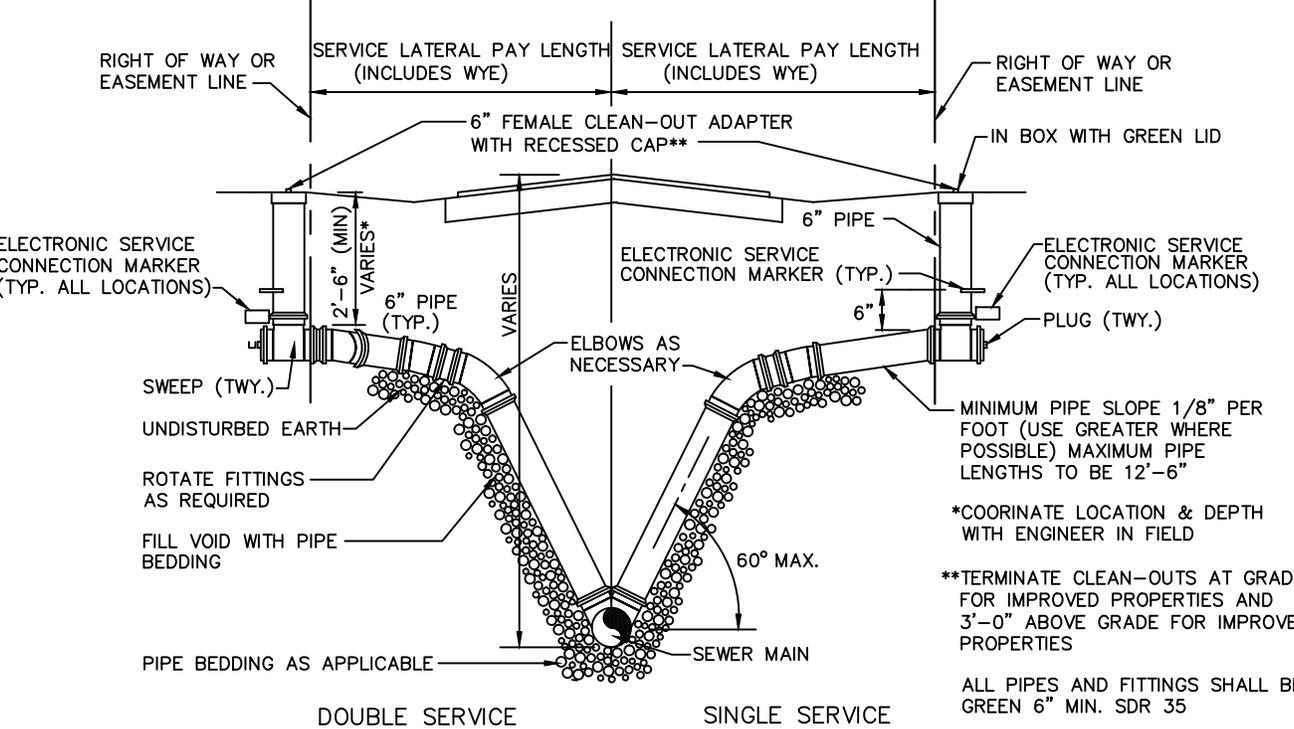


PLAN

BOX
CDR WB 00-1118-12
LID
CDR WC 00-1118-02 GS

TEE GRAVITY SEWER SADDLE SHALL ONLY BE USED WHEN EXISTING SEWER MAIN IS LINED (Refer to Standard Detail 201-1)

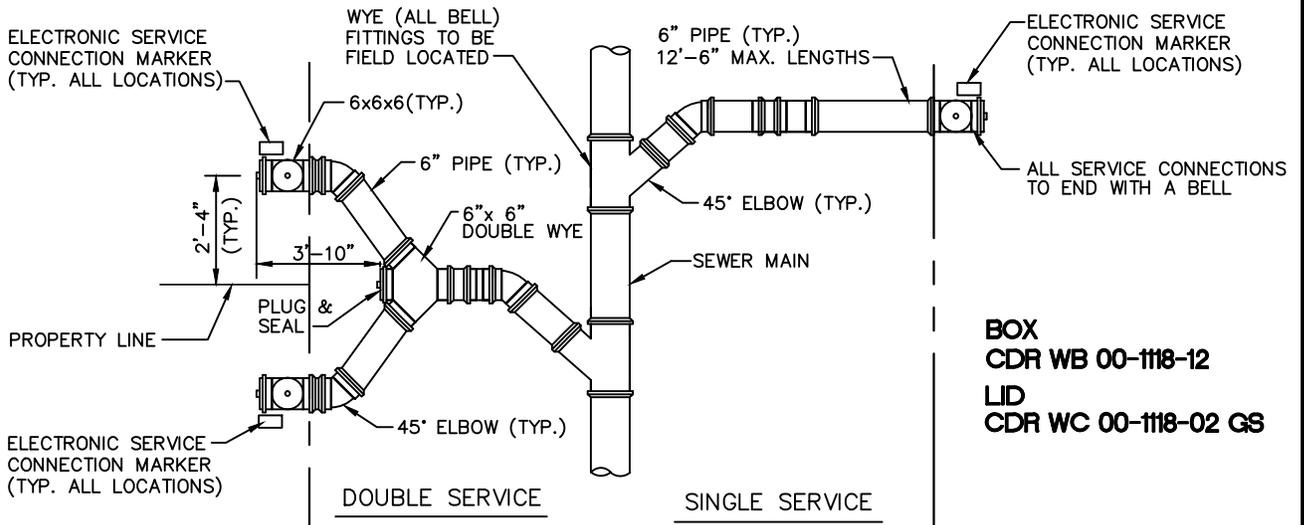


ELEVATION

SERVICE LATERALS WITH RISERS

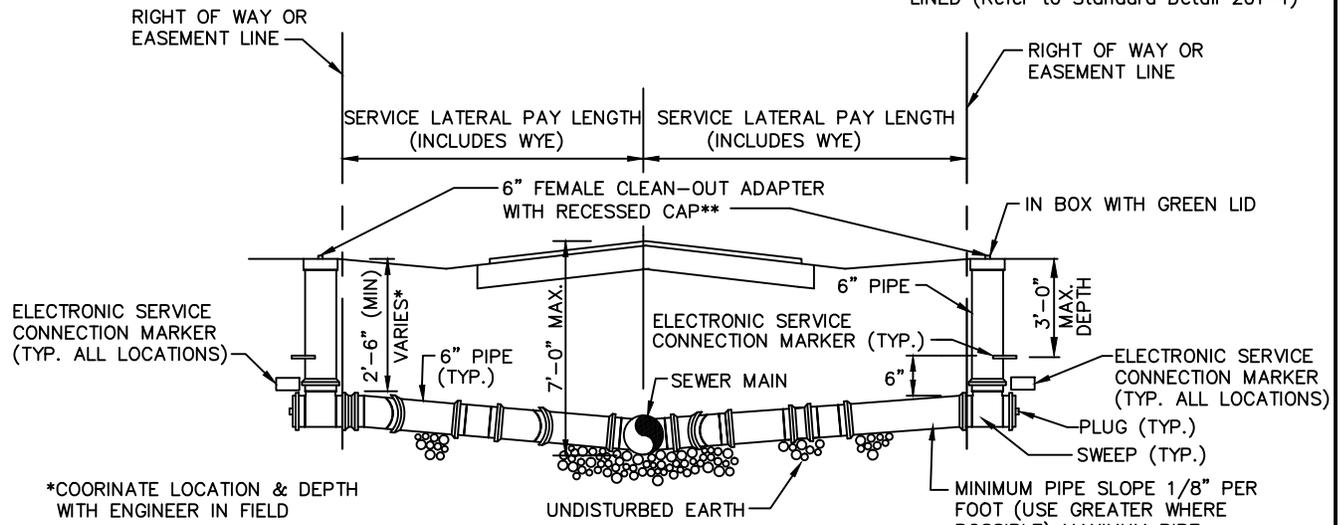
ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SERVICE LATERALS	
BY	DATE			
T.W.	11-2007	SCALE: N.T.S.	DATE: JUNE 1996	
S.S.	01/27/12		DWG. NO.	
S.S.	07/10/12		200-1	
S.S.	02/05/16			



PLAN

TEE GRAVITY SEWER SADDLE SHALL ONLY BE USED WHEN EXISTING SEWER MAIN IS LINED (Refer to Standard Detail 201-1)



ELEVATION

*COORDINATE LOCATION & DEPTH WITH ENGINEER IN FIELD

**TERMINATE CLEAN-OUTS AT GRADE FOR IMPROVED PROPERTIES AND 3'-0" ABOVE GRADE FOR IMPROVED PROPERTIES

MINIMUM PIPE SLOPE 1/8" PER FOOT (USE GREATER WHERE POSSIBLE) MAXIMUM PIPE LENGTHS TO BE 12'-6"

ALL PIPES AND FITTINGS SHALL BE GREEN 6" MIN. PVC SDR 35

SHALLOW SERVICE LATERALS

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SERVICE LATERALS		
BY	DATE				
T.W.	11-2007		SCALE: N.T.S.	DATE:	JUNE 1996
S.S.	01/27/12			DWG. NO.	200-2
S.S.	07/10/12				
S.S.	02/10/16				

J:\City-STANDARDS\2016 Standards Details\Sanitary 2-1.dwg, 11/5/2015 9:14:23 AM

INLET: GASKETED BELL - SDR 35 PVC

Base Casting is ASTM A-48 Class 30 Cast Iron
(Various Contours available to fit 6.275" - 30.00" O.D. Mains)

PVC Adapter is an ASTM D3034, SDR-35
Gasketed Bell

Adapter is cemented permanently in place with two-part
urethane adhesive

Base of Saddle is dip-coated in a Waterbased
Bituminous Coating

Strap is 24 ga. x 2.5" wide Type 304 Stainless Steel

Strap Pins are .75" dia. Type 303 Stainless Steel

T-Bolts are .375" - 16 Type 304 Stainless Steel

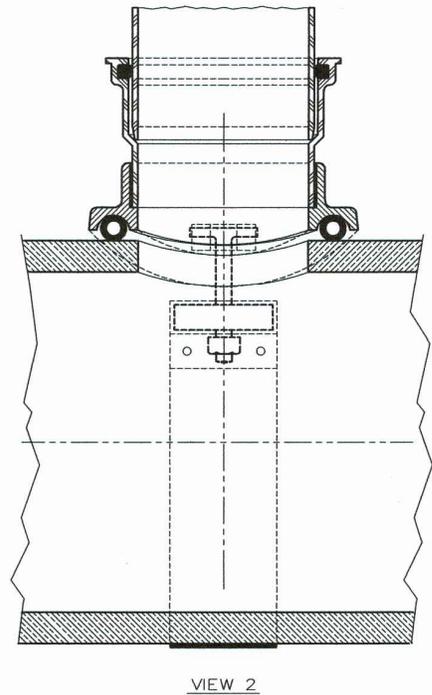
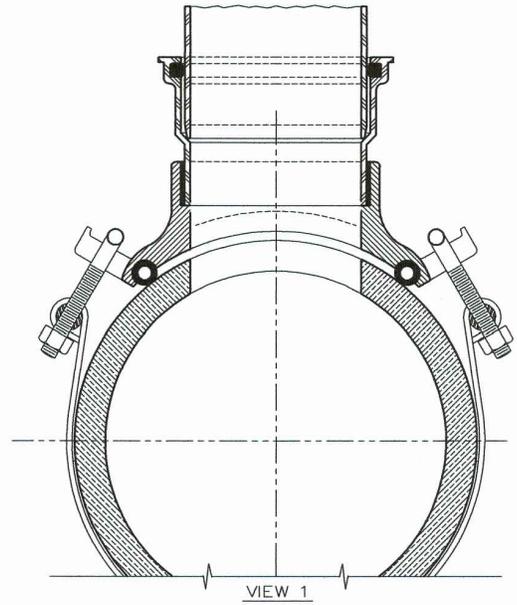
Nuts and Washers are Type 18-8 Stainless Steel

O-Ring is ASTM C-361-77 Tubular Polyisoprene

4" inlet requires a 4" dia. Tap in the Sewer Main

6" inlet requires a 6" dia. Tap in the Sewer Main
(Sewer Main must be at least 8" dia.)

