

\* FLAG TO BE INSTALLED DIRECTLY ABOVE TRACER WIRE SIDE OF HYDRANT.

## TYPICAL HYDRANT

Plate No. WS-1

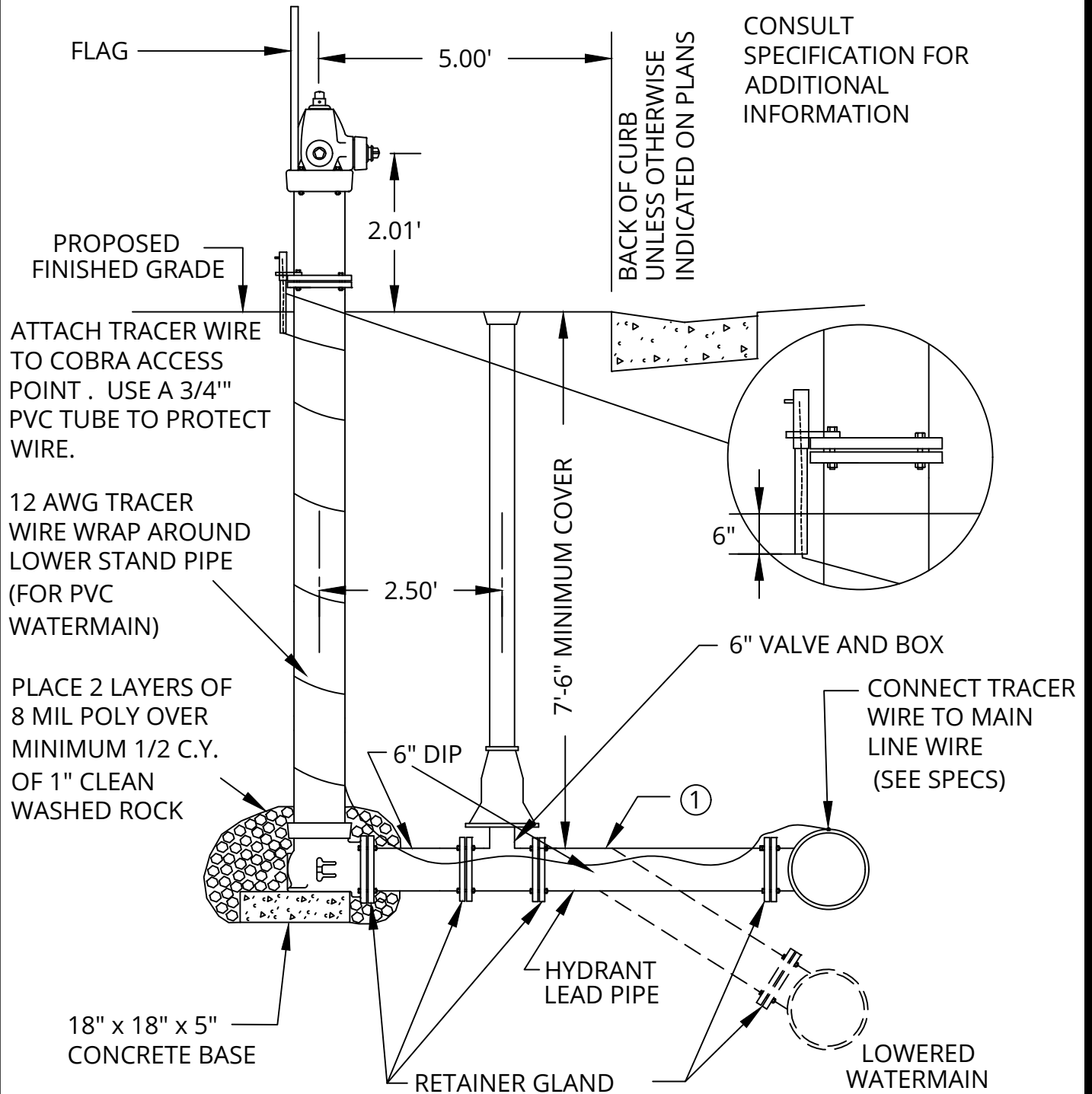


## 2023 STANDARD DETAIL PLATE

City of Blaine - Engineering Department

10801 Town Square Drive NE, Blaine, Minnesota 55449 763-785-6172 Fax 763-785-6139

- ① CONTRACTOR SHALL INSTALL BEND TO ACHIEVE 7.5' BURY, BEND SHALL NOT EXCEED 45°, ALL FITTINGS WILL BE PAID AS PER UNIT PRICE.



