

Prepared In the Office of:

AECOM

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PROJECT REFERENCE NO.	R-5021	SHEET NO.	UC-3L
DESIGNED BY:		DATE:	9/9/2020
DRAWN BY:		PROFESSIONAL SEAL	10666
CHECKED BY:		REGISTERED ENGINEER	
APPROVED BY:		STATE OF NORTH CAROLINA	
REVISED:		DEPARTMENT OF TRANSPORTATION	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

D. Stephen Cruggs

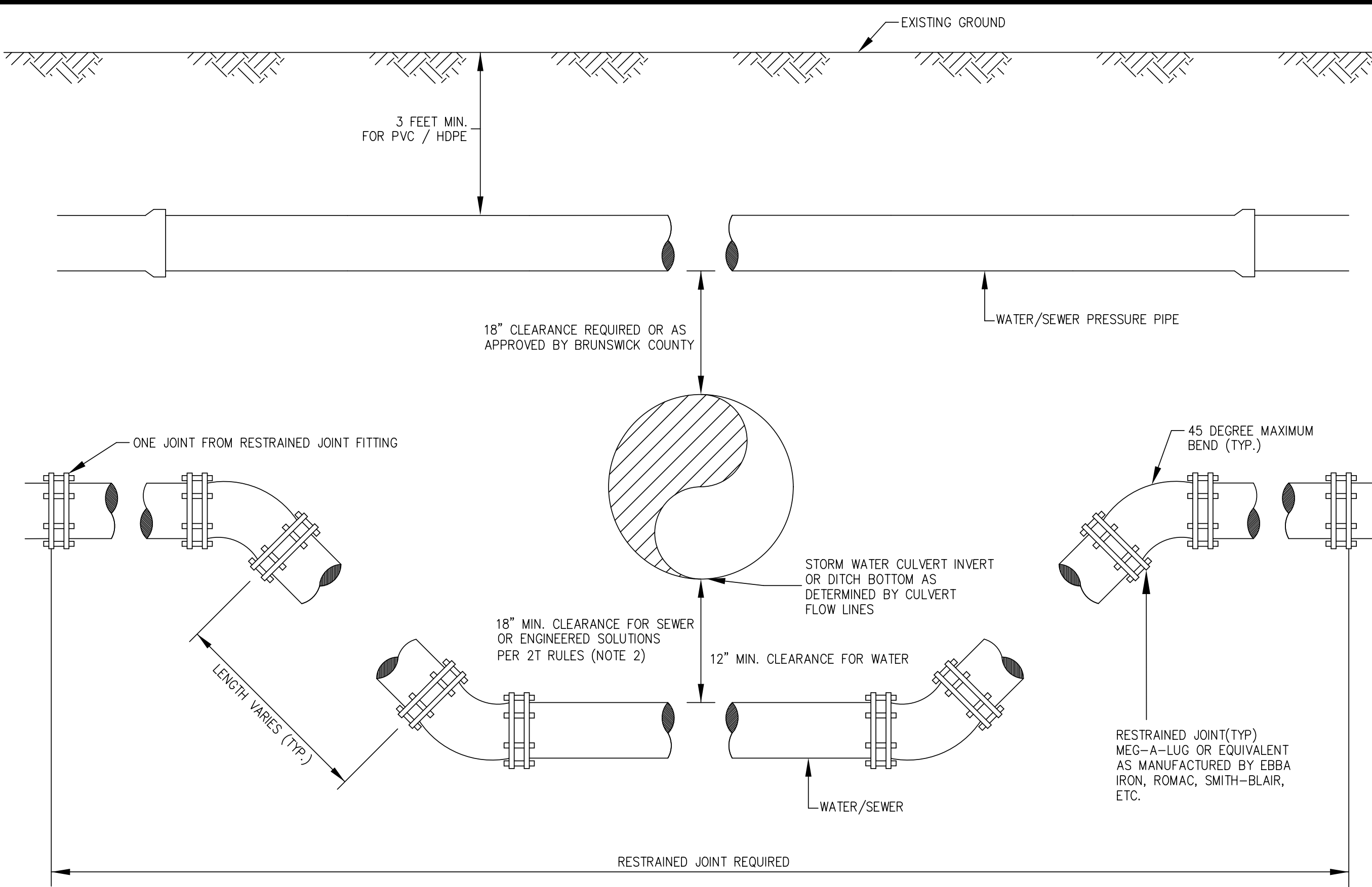
UTILITY CONSTRUCTION

COUNTY OF BRUNSWICK

GENERAL WATER & SEWER DETAILS FOR
