
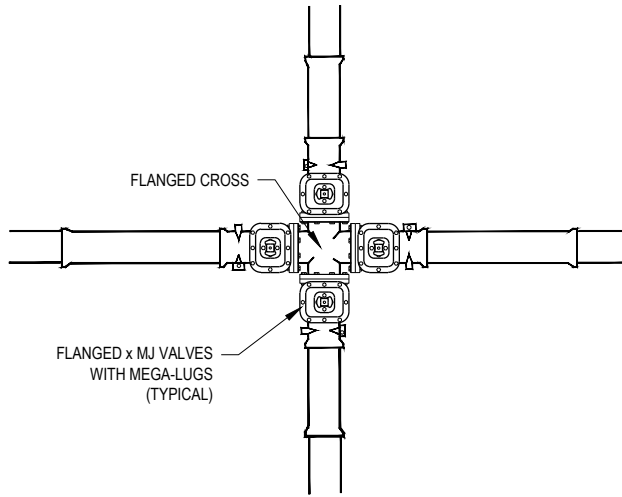
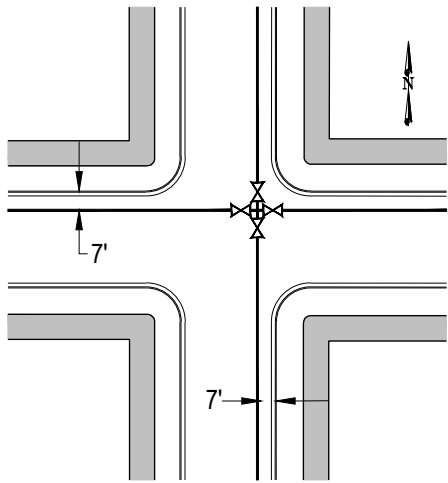
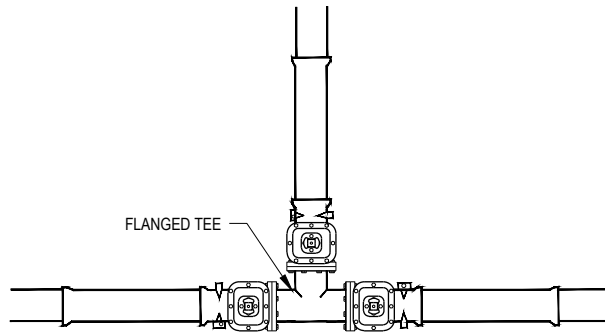
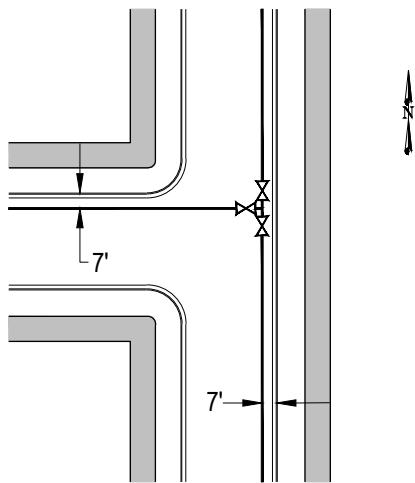


1. MINIMUM PIPE DEPTH SHALL BE:
 48" WHEN ELEVATION IS BELOW 5200 FEET
 60" WHEN ELEVATION IS 5200 FEET
 * MAXIMUM PIPE DEPTH SHALL BE 60", OR 2' BELOW STRUCTURAL SECTION OF ROADS
2. STANDARD PIPE MATERIALS
 DIA. ≤ 10" D.I. OR C900 PVC PIPE
 DIA. > 10" D.I. PIPE
 D.I. = CLASS 52 DUCTILE IRON PIPE
 C900 = CLASS 305 C900 PVC PIPE (DR-14)
3. PIPE BEDDING SHALL BE: SAND
4. CONTRACTOR SHALL COMPACT BEDDING MATERIAL TO A MIN. 95% OF THE MAXIMUM DRY DENSITY PER CURRENT ASTM D-1557.
5. SEE SECTION 2220-3.02 FOR TRENCH EXCAVATION AND STABILIZATION SPECIFICATIONS.

1	APPROVED		XXX 08		TYPICAL WATERLINE PIPE ZONE	3010
NO.	AUTHORIZED BY	REVISIONS	DATE	DRAPER CITY		




CROSS-TYPICAL CONNECTIONS



TEE-TYPICAL CONNECTIONS

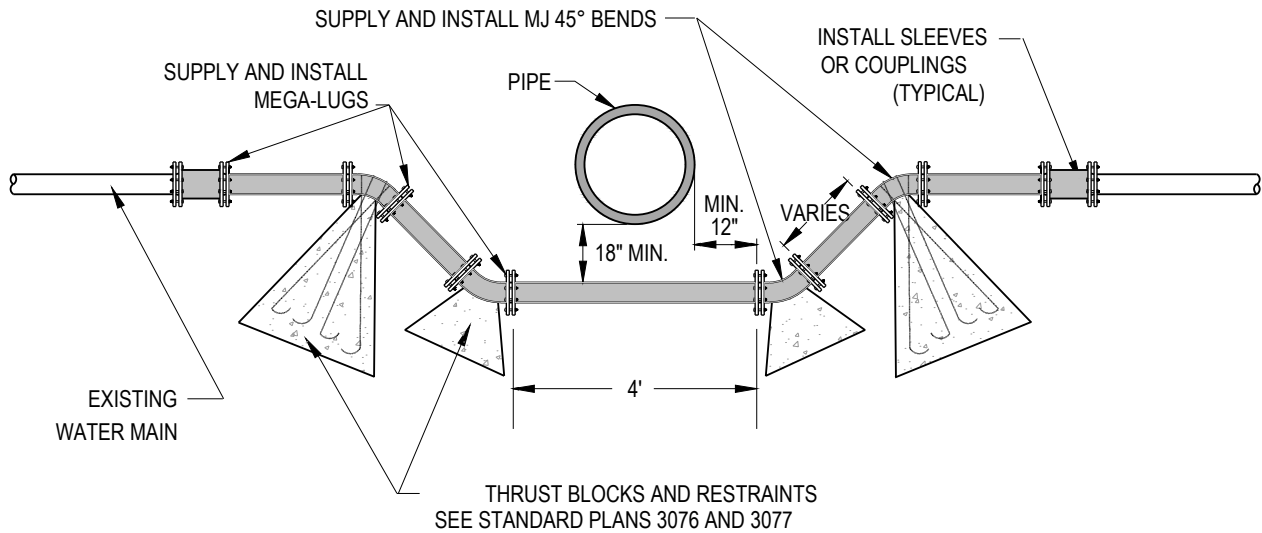
NOTES:

1. VALVES SHALL GENERALLY BE LOCATED ON EACH BRANCH OF WATER MAIN INTERSECTIONS. WHERE RELATIVELY SHORT LINES LESS THAN 500 FEET IN LENGTH ARE INVOLVED, ONE OF THE TWO VALVES BETWEEN INTERSECTIONS MAY BE OMITTED AT THE DIRECTION OF THE CITY ENGINEER.
2. SEE DWG NO.s 3080, 3085, & 3090 FOR ANCHOR BLOCK AND THRUST BLOCK DETAILS.
3. SEE DWG NO. 3040 FOR VALVE BOX DETAILS.
4. REFER TO SECTIONS 3.4 'MAIN LINE FITTINGS' AND SECTION 7.1 'INSTALLATION OF VALVES AND FITTING' FOR INFORMATION CONCERNING THE INSTALLATION AND WRAPPING OF BOLTED CONNECTIONS.
5. ALL WATER LINES SHALL BE INSTALLED ON NORTH AND EAST SIDES OF THE STREET AND SHALL BE LOCATED 7' OFFSET FROM TBC.
- 6.. TEES AND CROSSES SHALL BE FLANGED ONLY WHEN DIRECTLY CONNECTED TO VALVES. OTHERWISE ALL TEES AND CROSSES SHALL BE MJ WITH THRUST RESTRAINT. (MEGA-LUGS AND THRUST BLOCKS).
7. ALL BUTTERFLY GEAR/OPERATOR ASSEMBLY TO BE ON NORTH OR EAST SIDE OF WATER LINE.


