

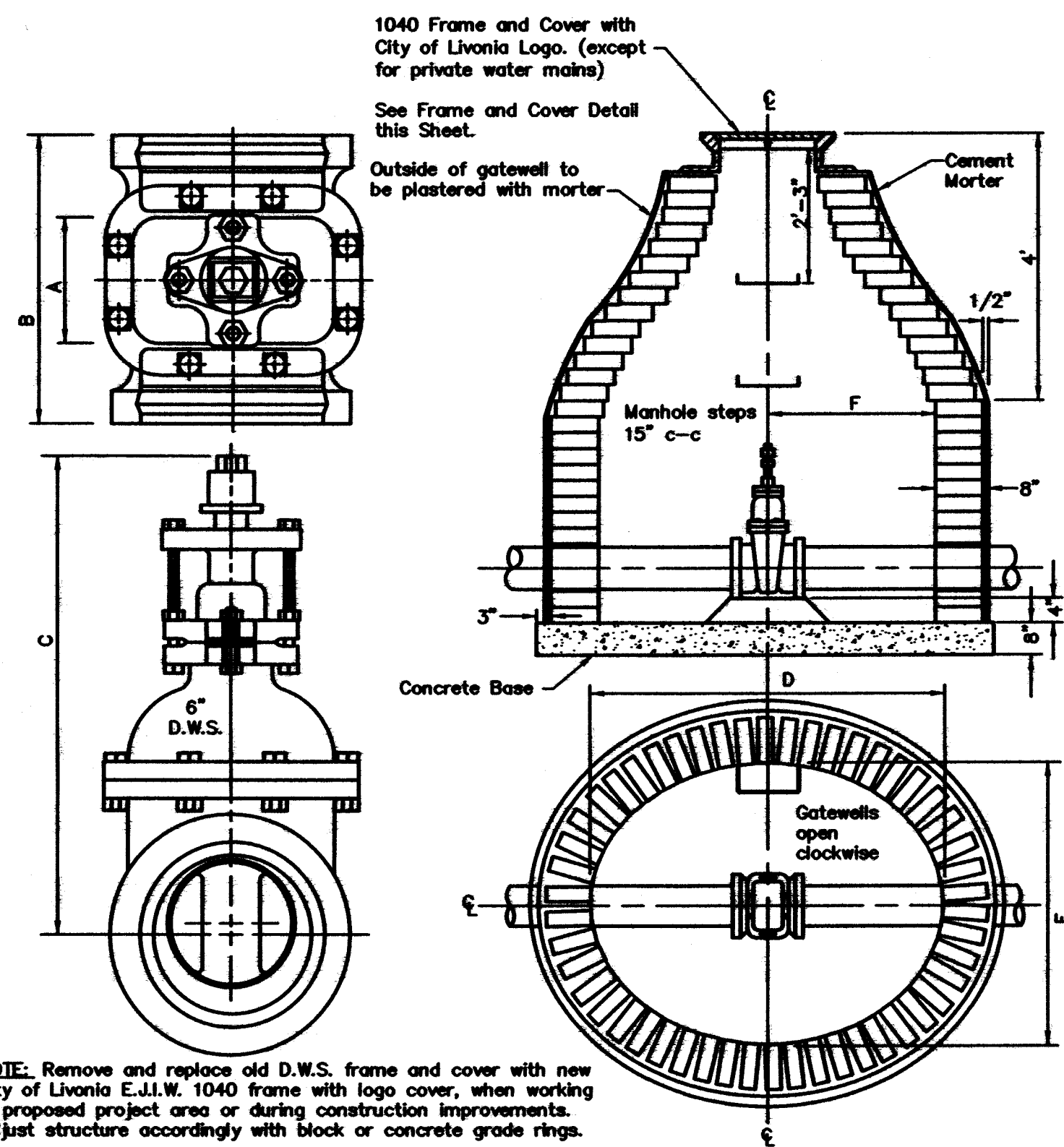


CITY OF LIVONIA
 Department of Public Works, Engineering Division
 33000 Civic Center Drive
 Livonia, Michigan 48154
 (734) 466-2570, (734) 466-2185 Fax

