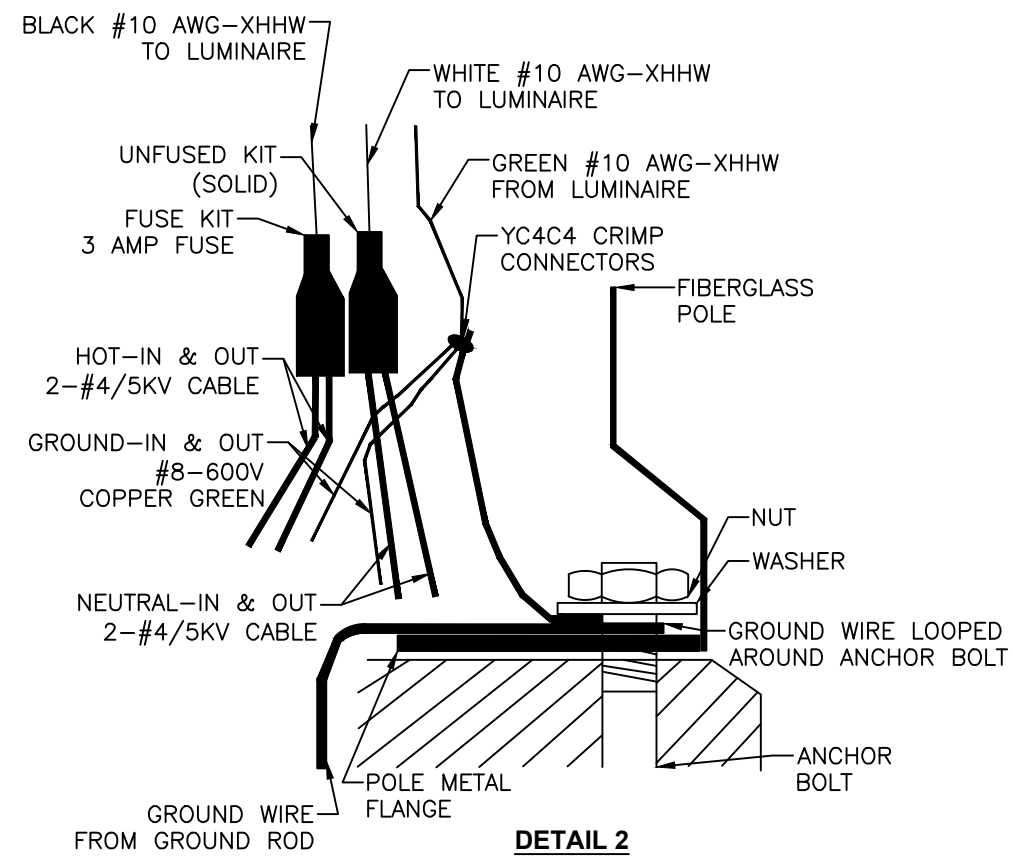
**IV. BASIS OF PAYMENT**

ITEM	UNIT	DESCRIPTION
MIS-501	EACH	POLE TO BE WIRED, 3-WIRE
MIS-501	EACH	RETRO-FIT: EXISTING 2-WIRE TO NEW 3-WIRE

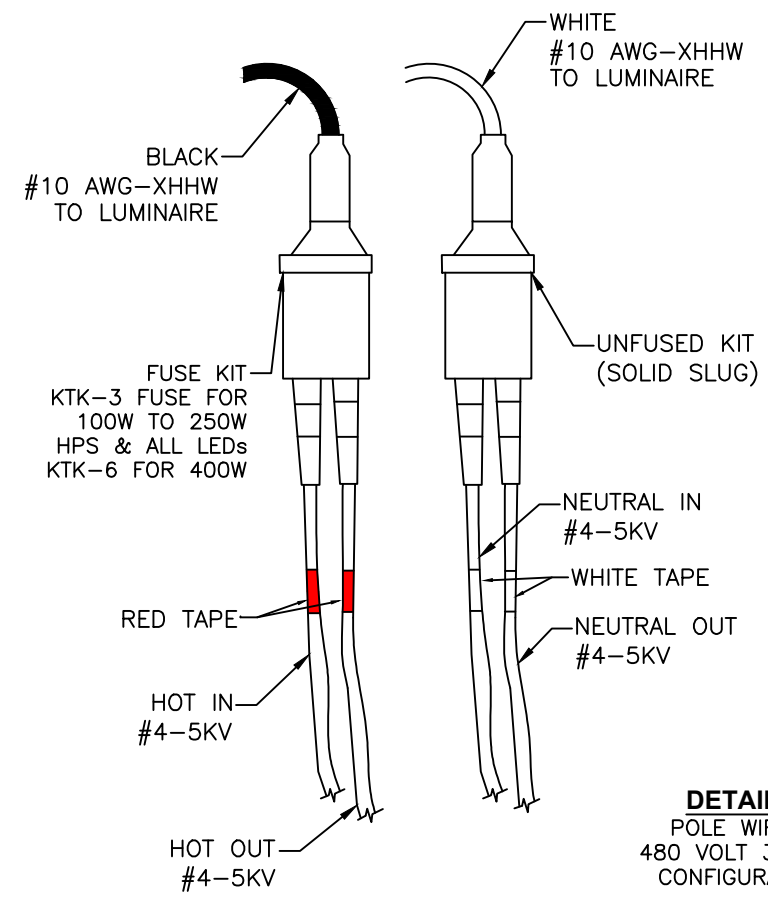
<b>MIS-501</b>	DEPARTMENT OF PUBLIC UTILITIES - DIVISION OF POWER CITY OF COLUMBUS, OHIO		
	<b>POLE TO BE WIRED, 3 WIRE</b>		
	DRAWN BY: SAW	DATE: 5/29/24	
	SCALE: NONE	SHEET: 1 OF 3	501