1	APPROVED		XXXX. 08	 DRAPER CITY	<u>WATER MAIN CONNECTIONS AT INTERSECTIONS</u>	3035
NO.	AUTHORIZED BY	REVISIONS	DATE			

NOTES

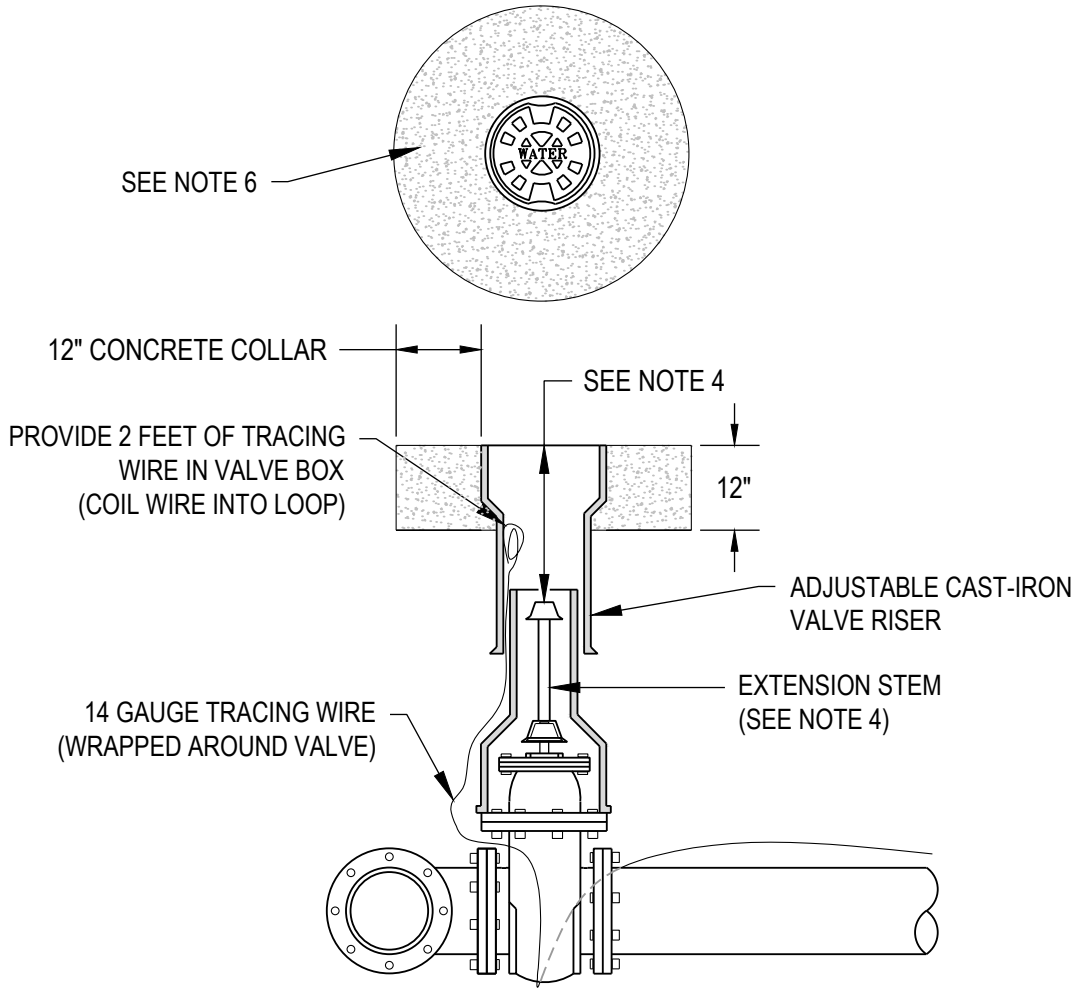
1. INSPECTION: INSPECTION OF INSTALLATION BY ENGINEER REQUIRED BEFORE BACKFILLING TRENCH.
2. BACK FILL: INSTALL BACK FILL IN LIFTS NOT EXCEEDING 8" BEFORE COMPACTION. COMPACT EACH LIFT TO A MIN. DRY DENSITY OF 95% MODIFIED PROCTOR ASTM D-1557.
3. PROVIDE DUCTILE IRON PIPE AND FITTINGS WITH MEGA LUGS ACCORDING TO AWWA M-11 SPECIFICATIONS.
4. REFER TO ENGINEER'S SPECIFICATIONS FOR AIR/VAC REQUIREMENTS.
5. GREASE ALL NUTS & BOLTS WITH POLY FM GREASE AND POLY-WRAP. COMPLETE LOOP USING 8 MIL THICK POLY WRAP.




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1	APPROVED		XXXX. 08		<p style="text-align: center;">TYPICAL WATERLINE LOOP</p>	<p style="text-align: center;">WT-3037</p>
NO.	AUTHORIZED BY	REVISIONS	DATE			

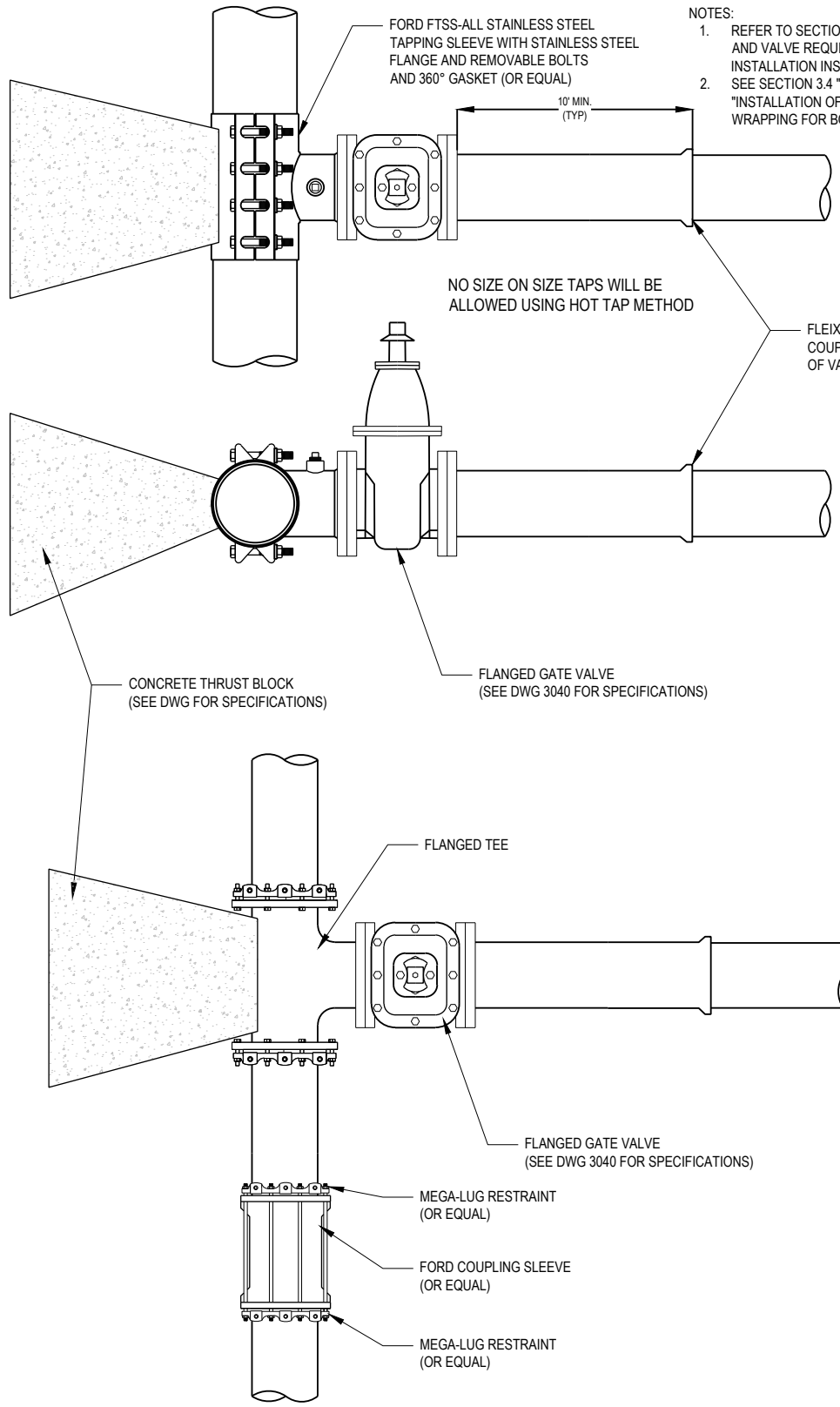
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1. INSPECTION OF INSTALLATION BY ENGINEER REQUIRED PRIOR TO BACKFILLING.
2. APPLY POLY F.M. GREASE TO ALL NUTS & BOLTS AND WRAP WITH 8 MIL. THICK POLYWRAP
3. GATE VALVE SHALL BE AMERICAN SERIES 2500 OR CLOW C509 RESILIENT WEDGE OR EQUIVALENT FOR ALL WATER LINES 10" AND BELOW. WATERLINE 12" AND ABOVE SHALL BE CLOW 4500 CLASS 150-B BUTTERFLY VALVES OR EQUIVALENT.
4. PROVIDE EXTENSION STEM AS NEEDED. EXTENSION SHALL BE 48" MIN. TO 60" MAX. FROM SURFACE.
5. VALVE BOX SHALL BE D&L M-8040 THRU M-8064 OR EQUIVALENT.
6. FURNISH AND INSTALL 12" CONCRETE COLLAR. (REFER TO SECTION 3000 FOR CONCRETE SPECIFICATIONS).

