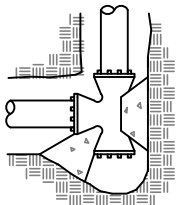


(HORIZONTAL)

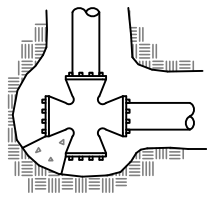
BEARING AREA OF THRUST BLOCKS IN SQ. FT.

VOLUME OF THRUST BLOCK
IN CU. YDS. (VERTICAL)

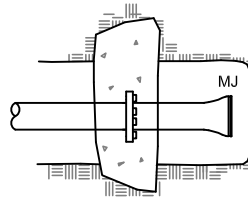
FITTING SIZE (IN.)	TEES, LATERAL WYES DEAD ENDS	STRADDLE BLOCK	90° BEND PLUGGED CROSS; TEE PLUGGED ON RUN	45° BEND	22 1/2° BEND	11 1/4° BEND	FITTING SIZE (IN.)	BEND ANGLE			
								90°	45°	22.5°	11.25°
2	0.2	0.2	0.3	0.2	0.1	0.05	2	0.2	0.1	0.0	0.0
3	0.5	0.9	0.8	0.4	0.2	0.1	3	0.4	0.2	0.1	0.1
4	0.9	1.4	1.3	0.7	0.4	0.2	4	0.7	0.4	0.2	0.1
6	2.1	2.8	3.0	1.6	0.8	0.4	6	1.5	0.8	0.4	0.2
8	3.8	4.8	5.3	2.9	1.5	0.7	8	2.7	1.5	0.8	0.4
10	5.9	7.3	8.3	4.5	2.3	1.2	10	4.3	2.3	1.2	0.6
12	8.5	10.3	12.0	6.5	3.3	1.7	12	6.1	3.3	1.7	0.8
14	11.5	13.8	16.3	8.8	4.5	2.3	14	8.3	4.5	2.3	1.2
16	15.1	17.8	21.3	11.5	5.9	3.0	16	10.9	5.9	3.0	1.5
18	19.1	22.4	27.0	14.6	7.4	3.7	18	13.8	7.5	3.8	1.9
20	23.6	27.5	33.3	18.0	9.2	4.6	20	17.0	9.2	4.7	2.4
24	33.9	39.2	48.0	26.0	13.2	6.7	24	24.5	13.3	6.8	3.4



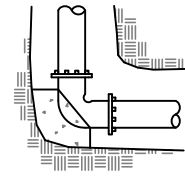
90° BEND



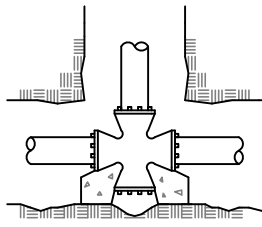
90° BEND



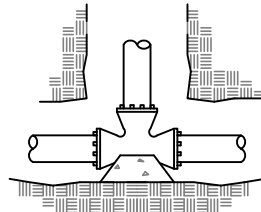
STRADDLE BLOCK



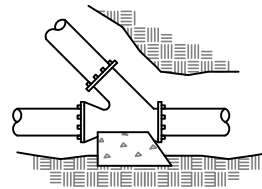
BEND



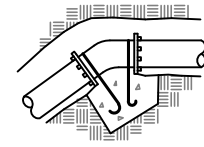
TEE



TEE



LATERAL WYE



VERTICAL BEND

NOTES:

- 1) CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- 2) ALL CONCRETE TO BE CLASS 2500.
- 3) INSTALL ISOLATION MATERIAL BETWEEN PIPE AND/OR FITTINGS BEFORE POURING BLOCKING.
- 4) CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
- 5) SEE TYPICAL HYDRANT SETTING DETAILS FOR BLOCKING LOCATIONS.

FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14"-16"	#8	36"

BEARING AREA OF REDUCERS SHALL BE THE DIFFERENCE BETWEEN VALUES FOR DEAD ENDS FOR EACH END SIZE (IE. 6x8: 3.8-2.1 = 1.7 SQ. FT.)

VALUES BASED ON 150 PSI WATER PRESSURE AND 2000 PSF SOIL BEARING CAPACITY.



