

DATE: 05/02/2014

REVISIONS

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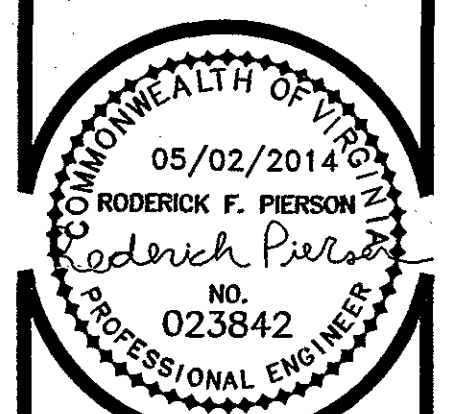
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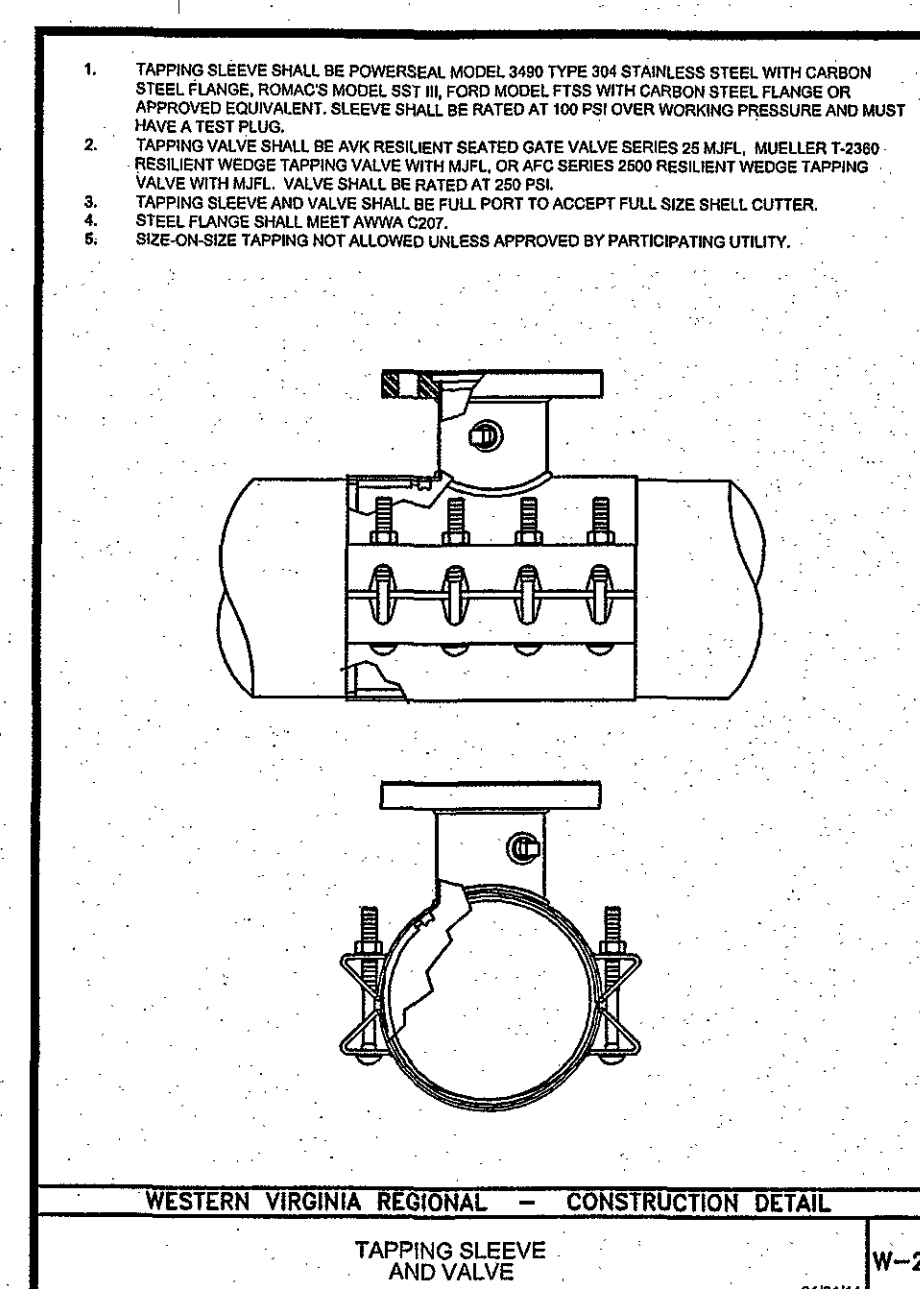
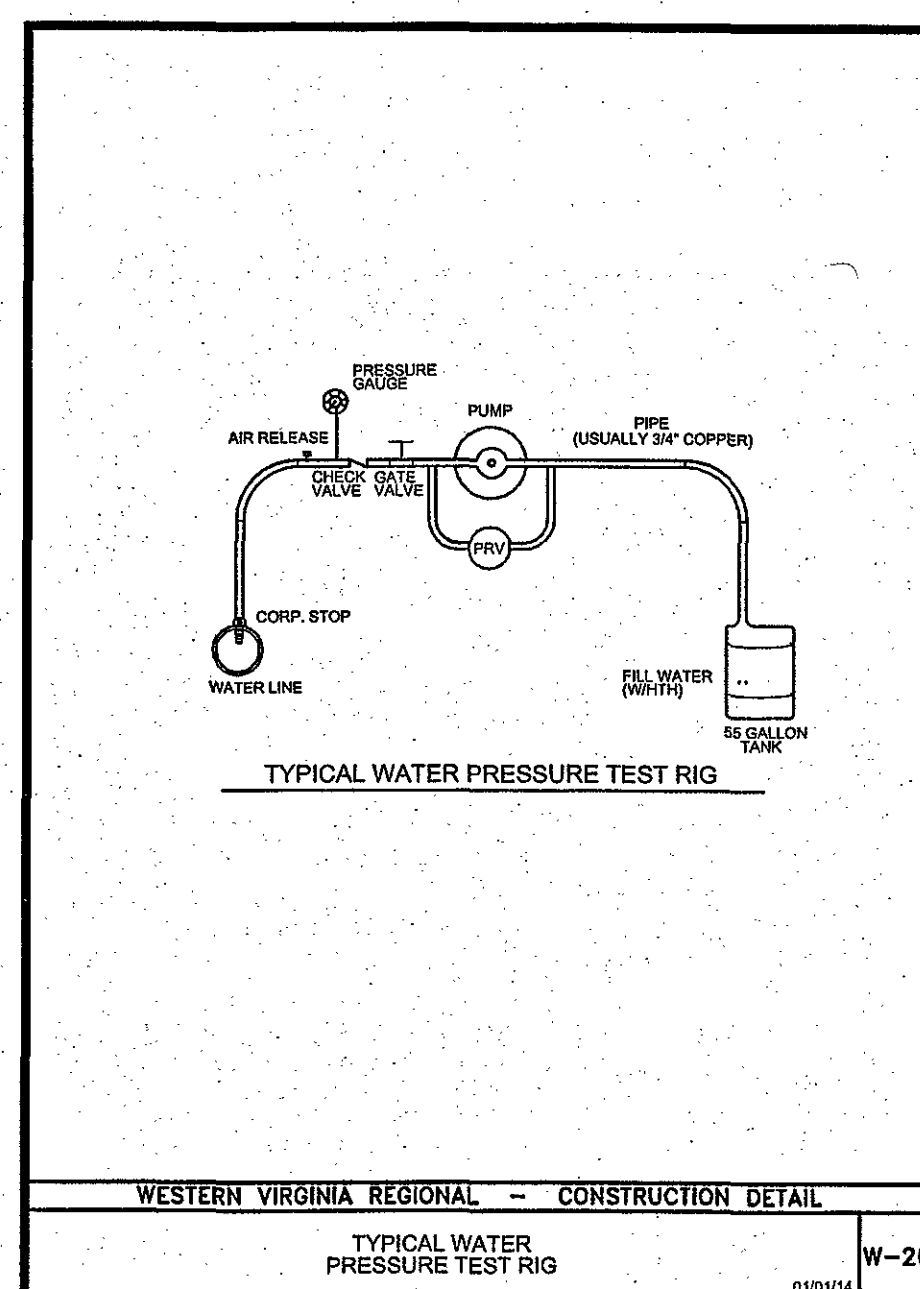
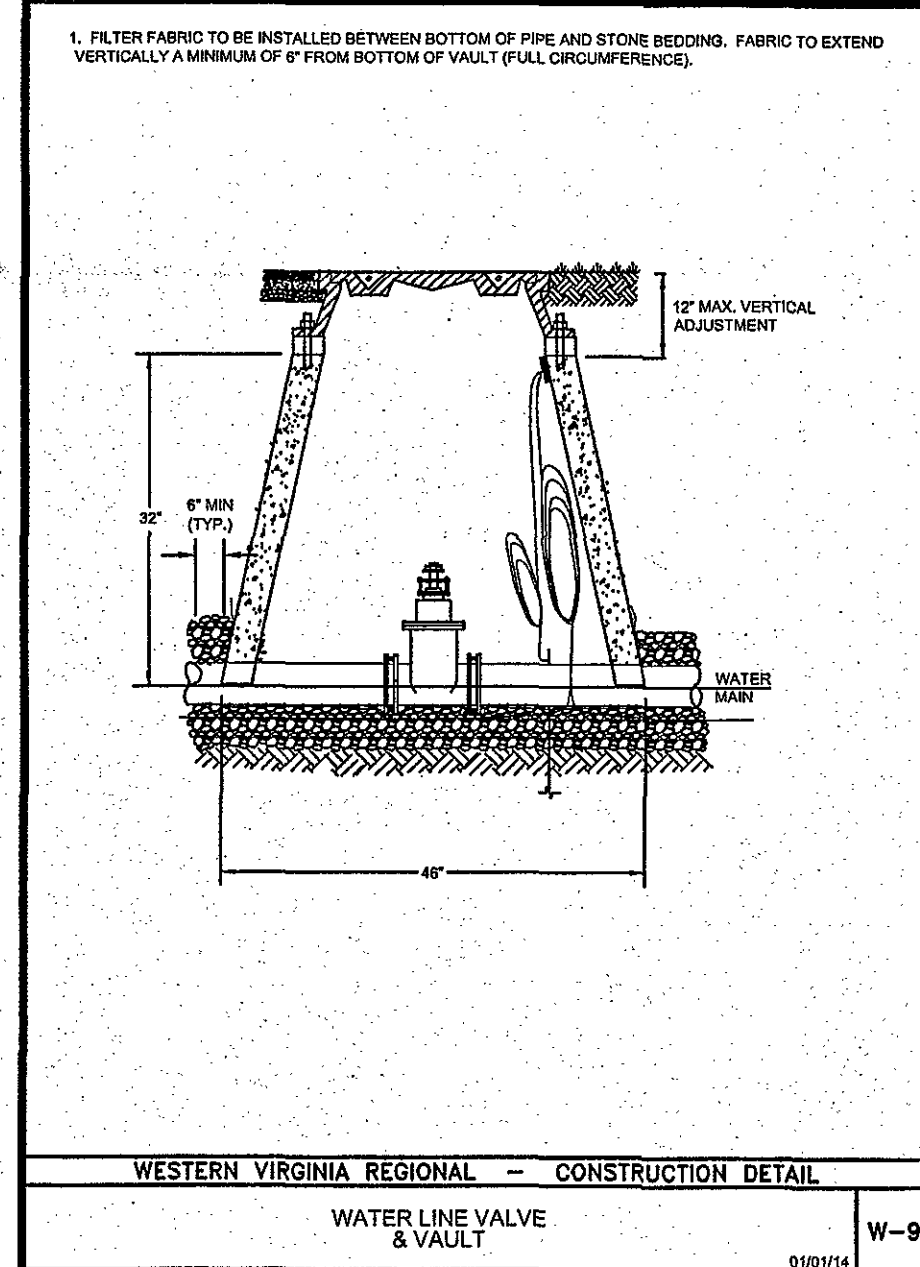