BRUNSWICK COUNTY
NORTH CAROLINA

Date: 07-11-12
Scale: NTS
Drawn By: JDM
Checked By: WLP

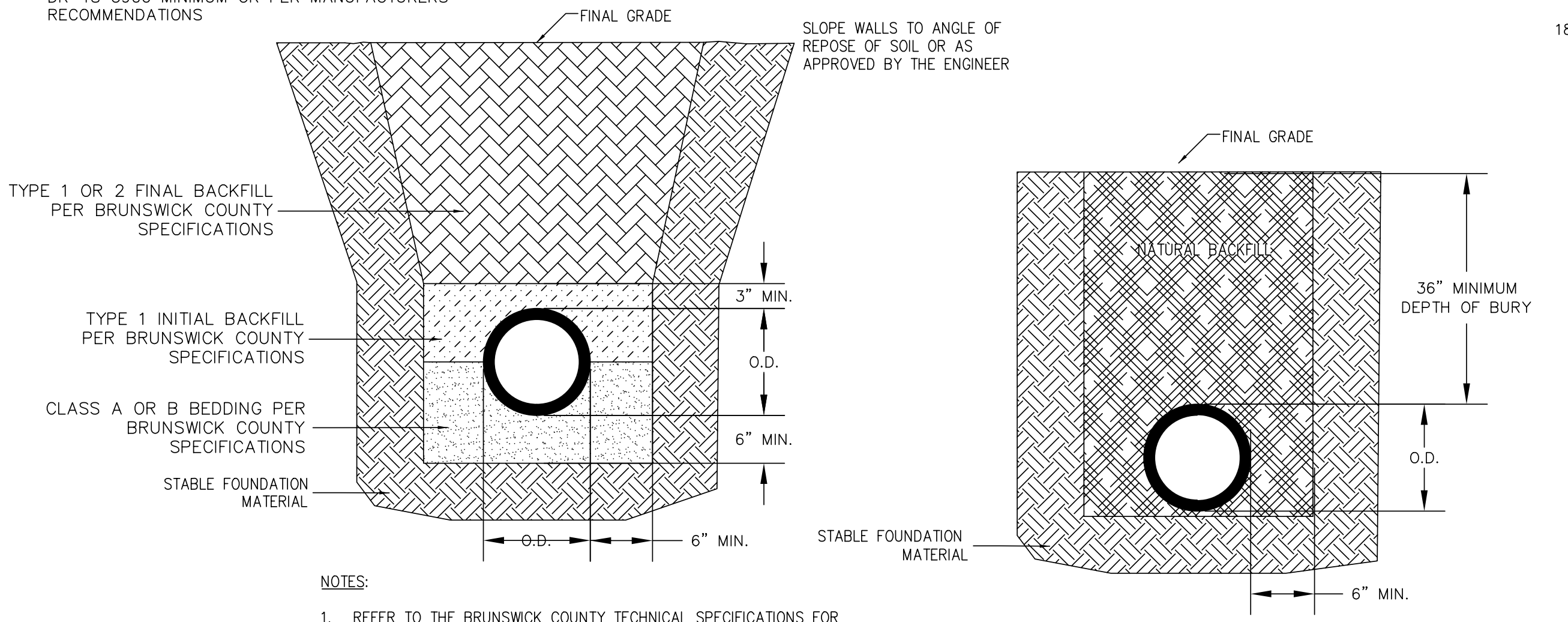
Revisions	
1.1	- DATED 7/12/2013
1.2	- DATED 1/16/2014
1.3	- DATED 1/23/2019
1.4	- DATED 7/16/2019
1.5	- DATED 2/12/2021
Mod WS-20 & WS-21	



- NOTES:**
1. USE STAINLESS STEEL THREADED RODS, MEGA-LUG OR APPROVED EQUAL FOR JOINT RESTRAINT.
 2. SEWER REQUIRES DR-18 C900 UNLESS OTHERWISE APPROVED BY BRUNSWICK COUNTY.
 3. WATER MAY BE DIP OR DR-18 C900 PIPE.