WATER MAIN STANDARD DETAILS

CITY OF LIVONIA, WAYNE COUNTY, MICHIGAN

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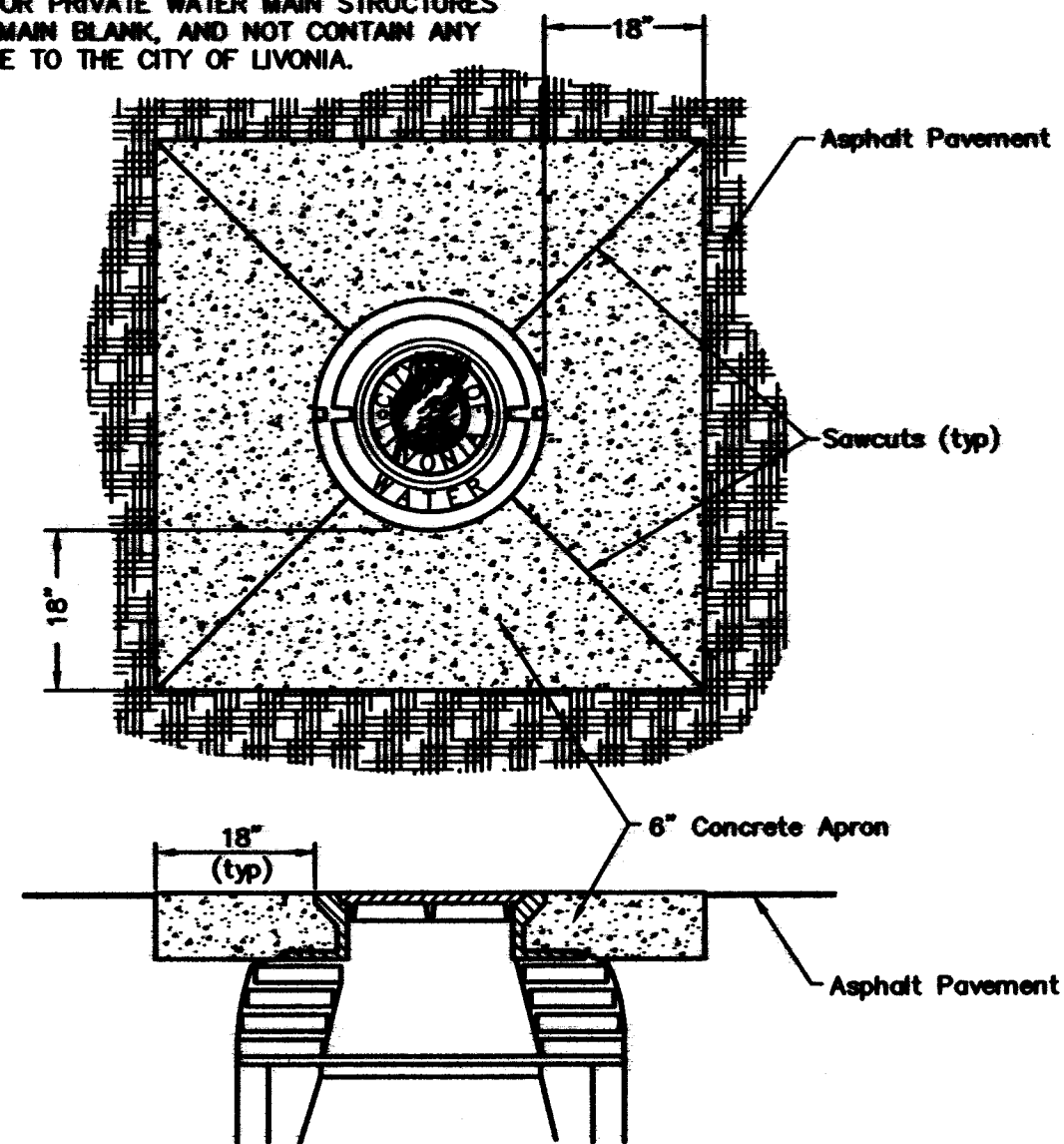


NOTE: Remove and replace old D.W.S. frame and cover with new City of Livonia E.J.I.W. 1040 frame with logo cover, when working in proposed project area or during construction improvements. Adjust structure accordingly with block or concrete grade rings.

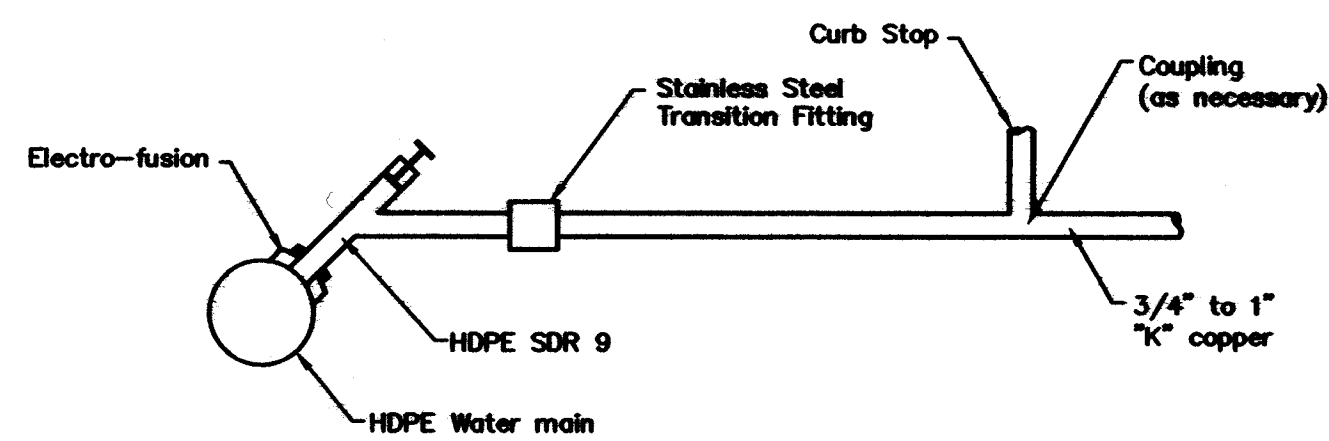
SIZE	WEIGHT OF VALVE (lb)	A	B	C	D	E	F
4	120	5 1/2"	11 1/2"	16 3/16"			
6	200	5 3/4"	12 3/4"	21 1/16"	5'-0"	4'-0"	2'-6"
8	300	6 3/4"	13 3/4"	27 1/8"	5'-0"	4'-0"	2'-6"
10	378	6 1/2"	14"	29 7/8"	5'-6"	4'-6"	2'-9"
12	547	8"	15 1/2"	33 13/16"	5'-6"	4'-6"	2'-9"
16	1300	10 3/4"	19"	43 3/8"	6'-0"	5'-6"	3'-0"

EXISTING BRICK 6" TO 16" GATE-WELLS (REFERENCE DRAWING)

