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## Index 641-020 Concrete CCTV Pole

### ORIGINATION

**Date:** June 28, 2022

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### COMMENTARY

These proposed changes were developed based on implementing a maintenance service slab for ITS cabinets recommended during the TDH integration into statewide criteria. Language has also been added to Specification 676 for the maintenance service slab.

### COMMENTS AND RESPONSES

**BLACK** = Industry Review Comments    **BLUE** = Standard Plans Response    **GREEN** = Change Made to Index

**Name:** Miguel Villegas

**Date:** 8/17/2022

**COMMENT:** On sheet 6 of 6, maybe the location of the proposed maintenance slab can be shown to be cast against the shaft as opposed to being cast against the conduits. Also, will the Department consider making the maintenance slab of a standard thickness or will it need to be designed by a structural engineer.

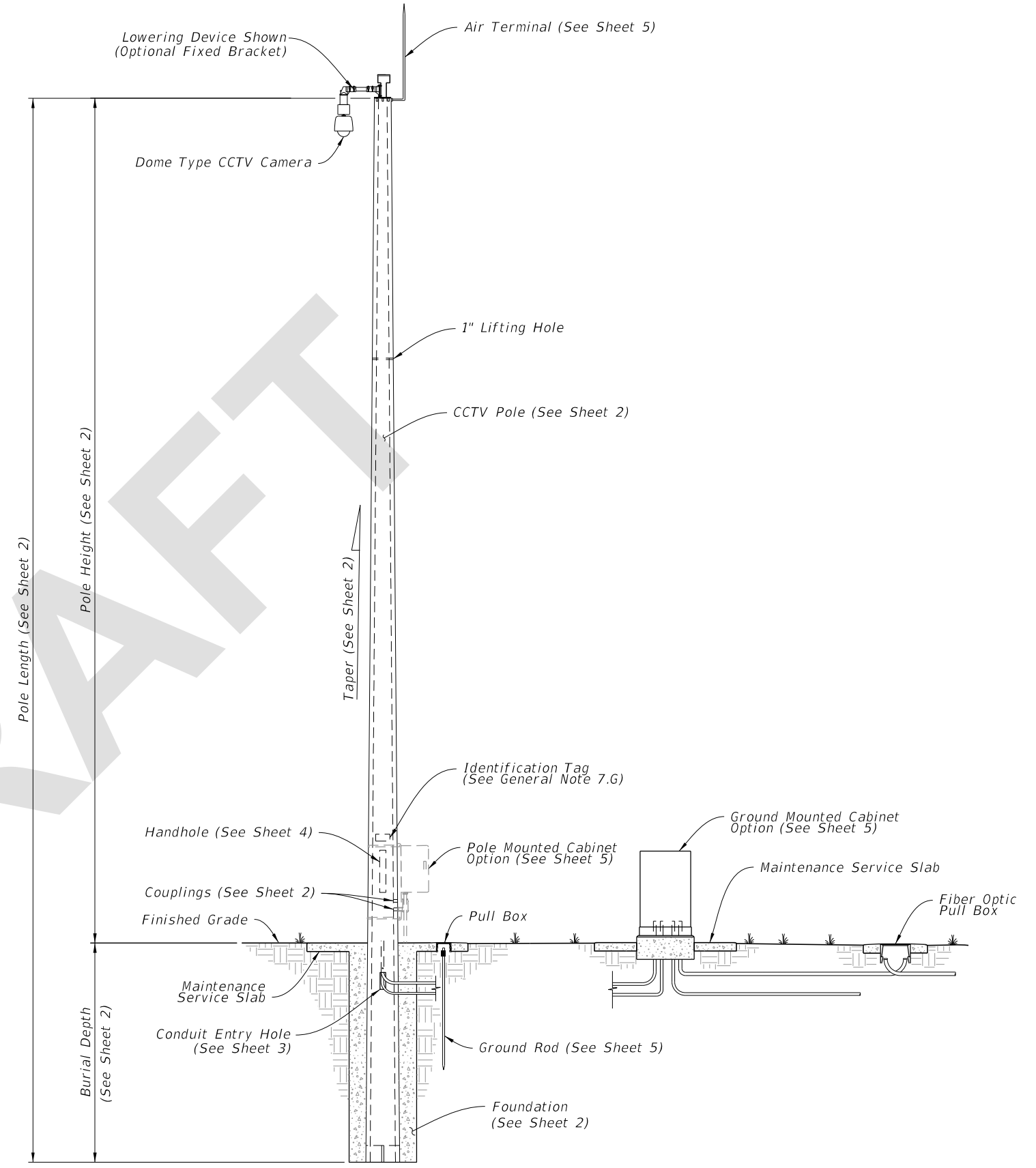
**RESPONSE:** Agree the slab should be shown to be cast against the shaft and the conduits should be adjusted. The maintenance slab is intended to be 6" thick. This is shown in Index 676-010 but will be clarified. We will revise 641-020, 649-020 and 676-010 to show the slab thicknesses accurately.