Note: This Dwg. supercedes Dwg. No. R-3408-D2



GRAVITY SEWER SADDLE

TO BE USED WHEN A SEWER MAIN HAS BEEN LINED
WITH A CURED IN PLACE MATERIAL.

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	GRAVITY SEWER SADDLE	
BY	DATE			
		SCALE: N.T.S.	DATE: JAN 2012	
			DWG. NO. 201-1	

Adjustable Repair Coupling



NOTES

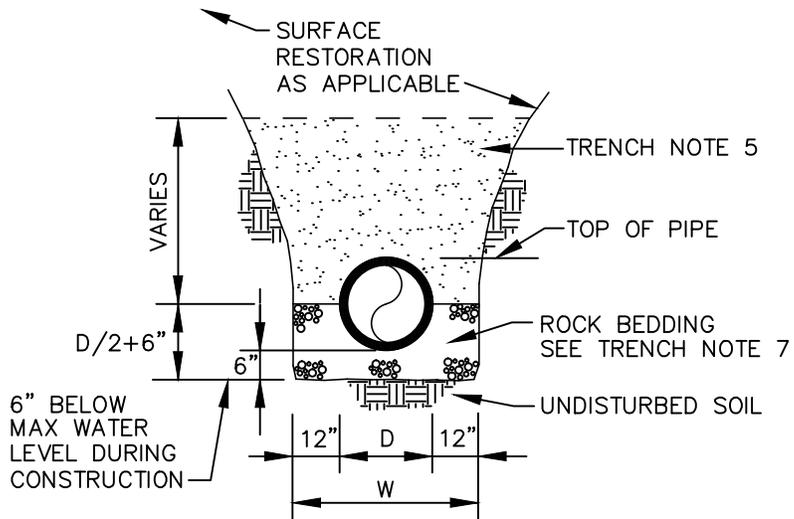
- ▶ Synthetic rubber gasket is strong, durable and resilient to ultraviolet rays, ozone, fungus growth and normal sewer gases. More pliable and easier to install in cold weather applications than an Elastomeric PVC gasket.
- ▶ Sealing "O" rings under the clamp prevent pipe slippage and create a more positive seal.
- ▶ More transition couplings for dissimilar pipe types and sizes are comprised of a one-piece transition gasket, eliminating the use of bushings that are difficult to install and easy to lose on the job site.
- ▶ Surgical Grade 316 stainless steel Nut & Bolt clamps are corrosion resistant, providing outstanding protection in severe environments such as marine applications, poorly aerated or moist soils, contaminated ground conditions (particularly industrial fill sites) and where the ground water contains chloride, sulfates or bicarbonates. Increased band tension of the Nut & Bolt clamp ensures a leak-proof, root-proof seal that is resistant to both infiltration and exfiltration.
- ▶ Series 300 stainless steel shear band is the heaviest in the industry, over 33% thicker than the competition.
- ▶ Broadest range of couplings on the market in sizes ranging from 1½" to 96" in diameter. Used for the alteration and rehabilitation of gravity-flow sewage pipes made of clay, cast iron, plastic, concrete, ductile iron, asbestos cement, fiber cement and truss pipe.

Specification:
 Furnish and install stainless steel shielded sewer couplings, as manufactured by Mission Rubber Company. Coupling to meet ASTM C 1173. Gasket to meet ASTM C 425 Table 2, to be rubber and be environmentally certified. Series 300 stainless steel shear band with a minimum thickness of .012", surgical grade 316 stainless steel clamps with nut & bolt take up, shear ring and clamps to meet all requirements of ASTM A 240. All stainless steel parts and clamping mechanisms to be **manufactured in the U.S.A.** Transitional sizes to utilize a one piece gasket.

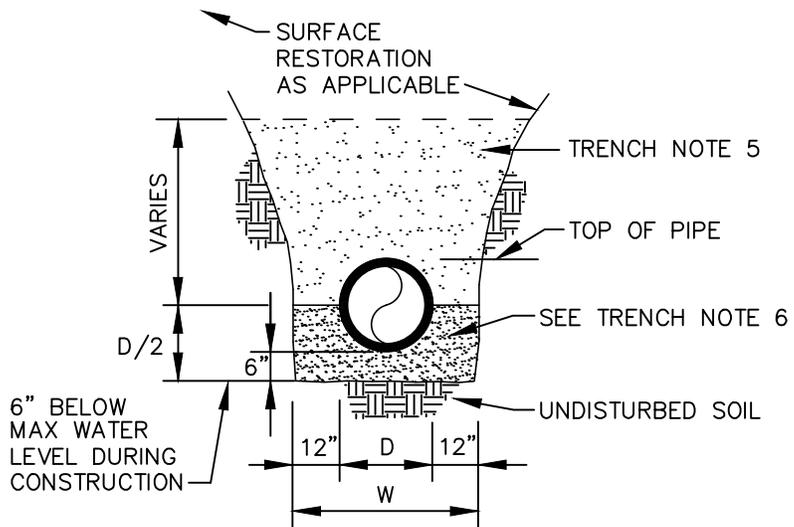
ADJUSTABLE REPAIR COUPLING PVC/CLAY NOTES

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	ADJUSTABLE REPAIR COUPLING	
BY	DATE			
		SCALE: N.T.S.	DATE: JAN 2012	202-1
			DWG. NO.	



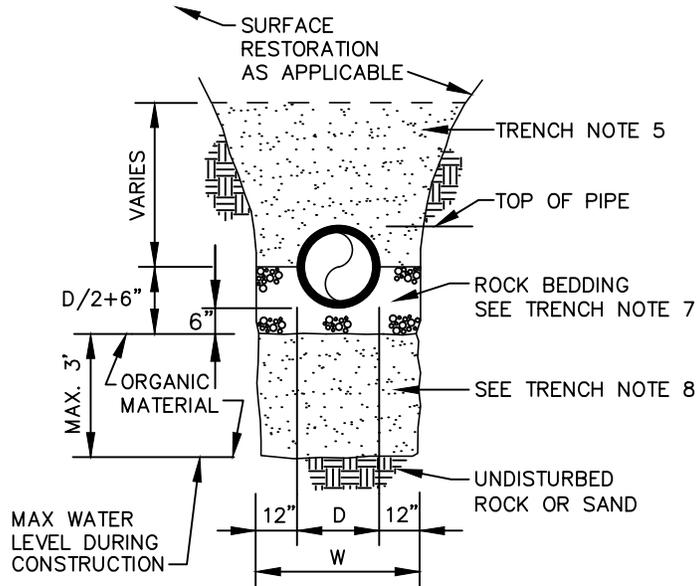
**TRENCH BACKFILL / BEDDING
CLASS " B "**



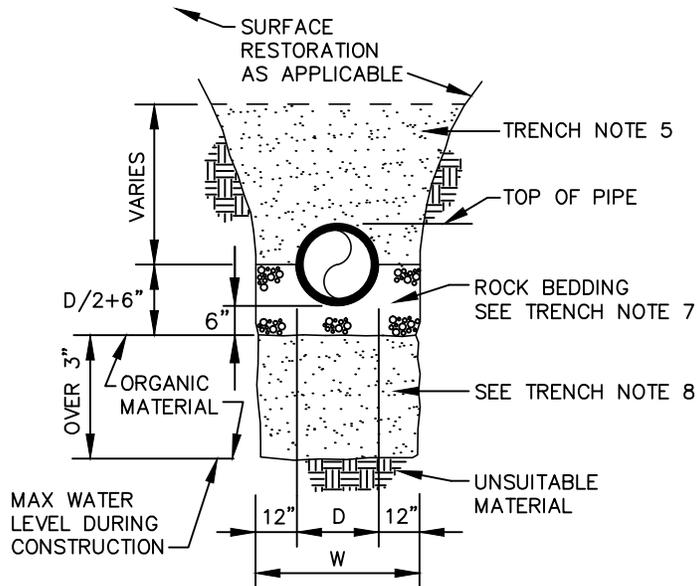
**TRENCH BACKFILL / BEDDING
CLASS " A "**

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	
BY	DATE			
S.S.	JUNE 2005		DATE: JUNE 1996	
			DWG. NO.	
		SCALE: N.T.S.	203-1	



**TRENCH BACKFILL / BEDDING
CLASS " C "**



**TRENCH BACKFILL / BEDDING
CLASS " D "**

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	
BY	DATE			
S.S.	JUNE 2005		DATE: JUNE 1996	
			DWG. NO.	
		SCALE: N.T.S.	203-2	

1. OUTLINE OF TRENCH EXCAVATION IS FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL TRENCH WIDTH AND SHAPE WILL VARY WITH SOIL CONDITIONS. TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH THE "FLORIDA TRENCH SAFETY ACT" AND OSHA TRENCH SAFETY STANDARDS.
2. TYPICAL TRENCH BACKFILL/BEDDING FOR WATER MAIN AND FORCE MAIN INSTALLATIONS SHALL BE CLASS "A" AS SHOWN IN DETAIL.
3. TYPICAL TRENCH BACKFILL/BEDDING FOR GRAVITY SEWER INSTALLATION SHALL BE CLASS "B" AS SHOWN IN DETAIL.
4. TRENCH BACKFILL/BEDDING CLASS "C" AND CLASS "D" SHALL BE USED FOR PIPE INSTALLATIONS WHERE UNSUITABLE TRENCH MATERIALS ARE ENCOUNTERED.
5. TRENCH ZONE BACKFILL SHALL BE MATERIAL TYPE 1 OR TYPES A THRU H, OR ANY MIXTURE THEREOF, WHERE SURFACE RESTORATION TYPE "1" IS APPLICABLE, TRENCH ZONE BACKFILL SHALL BE PLACED IN 12" LIFTS, COMPACTED TO 90% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-697 (AASHTO T-99). WHERE SURFACE RESTORATION TYPES "2", "3" AND "4" ARE APPLICABLE, TRENCH BACKFILL SHALL BE PLACED IN 8" LIFTS COMPACTED TO 98% OF THE MATERIAL'S DENSITY AS DETERMINED BY ASTM D-698 (AASHTO T-99).
6. BEDDING MATERIAL FOR TYPICAL WATER MAIN AND FORCE MAIN INSTALLATION SHALL BE TYPE C. BEDDING SHALL BE COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 (AASHTO T-180).
7. BEDDING MATERIAL FOR TYPICAL GRAVITY SEWER INSTALLATION AND ANY INSTALLATION WHERE UNSUITABLE TRENCH BOTTOM CONDITIONS ARE FOUND SHALL BE TYPE E. BEDDING SHALL BE PLACED IN LIFTS NOT TO EXCEED 6" AND COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 (AASHTO T-180).
8. UNSUITABLE MATERIAL SHALL BE REMOVED TO UNDISTURBED ROCK OR SAND OR TO DEPTH AS SPECIFIED BY ENGINEER. BACKFILL MATERIAL SHALL BE TYPE C. BACKFILL SHALL BE PLACED IN 8" LIFTS COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 (AASHTO T-180).

TRENCH BACKFILL / BEDDING NOTES

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	
BY	DATE			DATE: JUNE 1996 DWG. NO.
				203-3
		SCALE: N.T.S.		

9. BEDDING TYPES – THE FOLLOWING TYPES OF SUITABLE MATERIALS ARE DESIGNATED AND DEFINED AS FOLLOWING:

TYPE A: CRUSHED LIMEROCK OR SAND WITH 100 PERCENT PASSING A 1 INCH SIEVE AND A SAND EQUIVALENT VALUE NOT LESS THAN 50.

TYPE B: CRUSHED LIMEROCK OR SAND WITH 100 PERCENT PASSING A 1/2 INCH SIEVE AND A SAND EQUIVALENT VALUE NOT LESS THAN 50.

TYPE C: SAND WITH 100 PERCENT PASSING A 3/8 INCH SIEVE, AT LEAST 90 PERCENT PASSING A NUMBER 4 SIEVE, AND A SAND EQUIVALENT VALUE NOT LESS THAN 30.

TYPE D: CRUSHED LIMEROCK WITH 100 PERCENT PASSING A 1 INCH SIEVE AND NOT MORE THAN 10 PERCENT A NUMBER 4 SIEVE.

TYPE E: CRUSHED LIMEROCK OR SAND WITH 100 PERCENT PASSING A 3/4 INCH SIEVE AND NOT MORE THAN 10 PERCENT PASSING A NUMBER 4 SIEVE.

