CONCRETE COLLAR SEE DETAIL B-03 FINISHED GRADE
GRADE RING
PRECAST CONCRETE SECTIONS TO CONFORM TO ASTM-478, CONCRETE OF 4,000 PSI AT 28 DAYS
MASTIC GASKET, TYPICAL ALL MANHOLE JOINTS FILL LIFTING HOLES WITH CONCRETE TYPICAL REINFORCEMENT, WELDED WIRE FABRIC 6x6x4Wx4W
PRECAST REINFORCED CONCRETE MANHOLE BARRELS SHELVE TO BE BRICKS LAID FLAT AT A SLOPE OF 1" PER FOOT (4)
CONCRETE FILL INVERT TO BE INVERTED ARCH WITH BRICKS LAID AS STRECHERS AND ON EDGE
6"SCREENED GRAVEL BEDDING

H= 10' OR LESS -#4 AT 18 EW MIDDEPTH
H= 10' TO 20' -#4 AT 12 EW MIDDEPTH
H= 20' TO 30' -#5 AT 12 EW MIDDEPTH IN ADDITION TO WELDED WIRE FABRIC

NOTES:
1. 5'-0" DIAMETER FOR ALL MANHOLE DEPTHS GREATER THAN 20 FEET OR WHEN ORDERED BY THE ENGINEER
2. 6" MIN. WALL THICKNESS AND 7 INCH MIN. BASE THICKNESS WITH 5'-0" DIAMETER MANHOLES
3. 6 INCH LIP OPTIONAL UNLESS OTHERWISE NOTED
4. CONCRETE INVERT AND SHELF MAY BE SUBSTITUTED IN STORM DRAIN MANHOLES AS DIRECTED BY THE ENGINEER

TYPICAL PRECAST CONCRETE MANHOLE Scale: Not To Scale
PLAN

SECTION A - A

NON-SHRINK GROUT, (TYP.)

BUILD MASONRY DAM AS DIRECTED BY THE ENGINEER

PROVIDE MECHANICAL SEAL (LOCK-JOINT FLEXIBLE M-H SLEEVE, PRESS WEDGE SEAL OR LINK SEAL GASKET) EXCEPT NON-SHRINK MORTAR MAY BE USED IN STORM DRAINS WHERE APPROVED BY BWSC (TYPICAL)

USE DROP CONNECTION WHEN THIS DIMENSION EXCEEDS 2'-9"

DROP CONNECTION SHALL BE SAME SIZE AS THE HORIZONTAL PIPE

6" MIN. TYPICAL CAST IN PLACE CONCRETE USE FORMS

30° BEND

PIPE LENGTH AS SHORT AS POSSIBLE

3" 4"

6" SCREENED GRAVEL BEDDING

Location/Filename: V:\eng\ACAD_STD\Technical Details\B - Sewer Details\B-02 - Precast Concrete Manhole Details\B-02b.dwg

Plotted on: Tuesday, January 15, 2013 - 12:52 PM by Donohoe, William

Boston Water and Sewer Commission
980 Harrison Ave., Boston, MA 02119
(617) 989-7000
www.bwsc.org

DROP MANHOLE
Scale: Not To Scale

DATE: June 30, 2012
DETAIL NO. B-02b
PRECAST CONCRETE MANHOLE FOR USE AT PIPE JUNCTIONS

Scale: Not To Scale

DATE: June 30, 2012

DETAIL NO. B-02c
MANHOLE STEPS AT 12"
O.C. STARTING 4'-0" ABOVE GRATING DOWN TO MANHOLE SHELF

PLATFORM 2"x3/16" AT 1-3/16" ALUMINUM SERRATED GRATING WITH BANDED EDGES, TYP.

MANHOLE STEPS FROM 1'-0" ABOVE GRATING

EXP. BOLTS

1/4" RETAINER BAR

4 STAINLESS STEEL FASTENERS ↓ EACH SECTION

5'-0" DIA. MANHOLE PLAN VIEW

SECTION A-A

NOTE:
LANDING PLATFORMS SHALL BE PROVIDED FOR EACH 20 FEET OF MANHOLE HEIGHT.

LANDING PLATFORM DETAIL
5-FT DIA. MANHOLE

Scale: Not To Scale

DATE: June 30, 2012

DETAIL NO. B-02d

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980 Harrison Ave., Boston, MA 02119
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Location/Filename: V:\eng\ACAD_STD\Technical Details\B - Sewer Details\B-02 - Precast Concrete Manhole Details.dwg

Plotted on: Tuesday, January 15, 2013 - 12:52 PM by Donohoe, William
NOTES:

1. ALL CAST IN PLACE CONCRETE TO HAVE A MINIMUM 28 DAY STRENGTH OF 3000 LBS PER SQ. INCH, USING 3/4”MAXIMUM SIZE AGGREGATE

2. REINFORCING STEEL BARS ARE DEFORMED BARS OF BILLET STEEL ASTM A615 GRADE 60

3. WELDED WIRE FABRIC CONFORMS TO ASTM A185

4. CAST IRON FRAME, TYPE ”A” AND COVER TYPE ”A” FOR DETAILS SEE DETAILS NOS. F1–D01, F1–D04 AND F1–D05 COVERS TO BE MARKED EITHER ”SEWER” OR ”DRAIN”.

5. DESIGN LIVE LOAD – HS 20 – 44

6. MINIMUM COVER FOR REINFORCING IN WALLS OR SLABS POURING AGAINST EARTH SHALL BE 3 INCHES. ALL OTHERS SHALL BE 2 INCHES UNLESS OTHERWISE NOTED

7. USE 2’–0” LENGTHS OF PIPE STUBS AT ALL MANHOLES FOR VC OR AC PIPE. USE 4’–0” MAX. LENGTHS OF PIPE STUBS AT ALL MANHOLES FOR RC, DI OR PVC.

8. THESE MANHOLE DETAILS TO BE USED FOR BOTH SANITARY SEWER AND STORM DRAIN MANHOLES

9. ALL MANHOLES SHALL BE CONSTRUCTED OF REINFORCED CONCRETE SHOP DRAWINGS SUBMITTALS SHALL SHOW ALL REINFORCING DETAILS

10. MWRA OIL AND GREASE SEPARATOR IS USED WITHIN BUILDINGS WHERE REQUIRED BY MWRA (MASSACHUSETTS WATER RESOURCES AUTHORITY) OR DEP (DEPARTMENT OF ENVIRONMENTAL PROTECTION) REGULATION. FOR DETAILS SEE DETAIL NO. B–04. FOR BWSC APPROVED GRIT AND OIL SEPARATORS, SEE DETAIL NOS. B–17 AND B–18.
NOTES:
1. PORTION EMBEDDED INCONCRETE COATED WITH HEAVY-BODIED BITUMINOUS MATERIAL AS SPECIFIED OR APPROVED.
2. MANHOLES GREATER THAN 15 FEET DEEP SHALL BE CONSTRUCTED WITHOUT STEPS

EXTRUDED ALUMINUM "ALCOA" 6061-T6 NO.126538 OR APPROVED EQUAL OR STEEL REINFORCED POLYPROPYLENE PLASTIC.

ALUMINUM MANHOLE STEP

SECTION A-A