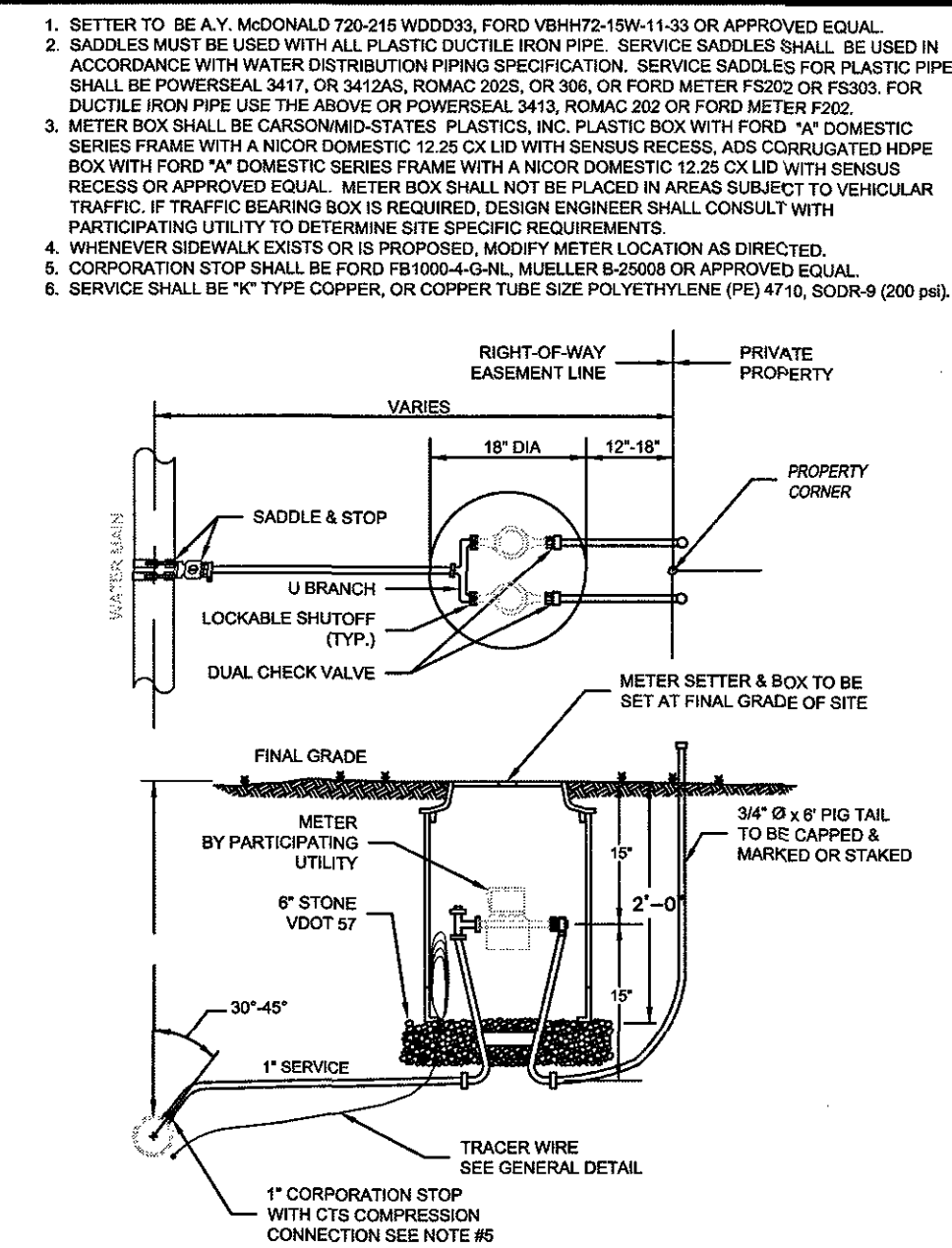
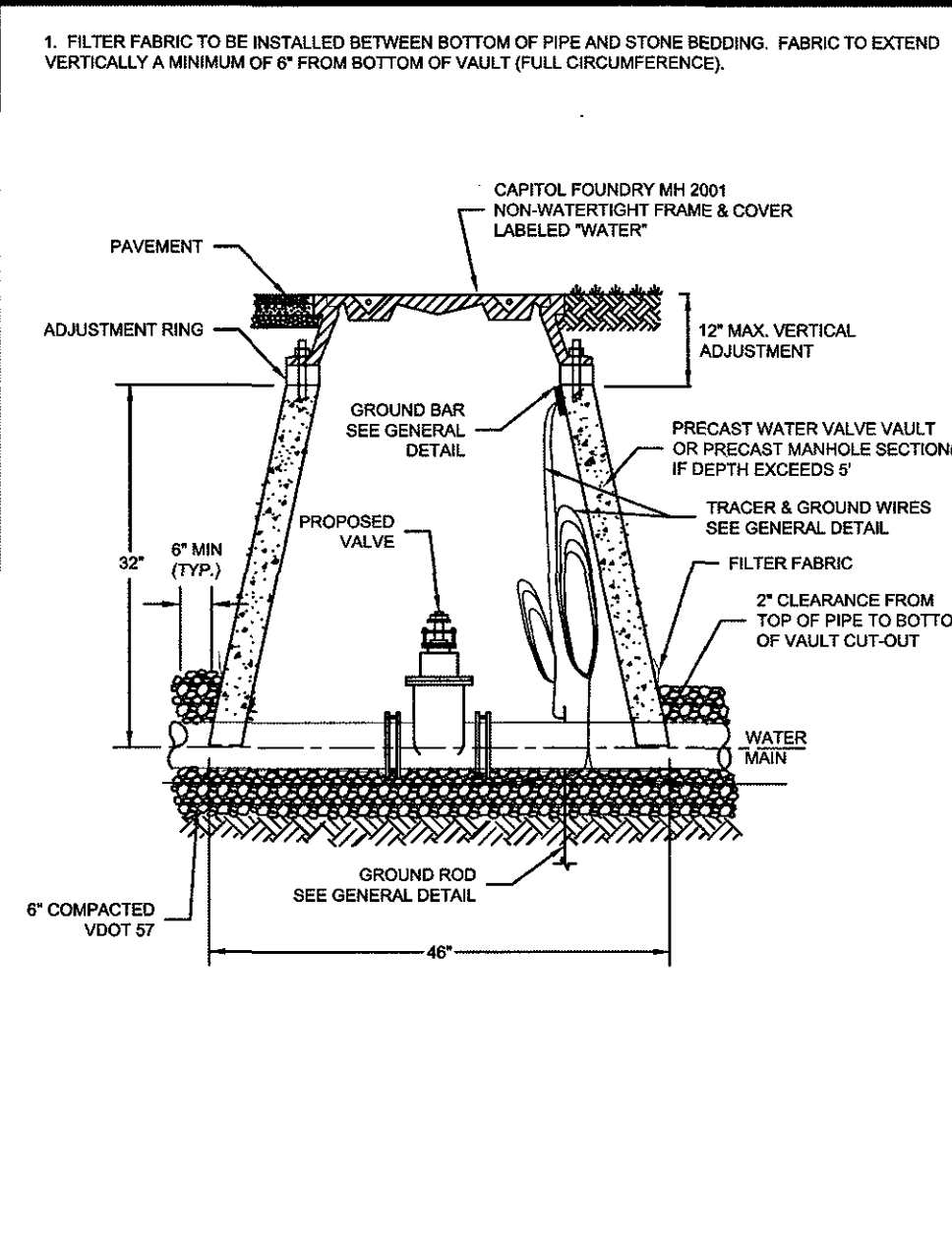