**CHANGE TO THE INDEX:** Edit slab adjacent to shaft and adjust conduit. Edit pull boxes throughout the index to show 6" aprons to match maintenance service slabs.

*Response Date: 8/23/2022*


**GENERAL NOTES:**

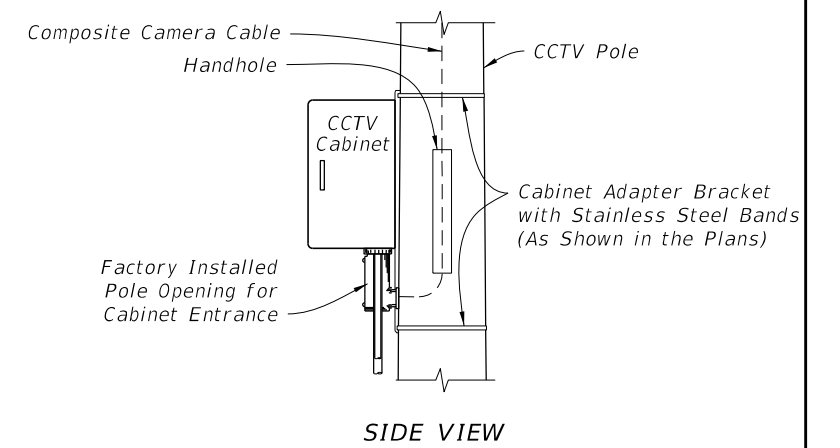
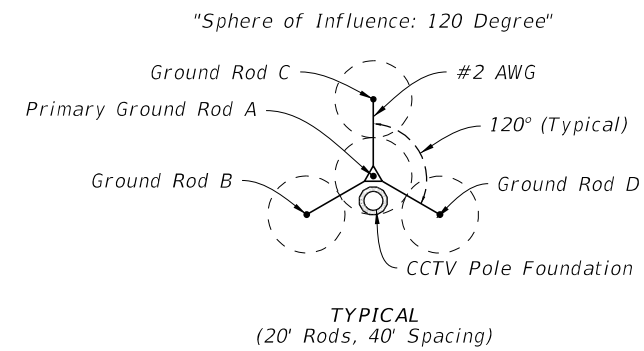
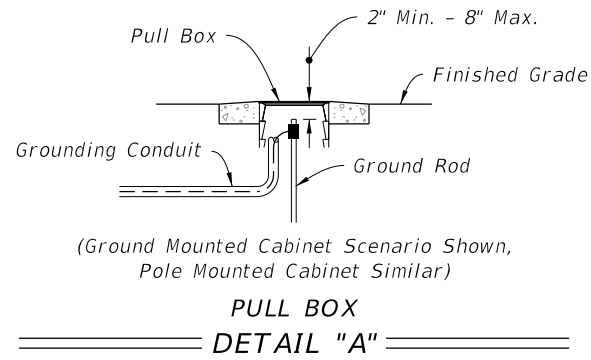
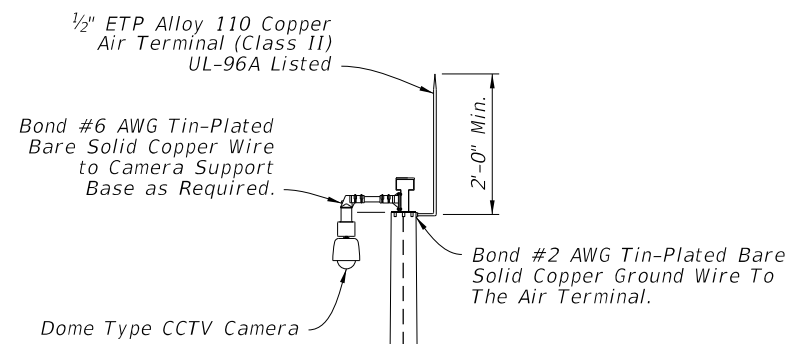
1. Work this Index with Specification 641.
2. This Index is considered fully detailed and no shop drawings are necessary. Submit Shop Drawings for minor modifications not detailed in the Plans.
3. Provide either round or 12-sided Poles.
4. See Index 635-001 for additional Pull Box details.
5. See Index 676-010 for cabinet installation details.
6. Materials:
  - A. Pole: Use Class VI concrete with 6 ksi minimum strength at transfer.
  - B. Prestressing Strands: ASTM A416, Grade 270 low relaxation.
  - C. Reinforcing Steel: ASTM A615, Grade 60
  - D. Spiral Reinforcing: ASTM A1064 Cold-Drawn
  - E. Bolts: ASTM F1554, Grade 55  
Nuts: ASTM A563, Grade A Heavy Hex  
Washers: ASTM F436
  - F. Steel plates and Pole Cap: ASTM A36 or ASTM A709, Grade 50
  - G. Galvanization: Bolts, nuts and washers: ASTM F2329  
All other steel: ASTM A123
7. Fabrication:
  - A. Cut the tip end of the prestressed strand first or simultaneously with the butt end.
  - B. For spiral reinforcing, one turn is required for spiral splices and two turns are required at the top and bottom of poles.
  - C. For Reinforcing Steel, lap splice to consist of a 3'-0" lap length at each splice. No more than two opposing rebar to be spliced at the same cross section. Stagger lap splices as needed.
  - D. Provide a Class 3 surface finish in accordance with Specification 400.
  - E. Provide a 1" minimum cover.
  - F. Provide handhole and coupler cover plates made of non-corrosive materials. Attach cover plates to poles using lead anchors or threaded inserts embedded in the poles in conjunction with round headed chrome plated screws.
