I																
		EARTH			ROCK				EARTH			ROCK				
G FT.	THRUST TONS	A. FT.	B. FT.	VOL. C.Y.	A. FT.	B. FT.	VOL. C.Y.	G FT.	THRUST TONS	A. FT.	B. FT.	VOL. C.Y.	A. FT.	B. FT.	VOL. C.Y.	I.D. (IN.)
0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1	8.0	2.0	1.5	1.5	0.1	1.0	1.0	0.1	4,6,8
0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1	10,12
0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3	16,18
1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5	24
DELTA 45°							90*							DELTA		
G FT.	THRUST TONS	A. FT.	B. FT.	VOL. C.Y.	A. FT.	B. FT.	VOL. C.Y.	G FT.	THRUST TONS	A. FT.	B. FT.	VOL. C.Y.	A. FT.	B. FT.	VOL. C.Y.	I.D. (IN.)
	FT. 0.4 0.6 0.8 1.1	FT. TONS  0.4 1.0  0.6 2.2  0.8 5.0  1.1 8.9  G THRUST	G THRUST A. FT.  0.4 1.0 1.0  0.6 2.2 1.5  0.8 5.0 2.0  1.1 8.9 3.0  G THRUST A.	G THRUST A. B. FT.  0.4 1.0 1.0 1.5  0.6 2.2 1.5 1.5  0.8 5.0 2.0 2.5  1.1 8.9 3.0 3.5  G THRUST A. B.	G THRUST A. B. VOL. C.Y.  0.4 1.0 1.0 1.5 0.1  0.6 2.2 1.5 1.5 0.1  0.8 5.0 2.0 2.5 0.3  1.1 8.9 3.0 3.5 0.5  G THRUST A. B. VOL.	G THRUST A. B. VOL. A. C.Y. FT.  0.4 1.0 1.0 1.5 0.1 1.0  0.6 2.2 1.5 1.5 0.1 1.0  0.8 5.0 2.0 2.5 0.3 1.5  1.1 8.9 3.0 3.5 0.5 1.5  G THRUST A. B. VOL. A.	G THRUST A. B. VOL. A. B. FT. O.4 1.0 1.0 1.5 0.1 1.0 1.0 0.6 2.2 1.5 1.5 0.1 1.0 1.5 0.8 5.0 2.0 2.5 0.3 1.5 2.0 1.1 8.9 3.0 3.5 0.5 1.5 3.0 45*  G THRUST A. B. VOL. A. B.	G THRUST A. B. VOL. FT. FT. C.Y.  0.4 1.0 1.0 1.5 0.1 1.0 1.0 0.1  0.6 2.2 1.5 1.5 0.1 1.0 1.5 0.1  0.8 5.0 2.0 2.5 0.3 1.5 2.0 0.2  1.1 8.9 3.0 3.5 0.5 1.5 3.0 0.3  45*  G THRUST A. B. VOL. A. B. VOL.	GFT.         THRUST TONS         A. FT. FT.         B. FT. C.Y. FT. C.Y. FT.         A. FT. FT. C.Y. FT. FT.         B. FT. FT. C.Y. FT. FT. C.Y. FT.           0.4         1.0         1.0         1.5         0.1         1.0         1.0         0.1         0.8           0.6         2.2         1.5         1.5         0.1         1.0         1.5         0.1         1.1           0.8         5.0         2.0         2.5         0.3         1.5         2.0         0.2         1.6           1.1         8.9         3.0         3.5         0.5         1.5         3.0         0.3         2.2           45*           G         THRUST         A.         