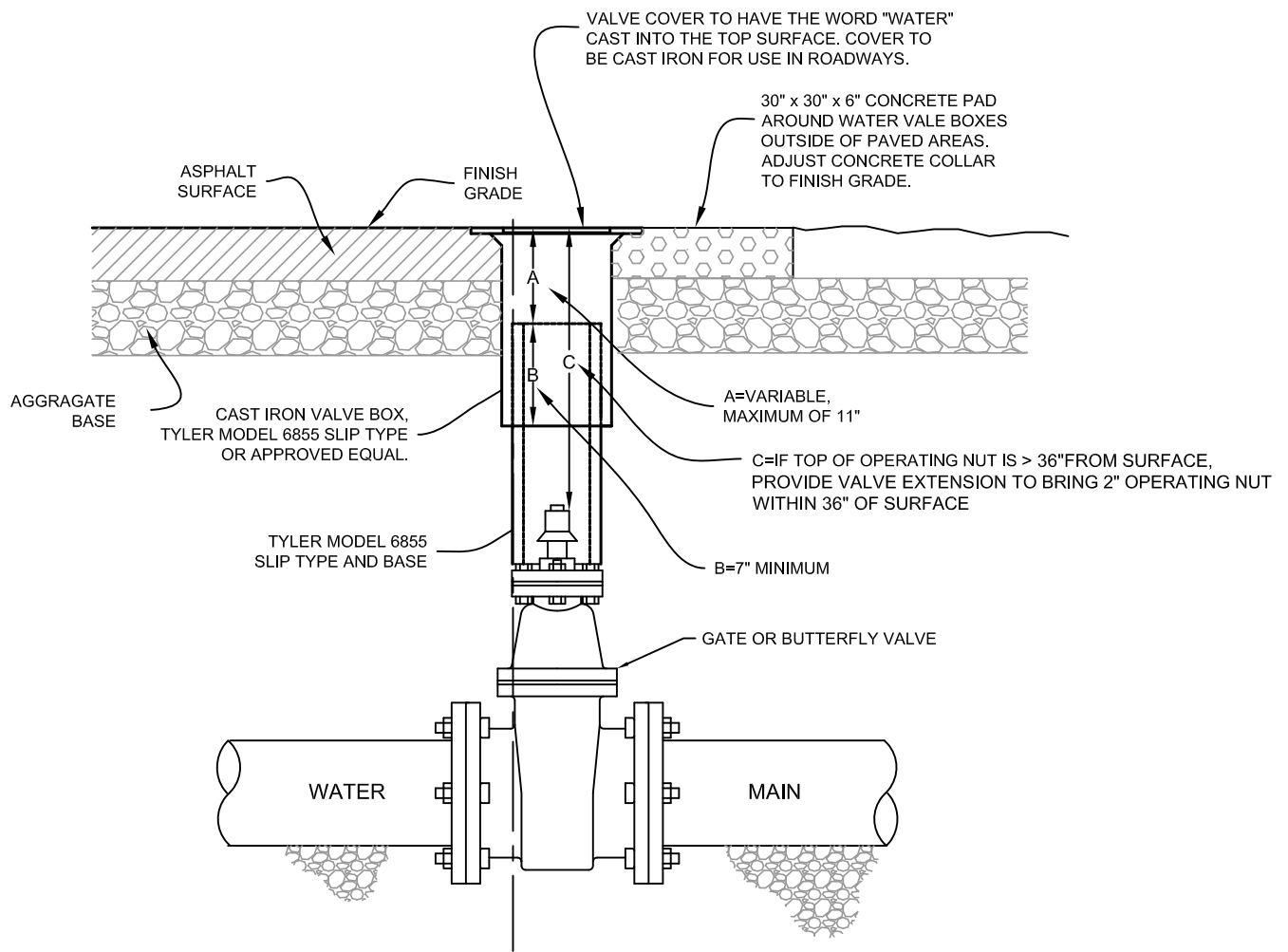
City of Sisters ◦ Standard Detail

**STANDARD
THRUST BLOCKING**

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	2/10/2020

DRAWING NO.

4-1



City of Sisters ◦ Standard Detail

WATER MAIN VALVE
VALVE BOX DETAIL

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	2/10/2020

DRAWING NO.

4-2

NOTE: HYDRANT SHALL BE RED IN COLOR.

CONCRETE PAD REQUIRED. BOLLARDS REQUIRED IN NON-CURBED AREAS. SEE CONCRETE PAD AND BOLLARD STANDARD DRAWING.

SISTERS-CAMP SHERMAN FIRE DISTRICT APPROVED SNOW FLAG

STORZ PUMPER NOZZLE TO BE SET ON STREET SIDE

MECHANICAL JOINT

6" C 900 PIPE

FINISH GRADE

SEE GATE VALVE STANDARD DRAWING

GATE VALVE - 6" FLANGED BY MECHANICAL JOINT MAIN

TRENCH OR BURY TO VARY IN 6" INTERVALS (30" MIN. COVER)

UNDISTURBED EARTH

NOTE: DO NOT COVER DRAIN PORT OF HYDRANT. WRAP WITH PLASTIC OR OTHER SIMILAR MATERIAL TO PREVENT CONTACT WITH CONCRETE.

UNDISTURBED EARTH

2'-0" SQ. MIN.

CONCRETE THRUST BLOCK (SIZE PER CITY STANDARDS)

TEE MJ x MJ x FLG

CONCRETE THRUST BLOCK (SIZE PER CITY STANDARDS). WHERE THRUST BLOCKS ARE NOT FEASIBLE RESTRAINED JOINTS MAY BE USED (PROVIDE RESTRAINED JOINT CALCULATIONS).

3/4" MINUS DRAIN ROCK UP TO HYDRANT DRAIN PORT THEN 1"- 2" DRAIN ROCK TO ELEV. 6" ABOVE HYDRANT DRAIN PORTS. WRAP WITH AN APPROVED FILTER FABRIC



