**FENCING NOTES**

**FENCE APPLICATION:**
This bridge fence can only be used on sidewalk installations separated from traffic by a traffic railing.

**FENCE INSTALLATION:**
Install posts plumb (within a tolerance of ± 1/8") using shim plates as required to achieve plumb. The required quantity and thickness of shim plates will be determined in the field. Install chain link fencing in accordance with ASTM F567 as applicable.

**CONCRETE PARAPET DETAILS:**
See Index 521-820 – Pedestrian/Bicycle Bullet Railing for Concrete Parapet details. Provide fencing in lieu of aluminum bullet railing as shown on Index 521-820.

**LIMITS OF FENCING:**
Limits of fencing are from the beginning of approach slab at Begin Bridge to the end of approach slab at End Bridge, unless otherwise shown in the plans.

**PAYMENT:**
Payment will be made under Fencing, Type R. Payment includes posts, horizontal and expansion rails, brace bands, rail ends, combination rail ends, boulevard clamps, chain link fabric, ties, tension bars and bands, post and loop caps, base plates, anchor rods, bolts, nuts, washers, shim plates, neoprene pads, miscellaneous fence fittings and hardware and all incidental materials and labor required to complete installation of the fence.

**CROSS REFERENCE:**
For Table of Fence Components and Pull Post Assembly Details see Sheet 2.
For Table of Post Attachment Components and Detail “A” see Sheet 3.

* Do not anchor fencing to the top of Traffic Railings.
## Flat Washers for Expansion Rail Connections

## Hex Nuts for Expansion Rail Connections

## Miscellaneous Fence Components

- Tension Bands
- Tension Bars
- Brace Bands
- Tie Wires

## Chain Link Fabric

- (2" mesh with twisted top and knuckled bottom selvage)

## Tension Bands

- (5 required per Tension Bar—Space Equally @ 1'-3" Maximum Centers) (Typ.)

## NOTES:

1. For treatment at the bridge ends, see Sheet 1.
2. 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.
3. An Expansion Assembly is required where the total joint movement exceeds 6". Expansion Assembly includes Expansion Rails and two pull posts (as shown). 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".
4. Install the post on the fixed (bolted) side of the Expansion Rail 1'-6" from the edge of the expansion joint. Install the post on the slip (unbolted) side of the Expansion Rail 1'-4" from the edge of the expansion joint unless the Expansion Joint Opening is greater than 9". When the Expansion Joint Opening exceeds 9", increase the 1'-6" dimension by the difference between the Expansion Joint Opening and 9".
5. 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.

## Table of Chain Link Fence Components

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ASTM DESIGNATION</th>
<th>COMPONENT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posts</td>
<td>F1083</td>
<td>Galvanized Steel Pipe - 3½&quot; NPS, Schedule 40 Regular Grade</td>
</tr>
<tr>
<td>Horizontal Rails</td>
<td>F1083</td>
<td>Galvanized Steel Pipe - 3&quot; NPS, Schedule 40 Regular Grade</td>
</tr>
<tr>
<td>Expansion Rails</td>
<td>F1083</td>
<td>Galvanized Steel Pipe - 2½&quot; NPS, Schedule 40 Regular Grade</td>
</tr>
<tr>
<td>Bolts</td>
<td>A307</td>
<td>¼&quot; Ø x ½&quot; Hex Head Bolts for Expansion Rail Connections</td>
</tr>
<tr>
<td>Nuts</td>
<td>A563</td>
<td>Hex Nuts for Expansion Rail Connections</td>
</tr>
<tr>
<td>Washers</td>
<td>F436</td>
<td>Flat Washers for Expansion Rail Connections</td>
</tr>
<tr>
<td>Chain Link Fabric (2&quot; mesh with twisted top and knuckled bottom selvage)</td>
<td>A392, A491, F668, F626</td>
<td>Zinc Coated Steel - 9 gage (coated wire diameter), Class 2 Coating, Aluminum Coated Steel - 9 gage (coated wire diameter), Polyvinyl Chloride (PVC) Coated Steel - 9 gage Zinc Coated Wire, Class 2b, Zinc Coated Steel Wire - 9 gage, 12 Gage (Min. thickness) x ½&quot; (Min. width) Steel Bands (Beveled or Heavy), 9/32&quot; (Min. thickness) x ½&quot; (Min. width) x Variable Height Steel Bars - Height = Post Length along Inside Post - 2&quot; Max, 14 Gage (Min. thickness) x ½&quot; (width) Steel Bands, 12 Gage (Min. thickness) x ½&quot; (Min. width) Steel Bands (Berealed or Heavy)</td>
</tr>
</tbody>
</table>

**LEGEND:** NPS = Nominal Pipe Size
### 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:**


**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.

### TABLE OF POST ATTACHMENT COMPONENTS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ASTM DESIGNATION</th>
<th>COMPONENT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Plates</td>
<td>A36 or A709 Grade 36</td>
<td>3⁄16 Steel Ø</td>
</tr>
<tr>
<td>Shim Plates</td>
<td>A36 or A709 Grade 36 or 6061-T6</td>
<td>Plate thicknesses as required. Holes in shim plates will be 3⁄16 Ø</td>
</tr>
<tr>
<td>Adhesive Anchor Rods</td>
<td>F1554 Grade 36</td>
<td>Fully threaded Headless Anchor Rods – 3⁄8 Ø x 14 1⁄2&quot;</td>
</tr>
<tr>
<td>C-I-P Anchor Rods</td>
<td>F1554 Grade 36</td>
<td>Hex Head Anchor Rods – 3⁄8 Ø x 14 1⁄2&quot;</td>
</tr>
<tr>
<td>Nuts</td>
<td>A563</td>
<td>Hex Nuts for Base Plate Connections</td>
</tr>
<tr>
<td>Washers</td>
<td>F436</td>
<td>Flat Washers for Base Plate Connections</td>
</tr>
<tr>
<td>Bearing Pads (Plain)</td>
<td>-</td>
<td>In accordance with Specification Section 932 for auxiliary structures</td>
</tr>
</tbody>
</table>

**CROSS REFERENCE:**

For location of Detail "A" see Sheet 1.