



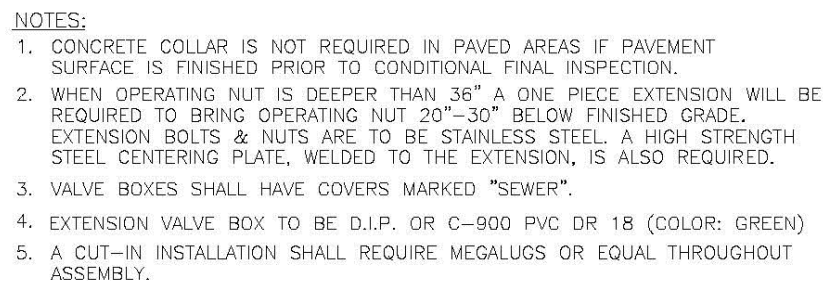
ENGINEERING STANDARDS 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	PIPE SUPPORT DETAIL
BY	DATE		
S.S.	JUNE 2005		
SCALE: N.T.S.		DATE: JUNE 2022 DWG. NO.	204-1



ENGINEERING STANDARDS 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	PIPE SUPPORT DETAIL
BY	DATE		
S.S.	JUNE 2005		
SCALE: N.T.S.		DATE: JUNE 2022 DWG. NO.	204-1



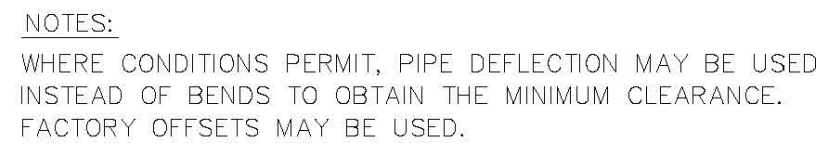
ENGINEERING STANDARDS 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	PLUG VALVE SETTING
BY	DATE		
S.S.	01/27/12		
SCALE: N.T.S.			DATE: JUNE 2022 DWG. NO. 205-1



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

## FORCE MAIN PLUG VALVE SETTING

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BY	DATE		
S.S.	01/27/12		
SCALE: N.T.S.			DATE: JUNE 2022 DWG. NO. 205-1



## TYPICAL CONFLICT DETAIL

ENGINEERING STANDARDS 2022				
REVISIONS		ENGINEERING DIVISION CITY OF POMPAÑO BEACH	TYPICAL CONFLICT (SEWER)	
BY	DATE			DATE: JUNE 2022 DWG. NO. 206-1
S.S.	JUNE 2005			
S.S.	02/13/12			
SCALE: N.T.S.				

4. 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.
5. TYPICAL TRENCH BACKFILL/BEDDING FOR WATER MAIN AND FORCE MAIN INSTALLATIONS SHALL BE CLASS "A" AS SHOWN IN DETAIL.
6. TYPICAL TRENCH BACKFILL/BEDDING FOR GRAVITY SEWER INSTALLATION SHALL BE CLASS "B" AS SHOWN IN DETAIL.
7. TRENCH BACKFILL/BEDDING CLASS "C" AND CLASS "D" SHALL BE USED FOR PIPE INSTALLATIONS WHERE UNSUITABLE TRENCH MATERIALS ARE ENCOUNTERED.
8. 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" 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).
9. 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).
10. 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).
11. 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

		<b>ENGINEERING STANDARDS 2022</b>			
<b>REVISIONS</b>		<b>ENGINEERING DIVISION</b> <b>CITY OF POMPANO BEACH</b>		<b>TRENCH BACKFILL / BEDDING</b>	
<b>BY</b>	<b>DATE</b>				
		<b>SCALE: N.T.S.</b>		<b>DATE: JUNE 2022</b> <b>DWG. NO. 203-3</b>	

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 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING
BY	DATE		
		SCALE: N.T.S.	DATE: <u>JUNE 2022</u> DWG. NO. <b>203-4</b>



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 WORDS 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 2022			
REVISIONS		ENGINEERING DIVISION CITY OF POMPAÑO BEACH	SEWER PIPE IDENTIFICATION
BY	DATE		
S.S.	01/30/12		
SCALE: N.T.S.		DATE: JUNE 2022	DWG. NO. 207-1