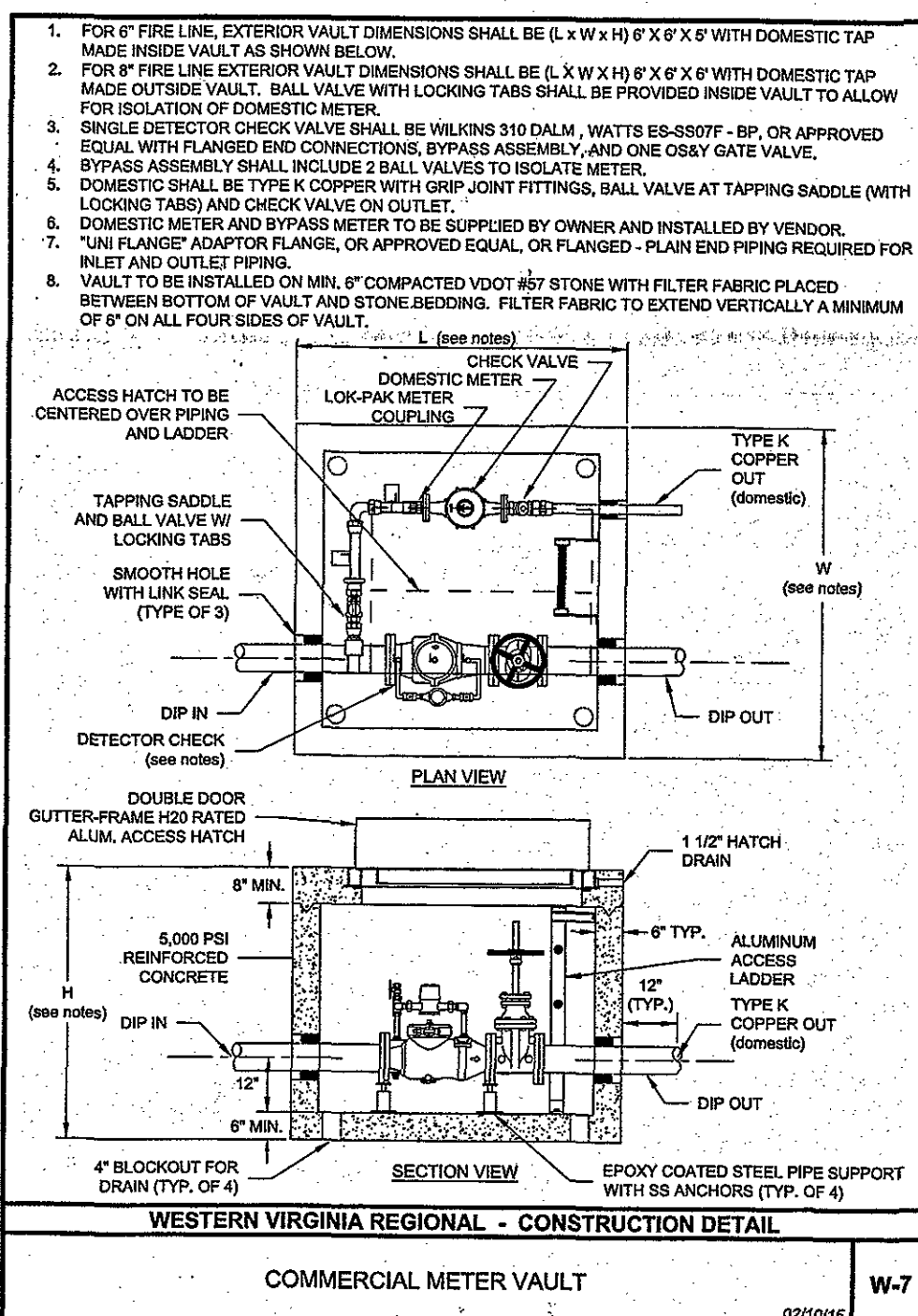
SITE PLAN FOR
CHRIST THE KING
PRESBYTERIAN CHURCH
COUNTY OF ROANOKE, VIRGINIA

