**TABLE 1 - RAILING MEMBERS**

<table>
<thead>
<tr>
<th>MEMBER</th>
<th>DESIGNATION</th>
<th>OUTSIDE DIMENSION</th>
<th>WALL THICKNESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post &quot;A&quot;</td>
<td>HSS3.000x0.120</td>
<td>3.000&quot;</td>
<td>0.120&quot;</td>
</tr>
<tr>
<td>Post &quot;B&quot;</td>
<td>HSS3.000x0.120</td>
<td>3.000&quot;</td>
<td>0.120&quot;</td>
</tr>
</tbody>
</table>

(1) 0.125" wall thickness permitted for rails with post spacings less than 5'-8".

**NOTES**

- **End Hoops**
  - HSS2.500x0.125
- **Top Rail Joint/Splice Sleeves**
  - HSS2.500x0.125
- **Intermediate & Bottom Rail Joint/Splice Sleeves**
  - HSS2.500x0.125
- **Handrail Joint/Splice Sleeves**
  - 1" NPS (Sch. 40) 1.500" 0.120"
- **Handrail Cap Plates**
  - HSS3.000x0.120 3.000" 0.120"

**3D VIEW OF RAILING WITH TYPE 1 - PICKET INFILL PANEL**

(42" Height shown, 54" Height Similar)
RAILING CONTINUATION BEYOND STEPS OR STAIRS
(Bottom shown, Top similar)

DETAIL "L" - PLAN VIEW
HANDRAIL TERMINATION

Handrail termination (Typ.) See Detail "L"

RAIL TERMINATION DETAILS

Steel Handrail required for three or more steps (Handrail and cheekwalls continuous at landings)

Handrails ~ 19" NPS (Sch. 40) pipe

Elevation (At-Grade Steps shown, Elevated Stairs similar)

ELEVATION

(ALTERNATE END TREATMENT
(Elevated Stairs similar)

RAILINGS ON STEPS & STAIRS

Steel Pedestrian/Bicycle Railing

07/01/12

INDEX NO. 852 SHEET NO. 3 of 8
TABLE 2 - CHAIN-LINK PANEL COMPONENT MATERIALS

<table>
<thead>
<tr>
<th>COMPONENT INFORMATION</th>
<th>ASTM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain-Link Fence Fabric (2&quot; mesh with twisted bottom and knuckled top selvage)</td>
<td>F 668</td>
</tr>
<tr>
<td>Zinc-Coated Wire - No. 9 gage (coated wire diameter)</td>
<td>F 626</td>
</tr>
<tr>
<td>Aluminum-Coated Steel - No. 9 gage (coated wire diameter)</td>
<td>F 626</td>
</tr>
<tr>
<td>Polyvinyl Chloride (PVC) Coated Steel - No. 9 gage Zinc-Coated Wire (metallic-coated core wire diameter)</td>
<td>F 626</td>
</tr>
<tr>
<td>Intermediate Rail</td>
<td>4</td>
</tr>
<tr>
<td>Ties @ 1'-0&quot; center (Post and End Rail)</td>
<td>4</td>
</tr>
<tr>
<td>Ties @ 2'-0&quot; center (Intermediate &amp; Bottom Rail)</td>
<td>4</td>
</tr>
<tr>
<td>End Permitted</td>
<td>4</td>
</tr>
</tbody>
</table>

CHAIN-LINK PANEL NOTE:
Chain-Link Fence Fabric shall be continuous along limits of railing. Splicing of Chain-Link panels using Tension Bars at 20'-0" minimum increments is permitted.

NOTES:
1. See Plans for Infill Panel option required.
TYPE 3 - SUNSHINE INFILL PANEL

SECTION A-A

DETAIL "3A" INTERMEDIATE RAIL/RAY CONNECTION

DETAIL "3B" BOTTOM RAIL/RAY CONNECTION

DETAIL "3C" RAY/ARC CONNECTION

SECTION A-A

DETAIL "3D" ARC/POST CONNECTION (Continuous Top Rail)

DETAIL "3E" PANEL END CONNECTION AT POST WITH EXPANSION JOINT

SECTION C-C

DETAIL "4A" PANEL/RAIL CONNECTION (Top Shown, Bottom Similar)

