

UTILITY CONSTRUCTION

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS
 BASED ON TEST PRESSURE OF 200 P.S.I.

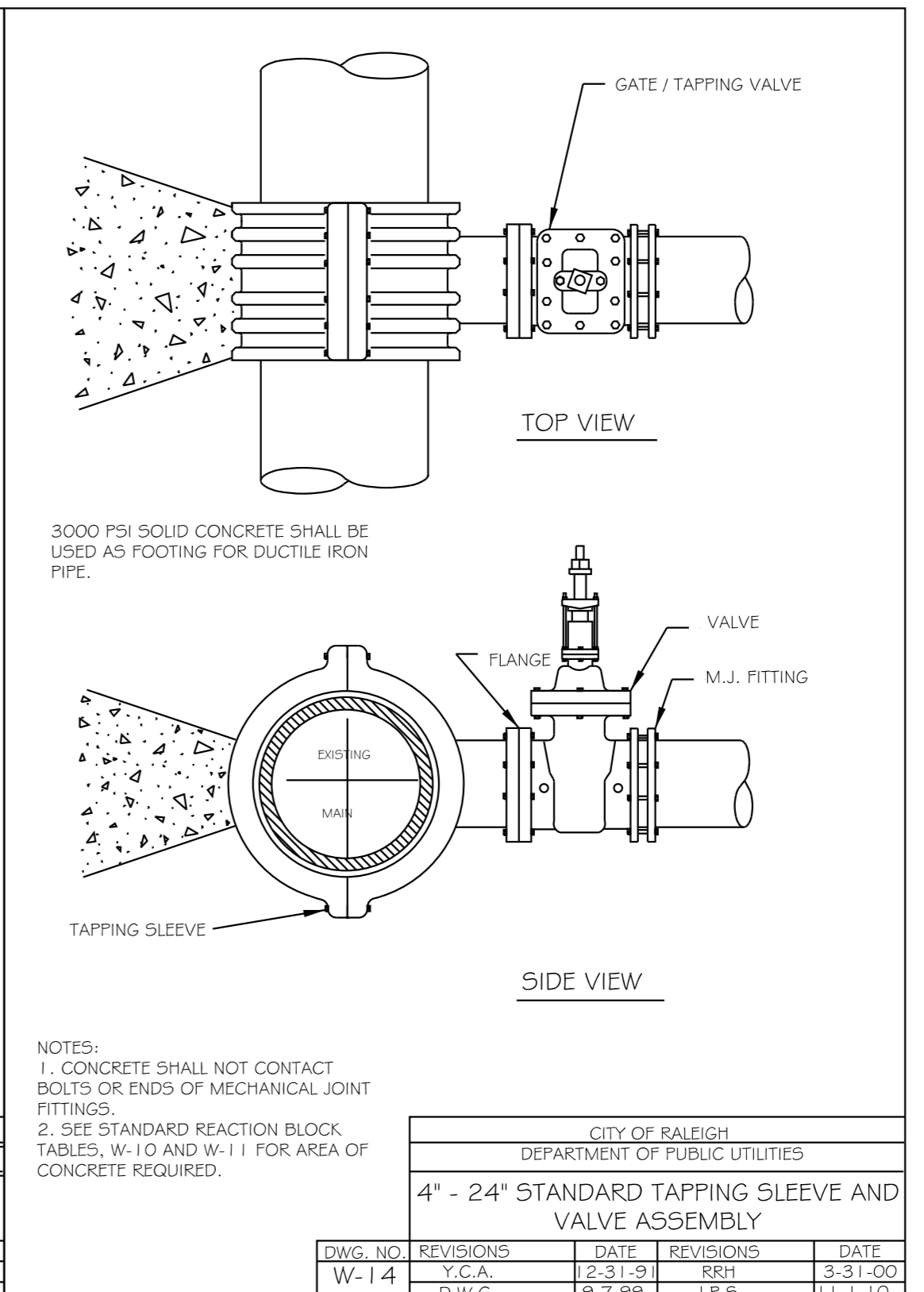
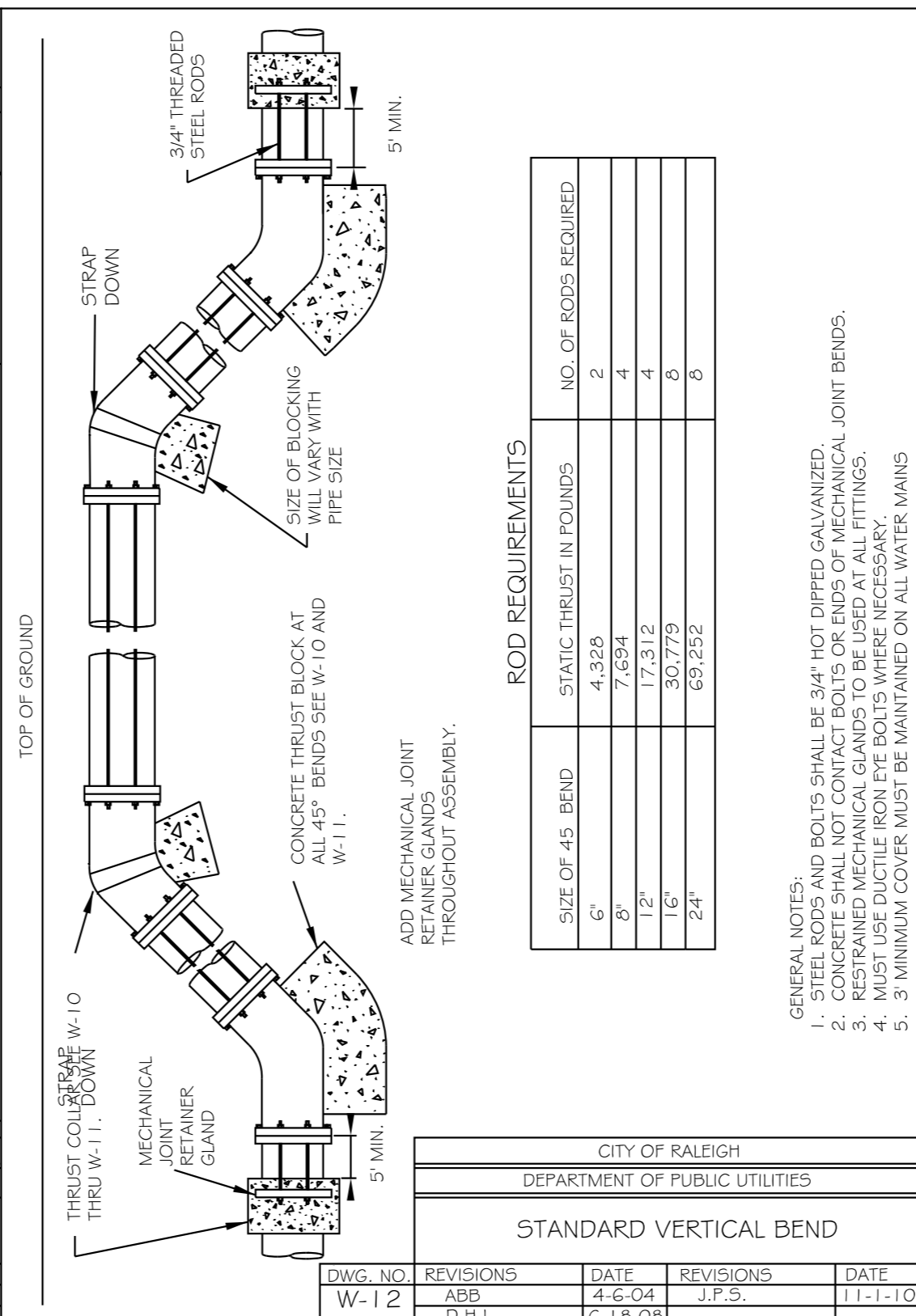
ALL AREAS GIVEN IN SQUARE FEET.