B.         VOL.         A.         B.         VOL.         G	G THRUST A. B. VOL. A. B. VOL. C.Y. FT. FT. C.Y. FT. TONS  0.4 1.0 1.0 1.5 0.1 1.0 1.0 0.1 0.8 2.0  0.6 2.2 1.5 1.5 0.1 1.0 1.5 0.1 1.1 4.4  0.8 5.0 2.0 2.5 0.3 1.5 2.0 0.2 1.6 9.9  1.1 8.9 3.0 3.5 0.5 1.5 3.0 0.3 2.2 17.7  G THRUST A. B. VOL. A. B. VOL. G THRUST	G THRUST A. B. FT. C.Y. FT. FT. C.Y. FT. FT. C.Y. FT. TONS FT.  0.4 1.0 1.0 1.5 0.1 1.0 1.5 0.1 0.8 2.0 1.5  0.6 2.2 1.5 1.5 0.1 1.0 1.5 0.1 1.1 4.4 2.0  0.8 5.0 2.0 2.5 0.3 1.5 2.0 0.2 1.6 9.9 3.0  1.1 8.9 3.0 3.5 0.5 1.5 3.0 0.3 2.2 17.7 4.0  45*  G THRUST A. B. VOL. A. B. VOL. G THRUST A.	G THRUST A. B. VOL. A. FT. FT. C.Y. FT. FT. C.Y. FT. TONS FT. FT. FT.  0.4 1.0 1.0 1.5 0.1 1.0 1.5 0.1 1.1 4.4 2.0 2.5  0.8 5.0 2.0 2.5 0.3 1.5 2.0 0.2 1.6 9.9 3.0 3.5  1.1 8.9 3.0 3.5 0.5 1.5 3.0 0.3 2.2 17.7 4.0 4.5  G THRUST A. B. VOL. A. B. VOL. G THRUST A. B.	G THRUST A. B. VOL. FT. FT. C.Y. FT. FT. C.Y. FT. TONS FT. FT. C.Y.  0.4 1.0 1.0 1.5 0.1 1.0 1.0 0.1 0.8 2.0 1.5 1.5 0.1  0.6 2.2 1.5 1.5 0.1 1.0 1.5 0.1 1.1 4.4 2.0 2.5 0.3  0.8 5.0 2.0 2.5 0.3 1.5 2.0 0.2 1.6 9.9 3.0 3.5 0.6  1.1 8.9 3.0 3.5 0.5 1.5 3.0 0.3 2.2 17.7 4.0 4.5 1.0  45*  G THRUST A. B. VOL. A. B. VOL. G THRUST A. B. VOL.	G THRUST A. B. VOL. FT. FT. C.Y. FT. TONS FT. FT. C.Y. FT. FT. C.Y. FT. FT. C.Y. FT. TONS FT. FT. FT. C.Y. FT. TONS FT. FT. C.Y. FT. FT. FT. C.Y. FT. FT. C.Y. FT. FT. C.Y. FT. FT. C.Y. FT. FT. FT. C.Y. FT. FT. C.Y. FT. FT. FT. FT. C.Y. FT. FT. FT. FT. C.Y. FT. FT. FT. FT. FT. FT. C.Y. FT. FT. FT. FT. FT. FT. C.Y. FT. FT. FT. FT. FT. FT. FT. FT. FT. FT	G THRUST A. B. FT. C.Y. FT. FT. C.Y. FT. FT. C.Y. FT. TONS FT. FT. C.Y. FT. FT. FT. C.Y. FT. FT. C.Y. FT. FT. FT. C.Y. FT. FT. C.Y. FT. FT. FT. FT. TONS FT.	G THRUST A. B. FT. C.Y. FT. FT. C.Y. FT. FT. C.Y. FT. FT. C.Y. FT. TONS FT. FT. FT. C.Y. FT. FT. C.Y. FT. TONS FT. FT. FT. C.Y. FT. FT. FT. C.Y. FT. FT. C.Y. FT. FT. FT. C.Y. FT. FT. C.Y. FT. FT. FT. FT. C.Y. FT. FT. FT. C.Y. FT. FT. FT. FT. C.Y. FT. FT. FT. FT. FT. FT. FT. FT. FT. FT