WATER
DETAILS



COMMISSION
R201410
SHEET
C15

APPROVED



INSTALLATION OF DUCTILE IRON WATER MAINS

TABLE 3 AWWA C200-05

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

Nominal Pipe Size (Inches)	Deflection Angle (Degrees)	Approximate Factor of Curve - R			
		Joint Length 18-Foot	Joint Length 20-Foot	Joint Length 24-Foot	Joint Length 30-Foot
3	5"	19	21	208	230
4	5"	19	21	208	230
6	5"	19	21	208	230
8	5"	19	21	208	230
10	5"	19	21	208	230
12	5"	19	21	208	230
14	3"	11	12	340	380
16	3"	11	12	340	380
18	3"	11	12	340	380
20	3"	11	12	340	380
24	3"	11	12	340	380
30	3"	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 Pipe

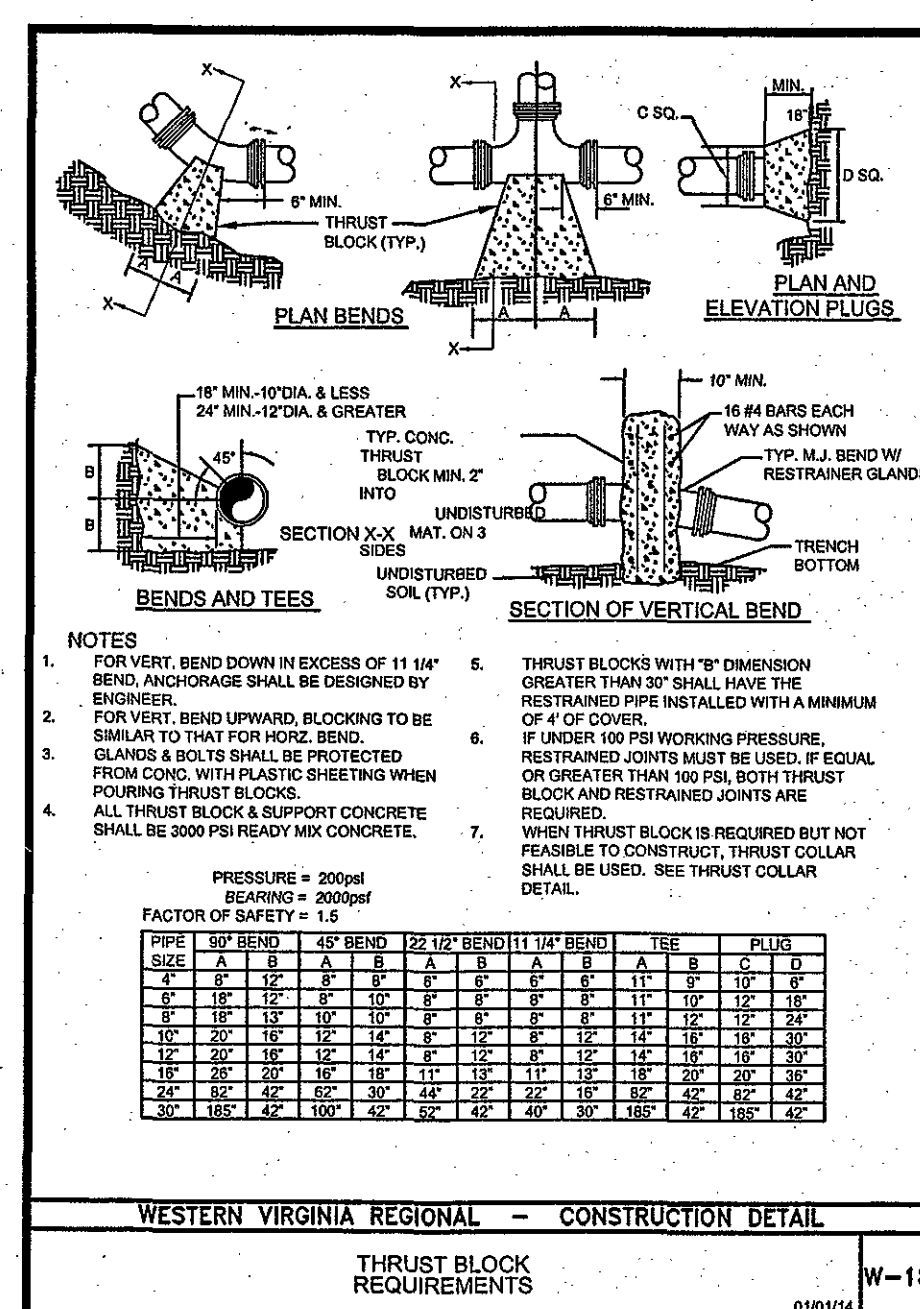
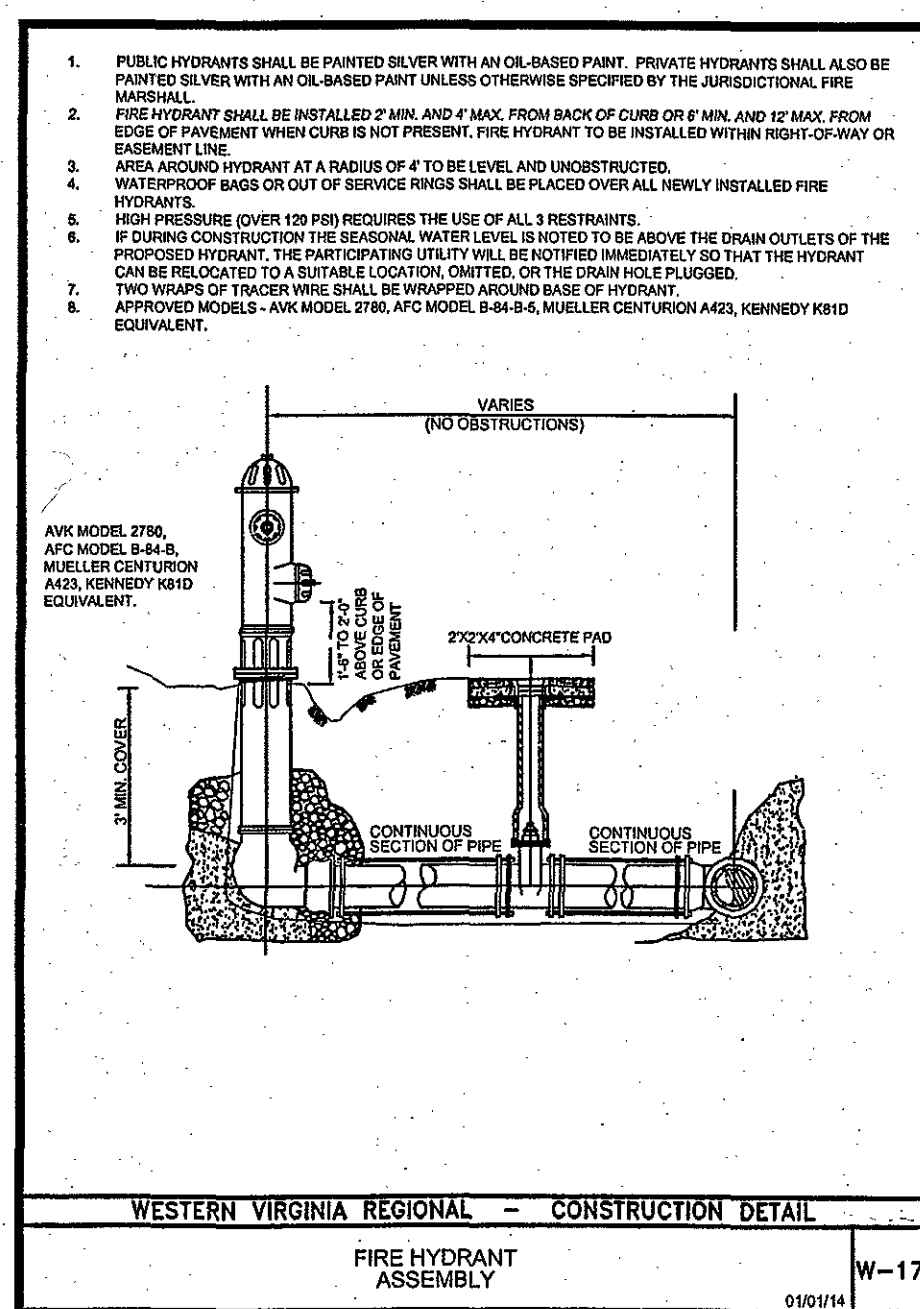
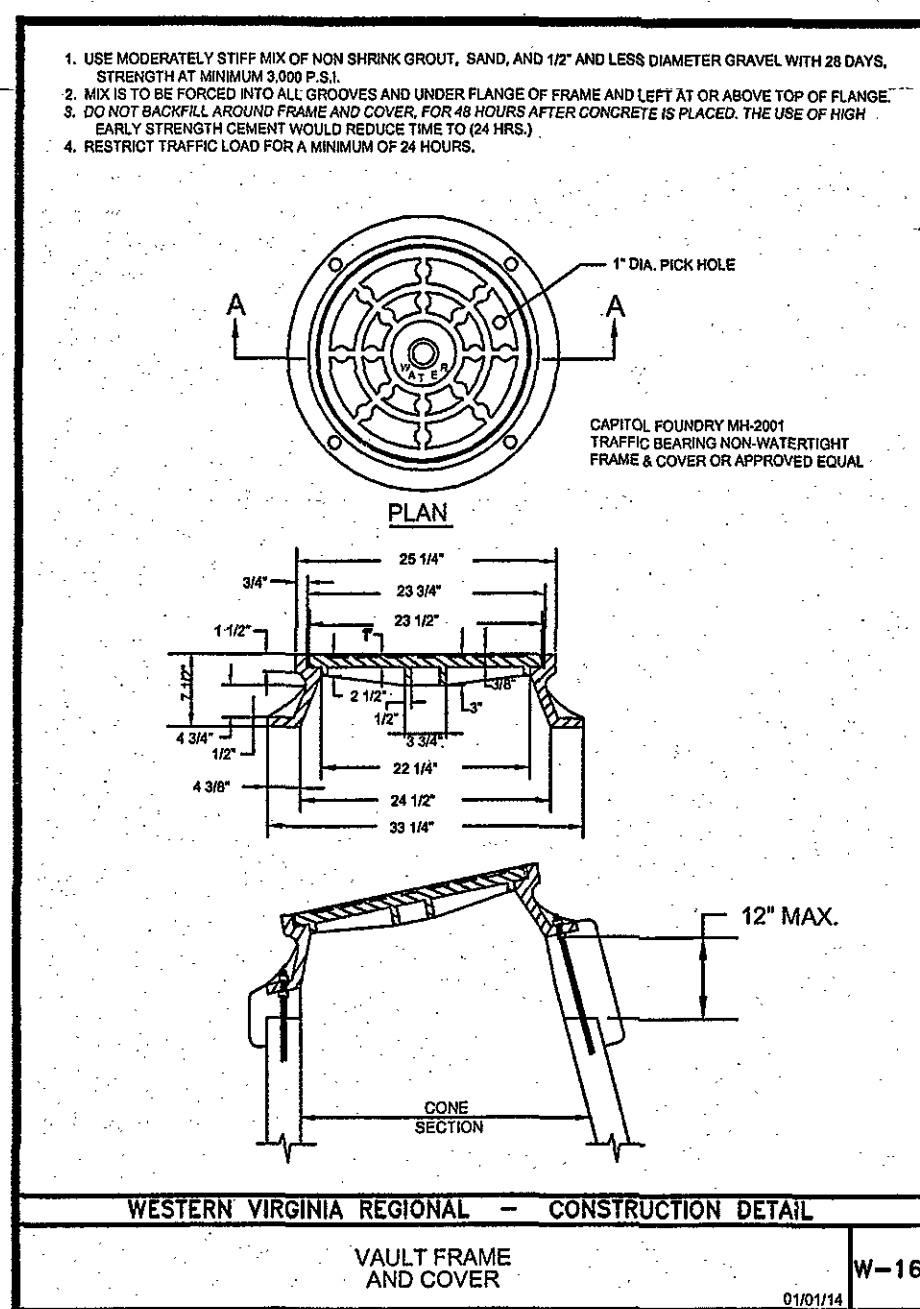
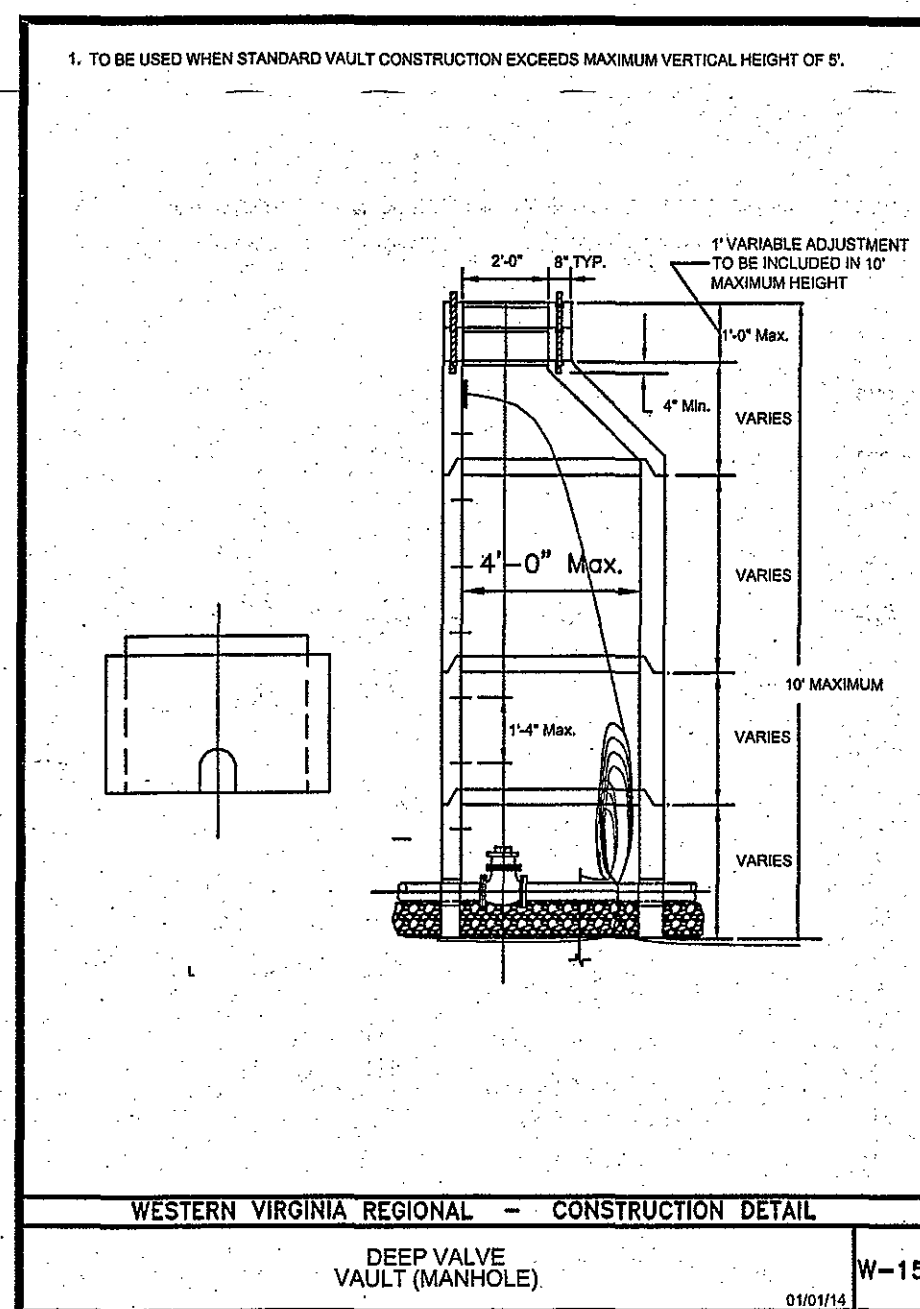
Nominal Pipe Size (Inches)	Deflection Angle (Degrees)	Approximate Factor of Curve - R			
		Joint Length 18-Foot	Joint Length 20-Foot	Joint Length 24-Foot	Joint Length 30-Foot
3	5"	31	35	158	148
4	5"	31	35	158	148
6	5"	27	30	148	160
8	5"	27	30	148	160
10	5"	27	30	148	160
12	5"	27	30	148	160
14	3"	15.5	18	385	320
16	3"	15.5	18	385	320
18	3"	15.5	18	385	320
20	3"	15.5	18	385	320
24	3"	15.5	18	385	320