PIPE AND DEGREE OF BEND	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	6"
6"										
11 1/4"	1,106	1	1	1	1	1	1	1	2	1
22 1/2"	2,207	1	2	2	1	1	1	1	3	1
45°	4,326	2	3	3	1	1	2	5	1	
90°	7,996	2	4	5	1	1	2	8	1	
PLUG	5,655	2	3	4	1	1	2	6	1	
8"										
11 1/4"	1,970	1	1	2	1	1	1	2	1	
22 1/2"	3,922	1	2	3	1	1	1	4	1	
45°	7,694	2	4	5	1	1	2	8	1	
90°	14,215	4	8	9	2	2	4	15	2	
PLUG	10,053	3	5	6	2	2	3	10	1	
12"										
11 1/4"	4,433	2	3	3	1	1	2	5	1	
22 1/2"	8,826	3	5	6	2	2	3	9	1	
45°	17,312	5	9	11	3	3	5	18	2	
90°	31,963	8	16	19	4	4	8	32	4	
PLUG	22,619	6	12	14	3	3	6	23	3	
16"										
11 1/4"	7,661	2	4	5	1	1	2	8	1	
22 1/2"	15,691	4	8	10	2	2	4	16	2	
45°	30,779	8	16	19	4	4	8	31	4	
90°	56,861	15	29	35	8	8	15	57	6	
PLUG	40,213	10	21	25	5	5	10	41	5	

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PIPE AND DEGREE OF BEND	1/4"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"	6"
24"										
11 1/4"	17,734	5	9	11	3	3	5	16	2	
22 1/2"	35,305	9	18	22	5	5	9	36	4	
45°	69,252	18	35	42	9	9	18	70	7	
90°	127,936	32	64	77	16	16	32	128	13	
PLUG	90,478	23	46	55	12	12	23	91	10	
30"										
11 1/4"	27,709	7	14	17	4	4	7	2	3	
22 1/2"	55,163	14	28	34	7	7	14	56	6	
45°	106,204	28	55	65	14	14	28	109	11	
90°	199,900	50	100	120	25	25	50	200	20	
PLUG	141,372	36	71	85	18	18	36	142	15	
36"										
11 1/4"	39,901	10	20	24	5	5	10	40	4	
22 1/2"	79,439	20	40	48	10	10	20	80	8	
45°	155,816	39	78	94	20	20	39	156	16	
90°	287,854	72	144	172	36	36	72	288	29	
PLUG	203,574	51	102	122	26	26	51	204	21	
48"										
11 1/4"	70,935	18	36	43	9	9	18	71	8	
22 1/2"	141,218	36	71	85	18	18	36	142	15	
45°	277,007	70	139	166	35	35	70	277	28	
90°	511,742	128	256	320	64	64	128	512	52	
PLUG	361,911	91	181	217	46	46	91	362	37	



REACTION BEARING AREAS ARE IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR.

USE 6" - 90° BEND VALUE FOR HYDRANTS FOR ADDITIONAL SAFETY FACTOR.