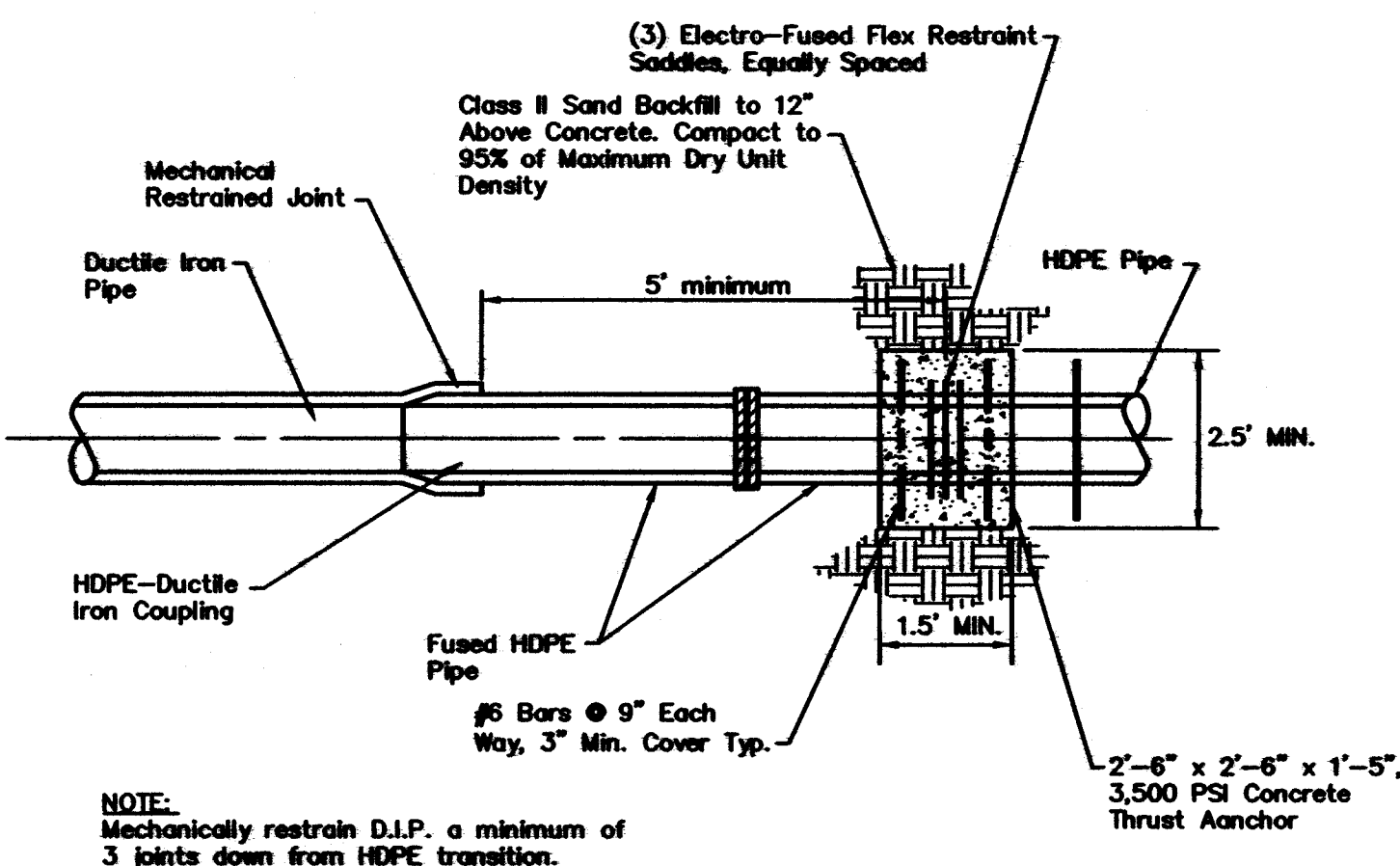
NOTE: COVERS FOR PRIVATE WATER MAIN STRUCTURES SHALL REMAIN BLANK, AND NOT CONTAIN ANY REFERENCE TO THE CITY OF LIVONIA.



