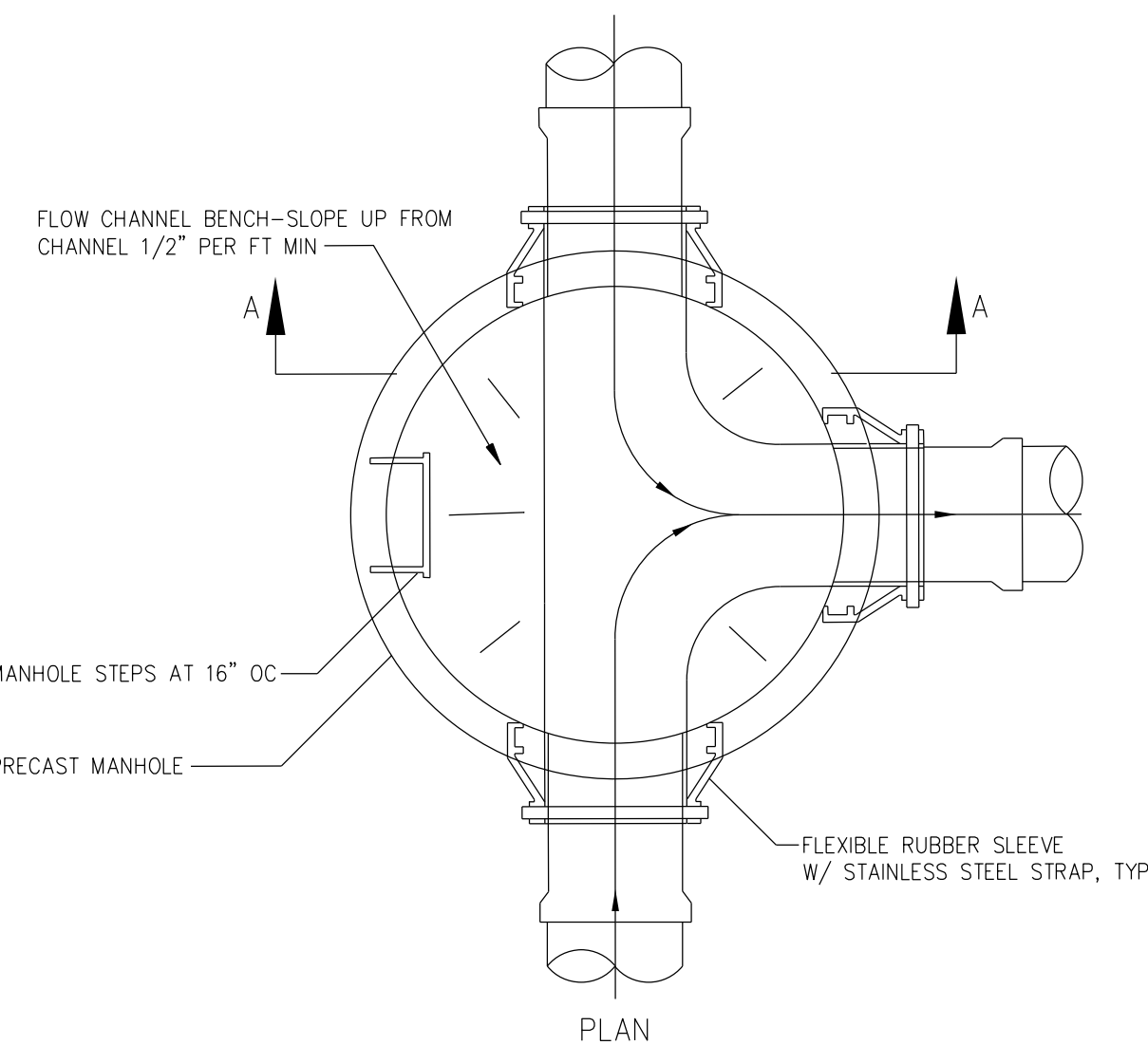
