GENERAL NOTES

For eccentric and concentric cone heights see cone heights table on Standard Drawing E 720-MHST-06.

PLAN VIEW

Eccentric cone, concentric cone, or precast cover

Precast manhole section

Cast iron manhole steps

Pipe thickness +1/20 +2

Cement mortar

6" B borrow (for precast bottom only)

Class A concrete

#4 @ 6" c. to c. both ways

SECTION A-A
NOTES
1. Drop pipe may be used with manhole type D, E, F, or G.
   Such manhole shall be referred to as drop manhole type D, E, F, or G.

SECTION

THE INDIANA DEPARTMENT OF TRANSPORTATION

DROP MANHOLE
TYPE C

SEPTEMBER 2003

STANDARD DRAWING NO. E 720-MHST-03

RICHARD L. VANDENHEEVE 9/22/03

STATE OF INDIANA

RICHARD L. VANDENHEEVE 9/22/03

INFRASCOPE: 100
**MANHOLE DIMENSIONS**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>A-1 PIPE SIZE DIA. (in)</th>
<th>B AND D</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>27 to 42</td>
<td>4-4</td>
</tr>
<tr>
<td>E</td>
<td>48 to 60</td>
<td>5-6</td>
</tr>
<tr>
<td>F</td>
<td>65 to 84</td>
<td>6-10</td>
</tr>
<tr>
<td>G</td>
<td>85 to 108</td>
<td>11-3</td>
</tr>
</tbody>
</table>

**NOTES**


2. For eccentric and concentric cone heights see Cone Height Table in Standard Drawing 730-MHST-06.

**MANHOLE PIPE SIZES**

| Type | G (In.) | F (In.) | Maximum Pipe Size | Maximum Pipe Size for Manholes
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>24-36</td>
<td>20</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>J</td>
<td>24-36</td>
<td>20</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>K</td>
<td>36-48</td>
<td>20</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>L</td>
<td>48-64</td>
<td>20</td>
<td>48</td>
<td>54</td>
</tr>
<tr>
<td>M</td>
<td>64-72</td>
<td>20</td>
<td>60</td>
<td>72</td>
</tr>
<tr>
<td>N</td>
<td>72-84</td>
<td>20</td>
<td>64</td>
<td>84</td>
</tr>
</tbody>
</table>

**NOTES**

1. Drain pipes may be used with manholes.
   Types H, J, K, L, M, or N. Such manholes shall be referred to as drain manholes.
   Types H, J, K, L, M, or N.
   For details of construction see Standard Drawing E 730-41HST-09.

2. See Standard Drawing E 730-41HST-09 for Details A, B, and D.

3. Manholes type C, D, E, or F may be constructed for manholes type H, J, K, L, M, or N.
   For composite pipe sizes.
   See Standard Drawings E 730-41HST-03 and -04 for manholes type D, E, F, and G details.

---

**MANHOLE TYPES H, J, K, L, M, AND N**

**SEPTEMBER 2008**

**STANDARD DRAWING NO. E 730-41HST-05**

**INDIANA DEPARTMENT OF TRANSPORTATION**

**MANNHOLES**

**TYPE H, J, K, L, M, AND N**

For Robert L. Veideman 9-9-06
For Robert K. Becker 9-9-06

**ENGINEER'S OFFICE**

**STANDARD SHOP DRAWING**

**INSTRUCTIONS**

1. Drain pipes may be used with manholes.
   Types H, J, K, L, M, or N. Such manholes shall be referred to as drain manholes.
   Types H, J, K, L, M, or N.
   For details of construction see Standard Drawing E 730-41HST-09.

2. See Standard Drawing E 730-41HST-09 for Details A, B, and D.

3. Manholes type C, D, E, or F may be constructed for manholes type H, J, K, L, M, or N.
   For composite pipe sizes.
   See Standard Drawings E 730-41HST-03 and -04 for manholes type D, E, F, and G details.
**DETAIL A**

**COVER CAP FOR PRECAST CONCRETE MANHOLE SECTION**

- Min. steel area 0.12 in² / ft of width in both directions.
- Opening additionally reinforced with equivalent of 0.20 in² / ft • 90°
- Straight rods, min length = dia. of opening plus 2".