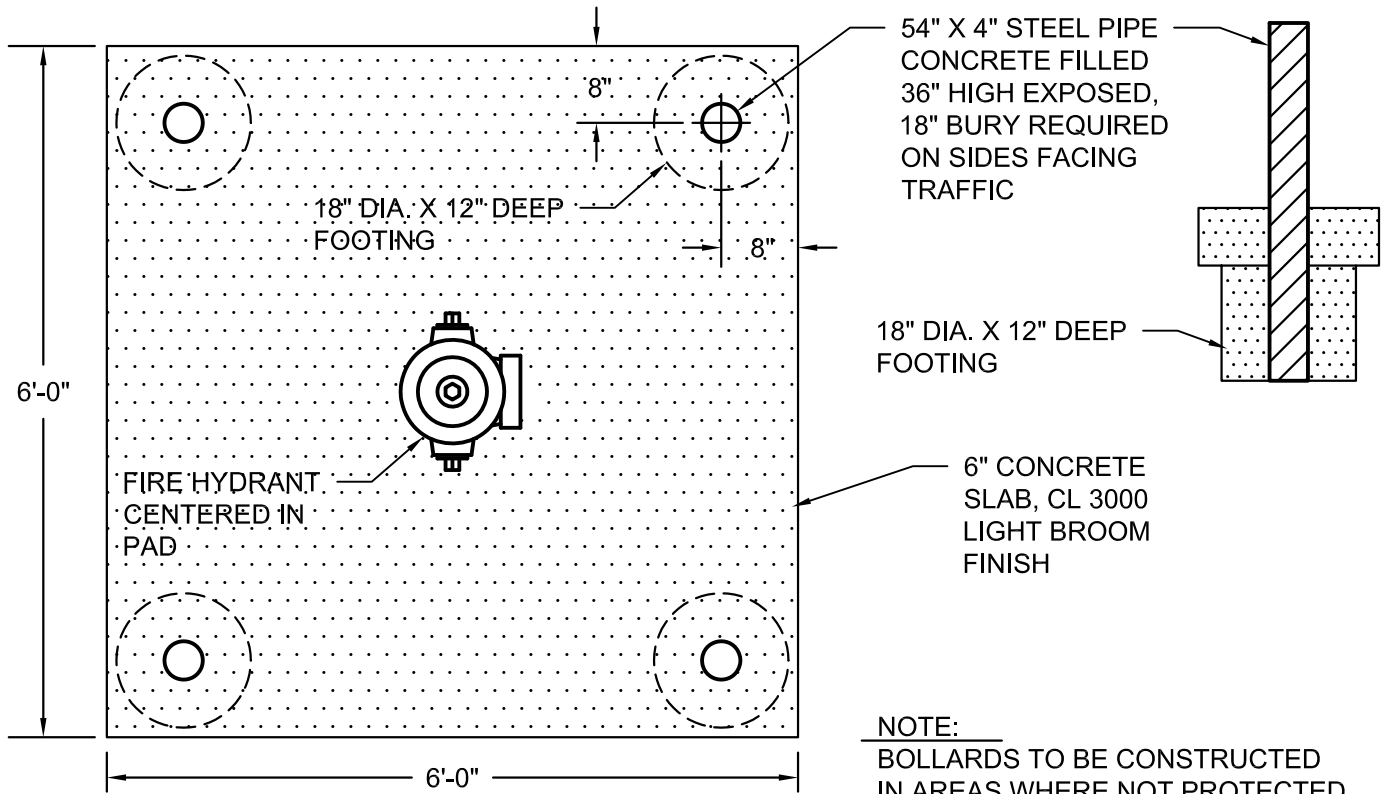
City of Sisters ◦ Standard Detail

FIRE HYDRANT ASSEMBLY

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	2/10/2020

DRAWING NO.

4-3



NOTE:
 BOLLARDS TO BE CONSTRUCTED
 IN AREAS WHERE NOT PROTECTED
 BY CURB.



City of Sisters • Standard Detail

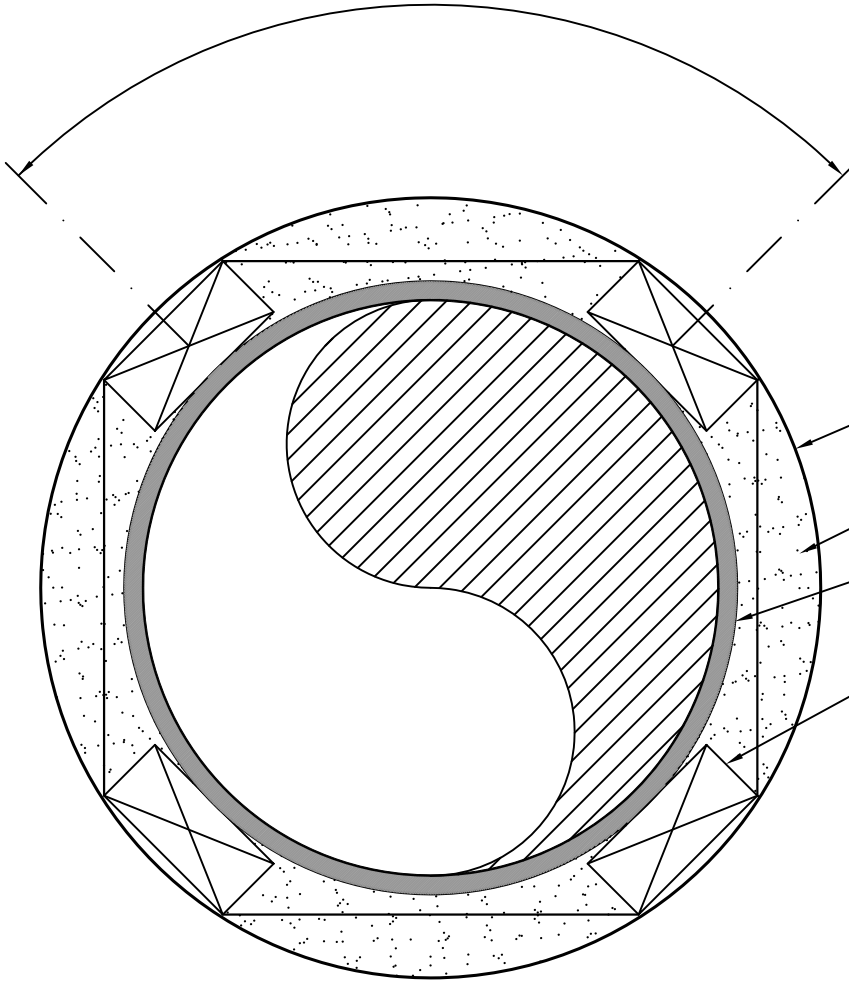
FIRE HYDRANT PAD AND
 BOLLARDS

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	2/10/2020

DRAWING
 NO.

4-4

90° TYP.



