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, rod-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 1¼" 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.

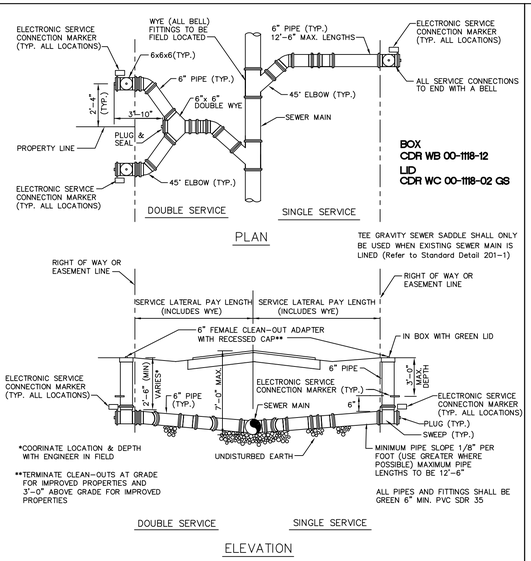
Specification:
Furnish and install stainless steel shielded sewer couplings, as manufactured by Mission Rubber Company. Coupling to meet ASTM C 1173. Gasket to meet ASTM C 425 Table 2, to be rubber and be environmentally certified. Series 300 stainless steel shear band with a minimum thickness of .012", 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 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	ADJUSTABLE REPAIR COUPLING	DATE: MAY 2022 DWG. NO. 202-1
		SCALE: N.T.S.		

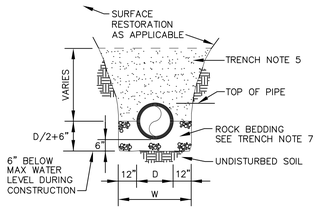
ADJUSTABLE REPAIR COUPLING PVC/CLAY NOTES



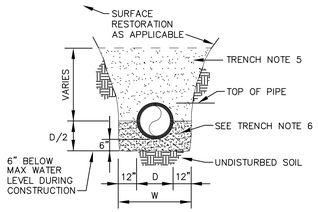
SHALLOW SERVICE LATERALS

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	SERVICE LATERALS	DATE: JUNE 2022 DWG. NO. 200-2
T.W.	11-2007			
S.S.	01/27/12			
S.S.	07/10/12			
S.S.	02/10/16	SCALE: N.T.S.		



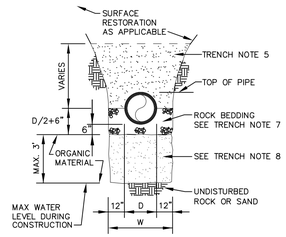
TRENCH BACKFILL / BEDDING CLASS "B"



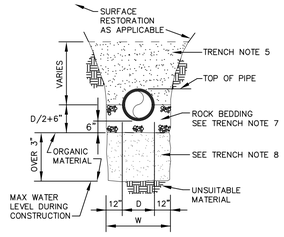
TRENCH BACKFILL / BEDDING CLASS "A"

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	DATE: JUNE 2022 DWG. NO. 203-1
S.S.	JUNE 2005	SCALE: N.T.S.		



TRENCH BACKFILL / BEDDING CLASS "C"



TRENCH BACKFILL / BEDDING CLASS "D"

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	DATE: JUNE 2022 DWG. NO. 203-2
S.S.	JUNE 2005	SCALE: N.T.S.		

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 UNSITABLE 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 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	DATE: JUNE 2022 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.

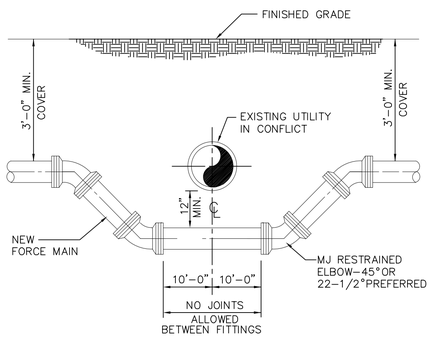
TYPE F: CRUSHED LIMEROCK MEETING THE FOLLOWING GRADATION REQUIREMENTS.

SIEVE SIZE	PERCENTAGE PASSING
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 BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TRENCH BACKFILL / BEDDING	DATE: JUNE 2022 DWG. NO. 203-4
		SCALE: N.T.S.		

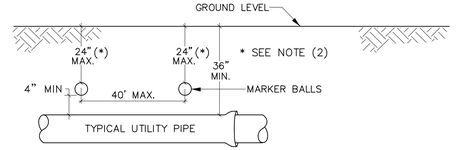


NOTES:
WHERE CONDITIONS PERMIT, PIPE DEFLECTION MAY BE USED INSTEAD OF BENDS TO OBTAIN THE MINIMUM CLEARANCE. FACTORY OFFSETS MAY BE USED.

TYPICAL CONFLICT DETAIL

ENGINEERING STANDARDS 2022

REVISIONS BY	DATE	ENGINEERING DIVISION CITY OF POMPANO BEACH	TYPICAL CONFLICT (SEWER)	DATE: JUNE 2022 DWG. NO. 206-1
S.S.	JUNE 2005	SCALE: N.T.S.		
S.S.	02/10/16			



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 2022

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

AAC
PZ23-12000043
04/02/2024

KEITH
301 East Atlantic Blvd.
Pompano Beach, FL 33060
PH: (954) 788-3400
Florida Engineering Business License: CA7928
Florida Surveyor and Mapper Business License: LB6860
Florida Landscape Architecture Business License: LC26000457

REVISIONS

NO.	DESCRIPTION	DATE

PRELIMINARY PLAN NOT FOR CONSTRUCTION

THESE PLANS ARE NOT FULLY PERMITTED AND ARE SUBJECT TO REVISIONS MADE DURING THE PERMITTING PROCESS.

RESPONSIBILITY FOR THE USE OF THESE PLANS PRIOR TO OBTAINING PERMITS FROM ALL AGENCIES HAVING JURISDICTION OVER THE PROJECT WILL FALL SOLELY UPON THE USER.

ISSUE DATE:	10/11/2023
DESIGNED BY:	NW
DRAWN BY:	JL
CHECKED BY:	NW
BID-CONTRACT:	

This item has been digitally signed and sealed by **NILES T. WARRICK, P.E.** on the date adjacent to the seal.

NILES T. WARRICK LICENSE No. 94320 STATE OF FLORIDA PROFESSIONAL ENGINEER

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

2023.10.11 10:30:42-04'00'

NILES T. WARRICK, P.E.
FLORIDA REG. NO. 94320
(FOR THE FIRM)

CLIENT

YURI GURFEL

PROJECT

911 E. ATLANTIC BLVD. MULTIFAMILY
Pompano Beach, FL

SHEET TITLE

WATER AND SEWER DETAILS

SHEET NUMBER	CU-504
PROJECT NUMBER	13376.01

STATUS: PRELIMINARY

Plotted by: dillingworth On 10/11/2023 9:06 AM

Drawing name: K:\13376.01 - 911 East Atlantic Blvd. Multifamily - Yuri Gurfel\Engineering\Cad\13376.01-CU-5XX.dwg