FOR MANHOLE FRAME & COVER, SEE FED. SPEC. A-A-60005 FIG. 4, SIZE 28 AND FIG. 12, SIZE 28 RESPECTIVELY

BRICK COLLAR LINED UP WITH CEMENT MORTAR

LAP REINF. 600mm (TYP.)

WATERSTOP AT ALL CONSTR. JTS. (TYP.)

GROUND ROD & CLAMP

NOTES:

1. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE PLATE UG-7.

2. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 21 MPa.

<table>
<thead>
<tr>
<th>MANHOLE DIMENSIONS</th>
<th>TYPE</th>
<th>A</th>
<th>B</th>
<th>C (AT HIGH PT.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1800</td>
<td>1800</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>1800</td>
<td>2500</td>
<td>2000</td>
</tr>
</tbody>
</table>

STANDARD ELECTRICAL MANHOLE (NONTRAFFIC) TYPES 1 & 2

SKETCH DATE JUNE 2002 STYLE UG-1
300 X 300 X 250 DEEP
SUMP

PLAN

DUCT ENTRANCE LOCATION TO BE AS INDICATED

FOR MANHOLE FRAME & COVER, SEE FED.
SPEC. A-A-60005, FIG. 1, SIZE 30A AND
FIG. 8, SIZE 30A, RESPECTIVELY

BRICK COLLAR LINED UP WITH
CEMENT MORTAR

150 MIN.

DUCT ENTRANCE

LAP REINF. 600 (TYP.)

GROUND ROD & CLAMP

CONCRETE OR BLACK
TOP ROADWAY

#5 @ 150 EW, T&B

#4 @ 150 EW EF

Ø25 PULLING-IN IRON

SLOPE 1:40 TO SUMP

WATERSTOP AT ALL
CONSTR. JTS. (TYP.)

Ø4 @ 230 T&B

SECTION A–A

NOTES:

1. MANHOLE AND COVERS ARE DESIGNED FOR MAXIMUM WHEEL LOAD IN ACCORDANCE WITH AASHTO HS20–44.

2. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE PLATE UG–7.

3. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 21 MPa.

<table>
<thead>
<tr>
<th>MANHOLE DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
</tbody>
</table>

STANDARD ELECTRICAL MANHOLE (TRAFFIC)
TYPES 3 & 4

SKETCH DATE JUNE 2002 STYLE UG–2
**MANHOLE DIMENSIONS**

<table>
<thead>
<tr>
<th>TYPE</th>
<th>A</th>
<th>B</th>
<th>C (AT HIGH PT.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>1800</td>
<td>1800</td>
<td>2000</td>
</tr>
<tr>
<td>6</td>
<td>1800</td>
<td>2500</td>
<td>2000</td>
</tr>
</tbody>
</table>

**NOTES:**

1. MANHOLE AND COVERS ARE DESIGNED FOR MAXIMUM WHEEL LOAD OF 22700 kg OR DUAL WHEEL LOAD OF 41000 kg.

2. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE PLATE UG-7.

3. COVER SHALL BE MADE OF STRUCTURAL STEEL CONFORMING TO ASTM A 36/A 36M.

4. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 21 MPa.
13mm FLOOR PLATE RAISED

PLAN OF COVER

CUT HINGE PLATE AS SHOWN

SECTION OF FRAME

13mm PLUG WELD

#16 ANCHOR ROD WELDED TO ANGLE FRAME (3 PER SIDE)

SECTION A–A

DUCT ENTRANCE

GROUND ROD & CLAMP

HANDHOLE DIMENSIONS

<table>
<thead>
<tr>
<th>HANDHOLE</th>
<th>DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE</td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td>1000</td>
</tr>
<tr>
<td>2</td>
<td>1250</td>
</tr>
</tbody>
</table>

NOTES:

1. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE PLATE UG–7.

2. MINIMUM CONCRETE COMPRRESSIVE STRENGTH SHALL BE 21 MPa.
NOTES:
1. ENTRANCE OF DUCTS INTO HANDHOLE MAY BE MADE ON SIDE FACES OR CORNERS AS REQUIRED.
2. FOR DETAILS OF CABLE RACKS, DUCT ENTRANCE AND PULLING-IN IRONS, SEE PLATE UG-7.
3. HANDHOLE AND COVER IS DESIGNED FOR MAXIMUM SINGLE WHEEL LOAD OF 22700 kg OR DUAL WHEEL LOAD OF 41000 kg.
4. COVER SHALL BE MADE OF STRUCTURAL STEEL CONFORMING TO ASTM A 36/A 36M.
5. MINIMUM COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 21 MPa.

<table>
<thead>
<tr>
<th>HANDHOLE</th>
<th>DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TYPE</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>1000</td>
</tr>
<tr>
<td>4</td>
<td>1250</td>
</tr>
</tbody>
</table>

STANDARD ELECTRICAL HANDHOLE (TRAFFIC/AIRFIELD) TYPES 3 & 4
**HANDHOLE REQUIREMENTS**

1. HOUSING SHALL BE A POLYMER CONCRETE REINFORCED WITH A HEAVY WEAVE FIBERGLASS REINFORCING WITH COMPRESSIVE STRENGTH OF NO LESS THAN 70 MPa.

2. COVER AND BOX SHALL WITHSTAND A SERVICE LOAD OF NO LESS THAN 6800 kg OVER A 250 x 250 AREA.

3. PROVIDE STAINLESS STEEL BOLTS AND INSERTS.

4. PROVIDE WITH (2) 64mm MOUSEHOLES.

5. PROVIDE LABEL "ELECTRICAL" FOR POWER HANDHOLES OR "TELEPHONE" FOR TELEPHONE HANDHOLES, OR AS INDICATED.

---

**STANDARD ELECTRICAL HANDHOLE (NONTRAFFIC) (COMPOSITE/FIBERGLASS) TYPES 5, 6, 7, 8 & 9**

**SKETCH DATE** JUNE 2002 **STYLE** UG-6
DETAIL OF PULLING-IN IRON

WALL OF MANHOLE

180 MIN.
180 MIN.

TYPICAL CABLE RACK

INSIDE FACE OF MANHOLE

45°
75

TYPICAL DUCT ENTRANCE

DETAILS
(PULLING-IN IRONS, CABLE RACK AND DUCT ENTRANCE)

SKETCH DATE JUNE 2002 STYLE UG-7