STEEL ENCASEMENT PIPE.
SIZE AS SPECIFIED

SAND SLURRY

WATERMAIN PIPE
AS SPECIFIED

2x4 REDWOOD SPACER
BLOCKS NEAR COUPLING.
(4) REQ'D AT EACH END OF
PIPE. BAND WITH
STAINLESS STEEL STRAPS



City of Sisters ◦ Standard Detail

PIPE
ENCASEMENT

SCALE: NONE

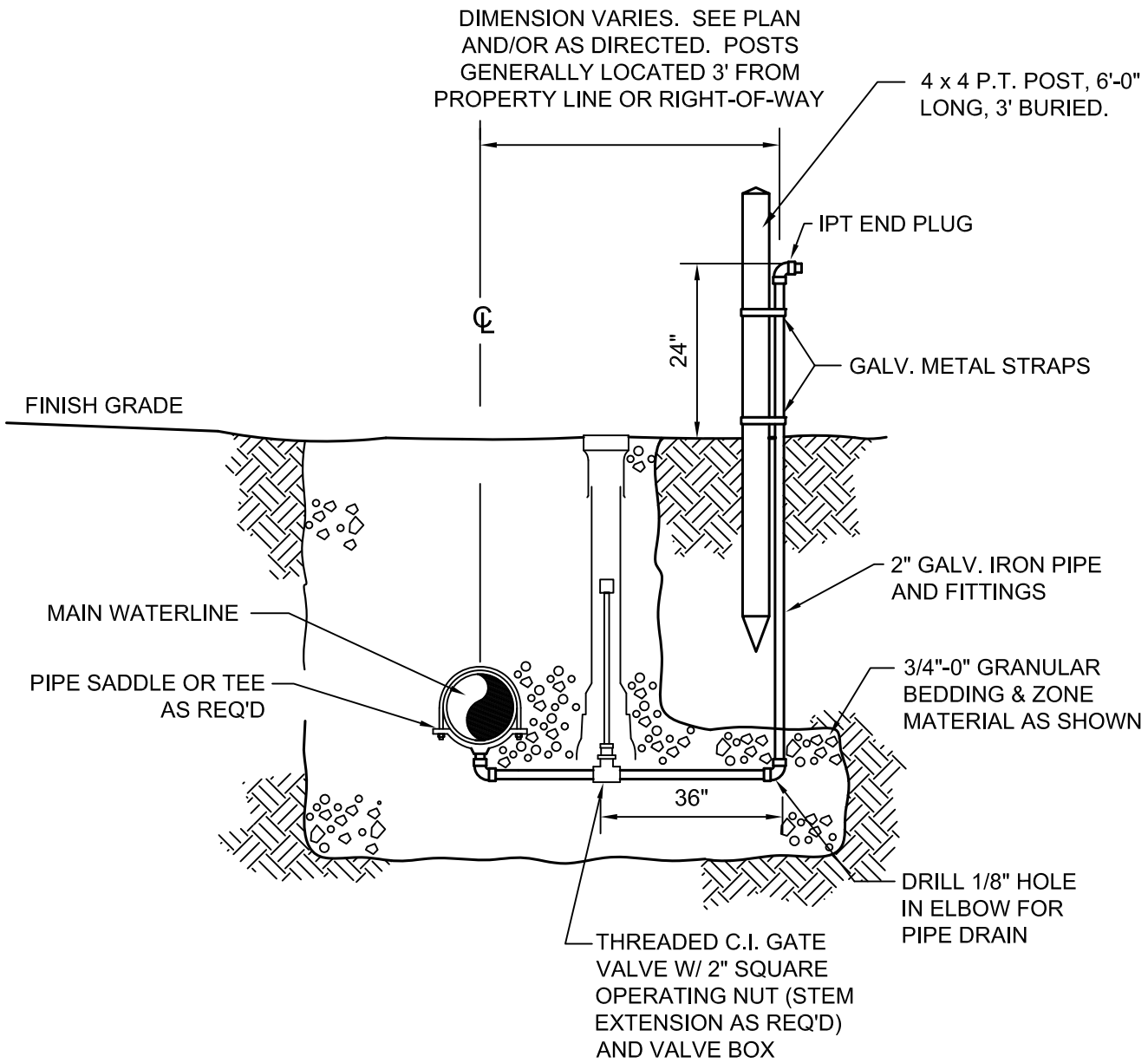
DRAWN BY: EH

APPROVED BY: PB

REVISION DATE: 2/10/2020

DRAWING
NO.