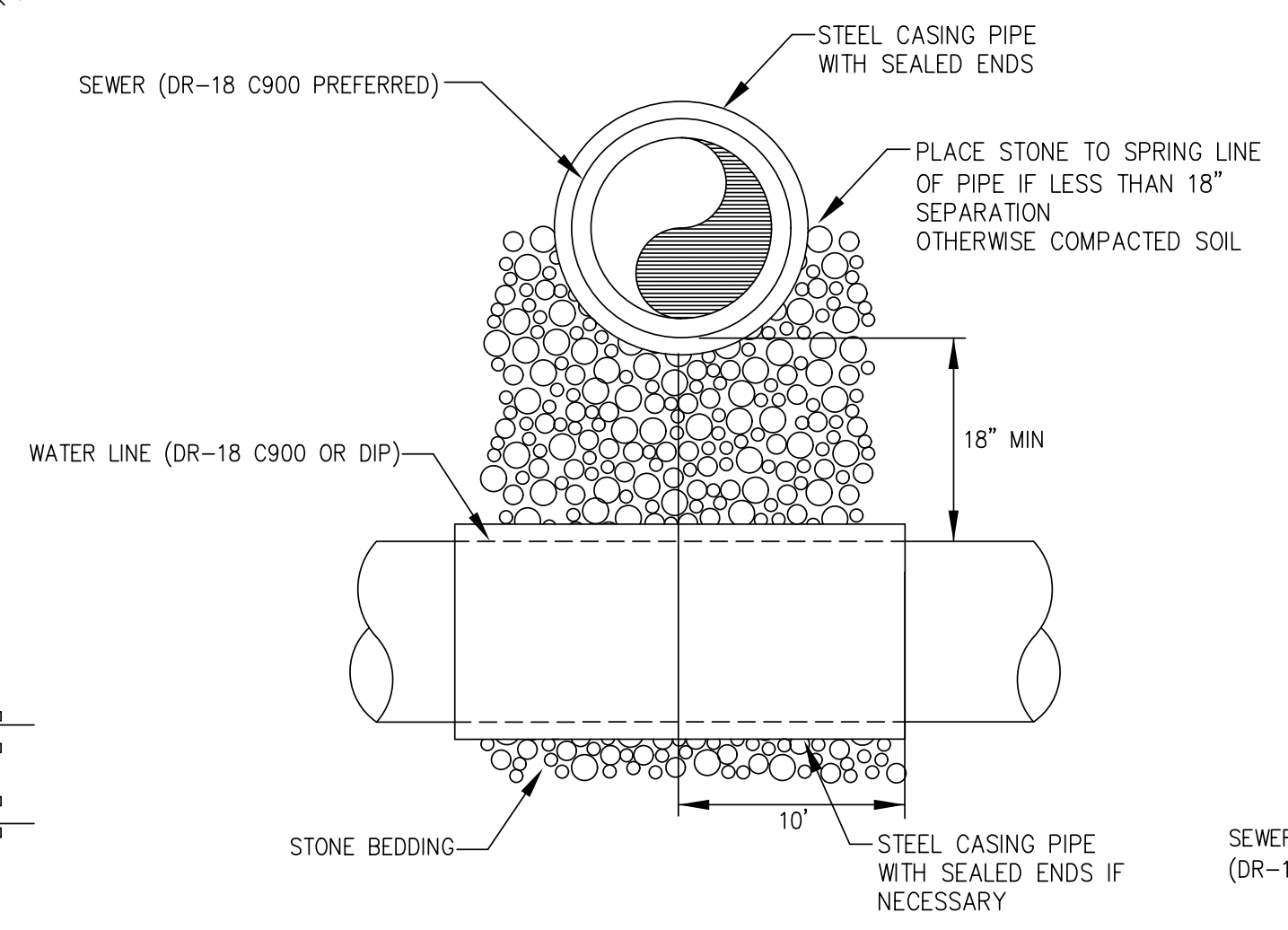
**DITCH AND/OR STORM DRAIN CROSSING
OFFSETS BETWEEN WATER/SEWER
PRESSURE MAIN AND STORM DRAIN
DETAIL WS-20**

- DEPTH < 20 FEET - CLASS "A" BEDDING**
- UNDERCUT TRENCH BOTTOM 6 INCHES MINIMUM BELOW PIPE
 - FILL PIPE TO SPRING LINE WITH NO. 57 STONE
- DEPTH > 20 FEET - CLASS "B" BEDDING**
- UNDERCUT TRENCH BOTTOM 6 INCHES MINIMUM BELOW PIPE
 - FILL TO 6 INCHES ABOVE PIPE WITH NO. 57 STONE
- INSTALLATIONS THAT EXCEED 20 FEET DEPTH SHALL BE DR-18 C900 MINIMUM OR PER MANUFACTURERS RECOMMENDATIONS