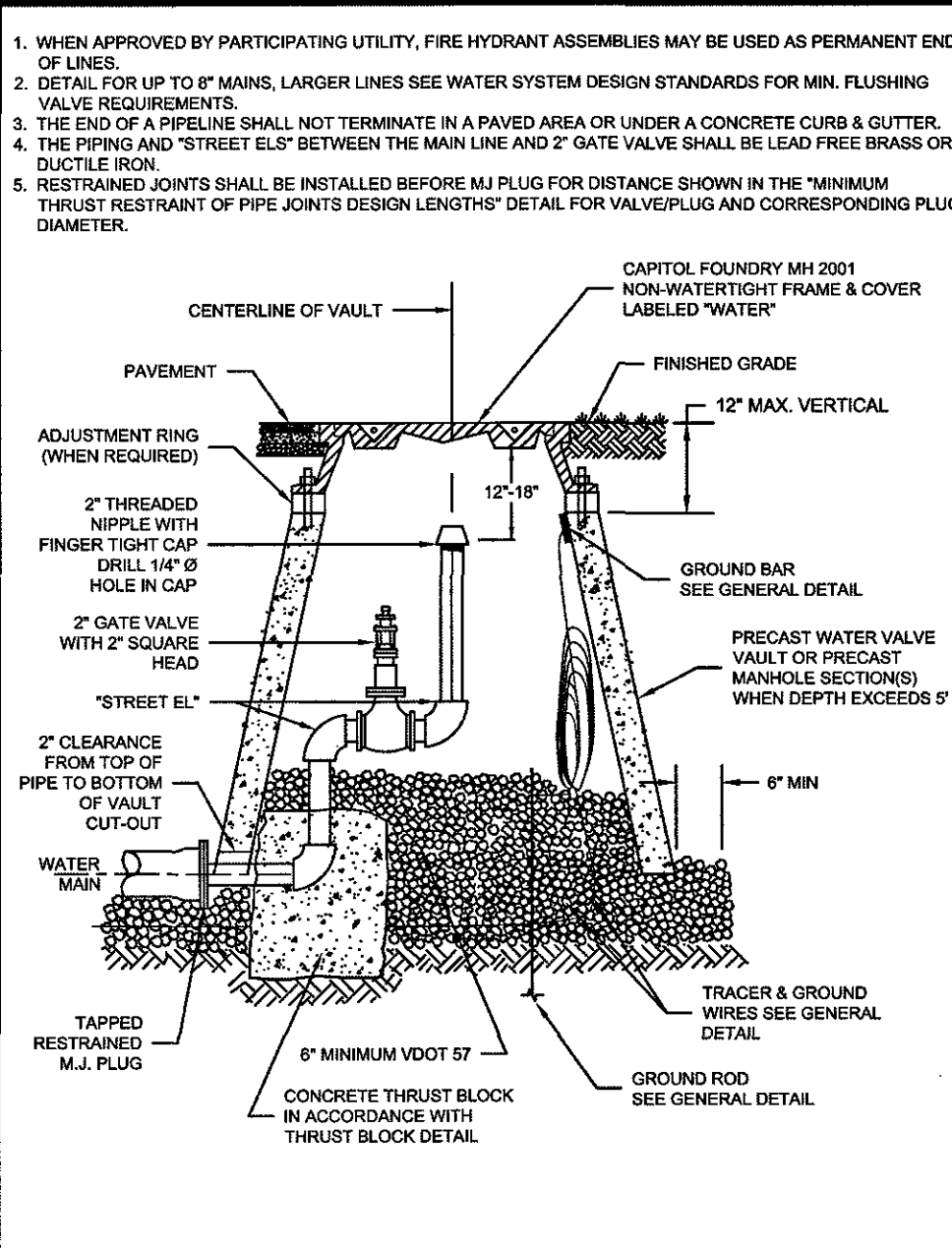
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
SINGLE RESIDENTIAL  
WATER SERVICE - (NEW DEVELOPMENT)  
(LINE PRESSURE UNDER 120 PSI)  
05/05/17 W-1