4-5

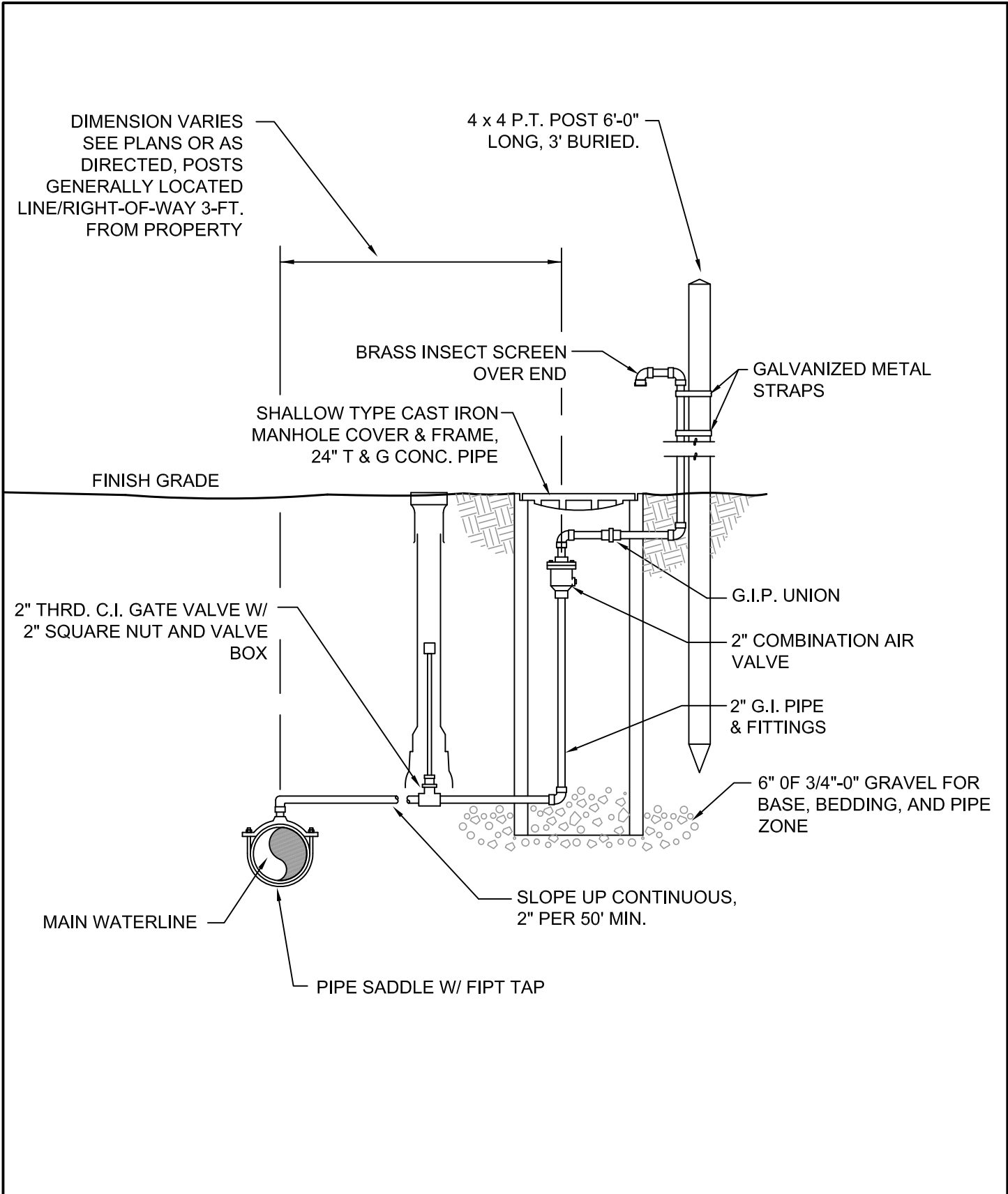



City of Sisters ◦ Standard Detail

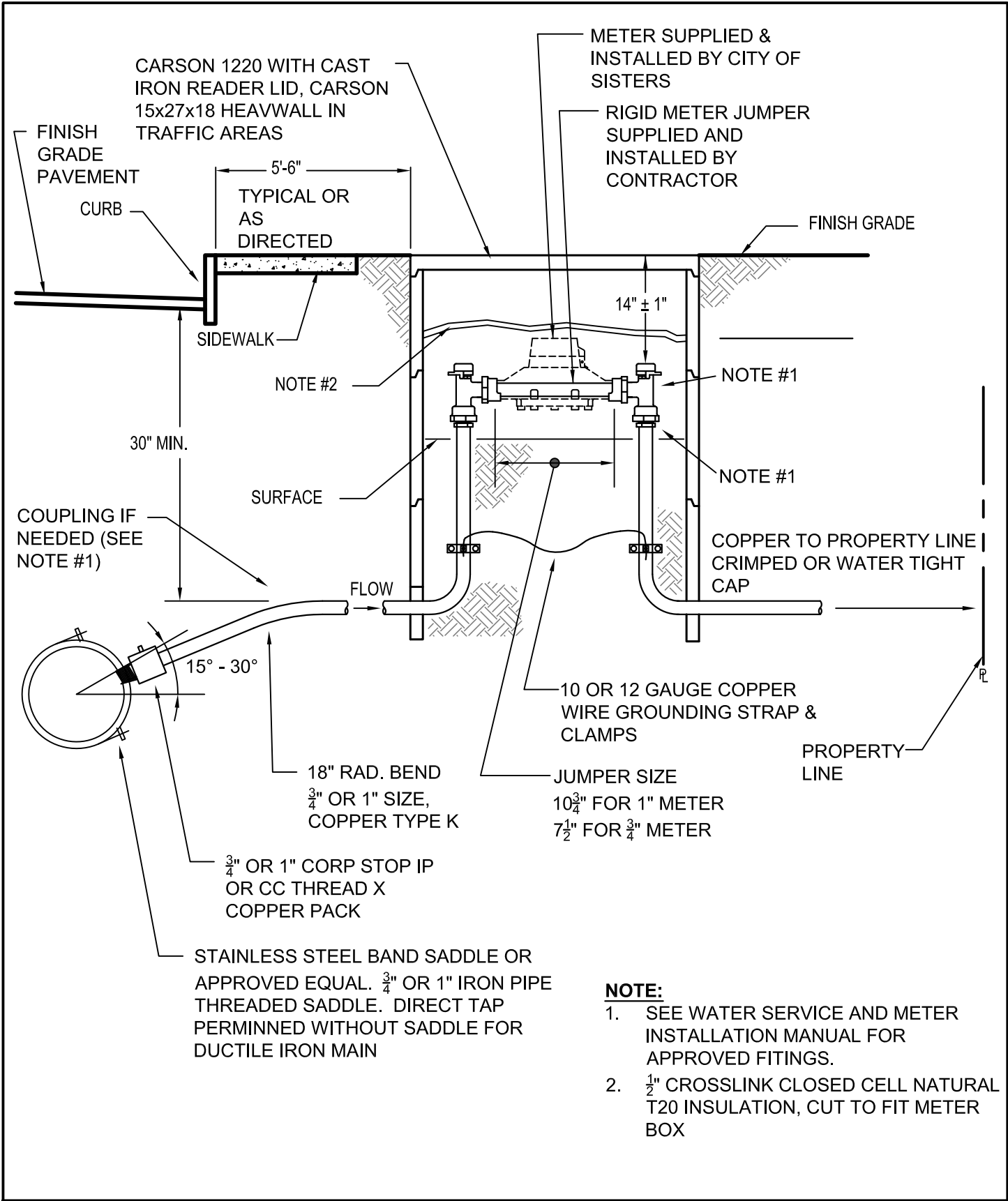
BLOW OFF
ASSEMBLY

SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	2/10/2020

DRAWING
NO.
4-6



	City of Sisters ◦ Standard Detail	SCALE: NONE	DRAWING NO. 4-7
		DRAWN BY: EH	
	APPROVED BY: PB		
	REVISION DATE: 2/10/2020		
COMBINATION AIR/VAC. RELIEF VALVE ASSEMBLY			