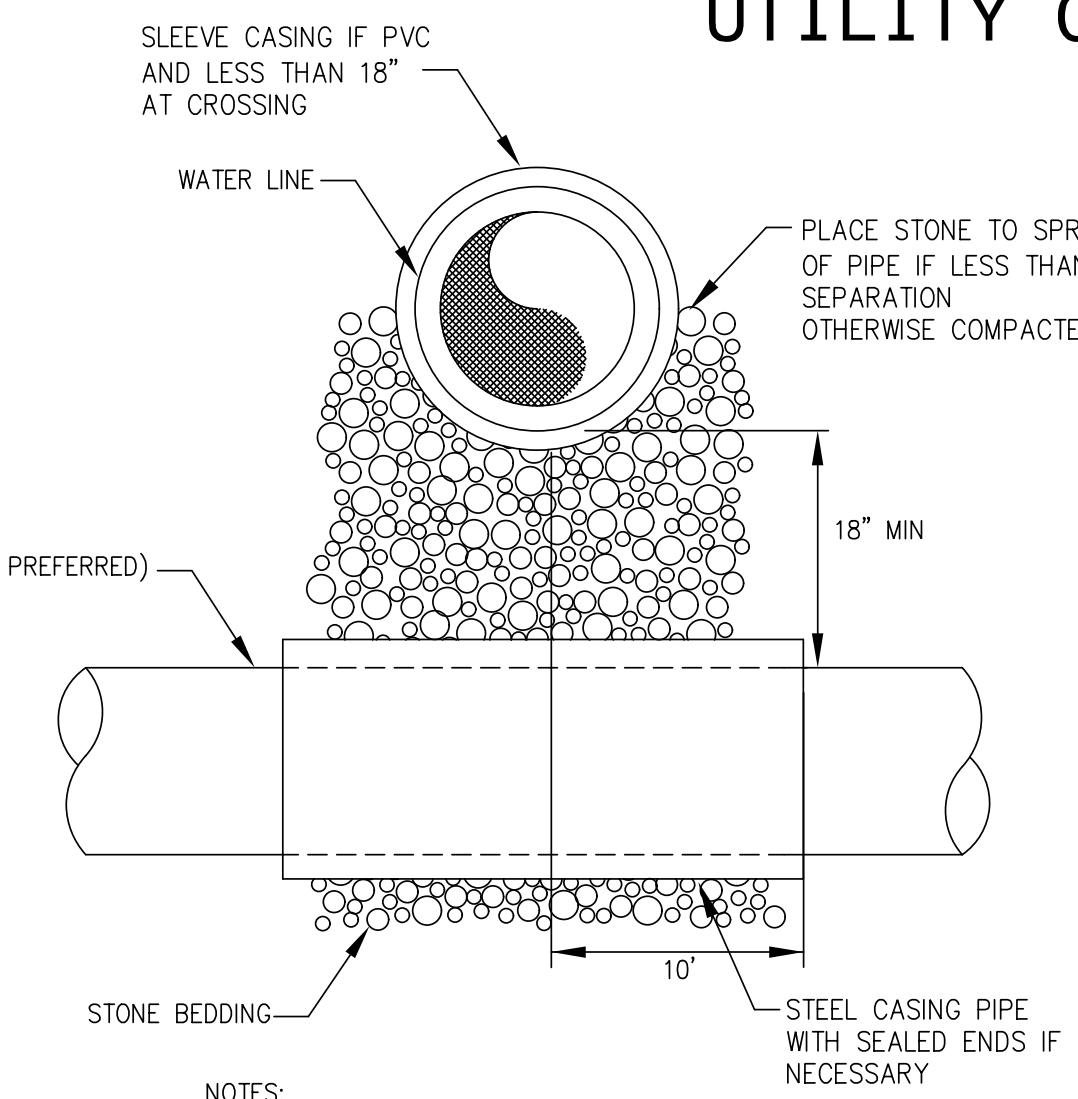
**GRAVITY SEWER
PIPE TRENCH/BEDDING
DETAIL WS-22**