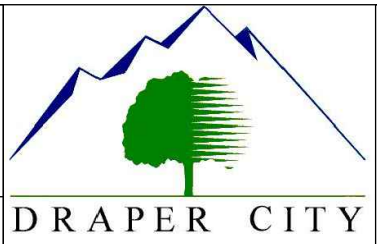
1	APPROVED		XXXX. 08		<u>VALVE BOX INSTALLATION</u>	3040
NO.	AUTHORIZED BY	REVISIONS	DATE			

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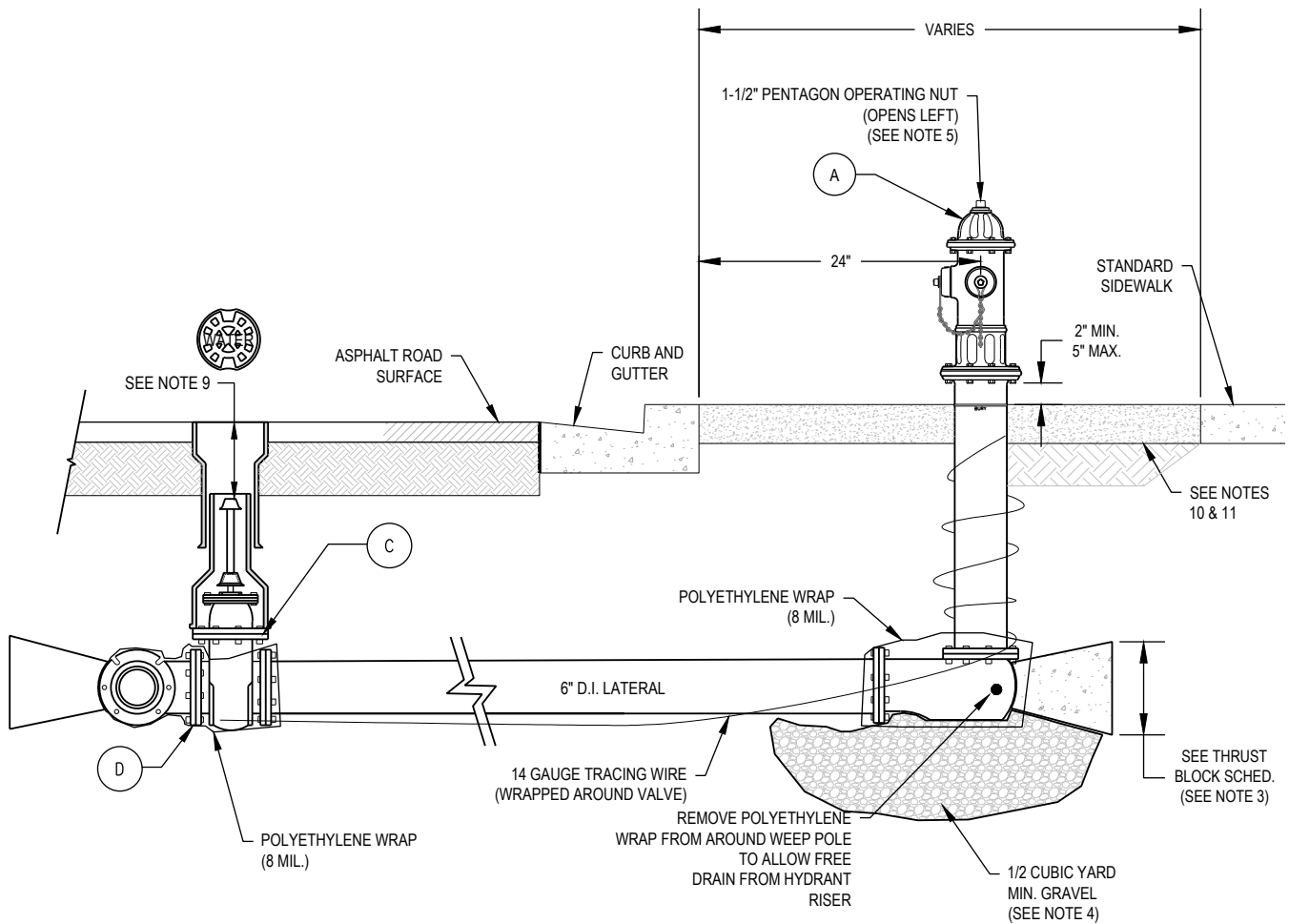
- NOTES:
1. REFER TO SECTION 3.8 "MAIN LINE VALVES" FOR TAPPING SLEEVE AND VALVE REQUIREMENTS, AND SECTION 7.9 "HOT TAPPING" FOR INSTALLATION INSTRUCTIONS.
 2. SEE SECTION 3.4 "MAIN LINE FITTING" AND SECTION 7.11 "INSTALLATION OF VALVES AND FITTINGS" FOR INSTALLATION AND WRAPPING FOR BOLTED CONNECTIONS.

