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. Install pole plum.

4. Provide either round or 12-sided Poles.

5. See Index 635-001 for additional details for Pull Boxes.

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 A126 Cold-Drawn.
E. Bolts: ASTM F1554, Grade 55.
F. Nuts: ASTM A563, Grade A Heavy Hex
G. Washers: ASTM F239
H. Steel plates and Pole Cap: ASTM A99 or ASTM A709, Grade 50.
I. Galvanized Bolts, nuts and washers: ASTM F2239.
J. All other steel: ASTM A123.

7. Pole 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 rebars 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 concrete operations.

1. Storage, Handling and Erection locations shown may vary within ± 3".

8. 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. Provide Secondary SPDs protection on outlets for equipment in cabinet.
H. Ensure that electronic equipment power is protected and conditioned with SPDs.

9. 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 wires 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 slats, etc.) with lowering device manufacturer.
NOTES:
1. Diameter of 12-sided poles are measured flat to flat.
2. Total Taper applies to pole, strands, and reinforcing.
3. For 12-Sided Pole and Round Roles Option 2, Stress prestressed strand to 70% of Ultimate before transfer. For Round Pole Option 3, Stress prestressed strand to 60% of Ultimate before transfer.
4. Pole Design Tables, Burial Depth is based on level ground (flatter than 1:5). Increase the burial depth in accordance with the Additional Burial Depth Due To Ground Slope table for foundations with slopes 1:5 and steeper. Use the higher value for slope or diameter values that fall between those shown on the table.

### ADDITIONAL BURIAL DEPTH DUE TO GROUND SLOPE

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<td>3</td>
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<td>1:3</td>
<td>4</td>
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<td>1:2</td>
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### 12-SIDED POLE DESIGN TABLE

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### CAMERAS

- Dome Type CCTV Camera
- Fixed Mounting Bracket
- Camera Lowering Device

### POLES

- Concrete Pole
- Pole Identification Markings
- Conduit Entry Hole
- Handhole Box
- Ground Lug
- 1" Lifting Hole
- 12-Sided Pole
- Round Pole Option 1
- Round Pole Option 2
- Round Pole Option 3

### CONDUITS

- Interior Conduit For Pole With Lowering Device
- Air Terminal (See Sheet 5)
- Camera Plane
- Conduit Entry Hole
- Ground Lug
- Handhole Box
- 1" Lifting Hole

### FOUNDATIONS

- Class NS Concrete
- Pole And Foundation Details Same As "Camera Lowering Device" Detail
- Handhole With Cover At 90° To Handhole Box
- 2" Couplings With Caps At 90° To Handhole Box

### DESIGN TABLES

- 12-sided Pole Design Table
- Round Pole Design Table
- Additional Burial Depth Due To Ground Slope

### NOTES

- Values that fall between those shown on the table.
- For foundations with slopes 1:5 and steeper, use the higher value for slope or diameter values.
- Additional Burial Depth Due To Ground Slope table.

### PLAN VIEW

- 1" Lifting Hole
- 2" Couplings
- Camera Lowering Device
- Fixed Mounting Bracket

### ELEVATION

- Camera Lowering Device
- Fixed Mounting Bracket
- Dome Type CCTV Camera
- Camera Cable Entry Point
- 50% Min. Inside Diameter Of Pole Raceway
- 2" Coupling With Cap At 90° To Handhole Box

### LAST REVISION

11/01/17
1. Install all handhole and opening covers prior to shipping.
2. Install ½" Ø x 5" long stud with hex nut in insert before shipment.
3. As an alternate, embed 6-½" Ø x 18" stainless steel threaded rods with a threaded nut. At top of rod, thread a coupling nut to attach plate at 4-½" x 1½" stainless steel bolts.
4. Handhole frame may be Cast Aluminum 356.2.