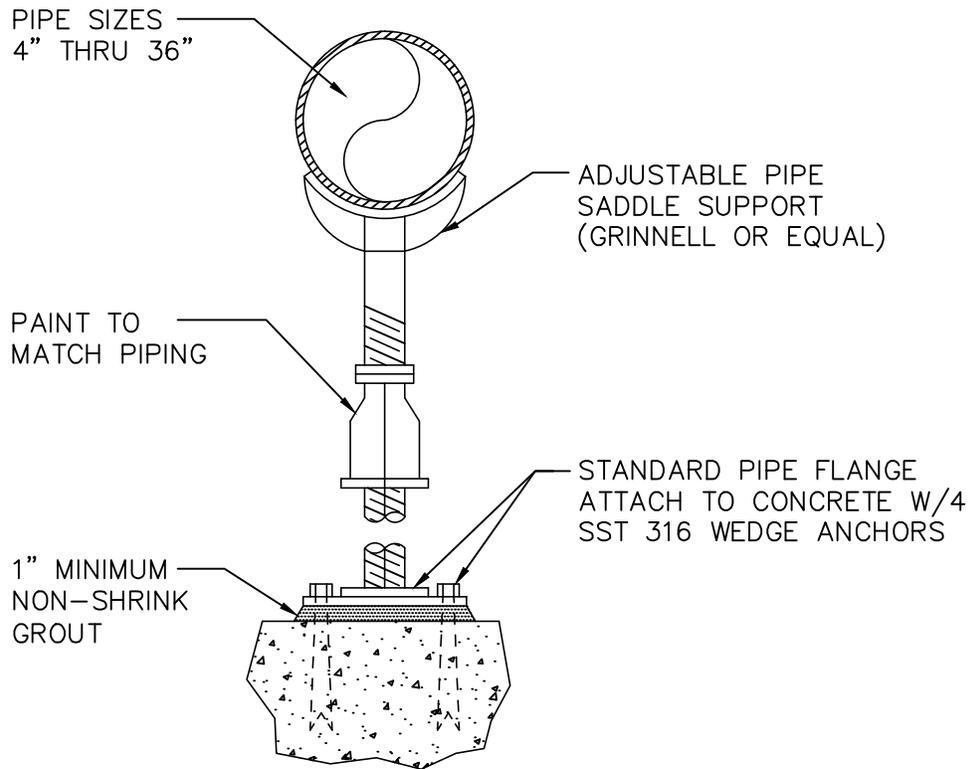
TYPE F: CRUSHED LIMEROCK MEETING THE FOLLOWING GRADATION REQUIREMENTS.

<u>SIEVE SIZE</u>	<u>PERCENTAGE PASSING</u>
2 INCH	100
1-1/2 INCH	90-100
1 INCH	20-55
3/4 INCH	0-15
NO. 200	0-3

TRENCH BACKFILL / BEDDING NOTES

ENGINEERING STANDARDS 2016

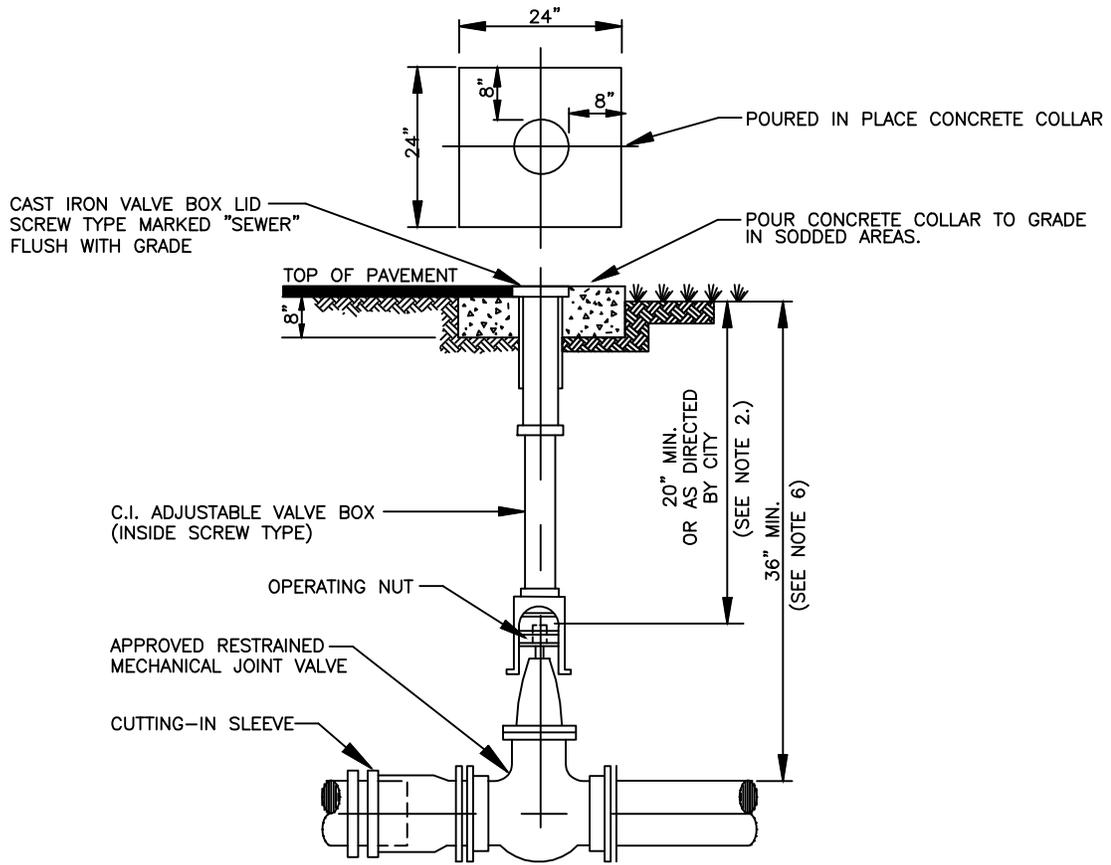
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	
BY	DATE			
		SCALE: N.T.S.	DATE: JUNE 1996	203-4
			DWG. NO.	



PIPE SUPPORT DETAIL

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	PIPE SUPPORT DETAIL	
BY	DATE		SCALE: N.T.S.	
S.S.	JUNE 2005			DWG. NO.
				204-1



NOTES:

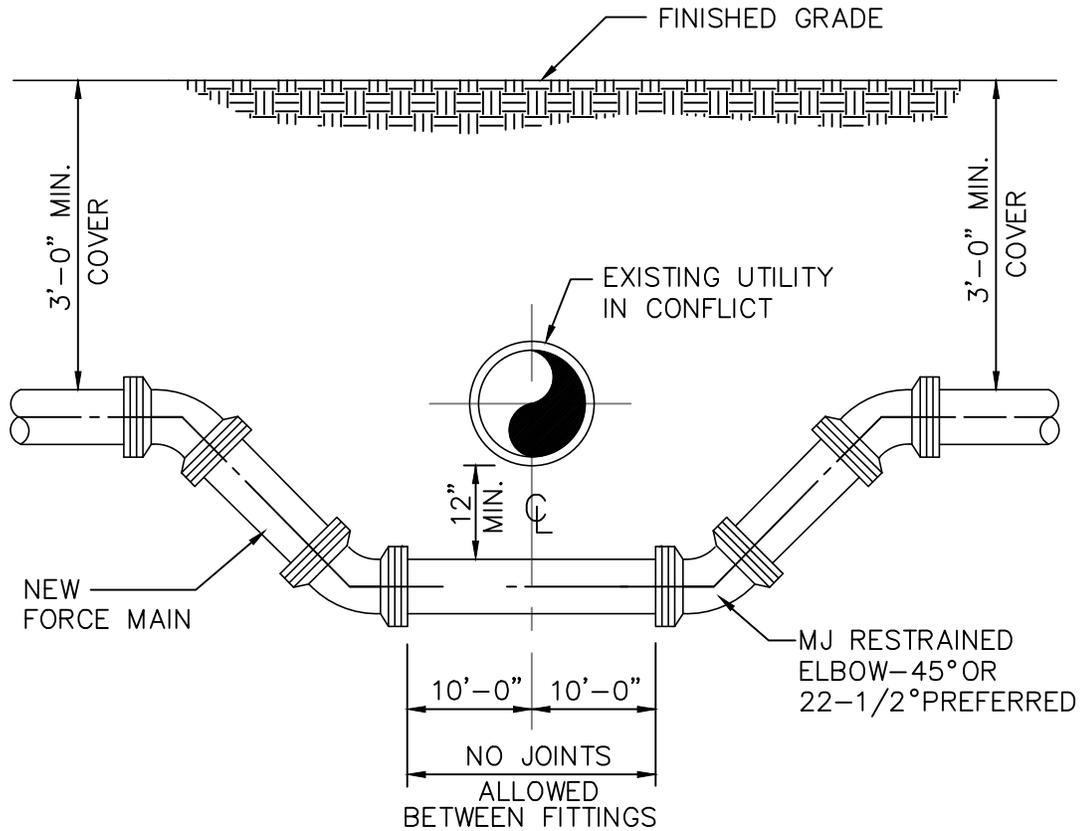
1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN OPERATING NUT IS DEEPER THAN 36" A ONE PIECE EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT 20"-30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS ARE TO BE STAINLESS STEEL. A HIGH STRENGTH STEEL CENTERING PLATE, WELDED TO THE EXTENSION, IS ALSO REQUIRED.
3. VALVE BOXES SHALL HAVE COVERS MARKED "SEWER".
4. EXTENSION VALVE BOX TO BE D.I.P. OR C-900 PVC DR 18 (COLOR: GREEN)
5. A CUT-IN INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.
6. IN ORDER TO MAINTAIN ADEQUATE COVER OVER VALVE NUT, THE FOLLOWING MINIMUM COVERS OVER PIPE ARE REQUIRED

GATE VALVE SIZE	MIN. COVER OVER PIPE
16"	48"
20"	54"
24"	60"
30"	72"
36"	84"

FORCE MAIN PLUG VALVE SETTING

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	PLUG VALVE SETTING	
BY	DATE			
S.S.	01/27/12			DATE: JAN 2012
				DWG. NO.
		SCALE: N.T.S.		205-1



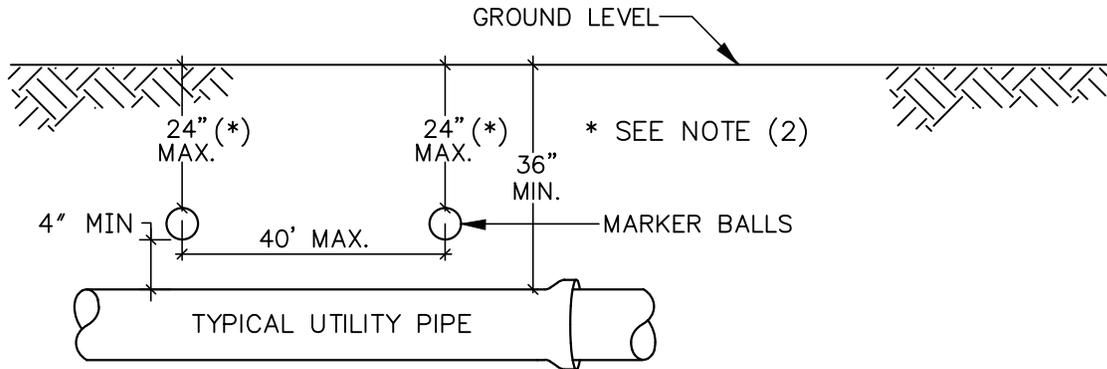
NOTES:

WHERE CONDITIONS PERMIT, PIPE DEFLECTION MAY BE USED INSTEAD OF BENDS TO OBTAIN THE MINIMUM CLEARANCE. FACTORY OFFSETS MAY BE USED.

TYPICAL CONFLICT DETAIL

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL CONFLICT (SEWER)	
BY	DATE			
S.S.	JUNE 2005		DATE: JUNE 1996	DWG. NO.
S.S.	02/13/12	SCALE: N.T.S.	206-1	



GENERAL NOTES:

1. ALL UTILITY PIPE SHALL BE INSTALLED WITH 4"Ø MARKING BALLS PLACED EVERY 40' AND AT EVERY FITTING, FOR IDENTIFICATION AND WARNING PURPOSES, BURIED ABOVE THE PIPE AT A MAXIMUM DEPTH OF 24 INCHES OR AS APPROVED BY THE OWNER. IT SHALL BE COLOR CODED AND WORDED AS FOLLOWS:

SEWER SYSTEM

- A. COLOR: GREEN
- B. LETTERING: SANITARY SEWER
- C. FREQUENCY OF MARKER BALLS SHALL BE 121.6 Khz.
- D. THE MARKER BALLS CAN BE BURIED IN ANY ORIENTATION.