1	APPROVED		XXXX. 08
NO.	AUTHORIZED BY	REVISIONS	DATE



**MAIN LINE
TIE-IN**

WT-3045

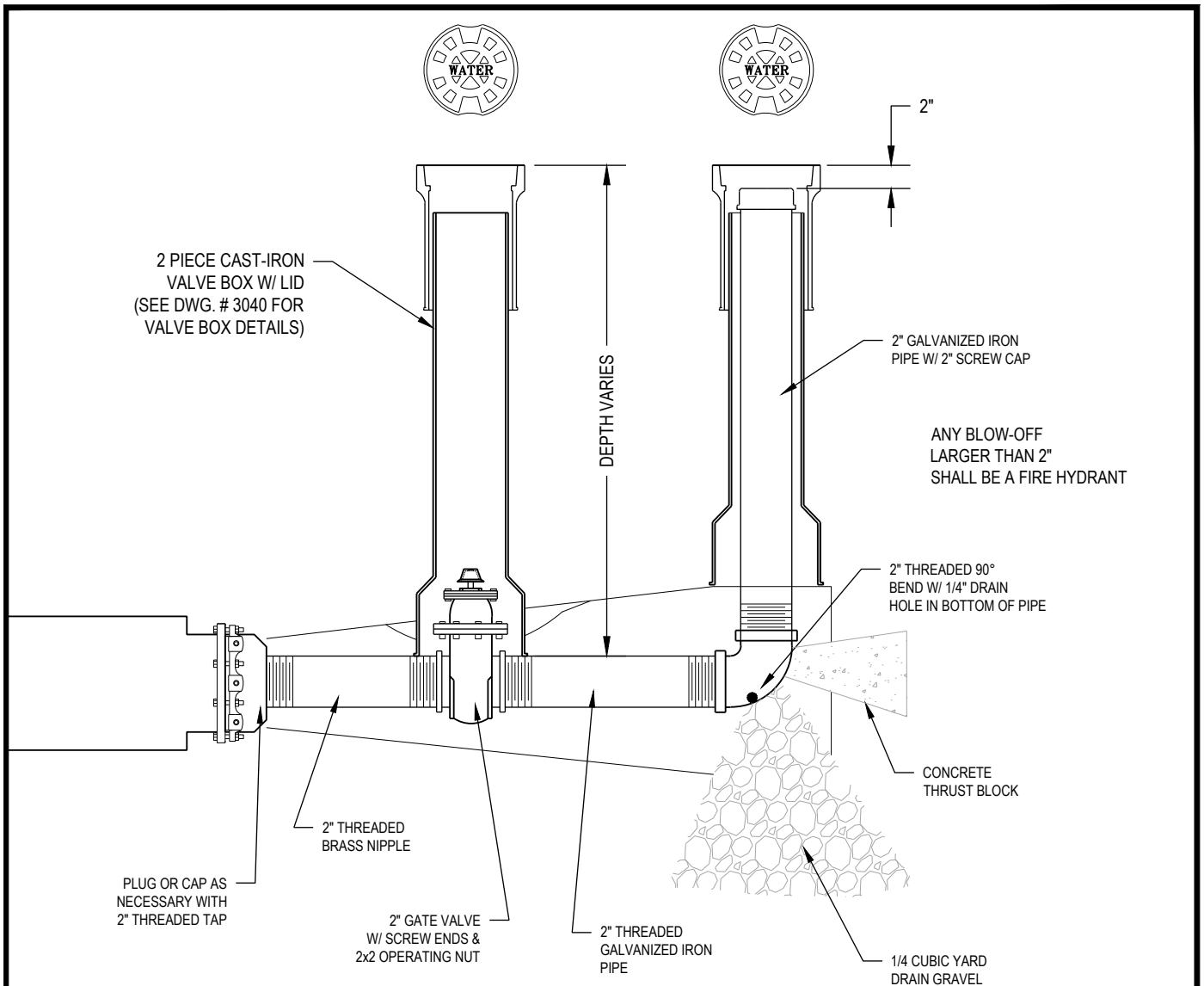


- | | |
|--|---|
| <ol style="list-style-type: none"> 1. INSPECTION OF INSTALLATION BY ENGINEER REQUIRED BEFORE BACKFILLING TRENCH. 2. IF NOT IN SERVICE, HYDRANT MUST BE TAGGED, "NOT IN SERVICE". 3. SEE THRUST BLOCK STANDARD DRAWING. THRUST BLOCK SHALL NOT COVER DRAIN HOLE. 4. PROVIDE 1/2 CUBIC YARD MIN. OF 3/4" CLEAN CRUSHED ROCK AROUND DRAIN HOLE AT BASE OF HYDRANT. PLACE MIRIFIED FABRIC UNDER ROCK TO MINIMIZE SILTING. 5. POINT THE 4-1/2" STEAMER NOZZLE TO THE STREET. 6. PLACE FIRE HYDRANTS SO SIDEWALK FLANGE IS 2" MIN. OR 5" MAX. ABOVE GRADE. 7. APPLY POLY F.M. GREASE TO ALL BURIED NUTS AND BOLTS. 8. NUT EXTENDED TO 48" TO 60" MAX. FROM SURFACE. 9. PROVIDE A FLAT (2% SLOPE MAX.) 4 FOOT DIAMETER CLEAR WORKING SPACE AROUND HYDRANT. | <ol style="list-style-type: none"> 10. PROVIDE A 5'X5'X5" THICK CONCRETE PAD WITH 6" COMPACTED ROAD BASE; OR AS PER CITY ENGINEER (SEE SECTION 3000 FOR CONCRETE SPECIFICATIONS). 11. VALVE CANNOT BE LOCATED WITHIN CURB & GUTTER. 12. NO WATER SERVICE CONNECTIONS SHALL BE ALLOWED ON FIRE LINES. 13. EXTERIOR FINISH OF HYDRANT SHALL BE IN LIKE NEW CONDITION. |
|--|---|


LEGEND		
No.	ITEM	DESCRIPTION
(A)	FIRE HYDRANT	RED IN COLOR, FLANGED, WATEROUS PACER, CLOW MEDALLION (SEE NOTE 16)
(B)	2 PC CAST IRON VALVE BOX	NUT RISER MAY BE REQUIRED
(C)	GATE VALVE WITH 2" X 2" OPERATING NUT	PER DRAPER CITY STANDARDS DWG. 3040
(D)	M.J. OR M.J. X FLG. TEE	

1	APPROVED		xxxx. 08		<p>FIRE HYDRANT W/VALVE IN PARK STRIP</p>	<p>3056</p>
NO.	AUTHORIZED BY	REVISIONS	DATE	<p>DRAPER CITY</p>		

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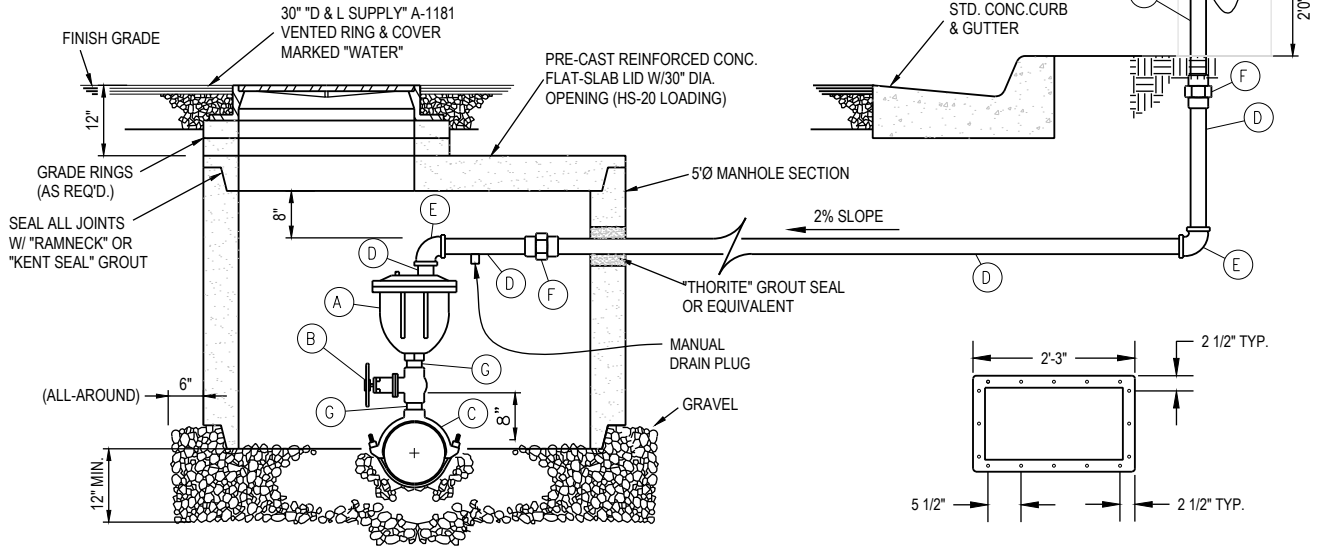
1. CONCRETE: 2000 P.S.I. SEE THRUST BLOCK DWG. FOR DETAILS. POUR CONCRETE AGAINST UNDISTURBED SOIL.
2. TAPE: APPLY TAPE WRAP TO THE EXTERIOR OF ALL GALVANIZED PIPE PER AWWA C209. APPLY POLY F.M. GREASE TO ALL NUTS AND BOLTS AND WRAP WITH 8 MIL. THICK POLY WRAP
3. WATERMAINS 12" AND LARGER WILL REQUIRE SPECIAL WASHOUT ASSEMBLY APPROVED BY CITY ENGINEER.
4. DRAINAGE: AFTER INSTALLATION OF WASHOUT ASSEMBLY, VERIFY VALVE RISER DRAINS TO GRAVEL.
5. INSPECTION: PRIOR TO BACKFILLING, SECURE INSPECTION OF INSTALLATION BY ENGINEER.
6. BACKFILL: SEE SECTION 2240 FOR SPECIFICATIONS
7. BLOW-OFF MUST BE SIZED TO LINE.
8. IF EXPECTED DEVELOPMENT IS 24 UNITS OR PERMANENT, THIS MUST BE FIRE HYDRANT.
9. IF FUTURE DEVELOPMENT HAS NOT BEEN APPROVED FOR CONSTRUCTION PRIOR TO START OF WARRANTY PERIOD THEN FIRE HYDRANT WASHOUT SHALL BE REPLACED WITH A PERMANENT FIRE HYDRANT.

1	APPROVED		xxxx. 08		<p><u>2" WASHOUT</u> <u>& BLOW-OFF</u></p>	<p>3060</p>
NO.	AUTHORIZED BY	REVISIONS	DATE			

PIPE & FITTING SCHEDULE

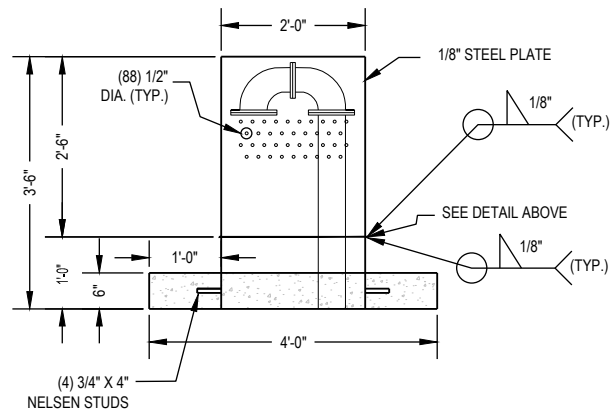
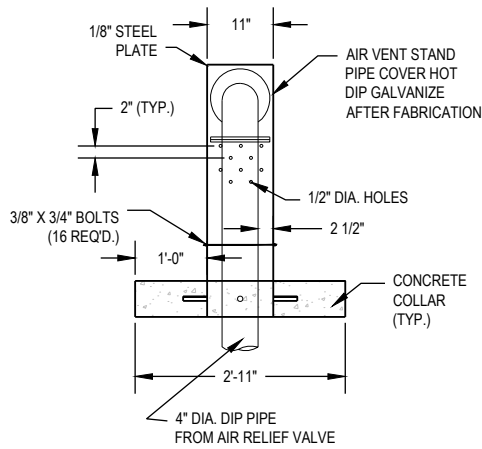
NO.	DESCRIPTION	FITTING
A	2" HEAVY-DUTY COMBINATION AIR/VACUUM RELIEF VALVE "APCO" CAV MODEL S-145C OR APPROVED EQUAL**	THR.
B	2" GATE VALVE OR BALL VALVE	THR.
C	2" BRASS DOUBLE STRAP SERVICE SADDLE	-
D	2" GALV. STEEL PIPE OR SCH. 80 PVC	THR.
E	2" GALV. STEEL 90° ELBOW OR SCH 80 PVC	THR.
F	2" GALV. STEEL UNION OR SCH 80 PVC	THR.
G	2" BRASS PIPE	THR.