- NOTE:**
1. SEE WATER SERVICE AND METER INSTALLATION MANUAL FOR APPROVED FITINGS.
 2. 1/2" CROSSLINK CLOSED CELL NATURAL T20 INSULATION, CUT TO FIT METER BOX

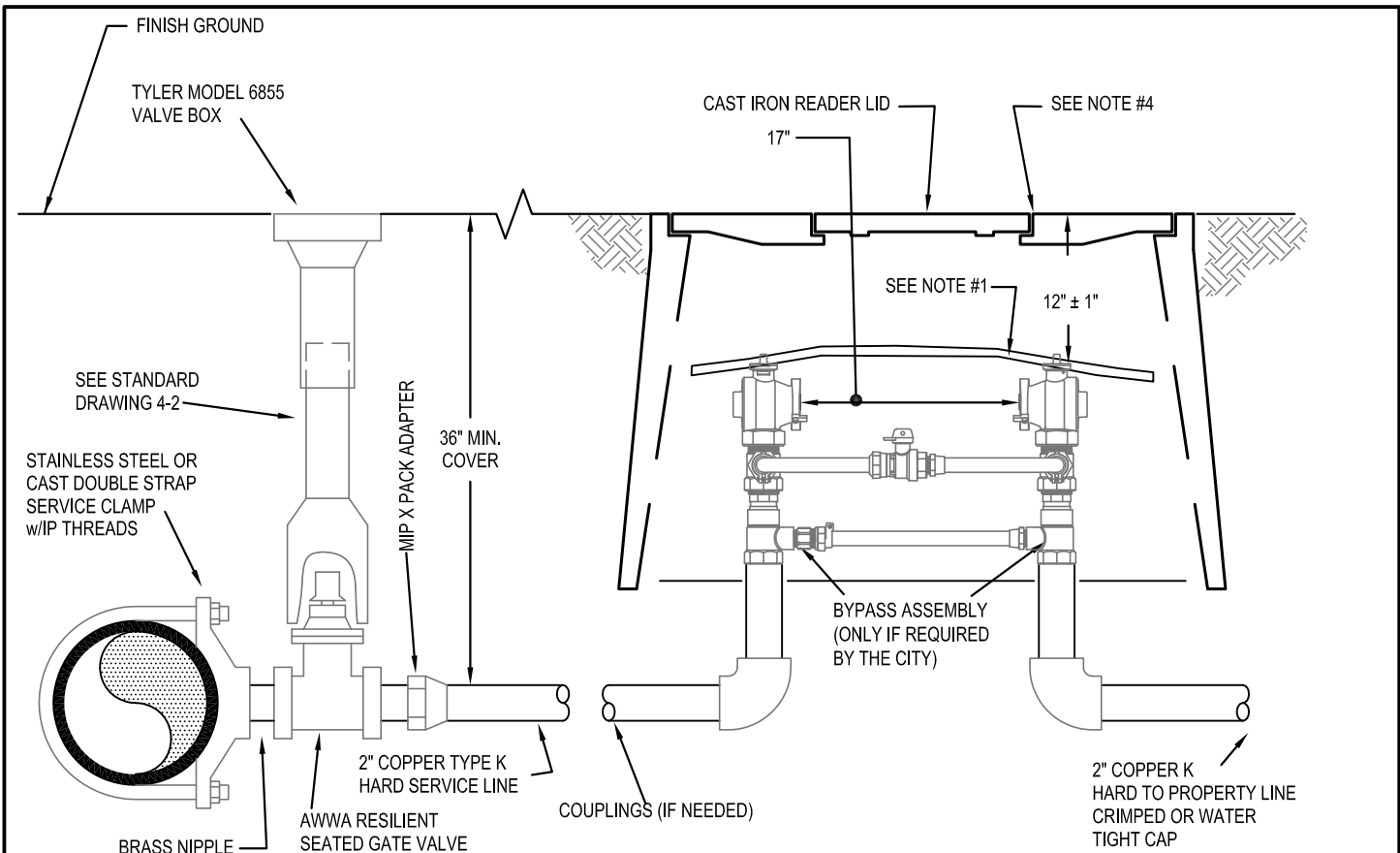


City of Sisters • Standard Detail

STANDARD 3/4" AND 1"
SERVICE INSTALLATION

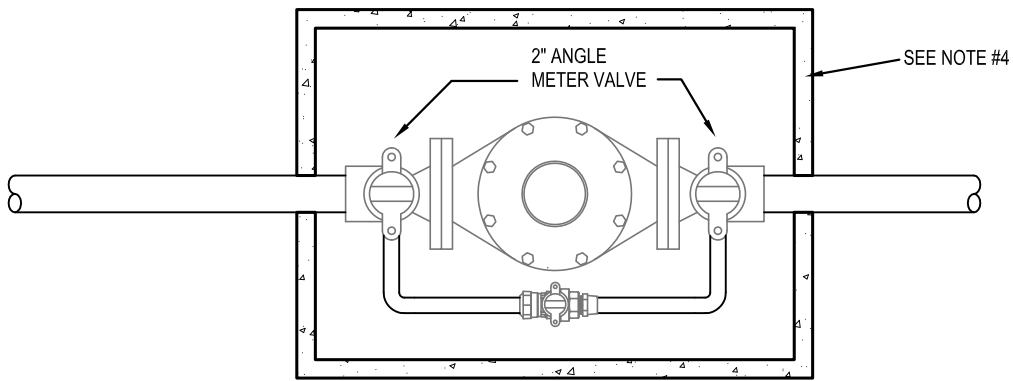
SCALE:	NONE
DRAWN BY:	EH
APPROVED BY:	PB
REVISION DATE:	2/10/2020