\* FLAG TO BE INSTALLED DIRECTLY ABOVE TRACER WIRE SIDE OF HYDRANT.

## HYDRANT INSTALLATION

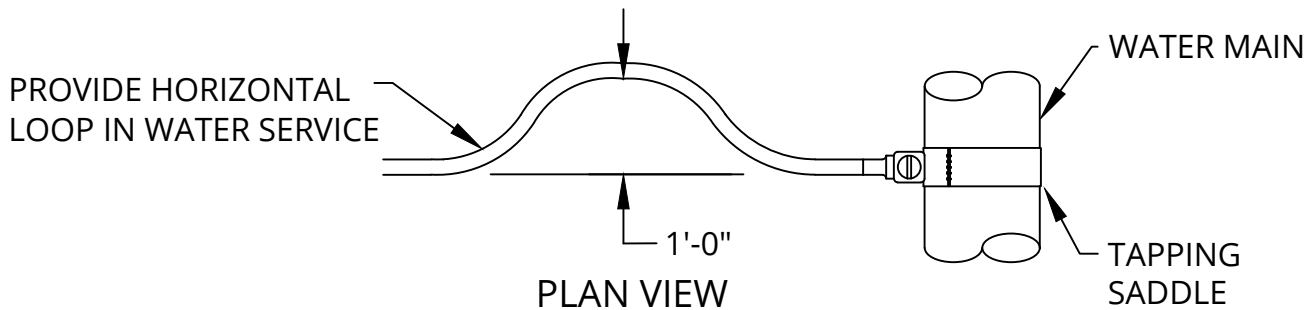
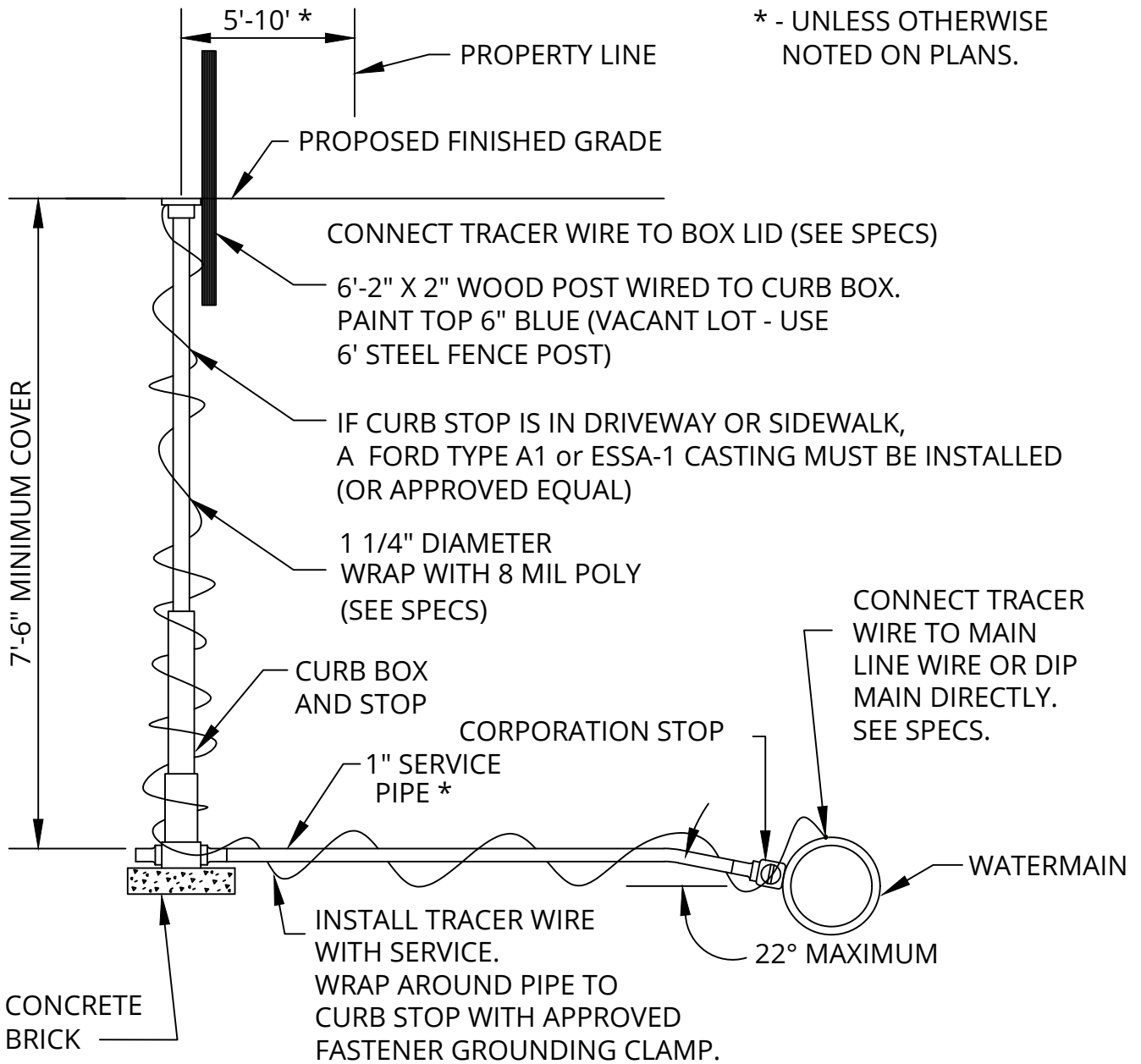
Plate No. WS-2