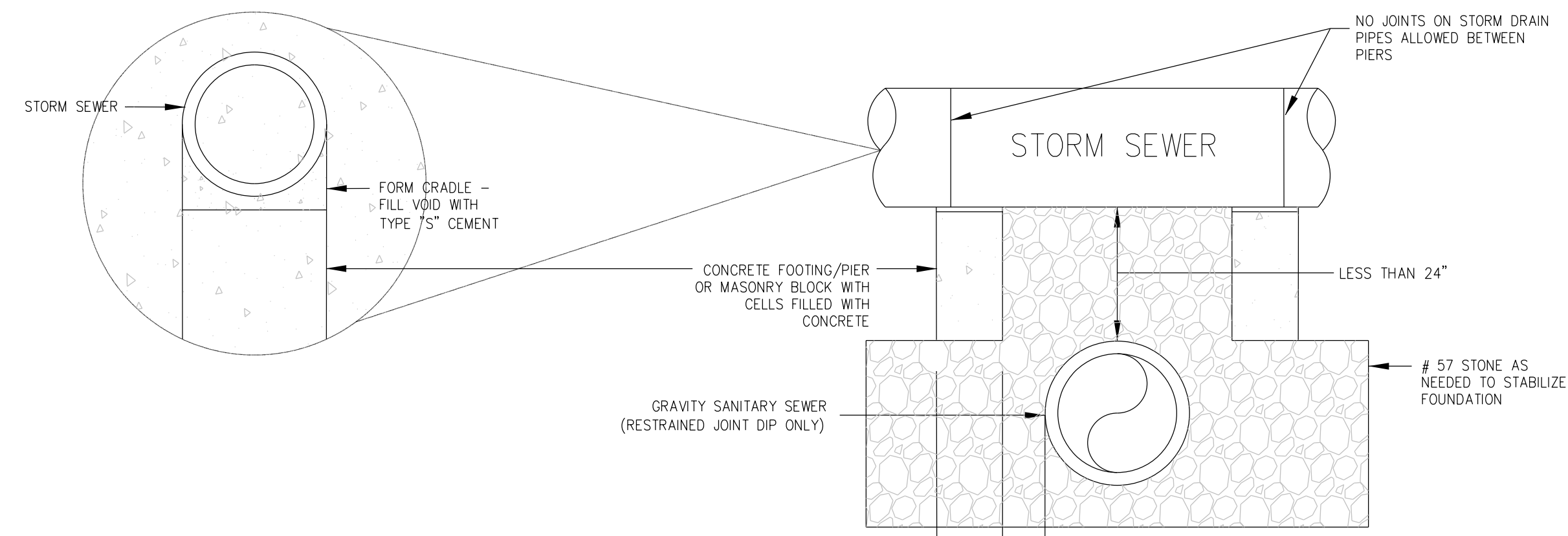