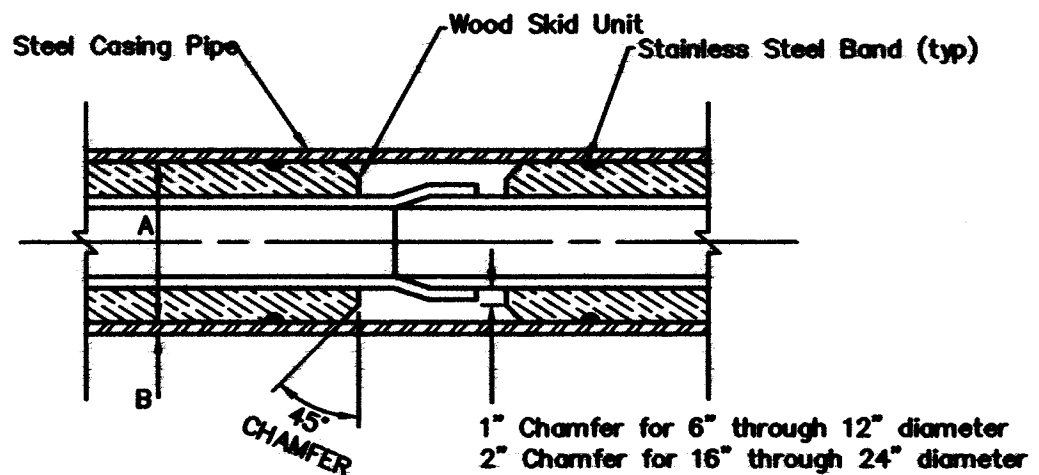
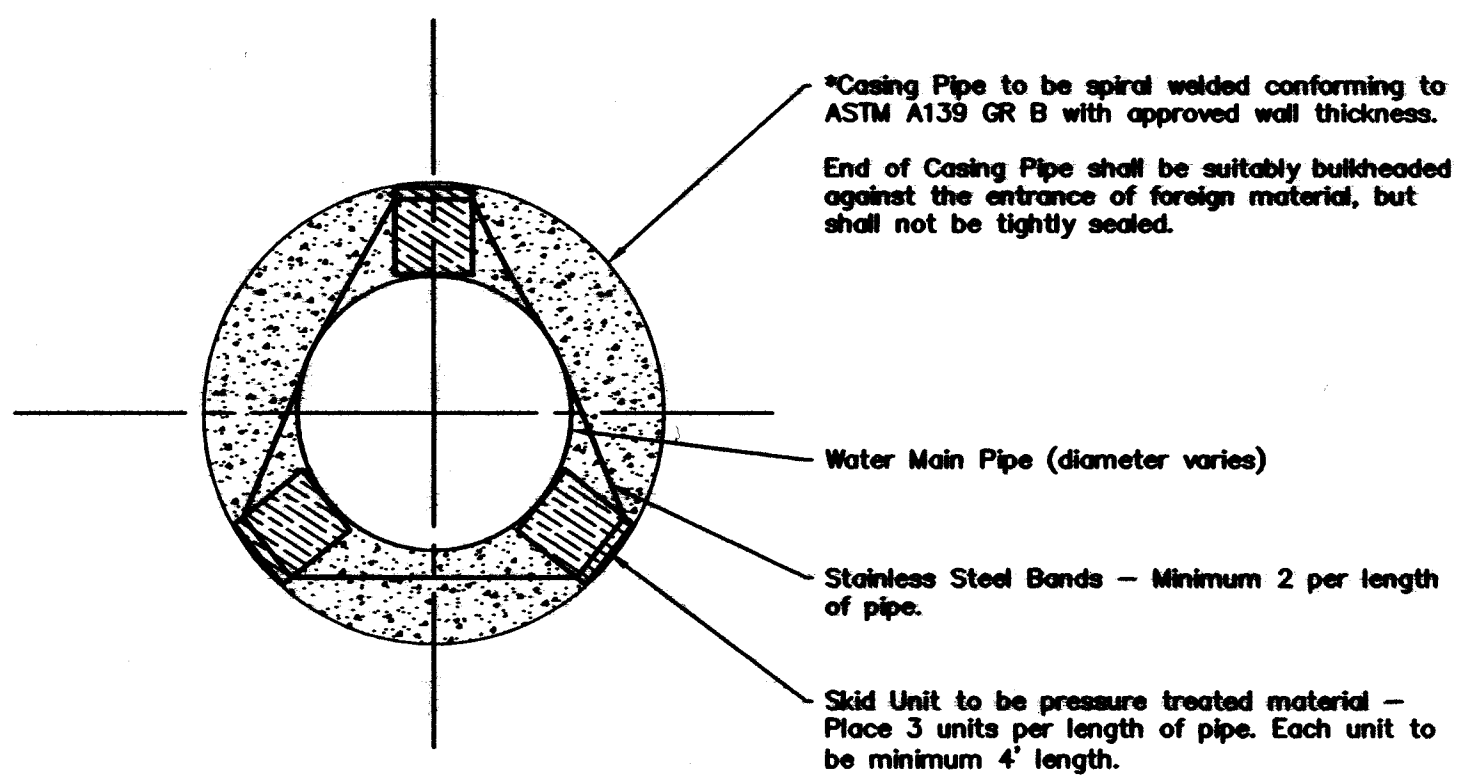
WATER MANHOLE APRON



HOUSE LEAD DETAIL (HDPE TO COPPER)