### 2023 STANDARD DETAIL PLATE

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## WATER SERVICE CONNECTION

Plate No. WS-3



### 2023 STANDARD DETAIL PLATE

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BENDS	PIPE SIZE								
	6"	8"	10"	12"	14"	16"	18"	20"	24"
90°	39	57	89	108	210	264	335	400	565
45°	32	46	70	86	164	202	250	305	405
22 1/2°	32	46	64	84	148	178	255	310	412
11 1/4°	30	42	58	74	130	158	205	245	315

SLEEVES									
SHORT	28	38	49	56	111	130	160	195	255
LONG	36	46	62	76	140	172	225	255	335
PLUG	18	26	36	46	85	93	130	153	202
CAP	17	25	35	44	79	100	122	202	214

TEES									
RUN									
6"	56								
8"	72	86							
10"	90	105	120						
12"	110	125	140	160					
14"	182	206	228	234	280				
16"	228	248	264	280	316	322			
18"	275	295	315	335	380	405	435		
20"	315	345	370	395	440	465	505	535	
24"	415	445	470	500	550	580	625	660	720

CROSS									
6"	80								
8"		105							
10"			145						
12"				215					
14"					335				
16"						385			
18"							XXX		
20"								XXX	
24"									XXX

REDUCERS									
8"	36								
10"	47	50							
12"	60	60	64						
14"	100	100	100	100					
16"	124	124	124	124	140				
18"		190	195	180	190	195			
20"			220	205	200	200	225		
24"				305	310	320	305	300	

WEIGHTS TAKEN FROM AWWA C153; XXX BASED ON C110  
 WEIGHT DOES NOT INCLUDE GLANDS, GASKETS, BOLTS AND  
 RESTRAINING DEVICES