DRAWING NO.
4-8



CONNECTION AT MAIN LINE

METER BOX SECTION



METER BOX PLAN

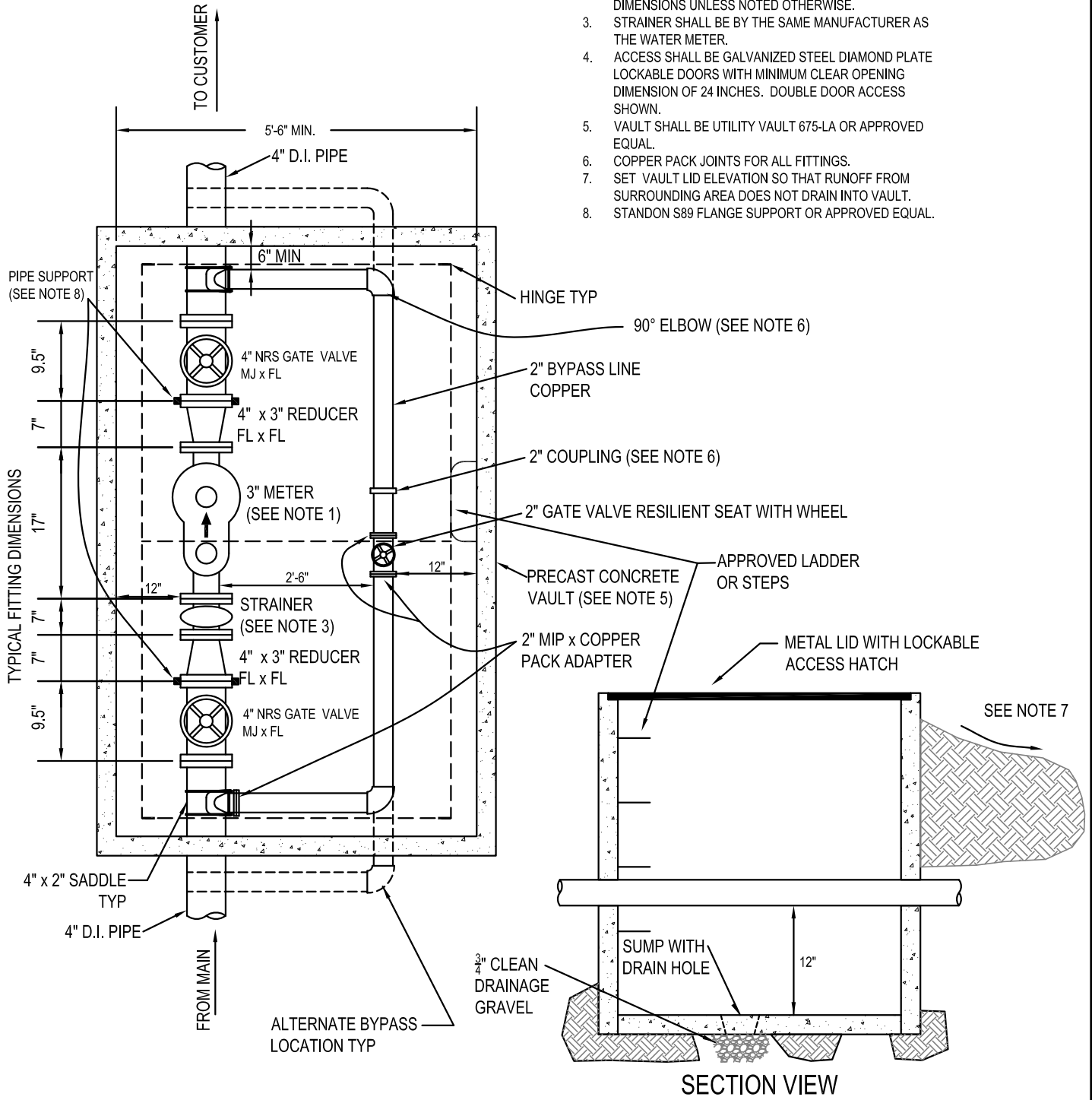
NOTE:

1. 1/2" CROSSLINK CLOSED CELL NATURAL T20 INSULATION, CUT TO FIT METER BOX.
2. DOUBLE CHECK VALVE ASSEMBLY REQUIRED ON CUSTOMER SIDE OF METER FOR ALL COMMERCIAL AND INDUSTRIAL WATER SERVICES.
3. METER SUPPLIED AND INSTALLED BY CITY OF SISTERS.
4. METER BOX SHALL BE CARSON 1730 OR CARSON 1730 HEAVYWALL FOR TRAFFIC AREAS OR APPROVED EQUAL

	<h2>City of Sisters ◦ Standard Detail</h2>	SCALE: NTS	DRAWING NO. <h1>4-9</h1>
		DRAWN BY: EJM	
	APPROVED BY: PB		
	REVISION DATE: 2/10/2020		
STANDARD 1-1/2" AND 2" SERVICE INSTALLATION			

NOTES:

1. METER TO BE PROVIDED BY CITY OF SISTERS AND INSTALLED BY CONTRACTOR.
2. ALL DIMENSIONS SHOWN ARE MINIMUM CLEARANCE DIMENSIONS UNLESS NOTED OTHERWISE.
3. STRAINER SHALL BE BY THE SAME MANUFACTURER AS THE WATER METER.
4. ACCESS SHALL BE GALVANIZED STEEL DIAMOND PLATE LOCKABLE DOORS WITH MINIMUM CLEAR OPENING DIMENSION OF 24 INCHES. DOUBLE DOOR ACCESS SHOWN.
5. VAULT SHALL BE UTILITY VAULT 675-LA OR APPROVED EQUAL.
6. COPPER PACK JOINTS FOR ALL FITTINGS.
7. SET VAULT LID ELEVATION SO THAT RUNOFF FROM SURROUNDING AREA DOES NOT DRAIN INTO VAULT.
8. STANDON S89 FLANGE SUPPORT OR APPROVED EQUAL.



