

Origination Form

Proposed Revisions to a Standard Plans Index

| | | | |
|--------------------|-------------------------------|-------------------------|---------------------------|
| Originator: | Turley, Joshua | Index Number: | 550-012 |
| Date: | 5/7/2024 | Sheet Number(s): | 2 |
| E-mail: | Joshua.Turley@dot.state.fl.us | Index Title: | BRIDGE FENCING (ENCLOSED) |

Summary of the changes:

Sheet 2: Added shim info to the TABLE OF POST ATTACHMENT COMPONENTS

Commentary/Background:

We needed to add some limiting parameters to edges shims so that they get installed correctly.

| Other Affected Documents/Offices | Person Contacted | Affected (Yes/No) |
|----------------------------------|------------------|-------------------|
| Other Standard Plans | | No |
| Florida Design Manual | | No |
| Standard Specifications | | No |
| Basis of Estimates Manual | | No |
| Approved Product List | | No |
| Construction Office | | No |
| Maintenance Office | | No |

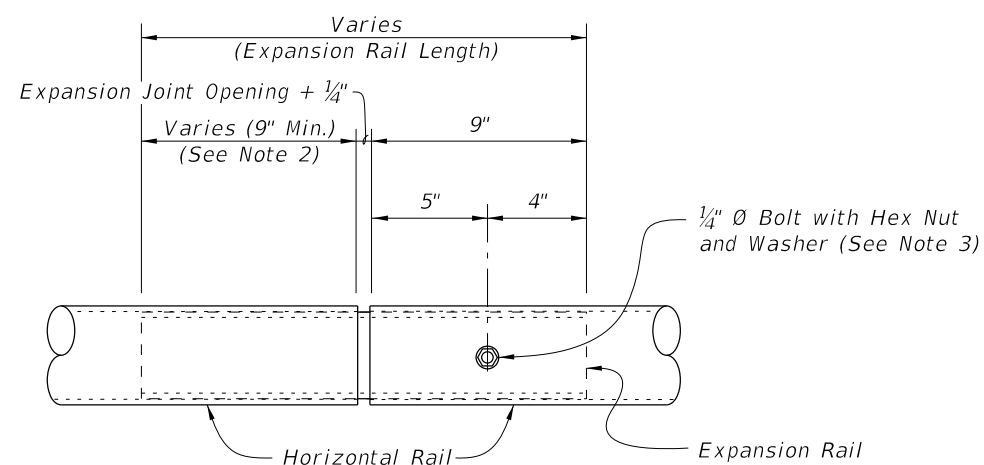
Implementation

["FY-Standard Plans (Next Release)"]

| TABLE OF CHAIN LINK FENCE COMPONENTS | | |
|---|------------------|--|
| COMPONENT | ASTM DESIGNATION | COMPONENT INFORMATION |
| Posts | F1083 | Galvanized Steel Pipe - 3" NPS, Schedule 40 Regular Grade |
| Horizontal Rails and Internal Sleeves | F1083 | Galvanized Steel Pipe - 2½" NPS, Schedule 40 Regular Grade |
| Expansion Rails | F1083 | Galvanized Steel Pipe - 2" NPS, Schedule 40 Regular Grade |
| Chain Link Fabric (2" mesh with knuckled bottom selvages) | A392 | Zinc Coated Steel - 9 gage (coated wire diameter), Class 2 Coating |
| | A491 | Aluminum Coated Steel - 9 gage (coated wire diameter) |
| | F668 | Polyvinyl Chloride (PVC) Coated Steel - 9 gage Class 2b Zinc Coated Wire |
| Tension Wire | A824 & A817 | Type II (Zinc Coated Steel Wire) - 7 gage, Class 4 Coating Type I (Aluminum Coated Steel Wire) - 7 gage |
| Tie Wires | F626 | Zinc Coated Steel Wire - 9 gage |
| Hog Rings | F626 | Zinc Coated Steel Wire - 12 gage |
| Brace Bands | F626 | 12 gage (Min. thickness) x ¾" (Min. width) Steel Bands (Beveled or Heavy) |
| Tension Bars | F626 | ¾" (Min. thickness) x ¾" (Min. width) x Variable Height Steel Bars ~ Height = Tangent or Hoop Length - Barrier or Parapet Height - 2" max. |
| Tension Bands | F626 | 14 gage (Min. thickness) x ¾" (Min. width) Steel Bands |
| Miscellaneous Fence Components | F626 | Zinc Coated Steel ~ (includes horizontal rail ends, combination rail ends, boulevard clamps and all other miscellaneous fittings and hardware) |
| Bolts | A307 | ¾" Ø x 4¼" Hex Head Bolts for Internal Sleeve connections ¼" Ø x 4¼" Hex Head Bolts for Expansion Rail connections |
| Nuts | A563 | Hex Nuts for Internal Sleeve and Expansion Rail connections |
| Washers | F436 | Flat Washers for Internal Sleeve and Expansion Rail connections |

