WICKIUP WATER DISTRICT

Standards

General Conditions

1) Owner/developer must submit Engineer plans for new installation of water mains for development of property. Plans must be approved by Wickiup Water District prior to development.

2) Water service requirements are detailed in the most current version of the Wickiup Water District Resolution. Establishing Rules, Regulations, Rate Charges and Conditions for Water Service.

3) No unauthorized person shall uncover or make any connections to a utility without first obtaining a written permit from Wickiup Water District.

4) Utility service connections and restoration details shall be completed according to the Wickiup Water District Standard Details. Contact Wickiup Water District office to obtain a copy of the Standard Details.

5) Contractor shall have sufficient experience, personnel, and equipment for the type and scope of work to be performed and shall hold current Oregon contractor's license. Wickiup Water District reserves the right to require proof of experience and refuse to allow a Contractor with insufficient qualifications to work in the right-of-way.

6) Contractor shall take out and maintain public liability and property damage liability insurance as shall protect Contractors and Subcontractors and shall agree to hold Wickiup Water District free and harmless from all liabilities and damages resulting from or indirectly related to the work.

7) This permit grants no rights to trespass on adjacent property and in no way relieves the Owner and Contractor from their liability for any damages caused by their act of grading or subsequent failure of inspection by Wickiup Water District. Any materials deposited on streets or walks shall be promptly removed.

8) Permit is only valid 90 days from the date of issuance. If an extension is required, please contact Wickiup Water District.

9) The new Water Main must pass the PSI test. Must show documentation of the test.

10) The new Water Main must pass two consecutive Bacteria Tests. Must show documentation of the test.

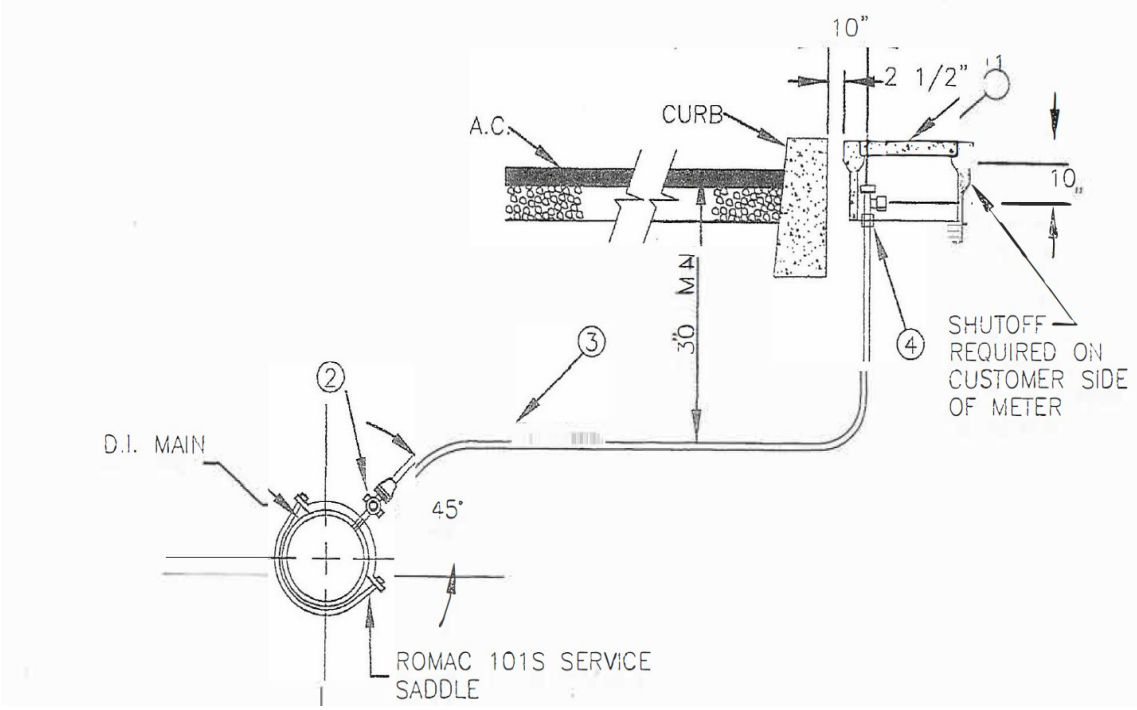
11) It is the developer’s responsibility to follow all rules and regulations in accordance to AWWA, and Wickiup Water District policy standards.

12) The owner is responsible for all costs of new installations.

13) After completion owner/developer must submit updated "as built" of the new water line to Wickiup Water.

14) All lines must have locate wire/tracer lines from meter to residence.

15) Owner/developer is responsible for maintenance for all line for one year after final walk thru or until Wickiup Water accepts the new line.



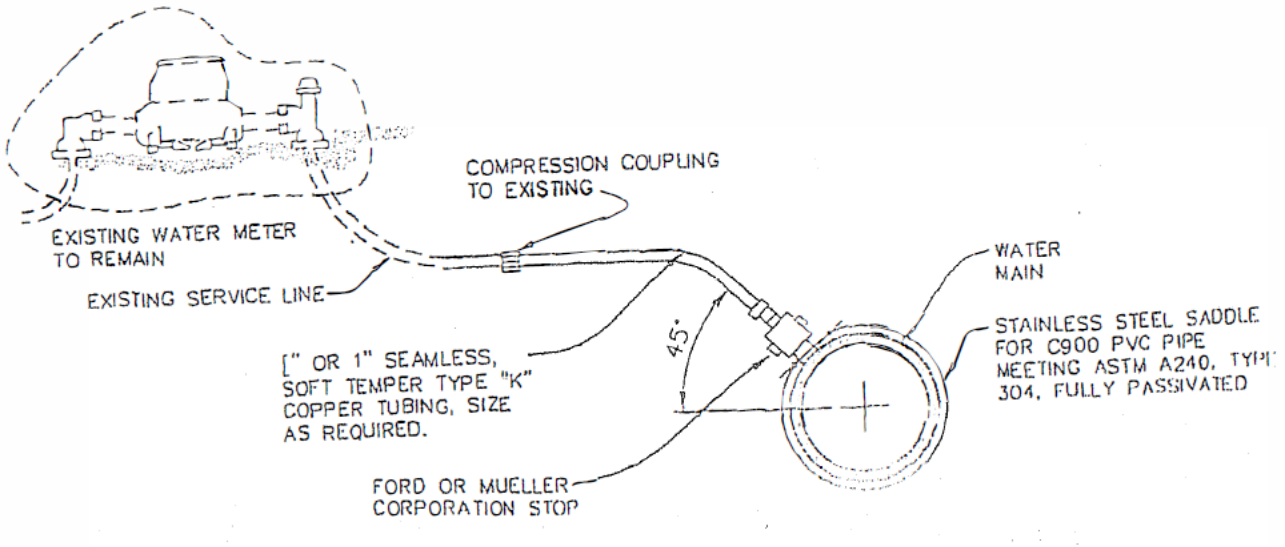
MATERIALS:

1. ARMOR CAST POLYMER CONCRETE METER BOX AND LID.
2. MUELLER CORP. STOP NO. H-15028N
3. 1" CTS SDR 9 (200 PSI) PE TUBING OR SOFT TEMPER, TYPE 'K' COPPER TUBING COMPLYING WITH ASTM B 88 UPON ENGINEERS APPROVAL.
4. MUELLER ANGLE METER STOP NO. H-14258N (1")

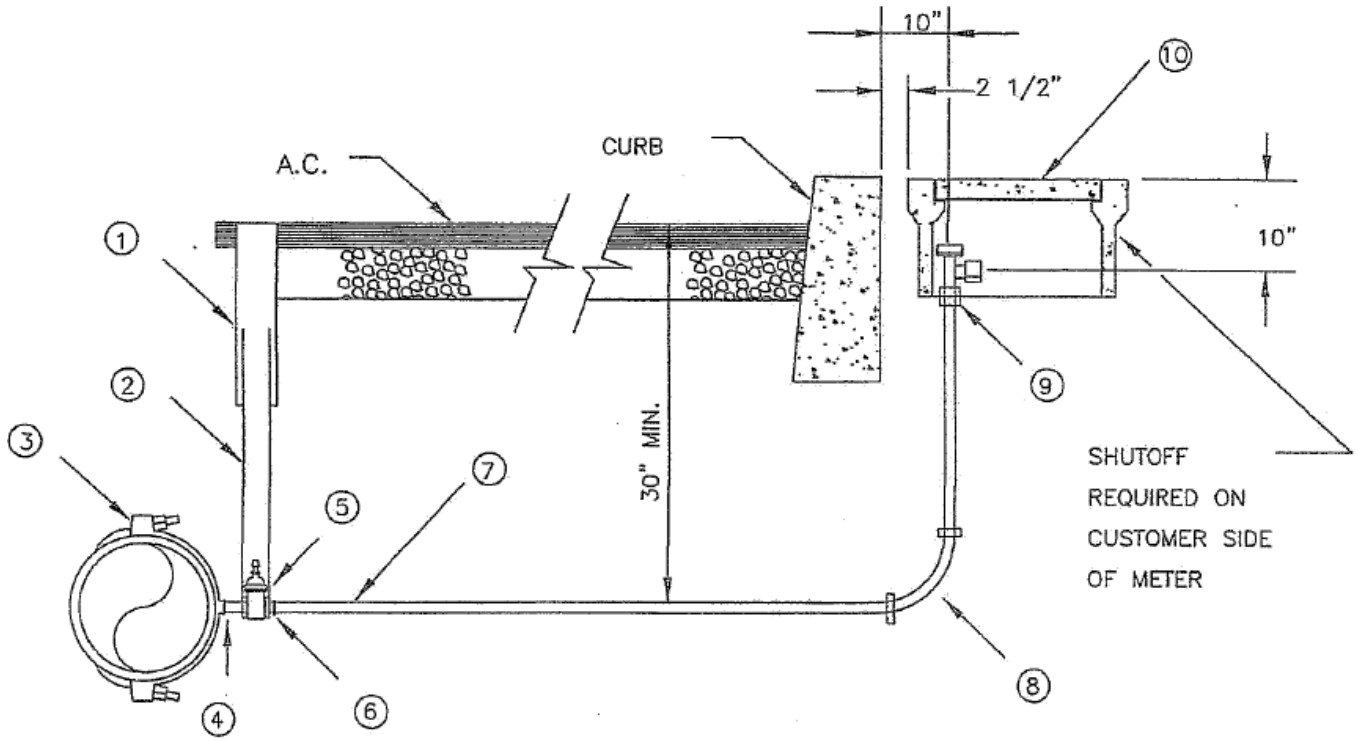
NOTES:

1. SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE DISTRICT ENGINEER.
2. ALL PIPE AND STRUCTURE ZONES SHALL BE BACKFILLED USING 3/4" MINUS CRUSHED AGG. AND COMPACTED TO MAX. DENS. AS DETERMINED BY AASHTO T-180.
3. METER BOX SHALL BE CENTER OVER THE COMPLETED METER ASSEMBLY.
4. WATER METERS THAT ALSO PROVIDE FIRE SUPPRESSION MUST BE TAGGED WITH "SUPPLIES FIRE SUPPRESSION." TAG SHALL BE MIN. 2.5" X 5", WEATHERPROOF, HEAVY DUTY RED PLASTIC. PRE-DRILL AND SECURED TO THE METER WITH PLASTIC CABLE TIES.