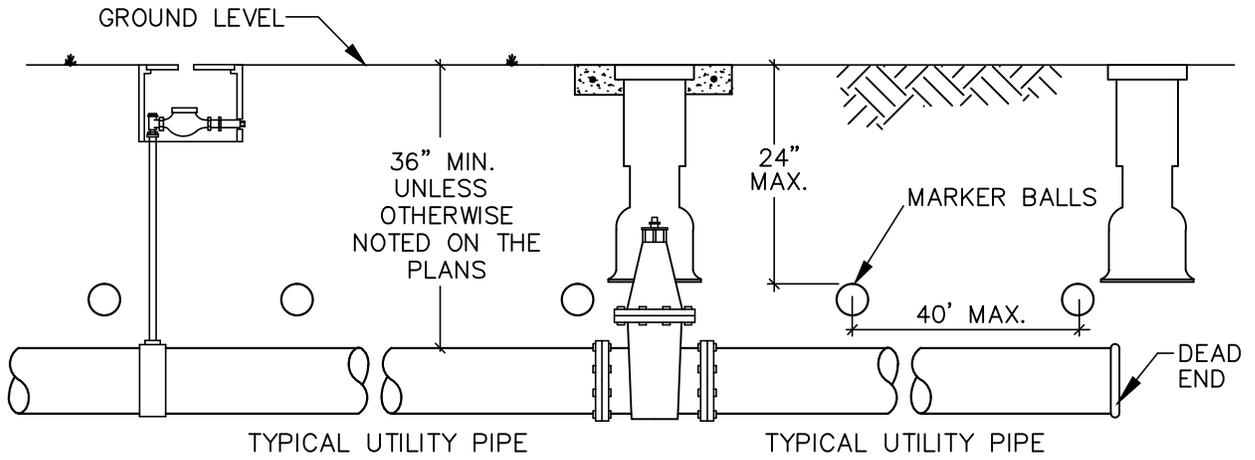
THE MARKER BALLS SHALL BE DETECTABLE BY STANDARD METAL DETECTION EQUIPMENT AND SHALL BE MANUFACTURED BY TEMPO OR 3M LOCATOR SYSTEM OR EQUIVALENT (FREQUENCY 121.6 Khz)

2. FOR LARGE DIAMETER PIPE INSTALLED AT DEPTHS BELOW 4'-0" MARKER BALLS SHALL BE PLACED AT A MAXIMUM DEPTH OF 4'-0" BELOW GRADE *.

SEWER PIPE IDENTIFICATION

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SEWER PIPE IDENTIFICATION	
BY	DATE			
S.S.	01/30/12	SCALE: N.T.S.	DATE: JAN 2012	207-1
			DWG. NO.	



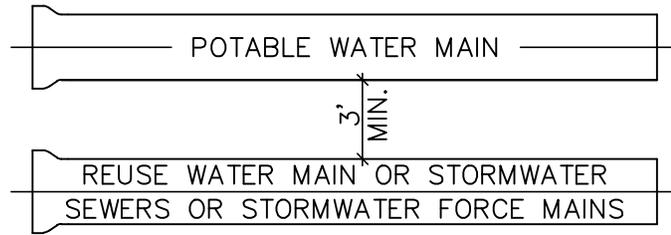
GENERAL NOTES:

1. ALL NONMETALLIC PIPE SHALL BE INSTALLED WITH 12 THHN SOLID COPPER TRACING WIRE.
2. THE MARKER BALLS MUST BE INSTALLED DIRECTLY ABOVE THE PIPE.
3. MARKER BALLS SHALL BE INSTALLED AT 40' O.C.
4. BALL COLOR CODING:
SANITARY SEWER SYSTEM: GREEN

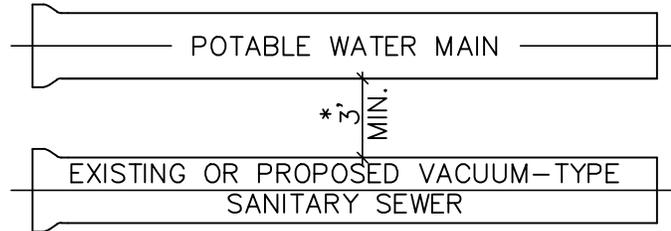
UTILITY PIPE AND MARKER BALLS LOCATION

ENGINEERING STANDARDS 2016

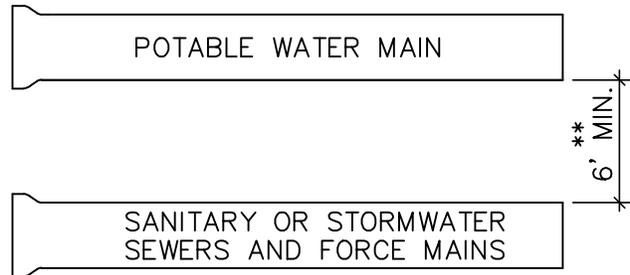
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	UTILITY PIPE AND MARKER BALLS LOCATION
BY	DATE		
S.S.	01/30/12	SCALE: N.T.S.	DATE: JAN 2012
			DWG. NO.
			208-1



A MINIMUM HORIZONTAL SEPARATION 3' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND STORMWATER SEWERS, STORMWATER FORCE MAINS AND REGULATED REUSE WATER MAINS.



A MINIMUM HORIZONTAL SEPARATION 3' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER. * SEE NOTE D(1)(B).

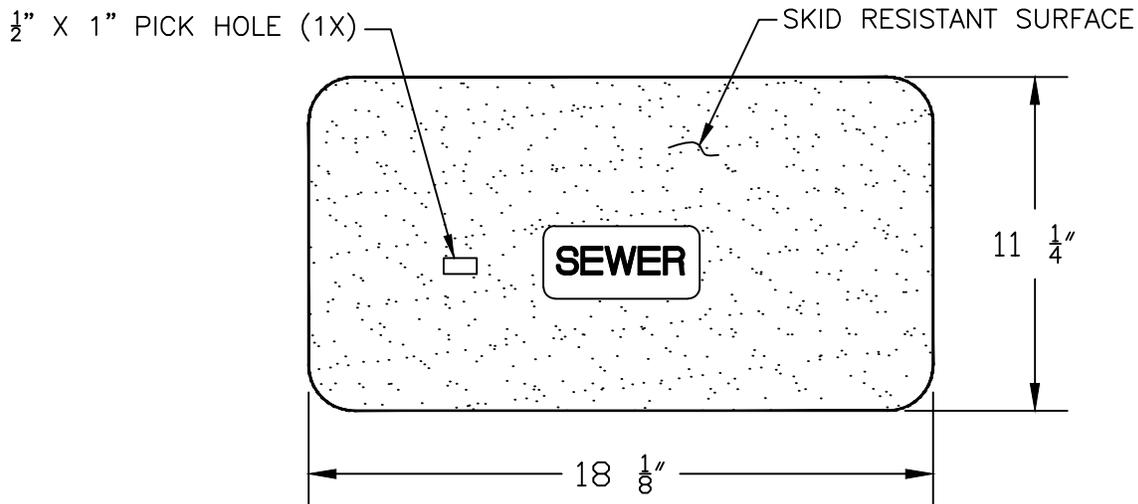


A MINIMUM HORIZONTAL SEPARATION OF 6' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND EXISTING OR PROPOSED GRAVITY-OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN OR NOT REGULATED REUSE WATER MAIN. ** SEE NOTE D(1)(C).

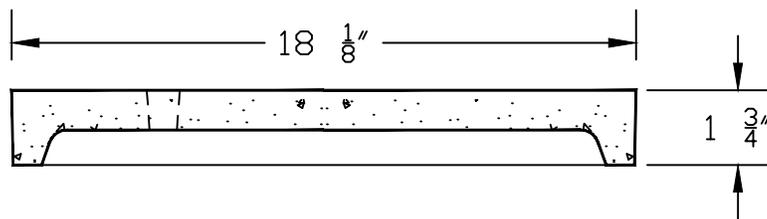
MINIMUM HORIZONTAL SEPARATION REQUIREMENTS FOR POTABLE WATER, REUSE, STORMWATER AND SEWER LINES

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	MIN. HORIZONTAL SEPARATION FOR SANITARY SEWER	
BY	DATE			
S.S.	01/30/12		DATE: JAN 2012	
			DWG. NO.	
		SCALE: N.T.S.	209-1	



TOP VIEW



SECTION

NOTE

1. MATERIAL: FIBERGLASS REINFORCED POLYMER CONCRETE & FIBERGLASS REINFORCED POLYMER
2. COLOR: GREEN
3. LOAD RATING: A8 (ASTM C857)
4. LOGO: SEWER

SEWER BOX AND COVER

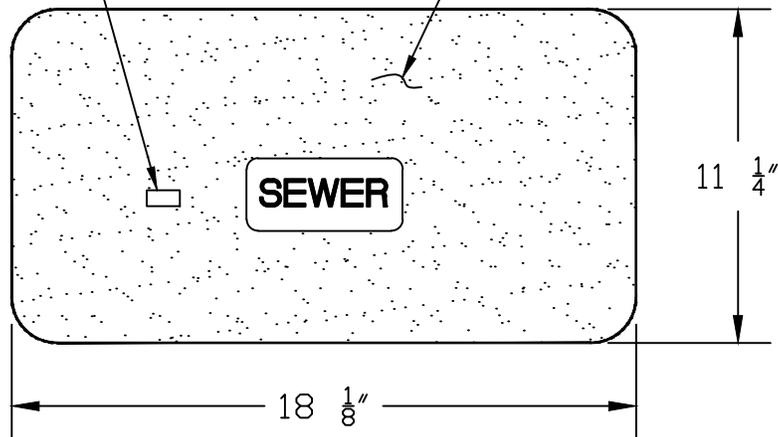
PRODUCT RATING - NON TRAFFIC						
LOAD DESIGNATION	DESCRIPTION	DESIGN LOADS			TESTING	
		LIVE LB/WHEEL (2)	LIVE + IMPACT LB/WHEEL	SIDE PSF (3)	LOAD,LBS	SAFETY FACTOR
AASHTO H10	LIGHT TRUCK TRAFFIC	8,000	10,400	N/A	22,568 (4)	2.82

ENGINEERING STANDARDS 2016

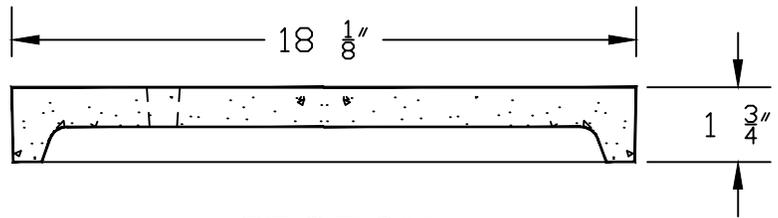
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SEWER BOX AND COVER CDR Part No. WB03-1118-12 CDR Part No. WC00-1118-02	
BY	DATE			
SCALE: N.T.S.				210-1

1/2" X 1" PICK HOLE (1X)