| TABLE OF POST ATTACHMENT COMPONENTS | | |
|-------------------------------------|--|--|
| COMPONENT | ASTM DESIGNATION | COMPONENT INFORMATION |
| Pipe Clamps | A36 or A709 Grade 36 | ¼" Steel R |
| Base Plates | A36 or A709 Grade 36 | ¾" Steel R |
| Shim Plates | A36 or A709 Grade 36 or B209 Alloy 6061-T6 or B221 Alloy 6063-T5 | Plate thicknesses as required; Holes in shim plates will be ¾" Ø |
| Spacers | - | Plate thickness varies based on Traffic Railing type. (See Detail "A") |
| Pipe Clamp Connection | Adhesive Anchor Rods | F1554 Grade 36 Fully threaded Headless Anchor Rods ~ ⅝" Ø x 6" (no spacer) or ⅝" Ø x (6" + spacer thickness) |
| | C-I-P Anchor Rods | F1554 Grade 36 Hex Head Anchor Rods ~ ⅝" Ø x 6" (no spacer) or ⅝" Ø x (6" + spacer thickness) |
| Base Plate Connection | Adhesive Anchor Rods | F1554 Grade 36 Fully threaded Headless Anchor Rods ~ ⅞" Ø x 14½" |
| | C-I-P Anchor Rods | F1554 Grade 36 Hex Head Anchor Rods ~ ⅞" Ø x 14½" |
| Bolts | A307 | ¾" Ø x 4¾" Hex Head Bolts for Pipe Clamp Connections to Posts |
| Nuts | A563 | Hex Nuts for Pipe Clamp and Base Plate Connections |
| Washers | F436 | Flat Washers for Pipe Clamp and Base Plate Connections |
| Bearing Pads (Plain) | - | In accordance with Specification Section 932 for Ancillary Structures |

ADDED: For edge shims match the edge length of the base plate with a min. width of 3/4". Apply adhesive bonding material bed of 1-1/2" (Min.) wide



EXPANSION RAIL DETAIL

NOTES:

- Expansion Rails are required at expansion joint locations where the total movement exceeds 1". Install expansion rails midway between the fence posts spanning the expansion joint.
- An Expansion Assembly is required where the total joint movement exceeds 6". Expansion Assembly includes Expansion Rails and two pull posts (see Sheet 3). When the Expansion Joint Opening is greater than 9" add an additional length to the free end of the Expansion Rail equal to the difference between the Expansion Joint Opening and 9".
- Install nut for the expansion rail finger-tight. The nut will fully engage bolts with a minimum of one bolt thread extending beyond the nuts. Distort the first thread on the outside of the nut to prevent loosening.

POST ATTACHMENT NOTES

ANCHOR RODS, NUTS AND WASHERS:

After the nuts have been tightened, distort the Anchor Rod threads to prevent removal of the nuts. Coat distorted threads and exposed trimmed ends of anchors with a galvanizing compound in accordance with Specification Section 562.

COATINGS:

Hot-dip galvanize all Nuts, Washers, Bolts, C-I-P Anchor Rods, Adhesive Anchors and Fence Framework (Posts, Internal Sleeves, Shim Plates, Base Plates, Pipe Clamps and Spacers) in accordance with Specification Section 962. Hot-dip galvanize Fence Framework after fabrication.

ADHESIVE-BONDED ANCHORS AND DOWELS:

Adhesive Bonding Material Systems for Anchors and Dowels will comply with Specification Section 937 and be installed in accordance with Specification Section 416. Cutting of reinforcing steel is permitted for drilled hole installation.

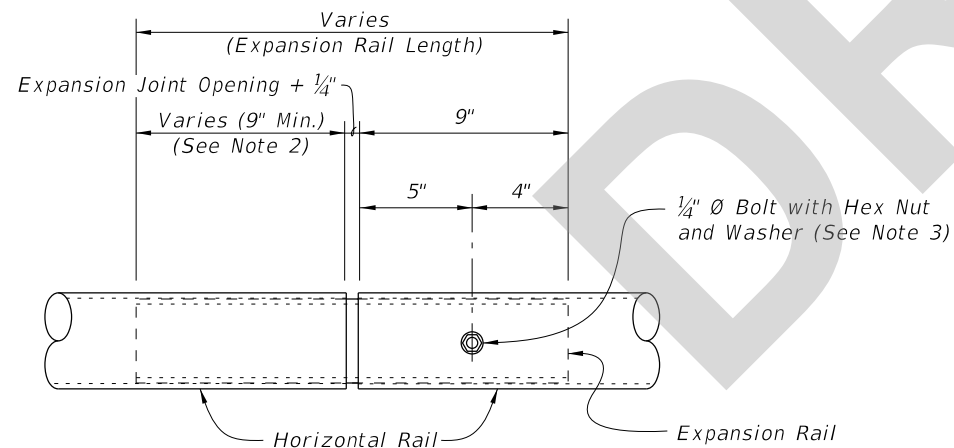
WELDING:

All welding will be in accordance with the American Welding Society Structural Welding Code (Steel) ANSI/AWS D1.1 (current edition). Weld metal will be E60XX or E70XX. Nondestructive testing of welds is not required.

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| Posts | F1083 | Galvanized Steel Pipe - 3" NPS, Schedule 40 Regular Grade |
| Horizontal Rails and Internal Sleeves | F1083 | Galvanized Steel Pipe - 2 1/2" NPS, Schedule 40 Regular Grade |
| Expansion Rails | F1083 | Galvanized Steel Pipe - 2" NPS, Schedule 40 Regular Grade |
| Chain Link Fabric (2" mesh with knuckled bottom selvages) | A392 | Zinc Coated Steel - 9 gage (coated wire diameter), Class 2 Coating |
| | A491 | Aluminum Coated Steel - 9 gage (coated wire diameter) |
| | F668 | Polyvinyl Chloride (PVC) Coated Steel - 9 gage Class 2b Zinc Coated Wire |
| Tension Wire | A824 & A817 | Type II (Zinc Coated Steel Wire) - 7 gage, Class 4 Coating |
| | | Type I (Aluminum Coated Steel Wire) - 7 gage |
| Tie Wires | F626 | Zinc Coated Steel Wire - 9 gage |
| Hog Rings | F626 | Zinc Coated Steel Wire - 12 gage |
| Brace Bands | F626 | 12 gage (Min. thickness) x 3/4" (Min. width) Steel Bands (Beveled or Heavy) |
| Tension Bars | F626 | 3/16" (Min. thickness) x 3/4" (Min. width) x Variable Height Steel Bars ~ Height = Tangent or Hoop Length - Barrier or Parapet Height - 2" max. |
| Tension Bands | F626 | 14 gage (Min. thickness) x 3/4" (Min. width) Steel Bands |
| Miscellaneous Fence Components | F626 | Zinc Coated Steel ~ (includes horizontal rail ends, combination rail ends, boulevard clamps and all other miscellaneous fittings and hardware) |
| Bolts | A307 | 3/8" Ø x 4 1/4" Hex Head Bolts for Internal Sleeve connections 1/4" Ø x 4 1/4" Hex Head Bolts for Expansion Rail connections |
| Nuts | A563 | Hex Nuts for Internal Sleeve and Expansion Rail connections |
| Washers | F436 | Flat Washers for Internal Sleeve and Expansion Rail connections |

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| Base Plates | A36 or A709 Grade 36 | 3/4" Steel R |
| Shim Plates | A36 or A709 Grade 36 or B209 Alloy 6061-T6 or B221 Alloy 6063-T5 | Plate thicknesses as required. Holes in shim plates will be 3/4" Ø. For edge shims match the edge length of the base plate with a min. width of 3/4". Apply adhesive bonding material bed of 1-1/2" (Min.) wide |
| Spacers | - | Plate thickness varies based on Traffic Railing type. (See Detail "A") |
| Pipe Clamp Connection | Adhesive Anchor Rods | F1554 Grade 36 Fully threaded Headless Anchor Rods ~ 5/8" Ø x 6" (no spacer) or 5/8" Ø x (6" + spacer thickness) |
| | C-I-P Anchor Rods | F1554 Grade 36 Hex Head Anchor Rods ~ 5/8" Ø x 6" (no spacer) or 5/8" Ø x (6" + spacer thickness) |
| Base Plate Connection | Adhesive Anchor Rods | F1554 Grade 36 Fully threaded Headless Anchor Rods ~ 7/8" Ø x 14 1/2" |
| | C-I-P Anchor Rods | F1554 Grade 36 Hex Head Anchor Rods ~ 7/8" Ø x 14 1/2" |
| Bolts | A307 | 3/8" Ø x 4 3/4" Hex Head Bolts for Pipe Clamp Connections to Posts |
| Nuts | A563 | Hex Nuts for Pipe Clamp and Base Plate Connections |
| Washers | F436 | Flat Washers for Pipe Clamp and Base Plate Connections |
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WELDING:

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