1” WATER SERVICE DETAIL



WATER SERVICE DETAIL; RECONNECTION DETAIL

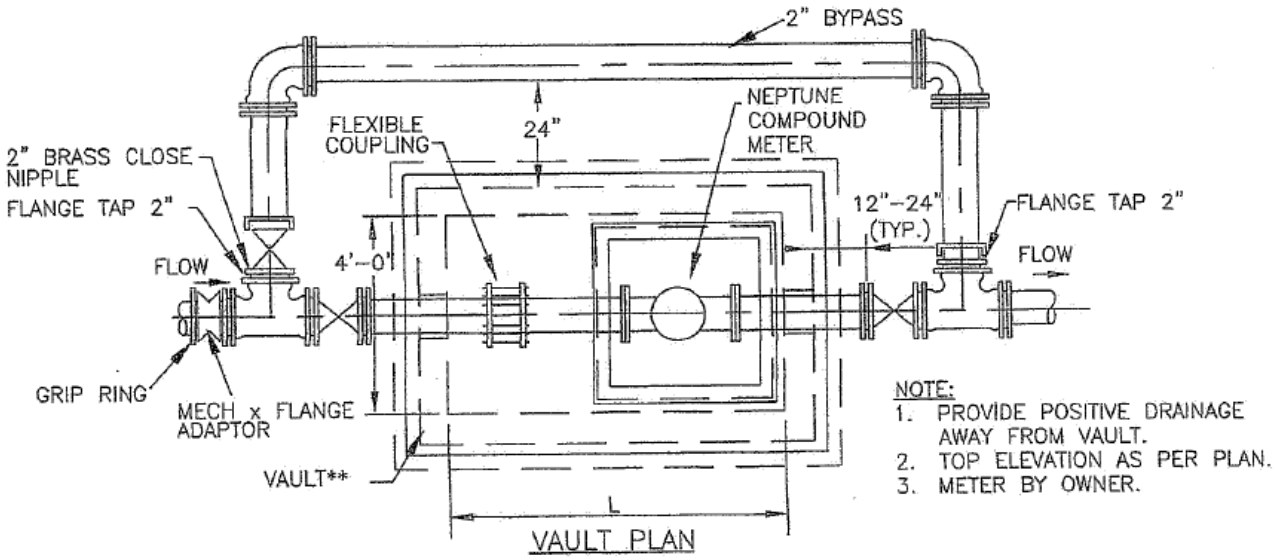


NOTES:

1. EJIW-18" VALVE BOX TOP WITH COVER
2. 6" PVC D3034 SEWER PIPE
3. PIPE SIZE-ROMAC 2025 STYLE SERVICE SADDLE DOUBLE STRAP STAINLESS STEEL-TAP2" 1.P. THREAD
4. 2" BRASS CLOSE NIPPLE
5. 2" C.I. GATE VALVE WITH 2" OPERATING NUT, BOTH ENDS FEMALE I.P. THREADS-AMERICAN FLOW CONTROL
6 2" MUELLER COMPRESSION #110 COUPLING, MALE I.P. THREADS #15428N
7. 2" HOPE TUBING CTS SIZE SDR 9 (200 PSI)
8. IF NEEDED 2" QUARTER BEND UNION, COMPRESSION CONNECTOR CTS O.D. TUBING BOTH ENDS-#H15526N
9. 2" GROUND KEY ANGLE METER STOP MUELLER 110 COMPRESSION, FOR CTS O.D. TUBING, METER FLANGE 180 TURN CHECK-LOCK WING-#Hl4277N
10. QUAZITE 11"X18"X12" POLYMER CONCRETE METER BOX (622037116330) AND DUCTILE CAST IRON READ LID (LC1118R-D)

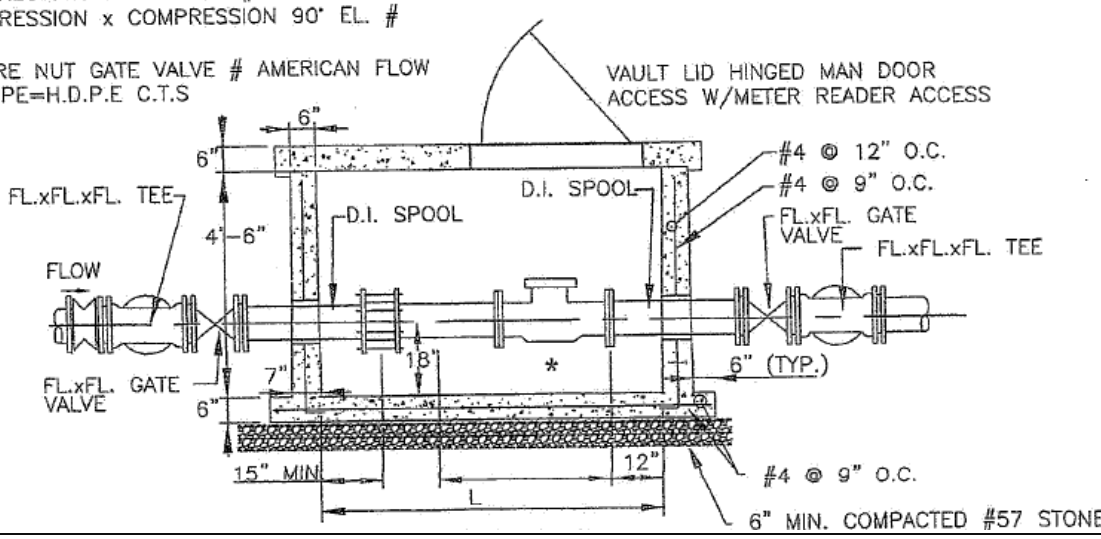
WATER METERS THAT ALSO PROVIDE FIRE SUPPRESSION MUST BE TAGGED WITH "SUPPLES FIRE SUPPRESSION". TAG SHALL BE MIN. 2.5" X 5". WEATERPROFF, HEAVY DUTY RED PLASTIC. PRE-DRILL AND SECURED TO THE METER WITH PLASTIC CABLE TIES.

2" WATER SERVICE DETAIL



VAULT PLAN

2" BYPASS (SIZE OF BYPASS TO BE DETERMINED BY ENGINEER).
2-2" COMPRESSION x I.P. MALE #H15428-2"
2-2" COMPRESSION x COMPRESSION 90° EL. # H15526-2"
1-2" SQUARE NUT GATE VALVE # AMERICAN FLOW CONTROL PIPE=H.D.P.E C.T.S



