**Concrete Barrier/Noise Wall Notes**

1. Construct the Concrete Barrier/Noise Wall and joints plumb; do not construct the Concrete Barrier/Noise Wall perpendicular to the roadway surface.

2. CONCRETE: Concrete will be in accordance with Specification Section 346.
   - Class II concrete for slightly aggressive environments.
   - Class IV concrete for moderately or extremely aggressive environments.

3. Construct \( \frac{1}{2} \)" Open Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown. \( \frac{1}{2} \)" Open Joint locations are to coincide with \( \frac{1}{2} \)" Expansion Joints in footings.

4. Construct \( \frac{1}{8} \)" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between \( \frac{1}{2} \)" Open Joints and/or Begin or End Concrete Barrier/Noise Wall.

5. 14'-0" Noise Wall End Taper is required when adjacent to an 8'-0" Concrete Barrier/Noise Wall and may be used when an 8'-0" Concrete Barrier/Noise Wall End Taper is provided (see Index 521-510 for details). See Roadway Plans for Concrete Barrier/Noise Wall End Treatment.

6. Work this Index with Index 521-510 - Concrete Barrier/Noise Wall (8'-0") and one or more of the following:
   - Index 521-513 - Concrete Barrier/Noise Wall T-Shaped Spread Footing,
   - Index 521-514 - Concrete Barrier/Noise Wall L-Shaped Spread Footing,
   - Index 521-515 - Concrete Barrier/Noise Wall Trench Footing.
**ELEVATION OF CONCRETE BARRIER/NOISE WALL REINFORCING STEEL**
(Bars 5S1 in Railing not shown for clarity)

**NOTES:**
1. Field Cut Bars 5R & 5S1 in Noise Wall End Taper as required to maintain minimum cover.
2. See Index 521-513, 521-514 and 521-515 for footing reinforcement.
3. 3/8" Open Joint may be omitted when 8'-0" Railing/Noise Wall End Taper is adjacent to a 14'-0" Concrete Barrier/Noise Wall End Taper as shown on Sheet 1. See Index 521-510 for reinforcement details and spacing. Bars 5S2 are not required when 3/8" Open Joint is omitted.
4. Bar spacing shown is along the Gutter Line.

**ELEVATION OF CONCRETE BARRIER/NOISE WALL END TAPER**
(Bars 5S1 in Railing not shown for clarity)
CROSS REFERENCE:
For locations of Section A-A and Detail "A", see Sheet 1.

**SECTION A-A**

TYPICAL SECTION THRU CONCRETE BARRIER/NOISE WALL

**DETAIL "A" - SECTION AT OPEN JOINT**

NOTES:
1. See Index 521-513, 521-514 or 521-515 for footing reinforcement.
2. At 1'-0" Open Joints, plug the lower 2" portion of the open joint by filling it with mortar in accordance with Specification Section 400.

**REINFORCING STEEL BENDING DIAGRAMS**

**BILL OF REINFORCING STEEL**

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE</th>
<th>LENGTH</th>
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<tbody>
<tr>
<td>R1</td>
<td>5</td>
<td>5'-2&quot;</td>
</tr>
<tr>
<td>R2</td>
<td>5</td>
<td>5'-25&quot;</td>
</tr>
<tr>
<td>R3</td>
<td>5</td>
<td>10'-1&quot;</td>
</tr>
<tr>
<td>S1</td>
<td>5</td>
<td>AS REQ</td>
</tr>
<tr>
<td>S2</td>
<td>5</td>
<td>7'-3&quot;</td>
</tr>
</tbody>
</table>

**REINFORCING STEEL NOTES:**
1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at the open joints will have a 2" minimum cover.
3. Bars SR may be continuous or spliced at construction joints. Lap splices for Bars SR, and S51 will be a minimum of 2'-2".
4. The Contractor may use Welded Wire Reinforcement (WWR) when approved by the Engineer. WWR must consist of Deformed wire meeting the requirements of Specification Section 931.

**ESTIMATED CONCRETE BARRIER/NOISE WALL QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANTITY</th>
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</thead>
<tbody>
<tr>
<td>Concrete (Concrete Barrier)</td>
<td>LF/FT</td>
<td>0.107</td>
</tr>
<tr>
<td>Concrete (Noise Wall, excluding any thickening)</td>
<td>CY/FT</td>
<td>0.293</td>
</tr>
<tr>
<td>Reinforcing Steel (Railing/Noise Wall)</td>
<td>LB/FT</td>
<td>100.31</td>
</tr>
<tr>
<td>Additional Rein. @ Open Joint (Railing/Noise Wall)</td>
<td>L</td>
<td>397.38</td>
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CROSS REFERENCE:
For locations of Section A-A and Detail "A", see Sheet 1.