* ALL VENT PIPING MUST BE GALV. STEEL ABOVE GROUND.
 ** SOME AREAS REQUIRE LARGER VALVE PER CITY ENGINEER



AIR/VACUUM RELIEF STATION

AIR VENT STAND PIPE



1 APPROVED xxx. 08

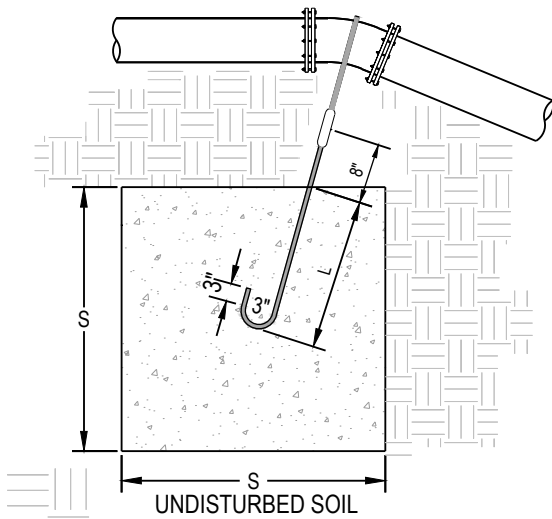


**COMBINATION
 AIR RELEASE
 & VACUUM
 VALVE**

3075

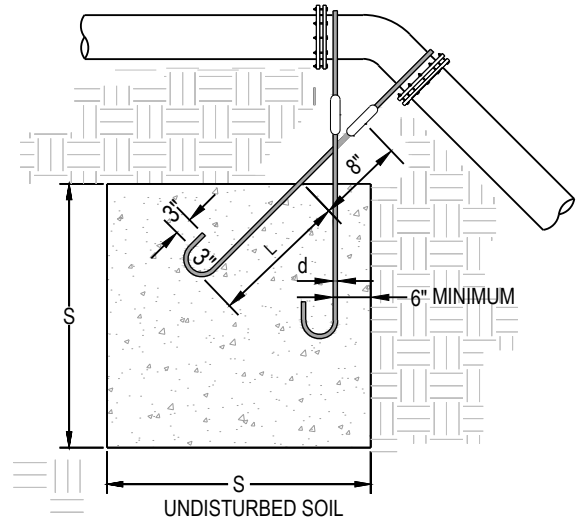
NO. AUTHORIZED BY REVISIONS DATE

DRAPER CITY



TYPE A BLOCKING

FOR 11 1/4° - 22 1/2° VERTICAL BENDS



TYPE B BLOCKING

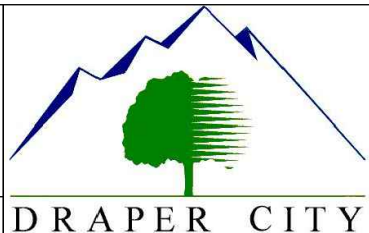
FOR 45° VERTICAL BENDS

TYPE A BLOCKING FOR 11 1/4° - 22 1/2° VERT. BENDS					
PIPE SIZE NOMIN. DIAMETER - INCH	VERTICAL BEND DEGREES	NO. OF CU FT. OF CONC. BLOCKING	S SIDE OF CUBE FEET	d DIAMETER OF SHACK OR REBAR RODS - INCH	L DEPTH OF RODS IN CONCRETE (FEET)
4"	11 1/4°	8	2.0	5/8"	1.5
	22 1/2°	15.6	2.5	#4	2.0
6"	11 1/4°	15.6	2.5	#4	2.0
	22 1/2°	34.3	3.25	#4	2.0
8"	11 1/4°	27	3.0	#4	2.0
	22 1/2°	64	4.0	#4	2.0
12"	11 1/4°	64	4.0	#4	2.0
	22 1/2°	125	5.0	#4	3.0
16"	11 1/4°	107	4.25	#5	3.0
	22 1/2°	216	6.0	#5	4.0
20"	11 1/4°	138	5.17	#5	3.5
	22 1/2°	334	6.94	#5	4.0
24"	11 1/4°	240	6.22	#5	4.0
	22 1/2°	476	7.81	#5	4.0
30"	11 1/4°	369	7.17	#5	4.0
	22 1/2°	733	9.02	#5	4.0

TYPE B BLOCKING FOR 45° VERTICAL BENDS					
PIPE SIZE NOMIN. DIAMETER - INCH	VERTICAL BEND DEGREES	NO. OF CU FT. OF CONC. BLOCKING	S SIDE OF CUBE FEET	d DIAMETER OF SHACK OR REBAR RODS - INCH	L DEPTH OF RODS IN CONCRETE FEET.
4"	45°	1	3.0	5/8" #4	2.0
6"		2.37	4.0	5/8" #4	2.5
8"		3.97	4.75	5/8" #4	2.0
12"		9.04	6.25	5/8" #4	4.0
16"		17.24	7.75	#5 #5	4.0
20"		26.52	5.17	#5 #5	4.0
24"		37.82	10.07	#5 #5	4.0
30"		58.26	11.63	#5 #5	4.0

SEE NOTES ON SHEET 3 FOR CLARIFICATION

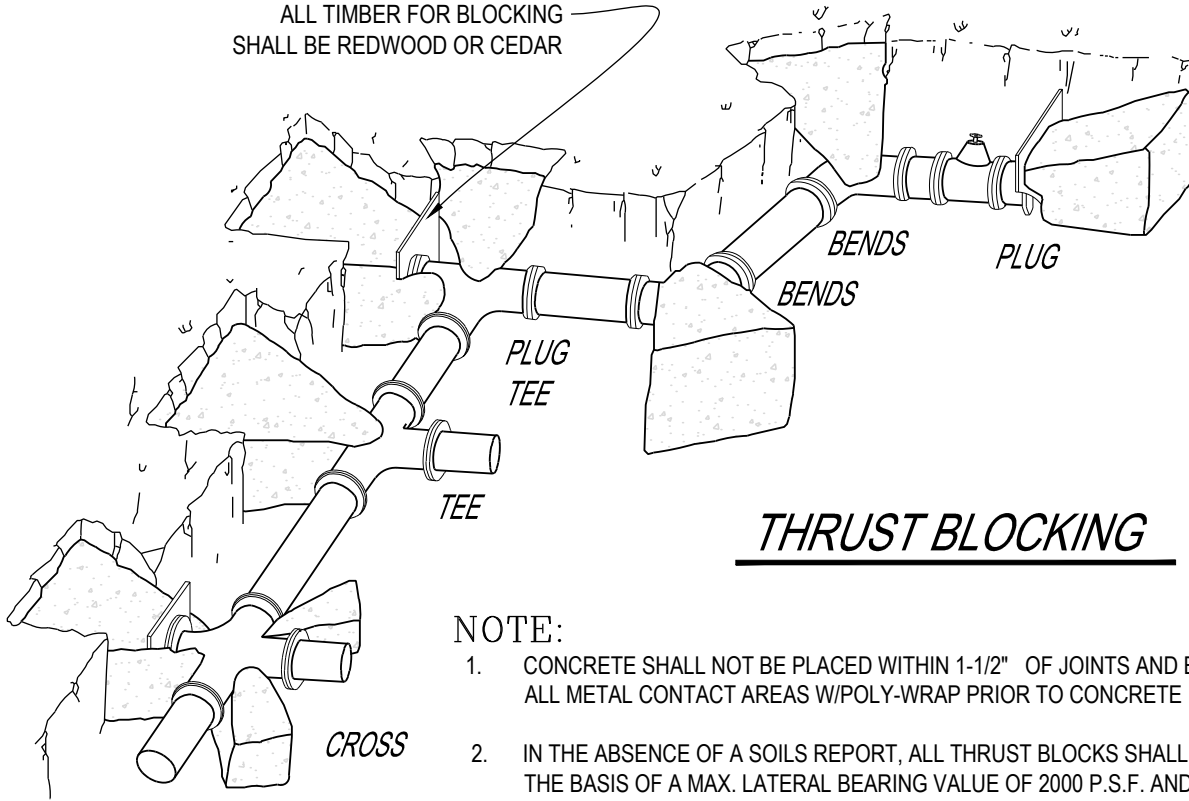
1	APPROVED		SEPT. 04
NO.	AUTHORIZED BY	REVISIONS	DATE



**TIE-DOWN
& CONCRETE
THRUST
RESTRAINTS**

**3077
10F3**

ALL TIMBER FOR BLOCKING SHALL BE REDWOOD OR CEDAR



THRUST BLOCKING

NOTE:

1. CONCRETE SHALL NOT BE PLACED WITHIN 1-1/2" OF JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS W/POLY-WRAP PRIOR TO CONCRETE PLACEMENT.
2. IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAX. LATERAL BEARING VALUE OF 2000 P.S.F. AND A THRUST RESULTING FROM 200% OF THE WATERLINE STATIC TEST PRESSURE.
3. THRUST BLOCKS ARE REQ'D. AT ALL BENDS OF 22-1/2" OR MORE.

