

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

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 $\frac{3}{4}$ " THICK
CALCIUM ALUMINATE CEMENTITIOUS
MORTAR.

3" MIN.

4 1/8" MIN
THICKNESS

MATCH PIPE CROWNS

BROKEN PIPE
EDGE SHALL BE
GROUTED

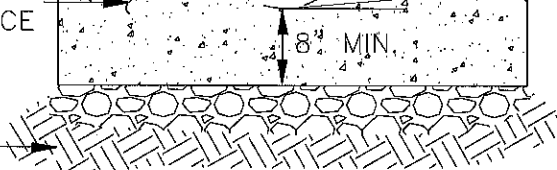
4-0" DIA.
MIN.

3" MIN.

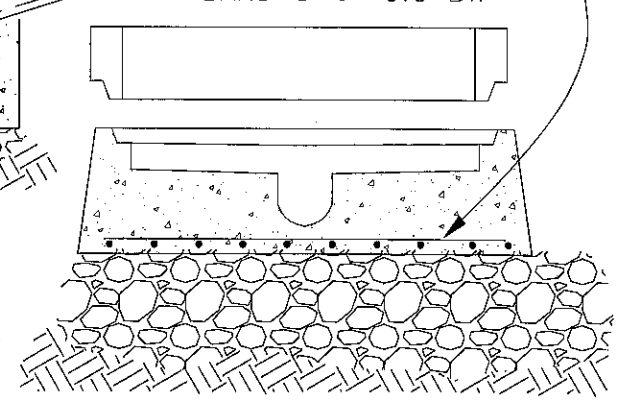
REINFORCING TO BE #4
BARS @ 6" O.C BW

MANHOLE
FOUNDATION
POURED IN PLACE

6" MIN.
PROCESSED
MISC. BASE
ON DISTURBED
EARTH



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



TYPE 1- CONCENTRIC MANHOLE 8" TO 33" PIPE

DRAWN BY: CSG
CHECKED BY:
LAST REVISED: 8/7/14

SCALE:
N.T.S.

SECTION:

SEWER

DRAWING NO.: SWR-1



APPROVED BY:
Rub...
CITY ENGINEER

8-18-14
DATE

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,
TYP.

PRE CAST REINFORCED CONCRETE
ECCONCENTRIC CONE SECTION
INSTALL WITHOUT MANHOLE STEPS

4-1/8" MIN.
AS DIRECTED BY DPW/CITY ENGINEER
FOR RETROFITTED MANHOLES: LINE
ENTIRE MANHOLE INTERIOR SURFACE
WITH 3/4" THICK CALCIUM ALUMINATE
CEMENTITIOUS MORTAR.

MATCH PIPE CROWNS

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

3" MIN.

WATERTIGHT
SEAL

3" MIN.

PIPE COUPLER
PIPE LENGTH
AS REQUIRED

PIPE
BRACKETS
45° BEND

3' MAX

8" MIN

6" MIN.
PROCESSED
MISC. BASE ON
DISTURBED EARTH

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

DROP SEWER MANHOLE

DRAWN BY: CSG
CHECKED BY:
LAST REVISED: 8/8/14

SCALE:
N.T.S.

SECTION:

SEWER

DRAWING NO.: SWR-2

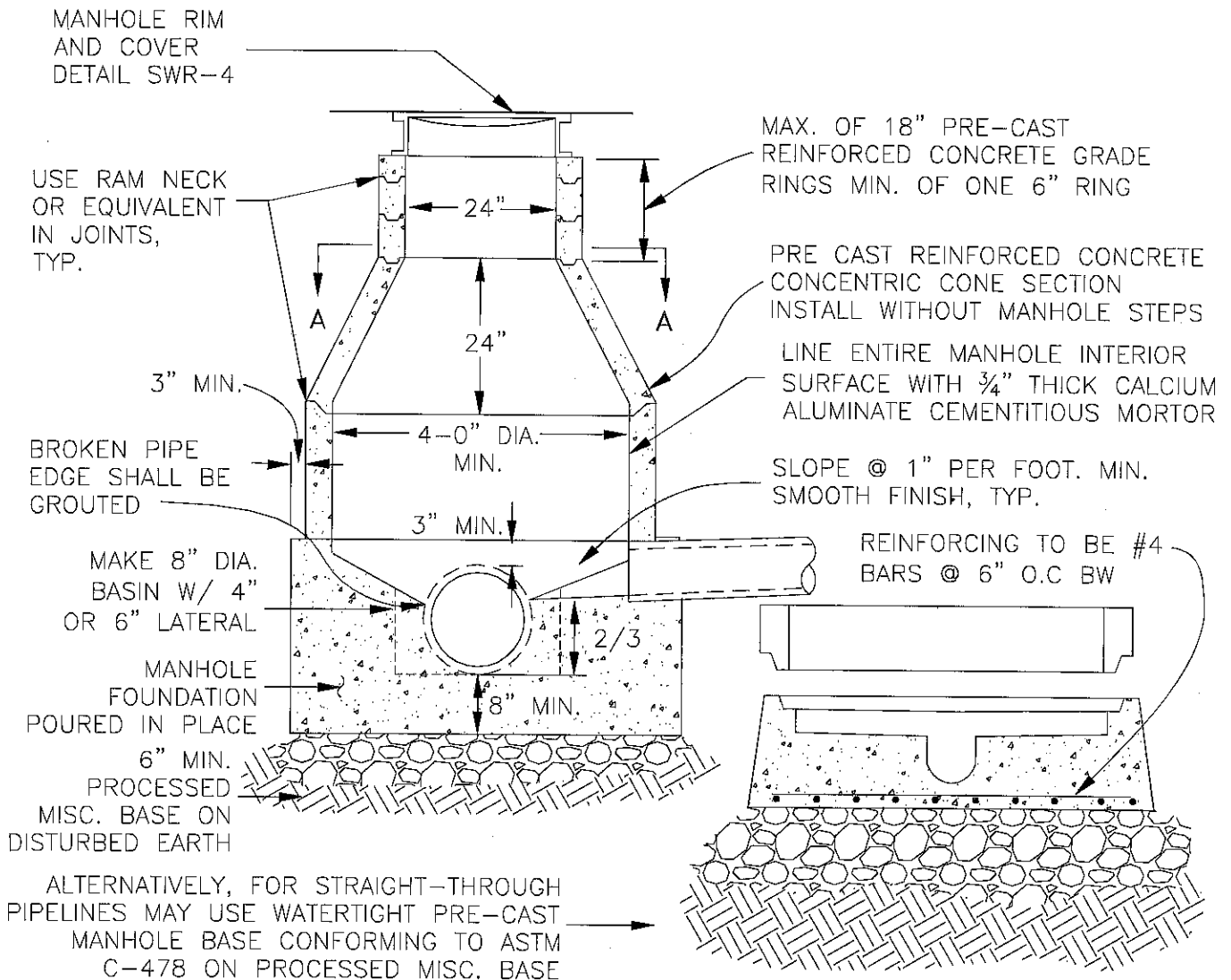
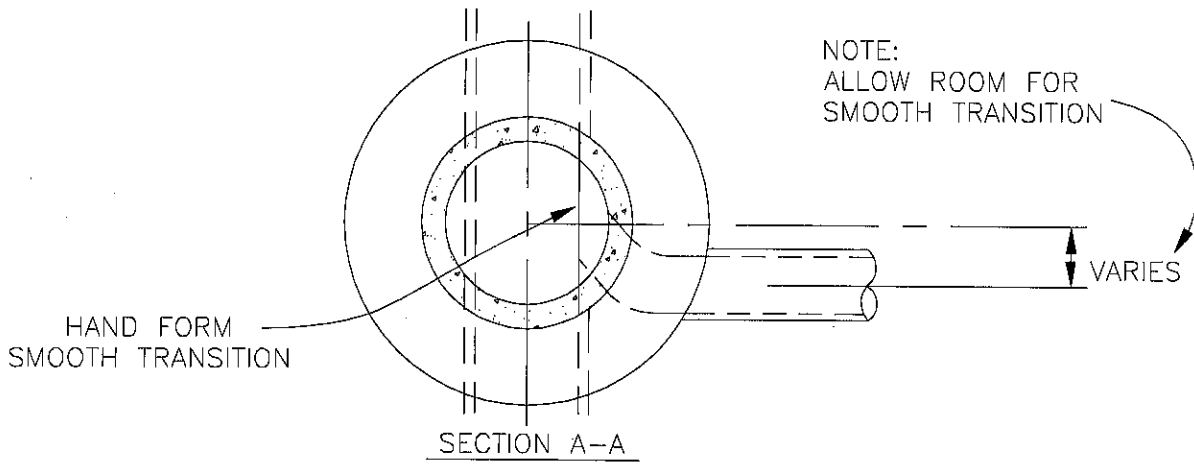


APPROVED BY:

Paul Jordan

CITY ENGINEER

8-18-14
DATE



CONCENTRIC TEST MANHOLE

DRAWN BY: CSG
CHECKED BY:
LAST REVISED: 6/16/14
SCALE: N.T.S.

