## SANITARY SEWER

### STANDARD CONSTRUCTION DETAILS

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STANDARD SANITARY MANHOLE DETAIL

(NOT TO SCALE)

NOTE:
48" I.D. MANHOLE TO BE USED FOR
PIPE SIZES THRU 24"Ø, 60"Ø I.D.
BASE W/ TAPER SECTION TO BE
USED FOR PIPE SIZES OVER 24"Ø
A.S.T.M. DESIGNATION C-923 FLEXIBLE MANHOLE SLEEVE INTEGRALLY CAST INTO MANHOLE WITH STAINLESS STEEL CLAMP OR A-LOK MANHOLE PIPE SEAL AS MANUFACTURED BY ATLANTIC CONCRETE OR EQUAL (TYP.)

PIPE IN AND OUT OF MANHOLE TO BE CRADLED IN CLASS "B" 3000 PSI CONCRETE OR BEDDED IN STONE AS ORDERED BY ENGINEER

FRAME SHALL BE THOROUGHLY BEDDED IN NON-SHRINK GROOVE

ADJUST TO GRADE WITH COURSE OF MASONRY (2 COURSES OF BLOCK OR 14" MAX.)

FINISH GRADE

PRECAST MANHOLE SECTION TO BE IN ACCORDANCE WITH A.S.T.M. DESIGNATION C-478 MIN. COMPRESS. STRENGTH TO BE 4000 P.S.I.

EXTERIOR WALL TO RECEIVE A SHOP COAT OF WATER RESISTANT COAL/TAR EPOXY EQUAL TO SHERWIN WILLIAMS C-2001 OR APPROVED EQUAL. (DRY FILM THICKNESS 6" MIN 15 TO 18 MIL PER COAT)

45° WYE BRANCH

BACKFILL TRENCH WITH CLASS "B" 3000 PSI CONCRETE OR STONE AS ORDERED BY ENGINEER

PRECAST CONCRETE DROP PIPE ENCASEMENT SECTIONS

BASE MH SECTION TO INCLUDE MONOLITHIC PRECAST CONCRETE DROP PIPE ENCASEMENT

90° BEND

CRUSHED STONE BASE. 6" MIN.

SECTION A-A

STANDARD SANITARY DROP MANHOLE DETAIL

NOTE:
48" I.D. MANHOLE TO BE USED FOR PIPE SIZES THRU 24". 60" I.D. BASE W/TAPER SECTION TO BE USED FOR PIPE SIZES OVER 24"

14" STEEL REINFORCED COPOLYMER PLASTIC MANHOLE STEPS – 12" O.C. MAX. ATLANTIC CONCRETE PRODUCTS CO. OR APPROVED EQUAL

AREA OF CIRCUMFERENTIAL STEEL:
0.12 IN./FT. (4' I.D.)
0.17 IN./FT. (5' I.D.)

MANHOLE JOINTS AND LIFT HOLES TO BE MORTARED WITH NON-SHRINK GROUT ON INSIDE & OUTSIDE SURFACES. MORTAR TO BE FIELD COATED WITH APPROVED INTERIOR & EXTERIOR COATING. MANHOLE JOINT TO BE ATLANTIC CONCRETE D-LOK RUBBER GASKET OR EQUAL IN ACCORDANCE WITH A.S.T.M. DESIGNATION C-361, DOUBLE ROW OF BITUMASTIC JOINT MATERIAL MAY BE USED AS AN ALTERNATE TO THE ABOVE.

5" WALLS – 4' I.D. MH
6" WALLS – 5' I.D. MH

PRECAST CONCRETE BENCHING (12:1 SIDE SLOPES)

6" ALL AROUND

6" MIN. CONCRETE MAT CLASS "B" 3000 PSI IF REQUIRED BY FIELD CONDITIONS
See standard manhole detail for frame and cover requirements.

Typical precast concrete manhole (see San. Sewer manhole detail for requirements).

M.J. tee with retainer glands. Plugged in open end.

D.I.P. or PVC force main.

Link seal or other approved watertight device.

Pipe support (as approved by inspector).

Concrete channel. (See standard manhole detail for channel requirements).

Crushed stone base 6" min.

Gravity sanitary sewer.

45° bend.

Finish grade.

SEE STANDARD MANHOLE DETAIL FOR FRAME AND COVER REQUIREMENTS

TYPICAL PRECAST CONCRETE MANHOLE (SEE SAN. SEWER MANHOLE DETAIL FOR REQUIREMENTS)

M.J. TEE WITH RETAINER GLANDS. PLUGGED IN OPEN END

D.I.P. OR PVC FORCE MAIN

LINK SEAL OR OTHER APPROVED WATERTIGHT DEVICE

PIPE SUPPORT (AS APPROVED BY INSPECTOR)

CONCRETE CHANNEL. (SEE STANDARD MANHOLE DETAIL FOR CHANNEL REQUIREMENTS).