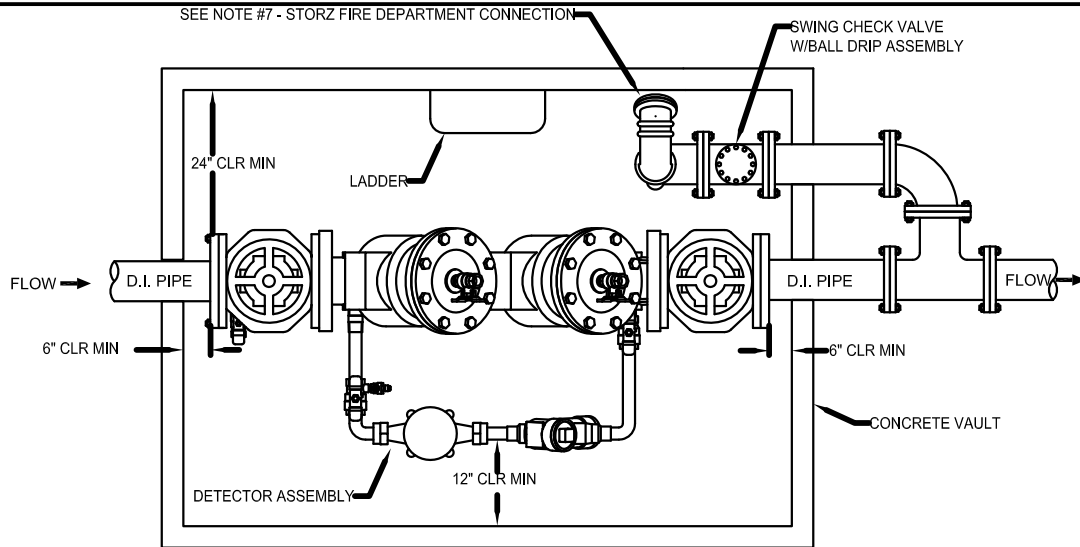
City of Sisters • Standard Detail

STANDARD 3"
SERVICE INSTALLATION

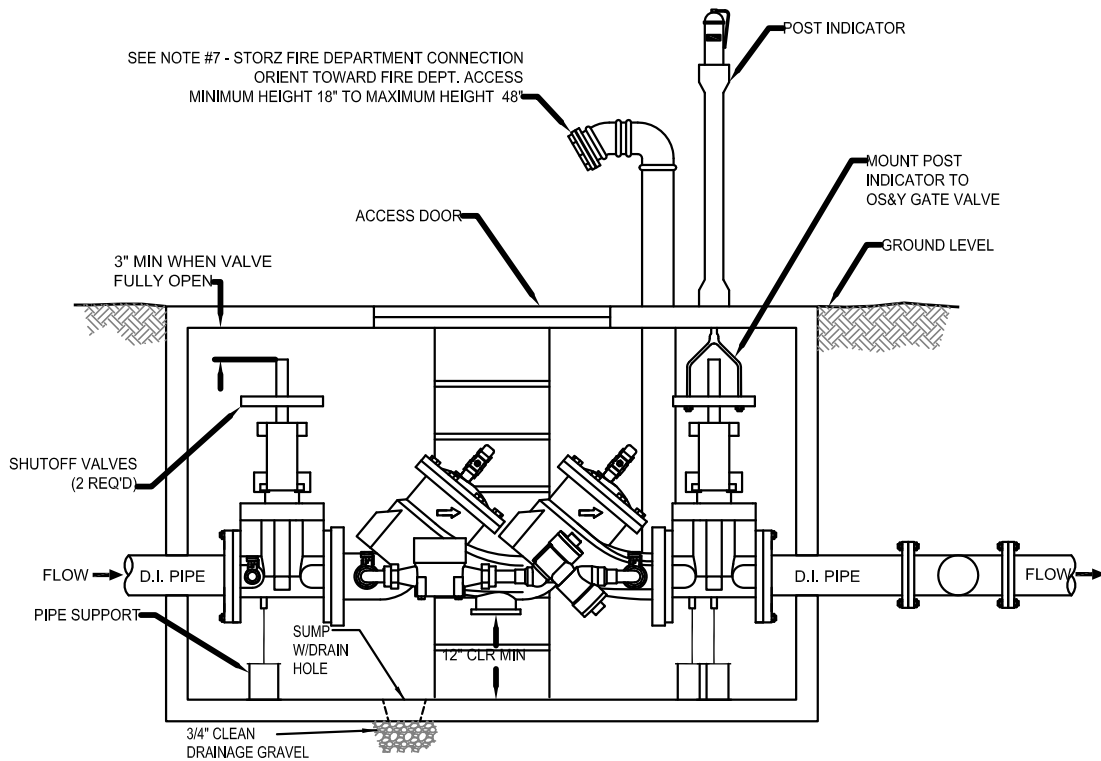
SCALE:	NTS
DRAWN BY:	EJH
APPROVED BY:	PB
REVISION DATE:	2/10/2020

DRAWING NO.

4-10



PLAN



SECTION

NOTES:

1. ELECTRONICALLY MONITOR ALL SHUTOFF VALVES.
2. ALL DIMENSIONS ARE MINIMUM REQUIREMENTS.
3. ALL VALVES SHALL BE U.L. LISTED.
4. ALL PIPE AND VALVE SIZES SHALL BE AS INDICATED ON THE SITE PLAN.
5. FDC PIPE AND VALVE SIZE SHALL MATCH SIZE OF FIRE SERVICE.
6. ALL FITTINGS AND VALVES SHALL BE FLANGED.
7. DCVA SHALL BE APPROVED BY OREGON DHS.
8. FIRE DEPARTMENT CONNECTION SHALL BE A SINGLE CONNECTION HAVING A 30° ELBOW WITH A 5" STORZ x 4" NPT MALE RIGID WITH STORZ CAP WITH CABLE OR APPROVED EQUAL.



City of Sisters • Standard Detail

FIRE SERVICE VAULT
DCDA WITH FDC & PIV

SCALE: NONE
DRAWN BY: E J H
APPROVED BY: P B
REVISION DATE: 2/10/2020

DRAWING NO.

4-11