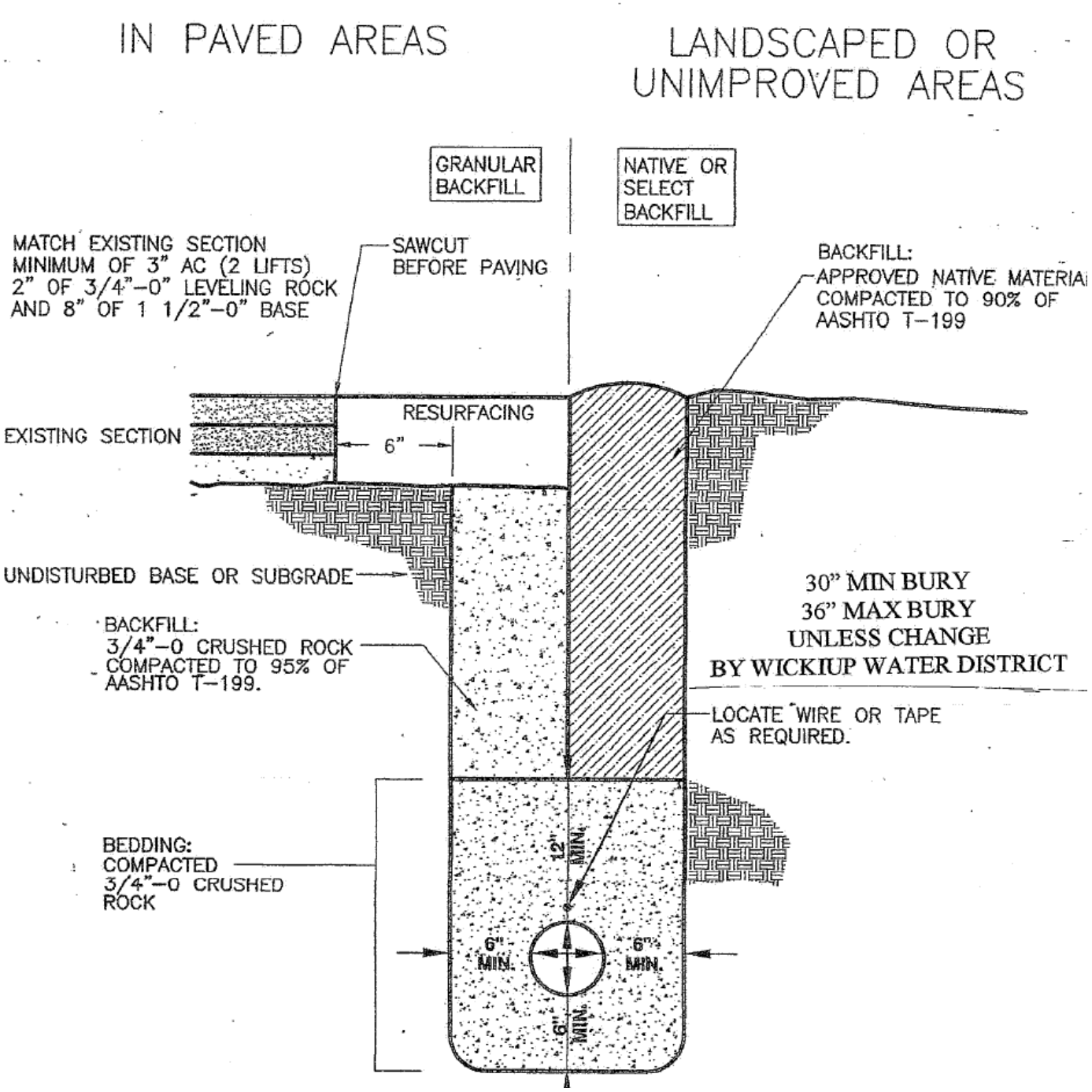
VAULT SECTION

1. MINIMUM 1 FT. CLEARANCE ON FLANGED ENDS AND SIDES OF 3" & 4" METERS.
2. MINIMUM 2 FT. CLEARANCE ON FLANGED ENDS AND SIDES OF 6" AND LARGER METERS.
3. VAULT TO HAVE ATTACHED LADDER IF OVER 3' DEEP WITH 3' REMOVABLE SECTION THAT WILL EXTEND ABOVE VAULT LID.
4. METER TO BE SET 18" FROM TOP OF LID.
5. METER READER ACCESS DOOR TO BE CENTERED EVERY METER REGISTER.
6. FLOOR TO HAVE DRAIN OR SUMP PUMP MAINTAINED BY CUSTOMER.
7. VAULT TO BE SET AT FINISHED GRADE.

* METER MIN.1' ABOVE BOTTOM OF VAULT

CONCRETE PAD AROUND GATE VALVE BOXES, SEE W-1

3" TO 10" WATER SERVICE DETAIL



NOTE:

1. CONTRACTOR SHALL TACK EDGES OF TRENCH AND PLACE AND COMPACT ASPHALT IN ACCORDANCE WITH A.P.W.A. STANDARDS.
2. REPLACE CONCRETE ROADWAY AS ENCOUNTERED, EQUIVALENT SECTION. CONCRETE TO BE CALSS 3300, 1 ½" AGGREGATE.
3. IN ROADWAY SHOULDERS, GRAVEL DRIVEWAYS, AND RIGHT-OF-WAYS USE GRANULAR BACKFILL AND SURFACE WITH 6" OF ¾" -0 CRUSHED ROCK.

TRENCH SECTION

FITTING SIZE INCHES	TEE, WYE & HYDRANTS (1)	STRADDLE BLOCK (2)	90' BEND PLUGGED CROSS TEE PLUGGED RUNS (3)	45° BEND (4)	22 ½" BEND (4)	11 ½" BEND (4)
2	*	*	*	*	*	*
4	1.7	2.1	2.4	1.3		*
6	3.7	4.9	5.31	2.9	1.5	*
8	6.7	8.7	9.5	5.1	2.7	1.3
10	10.5	13.6	14.8	8	4.1	2
12	15.1	19.6	21.3	11.6	5.9	2.9
14						
16	26.8	37.9	37.9	20.5	10.4	5.2
18	33.9	47.9	47.9	25.9	12.8	6.7
LARGER	**	**	**	**	**	**

BEARING AREA OF THRUST BLOCKS (sq. ft.)

