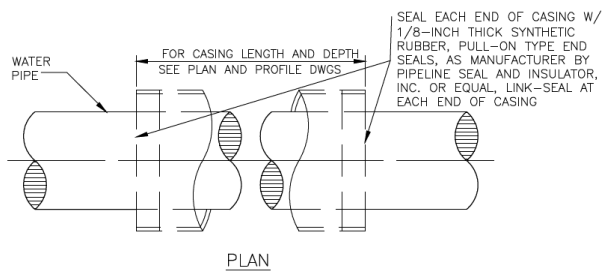
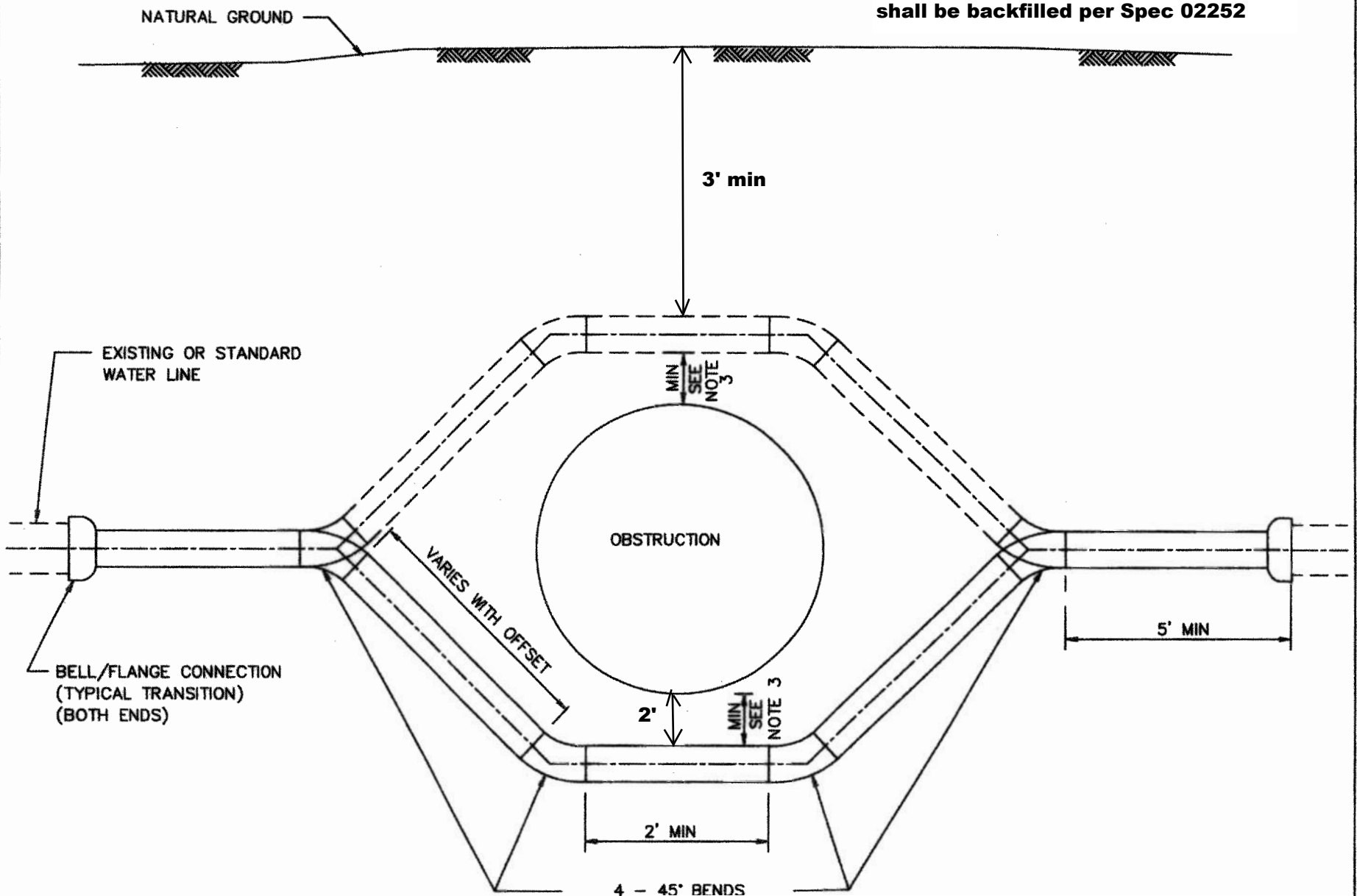


