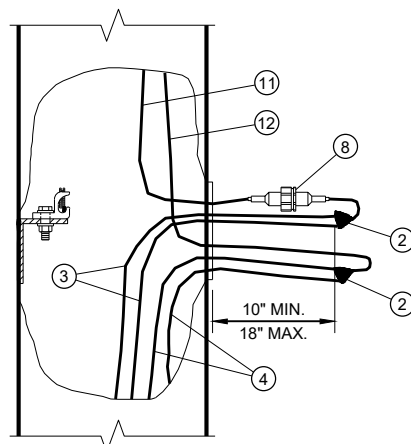
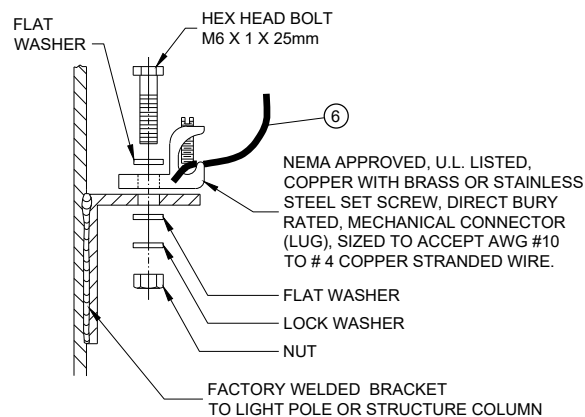


EQUIPMENT GROUNDING CONDUCTOR SLACK



UNGROUND CONDUCTOR SLACK (AND GROUNDED NEUTRAL SLACK IN GROUNDED NEUTRAL SYSTEM)

TYPICAL CONDUCTOR SLACK AT HANDHOLES



HANDHOLE GROUNDING LUG
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN IN THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

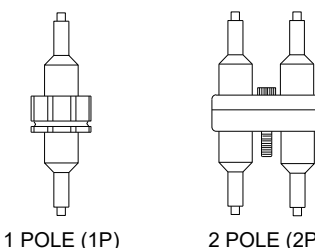
USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT SPLICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE. THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE, BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE, WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL PROVISIONS.

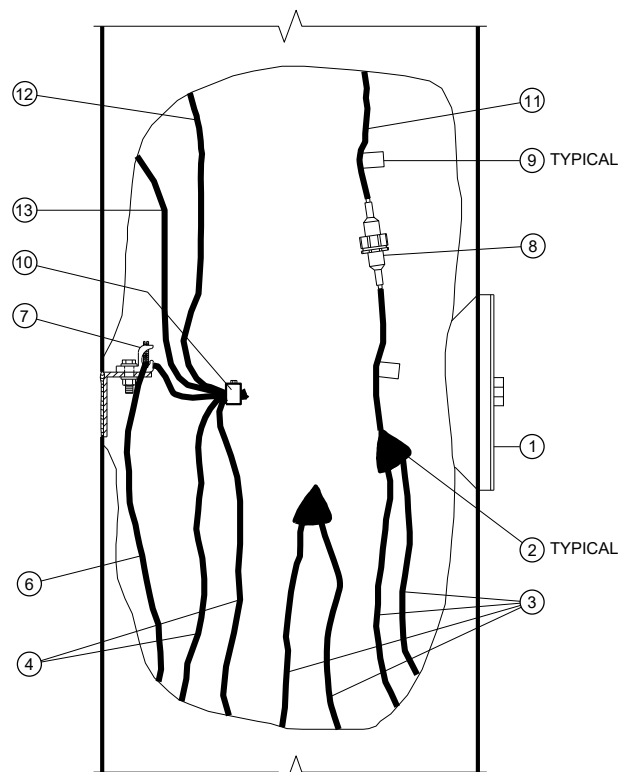


FUSE ASSEMBLIES

CONDUCTOR COLOR CODES

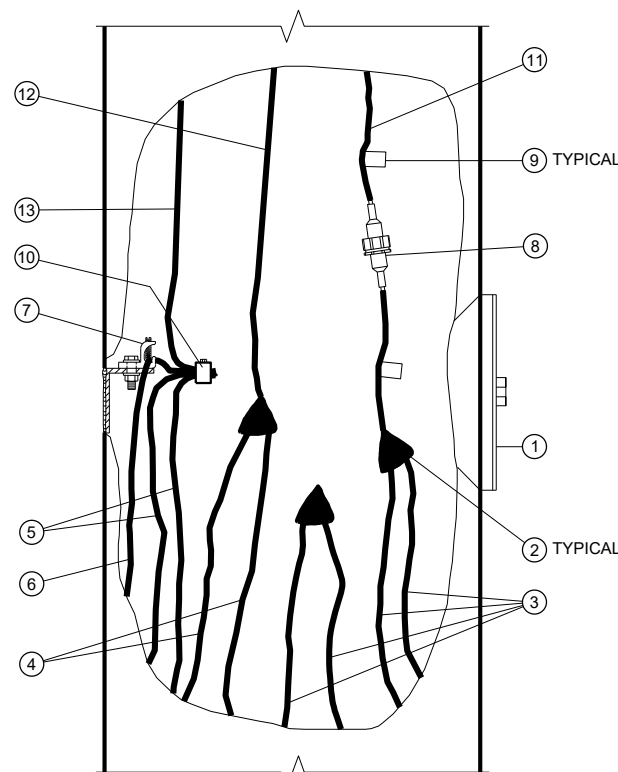
KEY	CONDUCTOR	COLOR
3	UNGROUND LINE WIRE	* WHITE
4	GROUNDED LINE WIRE	GREEN
5	SYSTEM GROUNDING LINE WIRE	BARE
6	GROUNDING ELECTRODE CONDUCTOR	* BARE
11	UNGROUND POLE WIRE	* WHITE
12	GROUNDED POLE WIRE	GREEN
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS. WHERE THE PLANS DO NOT SHOW COLOR CODING, USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK AND RED FOR TWIN LUMINAIRE POLES.