MINIMUM BEARING AREA IN SQ. FT.	SIZE OF PIPE								
	4"	6"	8"	12"	14"	16"	20"	24"	30"
TEES, VALVES DEAD ENDS	2	4	6.5	14	19	24	27	53	81
90° BENDS	3	5.5	9.5	20	26.5	34	52	74	114
45° BENDS	2	3	5	11	14.5	18.5	28.5	41	62
22 1/2° BENDS	2	1.5	2.75	5.5	7.5	9.5	14.5	21	32
11 1/4° BENDS	2	1	1.5	3	4	6	16	53	16

SEE SHEET 3 FOR ADDITIONAL NOTES


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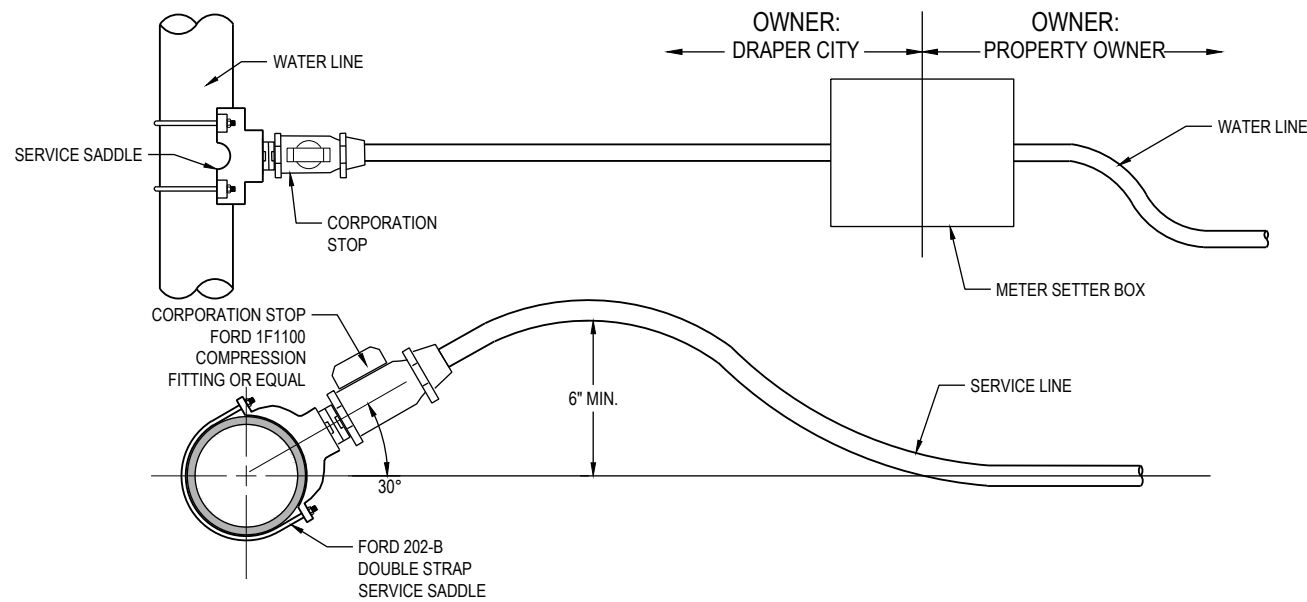
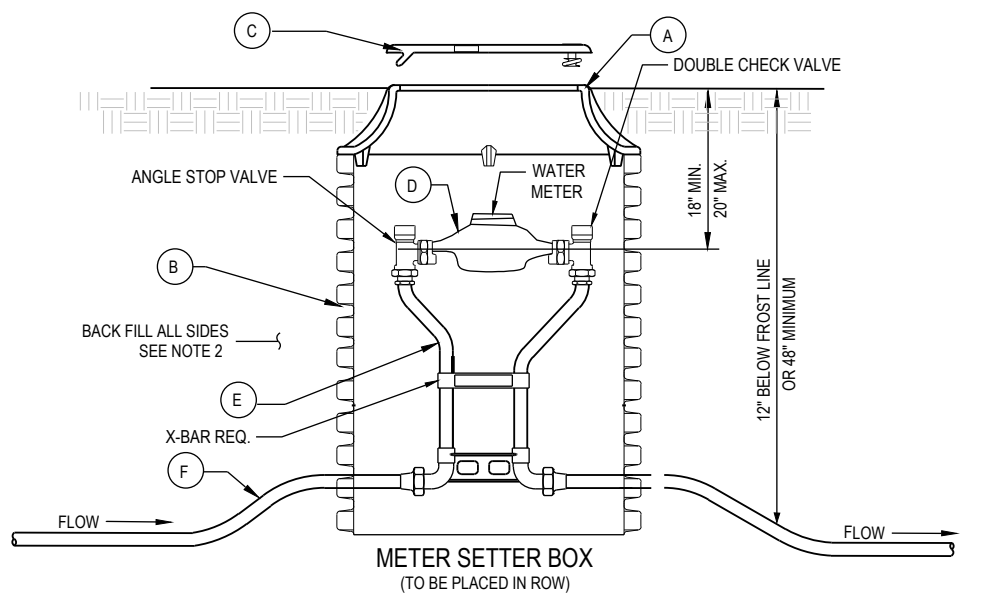
1	APPROVED		SEPT. 04		<p><u>TIE-DOWN & CONCRETE THRUST RESTRAINTS</u></p>	<p>3077 20F3</p>
NO.	AUTHORIZED BY	REVISIONS	DATE			

NOTES

1. ALL WORK MUST BE INSPECTED AND APPROVED BY ENGINEER PRIOR TO BACK FILLING
2. THRUST BLOCKS OR RESTRAINTS MUST BE POURED AGAINST UNDISTURBED SOIL
3. CONCRETE MUST HAVE A MINIMUM OF 2,000 P.S.I. COMPRESSIVE STRENGTH IN 28 DAYS
4. CONCRETE MUST BE ALLOWED TO CURE FOR 5 DAYS PRIOR TO PRESSURIZING WATER LINES OR HAVE ADDITIONAL APPROVED THRUST RESTRAINTS INSTALLED PRIOR TO PRESSURIZATION OF THE WATER LINE
5. ALL PIPE JOINTS TO BE LEFT ACCESSIBLE.
6. REINFORCING STEEL BARS TO BE EPOXY COATED A MINIMUM OF 15 MIL THICK
7. ALL EXPOSED METAL SURFACES TO BE COATED WITH POLY FM GREASE AND WRAPPED WITH AT LEAST 8 MIL THICK POLYETHYLENE SHEETING OR TUBING, AS PER MANUFACTURER INSTRUCTIONS
8. THRUST DESIGN FOR PIPE SIZES OR CONFIGURATIONS NOT SHOWN REQUIRE SPECIAL DESIGN
9. BEARING AREAS, VOLUMES, AND SPECIAL THRUST BLOCKING OR RESTRAINING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER THIS STANDARD
10. RESTRAINT SIZING ASSUMES A MAXIMUM OPERATING PRESSURE OF 150 PSI TEST PRESSURES OF 200 P.S.I., AND A MINIMUM 2,000 POUND SOIL BEARING STRESS. OPERATING PRESSURES IN EXCESS OF 150 PSI. OR SOILS WITH LESS THAN 2,000 POUNDS BEARING STRESS WILL REQUIRE A SPECIAL DESIGN
11. MINIMUM YIELD STRENGTH OF STEEL TIE DOWNS TO BE 70,000 PSI.
12. INSTALL APPROPRIATE SIZED THRUST BLOCKING ON ALL BLIND FLANGES, MJ PLUGS, AND CAPS
13. LOCKING RESTRAINT DEVICES SHALL BE USED IN CONJUNCTION WITH CONCRETE THRUST BLOCKING.

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1	APPROVED		SEPT. 04		<u>TIE-DOWN</u> <u>& CONCRETE</u> <u>THRUST</u> <u>RESTRAINTS</u>	3077 30F3
NO.	AUTHORIZED BY	REVISIONS	DATE	DRAPER CITY		



LEGEND			
No.	*	ITEM	DESCRIPTION
(A)		CAST IRON RING (grass)	D & L 2244 OR EQUAL
(B)		METER BOX (21" X 36")	ADS METER BOX WHITE IN COLOR OR EQUAL CORRUGATED, SMOOTH WALLED INSIDE } IN PARKSTRIP**
(C)		2" TAP IN LID FOR RADIO READ SENSOR OF METER	L2240- D & L OR EQUAL (SEE NOTE 10 FOR TRAFFIC RATED LID)
(D)	*	METER	PROVIDED BY CITY
(E)		1" METER YOKE W/ DOUBLE CHECK IN SETTER	FORD VBHC 74-18W
(F)		COPPER PIPE (TYPE K - SOFT) OR 1" POLY PIPE (CTS)	

* HDPE TRAFFIC RATED BOX OR EQUIVALENT
21 X 36 HANCOR METER TILE OR EQUAL (METER BOX)

