

Public Works Standard Drawings Subcommittee Meeting

Monday, October 19, 2020

Microsoft Teams

Welcome and Introductions

Sept 21st Meeting Summary

The Subcommittee reviewed comments from TexasBit and DWU.

Add a detail for operating nut and riser, like DWU 215 detail.

4040

- Add note, “With approval of city engineer, thrust blocking may be removed with restraint joint pipe.”

4060B

- Change M.H. to 32” to 40” STD. C.I.
- Keep the drawing for greater than or equal to 16”
- Add supporting strut to deep fault

4070A

- Change G in Dimension Table to readily available precast dimensions. Add note 3, with an asterisk on G to refer to this note, “Standard precast dimensions may be used with the approval of the owner and may require an increase in size to the next readily available precast dimension.”

4070B

- The group agreed with Dallas that this was an unusual installation.
- Change M.H. to 32” to 40” M.H.

4080A

- Change M.H. to 32” to 40” M.H.
- Change note to, “STD. 5’ or 6’ precast or cast-in-place M.H. to be class “F” concrete” to match note on 4080B

4080B

- Change M.H. to 32” to 40” M.H.

4090

- Show concrete pad from the note
- Change M.H. to 32” to 40” M.H.
- Show 28”x18” meter box but add comment, “Meter box or manhole as approved or specified by owner”
- Add note 2, “Alternate AWWA approved material may be substituted as approved by owner for fittings”
- Change note to “8” blind flange – add tapping saddle as approved by owner”
- Remove table
- Change “2” copper solder joint” to 2” copper compression joints or flare fittings”
- Change “solder-osis coupling” to “flared or compression connection to corp. stop”

4100A

- Add note 2, “Alternate APWA approved material may be substituted as approved by owner for fittings.”
- Show concrete pad

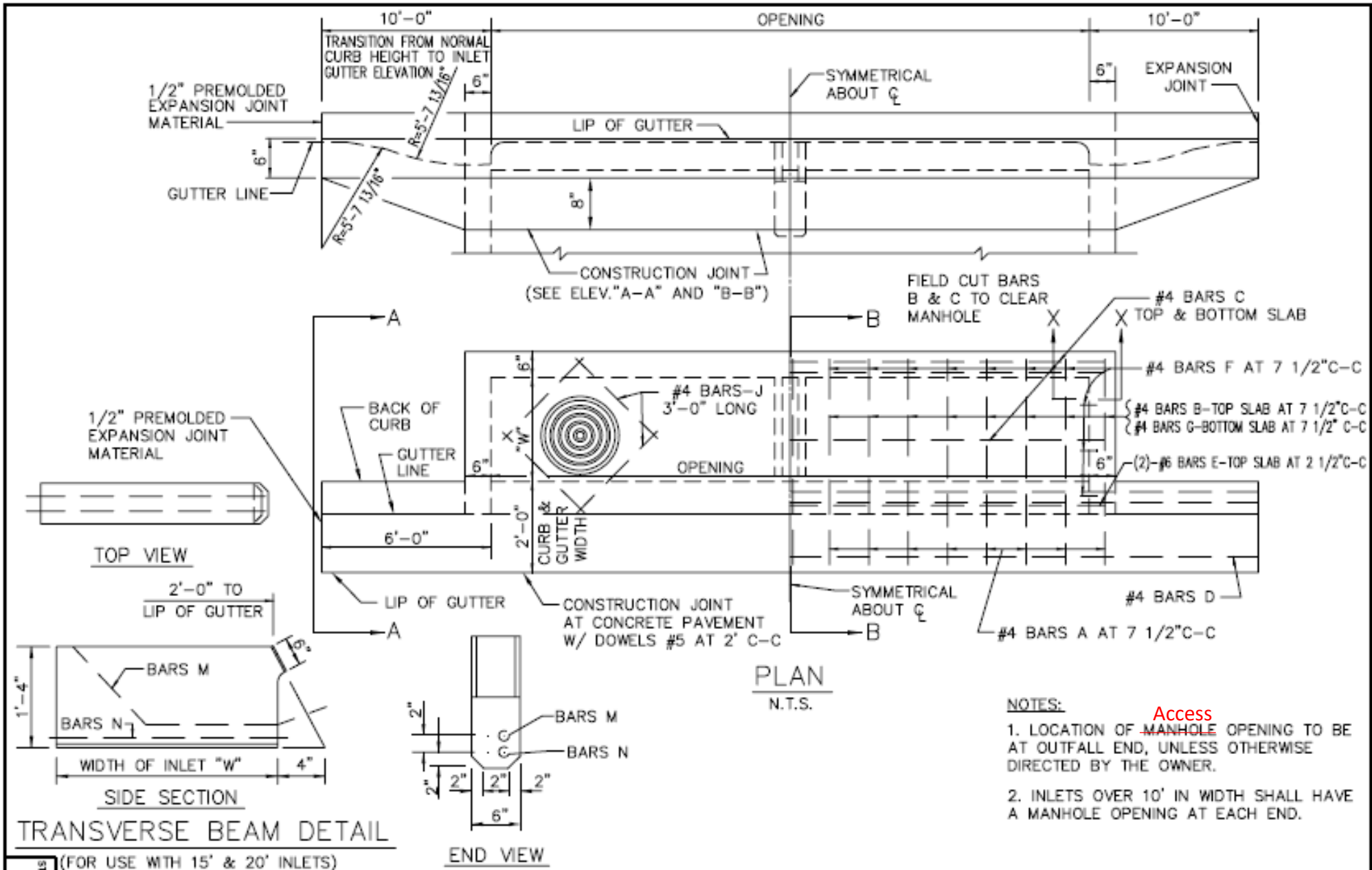
Division 6000: Stormwater Drainage

Drawings 6020-6030 by Halff Associates


The subcommittee wants the drawings to be graphically and functionally similar. The subcommittee wants steel tables for both details. There was also discussion over the placement of the keyway joint and if the bars are correctly tied into the base.

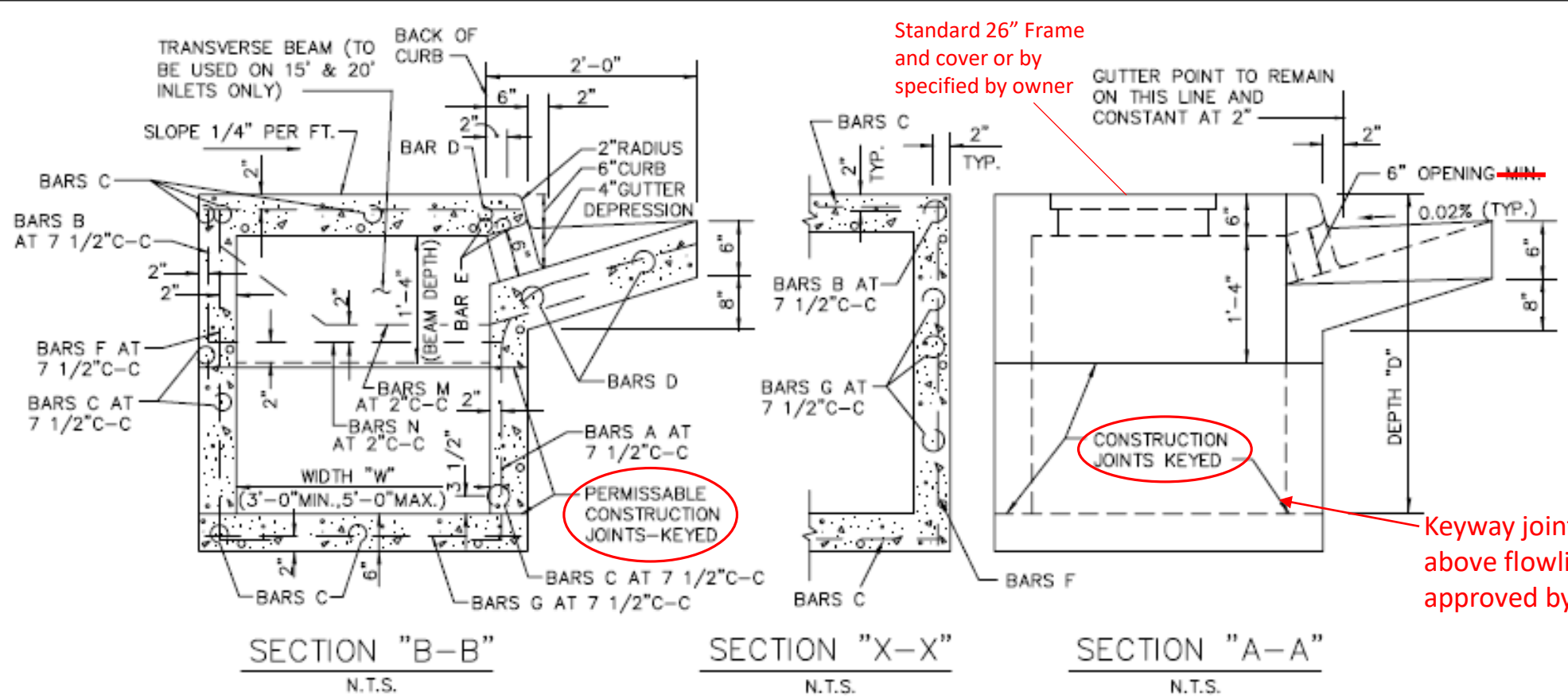
Redlines from Subcommittee

6020-6030 being complete by Halff



- NOTES:**
1. LOCATION OF ~~MANHOLE~~ **Access** MANHOLE OPENING TO BE AT OUTFALL END, UNLESS OTHERWISE DIRECTED BY THE OWNER.
 2. INLETS OVER 10' IN WIDTH SHALL HAVE A MANHOLE OPENING AT EACH END.

STANDARD DRAWING NO. 6020A	CURB INLET		North Central Texas Council of Governments		STANDARD SPECIFICATION REFERENCE	
	5', 10', 15' OR 20' OPENING				702	
					DATE	STANDARD DRAWING NO.
					OCT. '04	6020A



Standard 26" Frame and cover or by specified by owner

GUTTER POINT TO REMAIN ON THIS LINE AND CONSTANT AT 2"

CONSTRUCTION JOINTS KEYED

Keyway joint to be min. 18" above flowline, unless approved by engineer.

9. Allow 1" min clear space between OD of pipe or box and inside wall of inlet (OD of pipe or box should account for skewed conditions).

GENERAL NOTES:

1. ALL CONCRETE SHALL BE CLASS "C" CONCRETE.
2. REINFORCING BARS SHALL BE STANDARD GRADE STEEL, DEFORMED REINFORCING BARS OF A DIAMETER AND LENGTH AS SHOWN.
3. CHAMFER ALL EXPOSED CORNERS 3/4" EXCEPT WHERE OTHERWISE NOTED.
4. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
5. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMODATE STORM SEWER PIPE.
6. RING AND COVER SHALL BE APPROVED BY THE OWNER AND INSTALLED BY THE CONTRACTOR.

7. Inlet opening shall be 6" min or 8" max

8. Precast products may be used at the approval of the Owner

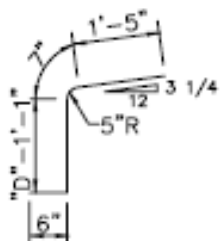
6020-6030 being complete by Halff

STANDARD DRAWING NO. 6020B

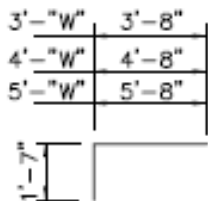
CURB INLET
CROSS SECTION & INLET THROAT



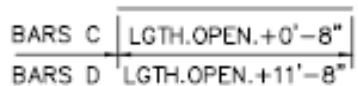
STANDARD SPECIFICATION REFERENCE	
702	
DATE	STANDARD DRAWING NO.
OCT. '04	6020B



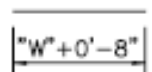
#4 BARS A
N.T.S.



#4 BARS B
N.T.S.



#4 BARS C & D
N.T.S.



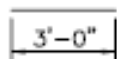
#4 BARS G
N.T.S.



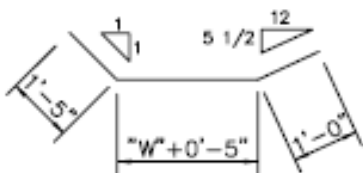
#4 BARS E
N.T.S.



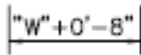
#4 BARS F
N.T.S.



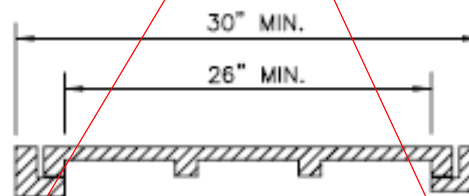
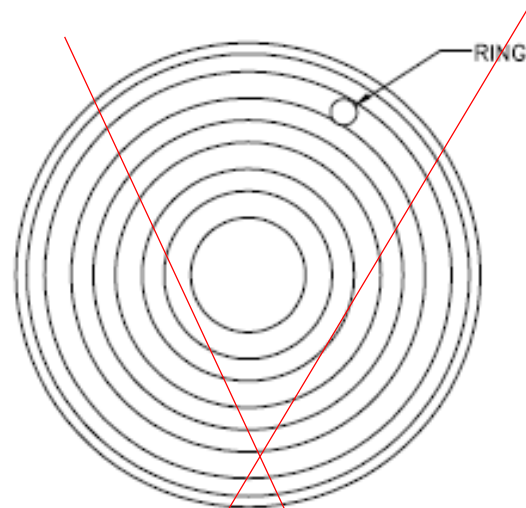
#4 BARS J
N.T.S.



#3 BARS M
N.T.S.



#5 BARS N
N.T.S.



CAST IRON
FRAME AND COVER
N.T.S.

6020-6030
being
complete
by Halff

STANDARD DRAWING NO.
6020C

CURB INLET
REBAR & M.H. FRAME & COVER

North Central Texas Council of Governments

STANDARD SPECIFICATION REFERENCE
702
DATE
OCT. '04
STANDARD DRAWING NO.
6020C

6020-6030
being
complete by
Half

BILL OF REINFORCING STEEL

DEPTH "D"	ALL WIDTHS AND LENGTHS				OPENING LENGTH "L" = 5ft						OPENING LENGTH "L" = 10ft						OPENING LENGTH "L" = 15 ft						OPENING LENGTH "L" = 20 ft											
					Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"											
	BARS	BARS	BARS	BARS	3ft	4ft	5ft	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS		
					F	F	F																										F	F
3'-6"	17	3	2	4	20	24	28	10	10	20	28	32	36	18	18	28	36	40	44	26	26	36	2	2	44	48	52	34	34	44	2	2		
3'-9"	18	"	"	"	"	"	"	"	"	20	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	"	"	"	"	44	"	"
4'-0"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	"	"	48	"	"
4'-3"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	"	"	48	"	"
4'-6"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	"	"	50	"	"
4'-9"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	"	"	50	"	"
5'-0"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	"	"	50	"	"
5'-3"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	"	"	52	"	"
5'-6"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	"	"	52	"	"
5'-9"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	"	"	54	"	"
6'-0"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	"	"	54	"	"
6'-3"	26	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	"	"	54	"	"
6'-6"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	"	"	56	"	"
6'-9"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	"	"	56	"	"
7'-0"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	"	"	58	"	"
7'-3"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	"	"	58	"	"
7'-6"	30	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	"	"	58	"	"
7'-9"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	"	"	60	"	"
8'-0"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	"	"	60	"	"
8'-3"	32	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	"	"	60	"	"
8'-6"	33	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	"	"	62	"	"
8'-9"	34	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	"	"	62	"	"
9'-0"	35	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	"	"	64	"	"
9'-3"	36	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	"	"	64	"	"
9'-6"	37	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	"	"	66	"	"
10'-0"	38	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	"	"	66	"	"

NOTE:
FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

STANDARD DRAWING NO.
6020D

CURB INLET
BILL OF REINFORCING STEEL



STANDARD SPECIFICATION REFERENCE
702
DATE
OCT. '04
STANDARD DRAWING NO.
6020D

6020-6030
being
complete by
Half

DEPTH "D"	SUMMARY OF QUANTITIES FOR CURB INLETS																							
	5'-0" OPENING						10'-0" OPENING						15'-0" OPENING						20'-0" OPENING					
	WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"	
	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.
3'-6"	2.62	306	2.95	332	3.28	373	4.12	479	4.64	521	5.20	564	5.69	667	6.40	721	7.10	775	7.20	846	8.11	909	9.03	976
3'-9"	2.70	309	3.04	341	3.39	373	4.25	494	4.78	536	5.34	579	5.87	687	6.58	741	7.30	796	7.42	874	8.34	937	9.27	1010
4'-0"	2.78	328	3.14	364	3.49	399	4.38	518	4.92	565	5.49	610	6.05	718	6.77	776	7.49	835	7.64	909	8.58	976	9.51	1046
4'-3"	2.87	334	3.23	370	3.59	406	4.51	526	5.06	573	5.64	619	6.22	729	6.95	787	7.69	847	7.87	922	8.81	990	9.75	1061
4'-6"	2.95	356	3.32	394	3.69	431	4.64	558	5.20	607	5.79	656	6.40	770	7.14	830	7.88	891	8.09	973	9.04	1043	9.99	1115
4'-9"	3.03	361	3.41	410	3.79	438	4.77	566	5.34	616	5.94	665	6.57	780	7.32	841	8.07	903	8.31	986	9.27	1056	10.23	1129
5'-0"	3.12	367	3.51	416	3.90	445	4.90	574	5.47	624	6.09	674	6.75	791	7.51	853	8.27	915	8.53	999	9.50	1070	10.47	1144
5'-3"	3.20	383	3.60	424	4.00	465	5.03	600	5.61	652	6.23	704	6.93	827	7.69	890	8.46	955	8.76	1044	9.73	1118	10.71	1194
5'-6"	3.28	389	3.69	430	4.10	472	5.16	608	5.75	661	6.38	713	7.11	837	7.88	901	8.66	967	8.98	1057	9.97	1131	10.95	1208
5'-9"	3.37	405	3.78	451	4.20	495	5.29	635	5.89	690	6.53	744	7.28	874	8.07	940	8.85	1007	9.20	1102	10.20	1178	11.19	1258
6'-0"	3.45	415	3.88	460	4.30	504	5.42	646	6.03	702	6.68	757	7.45	888	8.25	954	9.05	1022	9.42	1119	10.43	1196	11.43	1276
6'-3"	3.53	425	3.97	470	4.41	515	5.55	661	6.17	718	6.83	773	7.63	908	8.44	975	9.24	1044	9.64	1147	10.66	1223	11.67	1305
6'-6"	3.62	437	4.06	486	4.51	532	5.68	681	6.31	739	6.97	797	7.81	935	8.62	1005	9.43	1057	9.87	1178	10.89	1258	11.92	1340
6'-9"	3.70	441	4.15	490	4.61	537	5.81	688	6.45	747	7.12	806	7.98	945	8.81	1015	9.63	1066	10.09	1191	11.12	1272	12.15	1355
7'-0"	3.78	460	4.25	510	4.71	560	5.94	716	6.59	777	7.27	837	8.16	981	8.99	1053	9.82	1126	10.31	1237	11.35	1319	12.40	1404
7'-3"	3.86	465	4.34	516	4.81	567	6.07	724	6.72	785	7.42	846	8.33	992	9.18	1065	10.02	1138	10.53	1249	11.59	1333	12.64	1418
7'-6"	3.95	477	4.43	529	4.91	570	6.20	742	6.86	804	7.57	866	8.51	1016	9.36	1089	10.21	1163	10.75	1290	11.82	1365	12.88	1451
7'-9"	4.03	491	4.53	544	5.02	597	6.33	762	7.00	826	7.71	890	8.67	1040	9.55	1116	10.41	1193	10.98	1313	12.05	1399	13.12	1498
8'-0"	4.12	496	4.62	550	5.12	604	6.46	770	7.14	834	7.86	899	8.86	1051	9.73	1129	10.60	1205	11.20	1325	12.28	1412	13.36	1510
8'-3"	4.20	504	4.71	559	5.22	613	6.59	784	7.28	849	8.01	915	9.04	1069	9.92	1149	10.80	1228	11.42	1353	12.51	1440	13.60	1529
8'-6"	4.28	519	4.80	576	5.32	632	6.71	804	7.42	871	8.16	938	9.21	1107	10.10	1176	10.99	1257	11.64	1385	12.74	1474	13.84	1565
8'-9"	4.37	528	4.90	586	5.42	643	6.84	819	7.56	886	8.31	954	9.39	1119	10.29	1199	11.18	1280	11.87	1410	12.97	1500	14.08	1592
9'-0"	4.45	545	4.99	605	5.53	664	6.97	842	7.70	912	8.46	982	9.56	1148	10.47	1231	11.38	1313	12.09	1447	13.21	1539	14.32	1631
9'-3"	4.53	554	5.08	614	5.63	674	7.10	858	7.84	929	8.60	999	9.74	1169	10.66	1252	11.57	1335	12.31	1474	13.44	1563	14.56	1660
9'-6"	4.62	568	5.17	630	5.73	692	7.23	878	7.97	950	8.75	1022	9.92	1195	10.84	1280	11.77	1365	12.53	1505	13.67	1600	14.80	1696
10'-0"	4.78	582	5.36	645	5.93	708	7.49	900	8.11	974	9.05	1048	10.27	1227	11.21	1312	12.16	1399	12.98	1546	14.13	1642	15.29	1739

NOTE:

FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

STANDARD DRAWING NO.
6020E

CURB INLET
SUMMARY OF QUANTITIES

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

702

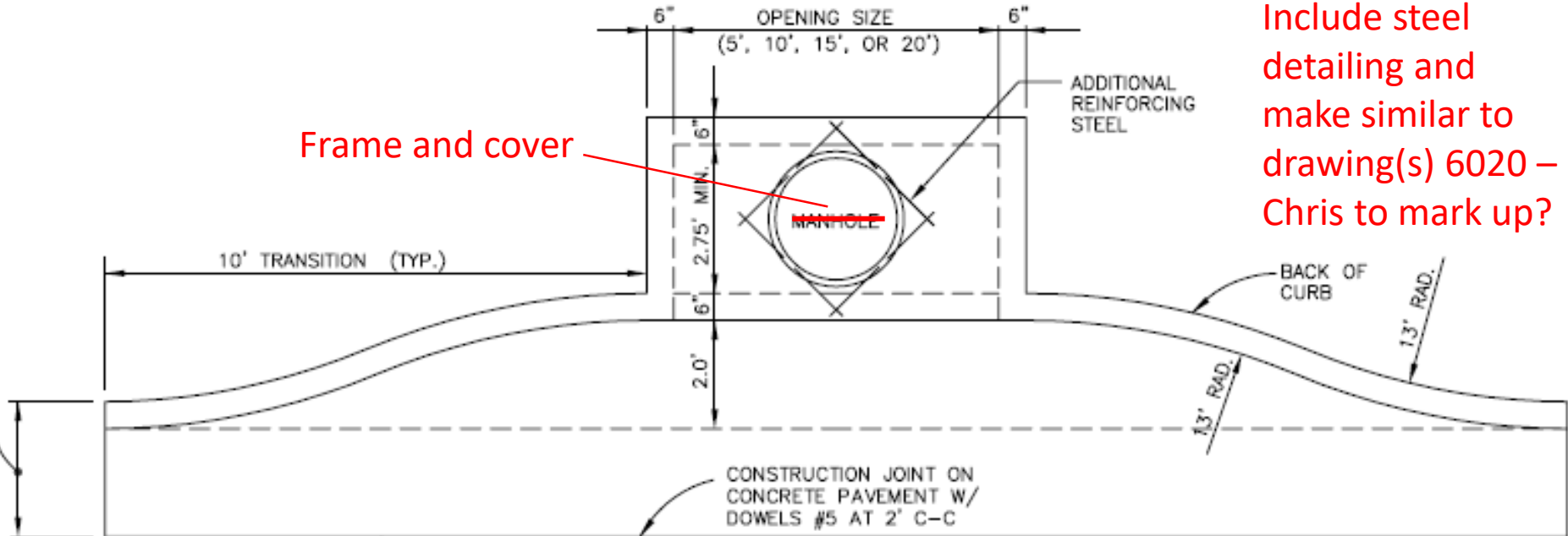
DATE
OCT. '04

STANDARD DRAWING NO.
6020E

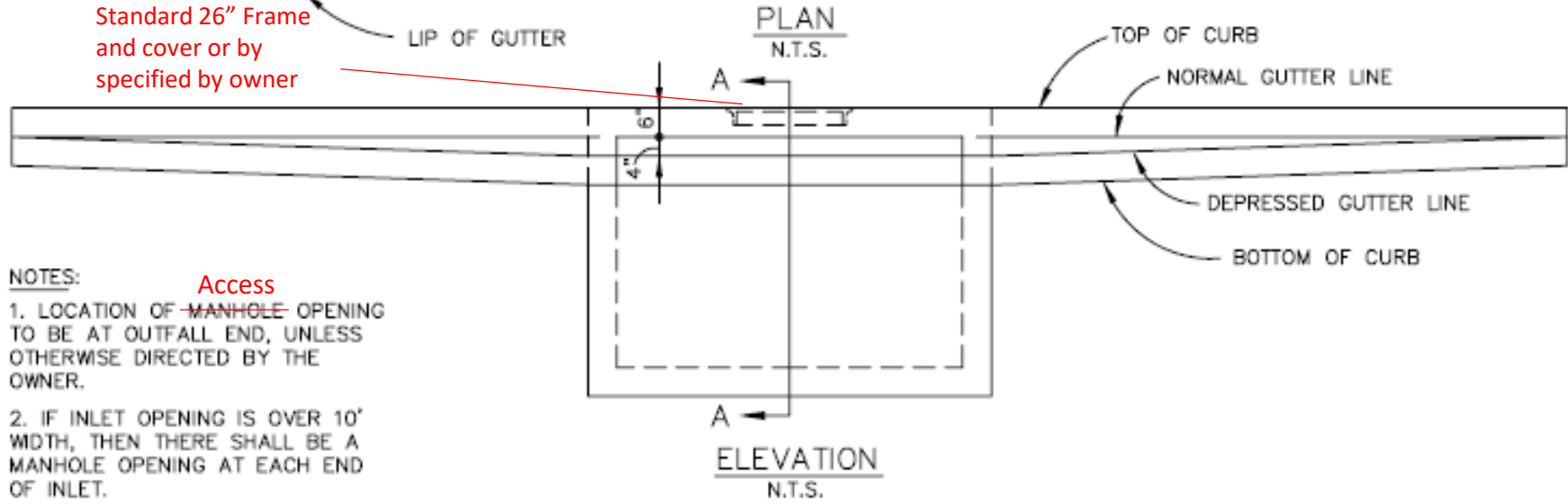
CURB & GUTTER WIDTH

Frame and cover

Include steel detailing and make similar to drawing(s) 6020 – Chris to mark up?



Standard 26" Frame and cover or by specified by owner



- NOTES:
1. LOCATION OF ~~MANHOLE~~ **Access** OPENING TO BE AT OUTFALL END, UNLESS OTHERWISE DIRECTED BY THE OWNER.
 2. IF INLET OPENING IS OVER 10' WIDTH, THEN THERE SHALL BE A MANHOLE OPENING AT EACH END OF INLET.