## WATERMAIN FITTINGS

Plate No. WS-4

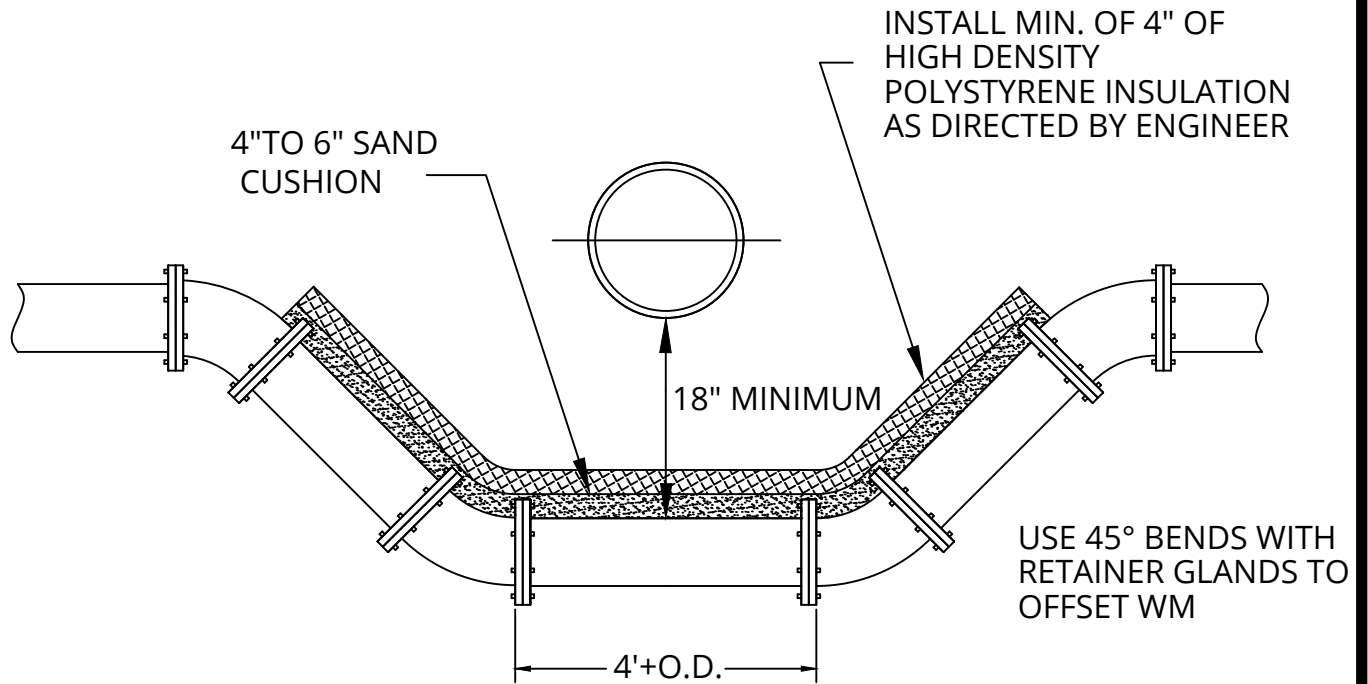


## 2023 STANDARD DETAIL PLATE

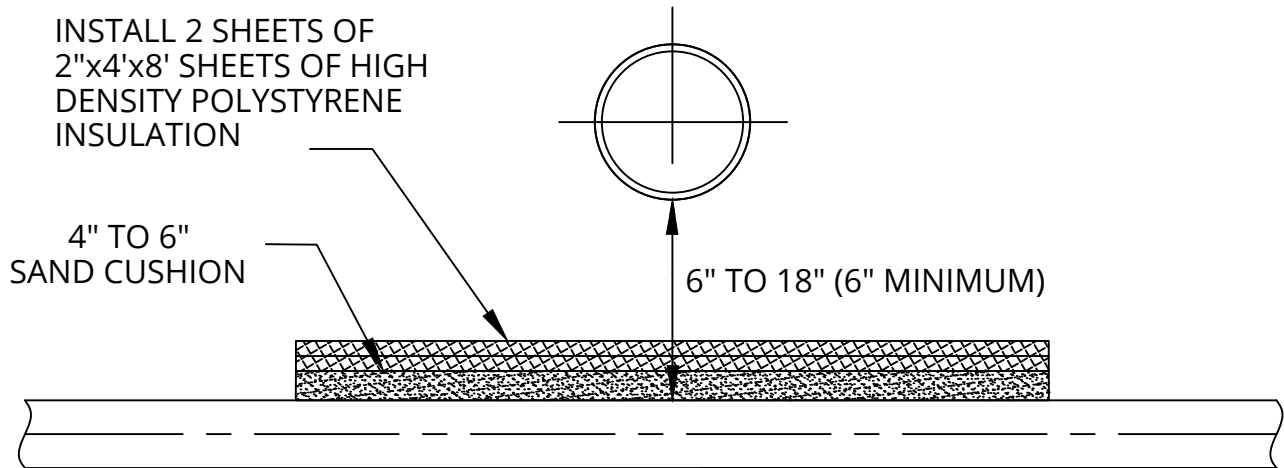
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# WATERMAIN OFFSET DETAIL