HDPE-DUCTILE IRON PIPE CONNECTION

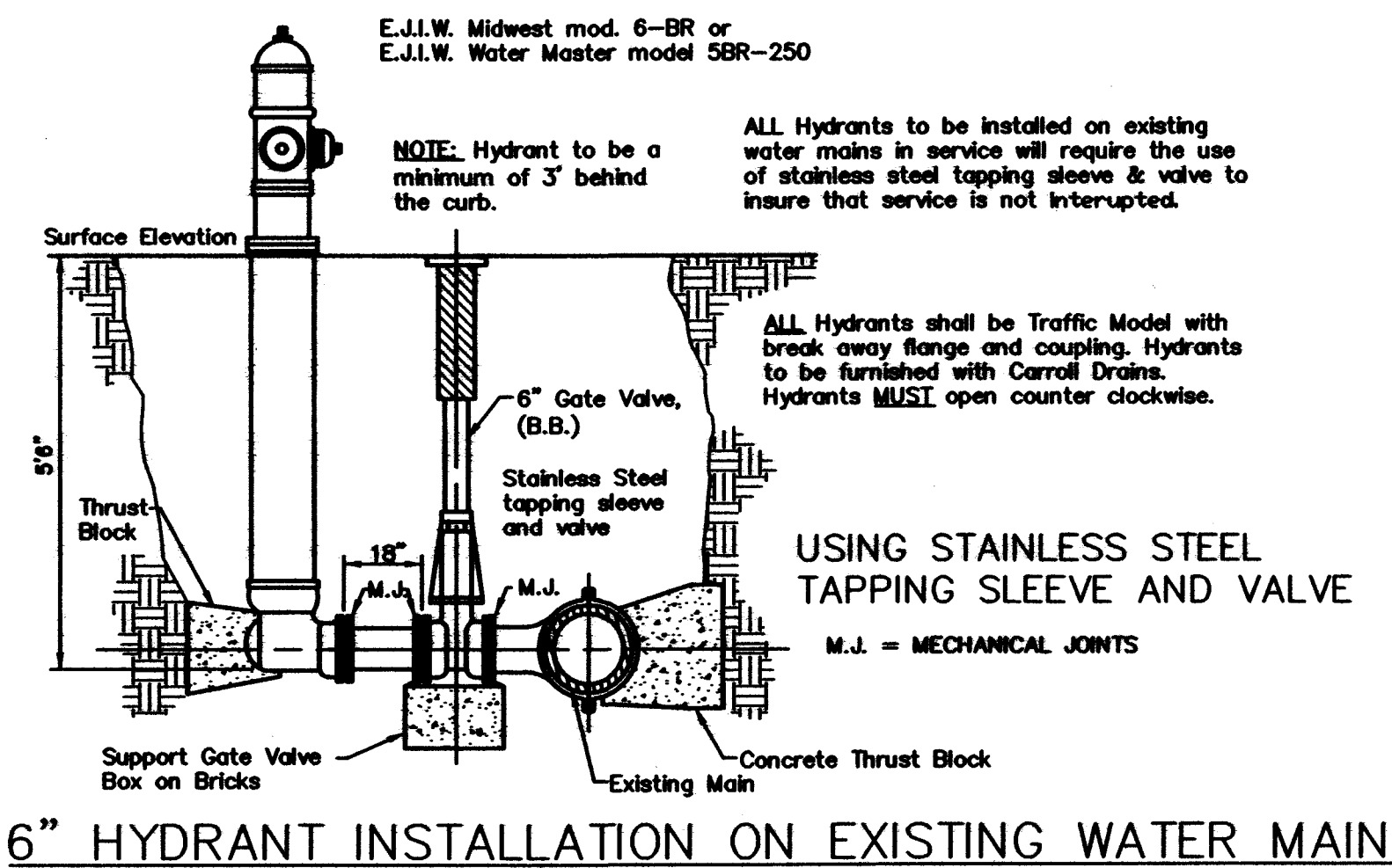


DIA. OF SANITARY SEWER (IN)	DIA. OF WATER MAIN (IN)	MIN. "A" (IN)	ROAD CROSSING MIN "B" (IN)	RAILROAD CROSSING MIN "B" (IN)
6	16	0.375	0.375	
8	18	0.375	0.375	
12	24	0.375	0.438	
10	16	0.375	0.500	
12-15	20	0.375	0.500	
18	24	0.375	0.500	

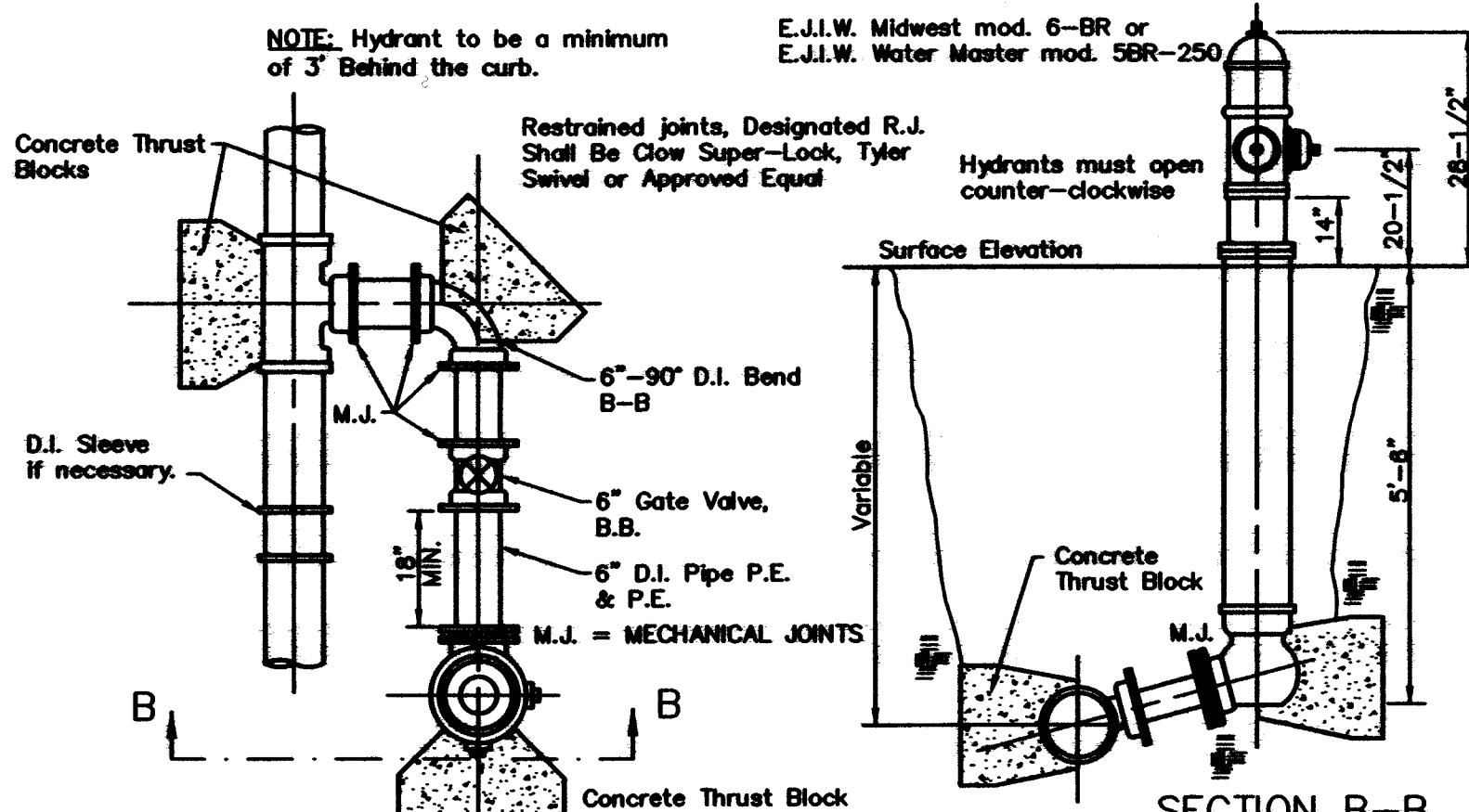
NOTE:

- The annular space within the casing pipe shall be filled approximately two thirds full of granular material Class II (M.D.O.T.) or pea pebbles. The top of the Water Main or upper spaces, if any, shall not be in contact with the casing pipe.
- Casing pipe diameter to be a minimum of 10" larger than water main diameter.

