NOTE:
ALLOW ROOM FOR
SMOOTH TRANSITION

HAND FORM
SMOOTH TRANSITION

SECTION A-A

MANHOLE RIM
AND COVER
DETAIL SWR-4

MAX. OF 18" PRE-CAST
REINFORCED CONCRETE GRADE
RINGS MIN. OF ONE 6" RING

USE RAM NECK
OR EQUIVALENT
IN JOINTS

4 1/8" MIN
THICKNESS

PRE CAST REINFORCED CONCRETE
CONCENTRIC CONE SECTION
INSTALL WITHOUT MANHOLE STEPS
FOR RETROFITTED MANHOLES OR
AS DIRECTED BY DPW/CITY
ENGINEER: LINE ENTIRE MANHOLE
INTERIOR SURFACE WITH 3/4" THICK
CALCIUM ALUMINATE CEMENTITIOUS
MORTAR.

3" MIN.

BROKEN PIPE
EDGE SHALL BE
GROUTED

MATCH PIPE CROWNS

4-0" DIA.
MIN.

REINFORCING TO BE
#4
BARS @ 6" O.C BW

3" MIN.

MANHOLE
FOUNDATION
POURED IN PLACE

6" MIN.
PROCESSED
MISC. BASE
ON DISTURBED
EARTH

8' MIN.

ALTERNATIVELY, FOR STRAIGHT-THROUGH
PIPERLINES MAY USE WATERTIGHT PRE-CAST
MANHOLE BASE CONFORMING TO ASTM
C-478 ON PROCESSED MISC. BASE

DRAWN BY: CSG
CHECKED BY:
LAST REVISED: 8/7/14
N.T.S.

SECTION:
SEWER

DRAWING NO.: SWR-1

TYPE 1 - CONCENTRIC MANHOLE 8" TO 33" PIPE

APPROVED BY:

RICK SCHEER
CITY ENGINEER
DATE: 8-18-14
NOTES:
1. INSTALL WITHOUT MANHOLE STEPS.
2. DROP BOWL AS MANUFACTURED BY RELINER-DURAN INC. OR APPROVED EQUAL. DROP BOWL TO BE SIZED PER MANUFACTURER'S RECOMMENDATIONS (INFORMATION AT RELINER.COM) OR AS REQUIRED BY CITY.
3. ALTERNATIVELY, FOR STRAIGHT-THROUGH PIPELINES MAY USE WATERTIGHT PRE-CAST MANHOLE BASE CONFORMING TO ASTM C-478 ON PROCESSED MISC. BASE.
CONCENTRIC TEST MANHOLE

NOTE: ALLOW ROOM FOR SMOOTH TRANSITION

HAND FORM SMOOTH TRANSITION

SECTION A-A

MAN-HOLE RIM AND COVER DETAIL SWR-4

USE RAM NECK OR EQUIVALENT IN JOINTS, TYP.

MAX. OF 18" PRE-CAST REINFORCED CONCRETE GRADE RINGS MIN. OF ONE 6" RING

PRE CAST REINFORCED CONCRETE CONCENTRIC CONE SECTION INSTALL WITHOUT MANHOLE STEPS

LINE ENTIRE MANHOLE INTERIOR SURFACE WITH 3/4" THICK CALCIUM ALUMINATE CEMENTITIOUS MORTOR

SLOPE @ 1" PER FOOT, MIN. SMOOTH FINISH, TYP.

REINFORCING TO BE #4 BARS @ 6" O.C BW

ALTERNATIVELY, FOR STRAIGHT-THROUGH PIPELINES MAY USE WATERTIGHT PRE-CAST MANHOLE BASE CONFORMING TO ASTM C-478 ON PROCESSED MISC. BASE

DRAWN BY: CSG CHECKED BY: SCALE:
LAST REVISED: 6/15/14 N.T.S.

SECTION: SEWER DRAWING NO.: SWR-3A

APPROVED BY: 8-18-14

DATE
LEGEND

1. Sanitary sewer lateral.
2. Sanitary sewer meter box – remote reading sewer meter when approved by City.
3. Sanitary sewer test manhole.
4. Water meter boxes (See water meter detail).
5. Tenant services.
6. Irrigation service.
7. Owner operated sewer meter when approved by City.
8. Water meter boxes shall not be placed in driveways.