6030A STANDARD DRAWING

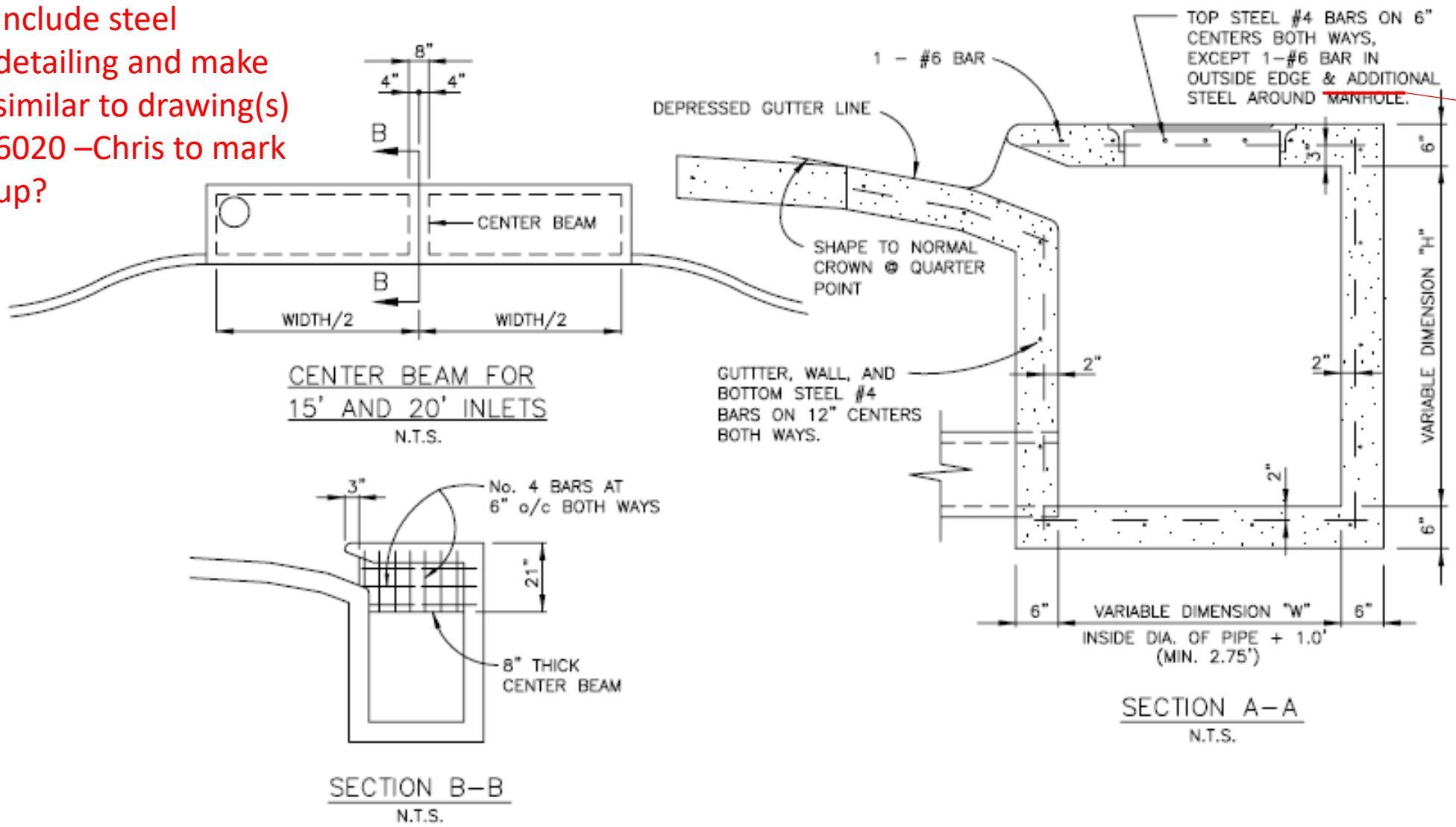
CURB INLET RECESSED
5', 10', 15' OR 20' OPENING



STANDARD SPECIFICATION REFERENCE	
702	
DATE	STANDARD DRAWING NO.
OCT. '04	6030A

6020-6030 being complete by Halff

Include steel detailing and make similar to drawing(s) 6020 –Chris to mark up?

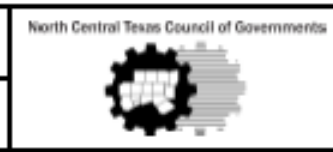


Frame and cover

6020-6030 being complete by Halff

STANDARD DRAWING NO. 6030B

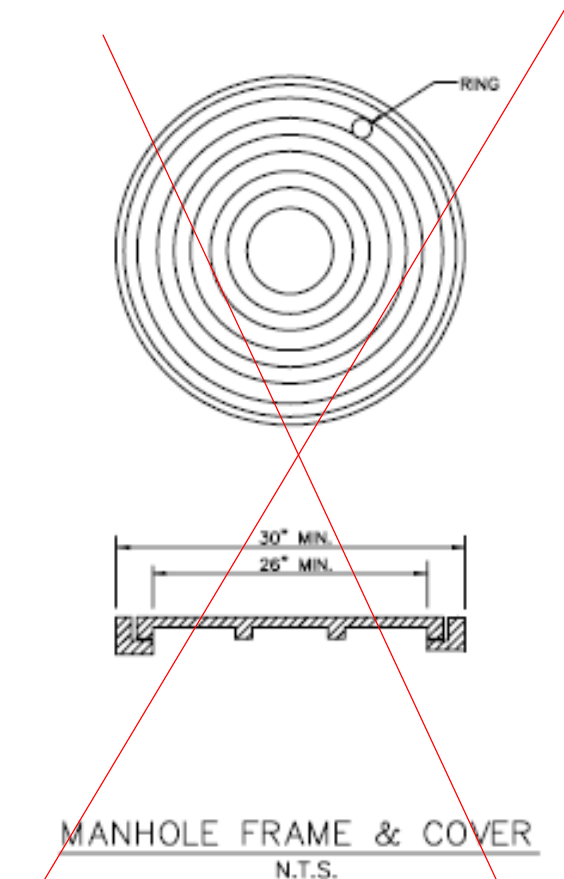
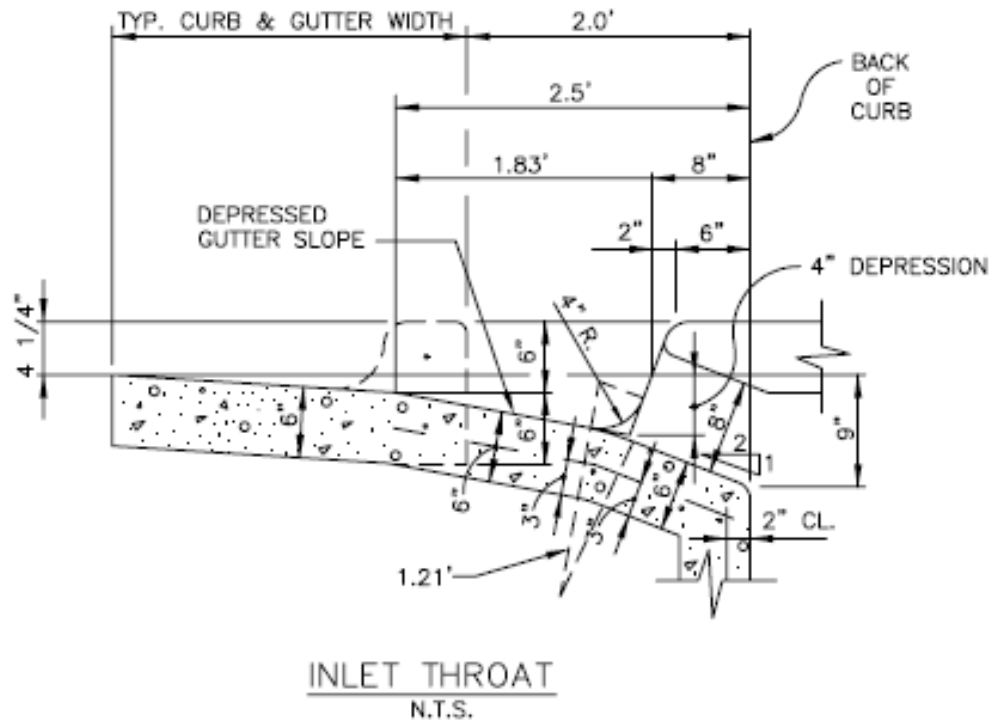
CURB INLET RECESSED
CROSS SECTION & CENTER BEAM



STANDARD SPECIFICATION REFERENCE 702	
DATE OCT. '04	STANDARD DRAWING NO. 6030B

Include steel detailing and make similar to drawing(s) 6020 – Chris to mark up?

6020-6030 being complete by Halff



STANDARD DRAWING NO.
6030C

CURB INLET RECESSED
INLET THROAT & M.H. FRAME & COVER

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

702

DATE
OCT. '04

STANDARD DRAWING NO.
6030C

GENERAL NOTES:

1. IN GENERAL, REINFORCING STEEL SHALL BE #4 BARS ON 12" CENTERS BOTH WAYS FOR GUTTER, BOTTOM SLAB ENDS, FRONT AND BACK WALLS, AND #4 BARS ON 6" CENTERS BOTH WAYS FOR TOP SLAB. AN ADDITIONAL #6 BAR SHALL BE PLACED IN THE FRONT EDGE OF THE TOP SLAB IN THE INLETS AND ADDITIONAL REINFORCING STEEL SHALL BE PLACED AROUND MANHOLES AS SHOWN.
2. ALL REINFORCING STEEL SHALL BE GRADE 60.
3. ALL CONCRETE SHALL BE CLASS "C"; ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
4. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" TO THE CENTERS OF THE BARS.
5. 10'-0" OF EXISTING CURB AND GUTTER UPSTREAM AND 10'-0" OF EXISTING CURB AND GUTTER DOWNSTREAM SHALL BE REMOVED AND REPOURED INTEGRALLY WITH EACH INLET.
6. ALL BACK FILLING SHALL BE PERFORMED BY MECHANICAL TAMPING TO 95% STANDARD PROCTOR DENSITY.

7. Precast products may be used at the approval of the Owner

9. Allow 1" min clear space between OD of pipe or box and inside wall of inlet (OD of pipe or box should account for skewed conditions).

6020-6030
being
complete by
Halff

STANDARD DRAWING NO.
6030D

CURB INLET RECESSED
GENERAL NOTES

North Central Texas Council of Governments



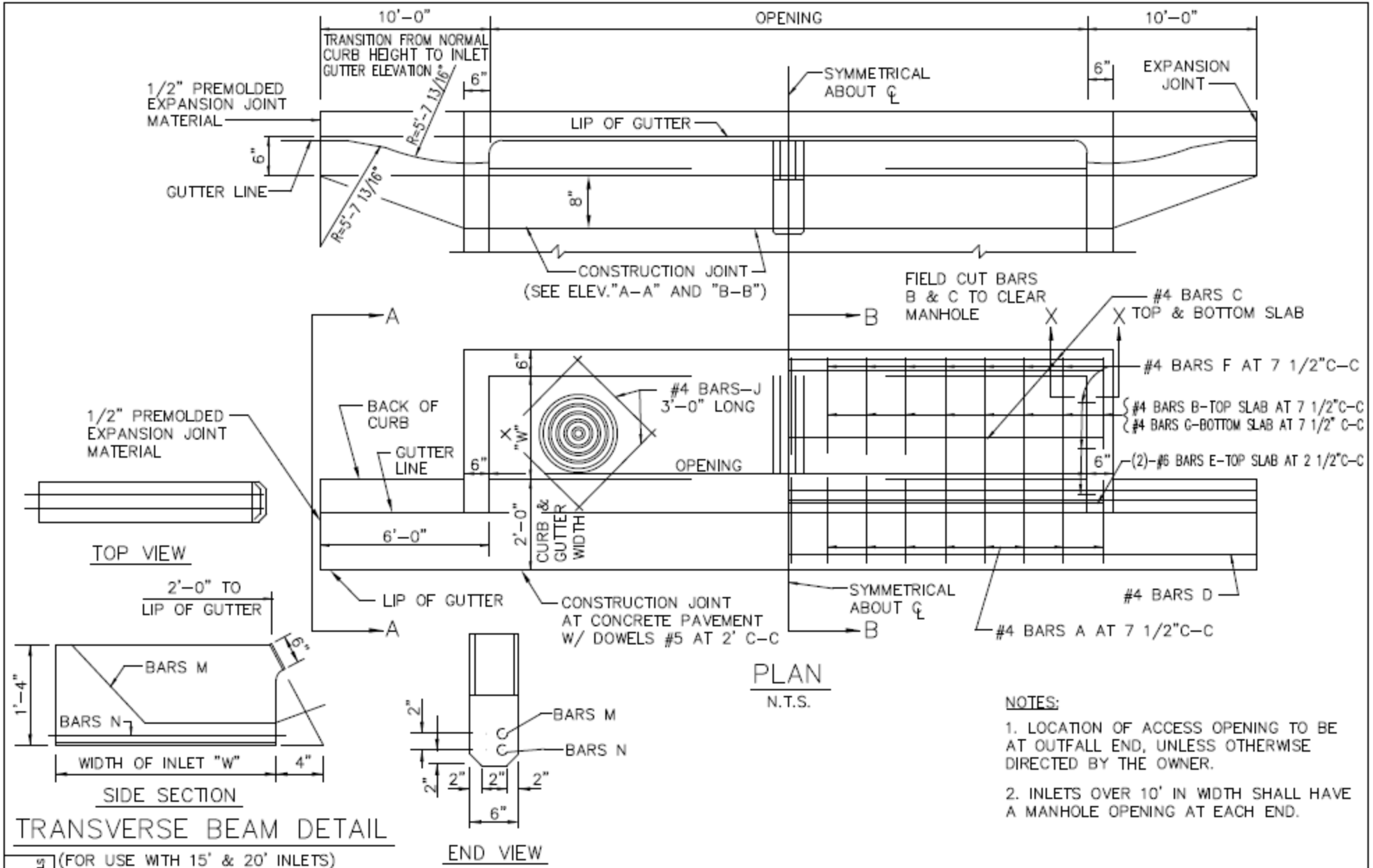
STANDARD SPECIFICATION REFERENCE

702

DATE
OCT. '04

STANDARD DRAWING NO.
6030D

Edits from Halff



TRANSVERSE BEAM DETAIL

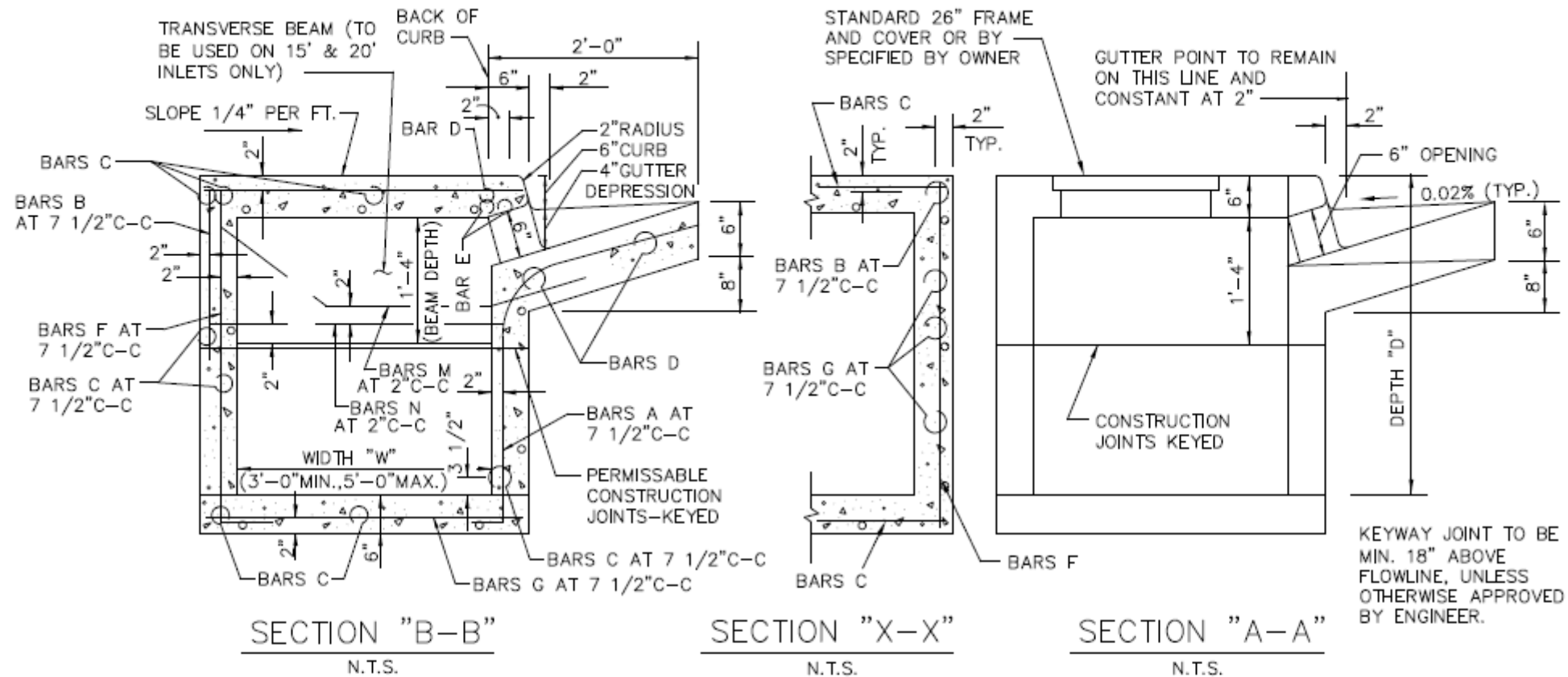
(FOR USE WITH 15' & 20' INLETS)
 N.T.S.

STANDARD DRAWING NO. 6020A

CURB INLET
 5', 10', 15' OR 20' OPENING



STANDARD SPECIFICATION REFERENCE 702	
DATE OCT. '04	STANDARD DRAWING NO. 6020A



GENERAL NOTES:

1. ALL CONCRETE SHALL BE CLASS "C" CONCRETE.
2. REINFORCING BARS SHALL BE STANDARD GRADE STEEL, DEFORMED REINFORCING BARS OF A DIAMETER AND LENGTH AS SHOWN.
3. CHAMFER ALL EXPOSED CORNERS 3/4" EXCEPT WHERE OTHERWISE NOTED.
4. DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTERS OF BARS.
5. FIELD CUT AND BEND BARS AS NECESSARY TO ACCOMODATE STORM SEWER PIPE.
6. RING AND COVER SHALL BE APPROVED BY THE OWNER AND INSTALLED BY THE CONTRACTOR.
7. INLET OPENING SHALL BE 6" MIN. OR 8" MAX.
8. PRECAST PRODUCT MAY BE USED AT EHT APPROVAL OF THE OWNER.
9. ALLOW 1" MIN. CLEAR SPACE BETWEEN OD OF PIPE OR BOX AND INSIDE WALL OF INLET (OD OF PIPE OR BOX SHOULD ACCOUNT FOR SKEWED CONDITIONS).

STANDARD DRAWING NO. 6020B

CURB INLET
CROSS SECTION & INLET THROAT

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

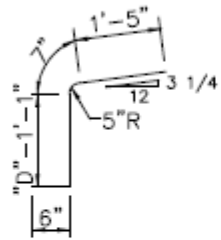
702

DATE

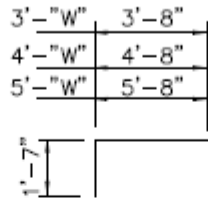
OCT. '04

STANDARD DRAWING NO.

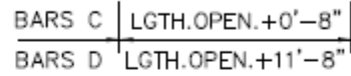
6020B



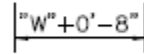
#4 BARS A
N.T.S.



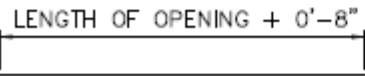
#4 BARS B
N.T.S.



#4 BARS C & D
N.T.S.



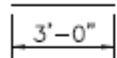
#4 BARS G
N.T.S.



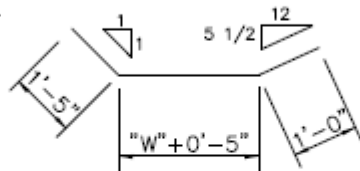
#4 BARS E
N.T.S.



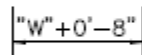
#4 BARS F
N.T.S.



#4 BARS J
N.T.S.



#3 BARS M
N.T.S.

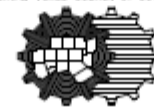


#5 BARS N
N.T.S.

STANDARD DRAWING NO.
6020C

CURB INLET
REBAR & M.H. FRAME & COVER

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

702

DATE

OCT. '04

STANDARD DRAWING NO.

6020C

BILL OF REINFORCING STEEL

DEPTH "D"	ALL WIDTHS AND LENGTHS				OPENING LENGTH "L" = 5ft						OPENING LENGTH "L" = 10ft						OPENING LENGTH "L" = 15 ft						OPENING LENGTH "L" = 20 ft										
					Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"										
	3ft		4ft		5ft		3ft		4ft		5ft		3ft		4ft		5ft		3ft		4ft		5ft		3ft		4ft		5ft				
	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS
C	D	E	J	F	F	F	A	B	G	F	F	F	A	B	G	F	F	F	A	B	G	M	N	F	F	F	A	B	G	M	N		
3'-6"	17	3	2	4	20	24	28	10	10	20	28	32	36	18	18	28	36	40	44	26	26	36	2	2	44	48	52	34	34	44	2	2	
3'-9"	18	"	"	"	"	"	"	"	"	20	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	"	"	44	"	"	
4'-0"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"	
4'-3"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"	
4'-6"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"	
4'-9"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"	
5'-0"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"	
5'-3"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"	
5'-6"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"	
5'-9"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"	
6'-0"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"	
6'-3"	26	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"	
6'-6"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"	
6'-9"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"	
7'-0"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"	
7'-3"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"	
7'-6"	30	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"	
7'-9"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"	
8'-0"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"	
8'-3"	32	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"	
8'-6"	33	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"	
8'-9"	34	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"	
9'-0"	35	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"	
9'-3"	36	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"	
9'-6"	37	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"	
10'-0"	38	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"	

NOTE:

FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

STANDARD DRAWING NO.
6020D

CURB INLET
BILL OF REINFORCING STEEL

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

702

DATE

OCT. '04

STANDARD DRAWING NO.

6020D

SUMMARY OF QUANTITIES FOR CURB INLETS																								
DEPTH "D"	5'-0" OPENING						10'-0" OPENING						15'-0" OPENING						20'-0" OPENING					
	WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"	
	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.
3'-6"	2.62	306	2.95	332	3.28	373	4.12	479	4.64	521	5.20	564	5.69	667	6.40	721	7.10	775	7.20	846	8.11	909	9.03	976
3'-9"	2.70	309	3.04	341	3.39	373	4.25	494	4.78	536	5.34	579	5.87	687	6.58	741	7.30	796	7.42	874	8.34	937	9.27	1010
4'-0"	2.78	328	3.14	364	3.49	399	4.38	518	4.92	565	5.49	610	6.05	718	6.77	776	7.49	835	7.64	909	8.58	976	9.51	1046
4'-3"	2.87	334	3.23	370	3.59	406	4.51	526	5.06	573	5.64	619	6.22	729	6.95	787	7.69	847	7.87	922	8.81	990	9.75	1061
4'-6"	2.95	356	3.32	394	3.69	431	4.64	558	5.20	607	5.79	656	6.40	770	7.14	830	7.88	891	8.09	973	9.04	1043	9.99	1115
4'-9"	3.03	361	3.41	410	3.79	438	4.77	566	5.34	616	5.94	665	6.57	780	7.32	841	8.07	903	8.31	986	9.27	1056	10.23	1129
5'-0"	3.12	367	3.51	416	3.90	445	4.90	574	5.47	624	6.09	674	6.75	791	7.51	853	8.27	915	8.53	999	9.50	1070	10.47	1144
5'-3"	3.20	383	3.60	424	4.00	465	5.03	600	5.61	652	6.23	704	6.93	827	7.69	890	8.46	955	8.76	1044	9.73	1118	10.71	1194
5'-6"	3.28	389	3.69	430	4.10	472	5.16	608	5.75	661	6.38	713	7.11	837	7.88	901	8.66	967	8.98	1057	9.97	1131	10.95	1208
5'-9"	3.37	405	3.78	451	4.20	495	5.29	635	5.89	690	6.53	744	7.28	874	8.07	940	8.85	1007	9.20	1102	10.20	1178	11.19	1258
6'-0"	3.45	415	3.88	460	4.30	504	5.42	646	6.03	702	6.68	757	7.45	888	8.25	954	9.05	1022	9.42	1119	10.43	1196	11.43	1276
6'-3"	3.53	425	3.97	470	4.41	515	5.55	661	6.17	718	6.83	773	7.63	908	8.44	975	9.24	1044	9.64	1147	10.66	1223	11.67	1305
6'-6"	3.62	437	4.06	486	4.51	532	5.68	681	6.31	739	6.97	797	7.81	935	8.62	1005	9.43	1057	9.87	1178	10.89	1258	11.92	1340
6'-9"	3.70	441	4.15	490	4.61	537	5.81	688	6.45	747	7.12	806	7.98	945	8.81	1015	9.63	1066	10.09	1191	11.12	1272	12.15	1355
7'-0"	3.78	460	4.25	510	4.71	560	5.94	716	6.59	777	7.27	837	8.16	981	8.99	1053	9.82	1126	10.31	1237	11.35	1319	12.40	1404
7'-3"	3.86	465	4.34	516	4.81	567	6.07	724	6.72	785	7.42	846	8.33	992	9.18	1065	10.02	1138	10.53	1249	11.59	1333	12.64	1418
7'-6"	3.95	477	4.43	529	4.91	570	6.20	742	6.86	804	7.57	866	8.51	1016	9.36	1089	10.21	1163	10.75	1290	11.82	1365	12.88	1451
7'-9"	4.03	491	4.53	544	5.02	597	6.33	762	7.00	826	7.71	890	8.67	1040	9.55	1116	10.41	1193	10.98	1313	12.05	1399	13.12	1498
8'-0"	4.12	496	4.62	550	5.12	604	6.46	770	7.14	834	7.86	899	8.86	1051	9.73	1129	10.60	1205	11.20	1325	12.28	1412	13.36	1510
8'-3"	4.20	504	4.71	559	5.22	613	6.59	784	7.28	849	8.01	915	9.04	1069	9.92	1149	10.80	1228	11.42	1353	12.51	1440	13.60	1529
8'-6"	4.28	519	4.80	576	5.32	632	6.71	804	7.42	871	8.16	938	9.21	1107	10.10	1176	10.99	1257	11.64	1385	12.74	1474	13.84	1565
8'-9"	4.37	528	4.90	586	5.42	643	6.84	819	7.56	886	8.31	954	9.39	1119	10.29	1199	11.18	1280	11.87	1410	12.97	1500	14.08	1592
9'-0"	4.45	545	4.99	605	5.53	664	6.97	842	7.70	912	8.46	982	9.56	1148	10.47	1231	11.38	1313	12.09	1447	13.21	1539	14.32	1631
9'-3"	4.53	554	5.08	614	5.63	674	7.10	858	7.84	929	8.60	999	9.74	1169	10.66	1252	11.57	1335	12.31	1474	13.44	1563	14.56	1660
9'-6"	4.62	568	5.17	630	5.73	692	7.23	878	7.97	950	8.75	1022	9.92	1195	10.84	1280	11.77	1365	12.53	1505	13.67	1600	14.80	1696
10'-0"	4.78	582	5.36	645	5.93	708	7.49	900	8.11	974	9.05	1048	10.27	1227	11.21	1312	12.16	1399	12.98	1546	14.13	1642	15.29	1739