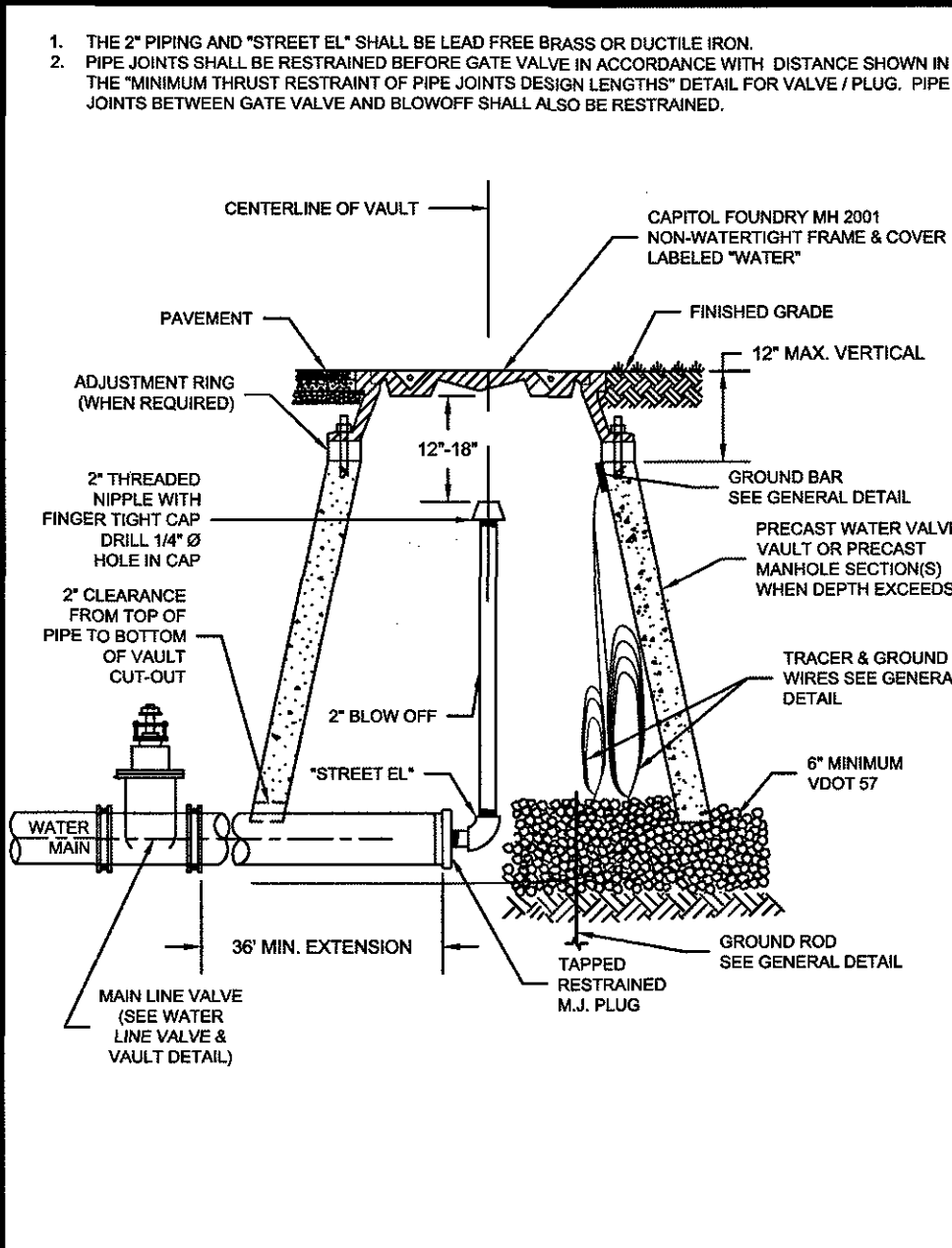
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
DOUBLE RESIDENTIAL  
WATER SERVICE  
(LINE PRESSURE UNDER 120 PSI)  
05/05/17 W-4



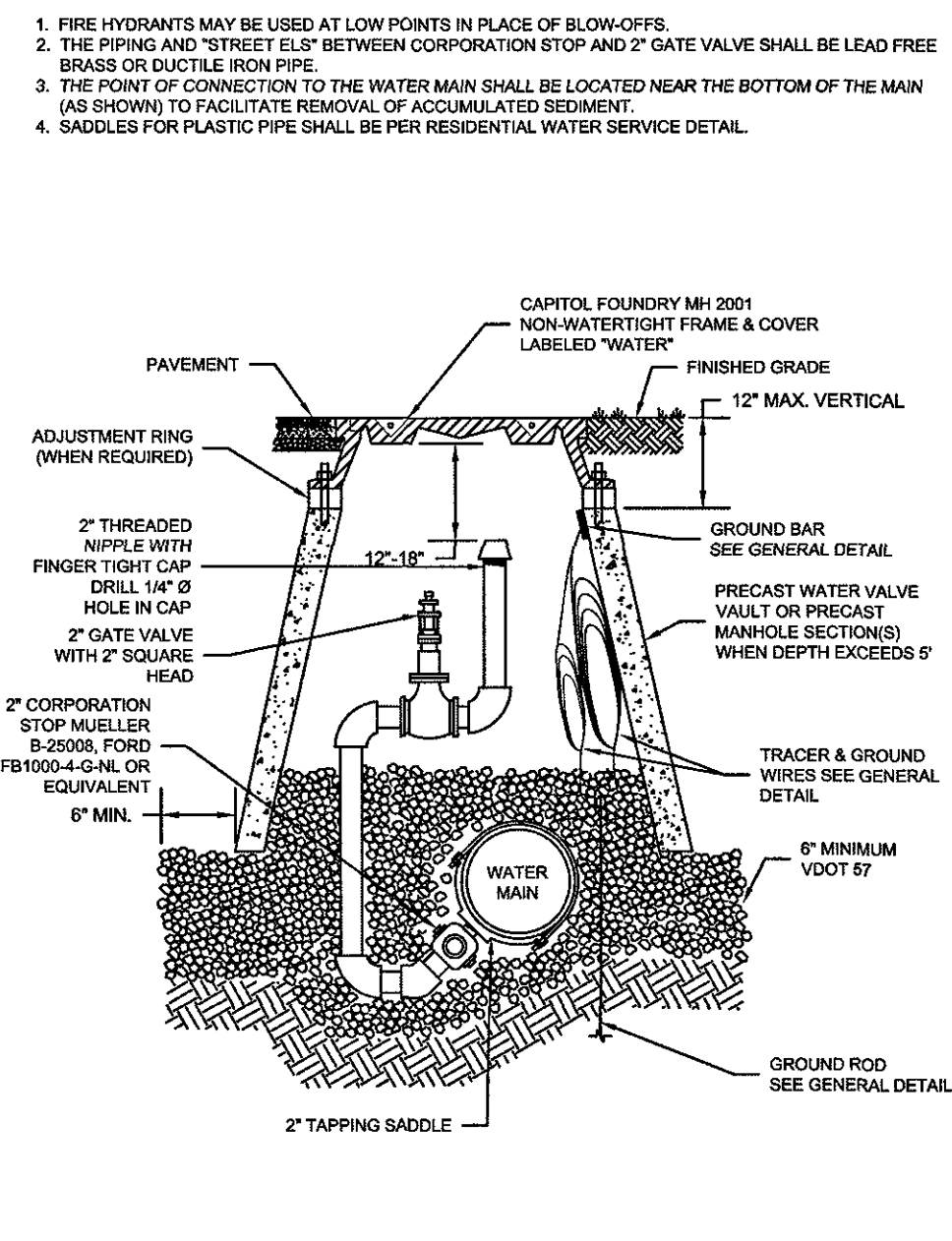
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
WATER LINE VALVE & VAULT  
01/01/14 W-9