** ALL OTHER AREAS REQUIRE APPROVAL OF
CITY ENGINEER W/ TRAFFIC RATED BOX & LID


1	APPROVED		XXXX. 08		METER SETTER & METER BOX 1-INCH SERVICE	3098 10F2
NO.	AUTHORIZED BY	REVISIONS	DATE			

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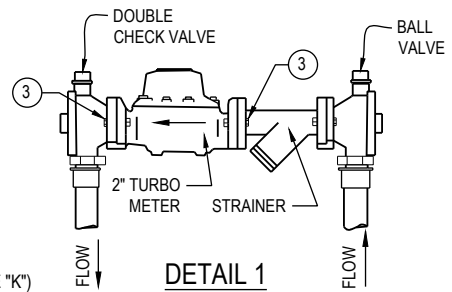
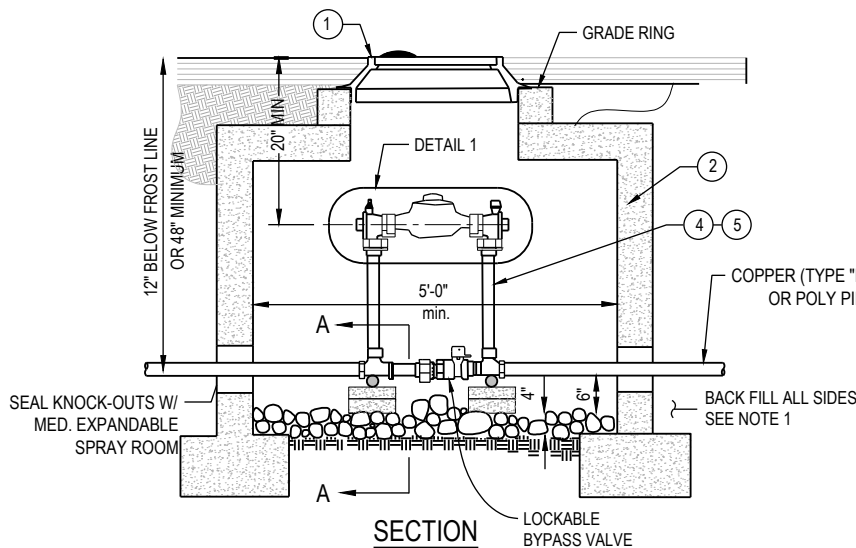
NOTES

1. INSPECTION: PRIOR TO BACK FILLING AROUND METER BOX AND TAPS, SECURE INSPECTION OF INSTALLATION BY CITY ENGINEER.
2. BACK FILL: BACK FILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO DRY DENSITY OF 95% PER ASTM D-1557 (SEE SECTION 2240 FOR SPECIFICATIONS).
3. PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP (PUBLIC ROW) AND MUST BE PLACED WITHIN 1' OF PROPERTY LINE WITH 2 BOXES ADJACENT TO COMMON PROPERTY LINE.
4. ALL METER SETTERS MUST HAVE BACK FLOW PREVENTERS.
5. METER BOX MUST BE FREE OF DEBRIS AND WATER, AND BE FREE OF ALL DEFECTS. METER BOXES THAT ARE CRACKED, CHIPPED, BROKEN, OR DEFORMED WILL NOT BE ACCEPTED.
6. METER SETTER MUST BE 18"-20" BELOW LID.
7. BRASS CORPORATION STOPS: FORD CORPORATION STOP OR EQUAL.
8. COMPRESSION FITTINGS ARE TO BE MUELLER 110 OR EQUAL.
9. COMPRESSION FITTINGS FOR POLY PIPE REQUIRE INSERTS.
10. TRAFFIC LID SHALL BE H & D SUPPLY "MTU-9021" WITH 2" KNOCK OUT OR EQUAL.

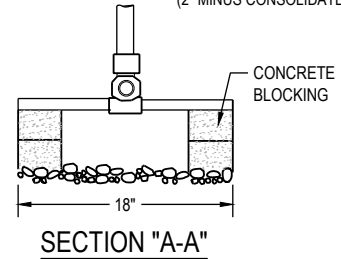
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1	APPROVED		SEPT. 04		<u>METER SETTER</u> <u>& METER BOX</u> <u>1-INCH</u> <u>SERVICE</u>	3098 20F2
NO.	AUTHORIZED BY	REVISIONS	DATE			

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BOX SHALL BE PLACED OVER 6" MIN. THICK GRAVEL BASE (2" MINUS CONSOLIDATED ROCK)



LEGEND: SERVICE METER

No.	ITEM	DESCRIPTION
①	CAST IRON COVER (grass) DUCT. IRON COVER (traffic)	W/2" TAP FOR RADIO READ SENSOR OF METER
②	CONCRETE BOX, 5' X 5' INSIDE DIM. WITH KNOCK-OUTS AND FOOTINGS	H-20 TRAFFIC RATED
③	METER BOLTS	
④	1 1/2" CUSTOM SETTER	WITH LOCKABLE BYPASS
⑤	2" CUSTOM SETTER	WITH LOCKABLE BYPASS

LEGEND: SERVICE TAP

No.	ITEM	DESCRIPTION
(A)	CONCRETE TRAFFIC BOX	
(B)	2-PC. CAST IRON VALVE BOX WITH LID	
(C)	CORPORATION STOP	
(D)	COMPRESSION FITTING	
(E)	SERVICE SADDLE CLAMP	DOUBLE BANDED BRASS
(F)	COPPER (TYPE "K") OR POLY PIPE (CTS) AWWA C-901	

* "E" IS REQUIRED ON D.I.P. WATER MAIN

** ALL POLY PIPE REQUIRES 14 Ga. TRACER WIRE

NOTES FOR SERVICE LINE AND METER

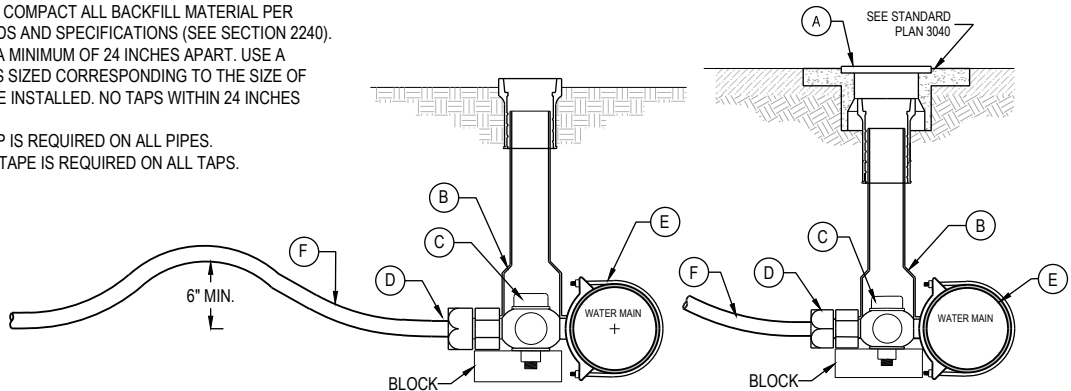
- INSPECTION:** PRIOR TO BACKFILLING AROUND THE METER BOX, SECURE INSPECTION BY CITY ENGINEER.
- BACKFILL:** INSTALL AND COMPACT ALL BACKFILL MATERIAL PER DRAPER CITY STANDARDS AND SPECIFICATIONS. IN 8" COMPACTED LIFTS. COMPACT LIFTS TO A MINIMUM 95% DENSITY (SEE SECTION 2240).
- METER:** DRAPER CITY WILL PROVIDE AND INSTALL METER.
- PIPE:** INSTALL CTS PIPE OR COPPER (TYPE "K") TO PROPERTY LINE.
- PLACEMENT:** DO NOT INSTALL METER BOX UNDER DRIVEWAY APPROACHES, SIDEWALKS, OR CURB & GUTTER. IN NEW CONSTRUCTION, INSTALL METER NEAR CENTER OF LOT IN PARKSTRIP

NOTES FOR SERVICE TAPS

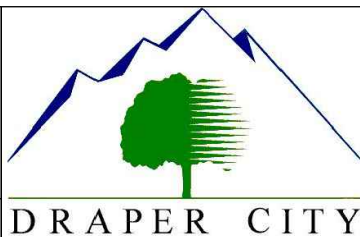
- INSPECTION:** PRIOR TO BACKFILLING AROUND THE METER BOX, SECURE INSPECTION BY CITY ENGINEER.
- BACKFILL:** INSTALL AND COMPACT ALL BACKFILL MATERIAL PER DRAPER CITY STANDARDS AND SPECIFICATIONS (SEE SECTION 2240).
- TAPPING:** PLACE TAPS A MINIMUM OF 24 INCHES APART. USE A TAPPING TOOL WHICH IS SIZED CORRESPONDING TO THE SIZE OF THE SERVICE LINE TO BE INSTALLED. NO TAPS WITHIN 24 INCHES OF PIPE JOINT.
- SERVICE SADDLE CLAMP IS REQUIRED ON ALL PIPES.**
- TEFLON TAPE:** TEFLON TAPE IS REQUIRED ON ALL TAPS.