NOTE:

FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

STANDARD DRAWING NO.
6020E

CURB INLET
SUMMARY OF QUANTITIES

North Central Texas Council of Governments



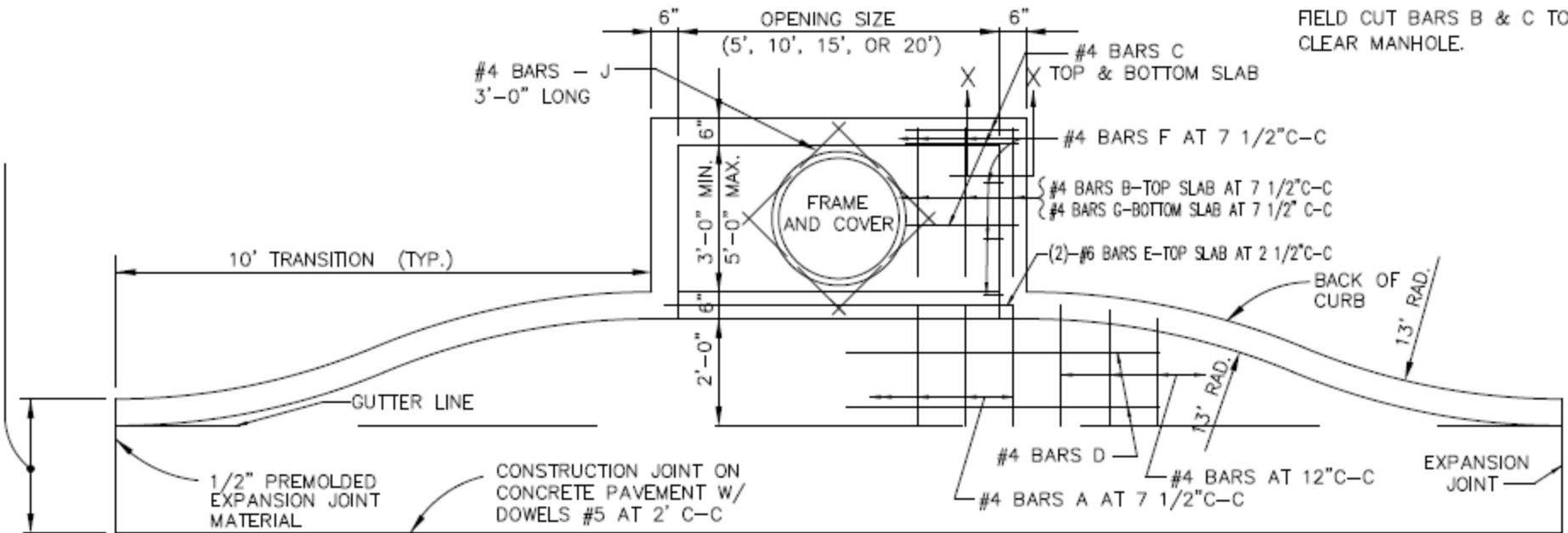
STANDARD SPECIFICATION REFERENCE

702

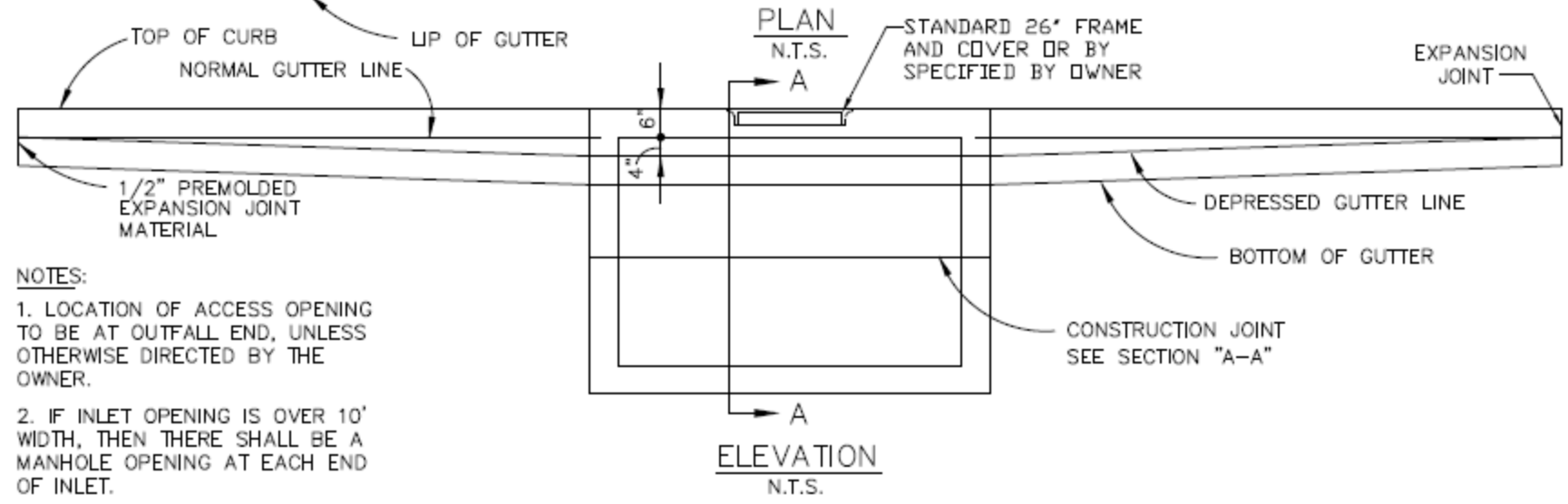
DATE
OCT. '04

STANDARD DRAWING NO.
6020E

CURB & GUTTER WIDTH



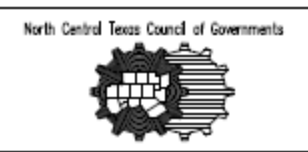
NOTE:
FIELD CUT BARS B & C TO CLEAR MANHOLE.



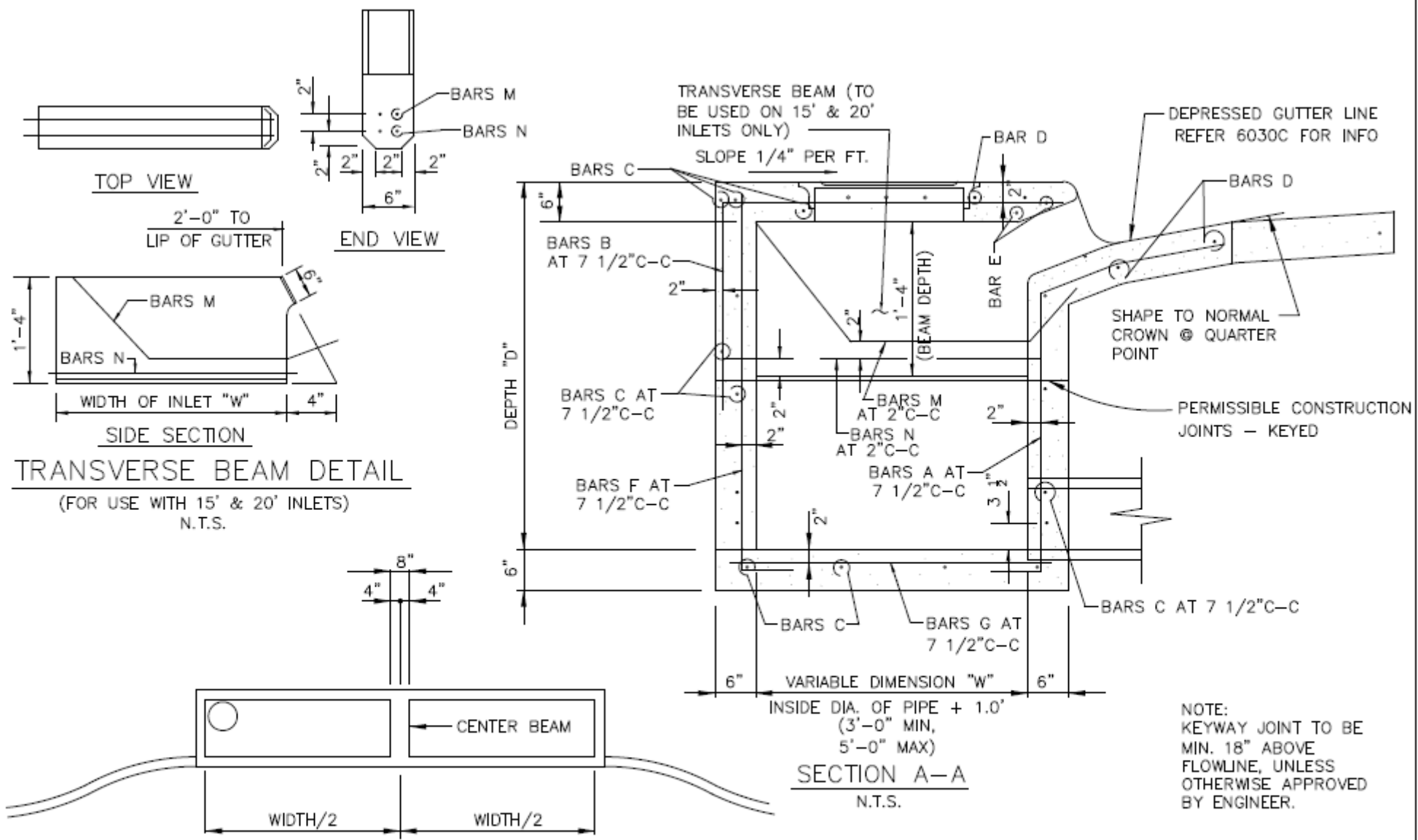
- NOTES:
1. LOCATION OF ACCESS OPENING TO BE AT OUTFALL END, UNLESS OTHERWISE DIRECTED BY THE OWNER.
 2. IF INLET OPENING IS OVER 10' WIDTH, THEN THERE SHALL BE A MANHOLE OPENING AT EACH END OF INLET.

STANDARD DRAWING NO.
6030A

CURB INLET RECESSED
5', 10', 15' OR 20' OPENING



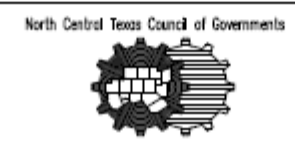
STANDARD SPECIFICATION REFERENCE 702	
DATE JULY '20	STANDARD DRAWING NO. 6030A



STANDARD DRAWING NO. 6030B

TRANSVERSE BEAM FOR
15' AND 20' INLETS
N.T.S.

CURB INLET RECESSED
CROSS SECTION & CENTER BEAM



STANDARD SPECIFICATION REFERENCE 702	
DATE JULY '20	STANDARD DRAWING NO. 6030B

GENERAL NOTES:

1. ALL REINFORCING STEEL SHALL BE GRADE 60. DEFORMED REINFORCING BARS AT A DIAMETER & LENGTH AS SHOWN.
2. ALL CONCRETE SHALL BE CLASS "C". ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4".
3. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" TO THE CENTERS OF THE BARS.
4. 10'-0" OF EXISTING CURB AND GUTTER UPSTREAM AND 10'-0" OF EXISTING CURB AND GUTTER DOWNSTREAM SHALL BE REMOVED AND REPOURED INTEGRALLY WITH EACH INLET.
5. ALL BACK FILLING SHALL BE PERFORMED BY MECHANICAL TAMPING TO 95% STANDARD PROCTOR DENSITY.
6. PRECAST PRODUCTS MAY BE USED AT THE APPROVAL OF THE OWNER.
7. ALLOW 1" MIN. CLEAR SPACE BETWEEN OD OF PIPE OR BOX AND INSIDE WALL OF INLET (OD OF PIPE OR BOX SHOULD ACCOUNT FOR SKEWED CONDITIONS).
8. FIELD CUT & BEND BARS AS NECESSARY TO ACCOMODATE STORM SEWER PIPE.
9. RING & COVER SHALL BE APPROVED BY THE OWNER AND INSTALLED BT CONTRACTOR.

STANDARD DRAWING NO.
6030D

CURB INLET RECESSED
GENERAL NOTES

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

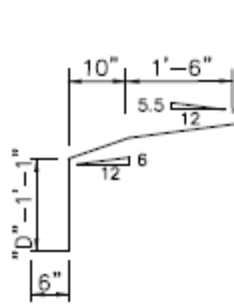
702

DATE

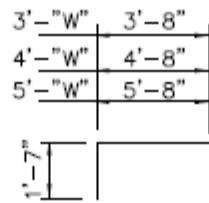
JULY '20

STANDARD DRAWING NO.

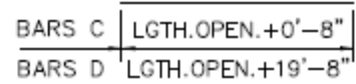
6030D



#4 BARS A
N.T.S.

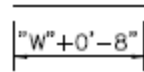


#4 BARS B
N.T.S.

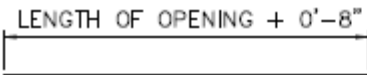


#4 BARS C & D
N.T.S.

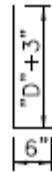
FIELD CUT D BARS
AS NECESSARY AT
TRANSITIONS



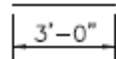
#4 BARS G
N.T.S.



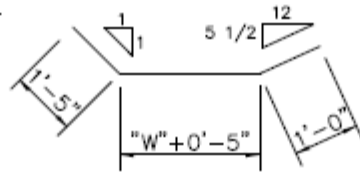
#4 BARS E
N.T.S.



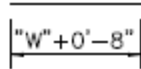
#4 BARS F
N.T.S.



#4 BARS J
N.T.S.



#3 BARS M
N.T.S.



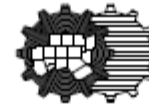
#5 BARS N
N.T.S.

STANDARD DRAWING NO.
6030E

CURB INLET RECESSED

REBAR

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

702

DATE

JULY '20

STANDARD DRAWING NO.

6030E

BILL OF REINFORCING STEEL

DEPTH "D"	ALL WIDTHS AND LENGTHS				OPENING LENGTH "L" = 5ft						OPENING LENGTH "L" = 10ft						OPENING LENGTH "L" = 15 ft						OPENING LENGTH "L" = 20 ft										
					Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"			Widths "W"										
	3ft		4ft		5ft		3ft		4ft		5ft		3ft		4ft		5ft		3ft		4ft		5ft		3ft		4ft		5ft				
	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS	BARS
C	D	E	J	F	F	F	A	B	G	F	F	F	A	B	G	F	F	F	A	B	G	M	N	F	F	F	A	B	G	M	N		
3'-6"	17	3	2	4	20	24	28	10	10	20	28	32	36	18	18	28	36	40	44	26	26	36	2	2	44	48	52	34	34	44	2	2	
3'-9"	18	"	"	"	"	"	"	"	"	20	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	"	"	44	"	"	
4'-0"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"	
4'-3"	19	"	"	"	"	"	"	"	"	24	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	"	"	48	"	"	
4'-6"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"	
4'-9"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"	
5'-0"	21	"	"	"	"	"	"	"	"	26	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	"	"	50	"	"	
5'-3"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"	
5'-6"	23	"	"	"	"	"	"	"	"	28	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	"	"	52	"	"	
5'-9"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"	
6'-0"	25	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"	
6'-3"	26	"	"	"	"	"	"	"	"	30	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	"	"	54	"	"	
6'-6"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"	
6'-9"	27	"	"	"	"	"	"	"	"	32	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	"	"	56	"	"	
7'-0"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"	
7'-3"	29	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"	
7'-6"	30	"	"	"	"	"	"	"	"	34	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	"	"	58	"	"	
7'-9"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"	
8'-0"	31	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"	
8'-3"	32	"	"	"	"	"	"	"	"	36	"	"	"	"	"	44	"	"	"	"	"	52	"	"	"	"	"	"	"	60	"	"	
8'-6"	33	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"	
8'-9"	34	"	"	"	"	"	"	"	"	38	"	"	"	"	"	46	"	"	"	"	"	54	"	"	"	"	"	"	"	62	"	"	
9'-0"	35	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"	
9'-3"	36	"	"	"	"	"	"	"	"	40	"	"	"	"	"	48	"	"	"	"	"	56	"	"	"	"	"	"	"	64	"	"	
9'-6"	37	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"	
10'-0"	38	"	"	"	"	"	"	"	"	42	"	"	"	"	"	50	"	"	"	"	"	58	"	"	"	"	"	"	"	66	"	"	

NOTE:
 FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

STANDARD DRAWING NO. 6030F

CURB INLET RECESSED
BILL OF REINFORCING STEEL



STANDARD SPECIFICATION REFERENCE
702

DATE: **JULY '20** STANDARD DRAWING NO.: **6030F**

SUMMARY OF QUANTITIES FOR CURB INLETS																								
DEPTH "D"	5'-0" OPENING						10'-0" OPENING						15'-0" OPENING						20'-0" OPENING					
	WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"		WIDTH 3'-0"		WIDTH 4'-0"		WIDTH 5'-0"	
	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.	CONC C.Y.	STEEL LBS.
3'-6"	2.62	306	2.95	332	3.28	373	4.12	479	4.64	521	5.20	564	5.69	667	6.40	721	7.10	775	7.20	846	8.11	909	9.03	976
3'-9"	2.70	309	3.04	341	3.39	373	4.25	494	4.78	536	5.34	579	5.87	687	6.58	741	7.30	796	7.42	874	8.34	937	9.27	1010
4'-0"	2.78	328	3.14	364	3.49	399	4.38	518	4.92	565	5.49	610	6.05	718	6.77	776	7.49	835	7.64	909	8.58	976	9.51	1046
4'-3"	2.87	334	3.23	370	3.59	406	4.51	526	5.06	573	5.64	619	6.22	729	6.95	787	7.69	847	7.87	922	8.81	990	9.75	1061
4'-6"	2.95	356	3.32	394	3.69	431	4.64	558	5.20	607	5.79	656	6.40	770	7.14	830	7.88	891	8.09	973	9.04	1043	9.99	1115
4'-9"	3.03	361	3.41	410	3.79	438	4.77	566	5.34	616	5.94	665	6.57	780	7.32	841	8.07	903	8.31	986	9.27	1056	10.23	1129
5'-0"	3.12	367	3.51	416	3.90	445	4.90	574	5.47	624	6.09	674	6.75	791	7.51	853	8.27	915	8.53	999	9.50	1070	10.47	1144
5'-3"	3.20	383	3.60	424	4.00	465	5.03	600	5.61	652	6.23	704	6.93	827	7.69	890	8.46	955	8.76	1044	9.73	1118	10.71	1194
5'-6"	3.28	389	3.69	430	4.10	472	5.16	608	5.75	661	6.38	713	7.11	837	7.88	901	8.66	967	8.98	1057	9.97	1131	10.95	1208
5'-9"	3.37	405	3.78	451	4.20	495	5.29	635	5.89	690	6.53	744	7.28	874	8.07	940	8.85	1007	9.20	1102	10.20	1178	11.19	1258
6'-0"	3.45	415	3.88	460	4.30	504	5.42	646	6.03	702	6.68	757	7.45	888	8.25	954	9.05	1022	9.42	1119	10.43	1196	11.43	1276
6'-3"	3.53	425	3.97	470	4.41	515	5.55	661	6.17	718	6.83	773	7.63	908	8.44	975	9.24	1044	9.64	1147	10.66	1223	11.67	1305
6'-6"	3.62	437	4.06	486	4.51	532	5.68	681	6.31	739	6.97	797	7.81	935	8.62	1005	9.43	1057	9.87	1178	10.89	1258	11.92	1340
6'-9"	3.70	441	4.15	490	4.61	537	5.81	688	6.45	747	7.12	806	7.98	945	8.81	1015	9.63	1066	10.09	1191	11.12	1272	12.15	1355
7'-0"	3.78	460	4.25	510	4.71	560	5.94	716	6.59	777	7.27	837	8.16	981	8.99	1053	9.82	1126	10.31	1237	11.35	1319	12.40	1404
7'-3"	3.86	465	4.34	516	4.81	567	6.07	724	6.72	785	7.42	846	8.33	992	9.18	1065	10.02	1138	10.53	1249	11.59	1333	12.64	1418
7'-6"	3.95	477	4.43	529	4.91	570	6.20	742	6.86	804	7.57	866	8.51	1016	9.36	1089	10.21	1163	10.75	1290	11.82	1365	12.88	1451
7'-9"	4.03	491	4.53	544	5.02	597	6.33	762	7.00	826	7.71	890	8.67	1040	9.55	1116	10.41	1193	10.98	1313	12.05	1399	13.12	1498
8'-0"	4.12	496	4.62	550	5.12	604	6.46	770	7.14	834	7.86	899	8.86	1051	9.73	1129	10.60	1205	11.20	1325	12.28	1412	13.36	1510
8'-3"	4.20	504	4.71	559	5.22	613	6.59	784	7.28	849	8.01	915	9.04	1069	9.92	1149	10.80	1228	11.42	1353	12.51	1440	13.60	1529
8'-6"	4.28	519	4.80	576	5.32	632	6.71	804	7.42	871	8.16	938	9.21	1107	10.10	1176	10.99	1257	11.64	1385	12.74	1474	13.84	1565
8'-9"	4.37	528	4.90	586	5.42	643	6.84	819	7.56	886	8.31	954	9.39	1119	10.29	1199	11.18	1280	11.87	1410	12.97	1500	14.08	1592
9'-0"	4.45	545	4.99	605	5.53	664	6.97	842	7.70	912	8.46	982	9.56	1148	10.47	1231	11.38	1313	12.09	1447	13.21	1539	14.32	1631
9'-3"	4.53	554	5.08	614	5.63	674	7.10	858	7.84	929	8.60	999	9.74	1169	10.66	1252	11.57	1335	12.31	1474	13.44	1563	14.56	1660
9'-6"	4.62	568	5.17	630	5.73	692	7.23	878	7.97	950	8.75	1022	9.92	1195	10.84	1280	11.77	1365	12.53	1505	13.67	1600	14.80	1696
10'-0"	4.78	582	5.36	645	5.93	708	7.49	900	8.11	974	9.05	1048	10.27	1227	11.21	1312	12.16	1399	12.98	1546	14.13	1642	15.29	1739

NOTE:

FOR CONVENIENCE, DEPTHS OF INLETS SHOWN IN ABOVE TABLES ARE IN INCREMENTS OF 3 INCHES BUT ANY DEPTHS OTHER THAN THOSE SHOWN ABOVE MAY BE USED WHEREVER DEEMED NECESSARY. QUANTITIES FOR OTHER DEPTHS FALLING WITHIN THE LIMITS OF THE TABLE MAY BE FOUND BY INTERPOLATION.

STANDARD DRAWING NO.
6030G

CURB INLET RECESSED
SUMMARY OF QUANTITIES

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

702

DATE
JULY '20

STANDARD DRAWING NO.
6030G

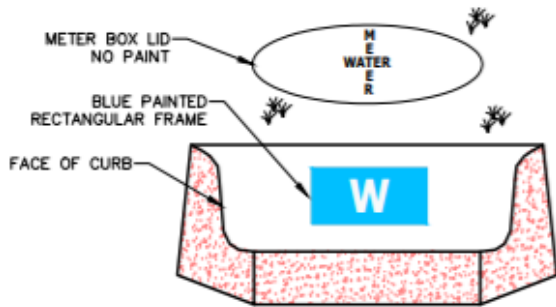
Division 4000: Water Distribution

DIVISION 4000 WATER DISTRIBUTION**TABLE OF CONTENTS**

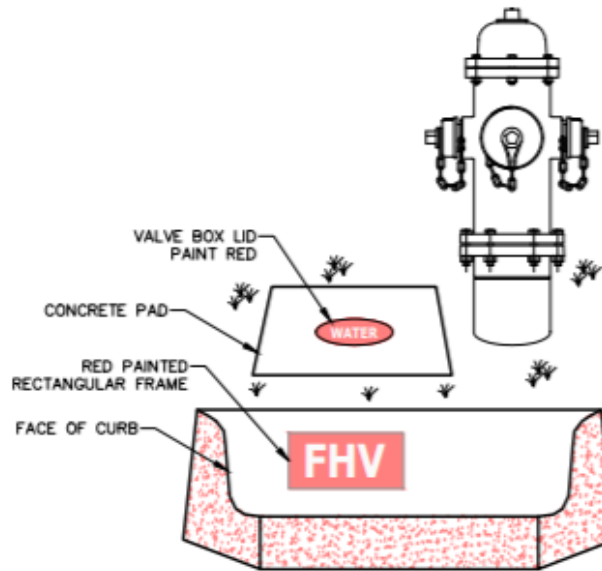
<u>Drawing #</u>	<u>Subject</u>	<u>Section I: Item #</u>
4010A	Horizontal Thrust Block At Pipe Bend	502.4. Pages 502-10 to 502-11
4010B	Horizontal Thrust Block At Pipe Bend	502.4. Pages 502-10 to 502-11
4010C	Horizontal Thrust Block At Pipe Bend	502.4. Pages 502-10 to 502-11
4020	Horizontal Thrust Block At Tees and Plugs	502.4. Pages 502-10 to 502-11
4030	Vertical Thrust Block At Pipe Bend	502.4. Pages 502-10 to 502-11
4040	Thrust Block General Notes	502.4. Pages 502-10 to 502-11
4050	Gate Valve 4" To 12" Box & Extension Stem	502.6.6.Pages 502-19 to 502-20
4060A	Vault Construction Horizontal Gate Valve \geq 16"	702.5.8.8. Page 702-14
4060B	Vault Construction Horizontal Gate Valve \geq 16"	702.5.8.8. Page 702-14
4070A	Vault Construction Vertical Gate Valve \geq 16"	702.5. Pages 702-8 to 702-19
4070B	Vault Construction Vertical Gate Valve \geq 16"	702.5. Pages 702-8 to 702-19
4080A	Vault Construction Butterfly Valve \geq 48"	702.5. Pages 702-8 to 702-19
4080B	Vault Construction Butterfly Valve \geq 48"	702.5. Pages 702-8 to 702-19
4090	Combination Air Vacuum Valve Type "1"	502.6.6.Pages 502-19 to 502-20
4100A	Combination Air Vacuum Valve Type "2"	502.6.6.Pages 502-19 to 502-20
4100B	Air Release Valve Type "2"	502.6.6.Pages 502-19 to 502-20
4110	Flush Point Installation Type "1"	502.10.3. Page 502-26
4120	Fire Hydrant Installation	502.3. Pages 502-8 to 502-10

Add a detail for blow off and
a detail for curb markings as
a general note

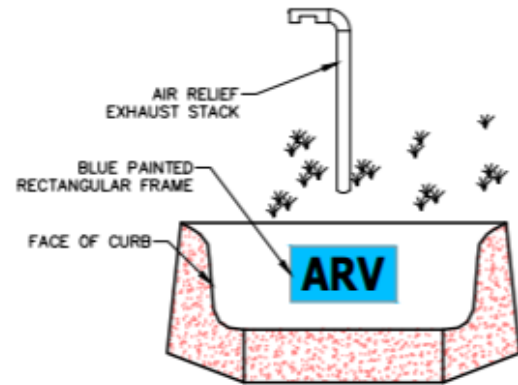
<u>Drawing #</u>	<u>Subject</u>	<u>Section I: Item #</u>
4130	Water Service Installation 3/4" or 1" Line	502.10.3. Page 502-26
4140	Water Service Installation 1 1/2" or 2" Line	502.10.3. Page 502-26
4150	4" Combined Service With 4" Meter	502.10. Pages 502-24 to 502-29
4160	8" Detector Check Service With 8" Meter	502.10. Pages 502-24 to 502-29
4170	8" Fire Line Standpipe Service With 8" Meter	502.10. Pages 502-24 to 502-29
4180	4" Domestic Service With 3" Meter	502.10. Pages 502-24 to 502-29
4190A	Large Service Meter Vault Installation	702.5.8.8. Page 702-14
4190B	Large Service Meter Precast Vault	702.5.8.8. Page 702-14
4200	Water Main Lowering Below Wastewater Main	506.6. Pages 506-4 to 506-5



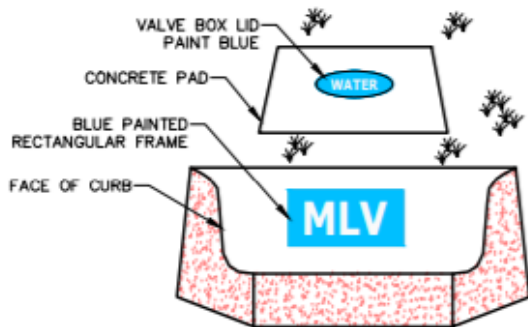
DOMESTIC AND IRRIGATION METER IDENTIFICATION, RESIDENTIAL
N.T.S.



