**DITCH BOTTOM INLET TYPE B**

**CONCRETE INLET PAVEMENT AND SODDING**

**INDEX NO. 200**

- **Location Reference**
  - Center of Box (Paved or Unpaved Ditches)

- **Toe Wall Required**
  - Sod
  - Conc. Inlet Pavt. (Single Slot Shown)
  - Traversable Inlet Top (Single Slot Shown)

**RECOMMENDED MAXIMUM PIPE SIZES**

- **SECTION EE**
  - Ditch Block

**SECTION AA**

- Horizontal Wall Reinforcing Schedule (Table 1)

**SECTION BB**

- Additional details and pipe opening reinforcement.

**SECTION CC**

- Steel Grate

**SECTION DD**

- 2016 Design Standards

**REVISION**

- Sheet 1 of 3

**DESCRIPTION:**

- Ditch Bottom Inlet Type B

**INDEX NO.**

- 231

**SHEET NO.**

- 1
GENERAL NOTES

1. The general purpose of the inlet top designs are:
   a. For ditches, medians or other areas subject to heavy wheel loads. This inlet may be placed in areas subject to occasional pedestrian traffic such as landscaped areas and pavement areas where pedestrians can walk around the inlet. Inlet not suitable for bicycle traffic.
   b. Provide full grate and horizontal slot designs for new construction.
   c. Provide full grate and horizontal slot designs for replacing the vertical slot tops on existing Inlets Type B and Type X that are in locations subject to occasional pedestrian traffic.

2. All reinforcing is Grade 60 bars with 2" min. cover unless otherwise noted. See Index No. 201 for equivalent area of welded wire fabric. Bars to be cut or bent for min. 1 ½" clearance around pipe.

3. All exposed edges and corners shall be ½" chamfered or tooled to ½" radius.

4. When Alternate G grates are specified in the plans, the grates are to be hot-dip galvanized after fabrication.

5. Cost for constructing traversable tops on new inlet boxes shall be included in the contract unit price for Inlets (DT BOT) (Type B), EA., and shall include the cost for surrounding concrete inlet pavement. Existing Inlets Type B and Inlets Type X that are converted to traversable inlet tops shall be paid for under the contract unit price for Inlets (DT BOT) (Type B) (Partial), EA. Unit price and payment shall be full compensation for inlet conversion and shall include the removal of any existing concrete inlet pavement; the removal and stockpiling or disposal of sufficient material from the existing inlet box to facilitate construction of the required inlet top; construction of the required inlet conversion; backfill construction; construction of concrete inlet pavement; reusing, supplementing, transferring or replacing grates as required by plans or as directed by the Engineer; any required earthwork for ditch restoration; any required work for ditch restoration within 30’ of the inlet; and, restoration of disturbed turf.

6. Ditch pavement shall be paid for, separate from the inlet and concrete inlet pavement, by pavement types and units as called for in the plans.

7. Sod will be paid for under the contract unit price for Performance Turf, SY.

8. For supplementary details see Index No. 201.

9. All dimensions are for both precast and cast-in-place inlets unless otherwise noted.

DESIGN NOTES

1. The type of top (single or double slots) depends on the approach ditch configuration and the hydraulic requirements of the site. The designer will stipulate in the plans the type of top to be constructed at each individual inlet location.

2. On existing inlets, conversion grates shall be constructed at the original grate elevations unless other elevations are called for in the plans. When plans call for the inlet top to be constructed to support storm water detention, details for ditch modifications and underdrains shall be shown in the plans.

MAINTENANCE NOTES

1. Traversable inlet tops that are constructed by maintenance contract or by maintenance forces may reuse the existing grates that are determined by the Maintenance Engineer to be functionally sound, and their reuse is to be directed by the Maintenance Engineer. Existing grates approved for reuse and new grates may be mixed, matched or replaced as directed by the Maintenance Engineer.
**TOP SLAB REINFORCING DIAGRAM**

- **Centered Inlet**
- **Structure Bottom**
- **#5 Hoop Bar (Peripheral Reinforcement)**
- **#4 Bars @ 5" Spacing**
- **2 Way Reinforcement**
- **See Tables**

**TOP SLAB REINFORCING SCHEDULE**

<table>
<thead>
<tr>
<th>SCHEDULE</th>
<th>GRADE 60 (BAR) ON 65 KSI &amp; 70 KSI (WIRE FABRIC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0.20</td>
</tr>
<tr>
<td>B</td>
<td>0.24</td>
</tr>
<tr>
<td>C</td>
<td>0.37</td>
</tr>
<tr>
<td>D</td>
<td>0.53</td>
</tr>
<tr>
<td>E</td>
<td>0.73</td>
</tr>
<tr>
<td>F</td>
<td>1.06</td>
</tr>
<tr>
<td>G</td>
<td>1.45</td>
</tr>
</tbody>
</table>

**TOP SLAB WITH CENTERED OPENING**

<table>
<thead>
<tr>
<th>SLAB DEPTH</th>
<th>SLAB THICKNESS</th>
<th>REINFORCING (2 WAYS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6'-0&quot;</td>
<td>0.5 ≤ 8&quot;</td>
<td>B</td>
</tr>
<tr>
<td>6'-0&quot;</td>
<td>8&quot; ≤ 16&quot;</td>
<td>C</td>
</tr>
<tr>
<td>18&quot; ≤ 32&quot;</td>
<td>9&quot; ≤ 16&quot;</td>
<td>D</td>
</tr>
<tr>
<td>30&quot; ≤ 37&quot;</td>
<td>9&quot; ≤ 16&quot;</td>
<td>E</td>
</tr>
<tr>
<td>37&quot;-40&quot;</td>
<td>9&quot; ≤ 16&quot;</td>
<td>F</td>
</tr>
</tbody>
</table>

**SCHEDULE**

- **Centered Inlet**
- **Structure Bottom**
- **#5 Hoop Bar**
- **#4 Bars**
- **See Tables**

**DIMENSIONS**

- **6'-0" to 8'-0"**
- **3'-8" x 4'-2"**
- **3'-10" x 4'-2"**
- **3'-10" Or 4'-2"**
- **3'-8" Or 4'-2"**
- **6'-0" Min. To 8'-0" Max.**
- **Steel Reinforcement Shown In The Plans**

**MAX. CENTERED OPENING**

- **5½"** For 6'-0" Structure Bottoms
- **11½"** For 8'-0" Structure Bottoms

**PRECAST**

- **C-I-P Precast**
- **3'-8" Or 4'-2"**
- **3'-10" Or 4'-2"**

**ALT. A STRUCTURE BOTTOM FOR INLET TYPE B**

**INDEX NO. 231**

**SHEET NO. 3**