  - G. Provide Identification Markings on the poles where indicated on the following sheets. Include the following information using inset numerals with 1" height or as approved in the Producers' Quality Control Program:
    - Financial Project ID
    - Pole Manufacturer
    - Pole Length
  - H. Tie ground wires to the interior of reinforcing steel as necessary to prevent displacement during concreting operations.
  - I. Storage, Handling and Erection locations shown may vary within  $\pm 3"$ .
8. Pole Installation:
  - A. Install the Pole plumb.
  - B. Install Pole with the handhole located away from approaching traffic.
9. Cabinet Installation:
  - A. Splice fiber optic cables in cabinet to preterminated patch panel.
  - B. Furnish and install Surge Protection Devices (SPDs) on all cabling in cabinet.
  - C. Furnish and install secondary SPDs protection on outlets for equipment in cabinet.
  - D. Ensure that all electronic equipment power is protected and conditioned with SPDs.
  - E. Ensure that equipment cabinet is bonded to CCTV pole grounding system.
  - F. Install the pole mounted cabinet with the hinges next to the pole.
  - G. Sizes and types of conduits and innerducts for network communications between the pullbox and cabinet are stated in the Contract Documents.
10. Lowering Device Installation:
  - A. Place the lowering cable that moves within the pole in an interior conduit to prevent it from tangling or interfering with any electrical wire that is in the pole. Ensure that any electrical wire within the pole is routed securely and free from slack.
  - B. Mount lowering arm perpendicular to the roadway or as shown in the plans. Position CCTV pole so that the camera can be safely lowered without requiring lane closures.
  - C. Coordinate all lowering device hardware requirements (including Tenon, Tenon mounting plates, parking stand, etc.) with lowering device manufacturer.