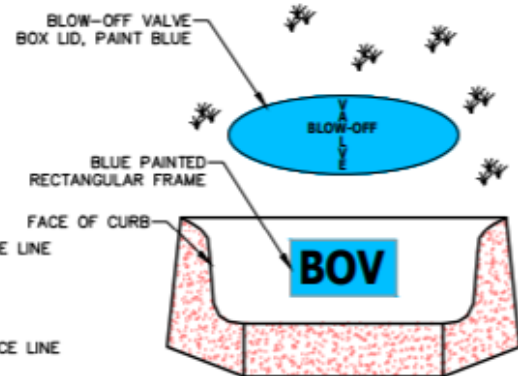
FIRE HYDRANT VALVE IDENTIFICATION
N.T.S.



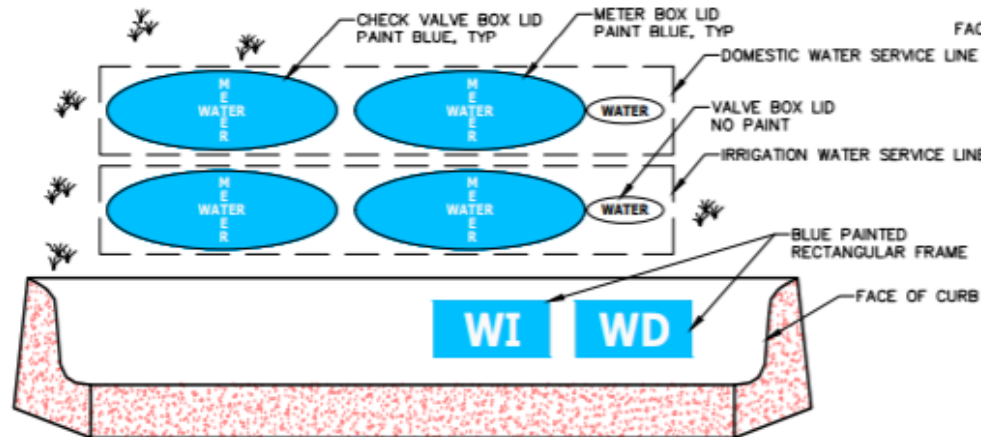
AIR RELIEF VALVE IDENTIFICATION
N.T.S.



MAIN LINE VALVE IDENTIFICATION
N.T.S.



BLOW-OFF VALVE IDENTIFICATION
N.T.S.



DOMESTIC AND IRRIGATION VALVE AND METER IDENTIFICATION, COMMERCIAL
N.T.S.

NOTES:

1. IDENTIFICATION LETTERS SHALL BE CHISELED OR CUT INTO THE FACE OF THE CONCRETE CURB AND IN LINE WITH VALVE LOCATION. LETTERS SHALL BE 3" HIGH X 3" WIDE BY APPROXIMATELY 1/8" DEEP.
2. PAINTED RECTANGULAR FRAME SHALL EXTEND 1" BEYOND IDENTIFICATION LETTERS.

North Central Texas Council of Governments

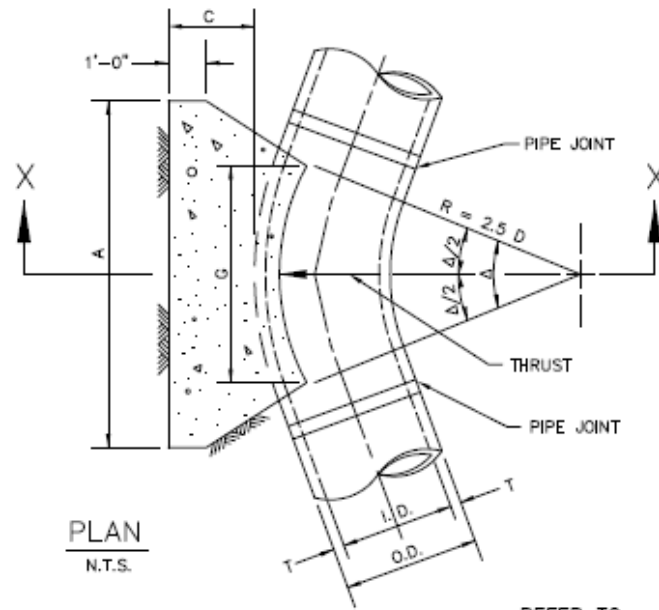


NOTE: STANDARDS ARE ADOPTED FROM THE NCTCO STANDARD DRAWINGS DATED NOV. '96, WITH LOCAL EXCEPTIONS.

NO.	LOCAL EXCEPTION	BY	DATE
		SWL	JUL '14
		SWL	JUL '14

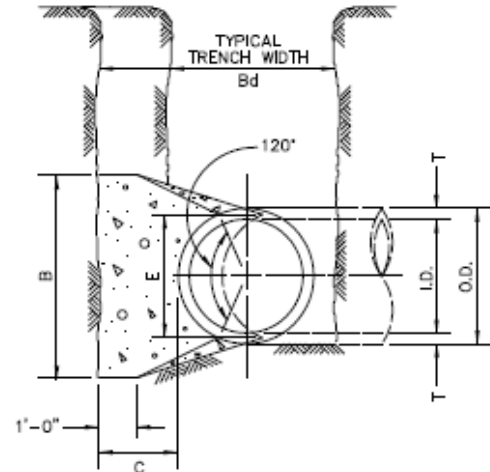


STANDARD CONSTRUCTION DETAILS		STD. SPEC. REFERENCE
WATER VALVE LOCATION AND IDENTIFICATION		804.
CURB LETTERING AND COLOR CODING		STANDARD DETAIL
CITY OF COPPELL, DALLAS COUNTY, TEXAS		4220



PLAN
N.T.S.

REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.



SECTION X-X
N.T.S.

Show the restraint joint graphically

Add note, "All fittings require a megalug joint restraint in concert with thrust blocking or in reference to Standard Drawing 4040 for General Notes."

HORIZONTAL THRUST BLOCK
AT PIPE BEND

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE
502.4

DATE
OCT. '04

STANDARD DRAWING NO.
4010A

I.D. (IN.)	T (IN.)	$\Delta =$ 11.25' C (FT.)	$\Delta =$ 22.50' C (FT.)	E (FT.)
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

I.D. (IN.)	$\Delta = 11.25'$									I.D. (IN.)	$\Delta = 22.50'$								
	G (FT.)	THRUST (TONS)	EARTH			ROCK			G (FT.)		THRUST (TONS)	EARTH			ROCK				
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)		
4,6,8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1	4,6,8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1		
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1	10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1		
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2	16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3		
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3	20	1.8	12.3	3.5	3.5	0.7	2.0	3.0	0.4		
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3	24	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5		
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4	30	2.7	20.7	5.0	4.5	1.5	3.0	4.0	0.8		
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5	36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3		
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8	42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1		
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1	48	4.4	52.9	8.0	7.0	5.7	4.5	6.0	2.8		
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4	54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1		
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8	60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3		
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7	66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2		
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3	72	6.6	119.1	11.0	11.0	17.6	7.5	8.0	9.1		
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9	78	7.1	139.8	12.0	12.0	22.5	8.0	9.0	11.7		
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3	84	7.6	162.1	13.0	12.5	27.2	8.5	10.0	14.8		
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3	90	8.2	186.1	14.0	13.5	33.7	9.5	10.0	17.7		
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4	96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8		

TABLES OF DIMENSIONS AND QUANTITIES

HORIZONTAL THRUST BLOCK

AT PIPE BEND

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

502.4

DATE

OCT. '04

STANDARD DRAWING NO.

4010B

$\Delta = 30^\circ$									$\Delta = 45^\circ$								
I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK		
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1	4,6,8	1.5	3.9	2.0	2.0	0.2	1.5	1.5	0.1
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2	10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.4	16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5	20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7	24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	3.6	27.5	6.5	5.0	1.9	3.5	4.0	0.9	30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.6	36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5	42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7	48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3	54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3	60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6	66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3	72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6	78	13.9	274.5	21.5	13.0	49.8	14.5	9.5	25.9
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5	84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.6
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9	90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9	96	17.1	415.6	26.0	16.0	89.5	18.5	11.5	48.5

$\Delta = 67.50^\circ$									$\Delta = 90^\circ$								
I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK			I.D. (IN.)	G (FT.)	THRUST (TONS)	EARTH			ROCK		
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)				A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)
4,6,8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2	4,6,8	2.7	7.1	5.0	1.5	0.4	2.0	2.0	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4	10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	4.7	28.3	7.5	4.0	1.9	5.5	3.0	0.9	16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2	20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6	24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2	30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	9.4	84.9	14.5	6.0	8.2	9.5	4.5	3.8	36	11.9	108.0	18.0	6.0	11.4	12.0	4.5	5.3
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3	42	13.9	147.0	21.0	7.0	17.8	14.0	5.5	8.7
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2	48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9	54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6	60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0	66	21.8	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4	72	23.8	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	20.2	398.5	31.0	13.0	75.7	21.0	9.5	37.4	78	25.7	506.7	39.0	13.0	108.2	26.0	10.0	53.2
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.5	84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	58.2	90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	24.9	603.6	38.0	16.0	136.9	25.5	12.0	70.0	96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1

TABLES OF DIMENSIONS AND QUANTITIES

HORIZONTAL THRUST BLOCK

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

502.4

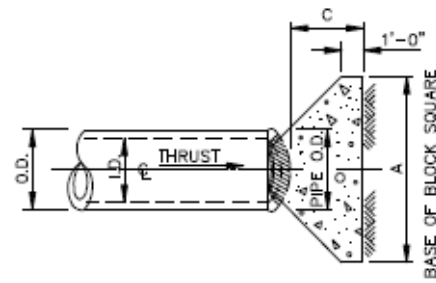
AT PIPE BEND

DATE

OCT. '04

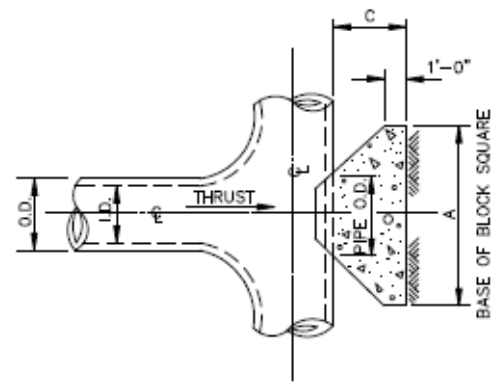
STANDARD DRAWING NO.

4010C



PLAN OF PLUG THRUST BLOCK

N.T.S.



PLAN OF TEE THRUST BLOCK

N.T.S.

REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.

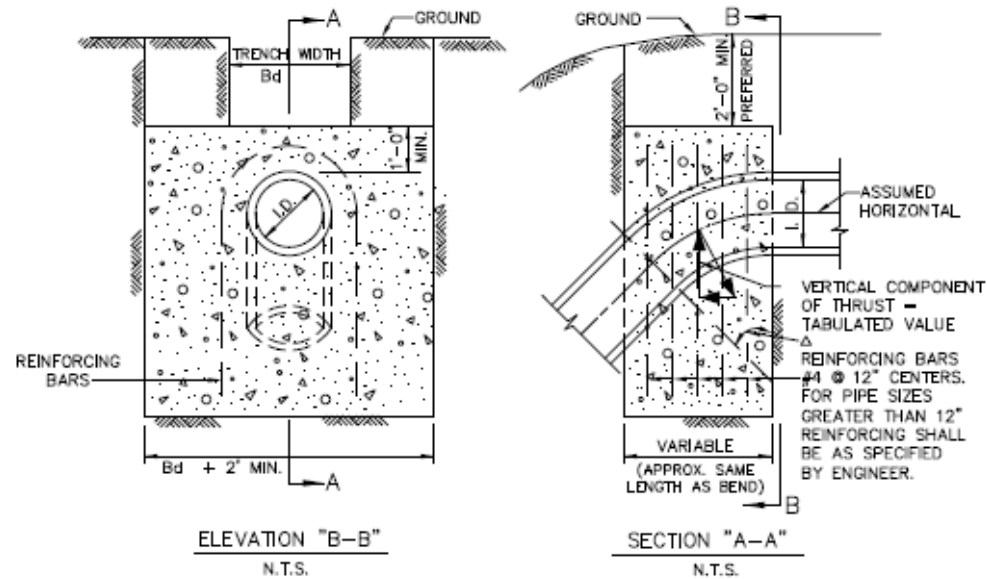
Show the restraint joint graphically

I.D. (IN.)	THRUST (TONS)	C (FT.)	EARTH		ROCK	
			A (FT.)	VOL (C.Y.)	A (FT.)	VOL (C.Y.)
4,6,8	5.1	1.5	2.5	0.3	2.0	0.2
10,12	11.3	1.5	3.5	0.6	2.5	0.3
16,18	25.5	2.0	5.5	1.6	4.0	0.9
20	31.5	2.0	6.0	1.9	4.0	0.9
24	45.2	2.5	7.0	3.1	5.0	1.7
30	53.0	3.0	7.5	4.1	5.5	2.4
36	76.3	4.0	9.0	7.3	6.5	4.2
42	104.0	4.5	10.5	11.0	7.5	6.2
48	136.0	5.0	12.0	15.6	8.5	8.7
54	172.0	5.5	13.5	21.4	9.5	11.9
60	212.0	6.0	15.0	28.4	10.5	15.7
66	257.0	6.5	16.5	36.8	11.5	20.5
72	305.0	7.5	17.5	47.2	12.5	27.2
78	358.0	8.0	19.0	58.9	13.5	33.7
84	416.0	8.5	20.5	72.3	14.5	41.2
90	477.0	9.0	22.0	87.7	15.5	49.7
96	543.0	9.5	23.5	104.8	16.5	61.0

HORIZONTAL THRUST BLOCK
AT TEES AND PLUGS




STANDARD SPECIFICATION REFERENCE
502.4
DATE
OCT. '04
STANDARD DRAWING NO.
4020



REFER TO
STD. DWG. No. 4040
FOR GENERAL NOTES.

Revisit when the Subcommittee looks at pipe lowering

Δ →	11.25'		22.50'		30'		45'		67.50'		90'		← Δ
I.D. (IN.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

VERTICAL THRUST BLOCK AT PIPE BEND		STANDARD SPECIFICATION REFERENCE	
		502.4	
		DATE	STANDARD DRAWING NO.
		OCT. '04	4030

GENERAL NOTES FOR ALL THRUST BLOCKS:

1. CONCRETE FOR BLOCKING SHALL BE CLASS "B".
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 PSI FOR DUCTILE IRON, P.V.C., AND 150 PSI FOR CONCRETE PIPE.
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS "B") IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE VERTICAL BEND.
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
5. POUR CONCRETE FOR BLOCK AGAINST UNDISTURBED EARTH.
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
7. THE SOIL BEARING PRESSURES ARE BASED ON 1000 LBS./S.F. IN SOIL AND 2000 LBS./S.F. IN ROCK.
8. USE POLYETHYLENE WRAP OR EQUAL BETWEEN CONCRETE AND BEND, TEE, OR PLUG TO PREVENT THE CONCRETE FROM STICKING TO IT.
9. CONCRETE SHALL NOT EXTEND BEYOND JOINTS.

10. Restrained joints and/or thrust blocking shall be used to resist thrust forces at all fittings. If used in lieu of thrust blocking, restrained length shall be calculated in accordance with AWWA xxx

11. If adding sacrificial anode detail: Sacrificial anodes can be added to fittings as directed by owner and/or engineer.

Add a note about using a zinc pad or cap. The City of Coppel's drawing 4050 points to the zinc cap and joint restraint.

With approval of City Engineer, thrust blocking may be removed with restrained joint.

THRUST BLOCK

GENERAL NOTES

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

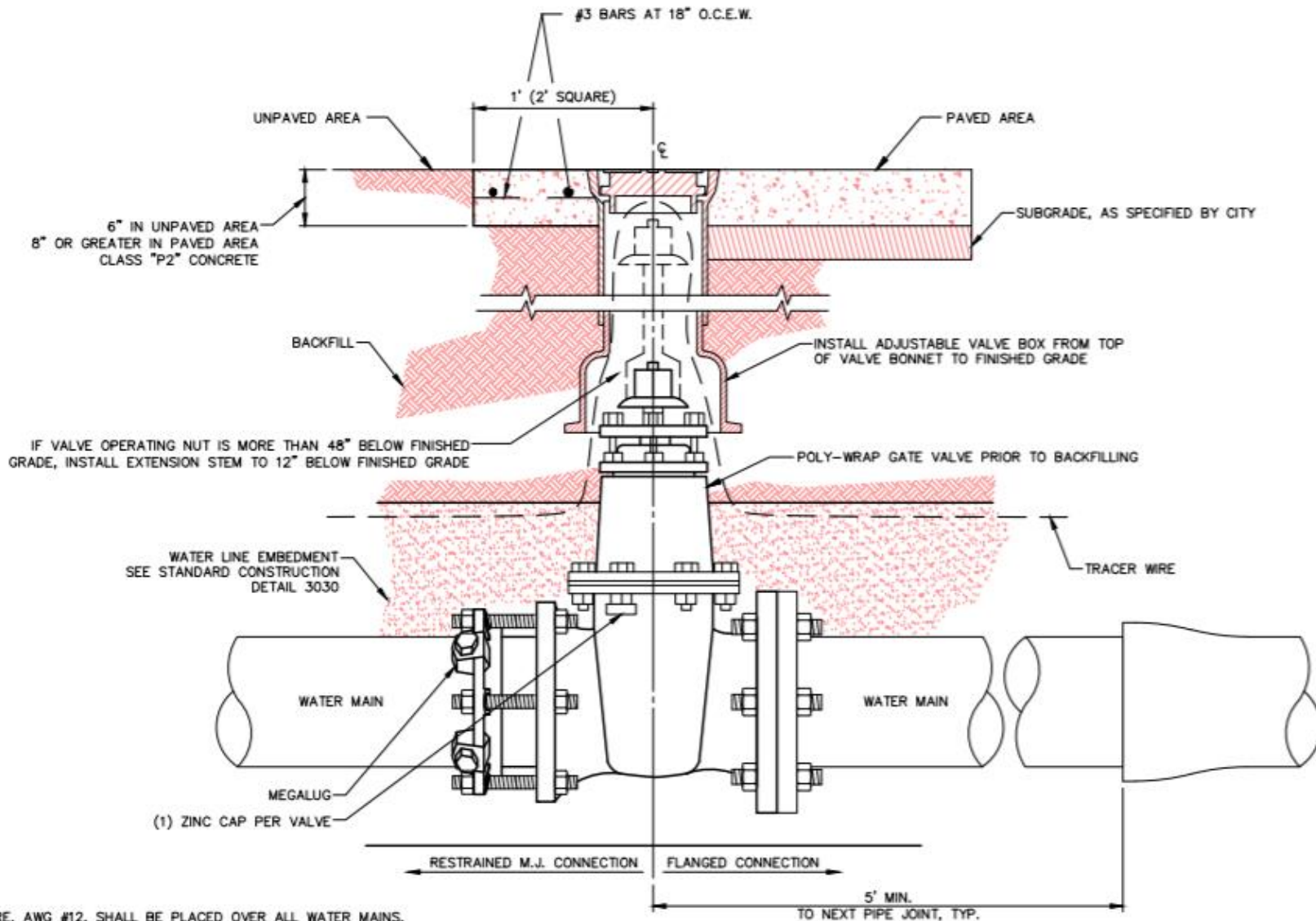
502.4

DATE

OCT. '04

STANDARD DRAWING NO.

4040



NOTES:

1. BLUE TRACER WIRE, AWG #12, SHALL BE PLACED OVER ALL WATER MAINS.
2. IDENTIFY VALVE LOCATION PER STANDARD CONSTRUCTION DETAIL 4220.

GATE VALVE, VALVE BOX AND EXTENSION STEM
N.T.S.

North Central Texas Council of Governments



NOTE: STANDARDS ARE ADOPTED FROM THE NCTCG STANDARD DRAWINGS DATED NOV. '96, WITH LOCAL EXCEPTIONS.

P:\Std - Standards - Details View - Det - mod\Std - Det - mod\Coppel\2005.dwg

NO.	LOCAL EXCEPTION	BY	DATE
		SWL	JUL '14



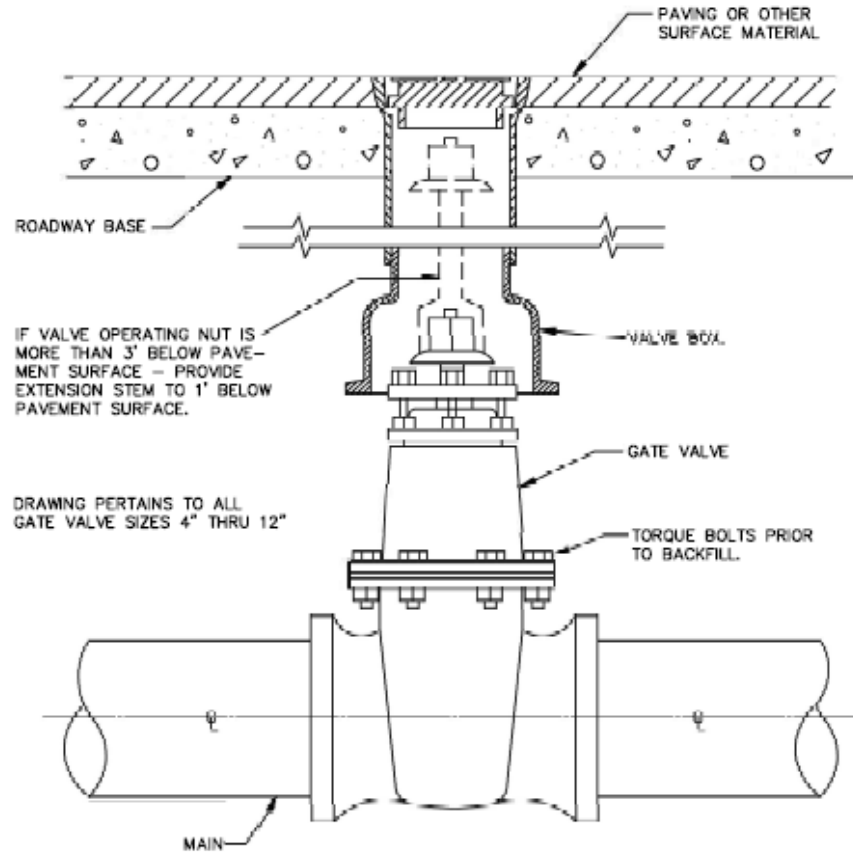
STANDARD CONSTRUCTION DETAILS
VERTICAL GATE VALVE - 16" AND SMALLER
INSTALLATION

CITY OF COPPELL DALLAS COUNTY, TEXAS

STD. SPEC. REFERENCE
303., 502.
STANDARD DETAIL
4050

NOTE:

IN UNPAVED AREAS, INSTALL 2' x 2' x 6" CONCRETE VALVE PAD FLUSH WITH THE TOP OF VALVE BOX. REINFORCE WITH #3 BARS ON 6" CENTERS BOTH WAYS.



GATE VALVE BOX AND
EXTENSION STEM

N.T.S.

16"

Polywrap the gate valve

Include the mechanical joint restraint

Include tracer wire

Include the zinc nut/pad

GATE VALVE 4" TO ~~12"~~

BOX & EXTENSION STEM

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

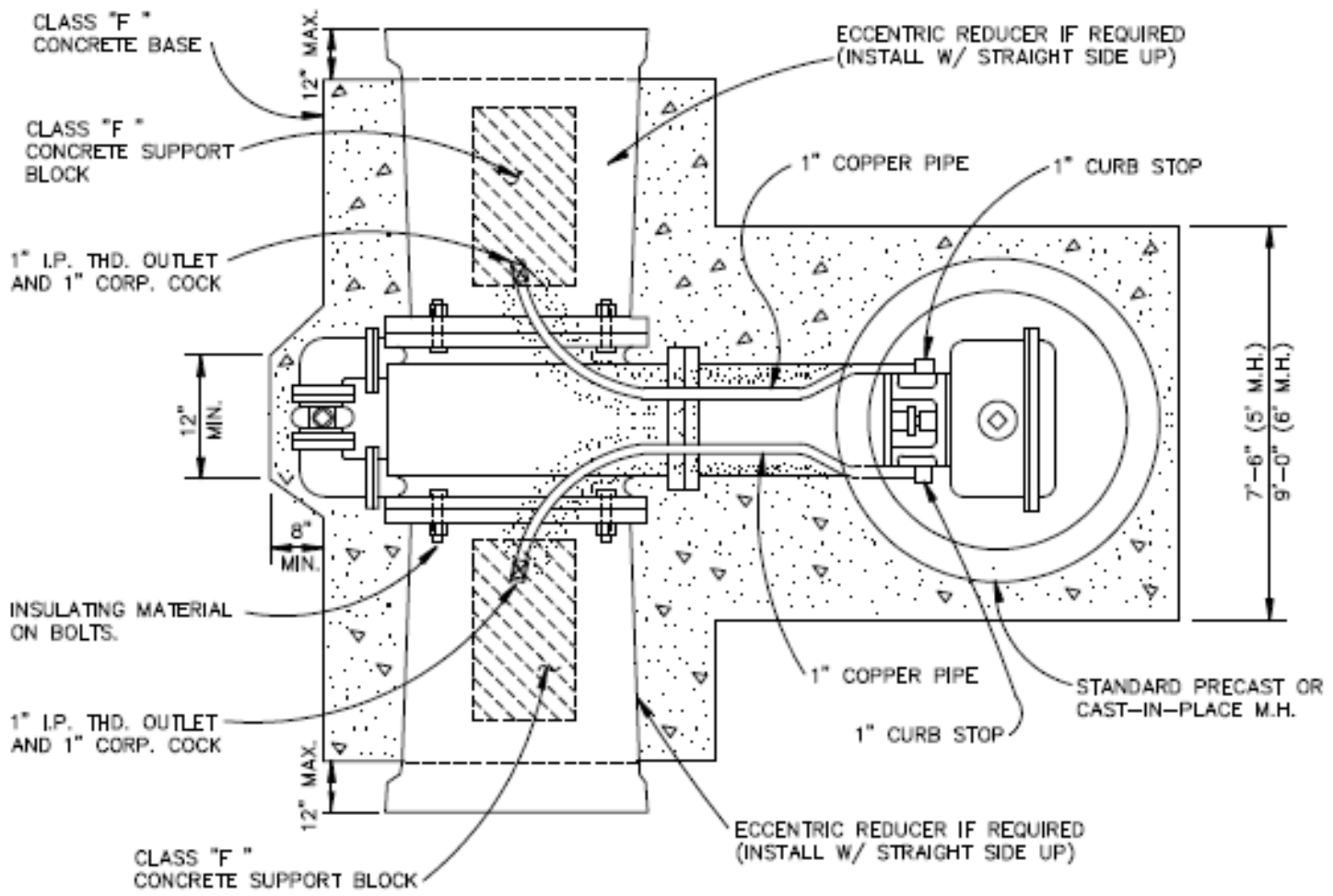
502.6.6*

DATE

OCT. '04

STANDARD DRAWING NO.