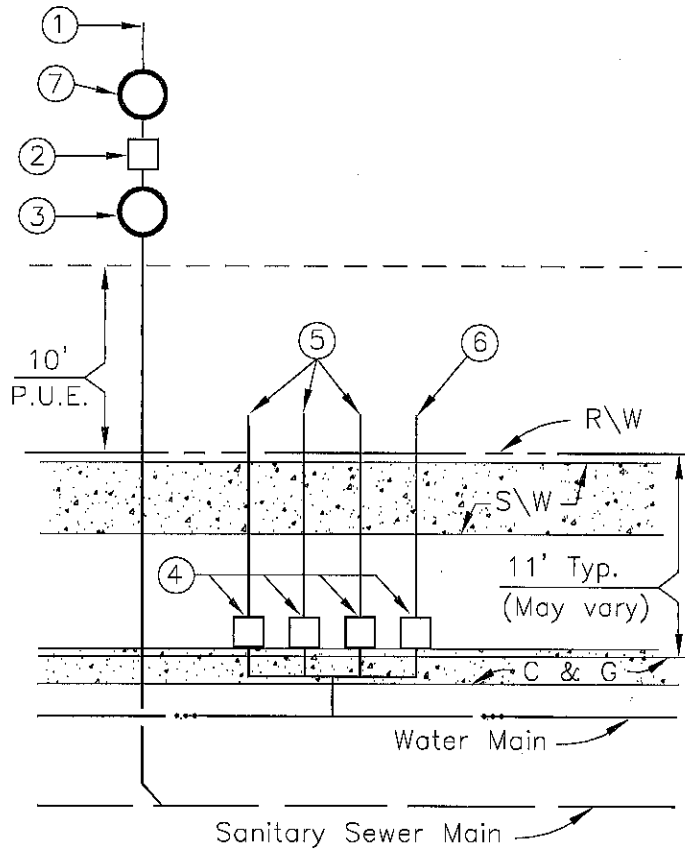
SECTION:
SEWER

DRAWING NO.: **SWR-3A**

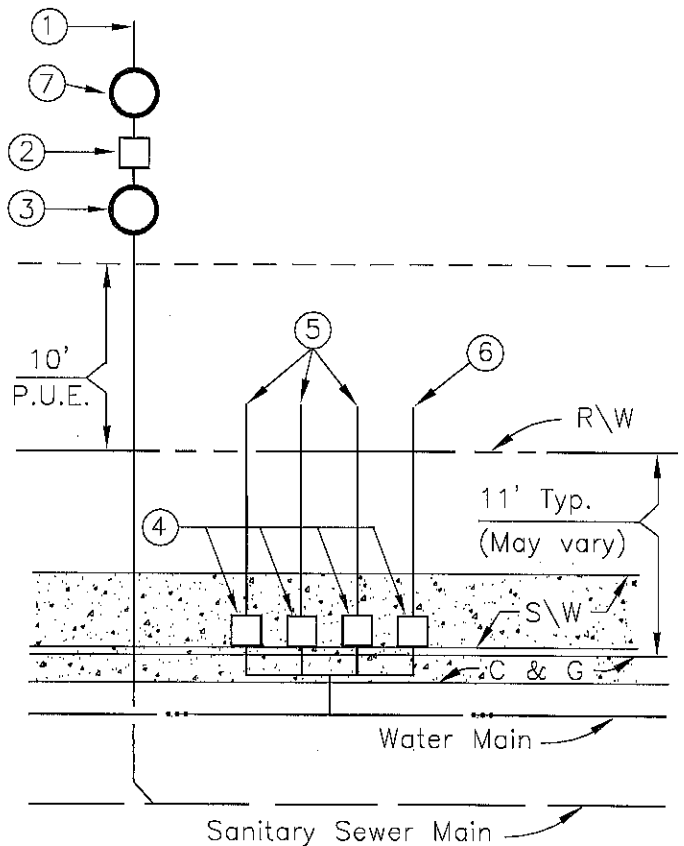


APPROVED BY:
Robert L. ...
CITY ENGINEER

8-18-14
DATE



SEPARATED SIDEWALK



MONOLITHIC SIDEWALK

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:

Rick Jordan
CITY ENGINEER

8-18-14
DATE

DRAWN BY: CSC
CHECKED BY:
LAST REVISED: 6/16/14

SCALE:
N.T.S.