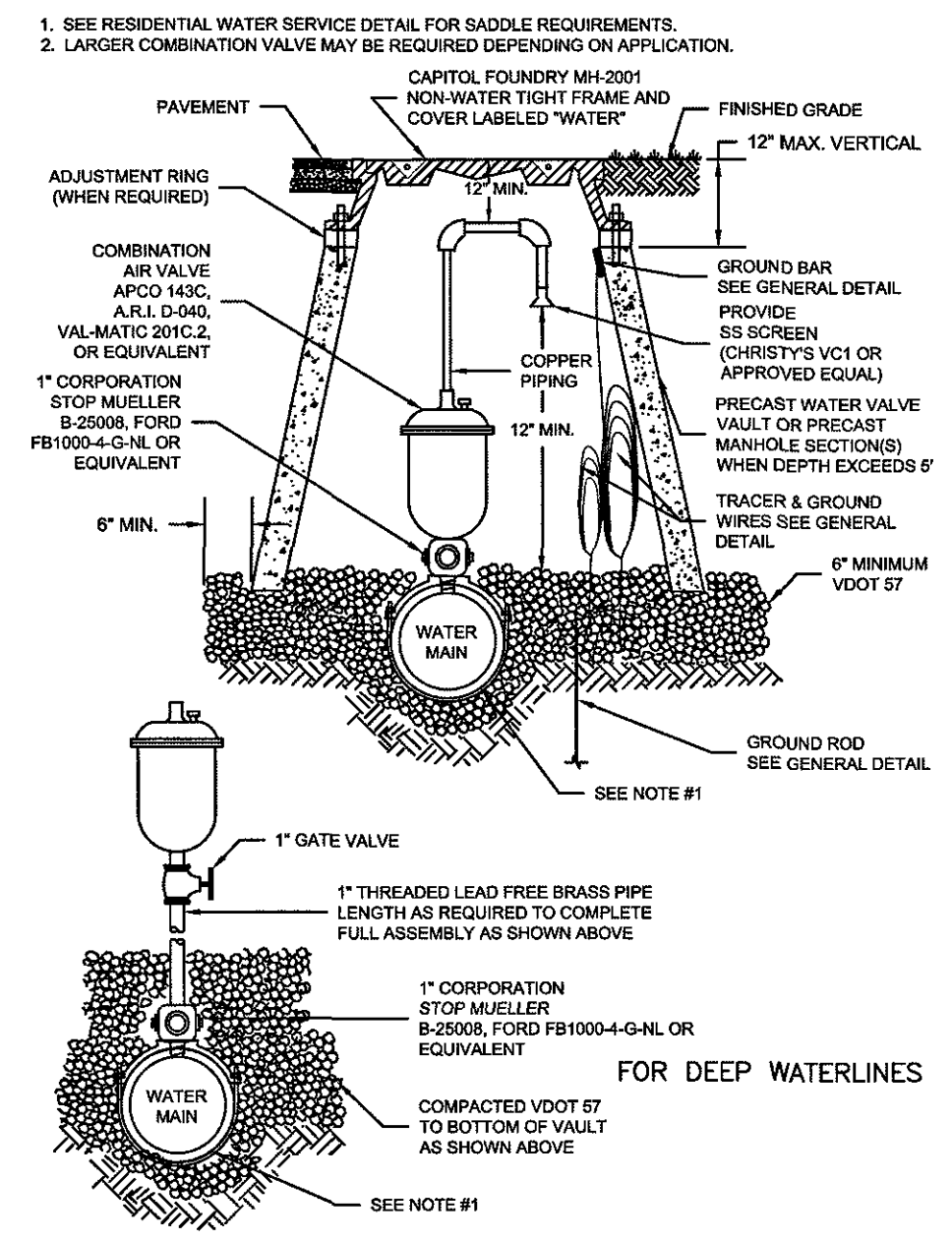
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
PERMANENT END OF LINE BLOW-OFF ASSEMBLY  
02/10/15 W-10



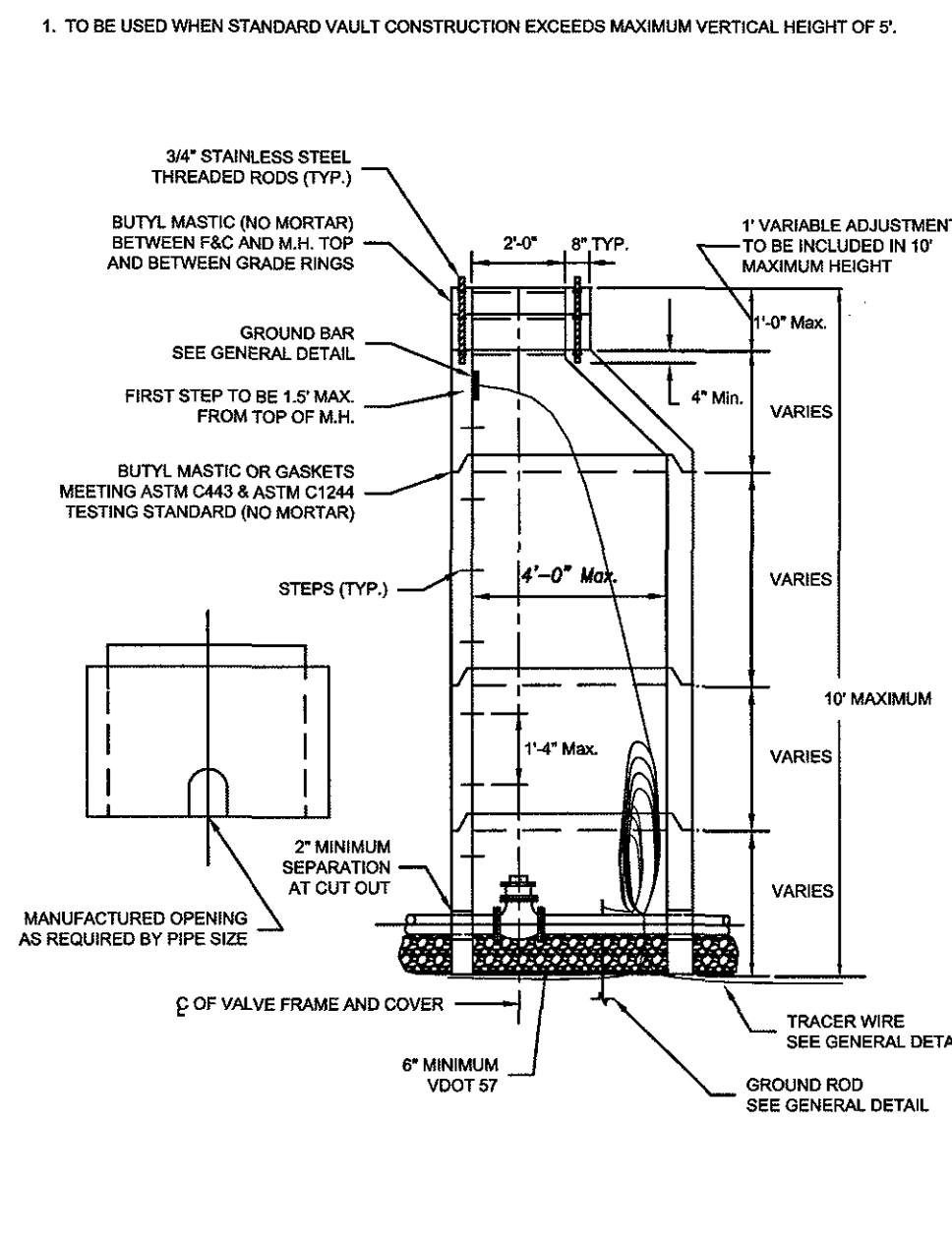
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
TEMPORARY END OF LINE BLOW-OFF ASSEMBLY  
01/01/14 W-11