4050



PLAN
N.T.S.

STANDARD DRAWING NO.
4060A

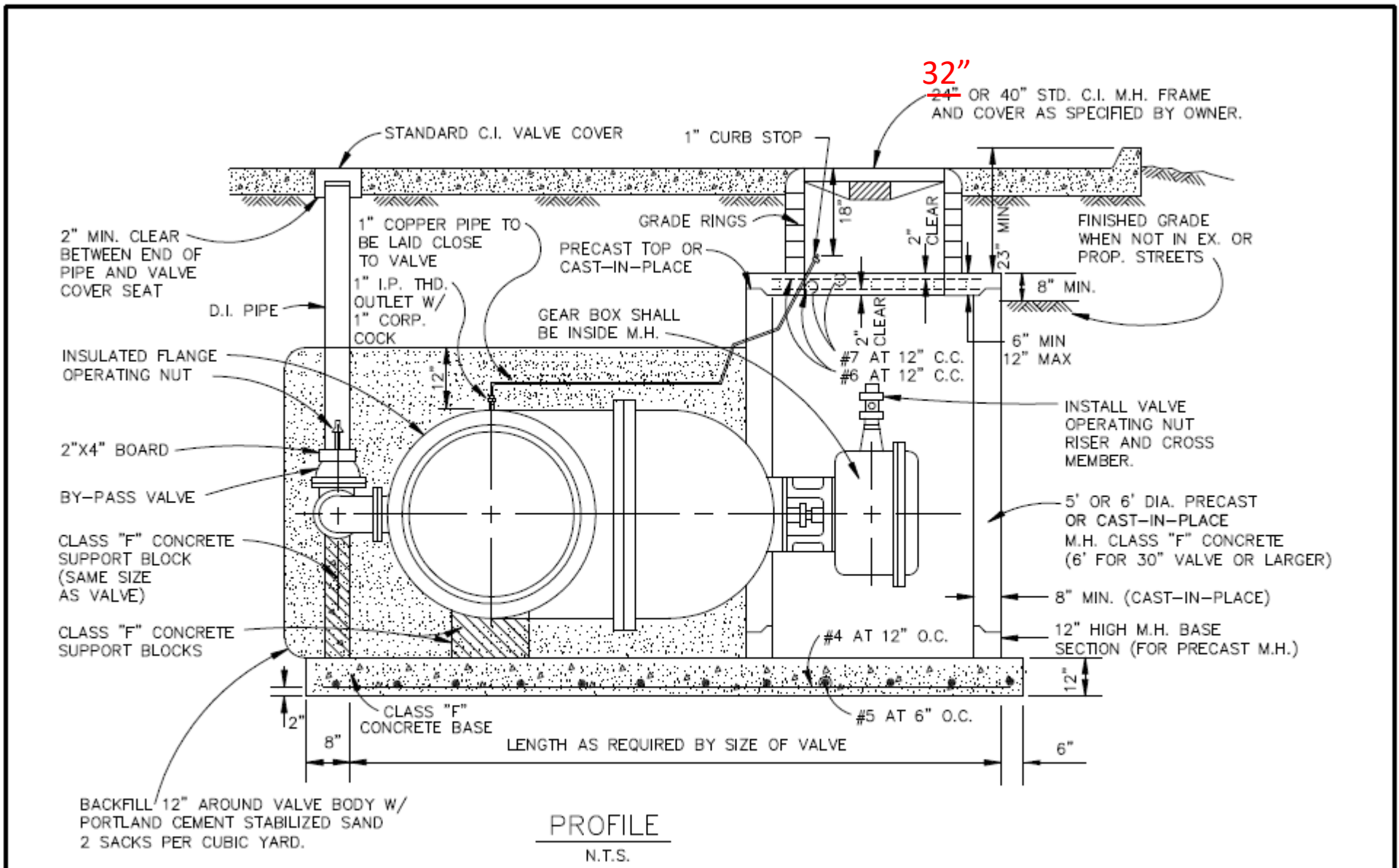
VAULT CONSTRUCTION
HORIZONTAL GATE VALVE $\geq 16"$



STANDARD SPECIFICATION REFERENCE	
702.5.8.8*	
DATE	STANDARD DRAWING NO.
OCT. '04	4060A

Dallas uses
horiz. gate valve
for 18"-36"
then uses
butterfly for
everything
bigger

Manhole frame
and cover should
be 30" instead of
24"



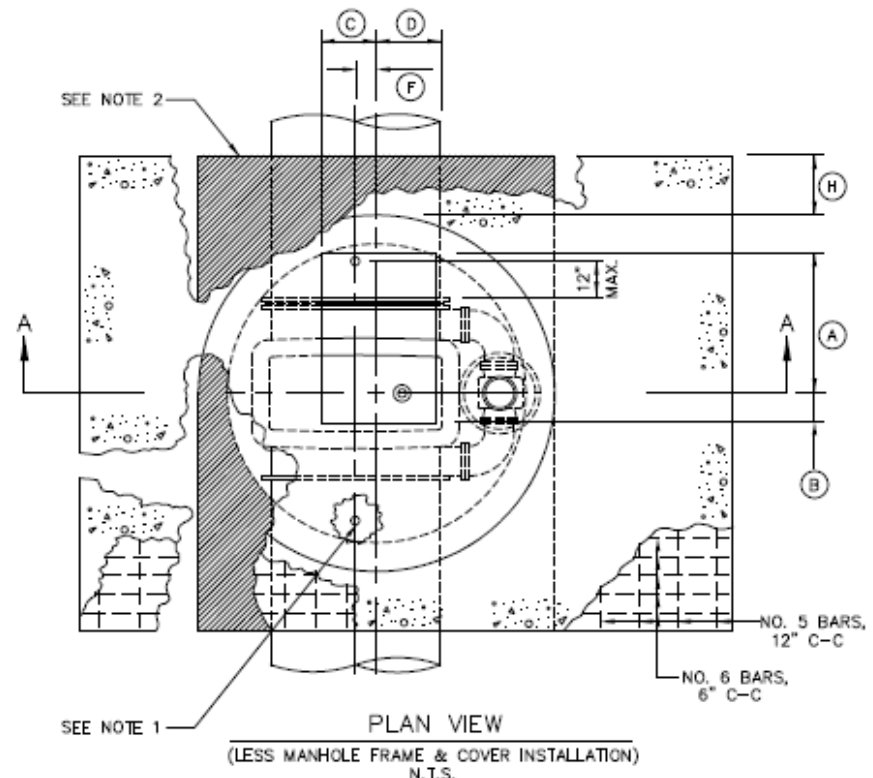
for a deep fault show struts that hold it

STANDARD DRAWING NO.
4060B

VAULT CONSTRUCTION
HORIZONTAL GATE VALVE $\geq 16"$



STANDARD SPECIFICATION REFERENCE 702.5.8.8*	
DATE OCT. '04	STANDARD DRAWING NO. 4060B



PLAN VIEW
(LESS MANHOLE FRAME & COVER INSTALLATION)
N.T.S.

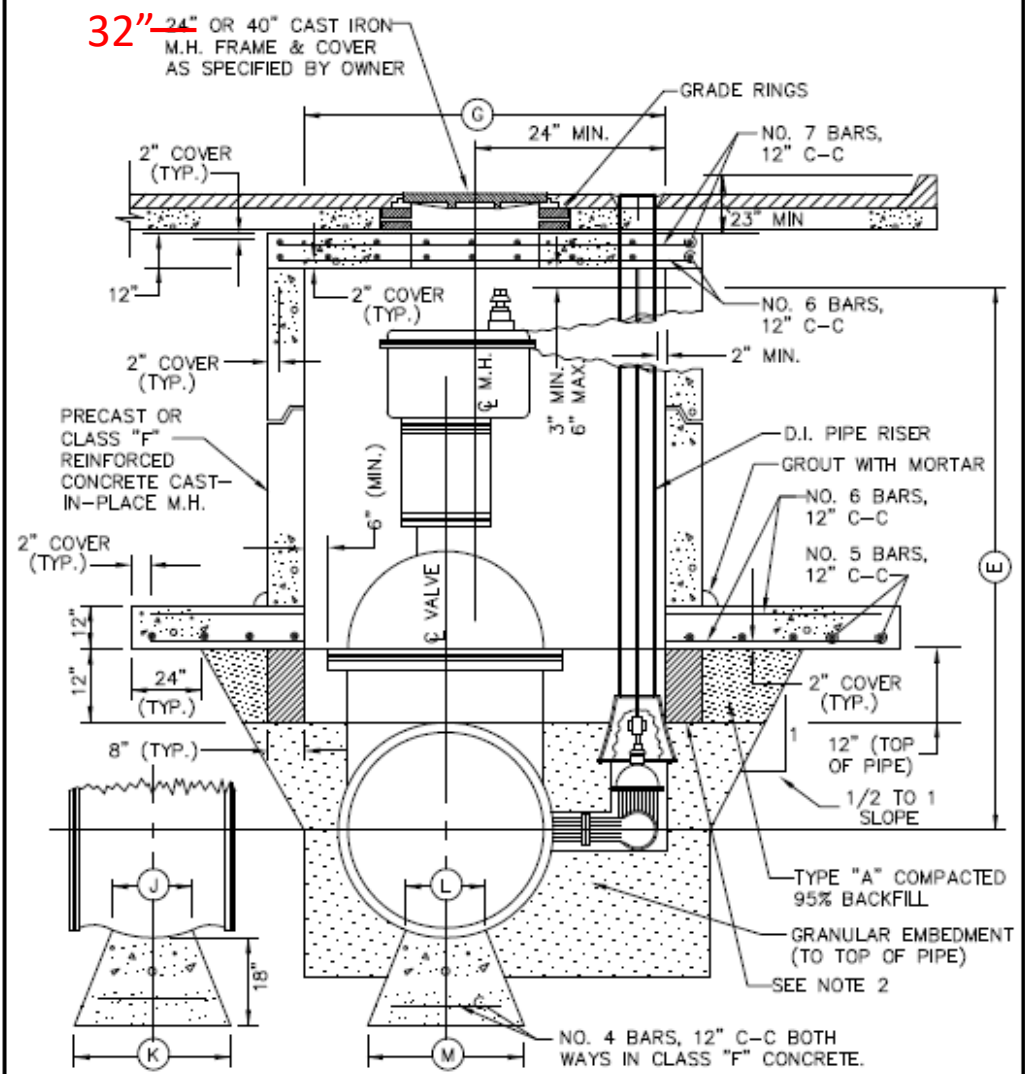
GATE VALVE SIZE	DIMENSION TABLE											
	A	B	C	D	E	F	G*	H	J	K	L	M
16"	20"	20"	12"	12"	44 1/2"	1"	48"	12"	10"	24"	12"	16"
18"	20"	20"	12"	12"	51 3/8"	2"	48"	12"	12"	24"	12"	18"
20"	22"	18"	12"	12"	56 5/8"	1"	54"	12"	12"	24"	16"	20"
24"	26"	14"	12"	12"	64 3/8"	1"	60"	18"	14"	30"	18"	24"
30"	28"	12"	12"	12"	80 5/8"	3"	66"	18"	18"	30"	20"	30"
36"	32"	8"	12"	12"	90 1/16"	4"	72"	18"	18"	36"	24"	36"
42"	34"	6"	15"	9"	107 3/4"	5"	78"	24"	20"	36"	30"	42"
48"	36"	4"	14"	10"	121 5/8"	4"	90"	24"	26"	42"	36"	48"
54"	36"	4"	9"	15"	142 1/2"	3"	102"	24"	32"	46"	40"	54"

- NOTES:
1. PROVIDE CORPORATION AND CURB STOPS A MAXIMUM OF 12" FROM EACH END OF GATE VALVE, AS SHOWN. CORPORATION AND CURB STOP SIZES SHALL BE 1" FOR 16", 20", AND 24" NOMINAL PIPE DIAMETERS; 2" FOR 30" AND LARGER DIAMETERS. 2" TAPS SHALL BE MADE AS A 2" FLANGED OUTLET WITH INSULATED ADAPTOR KIT. COPPER RISERS SHALL BE PROVIDED BETWEEN THE CORPORATION AND CURB STOPS. CURB STOPS SHALL BE INSTALLED AT AN ELEVATION 12" ABOVE THE TOP SURFACE OF VAULT BOTTOM SLAB.
 2. POLYURETHANE CUSHION PAD.

Revise G to readily made precast dimensions only. i.e. 48", 60", 72", 84", 96", & 120"


*3. Standard precast dimensions may be used with approval of the owner and may require an increase in size to the next readily available precast dimension

VAULT CONSTRUCTION	North Central Town Council of Governments	STANDARD SPECIFICATION REFERENCE
VERTICAL GATE VALVE ≥ 16"		702.5*
		DATE: OCT. '04
		STANDARD DRAWING NO. 4070A

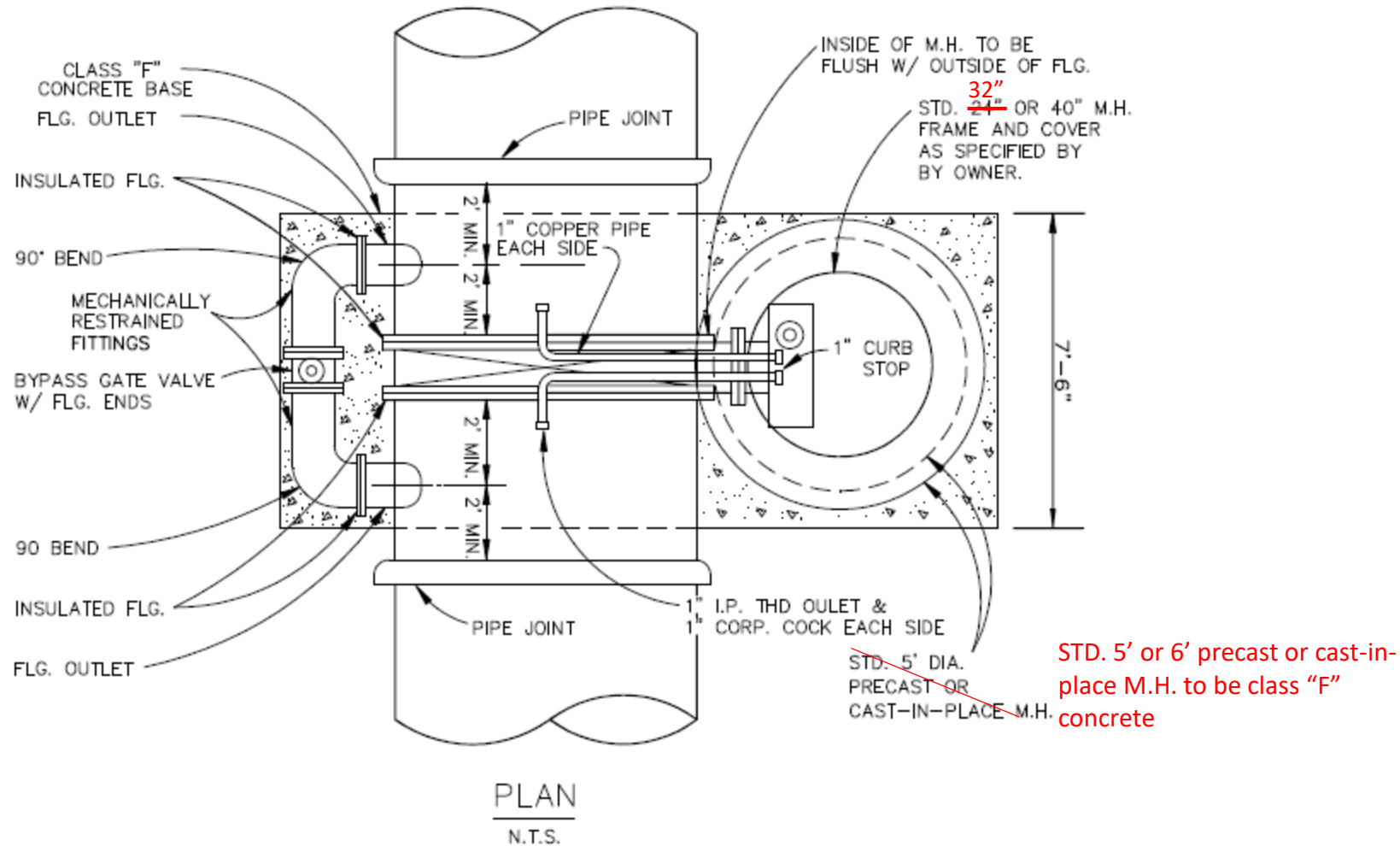


Dallas: This is an unusual installation; Arlington has good examples.

REFER TO STD. DWG. 4070A FOR DIMENSION TABLE AND GENERAL NOTES.

VAULT CONSTRUCTION		North Central Texas Council of Governments		STANDARD SPECIFICATION REFERENCE 702.5 *	
VERTICAL GATE VALVE ≥ 16"				DATE	STANDARD DRAWING NO.
				OCT. '04	4070B

Dallas: On bypass the flanges that come off have 2 FLGs and there should be a T on it



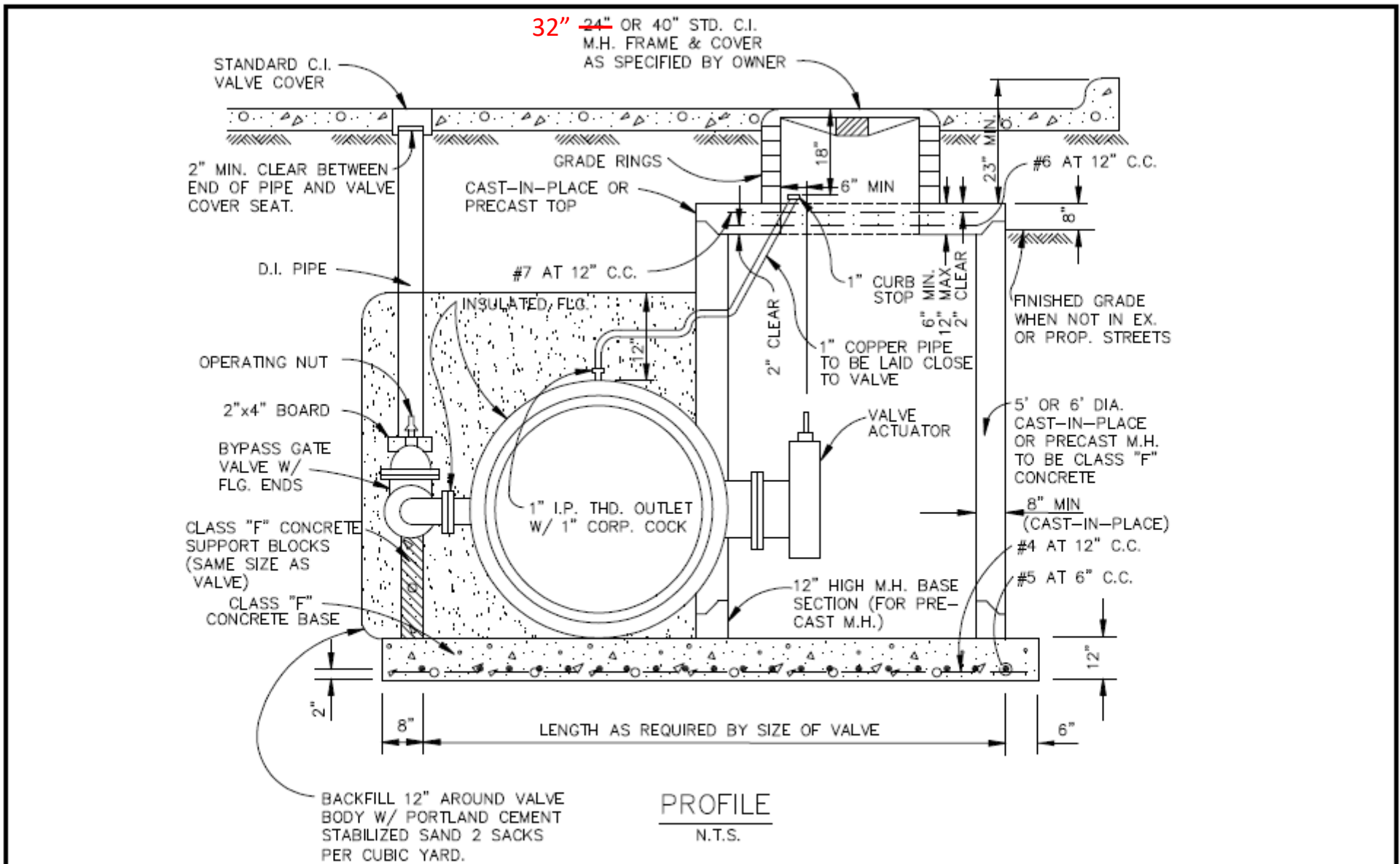
STANDARD DRAWING NO.
 4080A

VAULT CONSTRUCTION
 BUTTERFLY VALVE $\geq 48"$



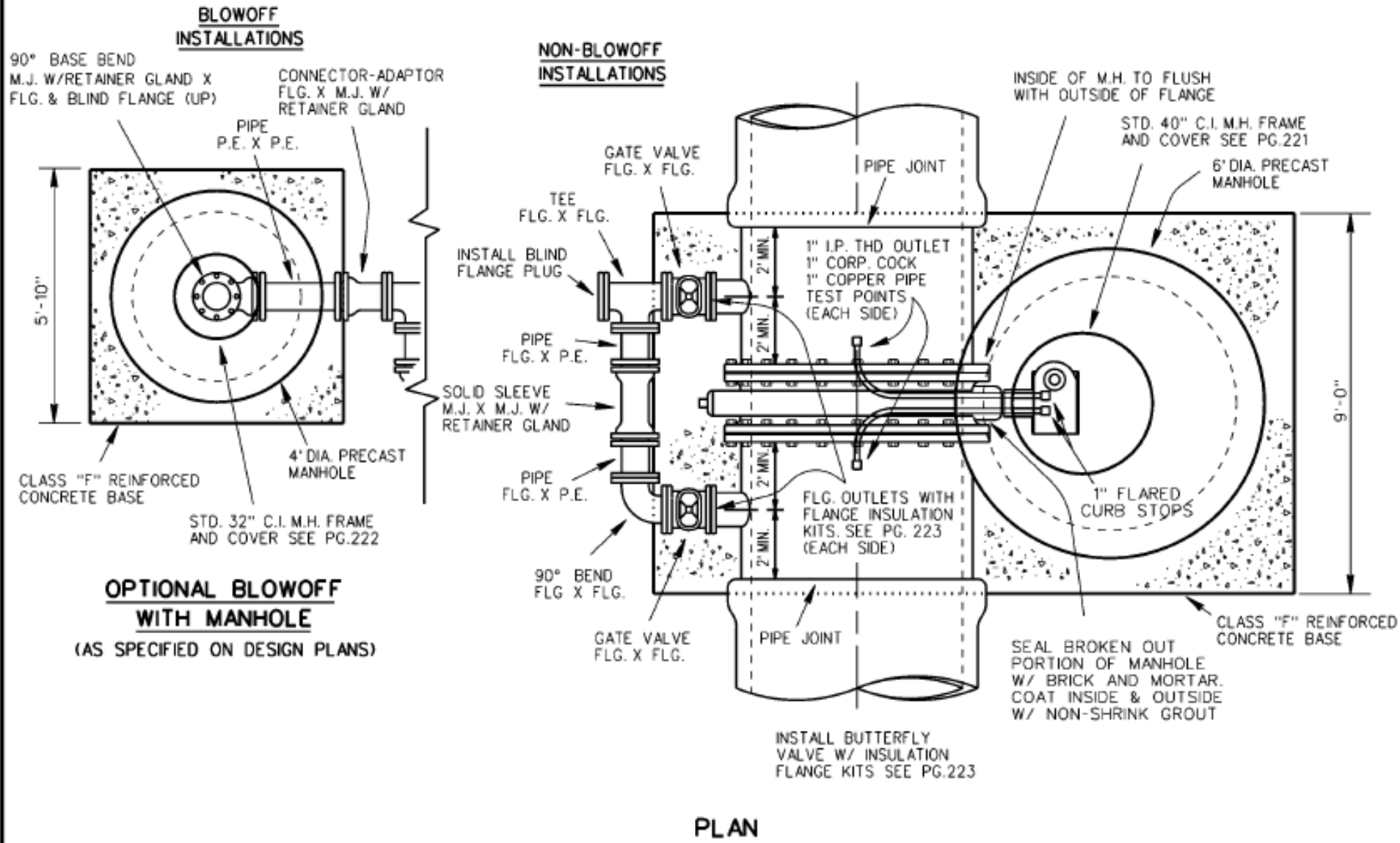
STANDARD SPECIFICATION REFERENCE
 702.5 *
 DATE OCT. '04
 STANDARD DRAWING NO. 4080A

Add operating nut bracing/riser detail like DWU 215 drawing



Dallas:
Dallas shows profile for the blowoff manhole. For big valves, their manhole goes to 40".