SECTION:
SEWER

DRAWING NO.: SWR-3B

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.



MANHOLE FRAME AND COVER

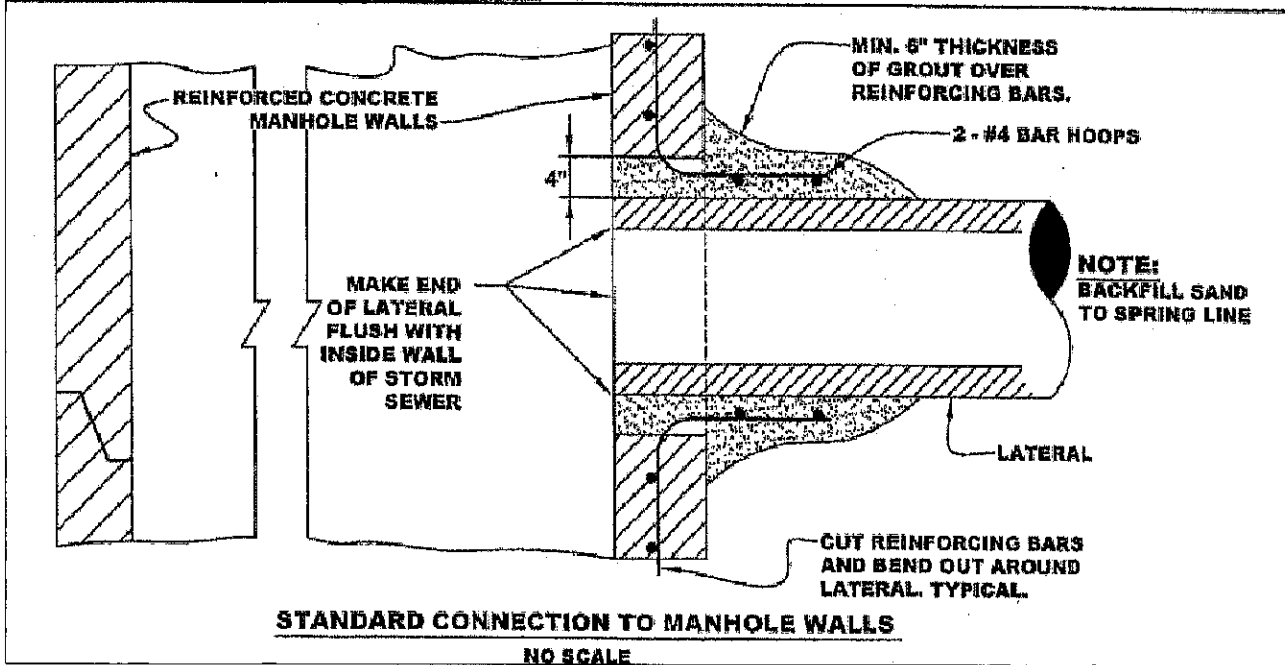
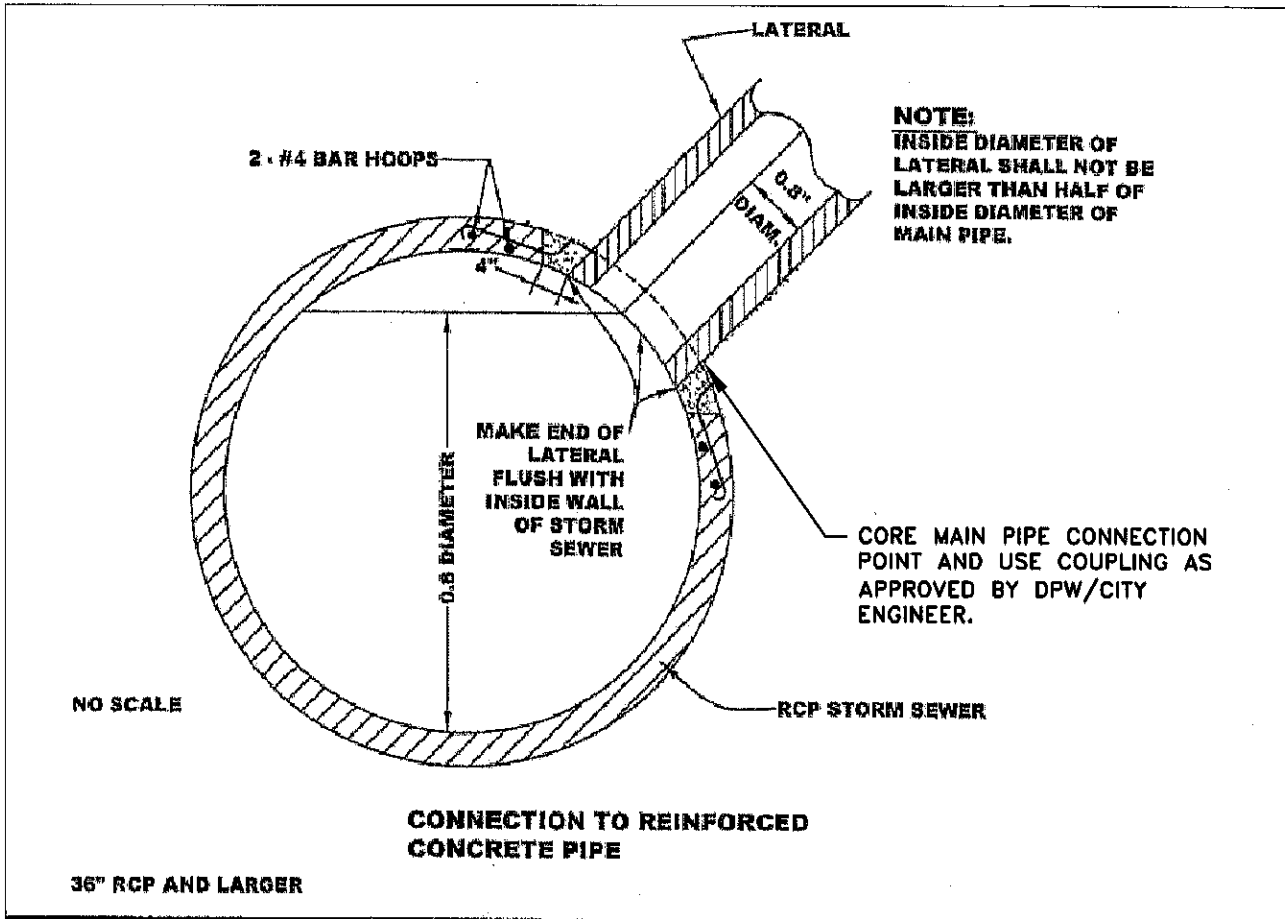
DRAWN BY: CSG	SCALE:
CHECKED BY:	N.T.S.
LAST REVISED: 06/14	