NOTE: ALL FITTINGS SHALL BE COMPRESSION FITTINGS WITH INSERTS USED FOR POLY PIPE

CITY ENGINEER APPROVAL
REQUIRED WHEN
INSTALLATION IS PLACED
IN HIGH GROUND WATER AREA



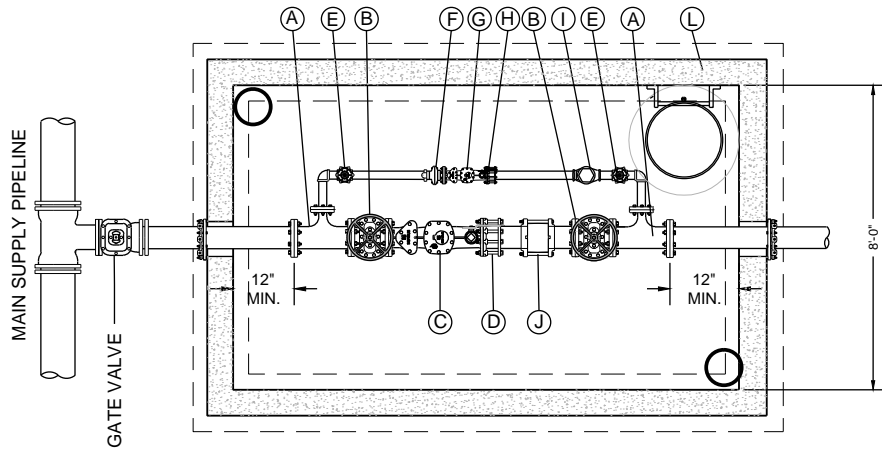
1	APPROVED		SEPT. 04
NO.	AUTHORIZED BY	REVISIONS	DATE



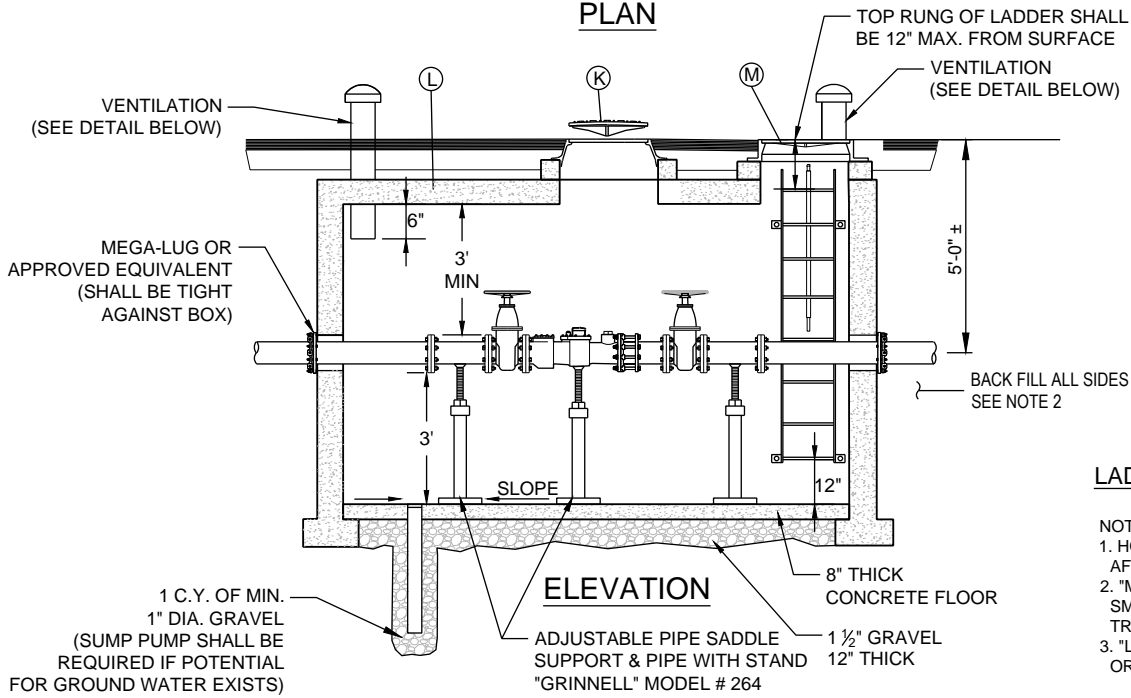
**METER SETTER
AND METER
BOX
1-1/2-INCH &
2-INCH
SERVICE**

3101

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PLAN

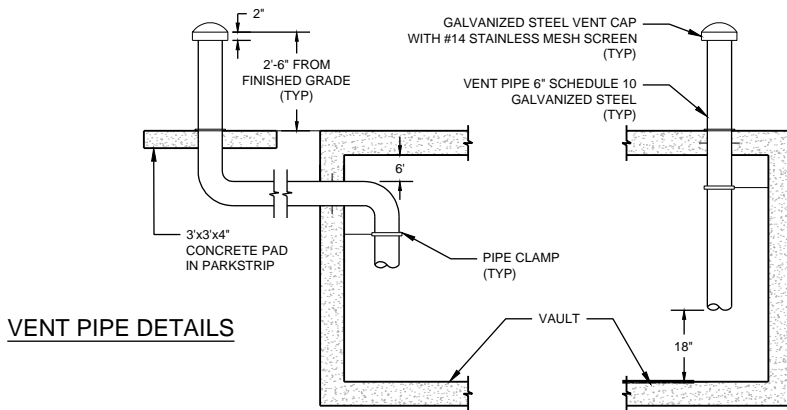
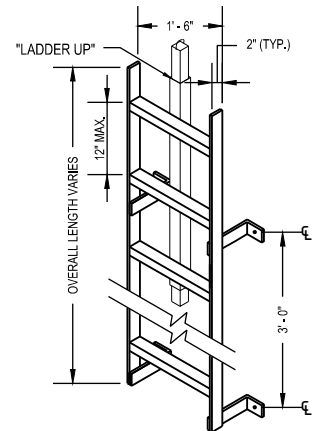


ELEVATION

LADDER NOTES

- NOTE:
1. HOT DIP GALVANIZE AFTER FABRICATION
 2. "McNICHOLS" SMALL HOLE TRACTION TREAD OR APPROVED EQUAL
 3. "LADDERUP SAFETY POST" OR APPROVED EQUAL

LADDER DETAIL



VENT PIPE DETAILS

1	APPROVED		SEPT. 04
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**4" TO 8"
METER WITH
2" BYPASS**

**3118
10F2**

NOTES

1. PRIOR TO BACK FILLING AROUND CONCRETE BOX, SECURE INSPECTION OF INSTALLATION BY ENGINEER.
2. INSTALL BACK FILL IN LIFTS NOT EXCEEDING 8" AFTER COMPACTION. COMPACT EACH LIFT TO DRY DENSITY OF 96% ± 2% OPTIMUM MOISTURE.
3. PROVIDE BRASS FITTINGS AND NIPPLES IF NOT SPECIFIED OTHERWISE. DO NOT USE GALVANIZED MATERIALS.
4. ALL PIPING SHALL BE DUCTILE IRON CLASS 55 AND SHALL BE PAINTED AS PER AWWA STANDARD C210-97.
5. CONCRETE METER BOX SHALL BE H-20 TRAFFIC LOADING RATED.
6. ALLOW 1" CLEARANCE AROUND WATERLINE WHERE LINE PASSES CONCRETE WALLS. SEAL OPENING WITH COMPRESSIBLE SEAL.
7. INSTALL VALVE WITH VALVE BOX ADJACENT TO MAIN.
8. GREASE MEGA-LUGS USING POLY F.M. GREASE AND WRAP WITH 8 MIL THICK POLYWRAP.
9. 10" AND LARGER METERS SHALL BE ENGINEERED AND SUBMITTED TO CITY FOR APPROVAL BY CITY ENGINEER.

LEGEND		
ITEM	DESCRIPTION	PART NUMBER
(A)	FLANGED TEE	
(B)	GATE VALVE W/ HANDWHEEL	
(C)	SENSUS METER	SENSUS OMNI C2 W/ RADIO READ FOR COMMERCIAL APPLICATIONS SENSUS OMNI F2 W/ RADIO READ FOR MASTER METER APPLICATIONS
(D)	FLANGED COUPLING ADAPTER	
(E)	2" GATE VALVE	
(F)	2" LOK-PAK TYPE OF METER FLANGE	
(G)	SENSUS METER	SENSUS OMNI T2 W/ RADIO READ
(H)	2" FLANGED COUPLING ADAPTER	
(I)	2" CHECK VALVE	
(J)	VAL-MATIC CHECK VALVE	SEE SPECIFICATIONS FOR REQUIRED VALVE SPACING FROM METER
(K)	36" MANHOLE RING AND COVER	
(L)	CONCRETE BOX (SEE NOTE 5)	TO BE SIZED PER APPLICATION AND PIPE SIZE
(M)	24" MANHOLE RING AND COVER	

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1	APPROVED		SEPT. 04		<p style="text-align: center;"><u>4" TO 8"</u> <u>METER WITH</u> <u>2" BYPASS</u></p>	<p style="text-align: center;">3118 20F2</p>
NO.	AUTHORIZED BY	REVISIONS	DATE			