STANDARD DRAWING NO. 4080B	VAULT CONSTRUCTION	North Central Texas Council of Governments 	STANDARD SPECIFICATION REFERENCE 702.5 *	
	BUTTERFLY VALVE \geq 48"		DATE OCT. '04	STANDARD DRAWING NO. 4080B

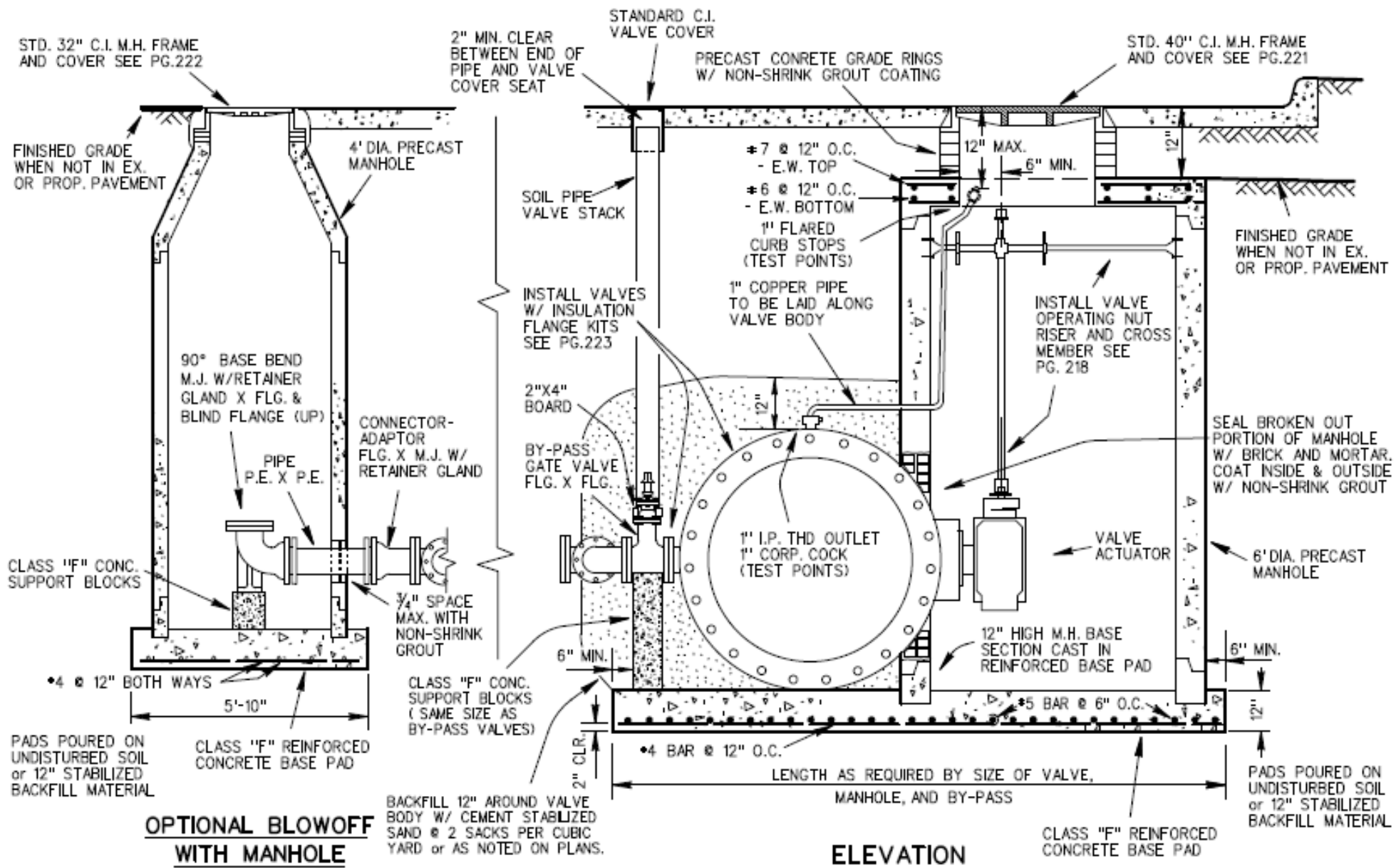


REFER TO GENERAL NOTES
FOR LARGE VALVES WITH
MANHOLES - PAGE 216

**BUTTERFLY VALVE
WITH MANHOLE INSTALLATION**

DWU		214
DATE		
OCT.2009		

(Page No.)



OPTIONAL BLOWOFF WITH MANHOLE

(AS SPECIFIED ON DESIGN PLANS)

ELEVATION

REFER TO GENERAL NOTES FOR LARGE VALVES WITH MANHOLES - PAGE 216

BUTTERFLY VALVE WITH MANHOLE INSTALLATION

DWU	(Page No.) 215
	DATE OCT. 2015

AIR VALVE	BRASS WHEEL VALVE	VENT PIPE
2"	2"	2"

2" Copper compression joints or flair fittings

Flaired or compression connection to corp. stop

~~2" COPPER SOLDER JOINT ELL~~

~~SOLDER-OSIP COUPLING~~

~~I.P.-I.P. CORP. STOP~~

PAVEMENT

RISING GRADE

WATER MAIN

30"
STD. 24" C.I. M.H. FRAME AND COVER
Show concrete pad from the note

THIS RISER SHALL BE AS NEAR AS PRACTICAL TO R.O.W. LINES, AT LEAST 6' BEYOND SHOULDER OF ROAD

SEE AIR VENT ON STANDARD DRAWING NO. 4100B.

HEIGHT TO BE DETERMINED BY OWNER

PUSH-ON JOINT/ COUPLING AT GROUND LEVEL

1/4" X 3/4" GALVANIZED STRAPS DRILLED TO D.I. PIPE

4" D.I. PIPE FILLED WITH CONCRETE. 3' MIN. BURY DEPTH

GALVANIZED IRON AIR VENT PIPE

BOLTED CAST COUPLING

4' DIA. PRECAST CONC. M.H. CONE

BRASS WHEEL VALVE

COMBINATION AIR VALVE

FINE CRUSHED ROCK

COPPER TO IRON ELL

IRON TO IRON COUPLING

PRECAST GRADE RINGS

IRON TO IRON COUPLING

3'-6"

GROUND LINE

1'-0"

MIN.

1'-0"

MIN.

~~8" BLIND FLANGE-DRILLED AND TAPPED FOR SIZE DESIGNATED ON PLANS~~

8" blind flange- add tapping saddle as approved by owner

TYPE "1" AIR VALVE
N.T.S.

NOTE:

WHEN NOT IN PAVING OR WALK, A CONCRETE PAD, REINFORCED W/ #3 BARS AT 12" C-C EACH WAY, SHALL EXTEND A MINIMUM OF 2' AROUND THE M.H. AND VENT PIPE, AND SHALL BE A MINIMUM OF 4" THICK.

Show 28"X18" meter box but add comment "meter box or manhole as approved or specified by owner."

2. Alternate AWWA approved material may be substituted as approved by owner for fittings

STANDARD DRAWING NO. 4090

COMBINATION AIR VACUUM VALVE

TYPE "1"

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

502.6.6*

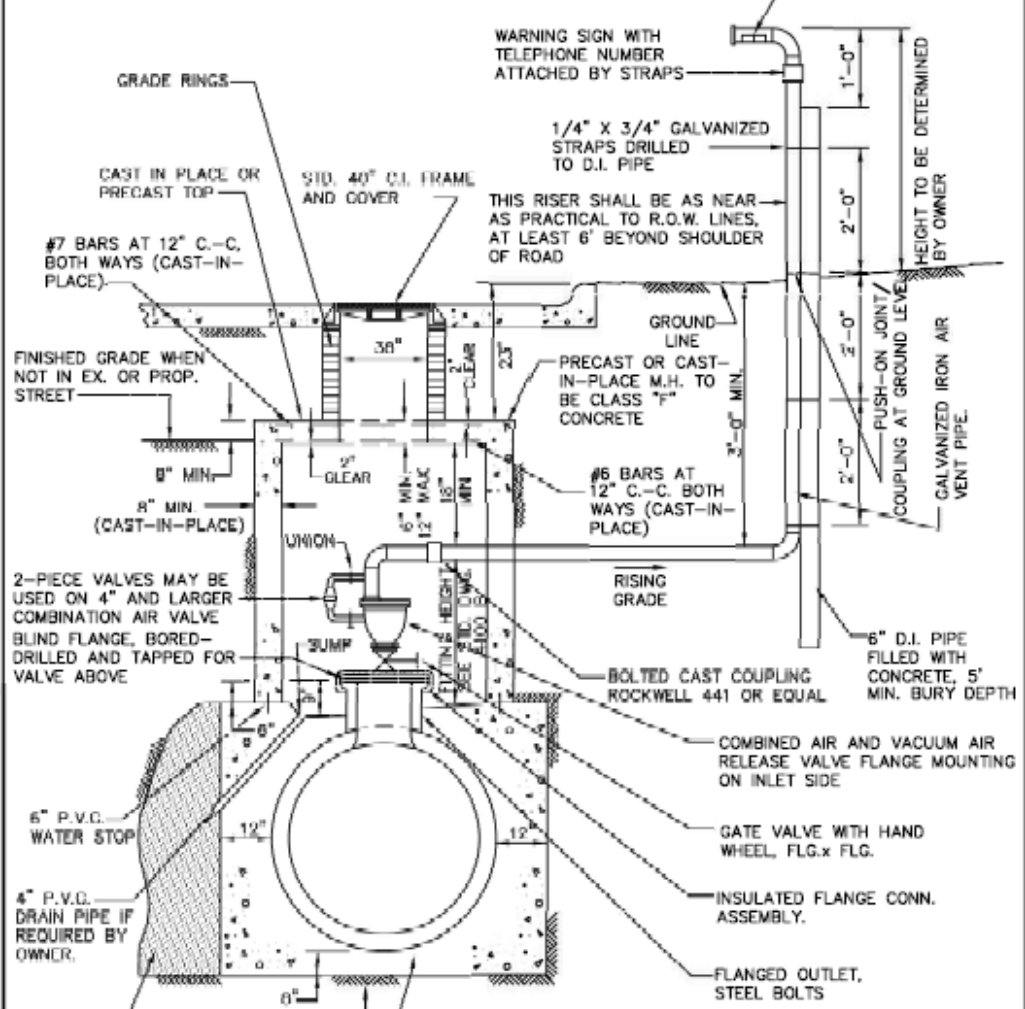
DATE

OCT. '04

STANDARD DRAWING NO.

4090

NOTE:
 WHEN NOT IN PAVING OR WALK, A CONCRETE PAD REINFORCED W/ #3 BARS AT 12" C-C EACH WAY, SHALL EXTEND A MINIMUM OF 2' AROUND THE M.H. AND VENT PIPE, AND SHALL BE A MINIMUM OF 4" THICK.



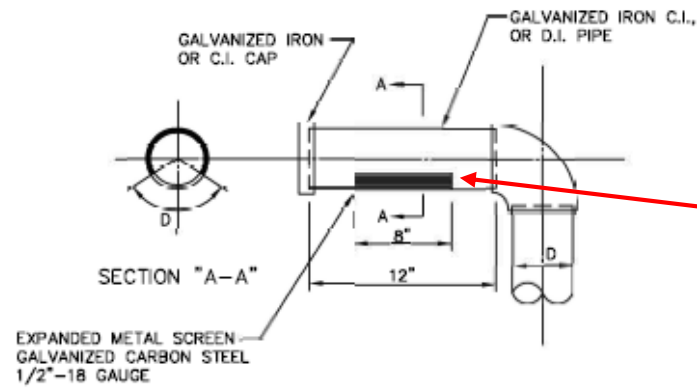
Show concrete pad from the note

NOTE:
 ON 4" AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED INTO THE SIDE OF THE LARGER VENT PIPE THAT GOES ABOVE GROUND.

TYPE "2" AIR VALVE
 N.T.S.

2. Alternate AWWA approved material may be substituted as approved by owner for fittings

COMBINATION AIR VACUUM VALVE	North Central Texas Council of Governments	STANDARD SPECIFICATION REFERENCE
TYPE "2"		502.6.6*
		DATE
		OCT. '04
		STANDARD DRAWING NO.
		4100A



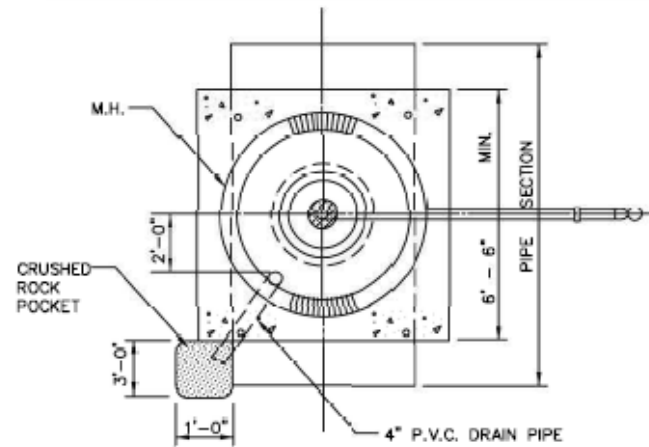
TexasBit: get very difficult to supply and usually never ship above 2" diameter

AIR VENT

N.T.S.

AIR VALVE	GATE VALVE	FLG. OUTLET	MIN. FITTING HEIGHT	VENT PIPE D	M.H. DIA.
2"	2"	8"	26"	2"	5'
3"	3"	18"	31"	3"	5'
4"	4"	18"	38"	4"	5'
6"	6"	18"	46"	6"	5'
8"	8"	18"	53"	8"	6'
10"	10"	20"	62"	10"	6'
12"	12"	24"	72"	12"	6'

Rename to "Air Vent Standard Dimension and Detail"



PLAN VIEW

N.T.S.

The Subcommittee discussed if there was an instance where the air valve is type 1 installation or type 2 and if 4090 needs its own detail for the vent.

AIR RELEASE VALVE
TYPE "2"

North Central Texas Council of Governments

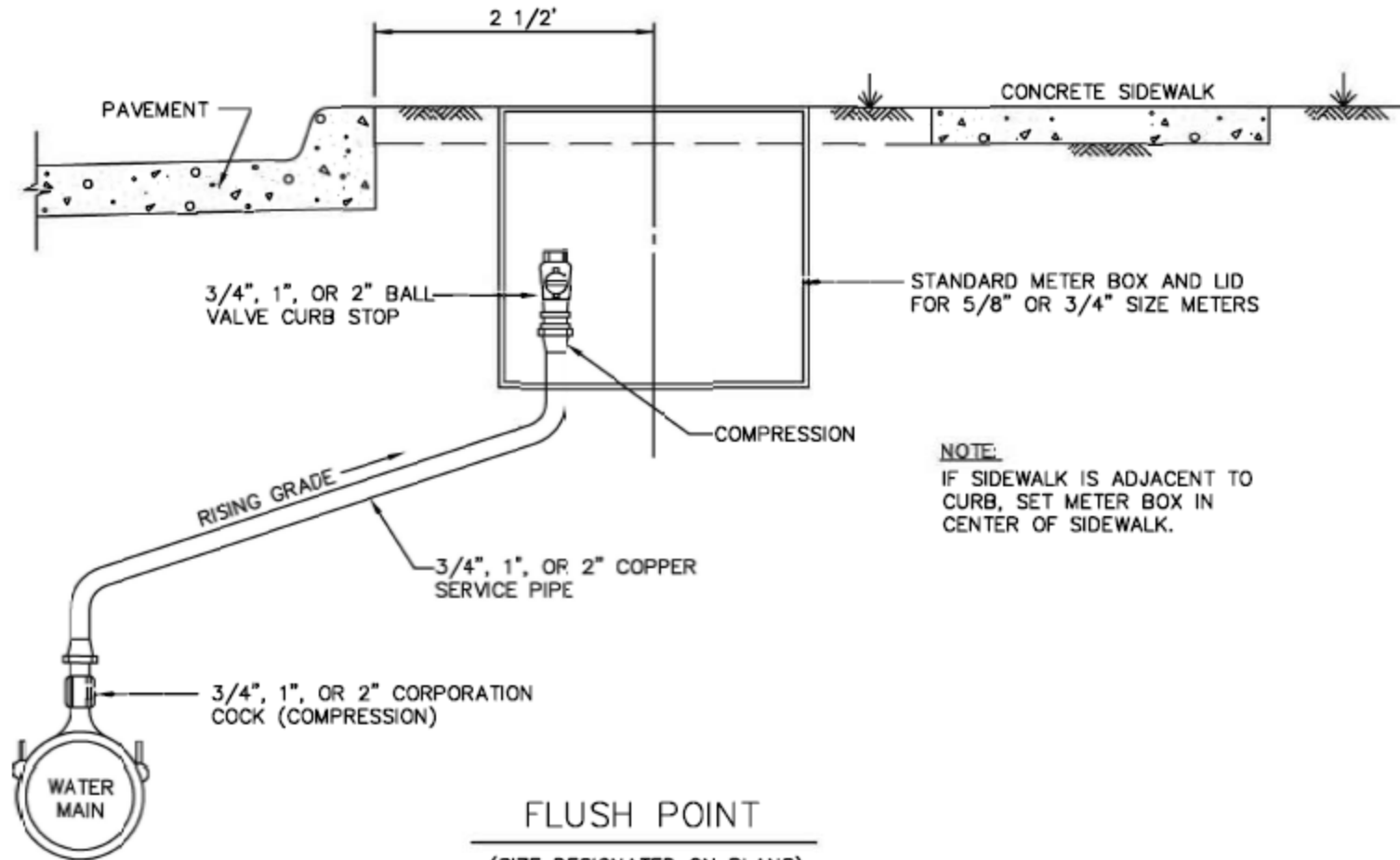


STANDARD SPECIFICATION REFERENCE

502.6.6*

DATE
OCT. '04

STANDARD DRAWING NO.
4100B

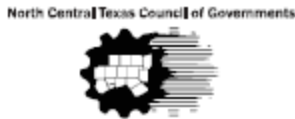


NOTE:
IF SIDEWALK IS ADJACENT TO CURB, SET METER BOX IN CENTER OF SIDEWALK.

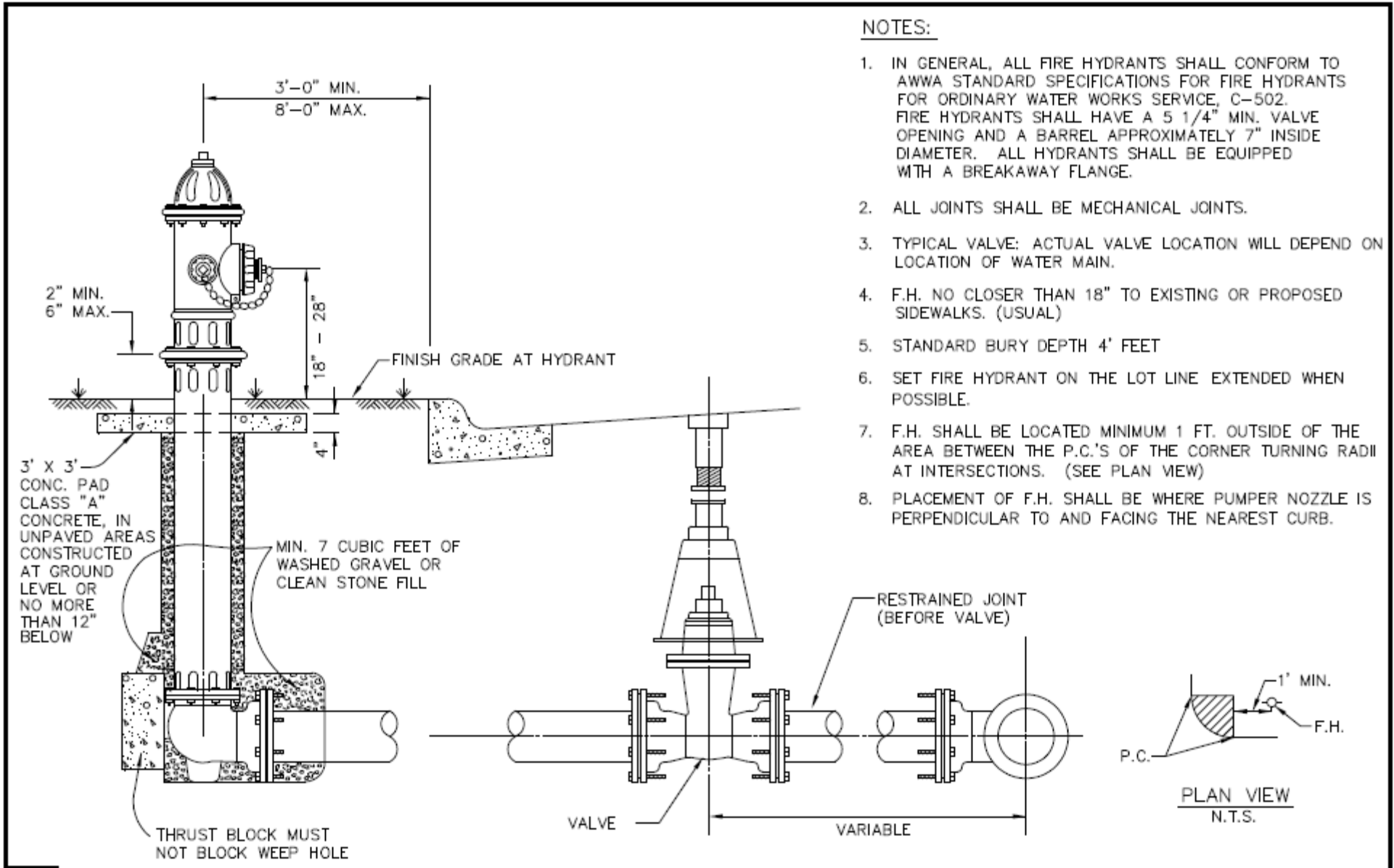
FLUSH POINT
(SIZE DESIGNATED ON PLANS)
N.T.S.

STANDARD DRAWING NO.
4110

FLUSH POINT INSTALLATION
TYPE "1"



STANDARD SPECIFICATION REFERENCE 502.10.3*	
DATE OCT. '04	STANDARD DRAWING NO. 4110



NOTES:

1. IN GENERAL, ALL FIRE HYDRANTS SHALL CONFORM TO AWWA STANDARD SPECIFICATIONS FOR FIRE HYDRANTS FOR ORDINARY WATER WORKS SERVICE, C-502. FIRE HYDRANTS SHALL HAVE A 5 1/4" MIN. VALVE OPENING AND A BARREL APPROXIMATELY 7" INSIDE DIAMETER. ALL HYDRANTS SHALL BE EQUIPPED WITH A BREAKAWAY FLANGE.
2. ALL JOINTS SHALL BE MECHANICAL JOINTS.
3. TYPICAL VALVE: ACTUAL VALVE LOCATION WILL DEPEND ON LOCATION OF WATER MAIN.
4. F.H. NO CLOSER THAN 18" TO EXISTING OR PROPOSED SIDEWALKS. (USUAL)
5. STANDARD BURY DEPTH 4' FEET
6. SET FIRE HYDRANT ON THE LOT LINE EXTENDED WHEN POSSIBLE.
7. F.H. SHALL BE LOCATED MINIMUM 1 FT. OUTSIDE OF THE AREA BETWEEN THE P.C.'S OF THE CORNER TURNING RADI AT INTERSECTIONS. (SEE PLAN VIEW)
8. PLACEMENT OF F.H. SHALL BE WHERE PUMPER NOZZLE IS PERPENDICULAR TO AND FACING THE NEAREST CURB.

STANDARD DRAWING NO.
4120

FIRE HYDRANT
INSTALLATION

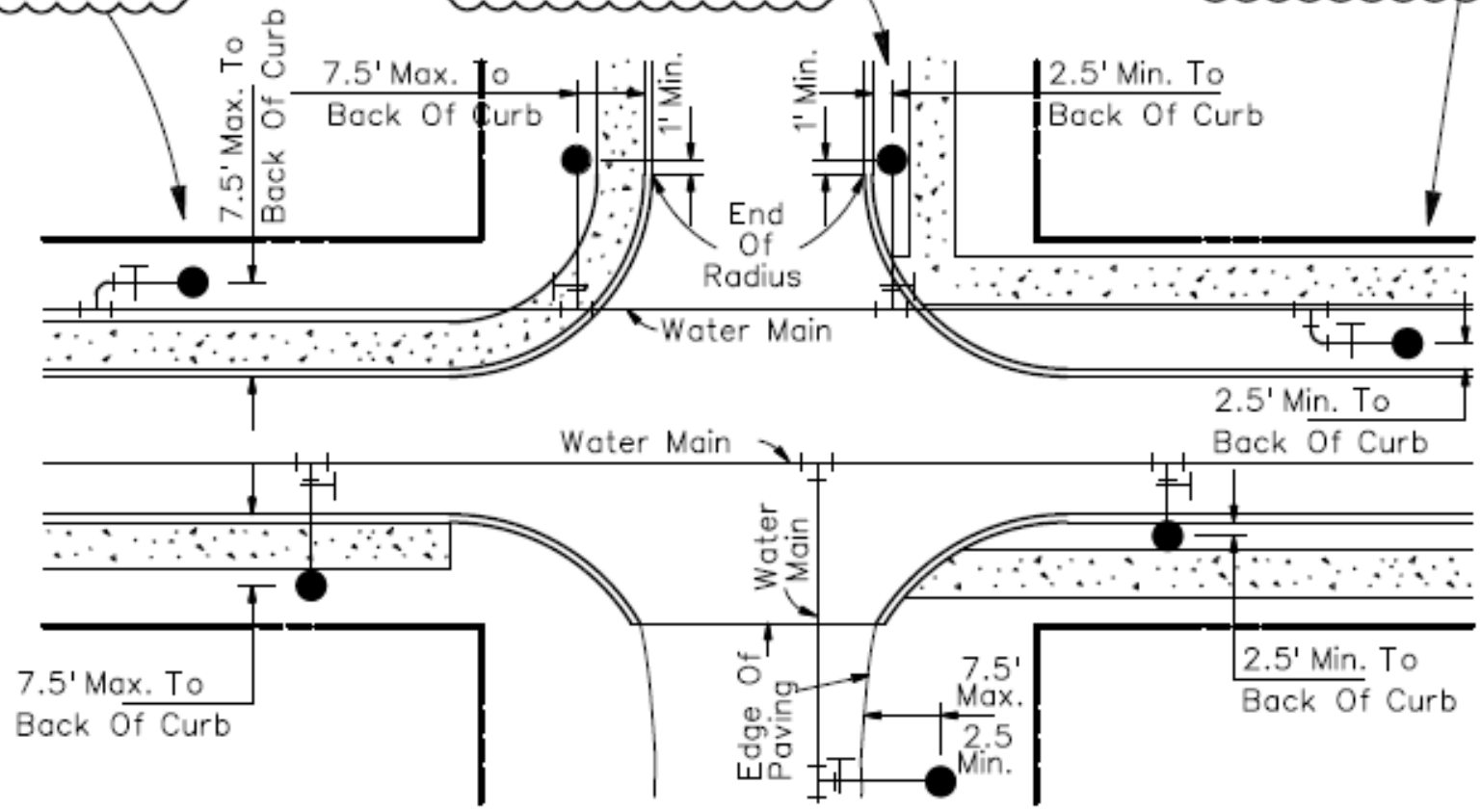


STANDARD SPECIFICATION REFERENCE 502.3	
DATE OCT. '04	STANDARD DRAWING NO. 4120

Install:
 1 - ? x 6" F.H. Tee
 1 - 6" Valve
 1 - F.H.

