1. Straight concrete endwalls are intended for use outside the clear zone.

2. Endwalls may be cast-in-place or precast construction. Cast-in-place endwalls shall conform to the details on this index, design specifications AASHTO 1989. Precast construction which adheres to this Index, including any additional reinforcement required for handling which shall be determined by the Contractor or supplier, does not require additional approvals. Deviations from this Index, for precast units, shall require the approval of the State Drainage Engineer prior to construction. For precast construction, see Index No. 201 for opening and grouting details.

3. Reinforcing steel shall be either Grade 40 or 60.

4. Concrete shall be Class II except concrete meeting the requirements of ASTM C 476 (4000 PSI) may be used in lieu of Class II concrete in precast units manufactured in plants which are under the Standard Operating Procedures for the inspection of precast drainage products.

5. Chamfer all exposed edges and corners to be chamfered 1/8" unless otherwise shown.

6. Tread portion of corrugated Metalpipe in direct contact with the concrete slab and extending 12" beyond shall have a continuous bituminous coating of 0.004" minimum thickness coated applied prior to placing of the concrete.

7. Soldering shall be in accordance with Index No. 291 and paid for under the contract unit price for Performance Test 57.

8. Basis of payment for either cast-in-place or precast construction shall be the estimated quantities tabulated on the Index. Concrete and reinforcing steel shall be paid for under the contract unit prices for Class II Concrete (Endwalls), C7 and Reinforcing Steel (Metalpipe) L8.

OPTIONAL ENTRANCE FOR CONCRETE PIPE

GENERAL NOTES

DEVELOPMENT CHECKLIST

STANDARD INDEX NO. 253, SHEET 1 OF 2

REVISION LOG

APPROVED BY

DRAWN BY

CHECKED BY

FHWA APPROVAL

NAME / INITIALS

DATE

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NAME / INITIALS

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NAME / INITIALS

NAME / INITIALS

MS/JT/LS

06/05/06

07/01/07

Note 6 revised, Note 7 DSM 01/01/07-Sodding to "Performance Turf"

BENDING DIAMETER

BAR C

NOTE: All dimensions are net to net.
Revised spacing of "Bars D".

Bill of Reinforcing Steel:

<table>
<thead>
<tr>
<th>Size</th>
<th>Grade</th>
<th>Length</th>
<th>Location</th>
<th>Bending</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>70</td>
<td>12'0&quot;</td>
<td>Footing</td>
<td>Straight</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>12'0&quot;</td>
<td>Roof</td>
<td>Straight</td>
</tr>
<tr>
<td>5</td>
<td>40</td>
<td>10'-0&quot;</td>
<td>Wall</td>
<td>Bend</td>
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<tr>
<td>4</td>
<td>40</td>
<td>8'-0&quot;</td>
<td>Wall</td>
<td>Straight</td>
</tr>
<tr>
<td>4</td>
<td>25</td>
<td>2'-6&quot;</td>
<td>Wall</td>
<td>Straight</td>
</tr>
</tbody>
</table>

Estimated Quantities:

- Concrete pipe: 1000 ft.
- Reinforcing steel: 1000 lb.

NOTE: Allbar dimensions are out to out.

NOTE: See Sheet 1 of 2 for General Notes.