### Dimensions & Quantities

<table>
<thead>
<tr>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>W</th>
<th>GRADE SIZES</th>
<th>CONCRETE (cu. yds.)</th>
<th>SODGING (cu. yds.)</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>6&quot;</td>
<td>20</td>
<td>0.75</td>
<td>1.54</td>
<td>3.89</td>
<td>0.71</td>
<td>0.56</td>
<td>0.35</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>8&quot;</td>
<td>20</td>
<td>0.75</td>
<td>1.54</td>
<td>3.89</td>
<td>0.71</td>
<td>0.56</td>
<td>0.35</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>10&quot;</td>
<td>20</td>
<td>0.75</td>
<td>1.54</td>
<td>3.89</td>
<td>0.71</td>
<td>0.56</td>
<td>0.35</td>
<td>0.75</td>
<td>0.75</td>
</tr>
<tr>
<td>12&quot;</td>
<td>20</td>
<td>0.75</td>
<td>1.54</td>
<td>3.89</td>
<td>0.71</td>
<td>0.56</td>
<td>0.35</td>
<td>0.75</td>
<td>0.75</td>
</tr>
</tbody>
</table>

These sizes are restricted to inlet and outlet treatments for water management systems or similar applications.

NOTE: See Sheets 5 and 6 for details and general notes.

*Slopes:* To 6" Pipe For Pipe 6" And Smaller
1/2 For Pipe 8" And Larger.
GENERAL NOTES

1. Unless otherwise designated in the plans, concrete pipe mitered end sections may be used with any type of slabs drain pipe; corrugated steel pipe mitered end sections may be used with any type of slabs drain pipe except aluminum pipe, and corrugated aluminum mitered end sections may be used with any type of slabs drain pipe except steel pipe. When bituminous coated metal pipe is specified for slabs drain pipe, mitered end sections shall be constructed with like pipe or concrete pipe. When the mitered end section pipe is diameter to the slabs drain pipe, a concrete jacket shall be constructed in accordance with Index No. 290.

2. Concrete pipe used in the assembly of mitered and end sections shall be of acceptable lengths to avoid excessive connections.

3. Corrugated metal pipe grouting that is damaged during bending and perforating for mitered and end section shall be repairs

4. That portion of corrugated metal pipe in direct contact with the concrete slab and extending 18" beyond shall be bituminous coated prior to placing the concrete.

5. Corrugated polyethylene pipe (CPE) for slabs drain application of 15", 18", or 24" diameter shall utilize either corrugated metal or concrete coated mitered end sections. When used in conjunction with corrugated metal mitered end sections, connection shall be by either a formed metal band specifically designed to join CPE pipe and metal pipe or other coupler approved by the State Drainage Engineer. When used in conjunction with a concrete mitered end section, connection shall be by concrete jacket constructed in accordance with Index No. 290.

6. When existing multiple slabs drain pipes are spaced other than the dimensions shown in this detail, or have non-parallel axes, or have non-uniform earth, the mitered and end sections will be constructed either separately as single pipe mitered and end sections or collectively as multiple pipe and end sections as directed by the Engineer; however, mitered and end sections will be paid for each, based on each independent pipe end.

7. In addition to the requirements of Section 430-4, slabs drain culverts shall comply with the cover requirements shown on Index No. 255.

8. The reinforced concrete slab shall be constructed for all sizes of slabs drain pipe and placed in accordance with Class I concrete.

9. Round pipe sizes 30" or greater, pipe-iron sizes 30" x 24" and greater and elliptical pipe 30" x 30" or greater shall be grafted unless exempted in the plans. Smaller sizes of pipe shall be grafted only when called for in plans. The lower grade on a traffic approach ends shall be Schedule 80 and all remaining grafted shall be Schedule 40. Grafted subject to salt-free corrosion-free environment may be fabricated from grafted pipe, with base metal exposed during fabrication repaired as specified in Section 562. Standard specifications or, fabricated from black pipe and hot-dipped grafted after fabrication in accordance with ASTM A453. Grafted subject to salt water highly corrosive environment shall be hot-dipped grafted after fabrication in accordance with ASTM A453.

10. Ditch transitions shall be used on all grafted in excess of 3% as directed by the Engineer.

11. The project engineer shall contact the District Drainage Engineer for possible alternate treatment prior to constructing slabs drain mitered end sections where a minimum opening of 30° will not result between the toe points of the mitered end sections.

12. The cost of all pipe (i.e., grafted, fasteners, reinforcing, connectors, anchors, concrete, restraints, jackets and coupling bands) shall be included in the cost for the mitered and end section. Sodding shall be paid for separately under the contract unit price for Sodding, 5Y.

13. Wittered and end sections shall be paid for under the contract unit price for Wittered End Section (5D), etc., based on each independent pipe end.

DESIGN NOTES

1. In artificial hydraulic locations, grafted shall not be used until potential debris transport has been encased by the drainage engineer and appropriate adjustments made. Either pipe in excess of 3% or pipe with less than 1.5" of cover and grade in excess of 1% will require such an evaluation (General Note 9).

2. The design engineer shall determine highly corrosive locations and specify in the plans when the grade shall be hot-dipped grafted after fabrication (General Note 10).

3. The design engineer shall determine and designate in the plans which alternate types of mitered and end section will not be permitted. The restriction shall be based on corrosion or structural requirements.