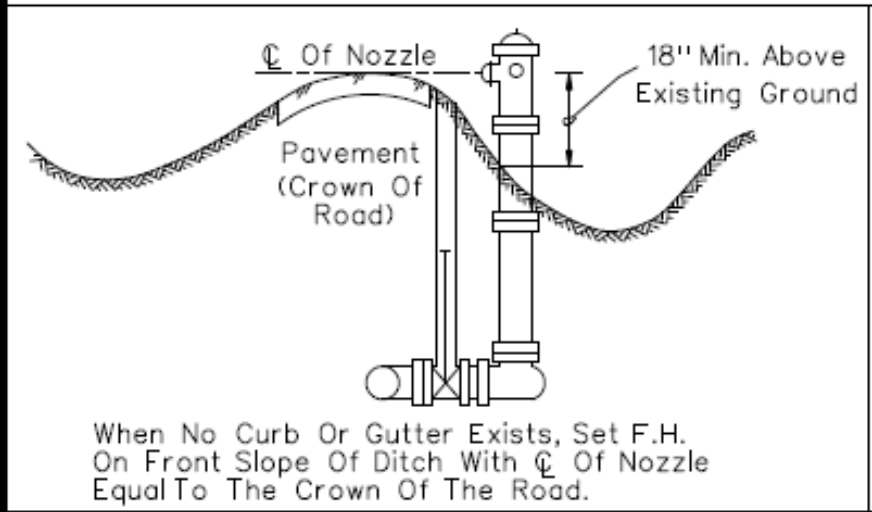
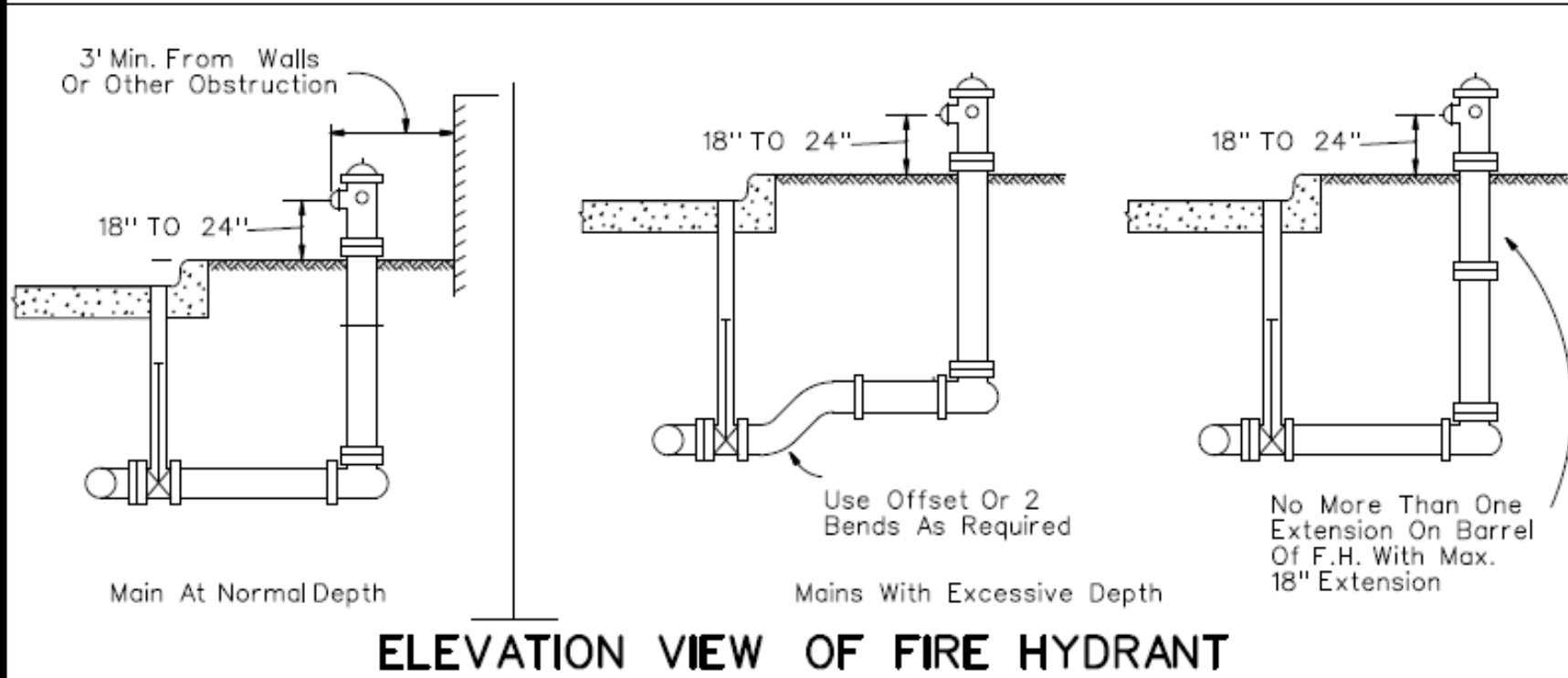
Install:
 1 - ? x 6" Tee, B.B.F.
 1 - 6" Valve, F.M.J.
 1 - F.H.

Install:
 1 - ? x 6" Tee, B.B.F.
 1 - 6" 90° Bend
 1 - 6" Valve, F.M.J.
 1 - F.H.



METHODS FOR SETTING FIRE HYDRANTS

DWU	(PAGE NO.) 224
DATE OCT. 2011	

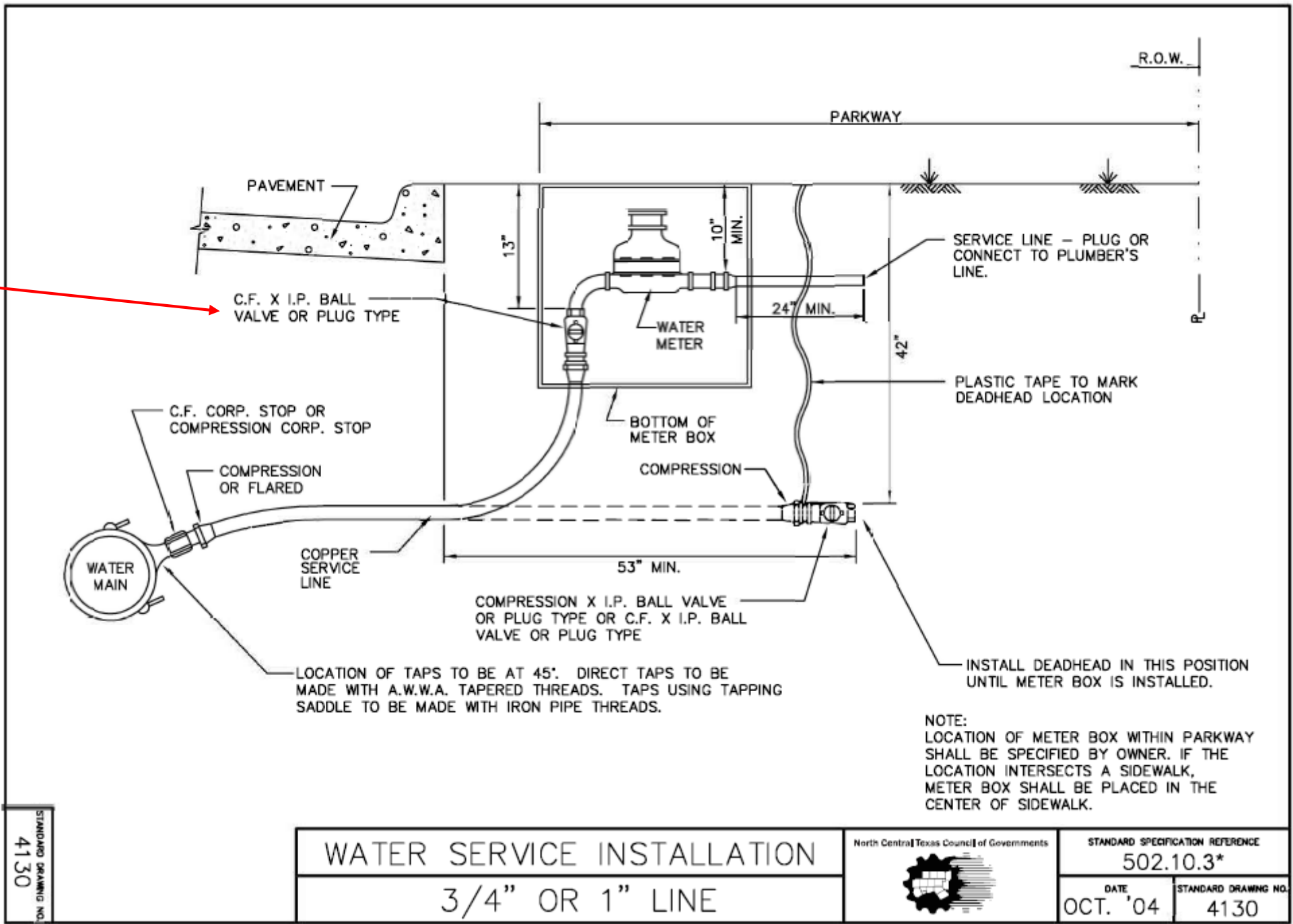


GENERAL NOTES

- ☉ Of F.H. Barrel Shall Not Be Less Than 2.5 Or More Than 7.5 From Back Of Curb Or Edge Of Pavement.
- Do Not Set F.H. In An Existing Or Proposed Sidewalk, Unless Otherwise Noted.
- All Tees For F.H.s Must Provide Secure Anchoring From The Main To F.H. Valves
- Set F.H. On The Lot Line Extended When Possible.
- On Private Contracts, The Developer's Engineer Will Stake Location & Grade, Must Still Meet DWU Requirements.
- Never Place F.H. Where Fire Truck Could Not Park Beside It.

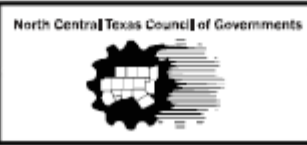
<h2>METHODS FOR SETTING FIRE HYDRANTS</h2>	DWU	(PAGE NO.) 224
	DATE OCT. 2011	

TexasBit:
eliminate
additional
pieces and
use Ball or
Key Valve
Angle Stop
compression
x meter
swivel nut



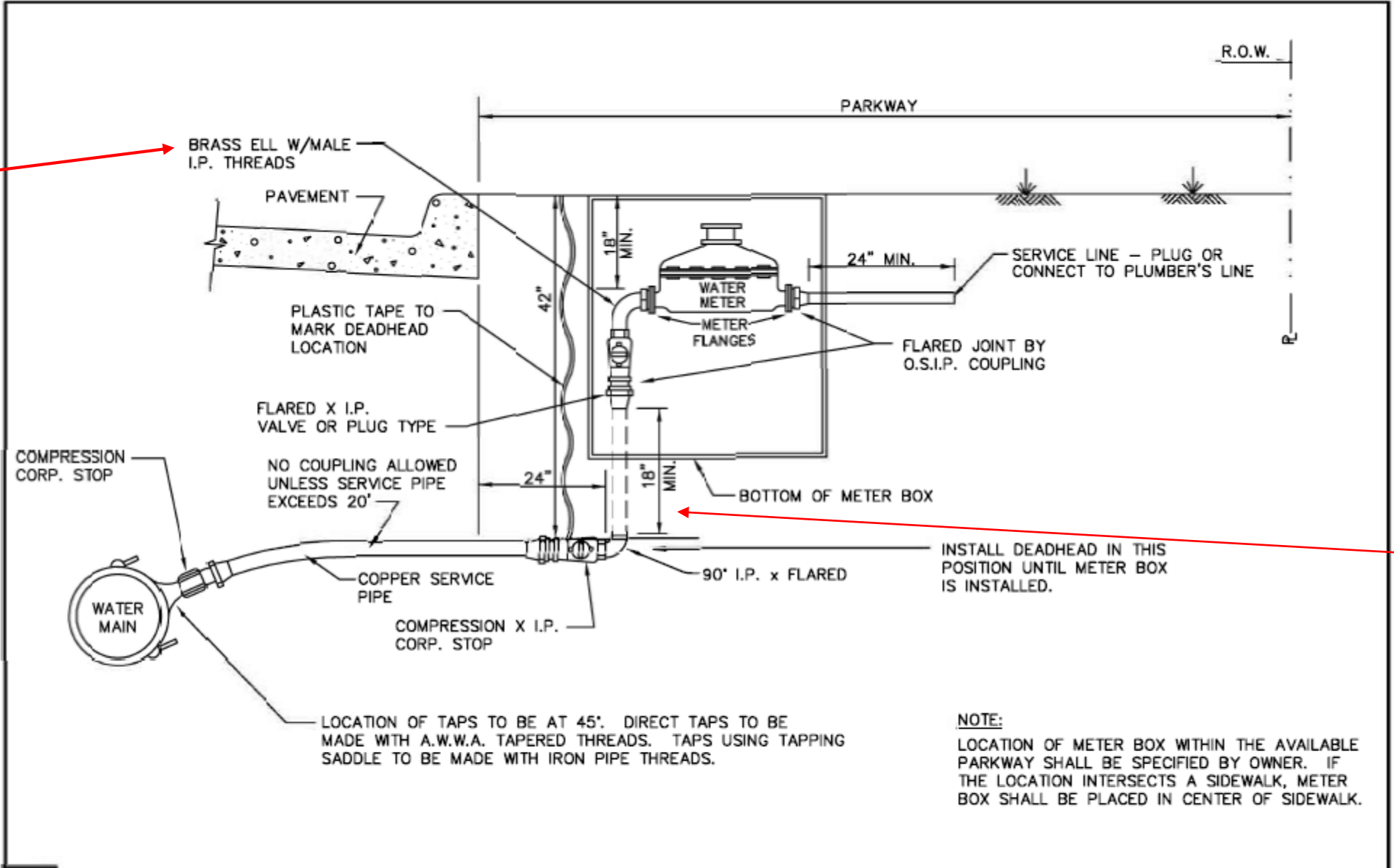
STANDARD DRAWING NO.
4130

WATER SERVICE INSTALLATION
3/4" OR 1" LINE



STANDARD SPECIFICATION REFERENCE 502.10.3*	
DATE OCT. '04	STANDARD DRAWING NO. 4130

TexasBit:
eliminate
additional
pieces and
use Ball or
Key Valve
Angle Stop
compression
x flange



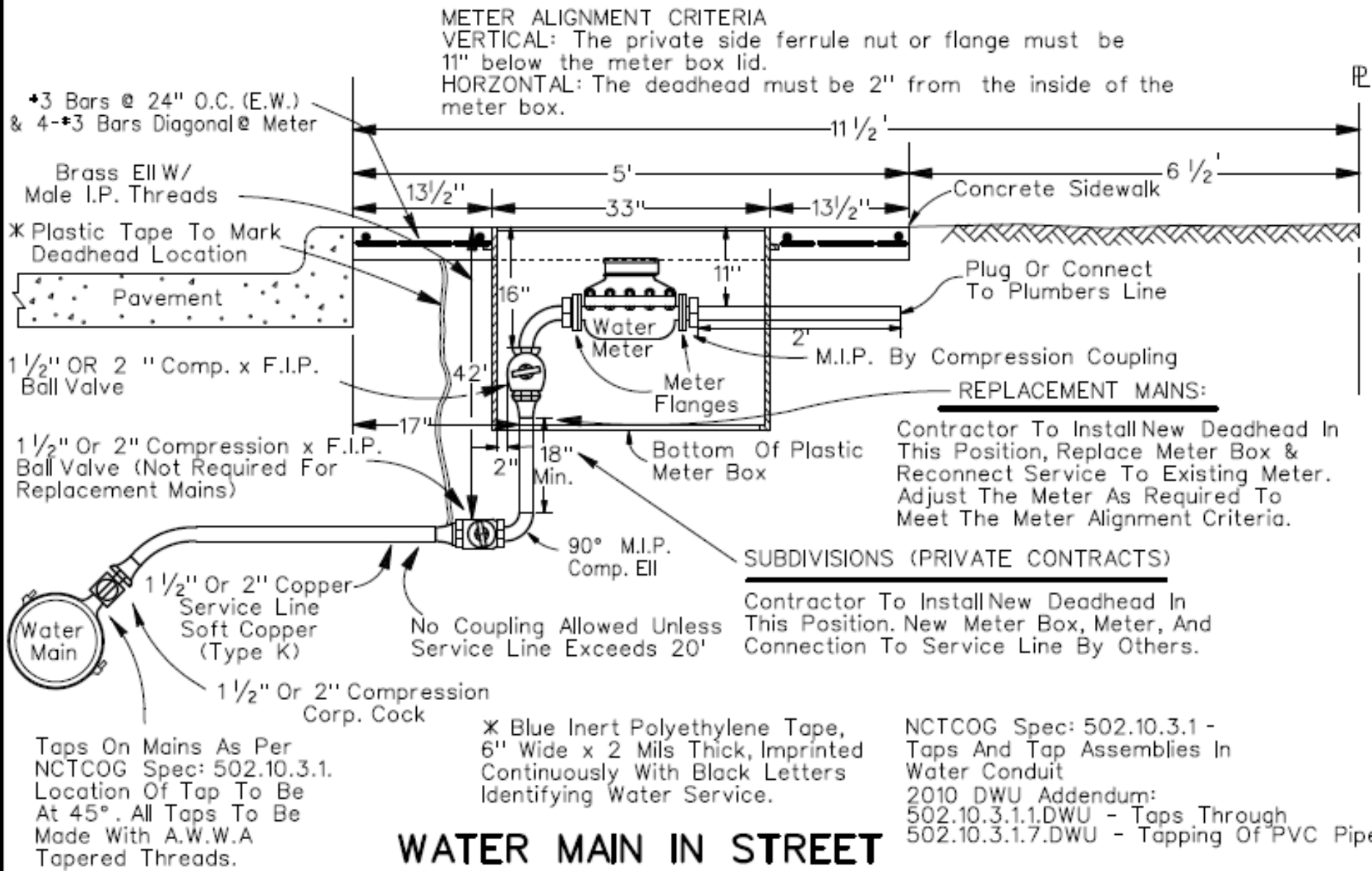
Dallas:
Dallas uses
a similar
detail but
has an AMI
meter. They
shorten the
distance
between
the valve
and box to
make it fit.

STANDARD DRAWING NO.
4140

WATER SERVICE INSTALLATION
1 1/2" OR 2" LINE



STANDARD SPECIFICATION REFERENCE 502.10.3*	
DATE OCT. '04	STANDARD DRAWING NO. 4140

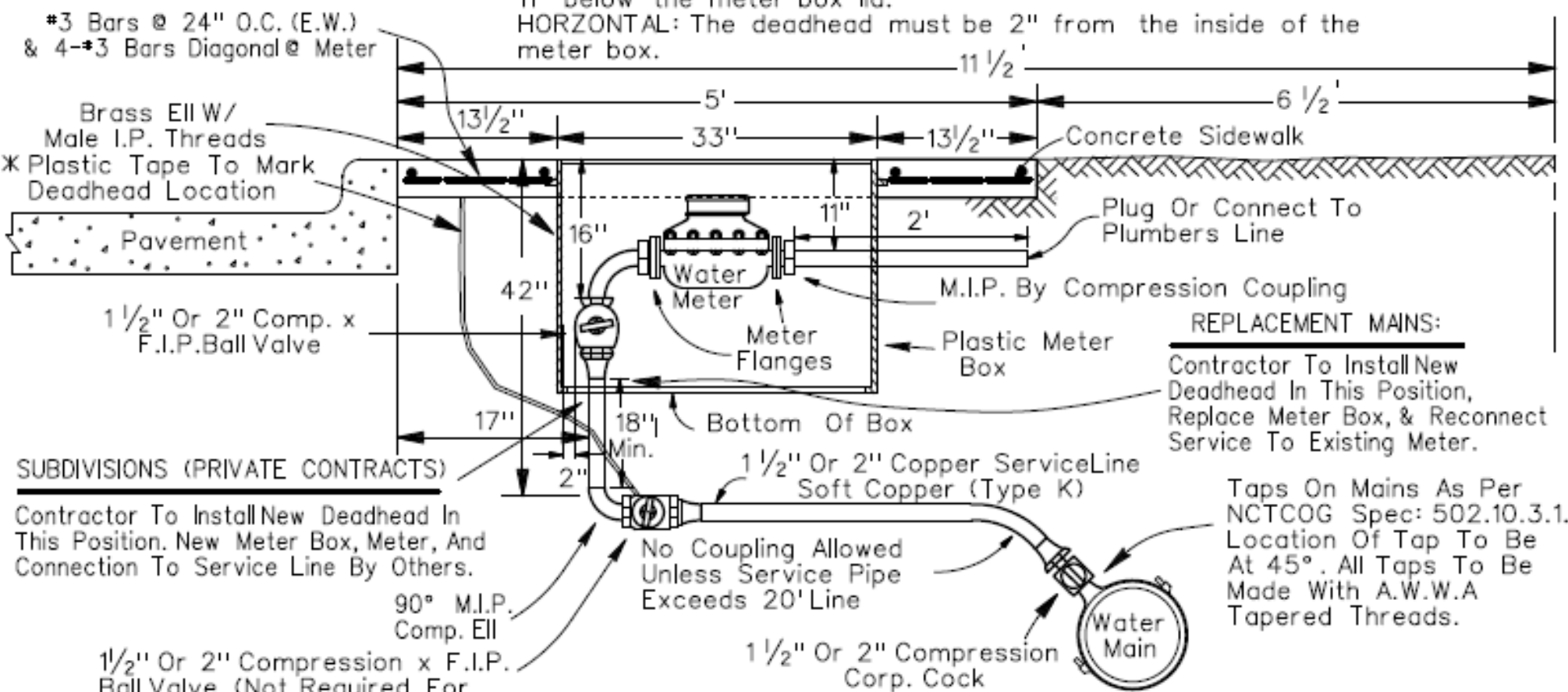


1/2" OR 2" WATER SERVICE INSTALLATION (SIDEWALK ADJACENT TO CURB)	DWU	(PAGE No.) 203
	DATE OCT. 2016	

METER ALIGNMENT CRITERIA

VERTICAL: The private side ferrule nut or flange must be 11" below the meter box lid.

HORIZONTAL: The deadhead must be 2" from the inside of the meter box.



SUBDIVISIONS (PRIVATE CONTRACTS)

Contractor To Install New Deadhead In This Position. New Meter Box, Meter, And Connection To Service Line By Others.

90° M.I.P. Comp. Ell

1/2" Or 2" Compression x F.I.P. Ball Valve (Not Required For Replacement Mains)

* Blue Inert Polyethylene Tape, 6" Wide x 2 Mils Thick, Imprinted Continuously With Black Letters Identifying Water Service.

REPLACEMENT MAINS:

Contractor To Install New Deadhead In This Position, Replace Meter Box, & Reconnect Service To Existing Meter.

Taps On Mains As Per NCTCOG Spec: 502.10.3.1. Location Of Tap To Be At 45°. All Taps To Be Made With A.W.W.A Tapered Threads.

NOTE:

1 1/2" & 2" Service Lines To Have A Minimum Of 4' Separation.

NCTCOG Spec: 502.10.3.1 - Taps And Tap Assemblies In Water Conduit

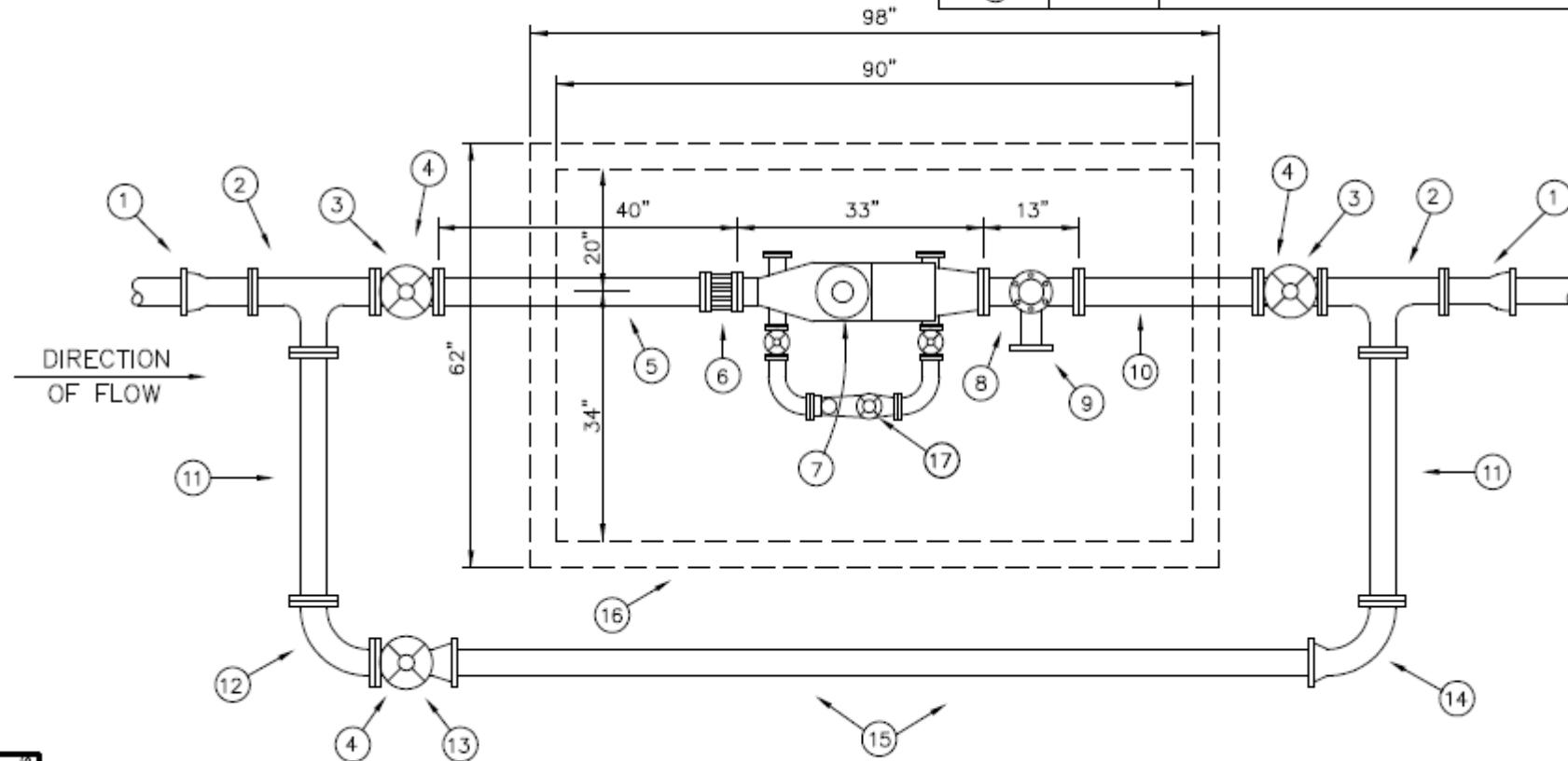
2010 DWU Addendum:
502.10.3.1.1.DWU - Taps Through
502.10.3.1.7.DWU - Tapping Of PVC Pipe

WATER MAIN IN PARKWAY

<p>1/2" OR 2" WATER SERVICE INSTALLATION (SIDEWALK ADJACENT TO CURB)</p>	DWU	(PAGE No.) 203
	DATE OCT. 2016	

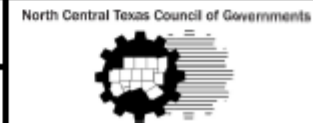
MATERIALS LIST		
PART NO.	QUANTITY	DESCRIPTION
①	2 EA.	4" X 12" D.I. NIPPLE M.J. X F.
②	2 EA.	4" X 4" D.I. TEE F. X F.
③	2 EA.	4" GATE VALVE F. X F.
④	3 EA.	VALVE STACK RISER COVER & LID
⑤	1 EA.	4" X 40" D.I. NIPPLE F. X SLEEVE
⑥	1 EA.	4" FLANGED COUPLING ADAPTER
⑦	1 EA.	4" METER AS SPECIFIED (TYPE F.M. SHOWN)
⑧	1 EA.	4" X 4" D.I. TEE F. X F. (TEST POINT)
⑨	1 EA.	4" BLIND FLG.

