**HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 1)**

<table>
<thead>
<tr>
<th>WALL DEPTH</th>
<th>SCHEDULE</th>
<th>AREA (in²/ft.)</th>
<th>MAX. SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>0'-5'</td>
<td>A12</td>
<td>0.20</td>
<td>12&quot;</td>
</tr>
</tbody>
</table>

**TYPE C**

Recommended Maximum Pipe Size:
- 2'-0" Wall - 18" Pipe
- 3'-1" Wall - 24" Pipe (18" where an 18" pipe enters a 2'-0" wall)

**HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 2)**

<table>
<thead>
<tr>
<th>WALL DEPTH</th>
<th>SCHEDULE</th>
<th>AREA (in²/ft.)</th>
<th>MAX. SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>0'-5'</td>
<td>A12</td>
<td>0.20</td>
<td>12&quot;</td>
</tr>
<tr>
<td>0'-15'</td>
<td>46</td>
<td>0.20</td>
<td>6&quot;</td>
</tr>
<tr>
<td>10'-15'</td>
<td>44</td>
<td>0.20</td>
<td>4&quot;</td>
</tr>
<tr>
<td>10'-15'</td>
<td>85.5</td>
<td>0.24</td>
<td>35/2&quot;</td>
</tr>
</tbody>
</table>

**TYPE D**

Recommended Maximum Pipe Size:
- 3'-1" Wall - 24" Pipe
- 4'-1" Wall - 30" Pipe

**HORIZONTAL WALL REINFORCING SCHEDULES (TABLE 3)**

<table>
<thead>
<tr>
<th>WALL DEPTH</th>
<th>SCHEDULE</th>
<th>AREA (in²/ft.)</th>
<th>MAX. SPACING</th>
</tr>
</thead>
<tbody>
<tr>
<td>0'-5'</td>
<td>A12</td>
<td>0.20</td>
<td>12&quot;</td>
</tr>
<tr>
<td>0'-5.5</td>
<td>46</td>
<td>0.20</td>
<td>4&quot;</td>
</tr>
<tr>
<td>7.5'-10'</td>
<td>85.5</td>
<td>0.24</td>
<td>45/2&quot;</td>
</tr>
<tr>
<td>10'-15'</td>
<td>46.5</td>
<td>0.37</td>
<td>60/2&quot;</td>
</tr>
</tbody>
</table>

**TYPE E**

Recommended Maximum Pipe Size:
- 3'-0" Wall - 24" Pipe
- 4'-6" Wall - 36" Pipe

---

**DITCH BOTTOM INLET TYPES C, D, E AND H**

- FWF
- MAX. SPACING
- BARS
- WWF

**SECTION**

Wall Depth Varies

Wall Depth Varies

Eybolt

See Index 201

#4 Bars @ 12" Ctrs.

(See Table 2)

Horiz. Wall Reinf.

(See Table 3)

#4 Bars @ 12" Ctrs.

#4 Bars @ 12" Ctrs.

#4 Bars @ 12" Ctrs.

#4 Bars @ 12" Ctrs.

#4 Bars @ 12" Ctrs.

#4 Bars @ 12" Ctrs.
STEEL GRATES

NOTE: Steel Grates Are Required On Inlets With Traverseable Slots and On Inlets where Bicycle Traffic Is Anticipated.

GENERAL NOTES

1. These inlets are suitable for bicycle traffic and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads. These inlets may be placed in areas subject to occasional pedestrian traffic such as landscaped areas and pavement areas where pedestrians can walk around the inlet.

2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slot inlets located within roadway clear zones and areas subject to pedestrians shall have traverseable slots. The traverseable slot modification is not adaptable to inlet Type H. Slots may be constructed at either or both ends as shown on plans. Traverseable slots shall not be used in areas subject to occasional bicycle traffic.

3. Steel inlets are to be used on all inlets where bicycle traffic is anticipated. Steel inlets are to be used on all inlets with traverseable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated. Either cast iron or steel grates may be used on all inlets with non-traverseable slots. Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dip galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.

4. Recommended maximum pipe sizes shown are for concrete pipe. Size for other types of pipe must be checked for fit.

5. All exposed edges and corners shall be 1/8" chamfer or rounded to 1/4" radius.

6. Concrete inlet pavement is to be used on inlets without slots and inlets with non-traverseable slots only when called for in the plans; but required on all traverseable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.

7. Traverseable slots constructed in existing inlets shall be paid for as inlets partial. For conversion work and method of payment see TRAVERSEABLE SLOT INLETS (PARTIAL) FOR EXISTING INLETS.

8. Soldering to be used on all inlets not located in paved areas and paid for under contract unit price for Performance Turf, SY.

9. For supplementary details see Index No. 201.

10. All reinforcing is Grade 60 bars with 2" min. cover unless otherwise noted. Bars to be cut or bent for 1/2" clearance around pipe opening. Provide one additional #4 bar above and at each side of pipe opening.
Description:

**Design Standards**

**Ditch Bottom Inlet Types C, D, E and H**

**Flow Ditch Width**

- Varieties (5' Std.)
- Varies

**Slot Width**
- 18" (Hand Shape to Neat Lines)
- Varies

**Concrete Inlet Pavement**

- Chamfer

**Concrete Inlet Pavement (Hand Shape to Neat Lines)**

**Slope Varieties**

- Varies
- Varies
- Varies (5' Std.)