PROJECT TYPICAL DETAILS

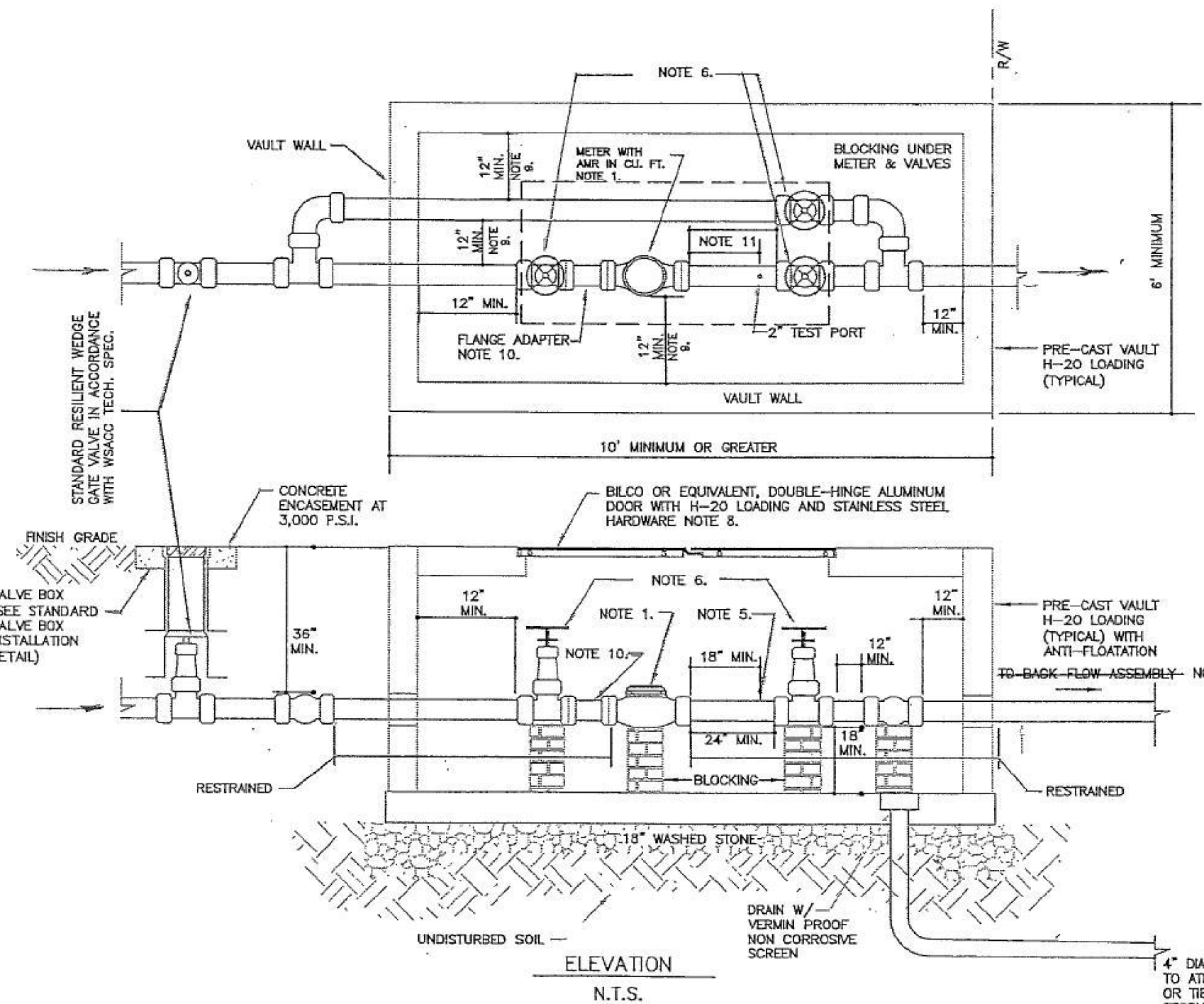
PROJECT REFERENCE NO.	SHEET NO.
R-2603	UC-3E
DESIGNED BY: B. DIXON	
DRAWN BY: R. MOSS	
CHECKED BY: B. DIXON	
APPROVED BY:	
REVISED:	
MUNICIPAL ENGINEERING SERVICES COMPANY, P.A. P.O. BOX 97 GARNER, NC 27529 (919) 772-5393	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