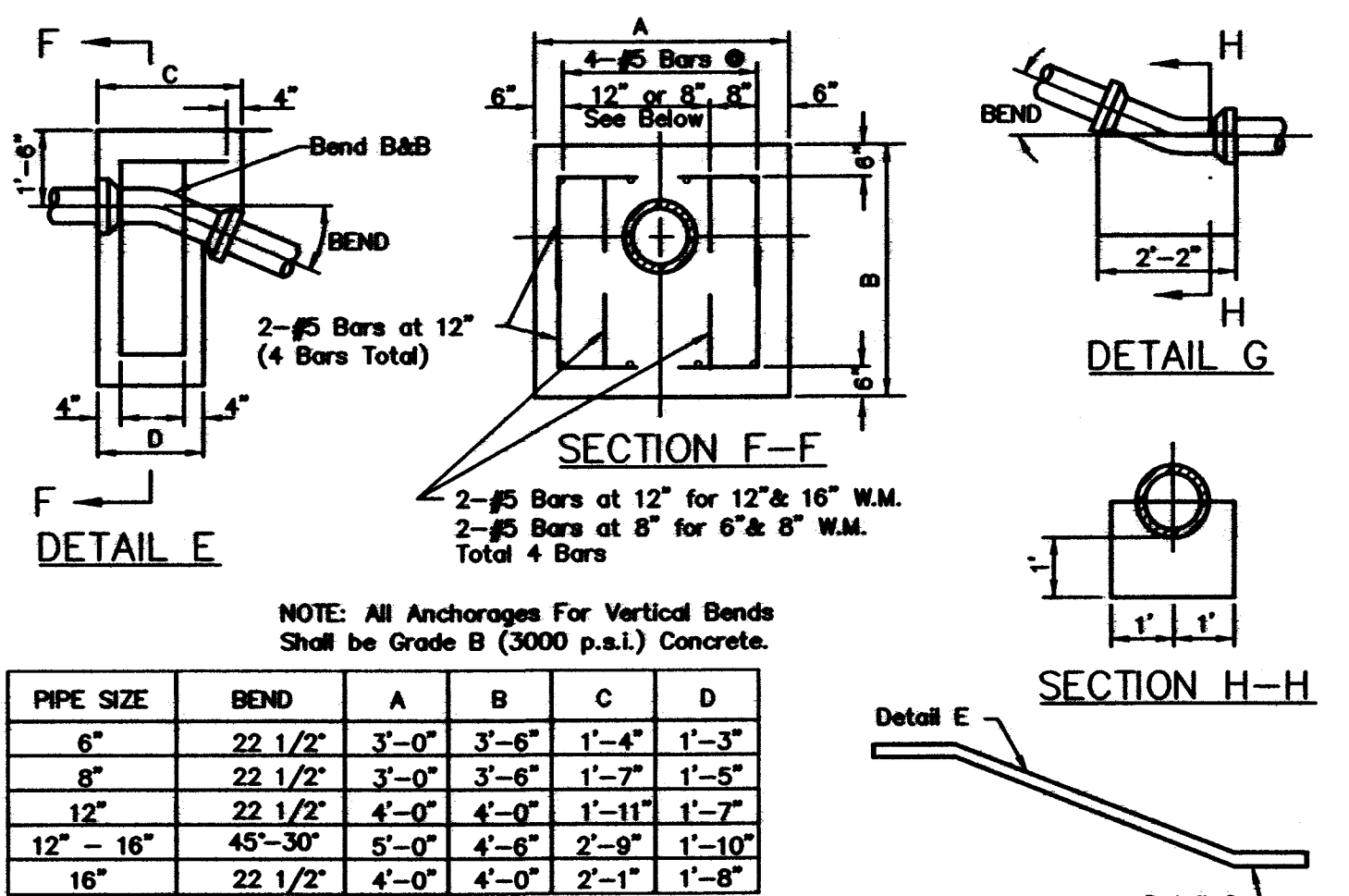
SKID UNIT AND CASING DETAIL FOR WATER MAIN