4,6,8 0.4 3.9 2.0 2.0 0.2 1.5 1.5 0.1 0.4 5.0 5.0 1.5 0.4 2.0 2.0 0.2 4,6,8 2.5 | 0.3 | 0.5 | 6.5

19.5 | 4.5 | 4.5 | 1.2 | 3.0 | 3.5 | 0.6 | 0.6 | 9.0 | 9.0 | 4.0 | 2.4 | 4.5 | 4.0 | 1.0 | 16,18

34.6 8.0 4.5 2.3 4.5 4.0 1.1 0.9 14.5 14.5 4.5 5.0 8.0 4.0 2.1

0.5 2.0

			EAF	<b>RTH</b>	ROCK		
I.D. (IN.)	THRUST TONS	C. FT.	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	
24	45.2	2.5	7.0	3.1	5.0	1.7	

TRENCH

SECTION F-F

DOUBLE STRAP BRONZE

TAPPING SADDLE W/CC

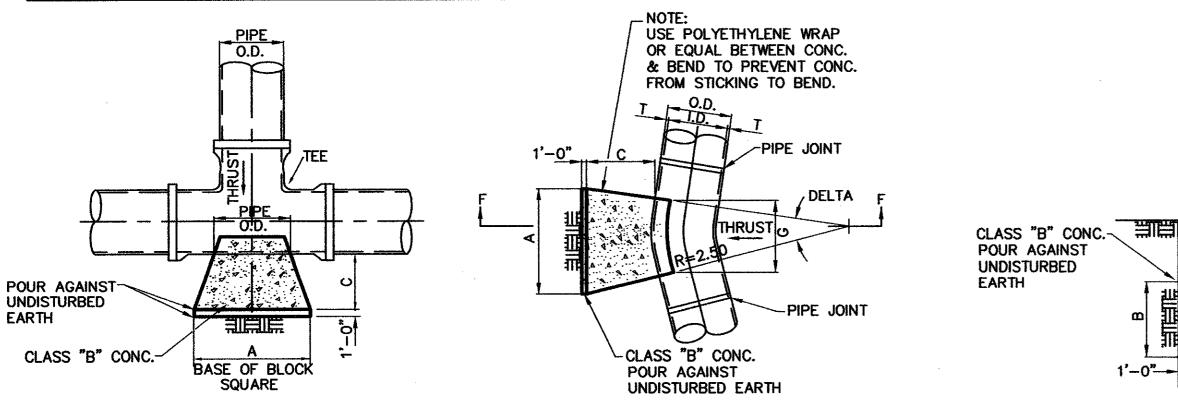
(TAPER) THREADS

MUELLER #BR2B.

FORD #202B-

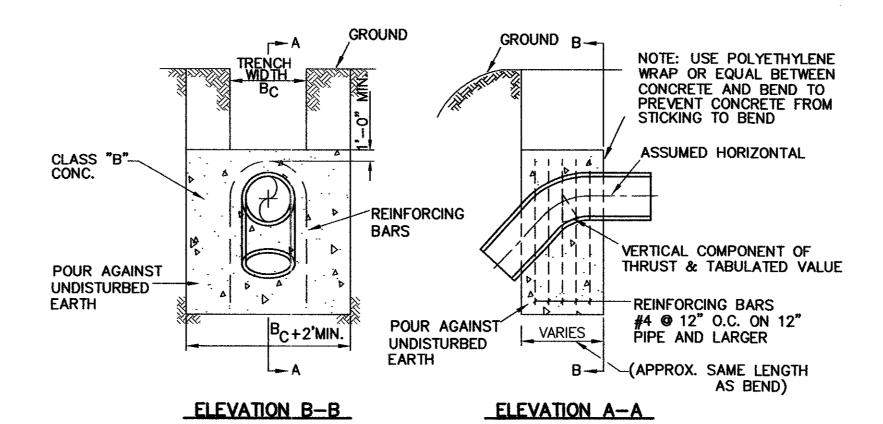
VE	RTICAL	<u>BENDS</u>
0.	30°	45*

	11.3	25*	22.50*		30°		45°		67.50°		90°			
I.D. (IN.)	THRUST TONS	VOL. C.Y.	THRUST TONS	VOL. C.Y.		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	
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	