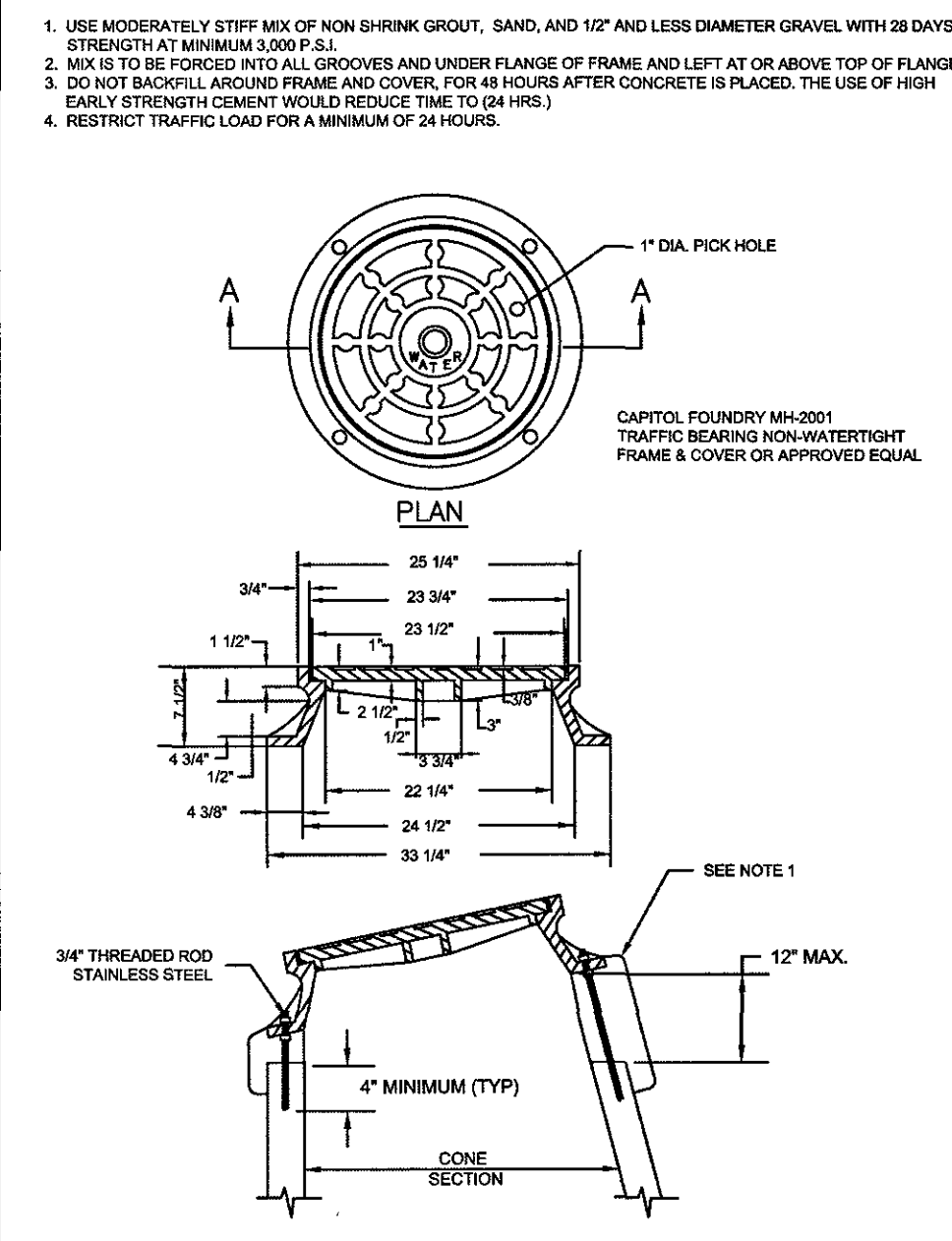
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
IN-LINE BLOW-OFF ASSEMBLY  
02/10/15 W-12



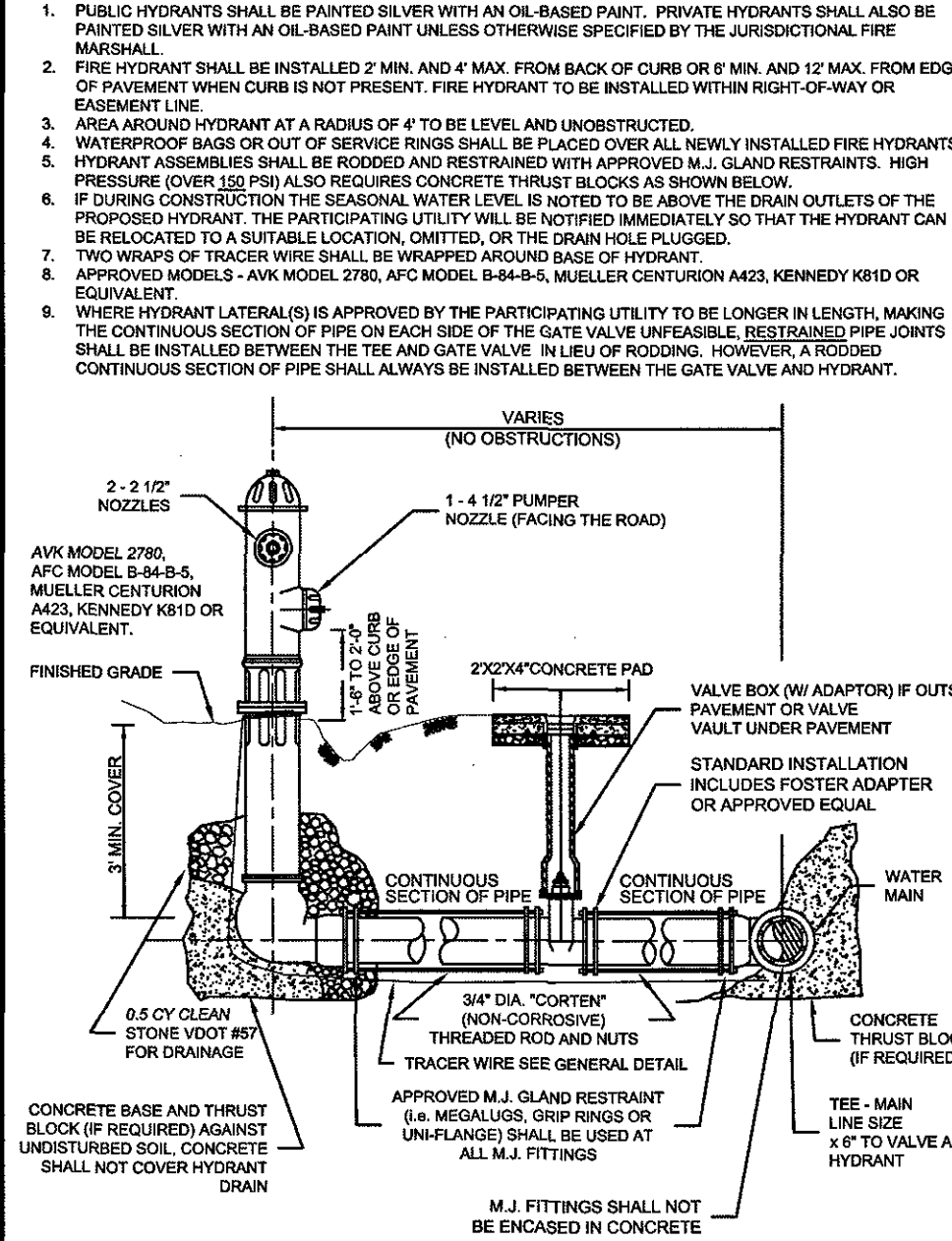
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
COMBINATION AIR VALVE ASSEMBLY  
02/10/15 W-13