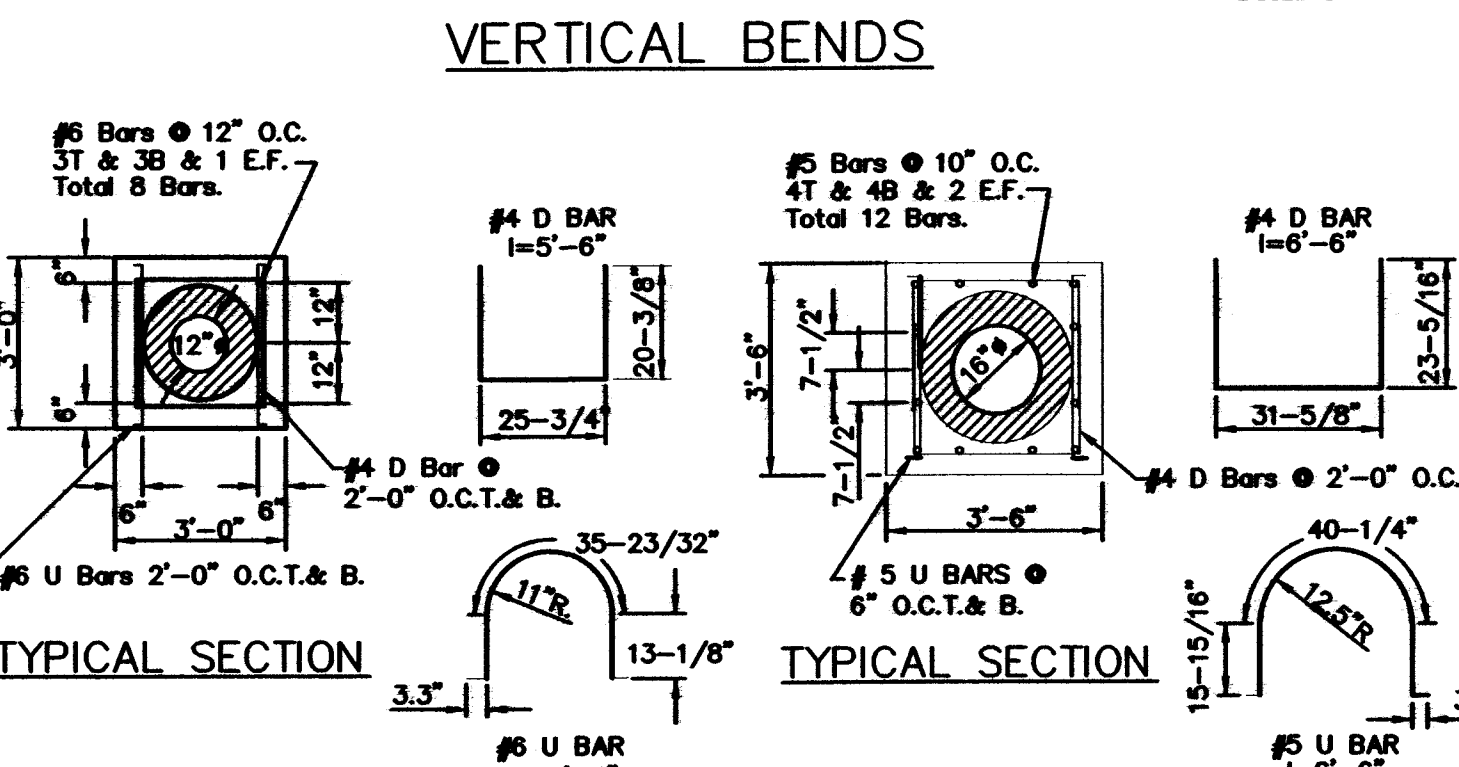
6" HYDRANT INSTALLATION ON EXISTING WATER MAIN



DETAIL OF 6" HYDRANT INSTALLATION



PIPE SIZE	BEND	A	B	C	D
6"	22 1/2"	3'-0"	3'-6"	1'-4"	1'-3"
8"	22 1/2"	3'-0"	3'-6"	1'-7"	1'-5"
12"	22 1/2"	4'-0"	4'-0"	1'-11"	1'-7"
12" - 16"	45'-30"	5'-0"	4'-6"	2'-9"	1'-10"
16"	22 1/2"	4'-0"	4'-0"	2'-1"	1'-8"



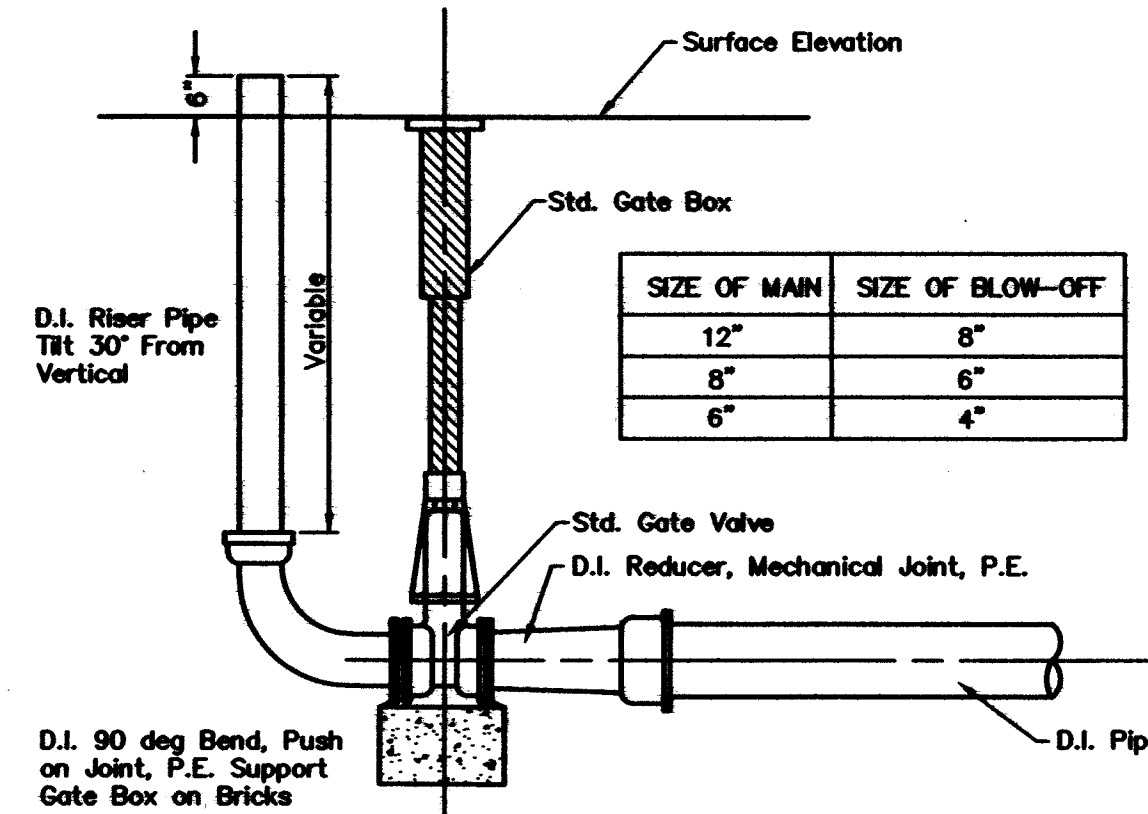
ENCASEMENT DETAIL FOR 12" D.I. WATER MAIN