# WATERMAIN INSULATION DETAIL



# WATERMAIN OFFSET AND INSULATION DETAIL

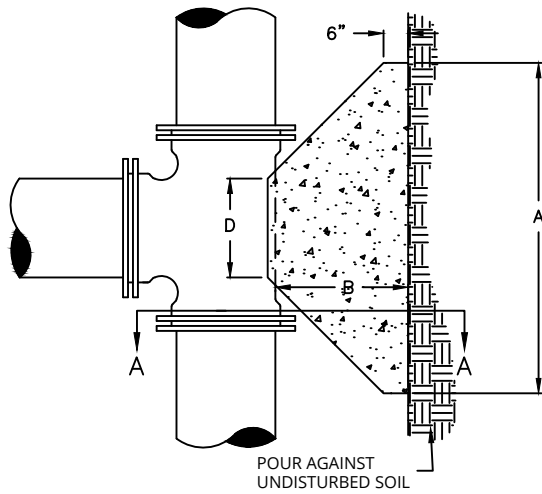
Plate No. WS-5



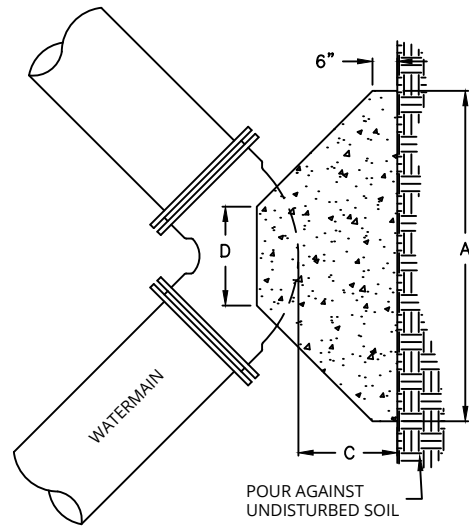
2023 STANDARD DETAIL PLATE

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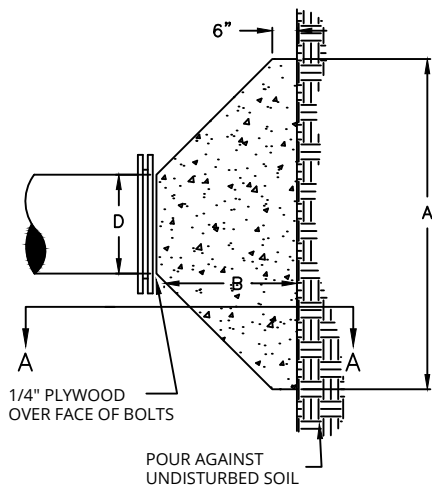
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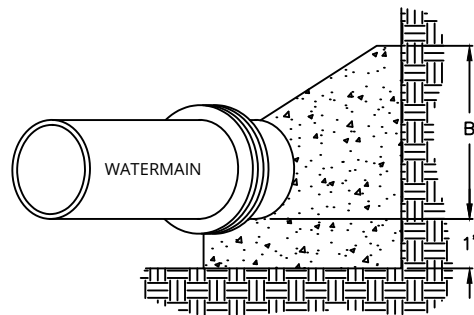
TOP VIEW-TEE



TOP VIEW-BEND



TOP VIEW-PLUG



SECTION VIEW

PIPE SIZE	22 1/2% BEND			45% BEND			90% BEND		
	A	B	C	A	B	C	A	B	C
12"	1'-10"	1'-10"	2'-0"	3'-4"	2'-0"	2'-0"	4'-9"	2'-6"	2'-0"
16"	3'-0"	2'-0"	2'-0"	3'-10"	3'-0"	2'-0"	6'-2"	3'-6"	2'-6"
20"	3'-6"	2'-8"	3'-0"	5'-6"	3'-4"	3'-0"	8'-4"	4'-0"	
24"	4'-4"	3'-0"	3'-0"	6'-10"	3'-10"	3'-0"	9'-8"	5'-0"	
30"	--	--	3'-6"	9'-3"	6'-0"	3'-6"	17'-0"	6'-0"	3'-6"

DIMENSION D SHALL BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.

NOTES:

1. BLOCKING TO BE POURED CONCRETE, MNDOT MIX DESIGN 3A32.
2. FITTINGS MUST BE COVERED W/POLY (8 MIL) PRIOR TO POURING CONCRETE.
3. KEEP CONCRETE CLEAR OF BOLTS, JOINT AND ACCESSORIES.

THRUST BLOCK DETAIL

Plate No. WS-6



2023 STANDARD DETAIL PLATE

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