SKID RESISTANT SURFACE



TOP VIEW



SECTION

NOTE

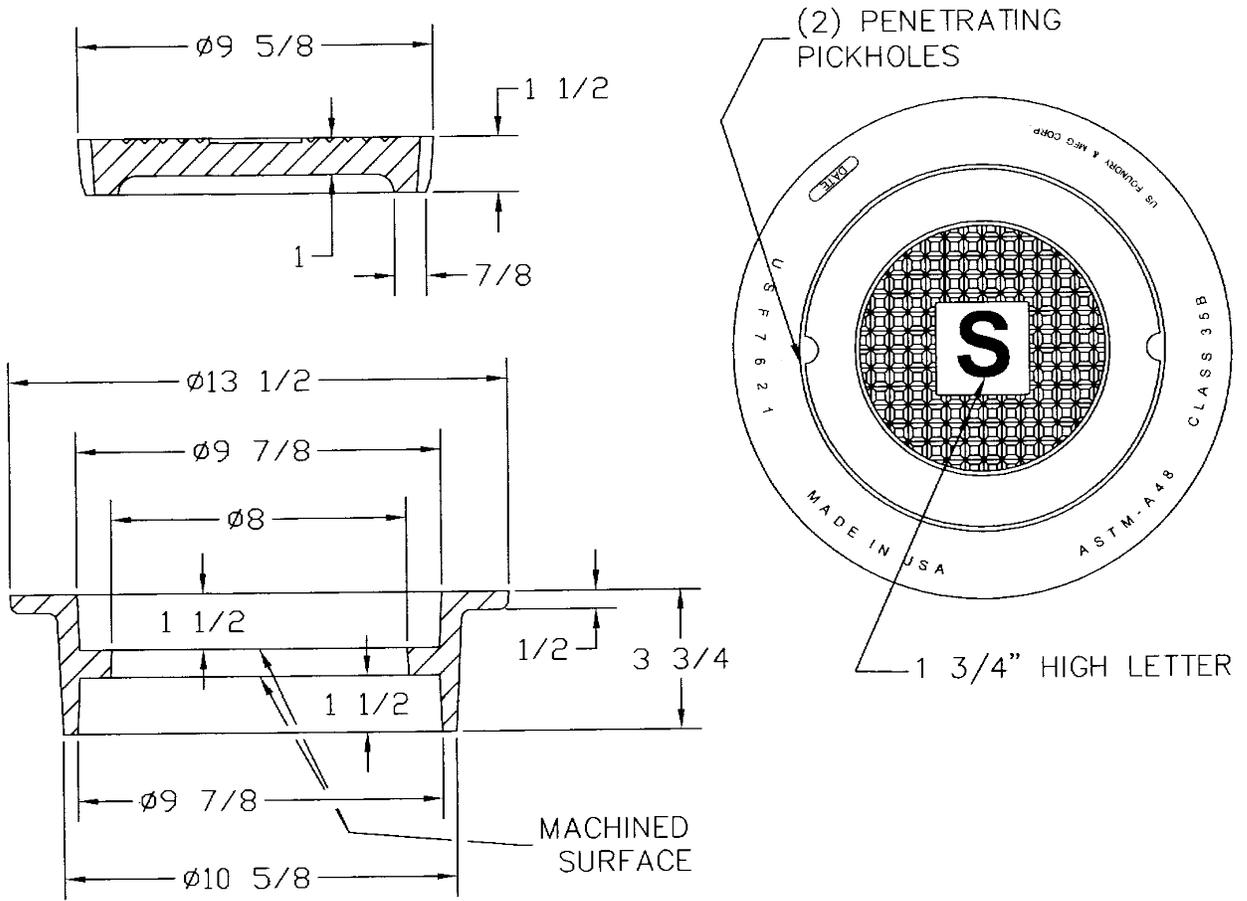
1. MATERIAL: FIBERGLASS REINFORCED
POLYMER CONCRETE & FIBERGLASS
REINFORCED POLYMER
2. COLOR: GREEN
3. LOAD RATING: A8 (ASTM C857)
4. LOGO: SEWER

SEWER BOX AND COVER

PRODUCT RATING - TRAFFIC						
LOAD DESIGNATION	DESCRIPTION	DESIGN LOADS			TESTING	
		LIVE LB/WHEEL (2)	LIVE + IMPACT LB/WHEEL	SIDE PSF (3)	LOAD,LBS	SAFETY FACTOR
AASHTO H15	MEDIUM TRUCK TRAFFIC	12,000	15,600	N/A	27,000 (5)	2.25

ENGINEERING STANDARDS 2016

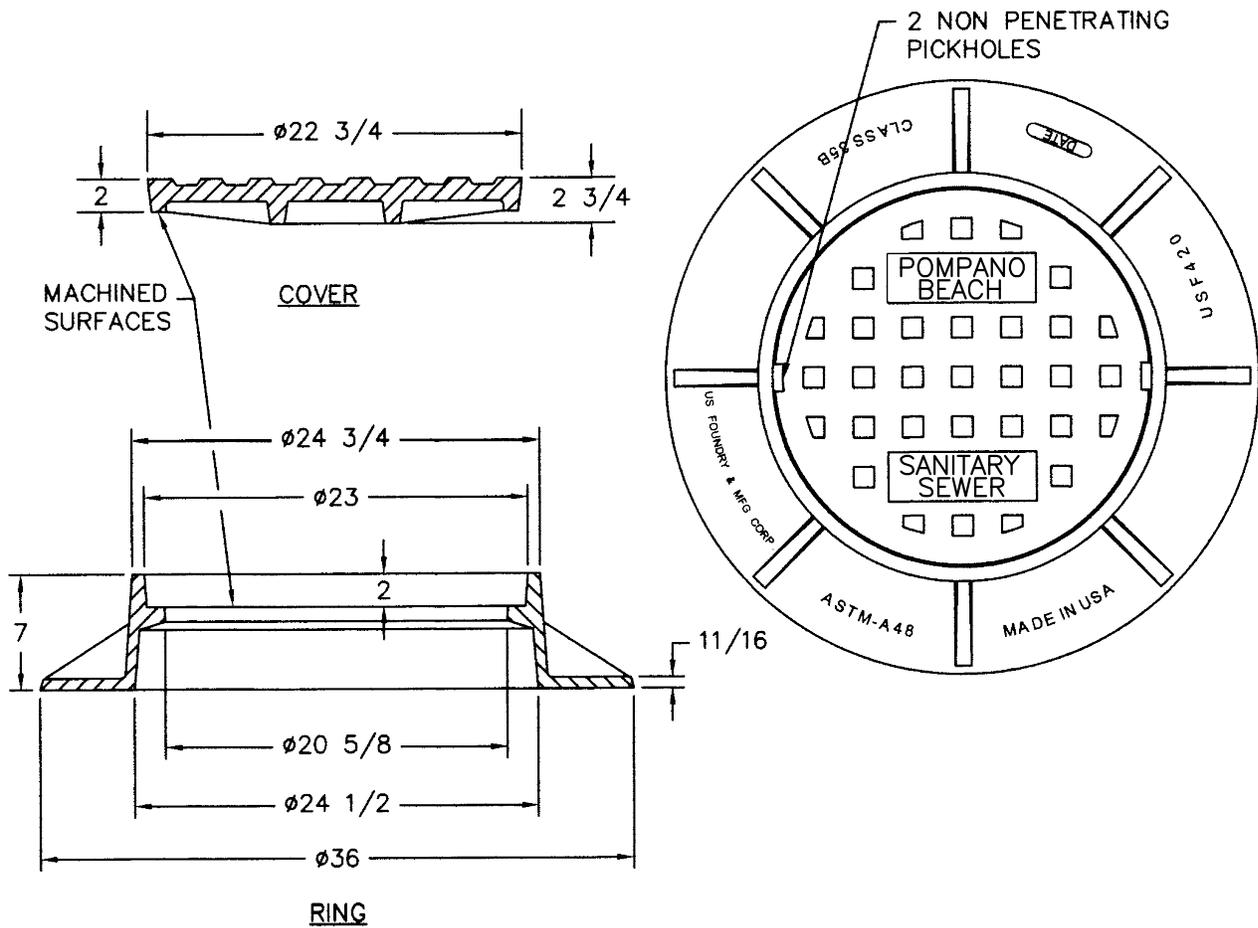
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SEWER BOX AND COVER CDR Part No. WB04-1118-12 CDR Part No. WC02-1118-02	
BY	DATE			
		SCALE: N.T.S.	DATE: AUGUST 2007	
			DWG. NO. 210-2	



SEWER BOX AND COVER - HEAVY TRAFFIC

ENGINEERING STANDARDS 2016

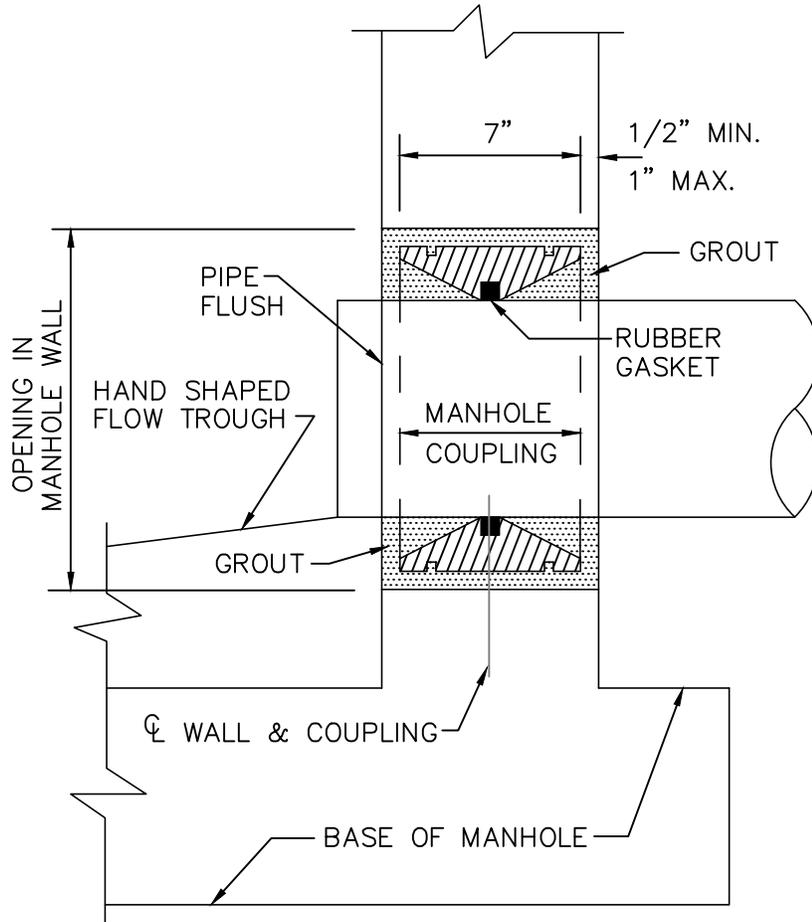
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SEWER BOX AND COVER HEAVY TRAFFIC	
BY	DATE			
		SCALE: N.T.S.	DATE: FEB. 2012	
			DWG. NO. 210-3	



TRAFFIC RATED FRAME & COVER

ENGINEERING STANDARDS 2016

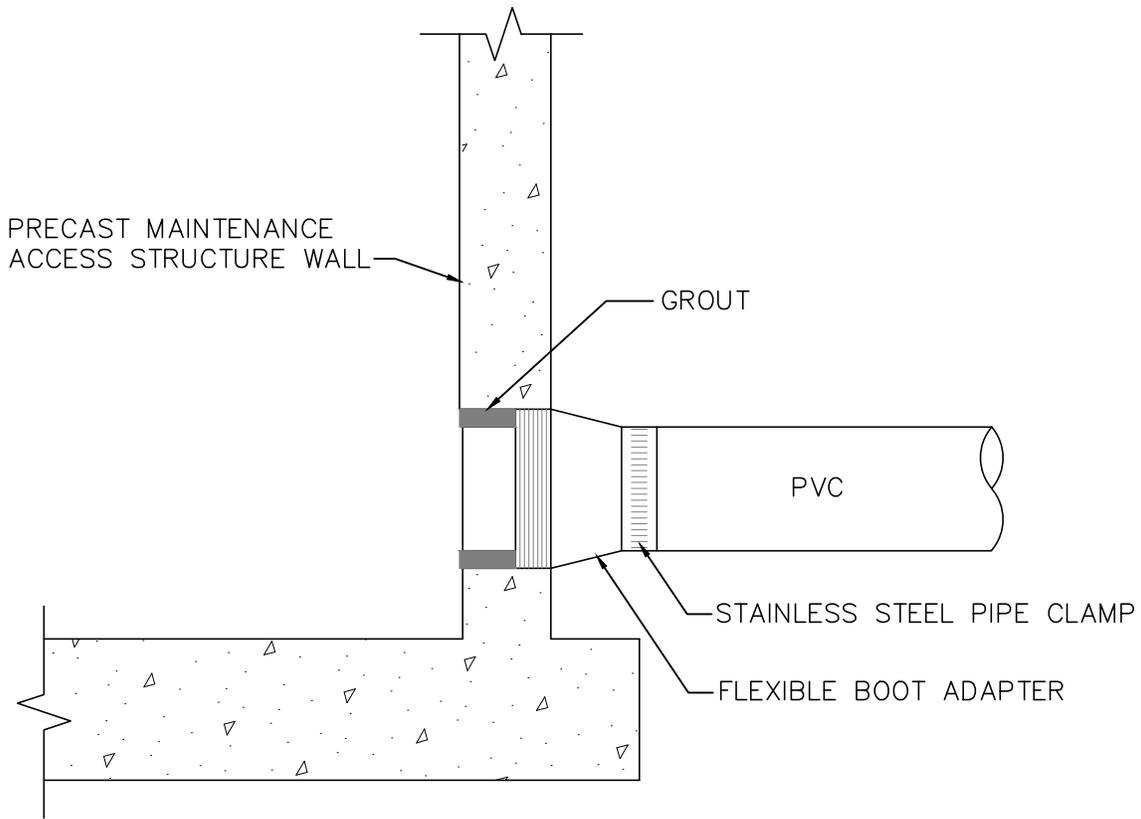
REVISIONS		ENGINEERING DIVISION CITY OF POMPAÑO BEACH	TRAFFIC RATED SEWER COVER	
BY	DATE			
			DWG. NO.	
			211-1	
			SCALE: N.T.S.	



