Origination Form

Proposed Revisions to a Standard Plans Index
(Please provide all information — Incomplete forms will be returned)

Contact Information:
Date: January 13, 2021
Originator: Malcolm Tomatani
Phone: (850) 921-7305
Email: malcolm.tomatani@dot.state.fl.us

Summary of the changes:
Sheet 1: Move Note 3 to new Note 7; Added Note 7; Renumbered General Notes; Dashed the Identification Tag and the handhole in the CCTV POLE ASSEMBLY detail.
Sheet 2: Updated the Assembly detail to match Sheet 1; Realigned the PLAN VIEW detail to match the Pole direction; Dashed the Identification Tag and the Handhole in the ELEVATION detail.
Sheet 3: Updated the Assembly detail to match Sheet 1; Moved the Spiral wire note in the SPIRAL REINFORCING ELEVATION detail to the Notes and added See Note 1 to the Spiral Reinforcing call out; Dashed the Conduit Entry Holes in the POLE ELEVATION detail to be consent with the Pole's view.
Sheet 4: Updated the Assembly detail to match Sheet 1; Added Note 5.
Sheet 5: Added Handhole to the CONCRETE CCTV POLE GROUNDING detail and to DETAIL "D"-SIDE VIEW detail.

Commentary / Background:
The location of the couplings shown on the CCTV Pole Assembly on sheets 1 and 2 do not correlate with the location of the couplings shown on the Pole Elevation and Handhole Detail shown on sheets 3 and 4. The handhole should be located downstream of the traffic so all details and notes will be updated for the proper representation.

Other Affected Offices / Documents: (Provide name of person contacted)
Yes No
☑ ☐ Other Standard Plans – Rick Jenkins - Index 649-020
☐ ☑ FDOT Design Manual –
☐ ☑ Basis of Estimates Manual –
☐ ☑ Standard Specifications –
☐ ☑ Approved Product List –
☐ ☑ Construction –
☐ ☑ Maintenance –

Origination Package Includes:
(Email or hand deliver package to Rick Jenkins)
Yes N/A
☑ ☐ Redline Mark-ups
☑ ☑ Proposed Standard Plan Instruction (SPI)
☑ ☑ Revised SPI
☑ ☑ Other Support Documents

Implementation:
☐ Design Bulletin (Interim)
☐ DCE Memo
☐ Program Mgmt. Bulletin
☑ FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form
Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us
GENERAL NOTES:
1. This Index is considered fully detailed and no shop drawings are necessary. Submit Shop Drawings for minor modifications not detailed in the Plans.
2. See Index 635-001 for additional details for Pull Boxes.
3. Provide either round or 12-sided Poles.
4. See Index 635-001 for additional details for Pull Boxes.
5. Materials:
   A. Pole: Use Class VI concrete with 8 ksi minimum strength at transfer.
   B. Prestressing Strands: ASTM A416, Grade 80 low relaxation.
   C. Reinforcing Steel: ASTM A615, Grade 60
   D. Spiral Reinforcing: ASTM A136 Cold Drawn
   E. Bolts: ASTM F1554, Grade 55
      Nuts: ASTM A563, Grade A Heavy Hex
      Washers: ASTM F517
   F. Steel plates and Pole Cap: ASTM A36 or ASTM A709, Grade 50
   G. Galvanization Coated Bolts, nuts and washers: ASTM F2329
   All other steel: ASTM A123

6. 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 splices 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. For Spiral reinforcing, 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.
   E. Provide a 1' minimum cover.
   F. Provide handles 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:
      F. Site Location
      G. Financial Project ID
      H. Pole Manufacturer Pole Length
      I. Storage, Handling and Erection locations shown may vary within ± 3".

7. Storage, Handling, and Erection:
   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 equipment cabinet is bonded to CCTV pole grounding system.
   E. Splice Fiber optic cables in cabinet to preterminated patch panel.
   F. Install the pole mounted cabinet with the hinges next to the pole.
   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:
      F. Site Location
      G. Financial Project ID
      H. Pole Manufacturer Pole Length
      I. Storage, Handling and Erection locations shown may vary within ± 3".

8. Pole Installation:
   A. Install the pole plumb
   B. Install pole with the handhole located away from approaching traffic.

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 tap 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.
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. 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 DEPT

Due To Ground Slope

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<th>Slope</th>
<th>Additional Burial Depth (feet)</th>
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</tr>
<tr>
<td>1:4</td>
<td>3</td>
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<tr>
<td>1:3</td>
<td>4</td>
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</table>

12-SIDED POLE DESIGN TABLE

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<th>Pole Height (ft)</th>
<th>Pole Weight (ft)</th>
<th>Burial Depth (ft)</th>
<th>Design Option</th>
<th>Total Taper (in/ft)</th>
<th>Void</th>
<th>Min. Wall Thickness</th>
<th>Min. Wall Diameter</th>
<th>Butt Thickness</th>
<th>Butt Diameter</th>
<th>Strand Pattern</th>
<th>Diameter (in)</th>
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</tr>
</tbody>
</table>

Pole And Foundation Details Same as "Camera Lowering Device" Detail.