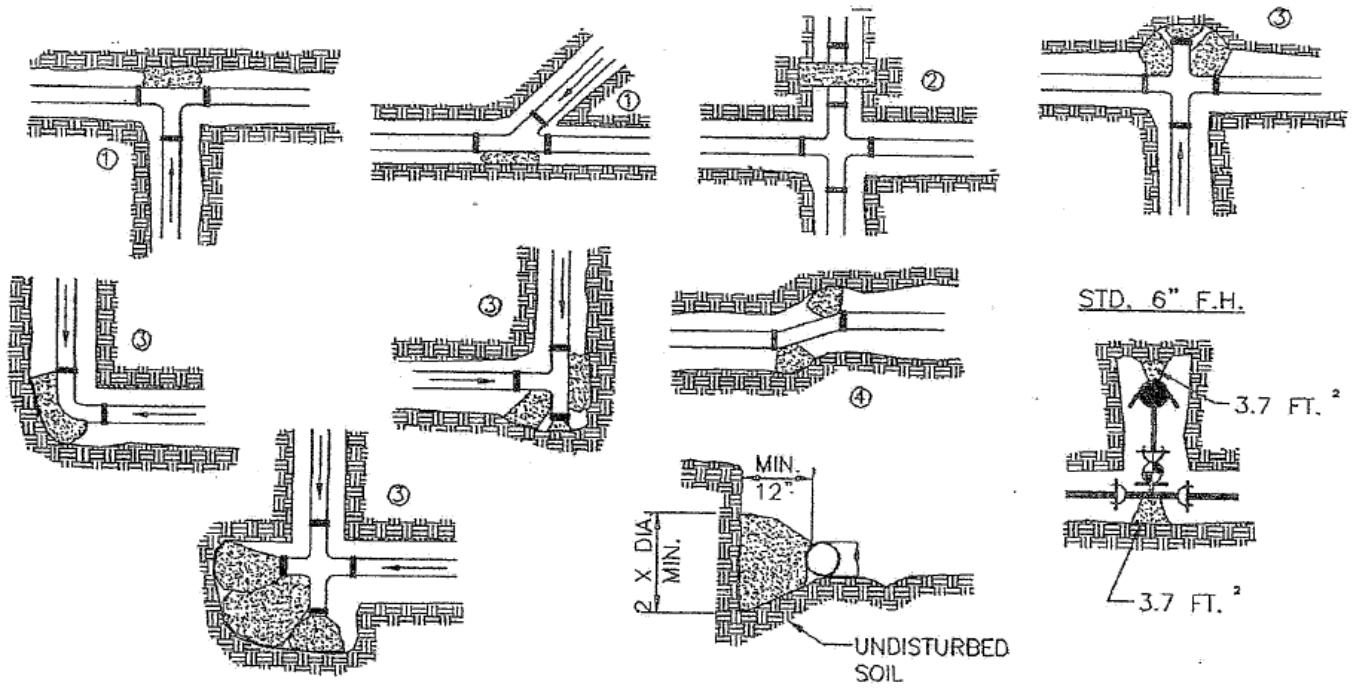
ALL VALUES ARASED ON THE FOLLOWING ASSUMPTIONS:

AVC. PRESSURE=100 PSIX2 (safety factor); 1500 PSF SOIL BEARING CAPACITY; NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED 5 F/S.

1. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
2. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
3. ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
4. ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
5. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.

* BLOCK TO UNDISTURBED TRENCH WALLS

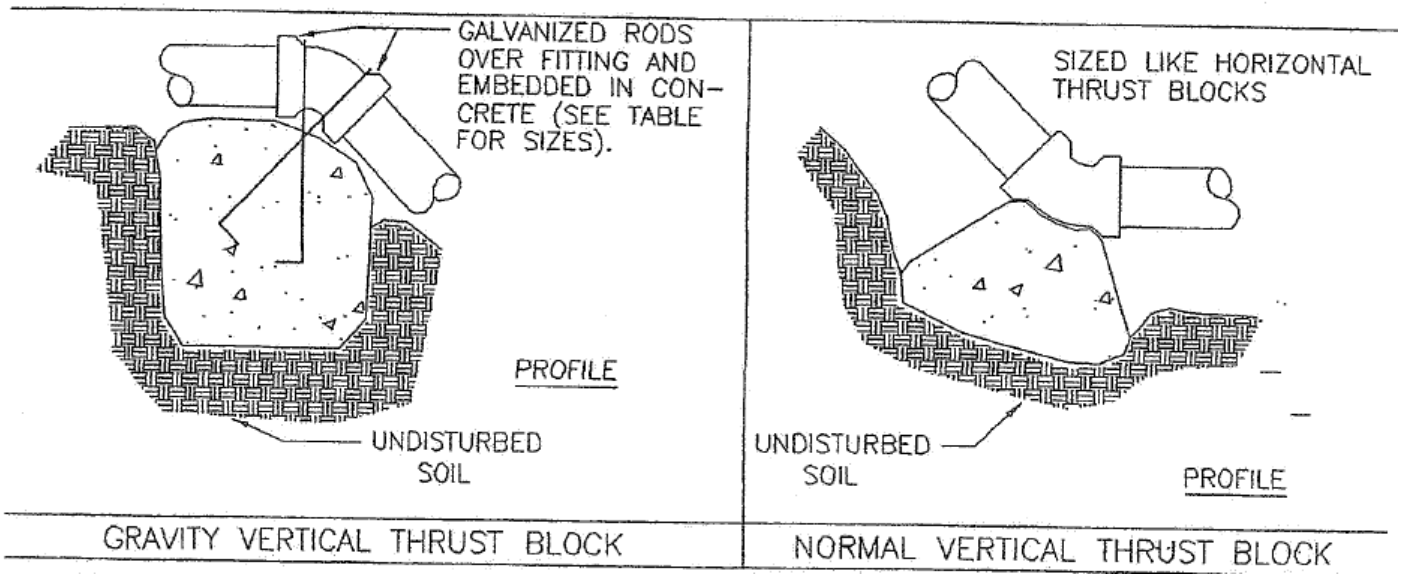
** THRUST BLOCKS FOR PIPES LARGER THAN 18" WILL BE INDIVIDUALLY DESIGNED BY THE ENGINEER.