MANHOLE COUPLING

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	MANHOLE COUPLING	
BY	DATE		DATE: JUNE 1996 DWG. NO. 212-1	
S.S.	JUNE 2005	SCALE: N.T.S.		



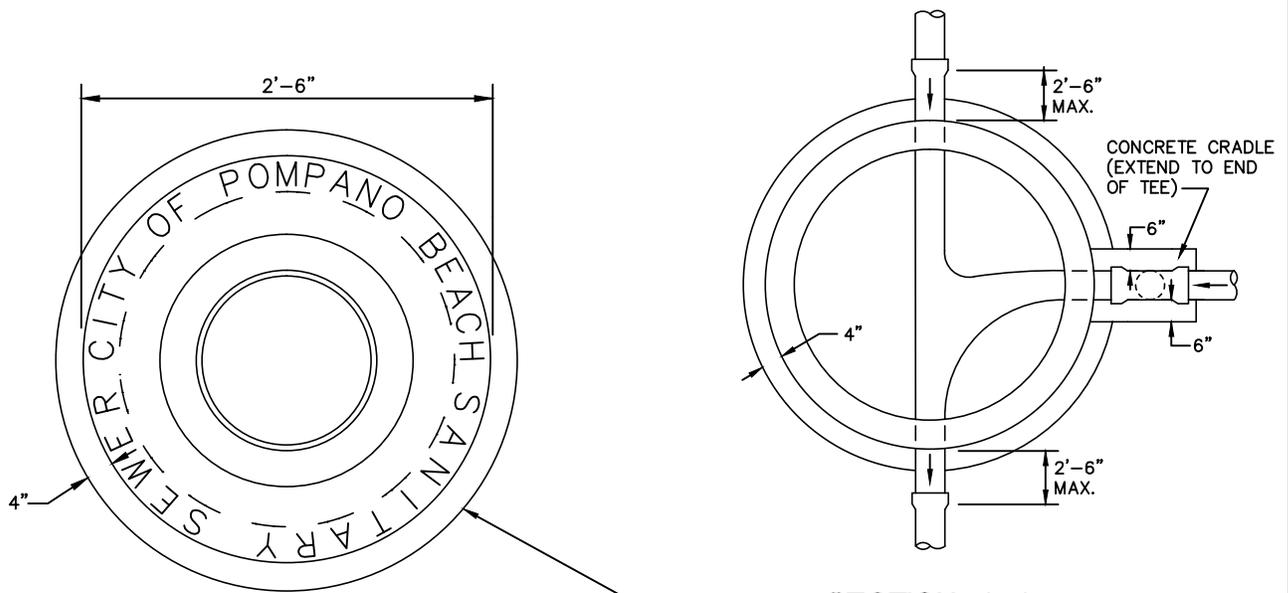
**STANDARD PRECAST
MAINTENANCE ACCESS STRUCTURE
PIPE CONNECTION**

NOTE:

C.O.P.B. MAY APPROVE ALTERNATE WATER TIGHT CONNECTION.

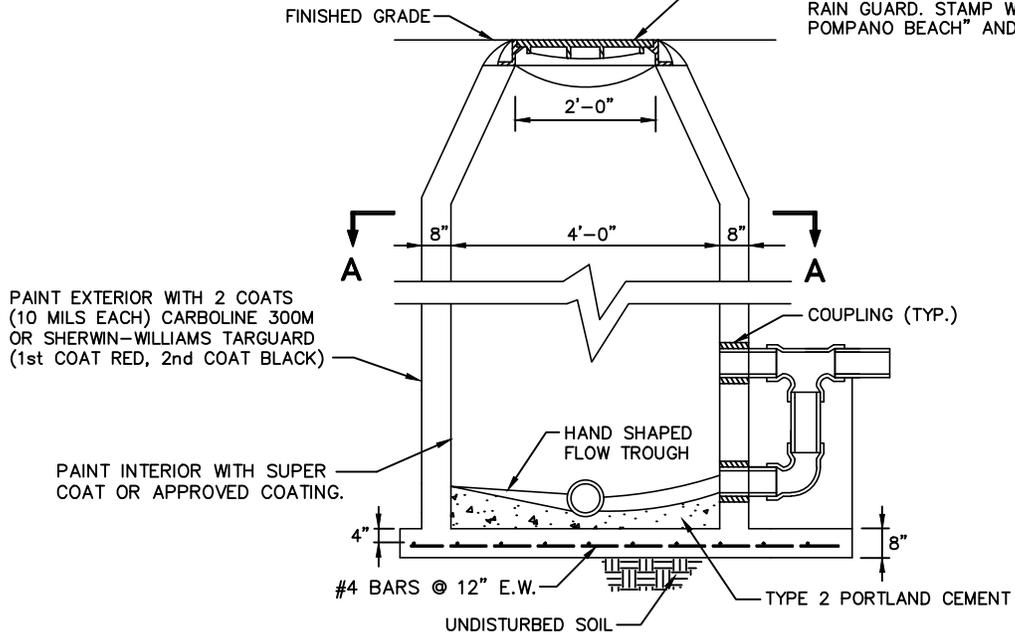
ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	MAINTENANCE ACCESS STRUCTURE	
BY	DATE			
		SCALE: N.T.S.	DATE: DECEMBER 2013	
			DWG. NO. 212-2	



SECTION A-A

STANDARD CAST IRON MANHOLE FRAME AND COVER U.S. FOUNDRY AND MFG. CORP. DRAWING NO. 420 OR APPROVED EQUAL. TYPE "C" COVER WITH PLASTIC RAIN GUARD. STAMP WITH "CITY OF POMPANO BEACH" AND "SANITARY SEWER".



PAINT EXTERIOR WITH 2 COATS (10 MILS EACH) CARBOLINE 300M OR SHERWIN-WILLIAMS TARGUARD (1st COAT RED, 2nd COAT BLACK)

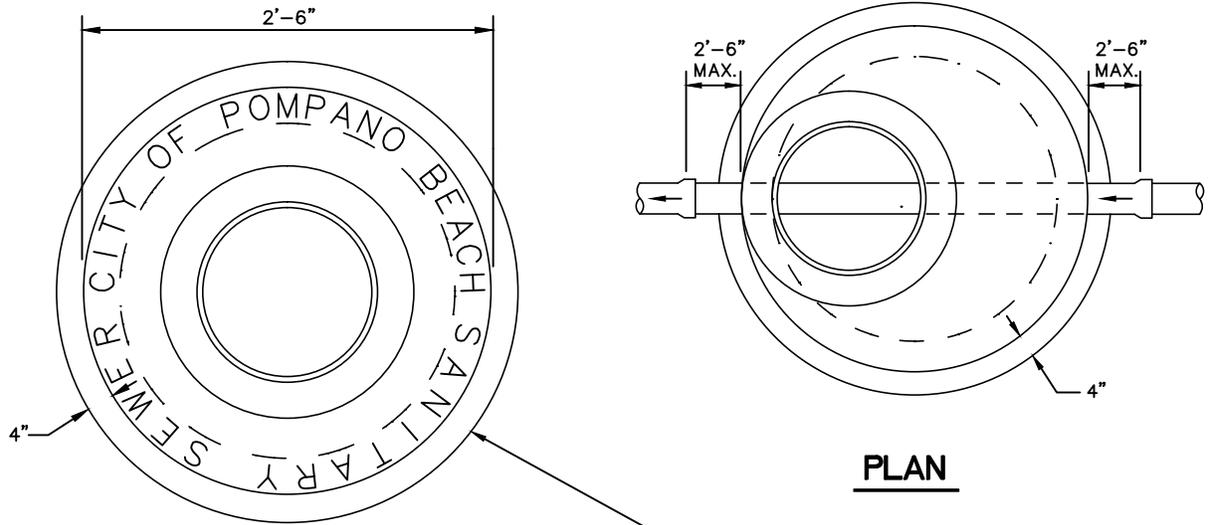
PAINT INTERIOR WITH SUPER COAT OR APPROVED COATING.

TYPE "A" DROP MANHOLE

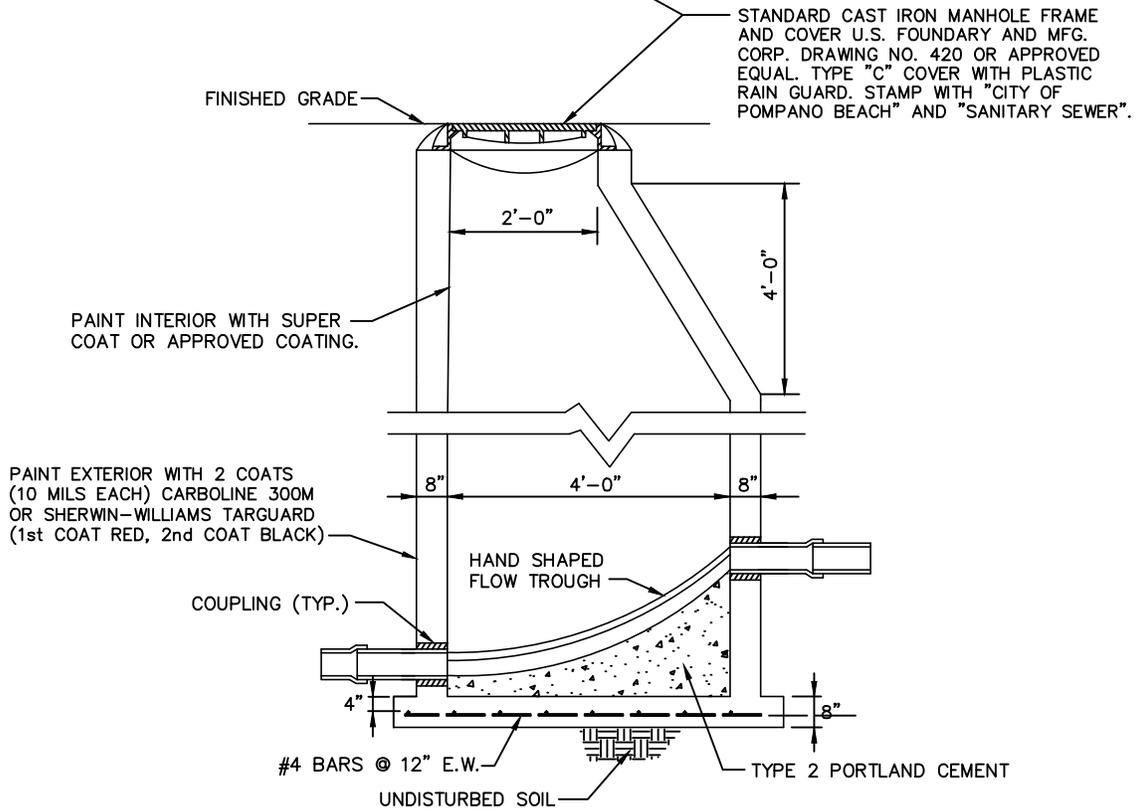
TO BE USED WHERE DROP IS 2 FEET OR MORE

ENGINEERING STANDARDS 2016

<table border="1"> <tr> <th colspan="2">REVISIONS</th> </tr> <tr> <th>BY</th> <th>DATE</th> </tr> <tr> <td>S.S.</td> <td>JUNE 2005</td> </tr> <tr> <td>T.W.</td> <td>11-2007</td> </tr> <tr> <td>S.S.</td> <td>12-2013</td> </tr> </table>		REVISIONS		BY	DATE	S.S.	JUNE 2005	T.W.	11-2007	S.S.	12-2013	ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPE "A" DROP MANHOLE
REVISIONS													
BY	DATE												
S.S.	JUNE 2005												
T.W.	11-2007												
S.S.	12-2013												
SCALE: N.T.S.		DATE: JUNE 1996 DWG. NO.	213-1										