SECTION:
SEWER

DRAWING NO.: SWR-4



APPROVED BY: *Paul S. ...* 8-18-14
CITY ENGINEER DATE



CONNECTION TO MANHOLE WALLS AND REINFORCED CONCRETE PIPE

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

SECTION:
SEWER

DRAWING NO.: **SWR-5A**



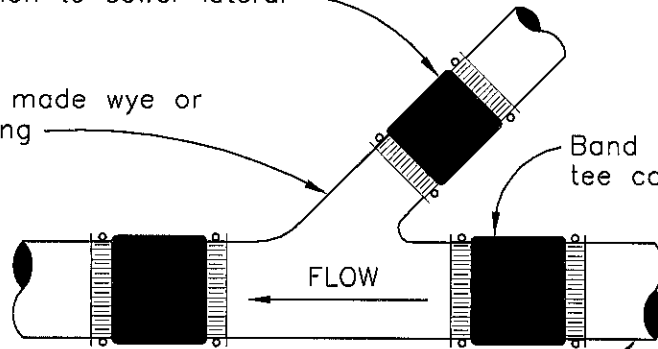
APPROVED BY:
Paul Jordan
CITY ENGINEER

8-18-14
DATE

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



Sewer main to be machine cut for wye or tee connection

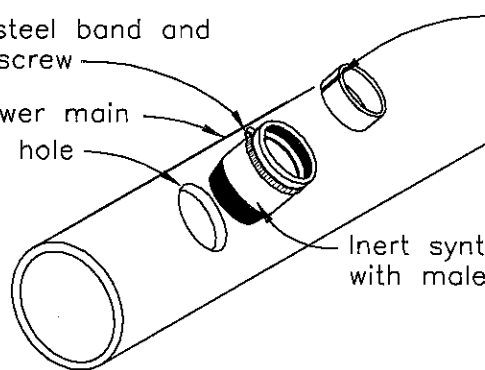
FACTORY MADE WYE OR TEE CONNECTION FOR 8" OR 12", OPTIONAL FOR LARGER SIZES

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)

SIDE SEWER/LATERAL CONNECTIONS TO EXISTING MAINS

DRAWN BY: CSG	SCALE:
CHECKED BY:	N.T.S.
LAST REVISED: 6/16/14	

SECTION:

SEWER

DRAWING NO.: SWR-5B



APPROVED BY:

Paul Jordan
CITY ENGINEER

8-18-14
DATE

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

ALTERNATE:

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

CHRISTY G-5 OR EQUAL (PAVED AREAS) OR CHRISTY F-8 (LANDSCAPED AREAS)

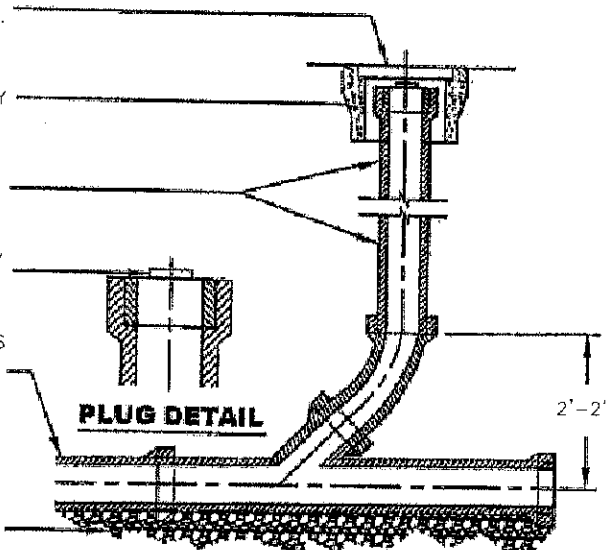
PVC OR ABS SCH. 40

PVC OR ABS PLUG OR CAP (CAP SHALL BE TREATED W/ ANTI-SEIZE COMPOUND)

VCP, SDR 35, PVC OR ABS ACH.40 (PVC SHALL BE COMPATIBLE W/ ABS LATERALS)

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

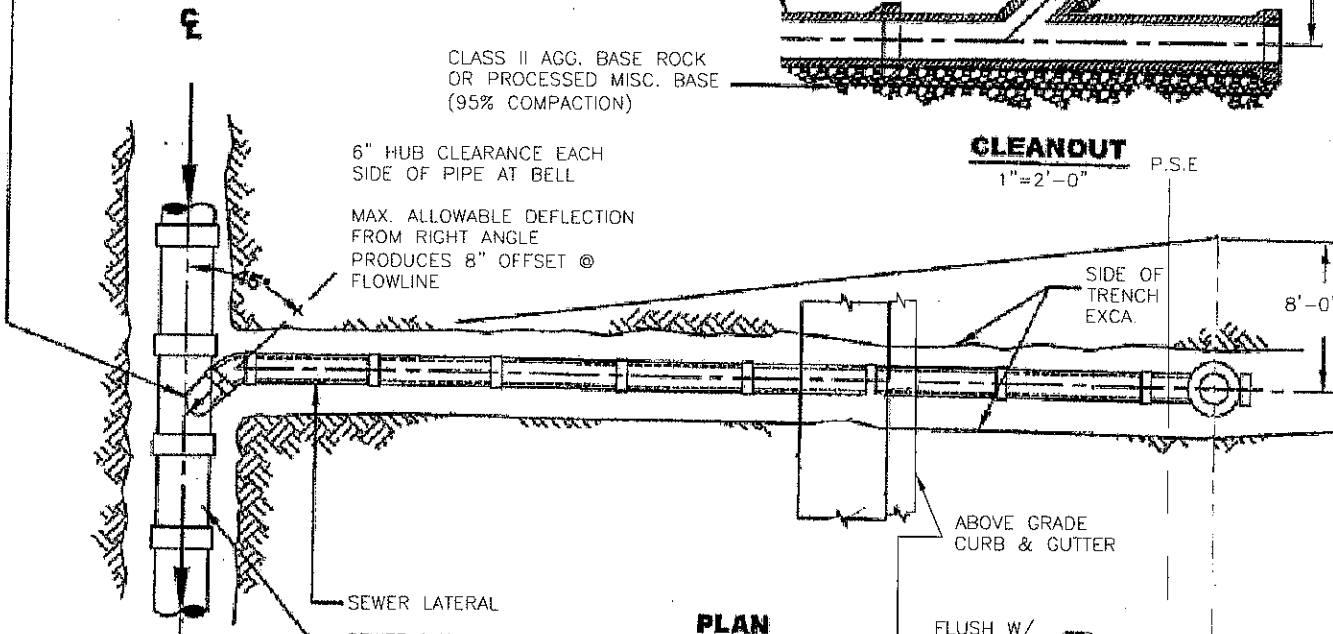
MAKE CONNECTION NO CLOSER THAN 12" TO EITHER BELL OR SPIGOT