**NOTE:**

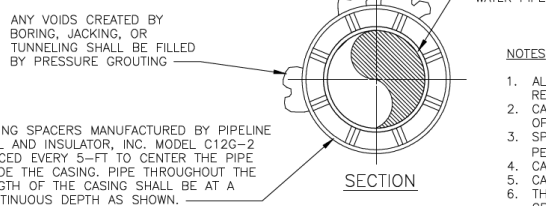
1. MATERIALS AND COATINGS TO BE IN ACCORDANCE WITH WATER LINE STANDARD SPECIFICATIONS.
2. RESTRAIN EXISTING PIPING BEYOND PVC/ STEEL SECTION AS REQUIRED TO PREVENT MOVEMENT.
3. **Waterline shall be minimum 2 feet above/below storm sewer/other utility conflict/obstruction and the 2 feet shall be backfilled per Spec 02252**



MINIMUM WALL THICKNESS OF STEEL CASINGS	
DIAMETER	WALL THICKNESS
UP TO 12"	0.250"
15" TO 27"	0.375"
30" TO 54"	0.500"
60" TO 72"	0.625"

**CASING AND PIPE OFFSET ALTERNATES**

1. DUCTILE IRON PIPE PRESSURE 250 PSI WITH APPROVED RESTRAINED JOINTS.
2. PVC PIPE WITH INTEGRAL RESTRAINED JOINT SYSTEM, OR DUCTILE - IRON RESTRAINED JOINT FITTINGS, EPOXY LINED AND COATED. USE 250 PSI AWWA C900 DR 11 FOR PVC RESTRAINED JOINTS.
3. PVC NOT ALLOWED FOR GREATER THAN 20 FT OF COVER OR FOR DIAMETER LARGER THAN 20 IN.
4. USE ONLY DUCTILE IRON AND PVC PRODUCTS
5. **2' Vertical Clearance between waterline and Obstruction to be backfilled with Cement Stabilized Sand Per Specification 02252**
6. **Both casing and carrier pipe shall be AWWA C900 PVC DR11 unless steel or ductile iron is approved in writing in response to an RFI or Change Order by the Engineer of Record**
7. **All applicable comments for Steel and Ductile Iron shall be pertinent to PVC**



**NOTES**

1. ALL JOINTS OF CARRIER PIPE WITHIN CASING SHALL BE RESTRAINED.
2. CARRIER PIPE SHALL BE TESTED BEFORE SEALING THE ENDS OF THE CASING.
3. SPACERS SHALL BE SECURELY ATTACHED TO CARRIER PIPE PER MANUFACTURER'S REQUIREMENTS.
4. CASING PIPE SHALL BE WELDED STEEL, ASTM A53, GRADE B.
5. CASING SHALL BE CENTERED ON EXISTING UTILITY.
6. THE INSIDE DIAMETER OF THE CASING PIPE SHALL BE GREATER THAN OR EQUAL TO THE LARGEST OUTSIDE DIAMETER OF THE CARRIER PIPE PLUS 6-INCHES.
7. DUCTILE IRON CARRIER PIPE SHALL BE POLYWRAPPED.

**ENGINEERING**

**TYPICAL PVC PIPE OFFSET SECTION FOR WATER LINES**

(NOT TO SCALE)