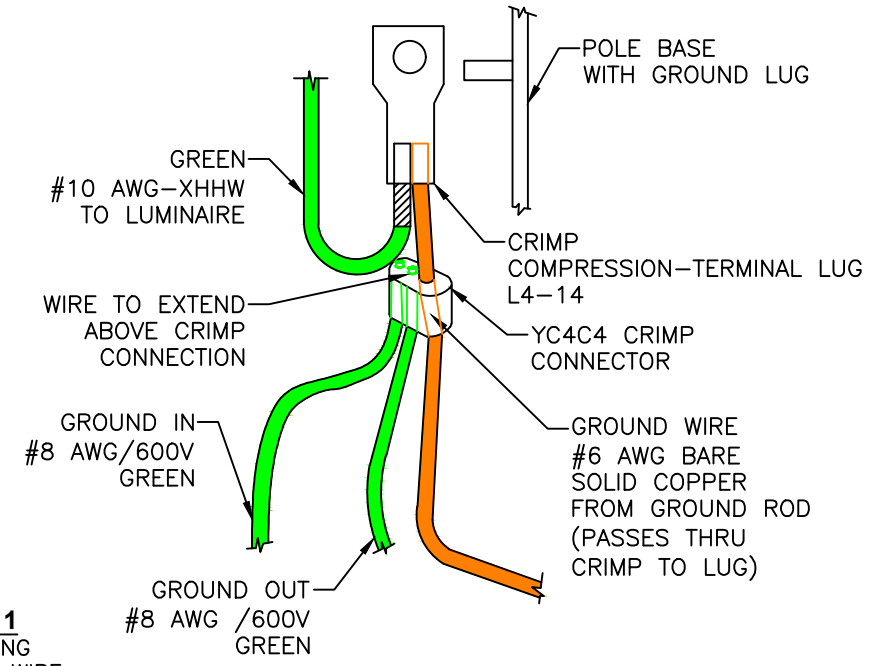
**480 VOLT, 3-WIRE CONFIGURATION**



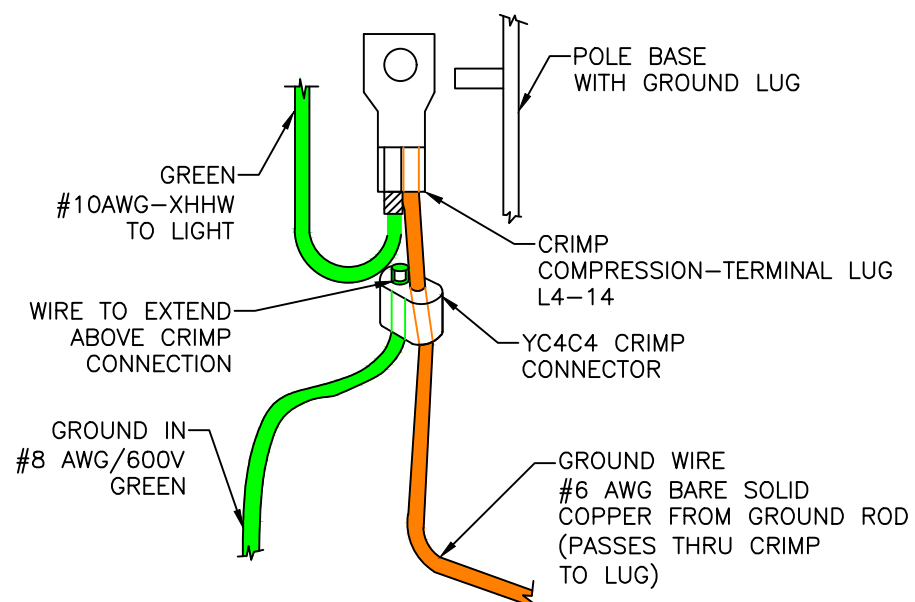
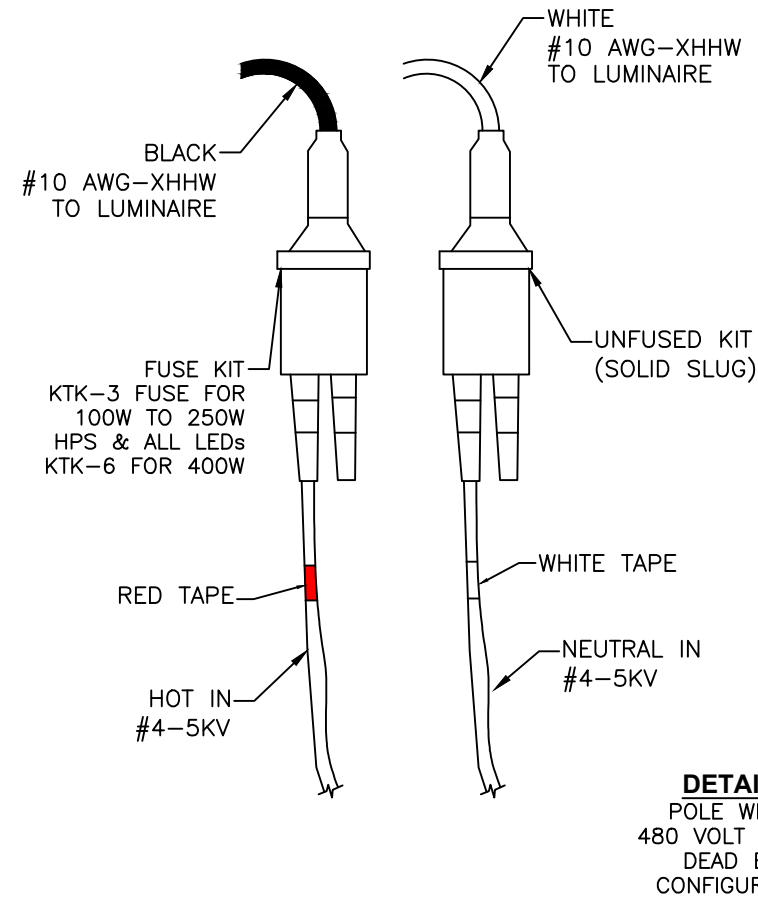
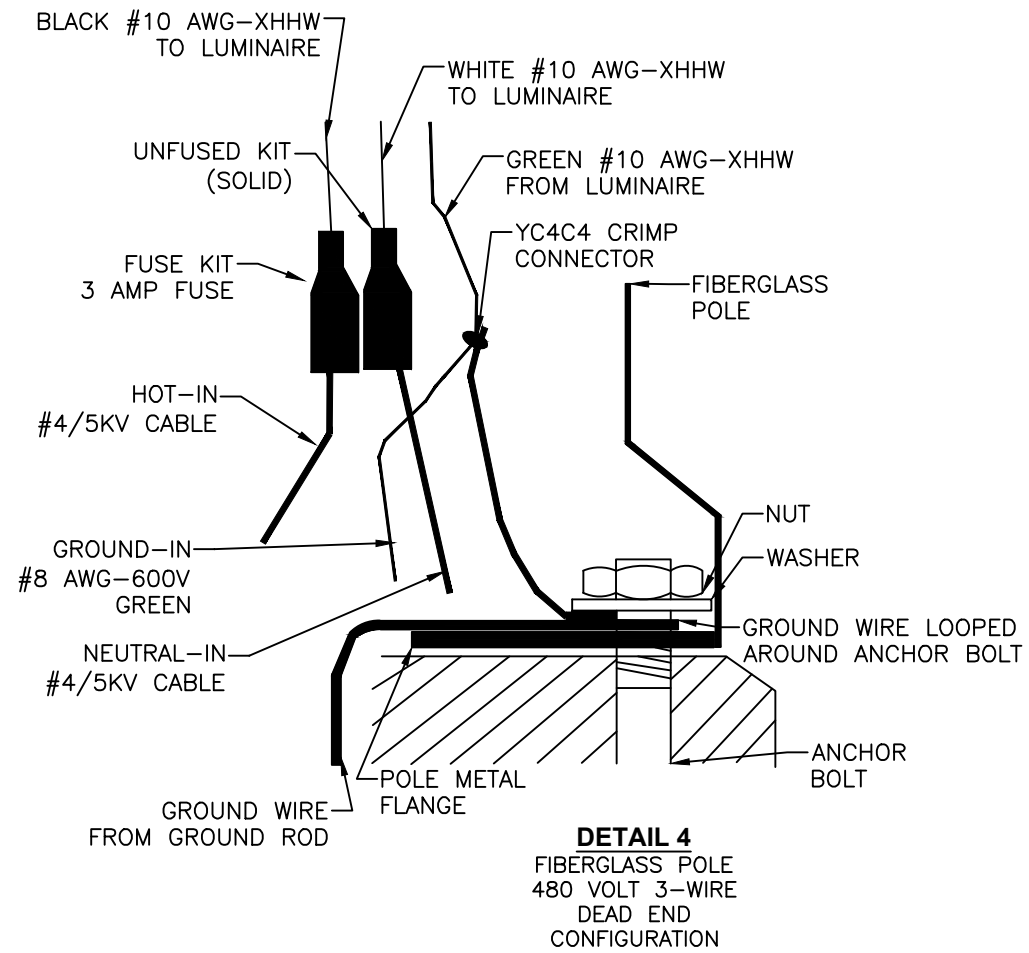
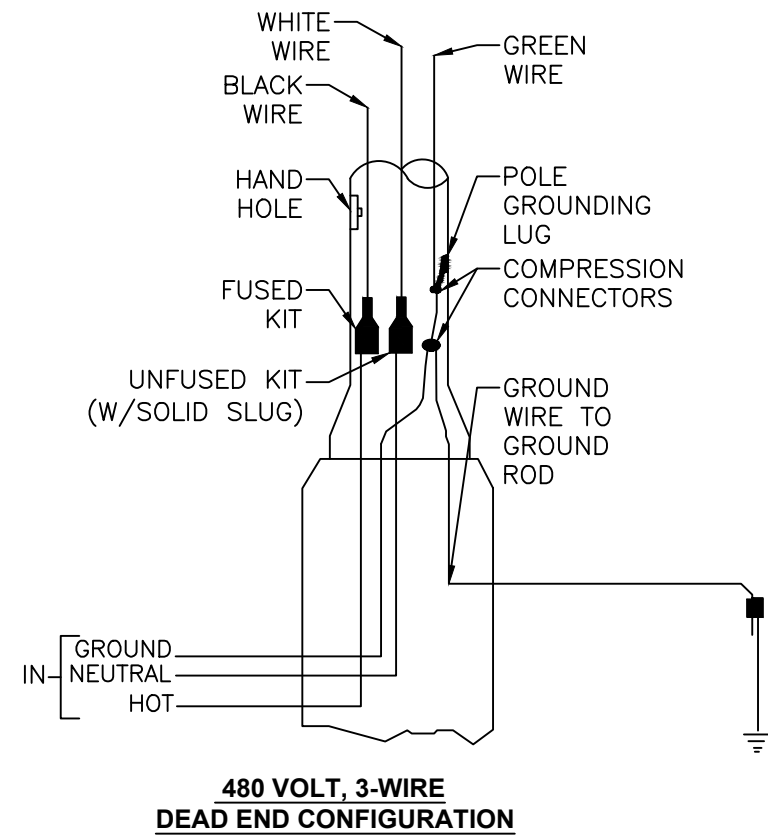
**DETAIL 2**  
FIBERGLASS POLE  
480 VOLT 3-WIRE  
CONFIGURATION



**DETAIL 1**  
POLE WIRING  
480 VOLT 3-WIRE  
CONFIGURATION



<h1>MIS-501</h1>	DEPARTMENT OF PUBLIC UTILITIES - DIVISION OF POWER CITY OF COLUMBUS, OHIO		
	<b>POLE TO BE WIRED, 3 WIRE</b>		
	DRAWN BY: SAW	DATE: 5/29/24	
	SCALE: NONE	SHEET: 2 OF 3	501



<h1>MIS-501</h1>	DEPARTMENT OF PUBLIC UTILITIES - DIVISION OF POWER CITY OF COLUMBUS, OHIO		
	<b>POLE TO BE WIRED, 3 WIRE</b>		
	DRAWN BY: SAW	DATE: 5/29/24	
	SCALE: NONE	SHEET: 3 OF 3	501