HORZONTAL THRUST BLOCKING

NOTES:

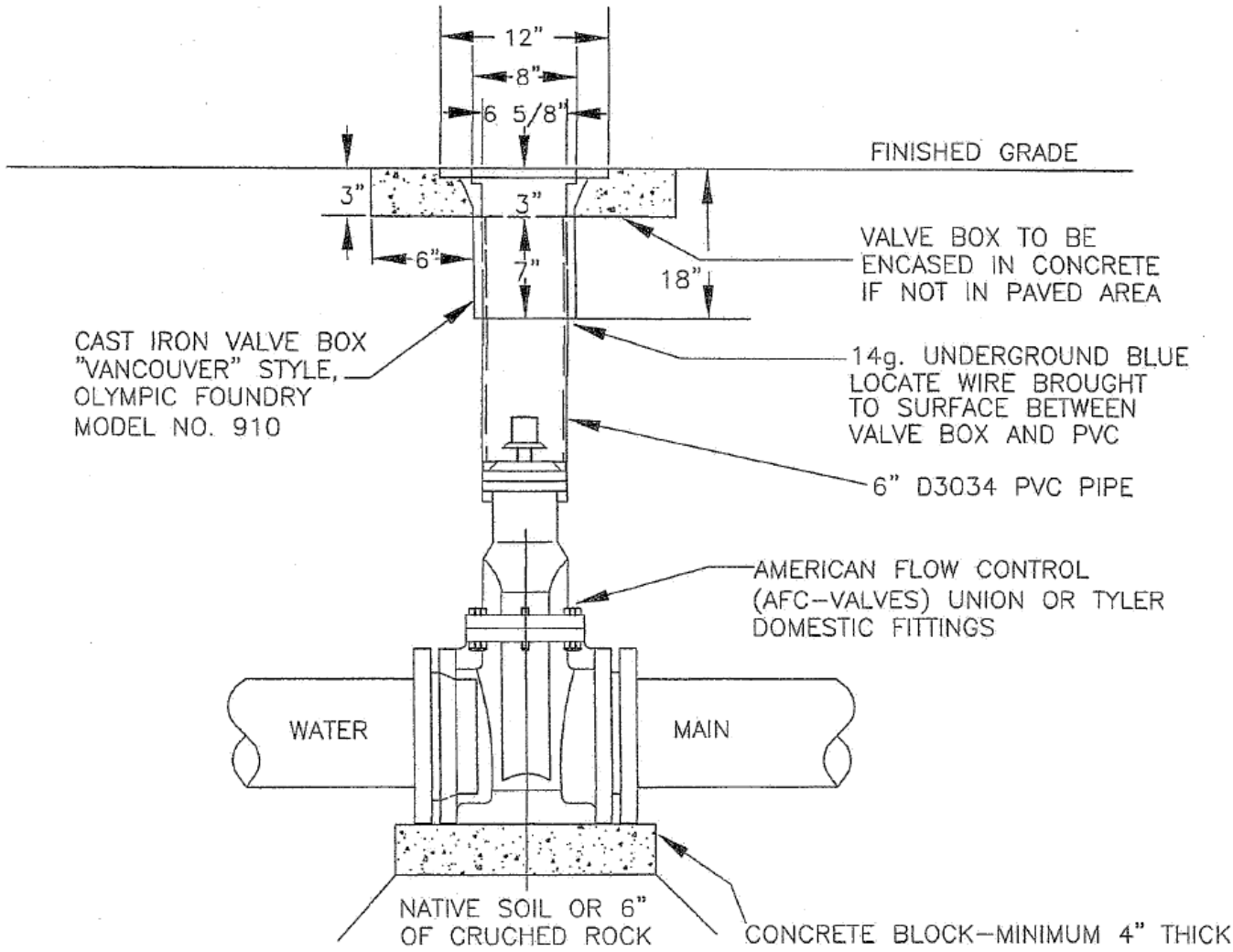
1. GRAVITY VERTICAL THRUST BLOCKS SHALL BE DESIGNED BY THE ENGINEER.
2. KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES. FITTINGS SHALL BE WRAPPED IN PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
3. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.
4. CONCRETE MIX SHALL HAVE A **MIN.** 28 DAY STRENGTH OF 3000 P.S.I.
5. THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON TEST PRESSURE OF 150 P.S.I.G. AND THE WEIGHT OF CONCRETE= 4050 LBS./CU. YD.
6. VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CUBIC YDS. REQUIRE SPECIAL BLOCKING DETAILS - SEE PLANS FOR VOLUMES SHOWN INSIDE HEAVY LINE IN TABLE.
7. PAYMENT SHALL BE THE SAME AS FOR HORIZONTAL THRUST BLOCKS
8. ALL REBAR SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM-123 {MIN. 3.4 MIL). REBAR SHALL BE BENT BEFORE GALVANIZATION, AND LAST 4" OF BAR SHALL BE BENT 90 DEGREES WITH A 1/2" RADIUS BEND. REBAR SHALL BE TIGHTLY FIT TO RESTRAINED FITTING.

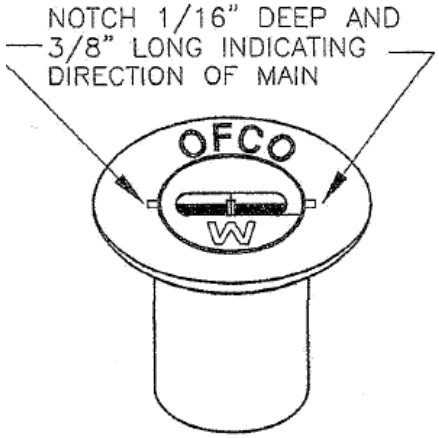


VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL BENDS)			
FITTING	**BEND ANGLE**		
SIZE	45	22 ½"	11¼"
4	1.1	0.4	0.2
6	2.7	1.0	0.4
8	4.0	1.5	0.6
10	6.0	2.3	0.9
12	8.5	3.2	1.3
14	11.5	4.3	1.8
16	14.8	5.6	2.3

FITTING SIZE	**ROD SIZE**	**EMBEDMENT**
12” AND LESS	#6	30”
6	#8	36”