SECTION B-B

Panel Width

Panel Height

Panel Mullion

POST

DETAIL "4B" PANEL/SPLICE CONNECTION

SECTION A-A

Panel Adjustment for Railings on Grades

Panel End Cap

Lengthen border and trim top & bottom of panels to match grade.
TYPE 5 - PERFORATED INFILL PANEL

REPEATING PATTERN DETAIL FOR PERFORATED PANEL

SECTION C-C

PANEL/SPlice CONNECTION

NOTES:
1. See Plans for Infill Panel Type required.
TYPICAL SECTION ON CONCRETE SIDEWALK (Case I)

1 - 1/2" Ø C-1-P Hex Head Anchor Bolts, or 1 - 1/2" Ø Headless Anchor Bolts set with an Adhesive Bonding Material System in accordance with Specification Sections 416 and 937. Self-Locking Hex Nut & Washer. Place Anchor Bolts perpendicular to Base & for Grades = 8.33% (Ramps) with flat washer. Place anchor bolts plumb for grades > 8.33%. (Stairs) with flat washer & beveled washer, or leveling channel.

DETAIL "D" (OPTIONAL SHIMMING DETAIL FOR CROSS SLOPE CORRECTION) (Used in lieu of Beveled Shim Plates)

Base Plate

4" Sidewalk with Thickened Edge

45° Edge Shim (8" long x 1/2" wide x thickness as reqd.)

1/4" (Min.) wide bed of Adhesive Bonding Material - 1/2" Thick Resilient Neoprene Pad

MIN. EMBEDMENT

MIN. EMBEDMENT

MIN. EMBEDMENT

MIN. EMBEDMENT

FULL SIZE SHIM PLATES WHEN REQUIRED FOR HEIGHT ADJUSTMENT

1/2" Thick Resilient Neoprene Pad

DETAIL "C" (Cast-In-Place Anchor Bolts shown, Adhesive Anchors similar)

TYPICAL SECTION ON RETAINING WALL (Case II)

1/4" Bolts & Post

4'-0" (Case IIa) 3/4" (Case IIb)

Slope 2% Max. (away from drop-off)

Slope 2% Max. (away from drop-off)

45° Post & Anchor Bolts

Base Plate

Washers or Leveling Channel

Shim Plates as required

TYPICAL SECTION ON STEPS & STAIRS (Case III)

45° Min.

4'-0" (Case IIa) 3/4" (Case IIb)

Between Handrails

11/2" NPS (Sch. 40) Handrail

Top of step nosing

4'-0" Pedestrian/Bicycle Railing

4'-0" Pedestrian/Bicycle Railing

Additive Adhesive Anchors similar (Cast-In-Place Anchor Bolts shown, Adhesive Anchors similar)

ANCHOR BOLT TABLE

<table>
<thead>
<tr>
<th>CASE TYPE</th>
<th>STRUCTURE TYPE</th>
<th>DIMENSIONS</th>
<th>ANCHOR LENGTH</th>
<th>ANCHOR SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Unreinforced Concrete</td>
<td>A Edge Dist.</td>
<td>1/2</td>
<td>6&quot;</td>
</tr>
<tr>
<td>IIb</td>
<td>Reinforced Concrete</td>
<td>B Edge Dist.</td>
<td>1/2</td>
<td>4&quot;</td>
</tr>
<tr>
<td>III</td>
<td>Gravity Wall</td>
<td>C Embedment</td>
<td>1/2</td>
<td>3/8&quot;</td>
</tr>
<tr>
<td>I</td>
<td>Unreinforced Concrete</td>
<td>D Embedment</td>
<td>1/2</td>
<td>11/2&quot;</td>
</tr>
<tr>
<td>IIb</td>
<td>Reinforced Concrete</td>
<td>E Embedment</td>
<td>1/2</td>
<td>11/2&quot;</td>
</tr>
<tr>
<td>III</td>
<td>Gravity Wall</td>
<td>F Embedment</td>
<td>1/2</td>
<td>45°</td>
</tr>
</tbody>
</table>

* Embedment length "C" may be reduced to 9" for the 42" height railings for Case IIb, when the post spacing does not exceed 5'-0".