Fixed Mounting Bracket

Dashed Identification Tag and Handhole

Handhole with Cover (See General Note 7)

Handhole With Cover - 2" From Handhole Arm and Less Than Approaching Traffic

2-2" Couplings With Caps At 90° To Handhole Box

Conduit Entry Hole

1" Lifting Hole

2" Couple For Pole Without Lowering Device

Camera Plane

Air Terminal (See Sheet 5)

Dome Type CCTV Camera

Dome Type CCTV Camera (Camera Cable Entry Point)

% Min. Inside Diameter Of Pole Raceway

1" Lifting Hole

2" Coupling With Cap At 90° To Handhole Box

Interoffice Conduit For Pole With Lowering Device

Class NS Concrete

Concrete Pole

Realigned to match Pole direction

PLAN VIEW

ELEVATION

Fixed Mounting Bracket

Notes:
- Handhole with Cover (See General Note 7)
- Handhole With Cover - 2" From Handhole Arm and Less Than Approaching Traffic
- Dashed Identification Tag and Handhole
- Camera Lowering Device (See Sheet 5)
- Dome Type CCTV Camera
- Dome Type CCTV Camera (Camera Cable Entry Point)
NOTES:
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 6-½" x ½" stainless steel bolts.
4. Handhole frame may be Cast Aluminum 356.2.

Added: Note 5: Work these details with Data Tables on Sheet 2.
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 details for Pull Boxes.
5. Materials:
   A. Pole: Use Class VI concrete with 6 ksi minimum strength at transfer.
   B. Prestressing Strands: ASTM A416, Grade 70 low relaxation.
   C. Reinforcing Steel: ASTM A615, Grade 60
   D. Spiral Reinforcing: ASTM A1064 Cold Drawn
   E. Bolts: ASTM F1554, Grade 55
   F. Nut: ASTM A425, Grade A Heavy Hex
   G. Washers: ASTM F1971
   H. 1" Lifting Hole
   I. Dome Type CCTV Camera
   J. Lowering Device Shown (Optional Fixed Bracket)
6. 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 5'-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. Provided a Class 3 surface finish in accordance with Specification 400.
   E. Provide a 2" 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.
7. Pole Installation:
   A. Install the Pole plumb.
   B. Install Pole with the handhole located away from approaching traffic.
8. Cabinet Installation:
   A. Splice Fiber optic cables in cabinet to terminated 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 electrical 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 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.
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 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.
10. Quality Control Program:
    A. 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.
    B. For spiral reinforcing, one turn is required for spiral splices and two turns are required at the top and bottom of poles.
    C. Cut the tip end of the prestressed strand first or simultaneously with the butt end.
    D. For spiral reinforcing, one turn is required for spiral splices and two turns are required at the top and bottom of poles.
    E. For Reinforcing Steel, lap splice to consist of a 5'-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.
    F. Provided a Class 3 surface finish in accordance with Specification 400.
    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.

CONCRETE CCTV POLE
NOTES:
1. Spiral wire may be wrapped in two directions given that an equivalent area of spiral wire is provided to that shown in this Index and the lower requirements are met.
2. Work these details with Data Tables on Sheet 2.
3. Strands and rebar shown are continuous from Tip End to Butt End.

LEGEND:
- Prestressed Strand

12-SIDED CONCRETE POLE

SECTION A-A
STRAIND PATTERN 1

SECTION A-A
STRAIND PATTERN 2

SECTION A-A
STRAIND PATTERN 3
(Option 1)

SECTION A-A
STRAIND PATTERN 4
(Option 2)

ROUND CONCRETE POLE
NOTES:
1. Install all handhole and opening covers prior to shipping.
2. Install ½" Ø x 3" long stud with hex nut in insert before shipment.
3. As an alternate, embed 4-½" Ø x 18" stainless steel threaded rods with a threaded nut. At top of rod, thread a coupling nut to attach plate with 4-½" x 18" stainless steel bolts.
4. Handhole frame may be Cast Aluminum 356.2.
5. Work these details with Data Tables on Sheet 2.

ASSEMBLY

TENON CAP

TENON COVER

POLE TOP DETAIL

HANDHOLE DETAIL

DESCRIPTION:
5. Work these details with Data Tables on Sheet 2.
4. Handhole frame may be Cast Aluminum 356.2.
3. As an alternate, embed 4-½" Ø x 18" stainless steel threaded rods with a threaded nut. At top of rod, thread a coupling nut to attach plate with 4-½" x 18" stainless steel bolts.
2. Install ½" Ø x 5" long stud with hex nut in insert before shipment.
1. Install all handhole and opening covers prior to shipping.