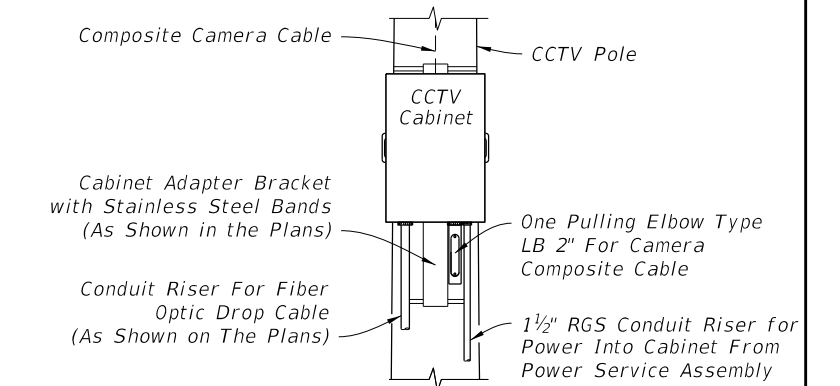
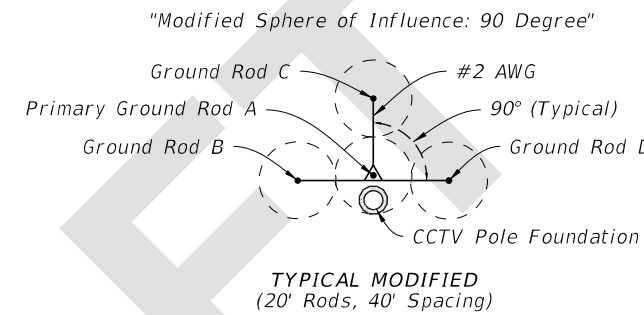
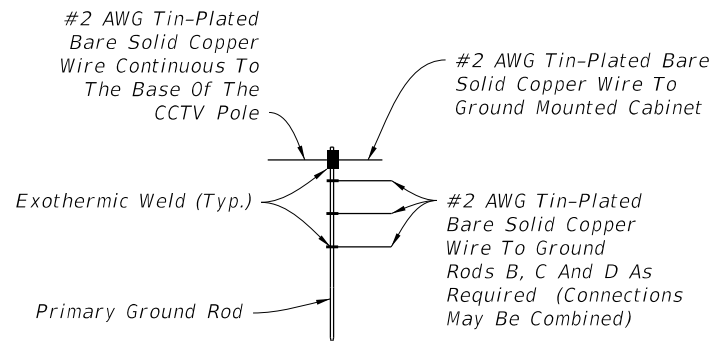
CCTV POLE ASSEMBLY