MATERIALS LIST		
PART NO.	QUANTITY	DESCRIPTION
⑩	1 EA.	4" X 24" D.I. NIPPLE F. X F.
⑪	2 EA.	4" X 36" D.I. NIPPLE F. X F.
⑫	1 EA.	4" D.I. 90° BEND F. X F.
⑬	1 EA.	4" GATE VALVE F. X M.J.
⑭	1 EA.	4" D.I. 90° BEND M.J. X F.
⑮	1 EA.	4" D.I. PIPE, CLASS 52, APPROX. 10'
⑯	1 EA.	PRECAST METER VAULT
⑰	1 EA.	VAULT FLOOR (NOT SHOWN)
⑰	1 EA.	ACCESS HATCH (NOT SHOWN)
⑰	1 EA.	BY-PASS METER



STANDARD DRAWING NO.
4150

4" COMBINED SERVICE
WITH 4" METER

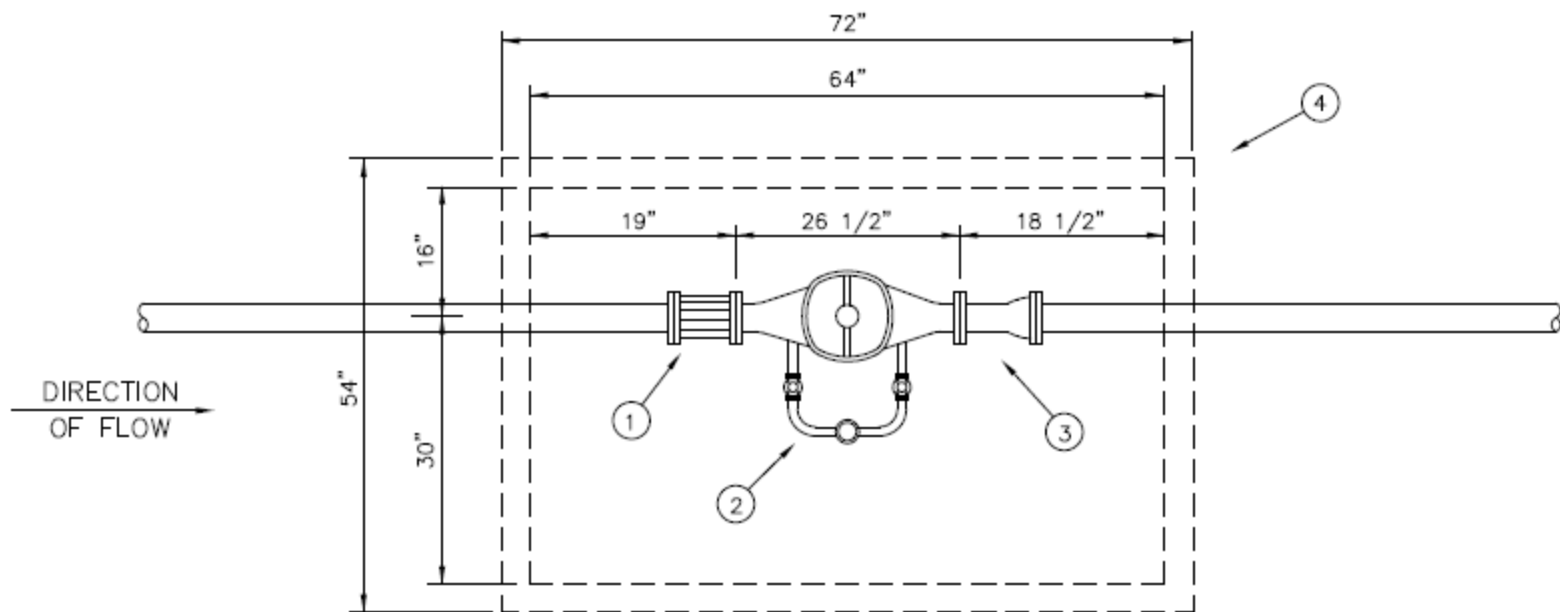


STANDARD SPECIFICATION REFERENCE
502.10

DATE
OCT. '04

STANDARD DRAWING NO.
4150

MATERIALS LIST		
PART NO.	QUANTITY	DESCRIPTION
①	1 EA.	8" FLANGED COUPLING METER ADAPTER
②	1 EA.	8" DETECTOR CHECK VALVE WITH 5/8" BY-PASS METER
③	1 EA.	8" X 12" D.I. NIPPLE M.J. X F.
④	1 EA.	PRECAST METER VAULT
	1 EA.	VAULT FLOOR (NOT SHOWN)
	1 EA.	36" X 48" ACCESS HATCH (NOT SHOWN)



STANDARD DRAWING NO.
4160

8" DETECTOR CHECK
SERVICE WITH 8" METER

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

502.10

DATE

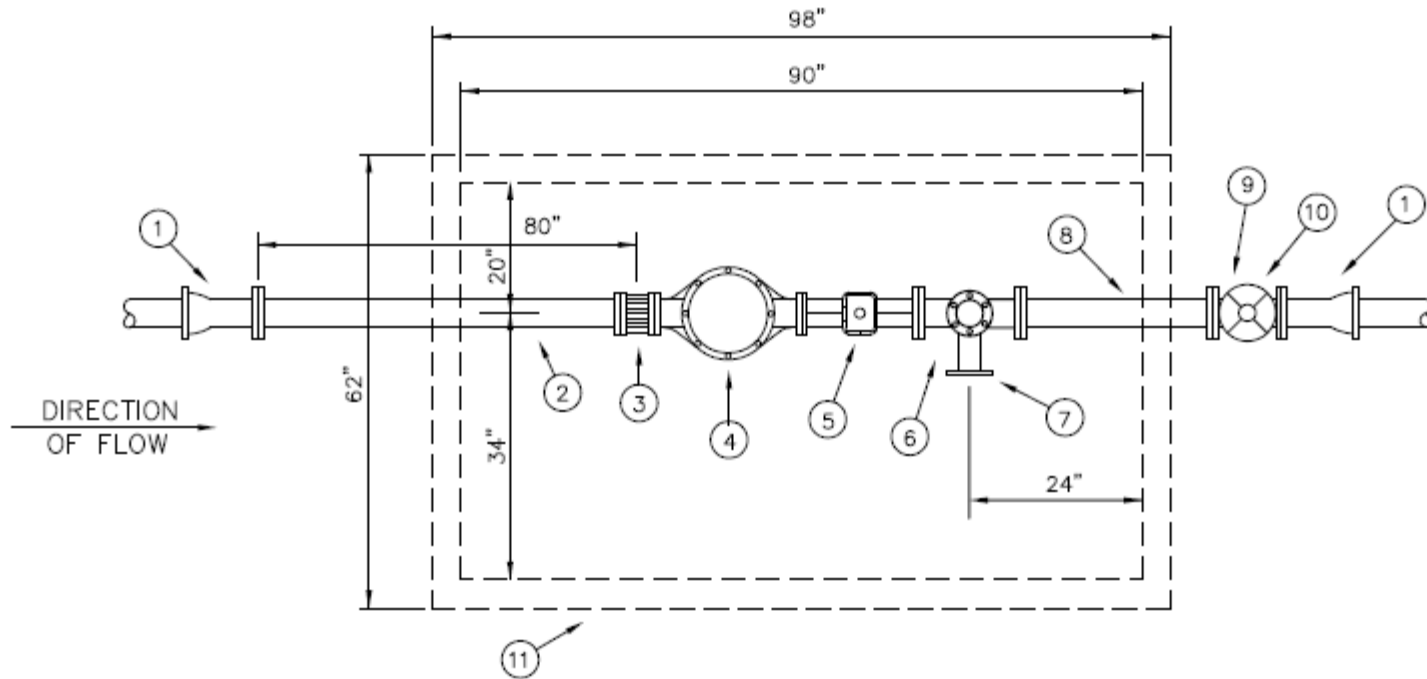
OCT. '04

STANDARD DRAWING NO.

4160

MATERIALS LIST		
PART NO.	QUANTITY	DESCRIPTION
①	2 EA.	8" X 12" D.I. NIPPLE M.J. X F.
②	1 EA.	8" X 36" D.I. NIPPLE F. X SLEEVE
③	1 EA.	8" FLANGED COUPLING ADAPTER
④	1 EA.	8" U.L. APPROVED (FOR TURBINE)
⑤	1 EA.	8" TURBINE METER
⑥	1 EA.	8" X 4" D.I. TEE F. X F. (TEST PT)
⑦	1 EA.	8" BLIND FLG F. X F.

MATERIALS LIST		
PART NO.	QUANTITY	DESCRIPTION
⑧	1 EA.	8" X 24" D.I. NIPPLE F X F.
⑨	1 EA.	8" GATE VALVE F. X F.
⑩	1 EA.	VALVE STACK RISER COVER & LID
⑪	1 EA.	PRECAST METEER VAULT
	1 EA.	VAULT FLOOR (NOT SHOWN)
	1 EA.	ACCESS HATCH (NOT SHOWN)



Dallas:
They don't
have an
equivalent
detail

STANDARD DRAWING NO.
4170

8" FIRE LINE STANDPIPE
SERVICE WITH 8" METER

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

502.10

DATE

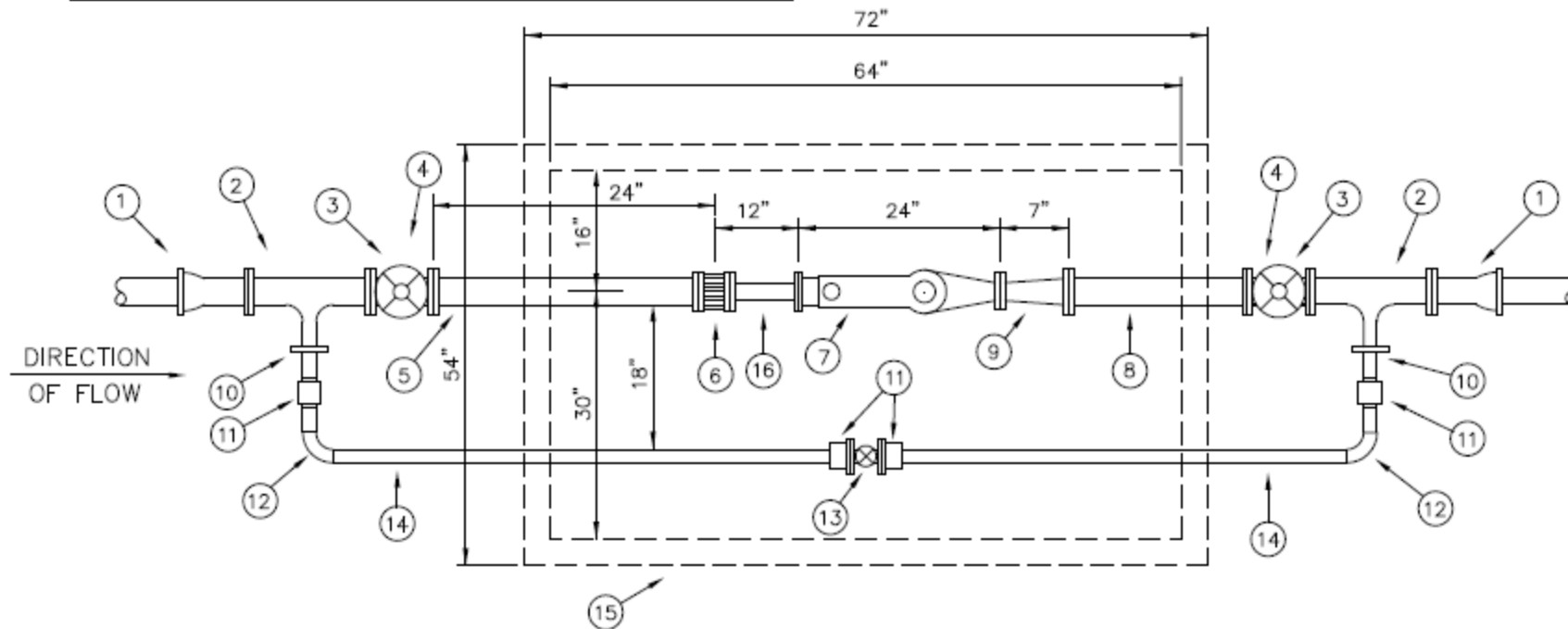
OCT. '04

STANDARD DRAWING NO.

4170

MATERIALS LIST		
PART NO.	QUANTITY	DESCRIPTION
①	2 EA.	4" X 12" D.I. NIPPLE M.J. X F.
②	2 EA.	4" X 2" D.I. TEE F. X F.
③	2 EA.	4" GATE VALVE F. X F.
④	2 EA.	VALVE STACK RISER COVER & LID
⑤	1 EA.	4" X 24" D.I. NIPPLE F. X SLEEVE
⑥	1 EA.	4" X 3" FLANGED RED. COUPLING ADAPTER
⑦	1 EA.	3" METER AS SPECIFIED (TYPE C.T. SHOWN)
⑧	1 EA.	4" X 18" D.I. NIPPLE F. X F.
⑨	1 EA.	4" X 3" D.I. REDUCER F. X F.

MATERIALS LIST		
PART NO.	QUANTITY	DESCRIPTION
⑩	2 EA.	2" COMPANION FLANGE
⑪	4 EA.	2" SOL. X OSIP UNION
⑫	2 EA.	2" SOL. 90° ELL
⑬	1 EA.	2" BALL VALVE
⑭	2 EA.	2" COPPER PIPE, APPROX. 5'
⑮	1 EA.	PRECAST METER VAULT
	1 EA.	VAULT FLOOR (NOT SHOWN)
	1 EA.	ACCESS HATCH (NOT SHOWN)
⑯	1 EA.	3"x12" D.I. NIPPLE F. x SLEEVE



STANDARD DRAWING NO.
4180

4" DOMESTIC SERVICE
WITH 3" METER

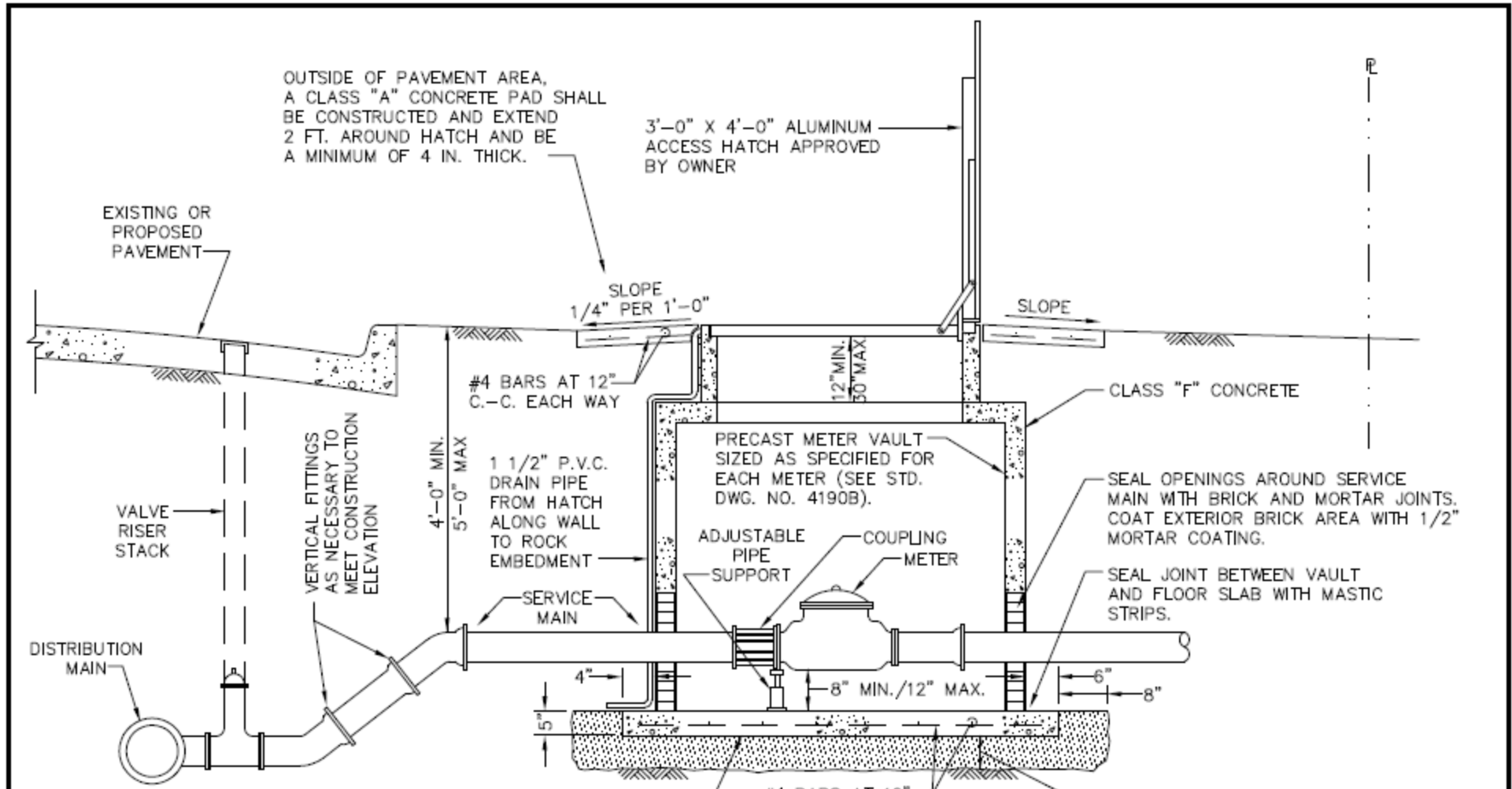
North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE
502.10

DATE
OCT. '04

STANDARD DRAWING NO.
4180



OUTSIDE OF PAVEMENT AREA,
A CLASS "A" CONCRETE PAD SHALL
BE CONSTRUCTED AND EXTEND
2 FT. AROUND HATCH AND BE
A MINIMUM OF 4 IN. THICK.

3'-0" X 4'-0" ALUMINUM
ACCESS HATCH APPROVED
BY OWNER

EXISTING OR
PROPOSED
PAVEMENT

SLOPE
1/4" PER 1'-0"

SLOPE

#4 BARS AT 12"
C.-C. EACH WAY

12" MIN.
50" MAX

CLASS "F" CONCRETE

PRECAST METER VAULT
SIZED AS SPECIFIED FOR
EACH METER (SEE STD.
DWG. NO. 4190B).

SEAL OPENINGS AROUND SERVICE
MAIN WITH BRICK AND MORTAR JOINTS.
COAT EXTERIOR BRICK AREA WITH 1/2"
MORTAR COATING.

SEAL JOINT BETWEEN VAULT
AND FLOOR SLAB WITH MASTIC
STRIPS.

VALVE
RISER
STACK

VERTICAL FITTINGS
AS NECESSARY TO
MEET CONSTRUCTION
ELEVATION

1 1/2" P.V.C.
DRAIN PIPE
FROM HATCH
ALONG WALL
TO ROCK
EMBEDMENT

ADJUSTABLE
PIPE
SUPPORT

COUPLING
METER

SERVICE
MAIN

DISTRIBUTION
MAIN

CAST IN PLACE FLOOR SLAB
OR PRECAST FLOOR SLAB
(SEE STD. DWG. NO. 4190B)

#4 BARS AT 10"
EACH WAY
(CENTERED IN SLAB)

CRUSHED ROCK, STANDARD GRADATION
4" MIN. THICK - IN ROCK
6" MIN. THICK - IN EARTH

NOTES:

1. ALL BURIED TEES AND BENDS SHALL BE THRUST BLOCKED PER STANDARD DRAWINGS 4010-4040.
2. BY-PASS LINE MAY BE INSTALLED ON LEFT SIDE OF METER VAULT TO FACILITATE LIMITED WORKING AREA CONDITIONS BY PERMISSION OF OWNER.
3. ALL BURIED D.I. PIPE AND C.I. FITTINGS SHALL BE POLY-WRAPPED AS SPECIFIED FOR THE ADJACENT DISTRIBUTION MAIN.

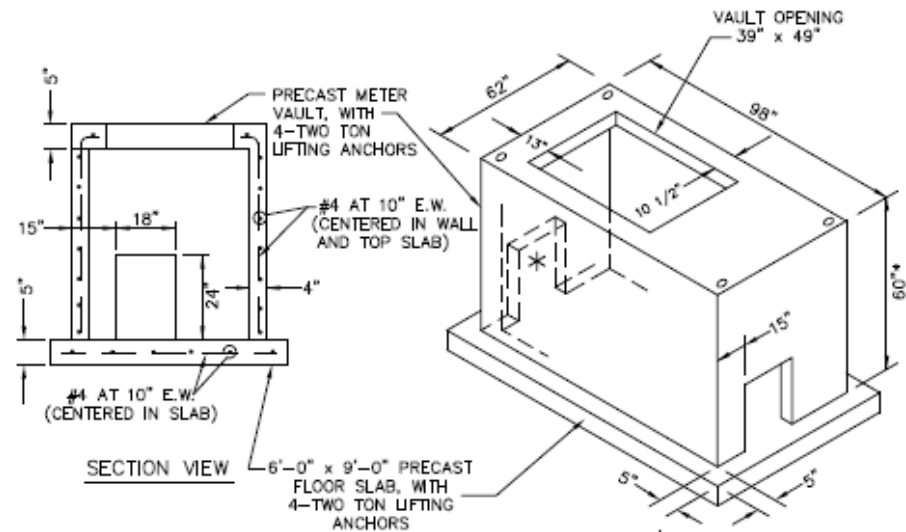
ELEVATION VIEW
(D.C. METER SHOWN) N.T.S.

STANDARD DRAWING NO.
4190A

LARGE SERVICE METER
VAULT INSTALLATION



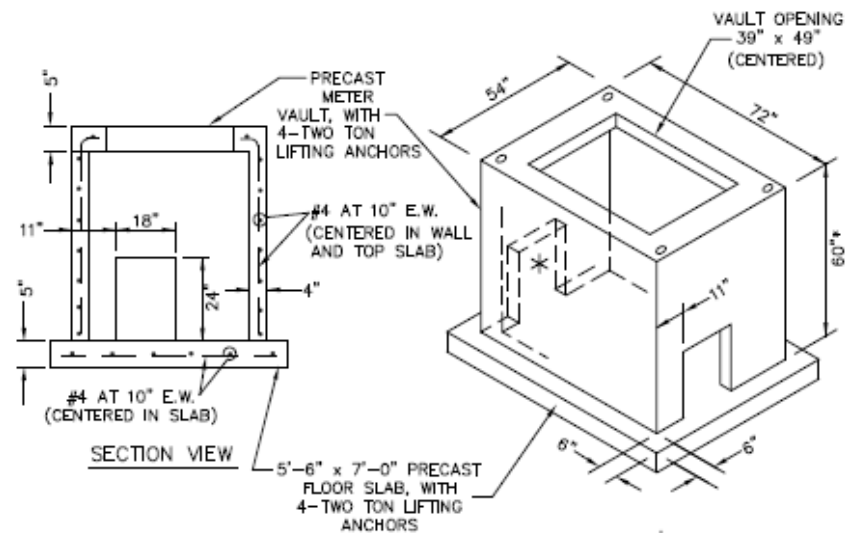
STANDARD SPECIFICATION REFERENCE 702.5.8.8	
DATE OCT. '04	STANDARD DRAWING NO. 4190A



F.M. METER VAULT

N.T.S.

* AVAILABLE HEIGHTS:
36", 48", 60"
USE OF WHICH IS
SPECIFIED BY OWNER



D.C. METER VAULT

N.T.S.

* AVAILABLE HEIGHTS:
36", 48", 60"
USE OF WHICH IS
SPECIFIED BY OWNER

LARGE SERVICE METER
PRECAST VAULT

North Central Texas Council of Governments



STANDARD SPECIFICATION REFERENCE

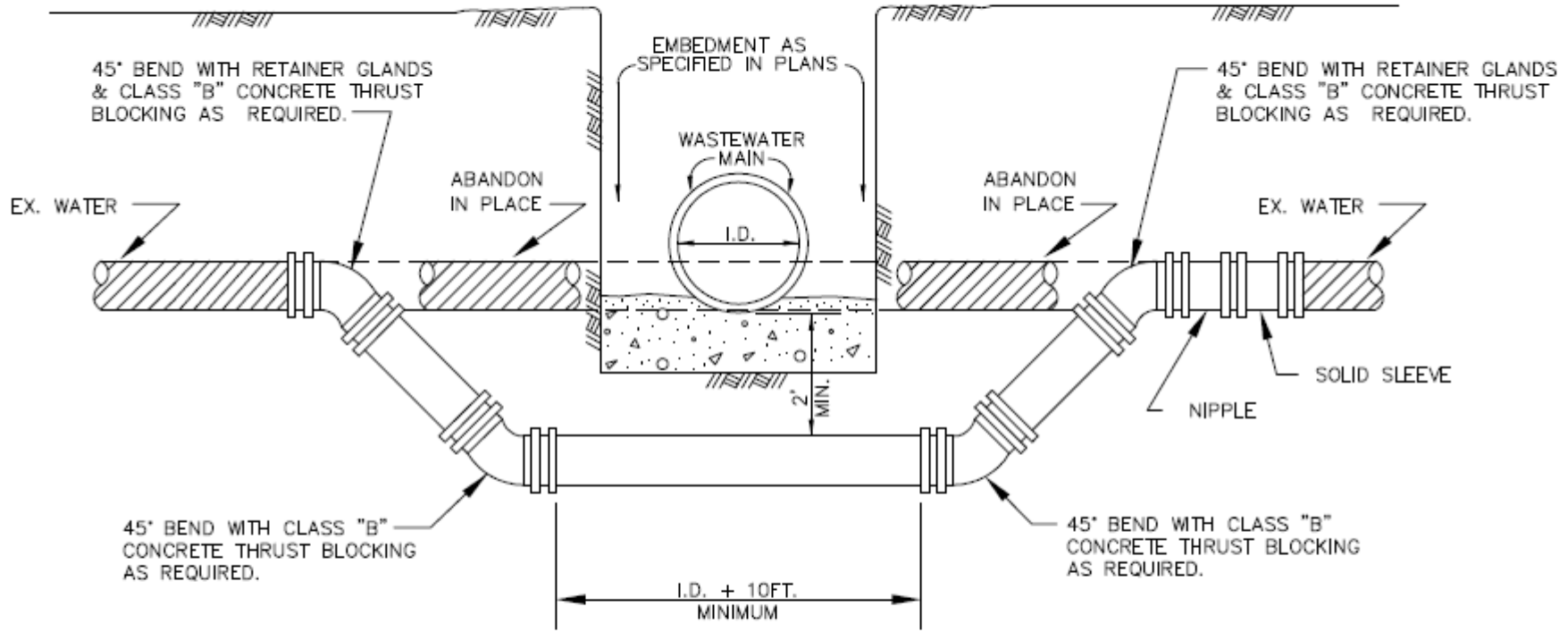
702.5.8.8

DATE

OCT. '04

STANDARD DRAWING NO.

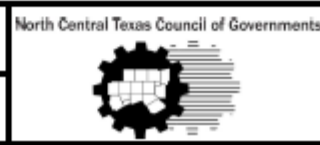
4190B



Dallas: Not sure if this complies with the 217 regulation. They say, "Standard Lowering" then give guidance on wastewater vs. water main.

STANDARD DRAWING NO.
4200

WATER MAIN LOWERING
BELOW WASTEWATER MAIN



STANDARD SPECIFICATION REFERENCE	
506.6	
DATE	STANDARD DRAWING NO.
OCT. '04	4200

Next Steps

- Determine action items for Subcommittee Members and NCTCOG staff

Next Standard Drawings Meetings

November 16, 2020
10am-11:30am

Teams

New Committee Webpage: <https://www.nctcog.org/envir/committees/public-works-council/standard-drawings-subcommittee>