Total Steel Per Lin. Ft. of Encasement = 50.45 Lbs
 Concrete Per Lin. Ft. of Encasement = 0.30 Cu. Yd.

ENCASEMENT DETAIL FOR 16" D.I. WATER MAIN

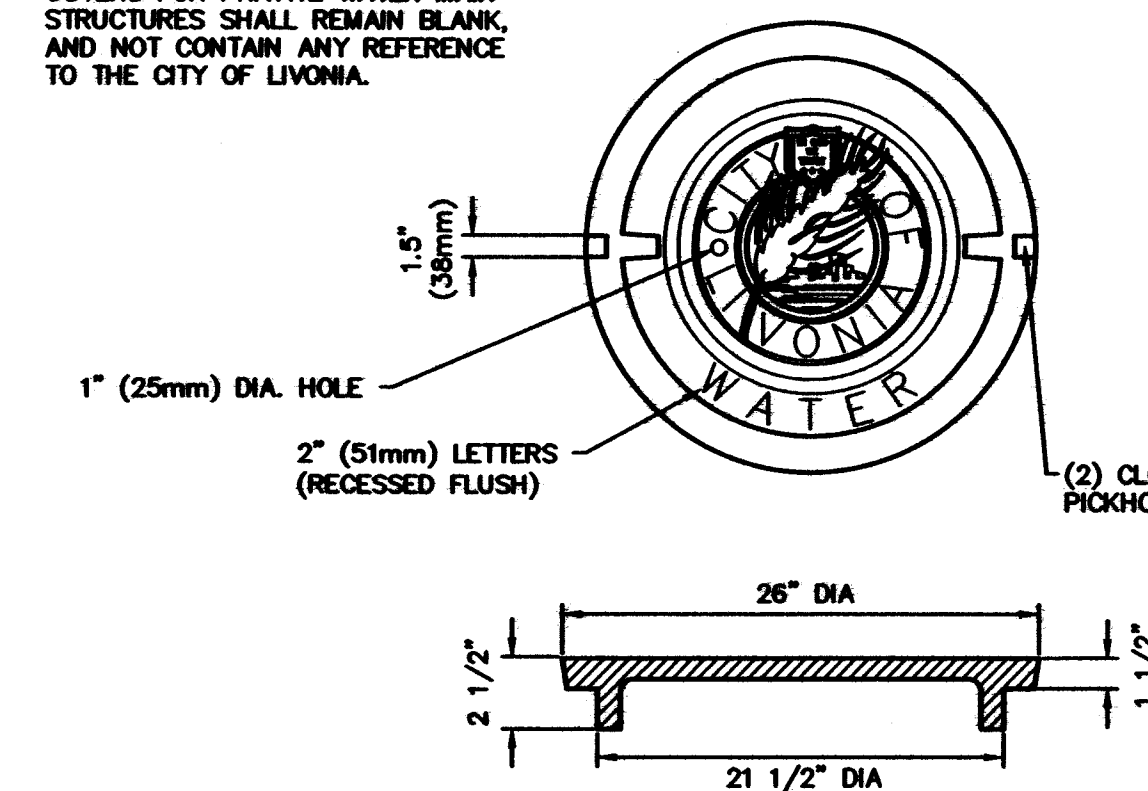
Total Steel Per Lin. Ft. of Encasement = 43.23 Lbs
 Concrete Per Lin. Ft. of Encasement = 0.39 Cu. Yd.

CONCRETE ENCASEMENT DETAILS

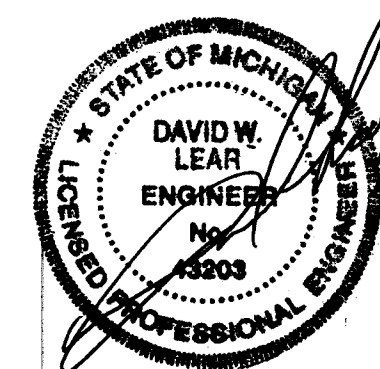


DETAIL OF TEMPORARY BLOW-OFF

NOTE: COVERS FOR PRIVATE WATER MAIN STRUCTURES SHALL REMAIN BLANK, AND NOT CONTAIN ANY REFERENCE TO THE CITY OF LIVONIA.



FRAME AND COVER DETAIL (E.J.I.W. 1040)



DATE	REV.	DATE	REV.
10/19/75	1	07/20/76	1
	2	07/20/76	2
		07/20/76	3
		07/20/76	4
		07/20/76	5
		07/20/76	6
		07/20/76	7
		07/20/76	8
		07/20/76	9
		07/20/76	10
		07/20/76	11
		07/20/76	12
		07/20/76	13
		07/20/76	14
		07/20/76	15
		07/20/76	16
		07/20/76	17
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		07/20/76	27
		07/20/76	28
		07/20/76	29
		07/20/76	30