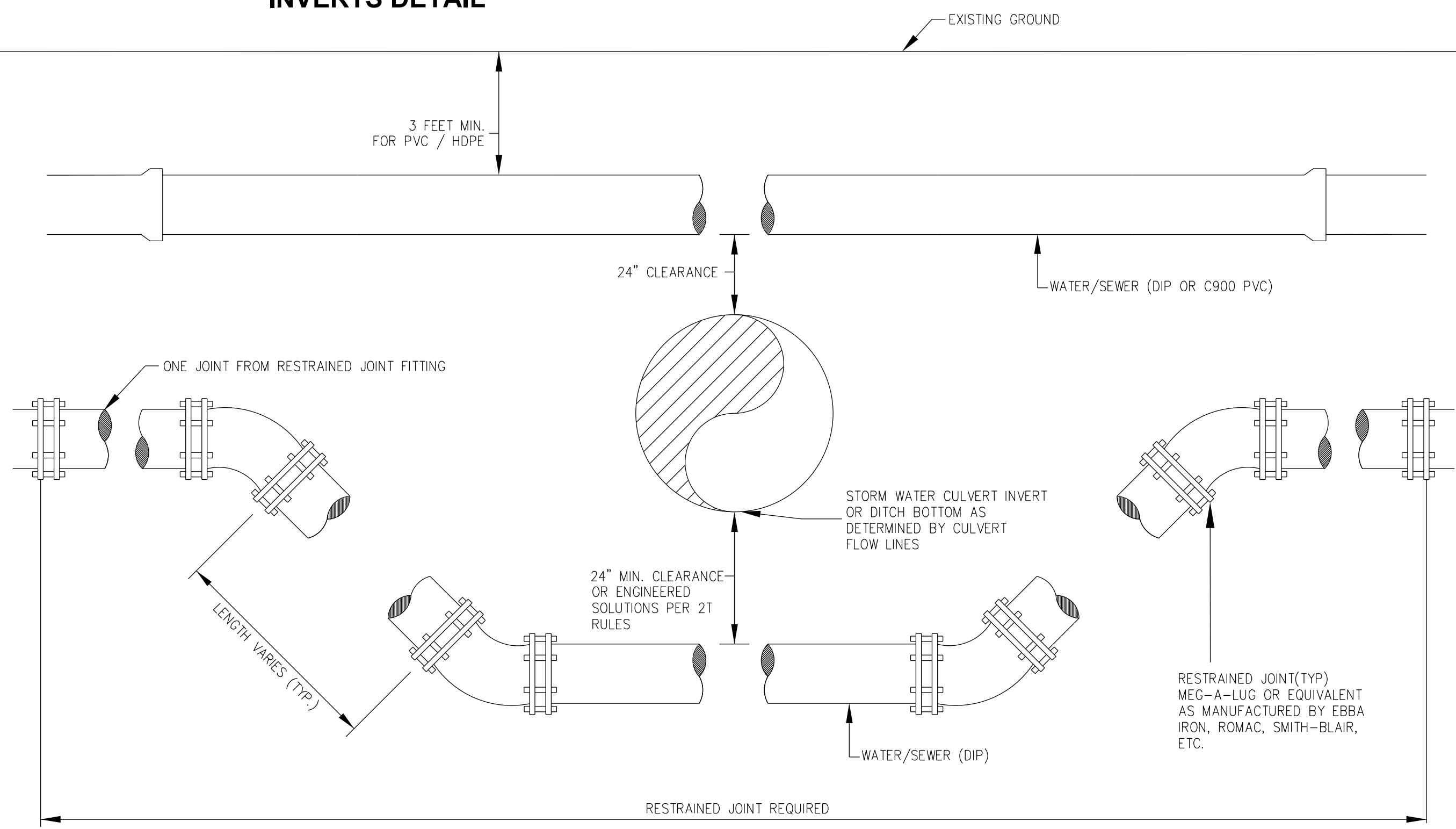
TYPICAL MANHOLE INVERTS DETAIL

LESS THAN 12" VERTICAL CLEARANCE



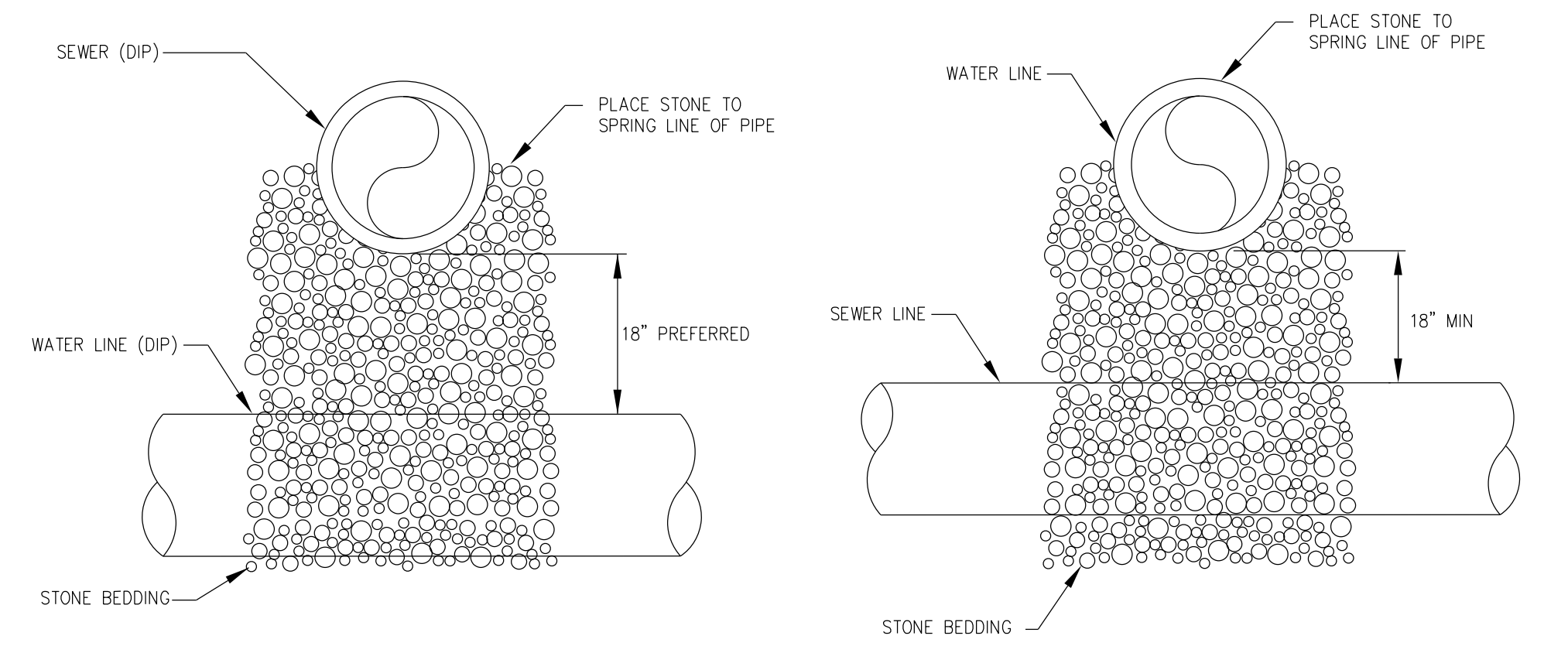
MASTER METER AND VAULT

- BADGER 8-INCH COMPOUND WATER METER EQUIPPED WITH BATTERY OPERATED ELECTRONIC READING SYSTEM OR EQUAL WITH CUBIC FEET READ REGISTRATION. THE LOCATION OF FITTINGS MUST COMPLY WITH MANUFACTURER'S RECOMMENDATIONS FOR STRAIGHT PIPE CONDITIONS.
- MASTER METER ASSEMBLY TO BE RESTRAINED DUCTILE IRON FLANGE PIPE WITHIN VAULT.
- WATER MAIN AND FITTINGS TO BE A MAXIMUM OF 3.5 FEET BELOW FINISHED GRADE.
- PRECAST CONCRETE BELOW GROUND VAULT WITH H-20 LOADING. VAULT AND OPENINGS SHALL BE WATER TIGHT AND SEALED. MASTIC GASKETS, NON-SHRINKING GROUT AND RESILIENT PIPE CONNECTORS SHALL BE USED, AS REQUIRED. ANTI-FLOATATION MEASURES MUST BE PROVIDED.
- 2-INCH TEST PORT BY TAP-SADDLE, BALL VALVE, AND PLUG.
- RESILIENT WEDGE GATE VALVE, NON-RISING STEM WITH HAND WHEEL.
- NOT USED.
- THE DOORS MUST BE FLUSH MOUNT, LOCKABLE AND SIZED SUCH THAT THE VALVES, METER, AND TEST PORT ARE LOCATED WITHIN THE DOOR OPENING AND ACCESSIBLE TO MUNICIPALITY STAFF.