**DETAIL B**

**REDUCER CAP FOR PRECAST MANHOLE SECTION (5'-0 to 9'-0 DIA.)**

- Min. steel area 0.12 in² / ft of width in both directions.
- Opening additionally reinforced with equivalent of 0.20 in² / ft • 90°
- Straight rods, min length = dia. of opening plus 2".

**DETAIL C**

**BASE FOR PRECAST CONCRETE MANHOLE SECTIONS (5'-0 to 9'-0 DIA.)**

- Min. steel area 0.12 in² / ft of width in both directions.
- Rebar or wire mesh equivalent.

---

**Section Dia.** | **D**
---|---
5'-0 | 6'-0
6'-0 | 7'-0
8'-0 | 9'-0
8'-6 | 10'-0
9'-0 | 10'-8

---

**Section Dia.** | **H**
---|---
5'-0 | 6'-0
6'-0 | 7'-2
8'-0 | 9'-6
8'-6 | 10'-0
9'-0 | 10'-8

---

**INDIANA DEPARTMENT OF TRANSPORTATION**

**PRECAST CONCRETE MANHOLE SECTIONS**

**APRIL 1995**

**STANDARD DRAWING NO.E 720-MHST-06**

**DETAILS PLACED IN THIS FORMAT**

**Design Standards Engineer**

**Anthony L. Behrman**

**Chapstick Engineer**

**PRECAST CONCRETE MANHOLE SECTIONS**

**APRIL 1995**

**STANDARD DRAWING NO.E 720-MHST-06**

**DETAILS PLACED IN THIS FORMAT**

**Design Standards Engineer**

**Anthony L. Behrman**

**Chapstick Engineer**

**ORIGINAL APPROVAL**

**4-09-95**
Lifting ring (1/4" cable) tied to wire fabric. To be cut off in field.

Pipe mesh-welded wire fabric (W-12 min.)

#4 bars spaced 6" c. to c.

#4 x 5'-6" spaced 6" c. to c.

ROUND

SQUARE

ROUND ALTERNATE
NOTES
1. The conical concrete sections will not be permitted for manholes which are under the jurisdiction of the Indianapolis Sanitary District.

<table>
<thead>
<tr>
<th>CONE HEIGHTS</th>
<th>ECCENTRIC</th>
<th>CONCENTRIC</th>
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</thead>
<tbody>
<tr>
<td>2.5</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>3.0</td>
<td>3.0</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>4.0</td>
<td>4.0</td>
<td></td>
</tr>
</tbody>
</table>

CONCENTRIC CONE

Vehicle live load 2.5 tons

Cast iron steps for manhole only

INDIANA DEPARTMENT OF TRANSPORTATION
MANHOLE BARS AND CONEENCRIC CONE
SEPTEMBER 2003
STANDARD DRAWING NO. E-720-MHST-08

Richard L. Veillette  9-28-03
DESIGN ENGINEER

Richard V. Seiter  9-28-03
DESIGN ENGINEER
### REINFORCING STEEL FOR MANHOLES

<table>
<thead>
<tr>
<th>Bars</th>
<th>Manhole Type D</th>
<th>Manhole Type E</th>
<th>Manhole Type F</th>
<th>Manhole Type G</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>8'-0</td>
<td>10</td>
<td>9''</td>
<td>#5</td>
</tr>
<tr>
<td>B₁</td>
<td>6'-6</td>
<td>12</td>
<td>9''</td>
<td>#5</td>
</tr>
<tr>
<td>E</td>
<td>7'-3</td>
<td>3</td>
<td>2''</td>
<td>#5</td>
</tr>
<tr>
<td>H</td>
<td>6'-6</td>
<td>22</td>
<td>6''</td>
<td>#5</td>
</tr>
<tr>
<td>L</td>
<td>3'-0</td>
<td>16</td>
<td>12''</td>
<td>#5</td>
</tr>
<tr>
<td>T</td>
<td>1'-3</td>
<td>16</td>
<td>6''</td>
<td>#5</td>
</tr>
<tr>
<td>V</td>
<td>5'-0</td>
<td>16</td>
<td>6''</td>
<td>#5</td>
</tr>
<tr>
<td>V₁</td>
<td>4'-9</td>
<td>16</td>
<td>6''</td>
<td>#5</td>
</tr>
</tbody>
</table>