**Slope**

- 6"
- 8"
- 3"

**Sodding Quantities**

<table>
<thead>
<tr>
<th>Inlet</th>
<th>Single Slot</th>
<th>Double Slot</th>
<th>Single Slot</th>
<th>Double Slot</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>4.82</td>
<td>5.77</td>
<td>4.16</td>
<td>5.03</td>
</tr>
<tr>
<td>D</td>
<td>3.99</td>
<td>4.91</td>
<td>4.70</td>
<td>5.10</td>
</tr>
<tr>
<td>E</td>
<td>3.88</td>
<td>4.91</td>
<td>4.37</td>
<td>4.08</td>
</tr>
</tbody>
</table>

**TRAVERSABLE SLOTS**
SECTION AA  
SECTION BB

NON-TRAVERSABLE SLOTS

SECTION AA

SECTION BB

SODDING AND PAVEMENT FOR INLETS WITHOUT SLOTS AND INLETS WITH NON-TRAVERSABLE SLOTS

NOTE: See General Notes Nos. 6 and 7, Sheet 3 of 7.

PAVEMENT AND SODDING QUANTITIES FOR TRAVERSABLE SLOTS

<table>
<thead>
<tr>
<th>Inlet</th>
<th>Pavement</th>
<th>Sod</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Single Slot</td>
<td>Double Slot</td>
</tr>
<tr>
<td></td>
<td>SY</td>
<td>CY</td>
</tr>
<tr>
<td>C</td>
<td>6.07</td>
<td>0.83</td>
</tr>
<tr>
<td>D</td>
<td>5.99</td>
<td>1.01</td>
</tr>
<tr>
<td>E</td>
<td>5.88</td>
<td>0.99</td>
</tr>
</tbody>
</table>

NOTE: For plan view and additional details see Sheet 4 of 7.

TRAVERSABLE SLOTS FOR EXISTING INLETS

For payment see General Notes Nos. 6 and 7, Sheet 3 of 7.
**DESIGN NOTES FOR TRAVERSABLE SLOT INLETS (PARTIAL) FOR EXISTING INLETS**

1. The general purpose of these conversions is to remove the hazard of the protruding inlet top, while not creating a hazard by depressing the top too deeply.

2. The corrective procedure depends on the approach ditch grade and hydraulic requirements of the site. The selection of the appropriate case depends on the relationship between inlet top and ditch elevation, and, on the vertical clearance between the top of the uppermost pipe(s) and the grate. The purpose for the Case 1 conversion is to add the traversable slot to an existing inlet where top removal, change in grade elevation and ditch transitions are not required. Case 2 will normally be applicable to ditches with flatter grades adjoining the inlet. Case 3 will normally be applicable to ditches with steeper grades adjoining the inlet where build up of the existing ditch is acceptable.

3. The designer shall stipulate in the plans which case is to be constructed at each individual inlet location.

**METHOD OF PAYMENT FOR TRAVERSABLE SLOT INLETS (PARTIAL) FOR EXISTING INLETS**

1. Existing inlets converted to traversable slot tops under Cases 1, 2 and 3 shall be paid for as inlets partial, each. Case shall not be included in the pay item description.

2. All ditch reconstruction work within 35 feet of each traversable slot conversion, whether required by these details or as a direct result of the conversion, shall be included as a part of the partial cost. Reconstruction work shall include excavation and removal of surplus materials or borrow materials in place, grading, compaction, shaping and restoration of disturbed turf. Sodding, ditch pavement and underdrain are not included as part of the inlet partial cost and are to be paid for separately.

3. Concrete inlet pavement and sodding shall be in accordance with the sections on this detail and with the Plans on Sheet 4 and Sections AA, BB and CC (as Case 1) and tabular quantities on Sheet 5.

4. Unit price and payment shall constitute full compensation for inlet conversion (including concrete inlet paving and replacement grate(s)), ditch reconstruction, restoration of disturbed turf, and shall be paid for under the contract price for inlets (DT Bid/Type ___ (Partial), each).

**SINGLE SLOT SHOWN (DOUBLE SLOTS SYMMETRICAL ABOUT CENTERLINE)**

**SECTION CC (CASE 2)**

**TRAVERSABLE SLOT INLETS (PARTIAL) FOR EXISTING INLETS**

**INDEX NO.**

**SHEET NO.**
ALT. A STRUCTURE BOTTOM FOR INLETS TYPE C, D & E

SECTION AA

DITCH BOTTOM INLET TYPES C, D, E AND H

INDEX NO. 200

TOP SLAB OPENINGS

<table>
<thead>
<tr>
<th>DIAMETER</th>
<th>OPENING SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>W'</td>
<td>2'-0&quot; x 2'-0&quot;</td>
</tr>
<tr>
<td>Type C D</td>
<td>3'-0&quot; x 3'-0&quot;</td>
</tr>
<tr>
<td>Type E</td>
<td>3'-0&quot; x 3'-0&quot;</td>
</tr>
</tbody>
</table>

TOP SLAB REINFORCING SCHEDULE

<table>
<thead>
<tr>
<th>GRADE 60 (BAR) OR 65 KSI (WIRE FABRIC)</th>
<th>MIN.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN.</td>
<td>MAX.</td>
</tr>
<tr>
<td>70 KSI</td>
<td>7.0</td>
</tr>
<tr>
<td>65 KSI</td>
<td>6.5</td>
</tr>
</tbody>
</table>

TOP SLAB WITH CENTERED OPENING

<table>
<thead>
<tr>
<th>SLAB OPENING</th>
<th>SLAB DEPTH</th>
<th>SLAB THICKNESS</th>
<th>REINFORCING (2 WAYS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIN.</td>
<td>MAX.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td>2.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>4.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.0</td>
<td>6.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

PIPE OPENING SCHEMATIC

ALT. B STRUCTURE BOTTOM FOR INLETS TYPE C, D & E

See Index No. 200 for structure bottom details and hole reinforcement.