- 12-INCHES OF CLEARANCE MUST BE PROVIDED BETWEEN THE INTERIOR VAULT WALL AND ANY ASSOCIATED FITTINGS OR APPURTENANCES AND 12-INCHES OF HORIZONTAL CLEARANCE BETWEEN ALL INTERNAL BY-PASS FITTINGS AND THE METER ASSEMBLY FITTINGS.
- ROMAC D4045 DISMANTLING JOINT OR EQUIVALENT.
- 18-INCHES FROM METER FLANGE TO TEST PORT CONNECTION. 24-INCHES TOTAL FROM METER FLANGE TO GATE VALVE.
- SHOP DRAWINGS FOR PROPOSED VAULT(S), METER, DOOR(S), AND ASSEMBLY MUST BE SUBMITTED TO THE MUNICIPALITY STAFF FOR APPROVAL PRIOR TO CONSTRUCTION.



DITCH AND/OR STORM DRAIN CROSSING OFFSETS BETWEEN WATER/SEWER PRESSURE MAIN AND STORM DRAIN

- NOTE:**
- USE THREADED RODS, MEGA-LUG OR EQUAL CAM-LOK, OR APPROVED EQUAL FOR JOINT RESTRAINT.
 - USE THRUST BLOCKING WHERE NEEDED TO REINFORCE JOINT RESTRAINT.



SEWER CROSSING ABOVE WATER LINE

SEWER CROSSING BELOW WATER LINE

SEWER OFFSETS ABOVE AND BELOW WATER MAINS

- NOTES:**
- 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.
 - ALTERNATIVELY, PIPES MAY BE SLEEVED WITH FERROUS MATERIALS 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.

- NOTES:**
- SOIL REPLACED UNDER THE WATER MAIN SHALL BE COMPACTED.
 - 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.