CITY OF RALEIGH
DEPARTMENT OF PUBLIC UTILITIES

THRUST BLOCKING DESIGN QUANTITY TABLE

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-10	D.W.C.	2-3-99		

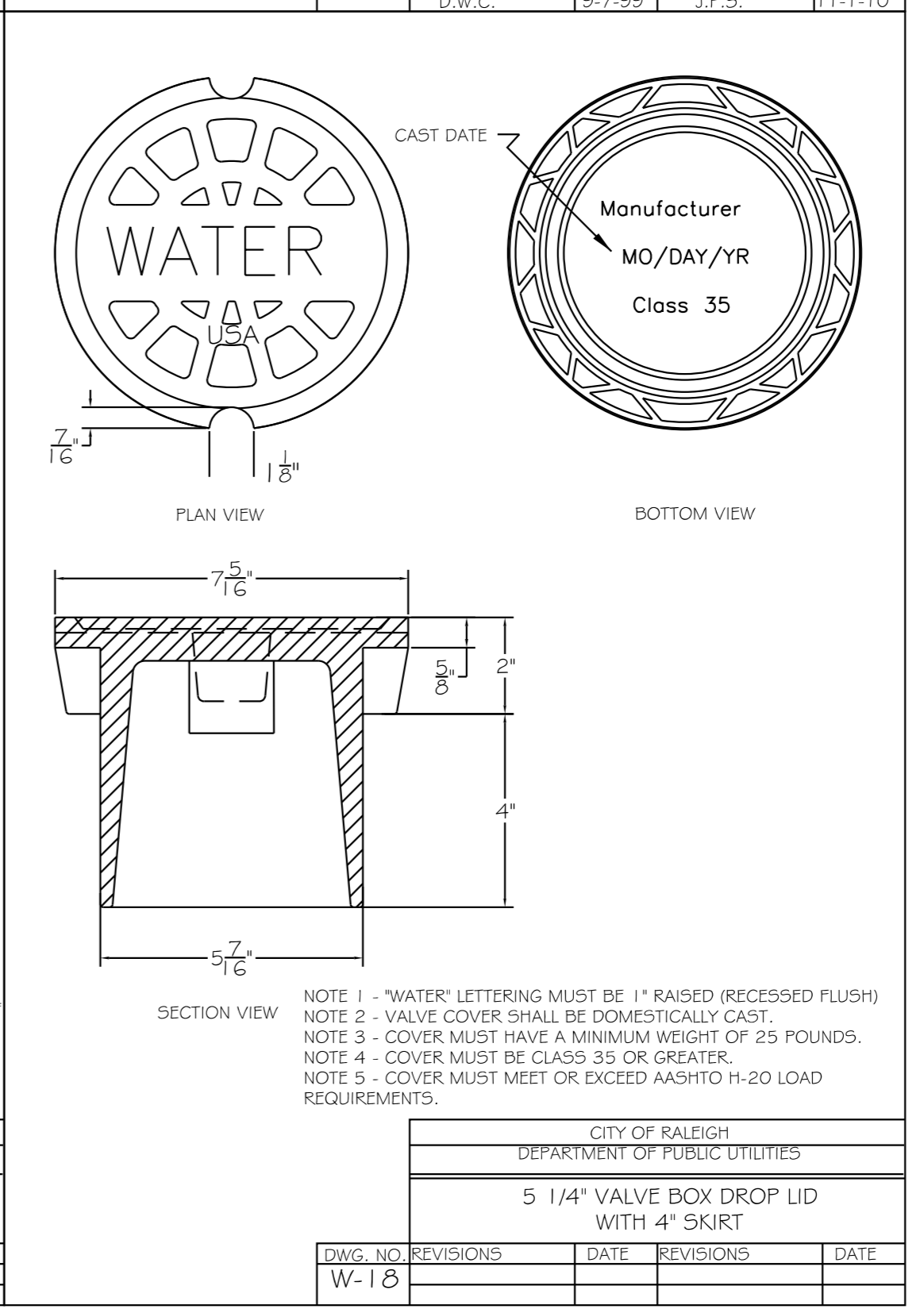
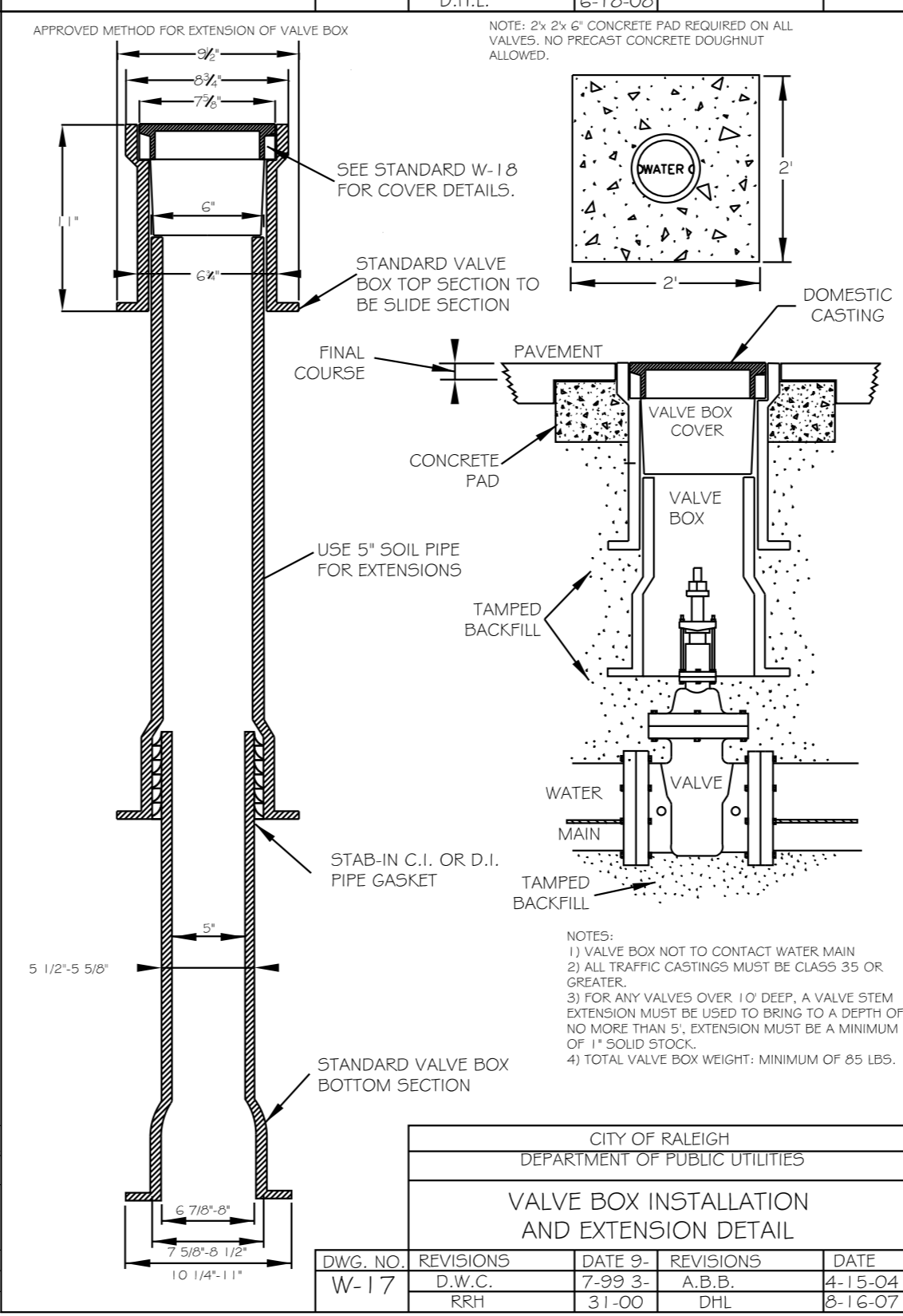
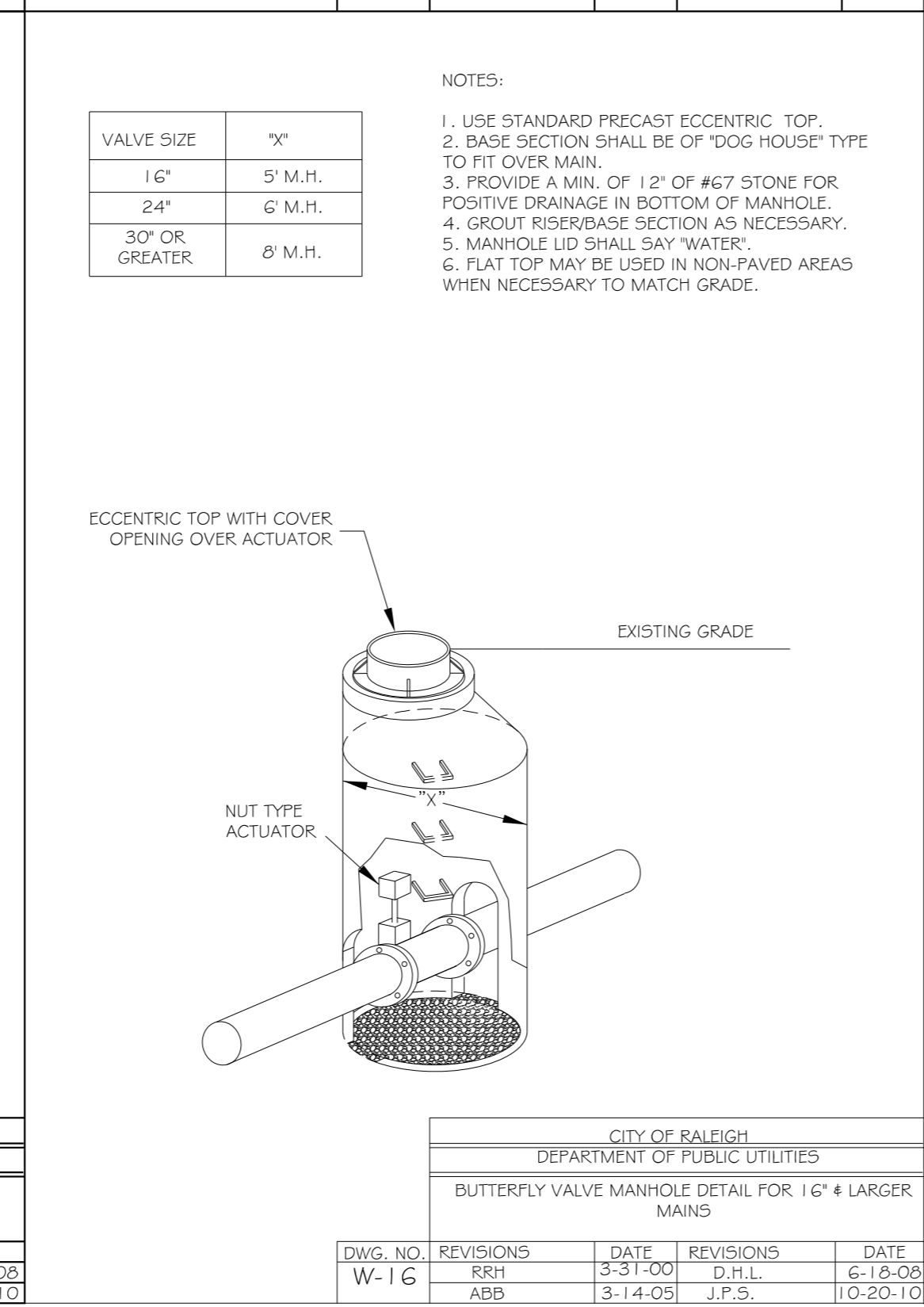
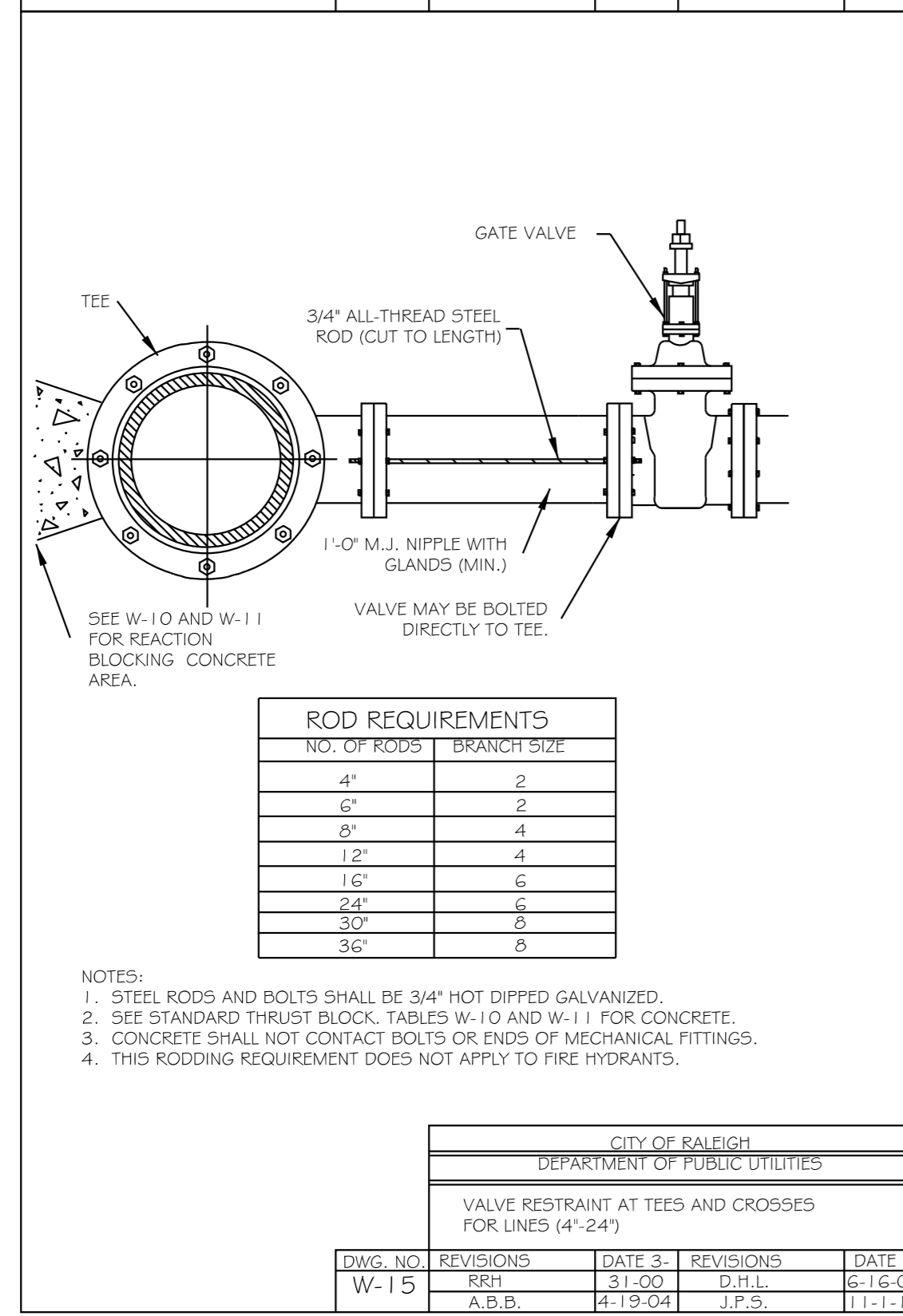
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Electronic Approval

The City of Raleigh consents to the connection and extension of the City's Public Sewer System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # S-4499

The City of Raleigh consents to the connection and extension of the City's Public Water System as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # W-3582

The City of Raleigh consents to the connection and extension of the private sewer collection system as shown on this plan. The material and construction methods used for this project shall conform to the standards and specifications of the City's Public Utilities Handbook. City of Raleigh Public Utilities Department Permit # N/A

CITY OF RALEIGH - PLANS AUTHORIZED FOR CONSTRUCTION

Electronic Approval: This approval is being issued electronically. This approval is valid only upon the signature of a City of Raleigh Review Officer below. The City will retain a copy of the approved plans. Any work authorized by this approval must proceed in accordance with the plans kept on file with the City. This electronic approval may not be edited once issued. Any modification to this approval once issued will invalidate this approval.

City of Raleigh Development Approval

City of Raleigh Review Officer

REVISIONS