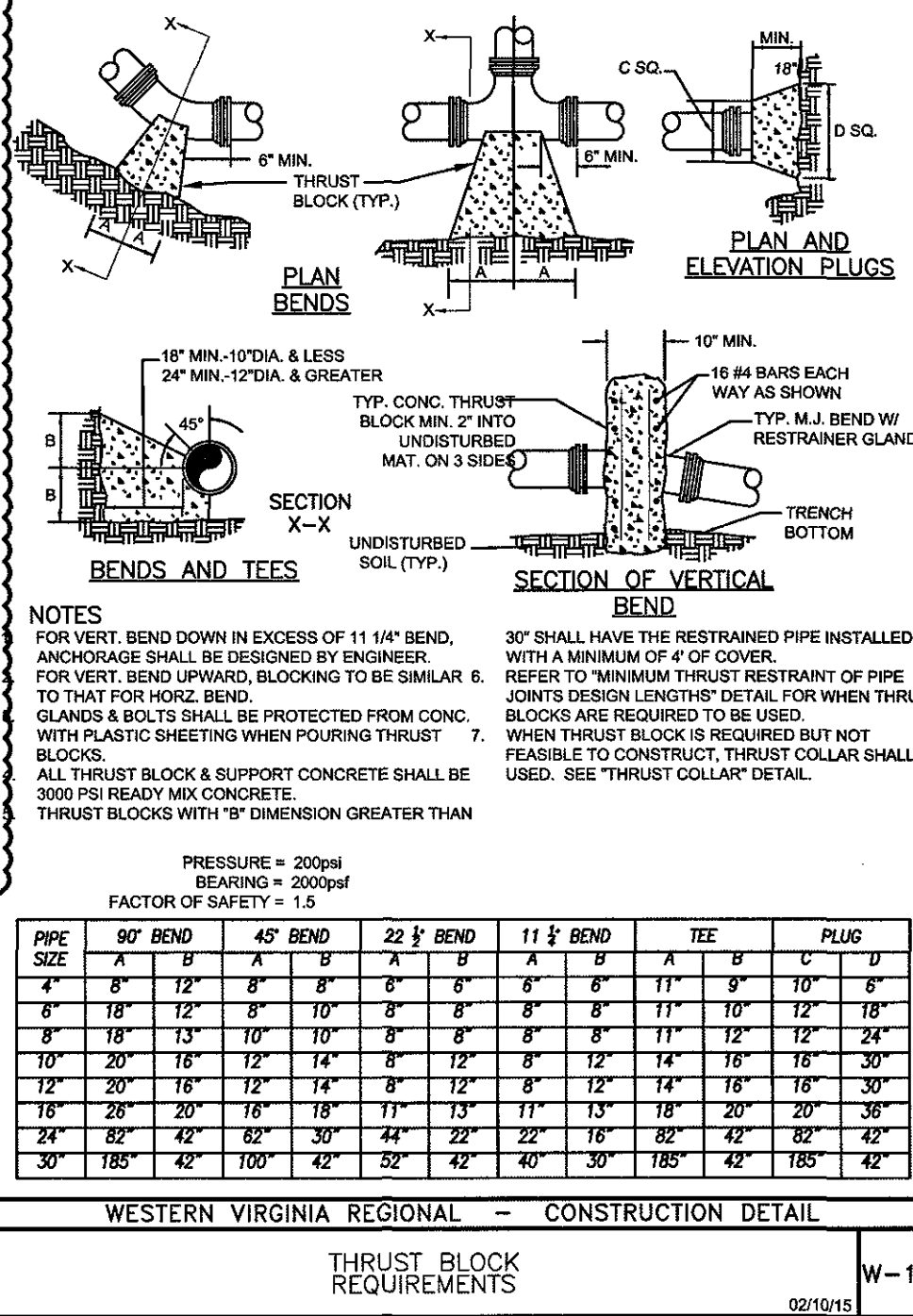
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
DEEP VALVE VAULT (MANHOLE)  
01/01/14 W-15



