CROSS REFERENCE:
For Detail "A", see Sheet 3.
For Section A-A and Estimated Quantities, see Sheet 4.

Bars 5U2 @ 6" sp. (Tie to Bars 5U1) (Typ.)

Gutter Line

Bars 5U3 1" Preformed Expansion Joint Filler (Typ. all Sides)

Bars 5S4 (Tie to Bars 5U1)

2" Cover Typ. all Sides

Sides (Typ.)

11 ~ Bars 5S3 & Bars 5S4 @ 6" sp.

Bars 5S3 1" Ø Dowel Load Transfer Devices

Expansion Joint (See Detail on Sheet 3)

Expansion Joint Spacing ~ 30'-0" Max. (See Note 5)

V-Groove Spacing ~ 30'-0" Max. (See Note 5)

\( \frac{1}{2} \) V-Groove (See Note 5 and Detail "A")

V-Groove (See Note 5 and Detail "A")

Plan - Option B

Spread footing adjacent to skewed approach slab and with barrier wall inlet (Option A Similar) (Bars S1 Not Shown)

Notes:

1. Construct the Spread Footing level transversely; do not construct the spread footing perpendicular to the roadway surface.

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

3. Dowel Load Transfer Devices will be ASTM A 36 smooth round bar and hot-dip galvanized in accordance with Specification Section 962. Install Dowel Load Transfer Devices in accordance with Specification Section 350.

4. Construct \( \frac{1}{2} \)" Expansion Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.

5. Construct \( \frac{1}{2} \) V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between \( \frac{1}{2} \) Expansion Joints and/or Begin or End Spread Footing. V-Groove locations are to coincide with V-Groove locations in the Concrete Barrier/Noise Wall.

6. Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.

7. Shoulder or Roadway Pavement and Fill is required on the traffic side of the spread footing for a distance of 4'-0" and the full length of the spread footing (3'-0" minimum depth) on the backside of the spread footing for Option A. Fill is required for a distance of 4'-0" on the backside of the spread footing and the full length of the spread footing (3'-0" minimum depth) on the traffic side of the spread footing for Option B. See Typical Sections on Sheets 2 and 3 for details.

8. Spacing shown is along the Gutter Line.

9. Work this Index with one or both of the following:
   a. Index 521-510 - Concrete Barrier/Noise Wall (8'-0")
   b. Index 521-511 - Concrete Barrier/Noise Wall (14'-0")

CROSS REFERENCE:
For Detail "A", see Sheet 3.
For Section A-A and Estimated Quantities, see Sheet 4.
NOTES:
1. Match Cross Slope of Travel Lane or Shoulder.
2. Place 10 ~ Bars (8 ~ Bars S5B and 2 ~ Bars S5S1) inside Bars S5U1 as shown. (2 ~ S5S1 Bars are included in 521-510 or 521-511 quantities)
3. For Reinforcing Steel spacing, see Typical Section Thru Spread Footing - Option A this Sheet.
4. Provide 3" lip when optional construction joint is used.

TYPICAL SECTION THRU SPREAD FOOTING - OPTION A
(Bars S5R and S5S1 in Concrete Barrier/Noise Wall not shown for clarity)
**TYPICAL SECTION THRU SPREAD FOOTING - OPTION B**

(Bars 5P, 5R and 5S1 in Concrete Barrier/Noise Wall not shown for clarity)

**NOTES:**
1. Match Cross Slope of Travel Lane or Shoulder.
2. Place 10 ~ Bars (8 ~ Bars 5B and 2 ~ Bars 5S1) inside Bars 5U1 as shown.
3. Provide 3" lip when optional construction joint is used.

**DETAIL "A"**

(Optional A Shown, Option B Similar)

(Showing Locations of 1/2" V-Grooves and 1/2" Preformed Expansion Joint Filler)
**SECTION A-A**
**TYPICAL SECTION THRU SPREAD FOOTING AND BARRIER WALL INLET - OPTION B**
(Bars 5P, 5R and 5S1 in Concrete Barrier/Noise Wall not shown for clarity)

**NOTES:**
1. Place Bar 5B and 2 Bars 5S1 inside Bars 5U1 as shown.
2. For Reinforcing Steel spacing, see Typical Section Thru Spread Footing - Option B on Sheet 3.
3. Provide 3" lip when optional construction joint is used.

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**REINFORCING STEEL BENDING DIAGRAMS**

**BILL OF REINFORCING STEEL**

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE</th>
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<tbody>
<tr>
<td>B</td>
<td>5</td>
<td>AS REQD.</td>
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<tr>
<td>F</td>
<td>5</td>
<td>5'-6&quot;</td>
</tr>
<tr>
<td>S3</td>
<td>5</td>
<td>2'-7&quot;</td>
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<tr>
<td>S4</td>
<td>5</td>
<td>2'-10&quot;</td>
</tr>
<tr>
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<td>5</td>
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<td>U2</td>
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<td>13'-10&quot;</td>
</tr>
<tr>
<td>U3</td>
<td>5</td>
<td>12'-10&quot;</td>
</tr>
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</table>

**BAR SU2**

**BAR SU3**

**BAR 553**

**BAR 554**

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**ESTIMATED L-SHAPED SPREAD FOOTING QUANTITIES**

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<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANTITY</th>
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<tbody>
<tr>
<td>Concrete (Footings)</td>
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<tr>
<td>Reinforcing Steel (Typical)*</td>
<td>LB/FT</td>
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<tr>
<td>Additional Reinf. @ Expansion Joint</td>
<td>LB</td>
<td>48.06</td>
</tr>
</tbody>
</table>

* Bars 5V and 5S1 are included in Index 521-510 or 521-511 quantities.

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**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. Lap splices for Bars 5B will be a minimum of 2'-2".
4. Lap splices Bars 5F and 5S with SU1 will be a minimum of 2'-2".
5. 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.