PLAN OF BEND THRUST BLOCK

6.5 2.5 1.0 3.5

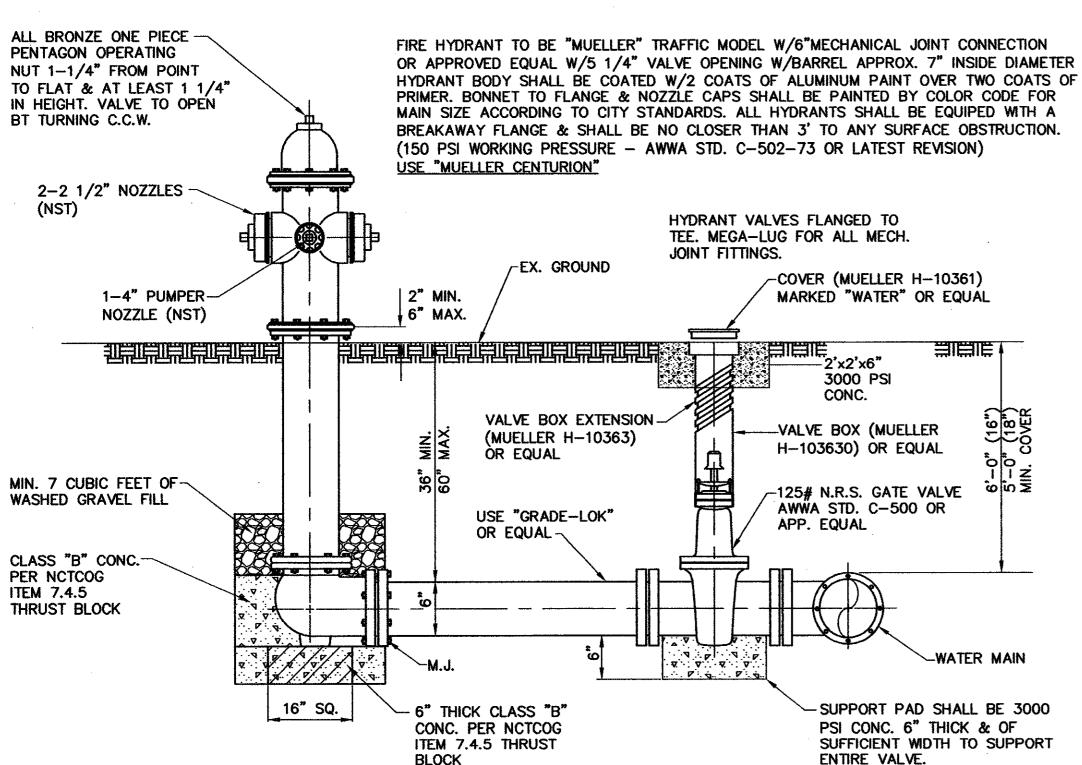


-WASHED PEA

GRAVEL

VERTICAL THRUST BLOCKS AT FITTINGS

DELTA



**GENERAL NOTES:** 

CL OF FIRE HYDRANT BARREL SHALL BE NOT LESS THAN 6.0' OR MORE THAN 9.0' FROM BACK OF CURB OR EDGE OF DRIVING LANE.

PLAN OF TEE THRUST BLOCK

DO NOT SET FIRE HYDRANT IN AN EXISTING OR PROPOSED SIDEWALK, UNLESS OTHERWISE NOTED.

ALL FIRE HYDRANT TEES SHALL BE FLANGED TEE WITH ANCHORING ON THE BRANCH WITH FLANGED x M.J., M.J. 6" VALVE.

SET FIRE HYDRANT ON THE LOT LINE EXTENDED WHEN POSSIBLE. (NOT APPLICABLE TO THIS PROJECT)

SEE SPECIFICATION FH-95-1 FOR ADDITIONAL REQUITEMENTS.

BREAKAWAY FLANGE & SHALL BE NO CLOSER THAN 3' TO ANY SURFACE OBSTRUCTION.

GATE VALVES SHALL BE IRON BODY, BRONZE OR BRASS MOUNTED, NON-RISING

STEM, RESILIENT WEDGE TYPE (SUCH AS MUELLER A-2360). VALVES SHALL BE

OF EQUAL OR GREATER PRESSURE CLASS THAN THE PIPING IN WHICH THEY

VALVE BOXES SHALL BE CAST IRON AND SHALL BE OF SUFFICIENT LENGTH AND DIAMETER TO OPERATE ALL VALVES BURIED IN THE GROUND. COVERS

SHALL BE MARKED "WATER". THE BOXES SHALL REST ON THE VALVE AND BE

ADJUSTED SO THAT THE COVER MAY SET FLUSH WITH THE FINISHED GRADE.

VALVE DEPTH GREATER THAN 4 FEET REQUIRES VALVE EXTENSION STEM.

CORPORATION STOP W/AWWA TAPER THREAD (CC) BY CONDUCTIVE COMPRESSION CONNECTION MUELLER H-15013 OR B-25008 (1.5",2") WATER MAIN PVC -AWWA C909 DRI8 LL150 MUELLER H-15008 OR H-25008 (3/4",1") FORD FB-1000 (1.5",2", -6-G, -7-G) OR F-1000 (3/4", 1",-3-G,-4-G)

PROP. PVMT.