PLAN

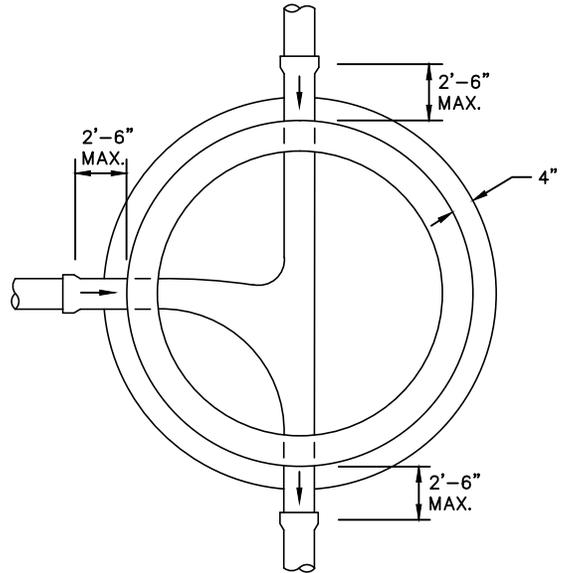
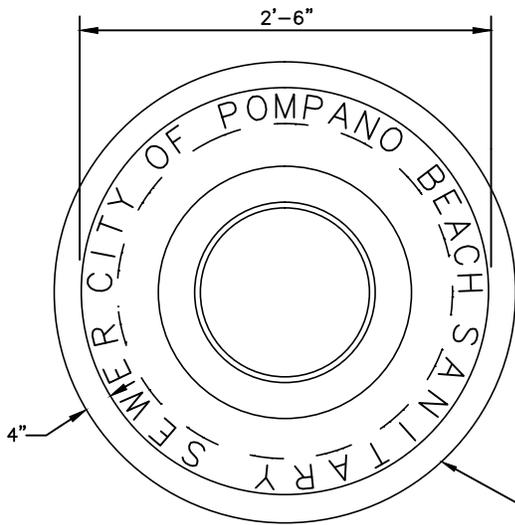


TYPE "B" DROP MANHOLE

TO BE USED WHERE DROP IS LESS THAN 2 FEET

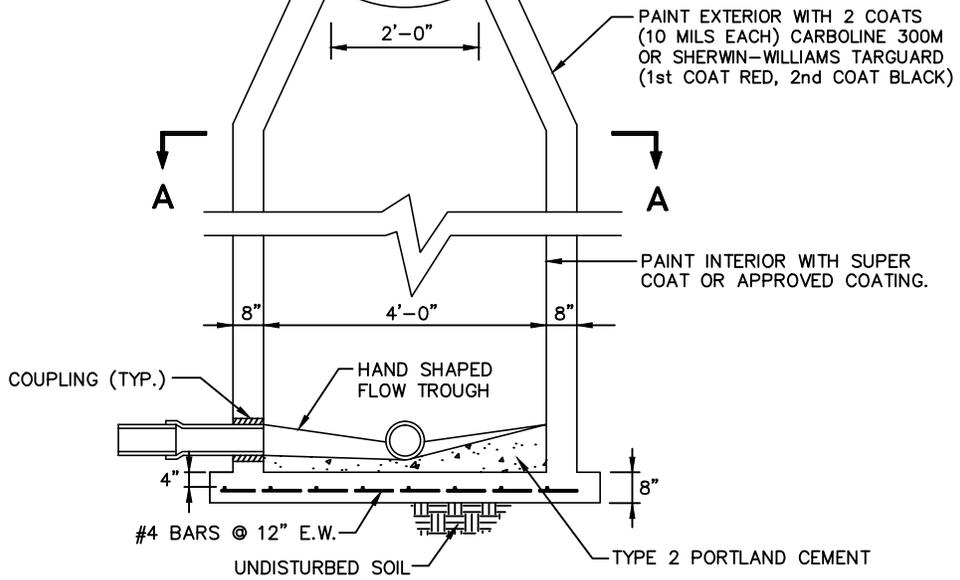
ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPE "B" DROP MANHOLE	
BY	DATE		SCALE: N.T.S.	
S.S.	JUNE 2005	DWG. NO.		
T.W.	11-2007			214-1
S.S.	12-2013			



SECTION A-A

STANDARD CAST IRON MANHOLE FRAME AND COVER U.S. FOUNDRY AND MFG. CORP. DRAWING NO. 420 OR APPROVED EQUAL. TYPE "C" COVER WITH PLASTIC RAIN GUARD. STAMP WITH "CITY OF POMPANO BEACH" AND "SANITARY SEWER".

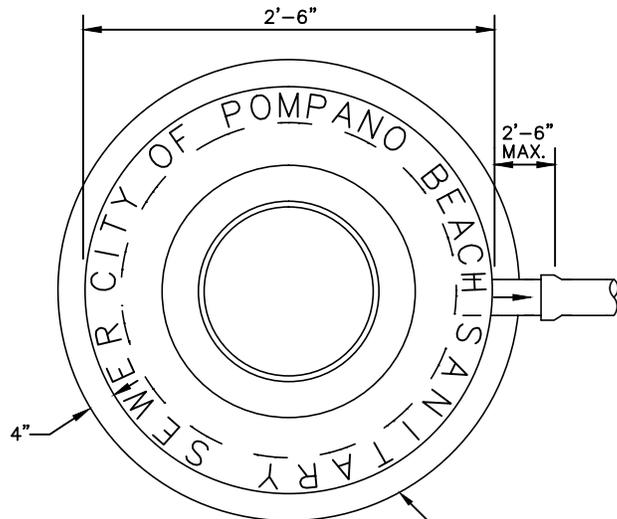


STANDARD MANHOLE

TO BE USED WHERE DEPTH EXCEEDS 4 FEET

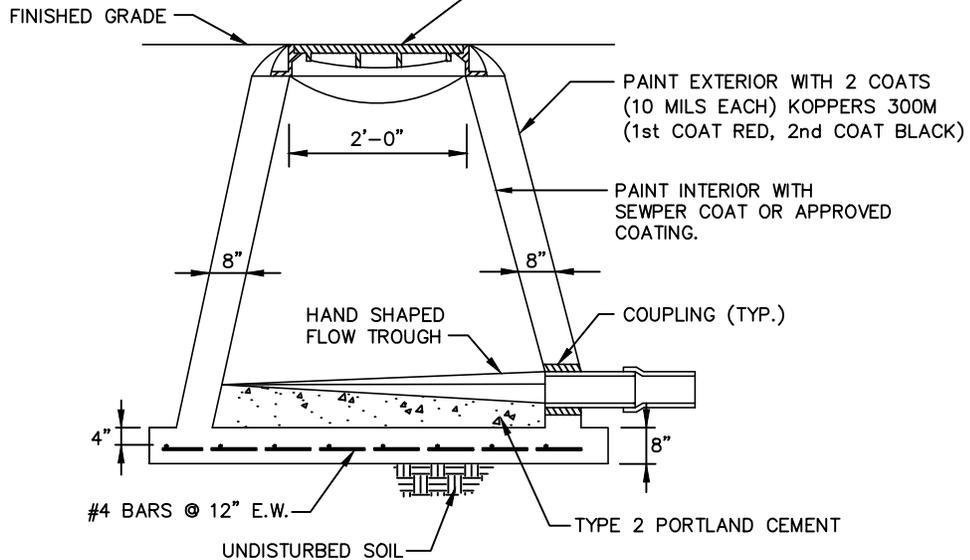
ENGINEERING STANDARDS 2016

<table border="1"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> </thead> <tbody> <tr> <td>BY</td> <td>DATE</td> </tr> <tr> <td>S.S.</td> <td>JUNE 2005</td> </tr> <tr> <td>T.W.</td> <td>11-2007</td> </tr> <tr> <td>S.S.</td> <td>12-2013</td> </tr> </tbody> </table>		REVISIONS		BY	DATE	S.S.	JUNE 2005	T.W.	11-2007	S.S.	12-2013	<p>ENGINEERING DIVISION CITY OF POMPANO BEACH</p>	<p>STANDARD MANHOLE</p>
REVISIONS													
BY	DATE												
S.S.	JUNE 2005												
T.W.	11-2007												
S.S.	12-2013												
<p>SCALE: N.T.S.</p>		<p>DATE: JUNE 1996 DWG. NO.</p>	<p>215-1</p>										



PLAN

STANDARD CAST IRON MANHOLE FRAME AND COVER U.S. FOUNDRY AND MFG. CORP. DRAWING NO. 420 OR APPROVED EQUAL. TYPE "C" COVER WITH PLASTIC RAIN GUARD. STAMP WITH "CITY OF POMPANO BEACH" AND "SANITARY SEWER".

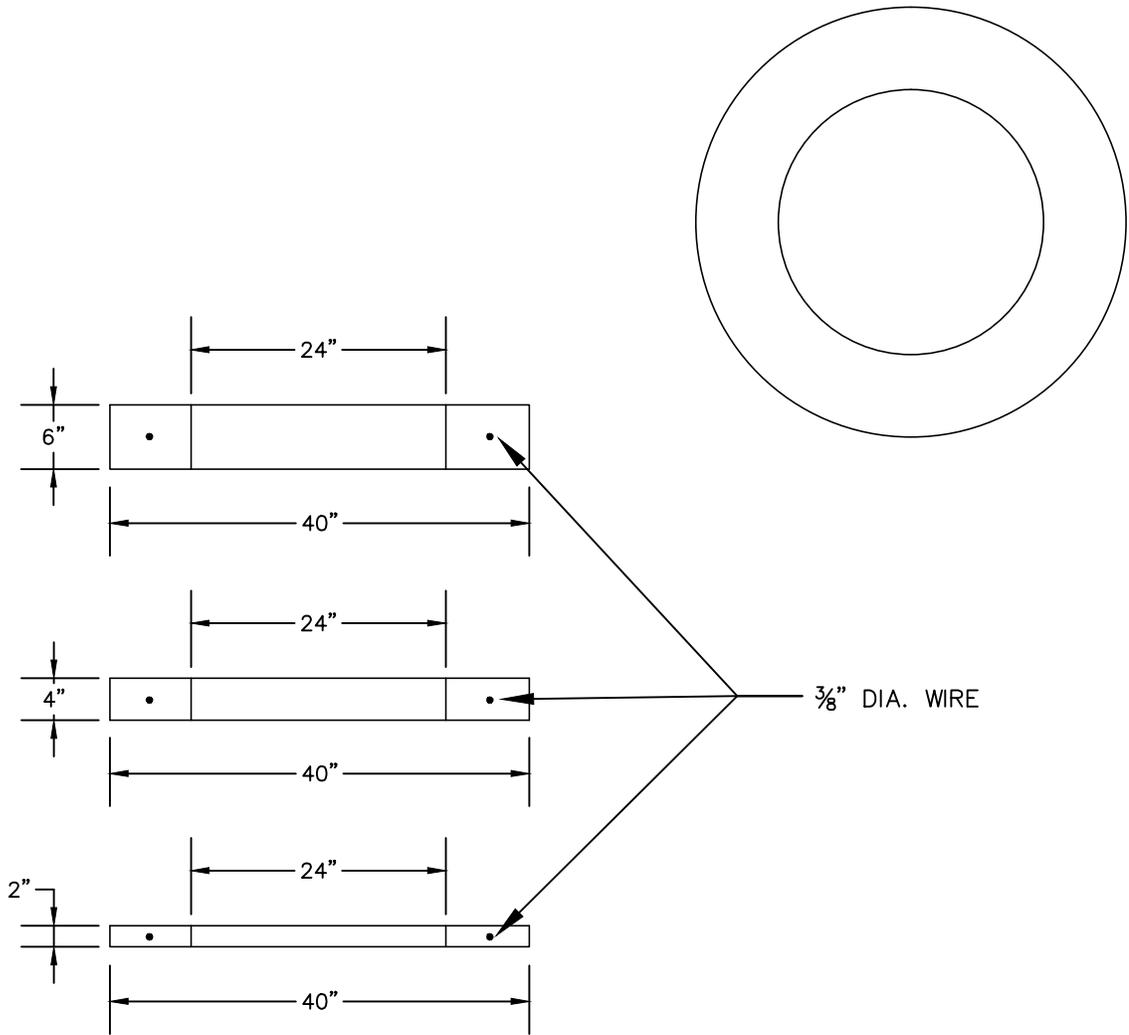


SHALLOW TYPE MANHOLE

TO BE USED WHERE DEPTH IS LESS THAN 4 FEET

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SHALLOW TYPE MANHOLE	
BY	DATE			
S.S.	JUNE 2005	SCALE: N.T.S.	DATE:	JUNE 1996
T.W.	11-2007		DWG. NO.	216-1