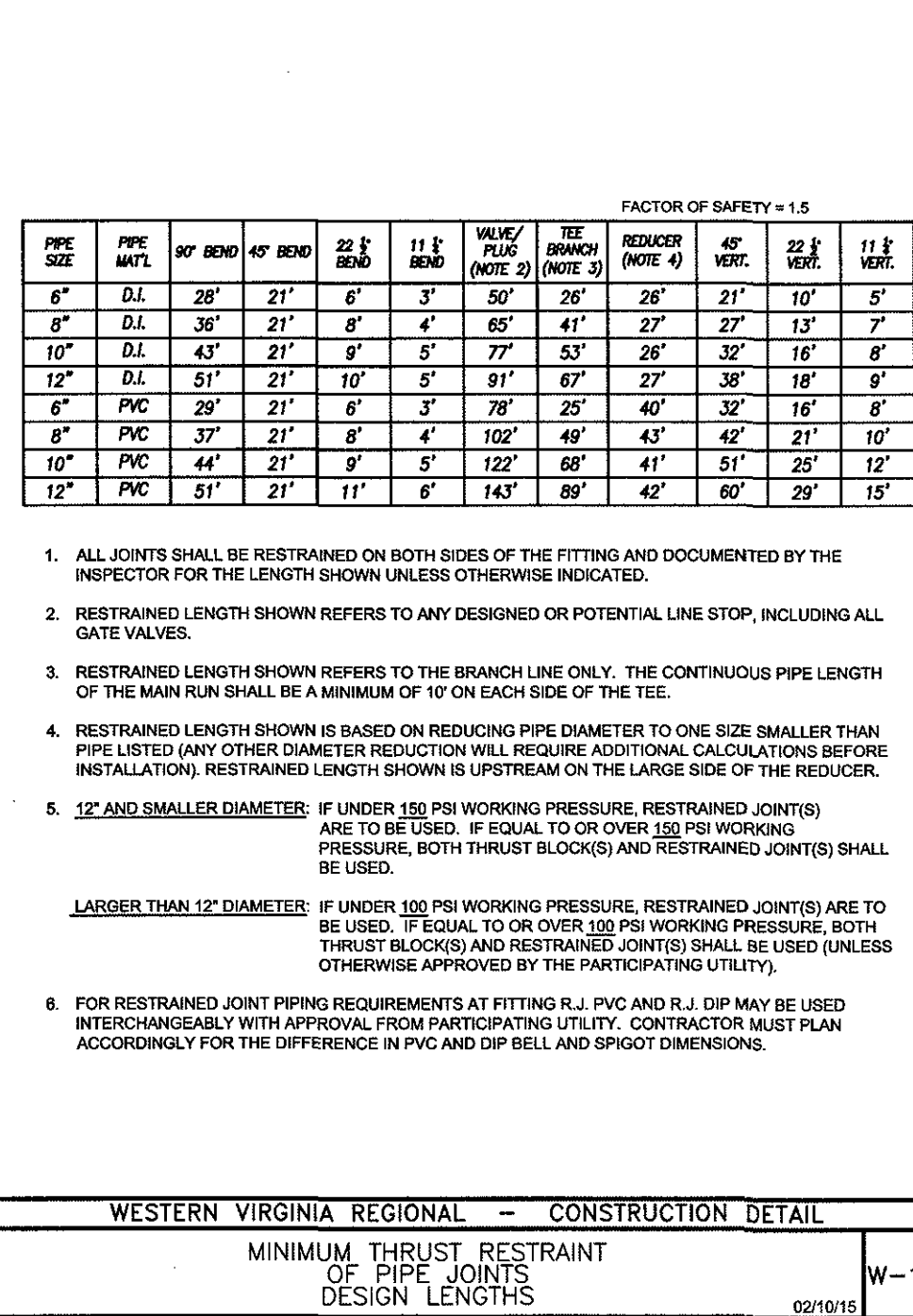
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
VAULT FRAME AND COVER  
01/01/14 W-16



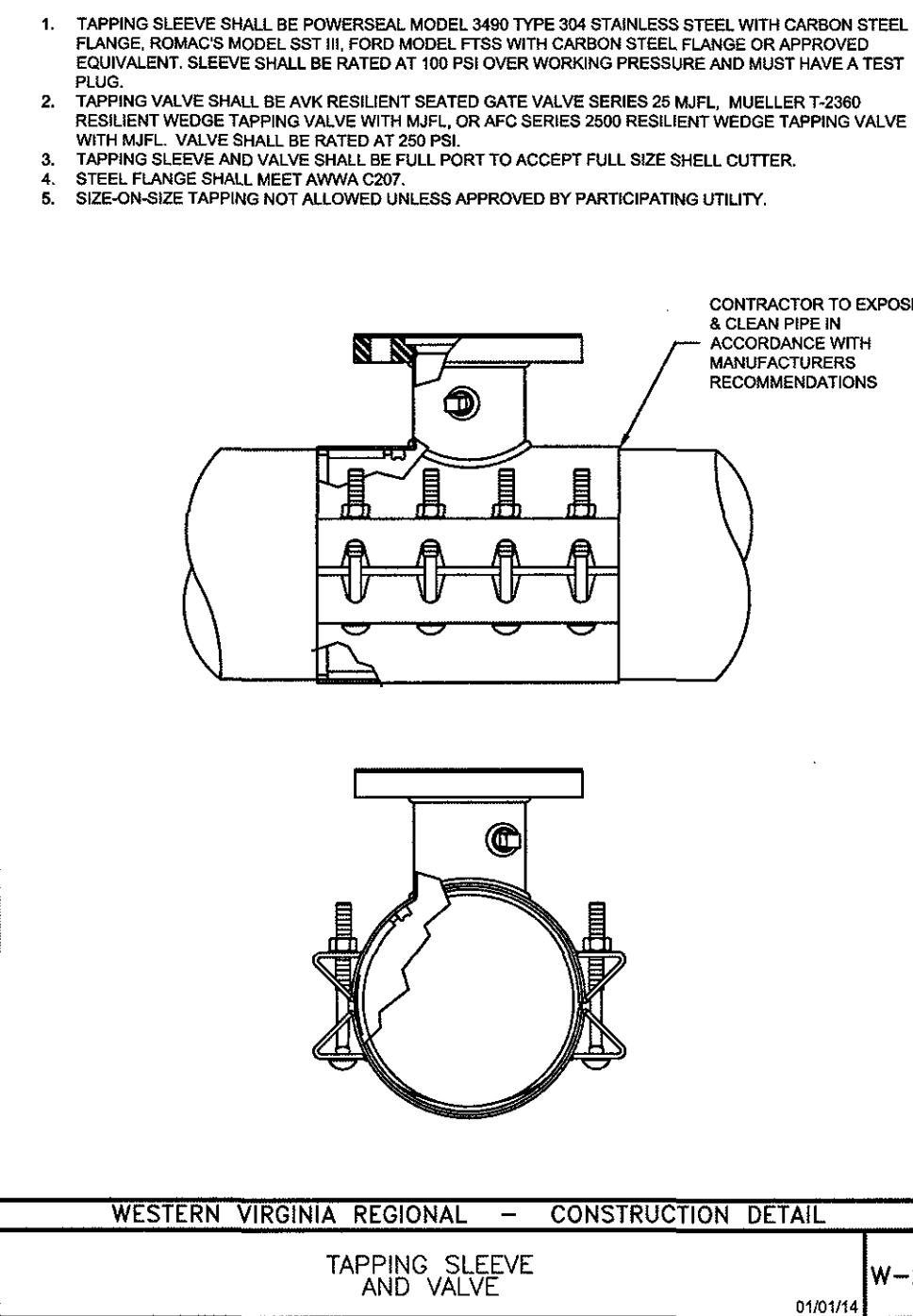
WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
FIRE HYDRANT ASSEMBLY  
02/10/15 W-17