THE TAPPING SADDLE & CORPORATION STOP MUST BE POLY-WRAPPED (8 MIL) & HAND BACKFILLED WITH SAND TO A DEPTH OF 12". CAUTION!! INSPECTION MUST BE CALLED FOR & COMPLETED PRIOR TO BACKFILL OR TAP MUST BE RE-EXPOSED BY THE CONTRACTOR FOR INSPECTION BY THE TOWN.

METER BOX PER PLAN

90° W/LOCK WING MUELLER

H-14277 OR B24276 (1.5,"

2") FORD KV43-666W-G

OR FV43-777 W-G(1.5",2")

MUELLER H-14277 OR

B24258 (3/4",1") FORD

KV43-444W-G (3/4",1").

ALL COMPANION FLANGES

(1.5",2") SHALL BE BRASS.

KV43-332W-G OR

#### **ELEVATION** TYPICAL WATER SERVICE DETAIL UP TO 2" METER

TO BE POSITIONED IN LINE

(SEE PLAN)

-TYPE "K" SOFT

COPPER W/NO

SPLICES (SIZE

PER WATER PLAN)

WITH CENTER OF TREE PITS

#### **GENERAL NOTES**

POLYVINYL CHLORIDE (PVC) WATER PIPE SHALL MEET OR EXCEED REQUIREMENTS OF AWWA C909 PVC PIPE WITH CAST IRON OUTSIDE DIMENSIONS. PIPE SHALL BE APPROVED FOR USE IN CITIES AND TOWNS OF THE STATE OF TEXAS BY THE STATE BOARD OF INSURANCE.

PVC WATER PIPE SHALL BE FURNISHED WITH A RUBBER RING AT EACH JOINT AND AND INTEGRAL THICKENED BELL AS A PART OF EACH JOINT. THE PIPE CLASS SHALL BE MINIMUM CLASS 150 DR 18 WHICH REFERS TO THE MAXIMUM HYDROSTATIC PRESSURE IN NORMAL OPERATIONS. LAYING LENGTHS SHALL BE 20 FEET +/\_. PIPE AND FITTINGS MUST BE ASSEMBLED WITH A NONTOXIC LUBIRCANT.

FITTINGS FOR PVC WATER PIPE SHALL BE GRAY IRON OR DUCTILE IRON OF THE BELL ANDSPIGOT OR MECHANICAL JOINT TYPE AND SHALL BE CLASS 250 IN ACCORDANCE WITH AWWA C110-77 (ANSI.10)

UNLESS OTHERWISE SPECIFIED ON PLANS OR SHOWN IN PROFILES, PVC WATER PIPE SHALL BE INSTALLED TO CLEAR ALL UTILITY LINES AND SHALL HAVE A MINIMUM COVER OF 36 INCHES BELOW THE LOWEST GRADE OF THE STREET AS PER CITY CODE.

5. 4"-12" RS GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-500.

A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHOSE OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 4' OF VALVE BOX LID.

7. DUCTILE IRON OR C-900 PVC PIPE SHALL BE USED FOR VALVE STACKS WITH VALVE BOX CASTING.

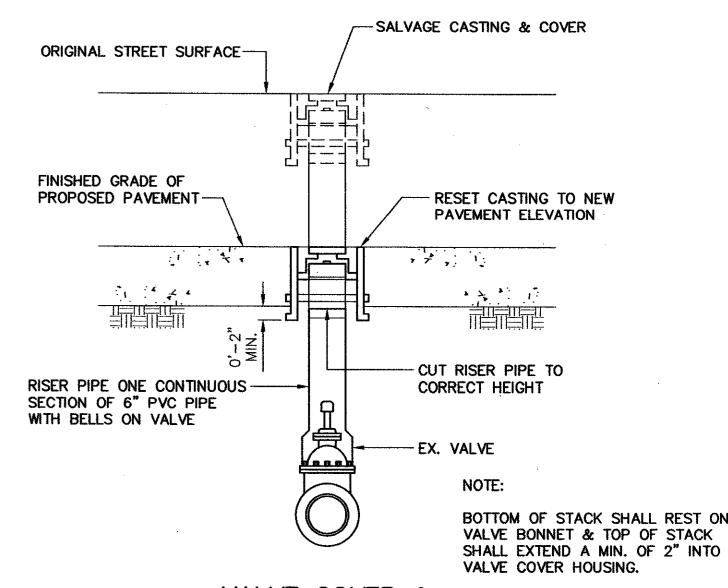
ALL ANCHOR BOLTS SHALL BE GALVANIZED.