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LAST REVISION 11/01/22	REVISION	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	CONCRETE CCTV POLE	INDEX 641-020	SHEET 1 of 5
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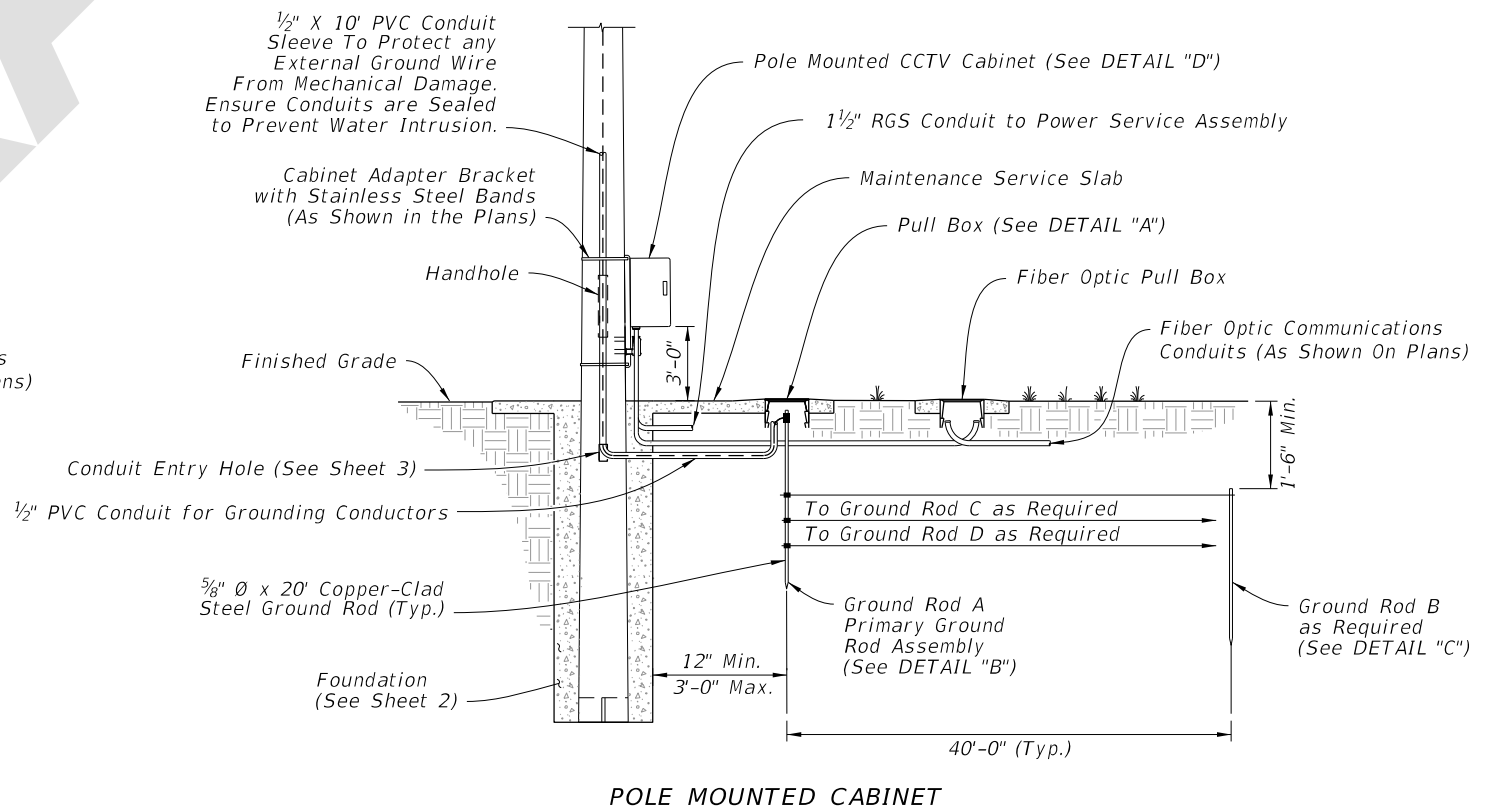
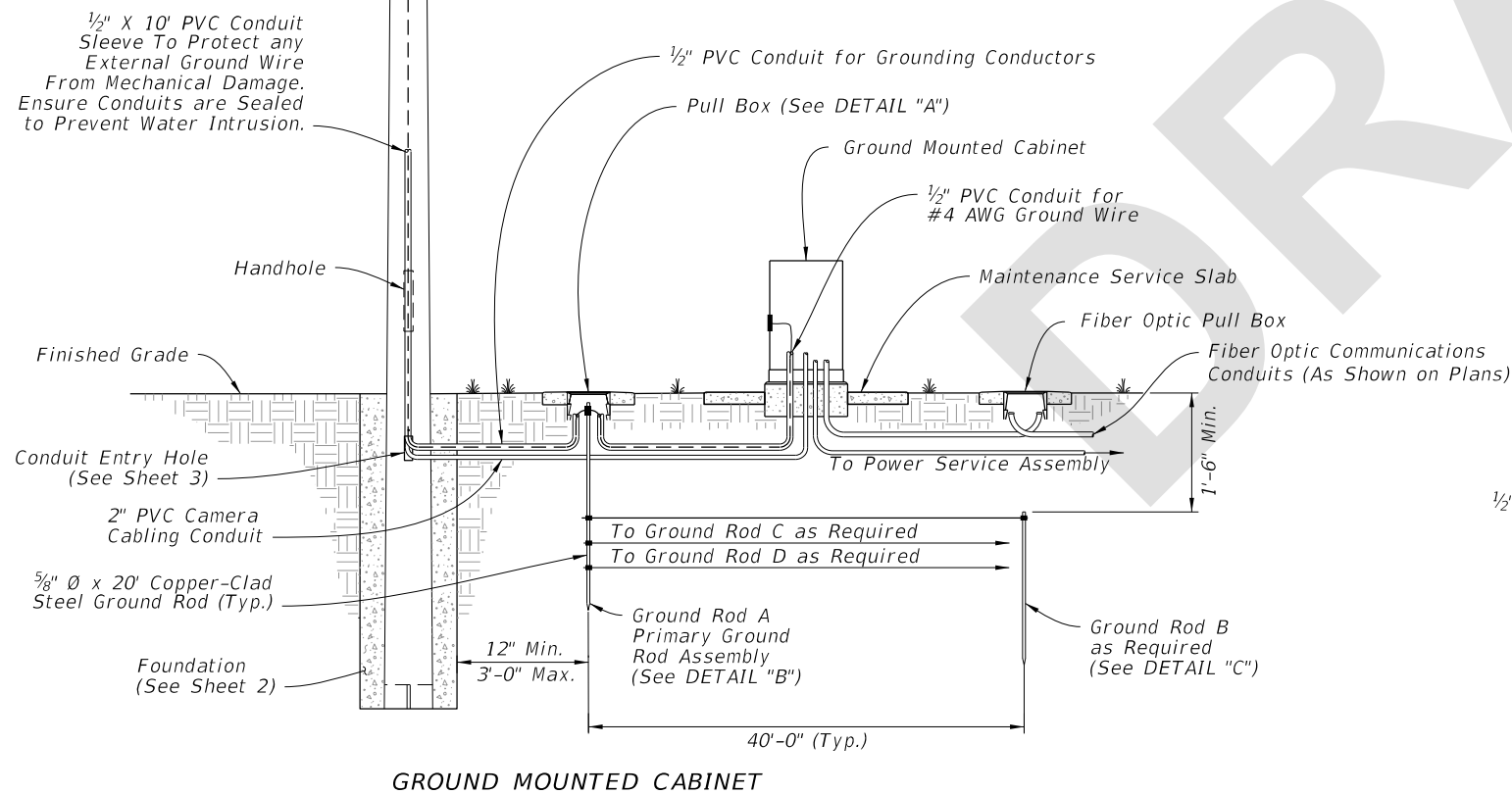
CCTV Pole (See Sheet 3)  
#2 Wire may be Routed Internally or Externally In Accordance With The Plans



PRIAMARY GROUND ROD ASSEMBLY  
DETAIL "B"

GROUND ROD ARRAY PLACEMENT  
DETAIL "C"

FRONT VIEW  
DETAIL "D"



GROUND MOUNTED CABINET

POLE MOUNTED CABINET

CONCRETE CCTV POLE GROUNDING

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