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
BENDS AND TEES  
02/10/15 W-20



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
MINIMUM THRUST RESTRAINT DESIGN LENGTHS  
02/10/15 W-19



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
TAPPING SLEEVE AND VALVE  
01/01/14 W-21

INSTALLATION OF DUCTILE IRON WATER MAINS

TABLE 4. AWWA C200/05

Maximum Joint Deflection Full Length of Pipe - Push on Type Joint

Nominal Pipe Size (inches)	Deflection Angle - 8 (degrees)	Joint Length (ft)		Joint Length (ft)	
		18-Foot	20-Foot	18-Foot	20-Foot
3"	19	21	205	230	
4"	19	21	205	230	
6"	19	21	205	230	
8"	19	21	205	230	
10"	19	21	205	230	
12"	19	21	205	230	
14"	11	12	340	380	
16"	11	12	340	380	
18"	11	12	340	380	
20"	11	12	340	380	
24"	11	12	340	380	
30"	11	12	340	380	

\* SEE FIGURE 4

For 14-inch and larger push-on joints, maximum deflection angle may be larger than shown above. Consult the manufacturer.

INSTALLATION OF DUCTILE IRON WATER MAINS

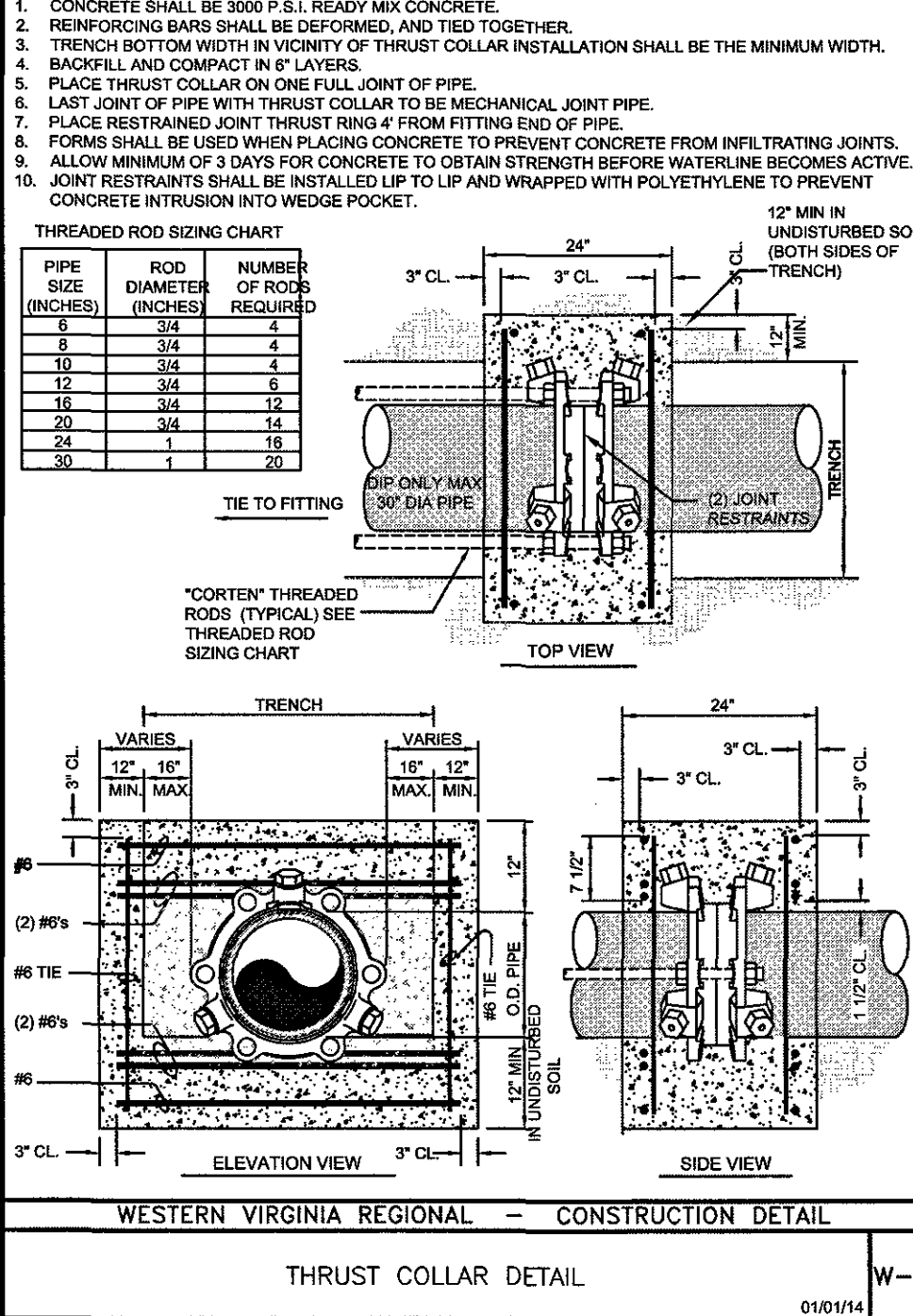
TABLE 4. AWWA C200/05

Maximum Joint Deflection Full Length of Pipe - Mechanical Joint

Nominal Pipe Size (inches)	Deflection Angle - 8 (degrees)	Joint Length (ft)		Joint Length (ft)	
		18-Foot	20-Foot	18-Foot	20-Foot
3"	31	35	125	140	
4"	31	35	125	140	
6"	27	30	145	160	
8"	27	30	145	160	
10"	27	30	145	160	
12"	27	30	145	160	
14"	15	15	285	320	
16"	15	15	285	320	
18"	15	15	285	320	
20"	15	15	285	320	
24"	9	10	450	500	

\* SEE FIGURE 4

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
DUCTILE IRON PIPE DEFLECTION ALLOWANCE TABLES  
01/01/14 W-22



WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL  
THRUST COLLAR DETAIL  
01/01/14 W-23

DATE 5/8/08  
PROJECT 03083  
DESIGNED RHW  
DRAWN MSWJ  
CHECKED RHW

ENGINEERING  
CONCEPTS, INC.  
"Creating Success"

STATE OF VIRGINIA  
ROBERT H. WAMPLER, JR.  
No. 34713  
7/17/17  
PROFESSIONAL ENGINEER

PROJECT FRANK AND WALTON  
DALEVILLE TOWN CENTER

DRAWING WATER DETAILS

SHEET C-36