ALL WATER MAINS WILL BE INSTALLED WITH A LOCATION WIRE PER THE TOWN OF ADDISON

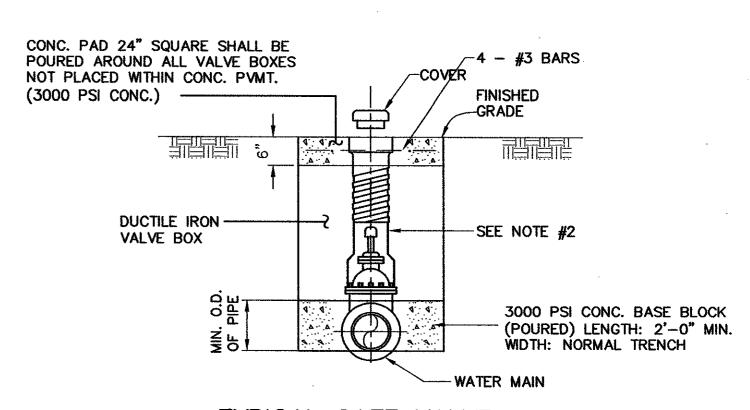
POLYWRAP ALL IRON FITTINGS AND VALVES.

#### GENERAL NOTES FOR ALL THRUST BLOCKS

- 1. ALL CACULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 P.S.I. FOR 24" I.D. PIPE AND SMALLER AND 150 P.S.I. ON 30 "I.D. AND LARGER.
- 2. VOLUMES OF VERTICAL BEND THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS F) IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONET OF THRUST ON THE VERTICAL BEND.
- 3. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
- 4. CONCRETE FOR BLOCKING SHALL BE CLASS B CONCRETE.
- 5. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
- 6. CONCRETE BLOCKING SHALL BE IN PLACE A MINIMUM OF 4 DAYS PRIOR TO TESTING THE PIPELINE.



#### VALVE COVER & RISER PIPE ADJUSTMENT N.T.S.



## TYPICAL GATE VALVE **SETTING & BOX**

#### NOTES:

- GATE VALVES SHALL BE IN ACCORDANCE WITH AWWA STANDARD C-509-80 OR LATEST THEREOF. ALL VALVES SHALL BE "MUELLER" OR APPROVED EQUAL.
- 2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE ON WHICH THE OPERATING NUT IS LOCATED IN EXCESS OF 4 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT I'TS TOP IS WITHIN 4' OF VALVE BOX LID. MANUFACTURED VALVE STACK DUCTILE IRON PIPE TO BE USED FOR EXTENSION GREATER THAN 4'-0". BELL END OF STACK TO BE FITTED OVER VALVE. VALVE AND VALVE STACK IS TO BE POLY WRAPED.
- VALVES SHALL BE OF DUCTILE IRON W/RUBBER ENCAPSULATED DISK. BOLTS SHALL BE STAINLESS STEEL OF SAME SIZE ON EACH VALVE.
- 4. ALL WATER COVERS SHALL BE MARKED "WATER"

# \* **NOVEMBER 4, 2004**

#### THESE PLANS HAVE BEEN REVISED TO CONFORM WITH CONSTRUCTION RECORDS PROVIDED BY CONTRACTOR.

# ROBERT R. JEBAVY 55528 S GISTERES FOOTANTS

### WATER DETAILS PARKVIEW AT ADDISON CIRCLE TOWN OF ADDISON, TEXAS DALLAS COUNTY

BROCKETTE : DAVIS · DRAKE , inc. □□consulting engineers Civil & Structural Engineering Surveying 4144 North Central Expressway, Suite 1100 Dallas, Texas 75204

(214)824-3647, fax (214) 824-7064

DESIGNED DATE SCALE NOTES DRAWN FILE 04/04 AS SHOWN C03393 BDD

TYPICAL FIRE HYDRANT INSTALLATION

GATE VALVES AND VALVE BOXES:

ARE TO BE INSTALLED.

**BLOCK**