TEST MANHOLE AND PRE-TREATMENT METER LOCATION

APPROVED BY: [Signature]
CITY ENGINEER
DATE: 8-18-14

DRAWN BY: CSG
CHECKED BY: N.T.S.
LAST REVISED: 6/16/14
DRAWING NO.: SWR-3B

SECTION: SEWER
Notes:
Manhole frame and cover shall be GMI Composites 2400 Series lockable, non-metallic, AASHTO H-20 load rated, or approved equivalent. Label as "SANITARY SEWER" on cover.
NOTE:
INSIDE DIAMETER OF LATERAL SHALL NOT BE LARGER THAN HALF OF INSIDE DIAMETER OF MAIN PIPE.

CORE MAIN PIPE CONNECTION POINT AND USE COUPLING AS APPROVED BY DPW/CITY ENGINEER.

36" RCP AND LARGER

MIN. 6" THICKNESS OF GROUT OVER REINFORCING BARS.

NOTE:
BACKFILL SAND TO SPRING LINE

CUT REINFORCING BARS AND BEND OUT AROUND LATERAL, TYPICAL.

STANDARD CONNECTION TO MANHOLE WALLS

CONNECTION TO MANHOLE WALLS AND REINFORCED CONCRETE PIPE
Band seal coupling for wye or tee connection to sewer lateral

Factory made wye or tee fitting

Band seal coupling for wye or tee connection to sewer main

FLOW

Sewer main to be machine cut for wye or tee connection

FACTORY MADE WYE OR TEE CONNECTION
FOR 8” OR 12”, OPTIONAL FOR LARGER SIZES

Stainless steel band and adjusting screw

Tapered inert plastic compression fitting with female guide key

Sewer main
Diamond drilled fitting hole

Inert synthetic rubber fitting with male guide key

SYNTHETIC RUBBER WEDGE INSERT TEE ALLOWED FOR GREATER THAN 12”
(TAP-TITE OR APPROVED EQUAL)
SEWER LATERAL

SEWER MAIN
SEWER LATERAL

6" HUB CLEARANCE EACH SIDE OF PIPE AT BELL
MAX. ALLOWABLE DEFORMATION FROM RIGHT ANGLE PRODUCES 8" OFFSET @ FLOWLINE

PLAN

ELEVATION

MIN. DEPTH OF COVER BELOW TOP OF CURB PER PIPE SEC. 4'-6"
45' MAX.
3' MIN. SAND BEDDING UNDER SEWER LATERAL

MIN. GRADE 1/4"/FT

SIDEWALK
FLUSH W/ FINISH GRADE
ABOVE GRADE CURB & GUTTER

FINISHED PAVEMENT GRADE

SEWAGE DRAIN

SIDE OF TRENCH EXCAVATION

CLEANOUT

1"=2'-0"

P.S.E.

6'-0"

2'-2"

CLASS II AGG. BASE ROCK OR PROCESSED MISC. BASE (95% COMPACTION)

PLUG DETAIL

VCP, SDR 35, PVC OR ABS ACH.40 (PVC SHALL BE COMPATIBLE W/ ABS LATERALS)
PVC OR ABS PLUG OR CAP (CAP SHALL BE TREATED W/ ANTI-SIZE COMPOUND)
PVC OR ABS SCH. 40
CHRISTY G-5 OR EQUAL (PAVED AREAS) OR CHRISTY F-11 (LANDSCAPED AREAS)

MAKE CONNECTION NO CLOSER THAN 12" TO EITHER BELL OR SPIGOT

ALTERNATE:
IN LIEU OF TAPPING SADDLE, IT IS PERMISSIBLE TO MAKE A DIRECT TAP TO MAIN USING "TAP-TITE" CONNECTION OR APPROVED EQUAL

CLEANOUT TO BE INSTALLED ON PRIVATE SIDE OF PUBLIC SERVICE EASEMENT LINE. SHOW "SEWER" ON THE COVER

DRAWN BY: CSG
CHECKED BY:
LAST REVISION: 7/30/14
SECTION: SEWER
DRAWING NO.: SWR-6

SCALE: N.T.S.

AUTHORIZED SIGNATURES:

RICK SCOLLON
CITY ENGINEER

DATE: 8-18-14