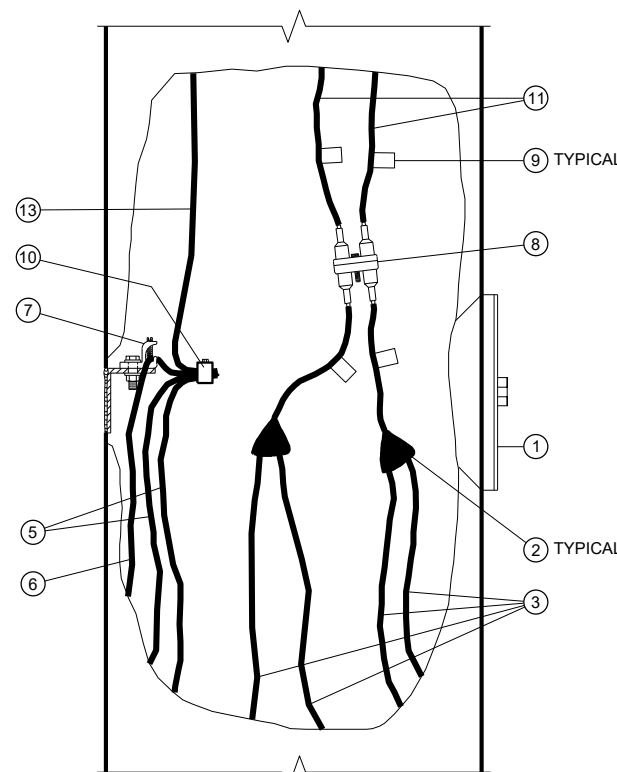
CUTAWAY HANDHOLE DETAIL

GROUNDING NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL

ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL

PHASE TO PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

- ① HANDHOLE AND COVER
- ② INSULATED SPLICE
- ③ UNGROUNDED LINE WIRE
- ④ GROUNDED LINE WIRE
- ⑤ SYSTEM GROUNDING LINE WIRE
- ⑥ GROUNDING ELECTRODE CONDUCTOR
- ⑦ HANDHOLE GROUNDING LUG
- ⑧ FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
- ⑨ CIRCUIT TAG (SEE GENERAL NOTE)
- ⑩ REVERSIBLE PRESSURE OR COMPRESSION GROUNDING CONNECTOR (NOT INSULATED)
- ⑪ UNGROUNDED POLE WIRE
- ⑫ GROUNDED POLE WIRE
- ⑬ EQUIPMENT GROUNDING POLE WIRE

NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.

ELECTRICAL HANDHOLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER

FHWA

Electrical Handhole Wiring

References:

- [FDM15-5 Attachment 30.5](#) and [30.6](#) for conventional symbols.
- Wisconsin State Electrical Code Volume 2 for Isolated Neutral Systems and Phase-to-Phase Systems; Volumes 1 and 2 for Grounded Neutral Systems.
- [Standard Spec. 655](#) Electrical Wiring
- [TSDM 5-1-6](#) Determining Electrical Cable Quantities
- TEOpS X-X-X Cable and Wire Measurement Lengths

Bid items associated with this drawing:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
655.0600 - 0699	Electrical Wire Lighting (AWG)	LF

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

- [SDD 9E1](#) Pole Mountings, sheets "a", "b", "c", "d", "e" and "f"
- [SDD 9E2](#) Freeway Lighting Unit Pole Wiring
- [SDD 9E3](#) Non-Freeway Lighting Unit Pole Wiring
- [SDD 10A1](#) Electrical Handhole Wiring
- [SDD 10A5](#) Electrical Details Ground Mount Light Poles Isolated Neutral Systems
- [SDD 10A6](#) Electrical Details Ground Mount Poles Grounded Neutral Systems
- [SDD 10A7](#) Electrical Details Ground Mount Light Poles Phase-to-Phase Systems
- [SDD 10A8](#) Electrical Details Structure Mount Light Poles Isolated Neutral Systems
- [SDD 10A9](#) Electrical Details Structure Mount Light Poles Grounded Neutral Systems
- [SDD 10A10](#) Electrical Details Structure Mount Light Poles Phase-to-Phase Systems
- [SDD 10A11](#) Electrical Details Median Mount Light Poles Isolated Neutral Systems
- [SDD 10A12](#) Electrical Details Median Mount Light Poles Grounded Neutral Systems
- [SDD 10A14](#) Electrical Details High Mast Lighting
- [SDD 10A15](#) Electrical Details Underdeck Lighting
- [SDD 10A17](#) Poles

Design Notes:

This Standard Detail Drawing (SDD) is to be used in conjunction with SDD's for electrical details for the various types of light poles or other lighting applications. Specify the use of both this SDD and one (or more) from the SDD 10A5 – 10A15 series. SDD 10A5 is the most common and is used for lighting traffic signal intersections in most districts.

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 (414) 322-9606 (Mobile)