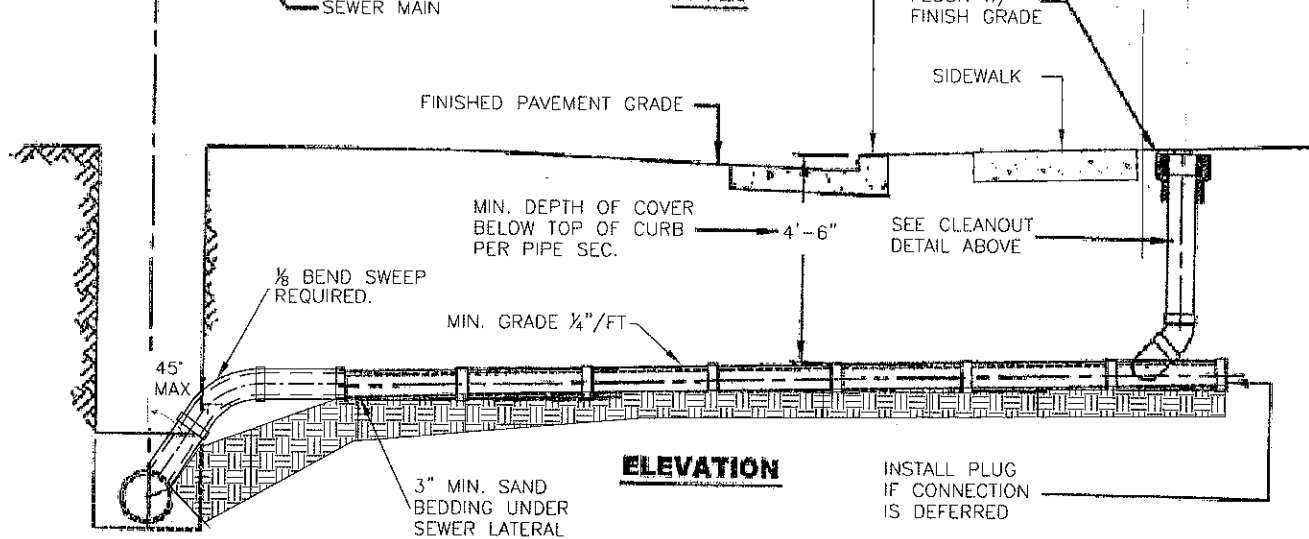
CLEANOUT
1"=2'-0" P.S.E

6" HUB CLEARANCE EACH SIDE OF PIPE AT BELL

MAX. ALLOWABLE DEFLECTION FROM RIGHT ANGLE PRODUCES 8" OFFSET @ FLOWLINE



PLAN



ELEVATION

INSTALL PLUG IF CONNECTION IS DEFERRED

SEWER LATERAL

DRAWN BY: CSG
CHECKED BY:
LAST REVISED: 7/30/14

SCALE:
N.T.S.



APPROVED BY:
Paul Sorensen
CITY ENGINEER
8-18-14
DATE

SECTION:
SEWER
DRAWING NO.: **SWR-6**