VERITCAL THRUST BLOCK



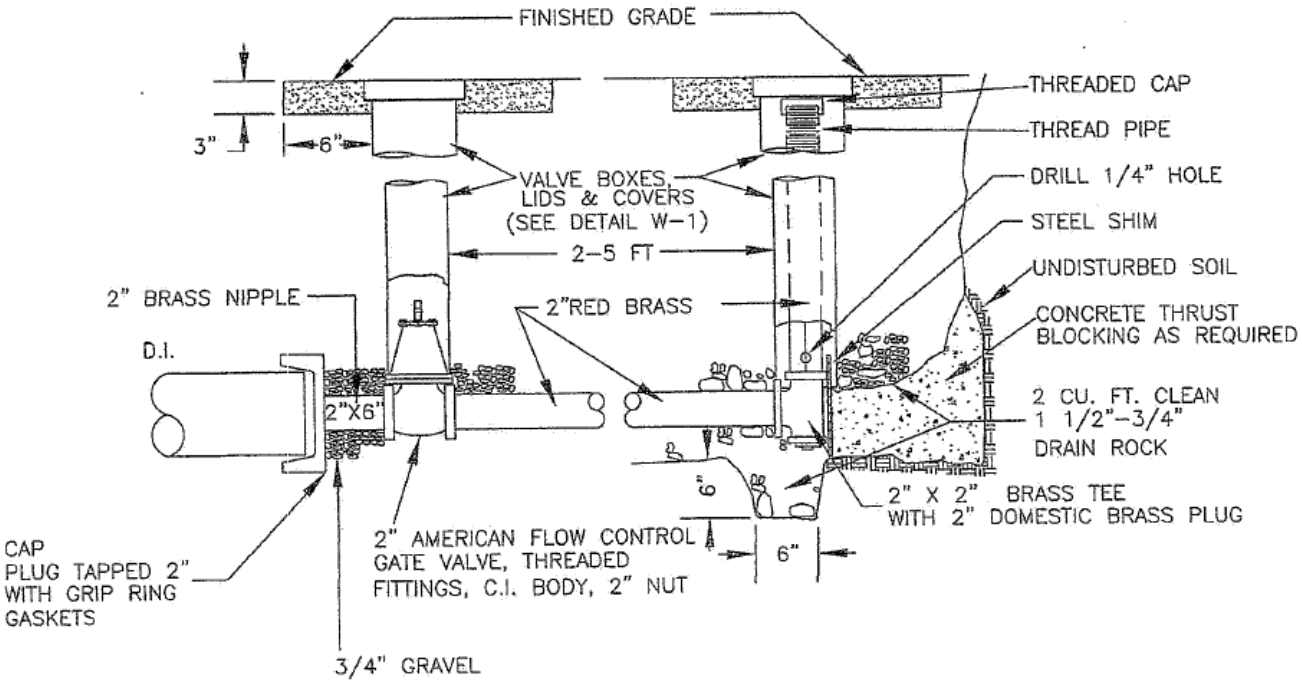


"VANCOUVER" VALVE BOX

NOTES:

1. VALVE BOXES SHALL BE PLUMB & CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.
2. VALVE BOX TOP SHALL BE ADJUSTED TO MEET FINISHED GRADE.

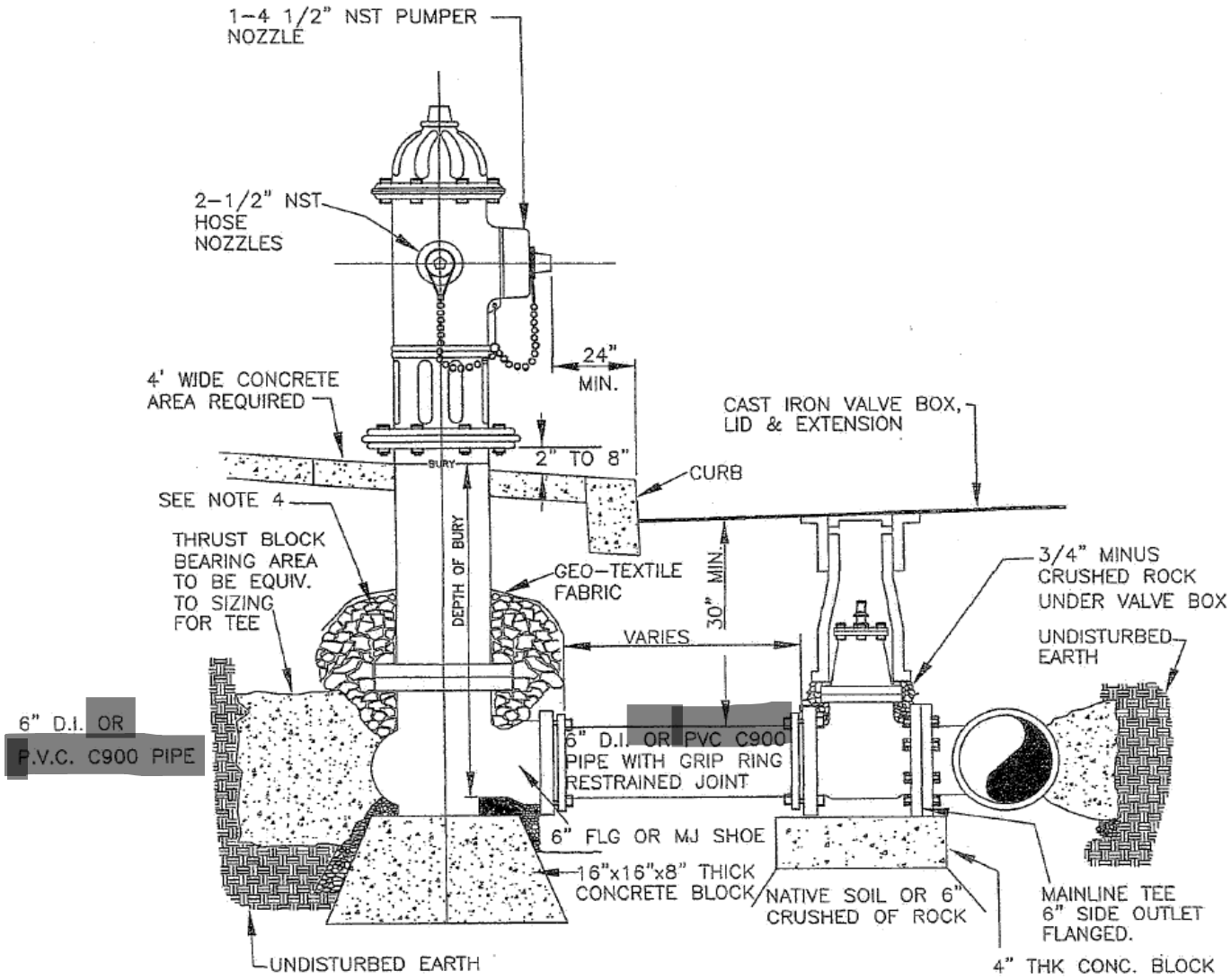
WATER VALVE DETAIL



NOTES:

1. VALVE BOX SHALL BE PER STANDARD DETAIL W-1.
2. BLOW-OFF UNIT SHALL BE GRAVEL BACK FILLED AND COMPACTED AS SHOWN.

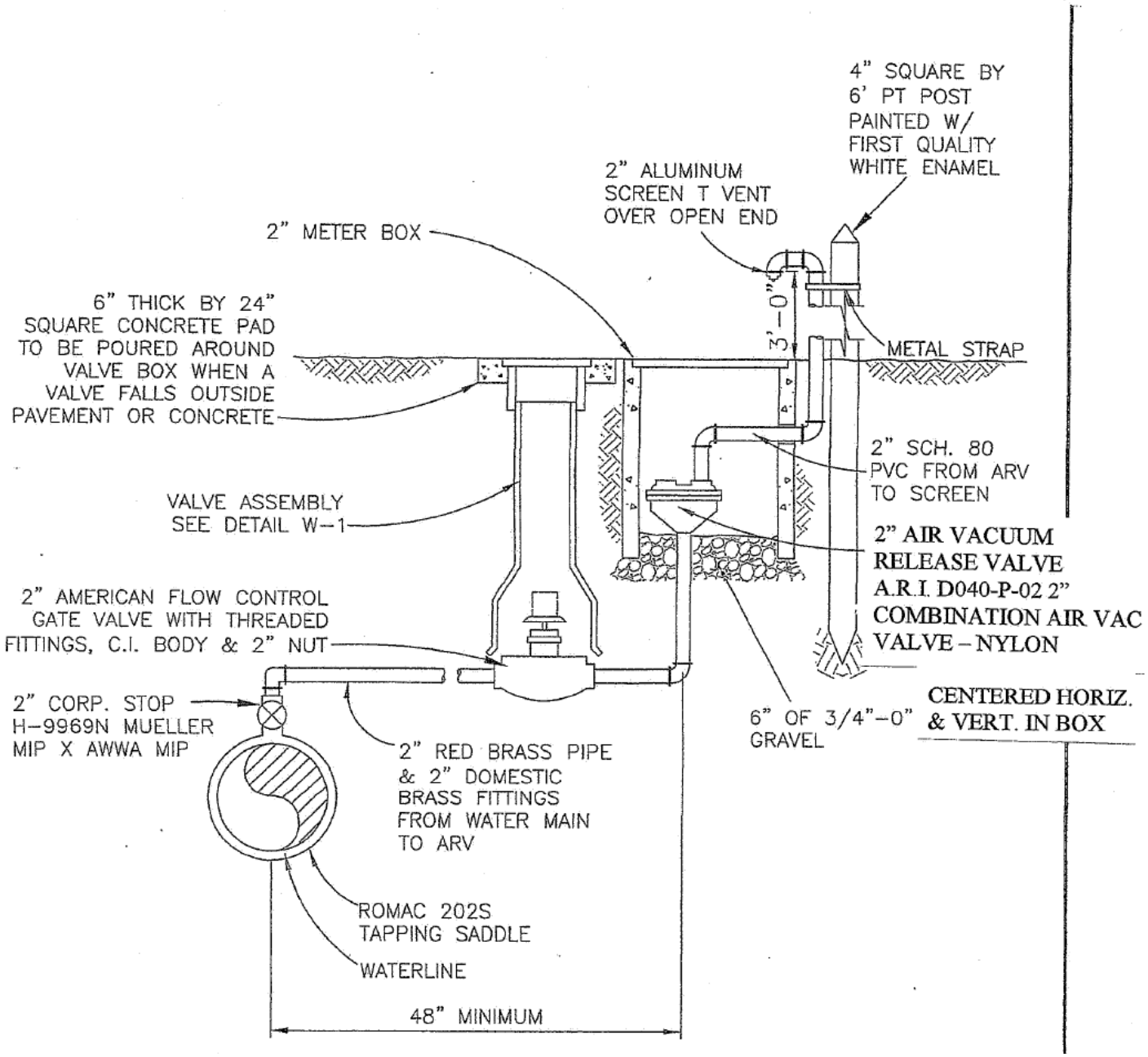
BLOW OFF DETAIL



NOTES:

1. HYDRANTS TO BE MULLER SUPER ENTURION A423-PN, INLET 6" – 5 ¼" MVO, 1 – ½" PENTAGON OPERATING NUT OPEN LEFT.
2. HYDRANTS ARE YELLOW AND PRIVATE HYDRANTS ARE RED.
3. RESTRAIN JOINTS BY USING FLANGED HYDRANT SHOE, SPOOL, AND GATE VALVE -OR- WITH GRIP RING GASKET JOINT RESTRAINTS.
4. ALL FITTINGS IN CONTACT WITH CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
5. 1 ½" - 3/4" CLEAN DRAIN ROCK SHALL BE PLACED A MINIMUM OF 6" ABOVE DRAIN OUTLET ONE (1) YD MINIMUM AREA.
6. WHERE PLANTER STRIP EXISTS HYDRANT SHALL BE PLACED SO FRONT PORT IS A MINIMUM OF 24" BEHIND FACE OF CURB.
7. BURY OF HYDRANT SHALL BE MEASURED FROM FINISHED GRADE TO BOITOM OF CONNECTION PIPE.
8. THRUST BLOCK AT FIRE HYDRANT TEE SHALL HAVE A 3.7 SQ. FOOT BEARING AREA.
9. HYDRANT VALVE SHALL BE AMERICAN FLOW CONTROL RESILIENT SEAT GATE VALVE ONLY.
10. PIPING BETWEEN HYDRANT AND VALVE TO BE SAME PRESSURE CLASS AND MATERIAL AS WATER MAIN OR GREATER.
11. HYDRANT MAY NOT BE LOCATED WITHIN THRE (3) FEET OF ANY OBSTRUCTION.

FIRE HYDRANT DETAIL



AIR / VACUUM RELEASE VALVE DETAIL