CRUSHED STONE BASE 6" MIN.

GRAVITY SANITARY SEWER

45° BEND

FINISH GRADE

FORCE MAIN CONNECTION MANHOLE DETAIL

N.T.S.
NOTES:
1. NON-SHRINK GROUT TO BE FIVE STAR STRUCTURAL CONCRETE OR APPROVED EQUAL.

EXISTING MANHOLE WALL PIPE PENETRATION DETAIL
NOT TO SCALE
STANDARD DETAIL

STANDARD MANHOLE FRAME & COVER

CAMPBELL FOUNDRY (OR EQUAL)
NO.1202B - STANDARD
NO.1486 - LOCKING
NO.6545 - WATERTIGHT

PLAN

SECTION

NOTES:
1. ALL MANHOLES IN EASEMENTS SHALL BE PROVIDED WITH COVER LOCKING DEVICE OF BRONZE AND KEY WHERE REQUIRED.
2. YEAR OF CONSTRUCTION REQUIRED ON MANHOLE COVER

STANDARD MANHOLE FRAME & COVER DETAIL

N.T.S.
TYPICAL HOUSE CONNECTION DETAIL

NOT TO SCALE
CLEANOUT RISER COVER DETAIL

NOT TO SCALE

EXPANSION JOINT

11-7/8"

CONCRETE PAVEMENT

STONE BEDDING

RISER COVER REQUIRED FOR ALL RISERS LOCATED IN SIDEWALK OR PAVEMENT

FINISHED GRADE

3" ±

BITUMINOUS PAVEMENT

CAMPBELL FOUNDRY CASTING #1000 WITH CAM-LOCK OR EQUAL WITH "SEWER" CAST ON COVER

CONCRETE SETTING SLAB, WHERE DIRECTED BY INSPECTOR
LATERAL DETAIL CONNECTION
BY SADDLE TAP TO PIPE
NOT TO SCALE
NOTE:
1. FLEXIBLE COUPLING TO BE FERNCO 1000 SERIES OR APPROVED EQUAL.

DETAIL FOR JOINING PIPES OF DIFFERENT MATERIALS

NOT TO SCALE
SANITARY SEWER - UTILITY CROSSING DETAIL

NOT TO SCALE
NOTES:
1. RECYCLED CONCRETE IS NOT TO BE USED AS BACKFILL.
2. COMPACTED BACKFILL TO BE COMPOSED OF 20% CLAY, 40% ORGANIC MATTER, AND 40% ROCKS.

PVC SANITARY SEWER TRENCH DETAIL

TYPICAL SECTION

NOT TO SCALE

PICTURE W/ 3" DIAM

EXCAVATION:

1. CLEAR TRENCH 12" DEEP, 36" WIDE, 90' LONG.
2. REMOVE ALL MUD AND SOIL TO SPECIFIED DEPTH.
3. COMPLETED DUG TRENCH TO BE CRUSHED CONCRETE.

STANDARD DETAIL

PVC SANITARY SEWER TRENCH DETAIL

HMUA SAN 011

07/23/03

HMUA−SAN−011

11
INSIDE DROP - PLAN

REducing Cross

Threaded Removable Plug (Typ.)

10" PVC Drop Pipe (See Note)

Pipe to be placed as close as possible to M.H. wall and to be secured to the wall w/2" wide, 14 gauge S.S. Clamps, (3' O.C. Max.) anchored to wall w/1/4" S.S. Bolts (Min. 2 Clamps)

8" PVC Pipe (See Note)

2'-0" Max.

Clamp - 12" Max.

USE FLEXIBLE RUBBER BOOT OR APPROVED PVC MANHOLE ADAPTOR IN CORE OPENING

Mortar

Redwood Block Spacer Midway Between Clamps

60" I.D. Precast Manhole

See Standard Manhole Detail on Sheet No. HMUA-SAN-001

Elbow Embedded in Conc. at 45° W/ Sewer Flow

Drop Connection Pipe Invert Shall Match the Spring-Line of the Exit Pipe.

CRUSHED STONE BASE (MIN. 6")

SECTION A - A

INSIDE DROP CONNECTION

(Not to Scale)

NOTE:

For 8" PVC Pipe Provide
10" PVC Internal Drop Piping
For 10" PVC Pipe Provide
12" PVC Internal Drop Piping