*SEE FIGURE 4.

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

DUCTILE IRON PIPE DEFLECTION ALLOWANCE TABLES

05/01/14 W-22



FACTOR OF SAFETY = 1.5

PIPE SIZE	PIPE MATL.	8"	10"	12 1/2"	15 1/4"	18 1/4"	22 1/2"	28 1/4"	36"	48"	60"	72"	90"	108"	144"
3"	D.I.	28	21	7	3	38	34	27	22	11	5	5	5	5	5
4"	D.I.	37	21	7	4	51	47	21	30	15	7	7	7	7	7
6"	D.I.	55	21	7	4	81	57	20	37	18	9	9	9	9	9
8"	D.I.	82	22	11	5	73	89	38	42	21	10	10	10	10	10
10"	P.V.C.	37	21	7	3	55	35	29	30	17	8	8	8	8	8
12"	P.V.C.	40	21	7	4	72	50	31	45	22	11	11	11	11	11
14"	P.V.C.	47	21	7	4	85	56	30	50	27	12	12	12	12	12
16"	P.V.C.	55	22	11	5	100	66	35	60	32	16	16	16	16	16

1. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING AND DOCUMENTED BY THE RESTRAINED JOINT LENGTH SHOWN UNLESS OTHERWISE INDICATED.

2. REDUCER IS ONE SIZE SMALLER THAN PIPE LISTED. RESTRAINED LENGTH IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.

3. IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINTS ARE TO BE USED. IF EQUAL TO OR OVER 100 PSI WORKING PRESSURE, BOTH THRUST BLOCK AND RESTRAINED JOINTS SHALL BE USED.

4. FOR RESTRAINED JOINT PIPING REQUIREMENTS AT FITTING R.J. P.V.C. AND R.J. D.I. MAY BE USED INTERCHANGEABLY.

WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL

MINIMUM THRUST RESTRAINT DESIGN LENGTHS

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