CONCRETE GRADE RINGS

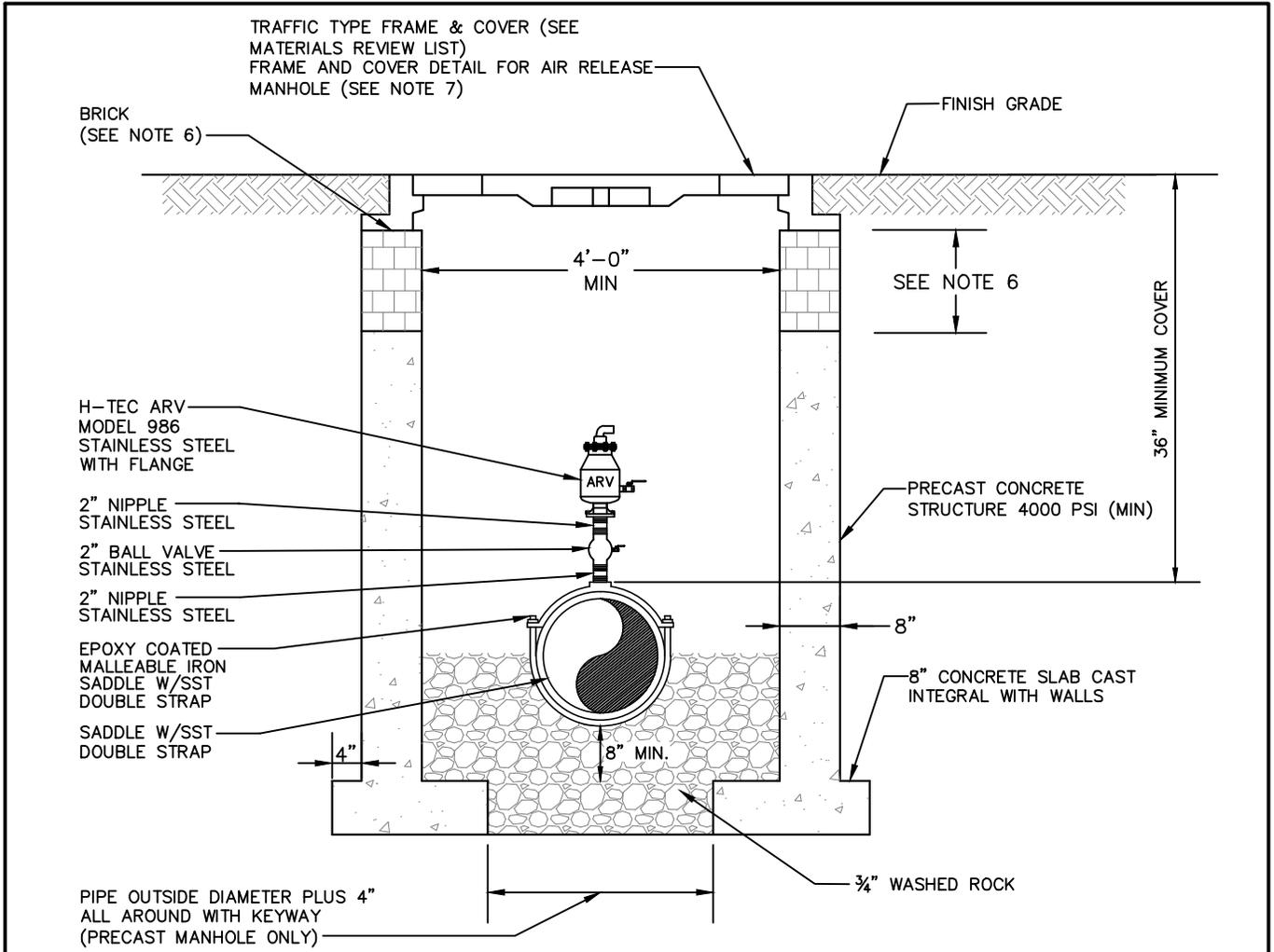
ALL CONCRETE SHALL BE 4000 PSI @ 28 DAYS

NOTES:

- 2" 0.054 c.y. / 220 lbs
- 4" 0.108 c.y. / 430 lbs
- 6" 0.162 c.y. / 650 lbs

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	CONCRETE GRADE RINGS	
BY	DATE			DATE: DECEMBER 2013 DWG. NO.
		SCALE: N.T.S.	216-2	



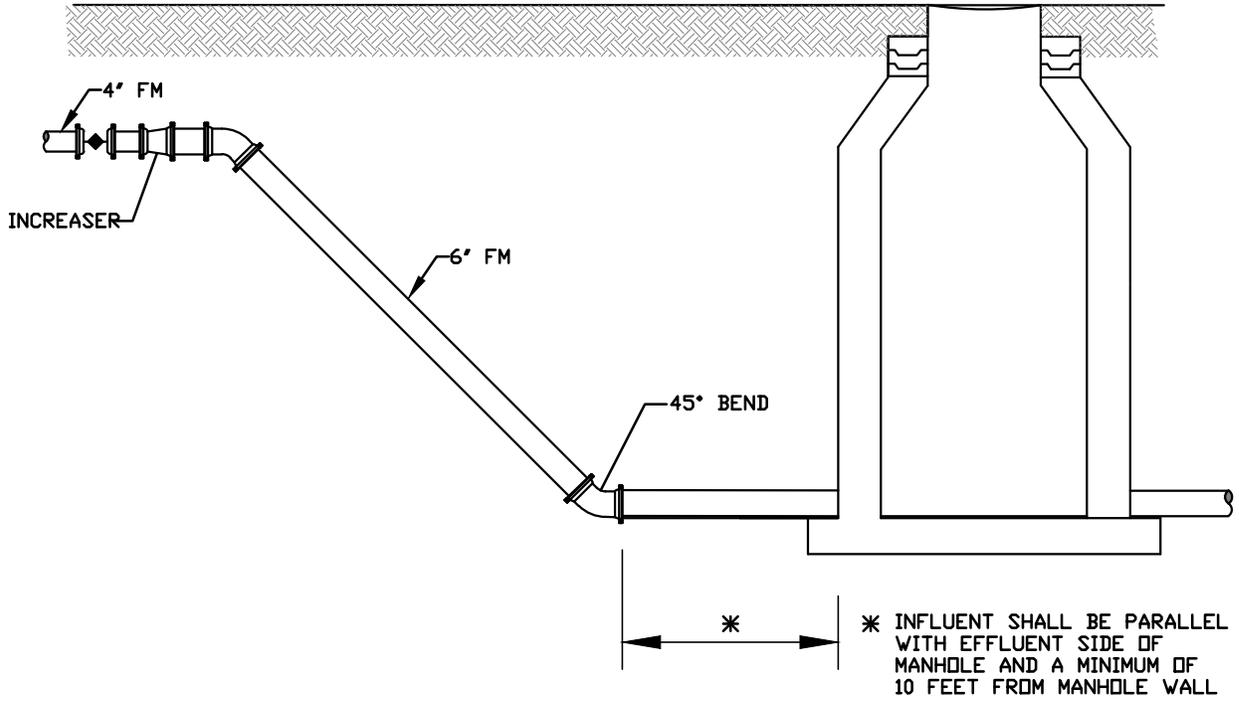
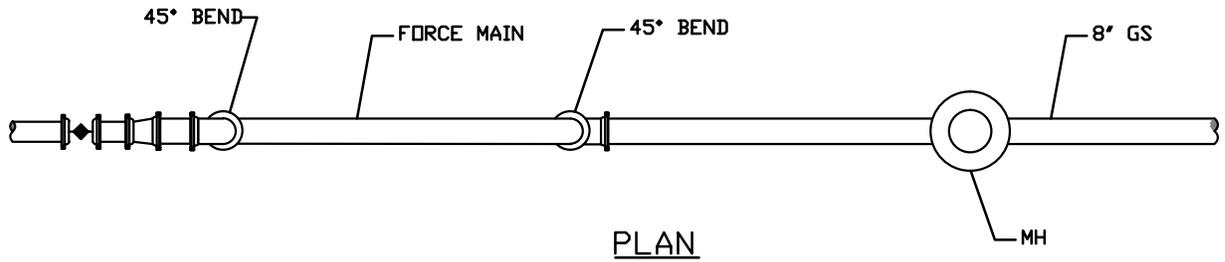
NOTES:

1. BALL VALVE, PIPING, ETC., TO MATCH AIR RELEASE VALVE DIAMETER.
2. MISCELLANEOUS ARV ACCESSORIES SHALL BE SELF-CONTAINED AUTOMATIC PROCESS VALVES.
3. RAMNEK AT ALL RISER JOINTS WITH GROUT ON INSIDE AND OUTSIDE AT ALL RISER JOINTS.
4. MANHOLE FABRICATION SHALL BE IN ACCORDANCE WITH ASTM C-478, LATEST STANDARD.
5. COAT INSIDE AND OUTSIDE OF MANHOLE WITH PROTECTIVE COATINGS.
6. THE CHIMNEY AREA SHALL BE A MINIMUM OF 4" AND A MAXIMUM OF 12" IN HEIGHT. A MINIMUM OF 3 COURSES OF BRICK SHALL BE INSTALLED. SET IN 2 STRIPS OF SEALANT/ADHESIVE COMPOUND ON EACH SEALING FACE.
7. SET MANHOLE FRAME ON 2 STRIPS OF SEALANT PLUS A BED OF PORTLAND CEMENT AND SILICA SAND. BRING MORTAR UP OVER FRAME.

SEWAGE AIR RELEASE VALVE

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	SEWAGE AIR RELEASE VALVE	
BY	DATE			
S.S.	JUNE 2005	SCALE: N.T.S.	DATE: JUNE 1996	
S.S.	01/30/12		DWG. NO. 217-1	



PROFILE

NOTES:

1. TO BE USED ONLY WITH APPROVAL OF C.O.P.B. UTILITIES DEPARTMENT.
2. INTERIOR OF MANHOLE TO BE COATED AS DIRECTED BY C.O.P.B. UTILITIES DEPARTMENT.

FORCE MAIN CONNECTION TO GRAVITY SEWER

ENGINEERING STANDARDS 2016

REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	FORCE MAIN CONNECTION TO GRAVITY SEWER
BY	DATE		
S.S.	10/22/12	SCALE: N.T.S.	DATE: JAN 2012
			DWG. NO.
			218-1

STANDARD DETAILS - 2016

SANITARY

SERVICE LATERALS	200-1, 200-2
GRAVITY SEWER SADDLE	201-1
ADJUSTABLE REPAIR COUPLING	202-1
TRENCH BACKFILL/BEDDING	203-1, 203-2
TRENCH BACKFILL/BEDDING NOTES	203-3, 203-4
PIPE SUPPORT	204-1
PLUG VALVE SETTING	205-1
TYPICAL CONFLICT (SEWER)	206-1
SEWER PIPE IDENTIFICATION	207-1
PIPE AND MARKER BALLS LOCATION	208-1
MIN. HORIZONTAL SEPARATION FOR SANITARY SEWER	209-1
SEWER BOX AND COVER - NON TRAFFIC	210-1
SEWER BOX AND COVER - TRAFFIC	210-2
SEWER BOX AND COVER - HEAVY TRAFFIC	210-3
TRAFFIC RATED FRAME & COVER	211-1
MANHOLE COUPLING	212-1
MAINTENANCE ACCESS STRUCTURE CONNECTION	212-2
TYPE "A" DROP MANHOLE	213-1
TYPE "B" DROP MANHOLE	214-1
STANDARD MANHOLE	215-1
SHALLOW TYPE MANHOLE	216-1
CONCRETE GRADE RINGS	216-2
SEWAGE AIR RELEASE VALVE	217-1
FORCE MAIN CONNECTION TO GRAVITY SEWER	218-1