**WATERMAIN AND/OR SEWER FORCEMAIN (PRESSURE PIPE)
PIPE TRENCH/BEDDING
DETAIL WS-22A**



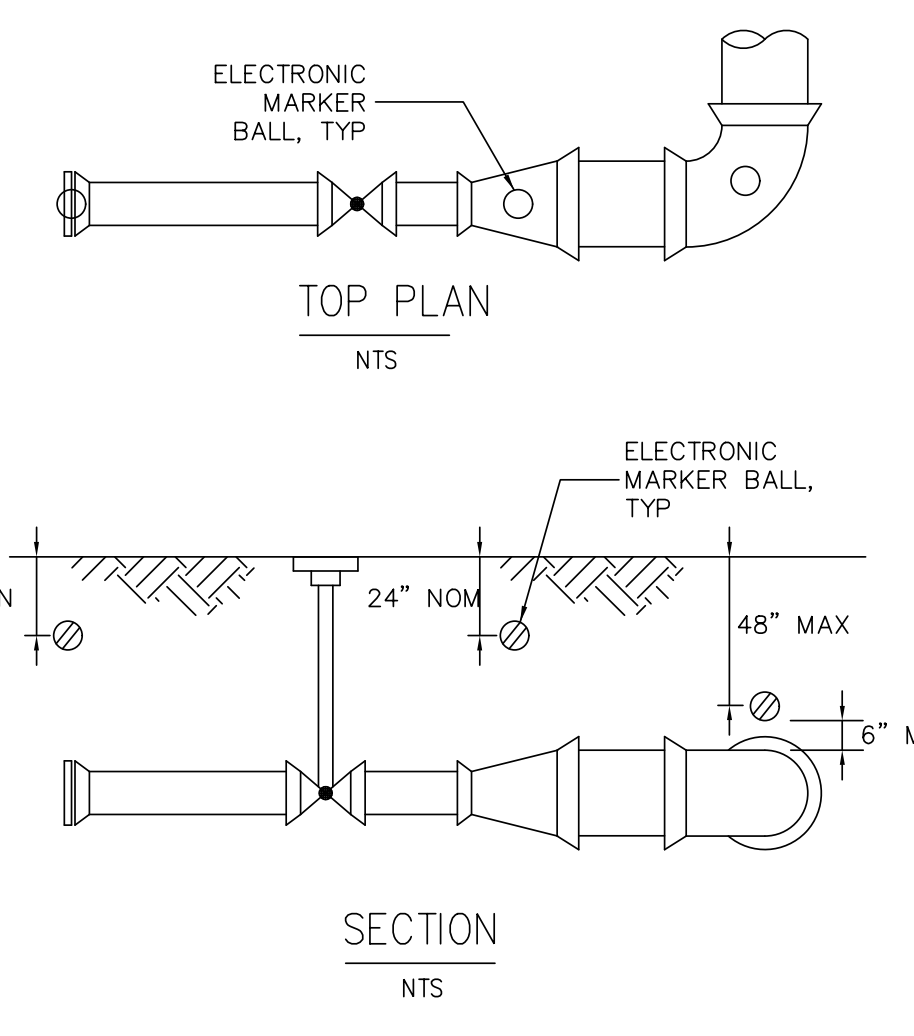
- NOTES:**
1. BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE FERROUS MATERIALS WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING.
 2. ALTERNATIVELY, PIPES MAY BE SLEEVED WITH FERROUS MATERIALS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING AS APPROVED BY BRUNSWICK COUNTY ENGINEERING.

SEWER CROSSING ABOVE WATER LINE

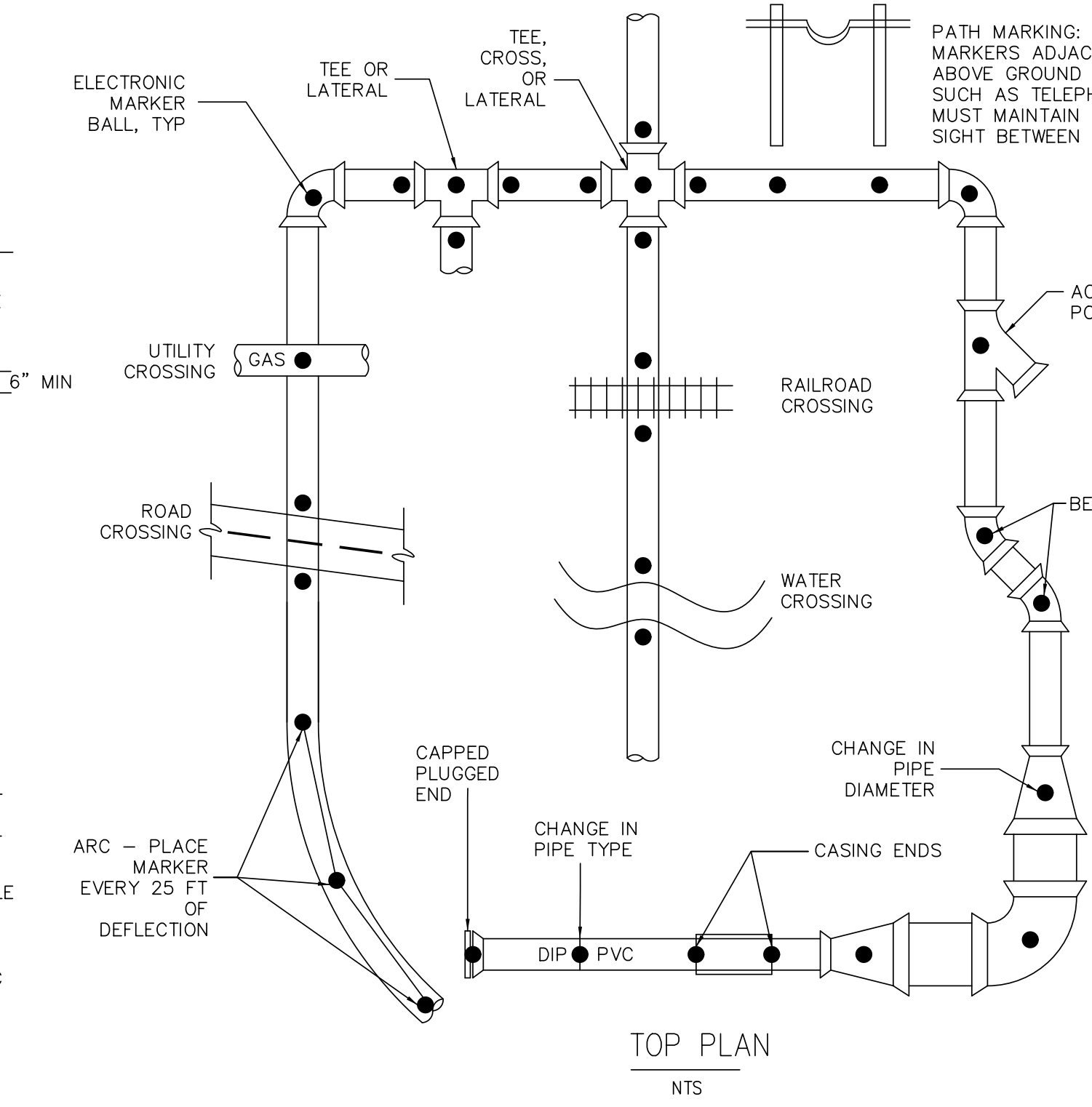


- NOTES:**
1. SOIL REPLACED UNDER THE WATER MAIN SHALL BE COMPACTED.
 2. IF THE WATER MAIN CROSSES AT LESS THAN 18" ABOVE THE SEWER MAIN BOTH THE WATER MAIN AND THE SEWER MAIN SHALL BE FERROUS MATERIALS WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, OR THEY MAY HAVE FERROUS SLEEVES PUT AROUND THEM AS APPROVED BY BRUNSWICK COUNTY ENGINEERING.

SEWER CROSSING BELOW WATER LINE



- NOTES:**
1. ELECTRONIC MARKER BALL MATERIALS SHALL BE AS FOLLOWS:
 - a. WATER - 3M SCOTCHMARK ELECTRONIC MARKER, MODEL # 1403-XR, 4-INCH DIAMETER, BLUE
 - b. SEWER - 3M SCOTCHMARK ELECTRONIC MARKER, MODEL # 1404-XR, 4-INCH DIAMETER, GREEN
 - c. RECLAIMED WATER - 3M SCOTCHMARK ELECTRONIC MARKER, MODEL # 1408-XR, 4-INCH DIAMETER, PURPLE
 2. PLACEMENT SHALL CONFORM TO DETAILS ABOVE. FOR FURTHER GUIDANCE, REFER TO BRUNSWICK COUNTY TECHNICAL SPECIFICATIONS SECTION TITLED "ELECTRONIC MARKER BALLS FOR WATER AND SEWER FORCE MAINS".



**ELECTRONIC MARKER
BALL PLACEMENT
DETAIL WS-23**

DATE: 8/13/2020
TIME: 10:38:54 PM
DGN: P:\6048203\900_Works\916\Utility Construction\916-5021_UC_UC3L.dgn