

SEE SHEET 2 OF 10 FOR NOTES AND LIST OF MATERIALS.

# PRESSURE REDUCING STATION TYPICAL ASSEMBLY – FINAL DESIGN BY ENGINEER

2017



Yucaipa Valley Water District

Approved by the Yucaipa Valley Water District Board of Directors on October 17, 2017 as Resolution No. 2017-24

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## LIST OF MATERIALS

ITEM	QUANTITY	DESCRIPTION
<b>MAIN LINE</b>		
1	2 EA	D.I.P. 90° ELBOW, MJ X MJ, RESTRAINED
2	5 EA	D.I.P. SPOOL, LENGTH AS REQUIRED, RESTRAINED
3	2 EA	D.I.P. 90° ELBOW, MJ X FLG
4	2 EA	FLANGED TEE D.I.
5	2 EA	RESILIENT SEAT GATE VALVE
6	2 EA	FLG x GROOVED-END SPOOL, VICTAULIC
7	1 EA	GROOVED-END COUPLING, VICTAULIC
8	1 EA	PRESSURE REDUCING VALVE, W/FULL CLOSED POSITION SWITCH. MANUFACTURED BY CLA-VAL COMPANY ONLY.
15	4 EA	1" SPONGE RUBBER SEAL AROUND PIPE. DRYPACK WITH CONCRETE MORTAR
16	4 EA	ADJUSTABLE PIPE SUPPORT. SEE YVWD STD. DWG. W-25
<b>BY-PASS LINE</b>		
9	5 EA	D.I. SPOOL, LENGTH AS REQUIRED, FLG'D ENDS
10	2 EA	FLG x FLG D.I. 90° ELL
11	2 EA	RESILIENT SEATED GATE VALVE
12	2 EA	FLG x GROOVED-END SPOOL, VICTAULIC
13	1 EA	GROOVED-END COUPLING, VICTAULIC
14	1 EA	PRESSURE REDUCING VALVE, W/FULL CLOSED POSITION SWITCH.
<b>MISCELLANEOUS</b>		
17	1 EA	PRECAST CONCRETE VAULT 6'-0"x8'-0" OR 6'-0"x10'-0" WITH 4'x4" HATCH. PROVIDE DIAMOND PLATE ALUMINUM ACCESS DOORS WITH RECESSED PADLOCK HASP.
18	1 EA	1" AIR VAC DOWNSTREAM OR LOW PRESSURE SIDE OF CLAY-VAL STATION PER YVWD STD. DWG. W-15
19	2 EA	PRESSURE GAUGE (ASHCROFT 0-150 PSI)
20	2 EA	PRESSURE TRANSMITTER, PER W-23 SHEET 10 OF 10
21	1 EA	GALV. STEEL LADDER (ALHAMBRA FOUNDRY) W/LADDER UP AND SS ANCHOR BOLTS
22	1 EA	FLOOD LEVEL SWITCH & SUMP PUMP. NO SUMP PUMP REQUIRED IF A POSITIVE CONNECTION TO STORM DRAIN IS PROVIDED.
23	1 EA	DOOR ENTRY SWITCH, PER W-23 SHEET 9 OF 10

**NOTES:**

1. THESE DRAWINGS ARE GENERAL IN NATURE AND MAY NEED TO BE MODIFIED TO FIT SPECIFIC SITE REQUIREMENTS.

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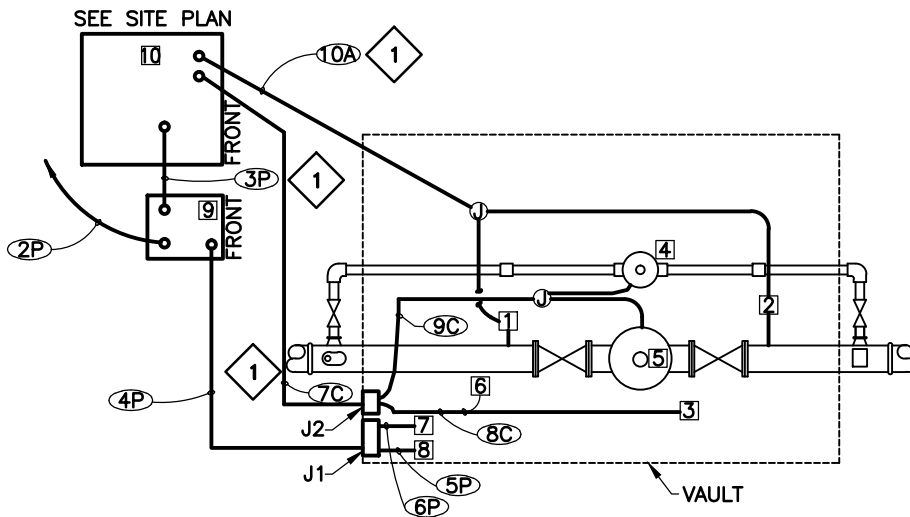
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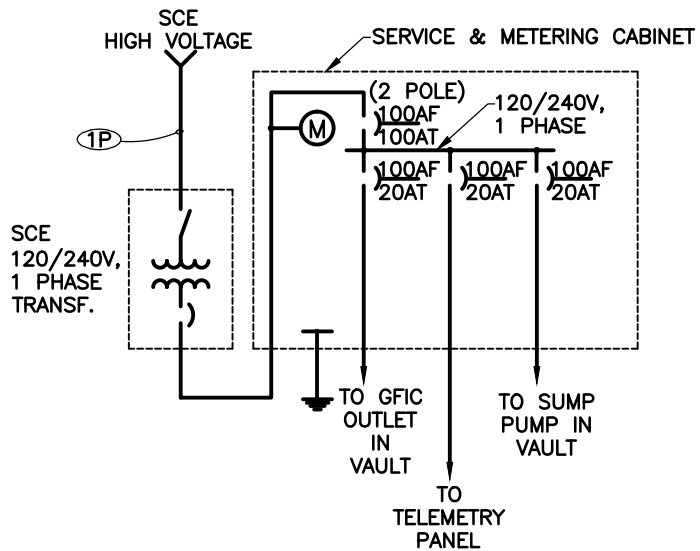
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**PRESSURE REDUCING STATION ELECTRICAL PLAN**

NOT TO SCALE

SEE SITE PLAN FOR LOCATION OF POWER AND TELEPHONE SERVICES



**SINGLE LINE DIAGRAM**

SEE SHEET 5 OF 10 FOR CONDUIT SCHEDULE AND SHEET 6 OF 10 FOR LIST OF ELECTRICAL COMPONENTS AND NOTES.

**PRESSURE REDUCING STATION  
ELECTRICAL DIAGRAM AND DETAILS**

2017

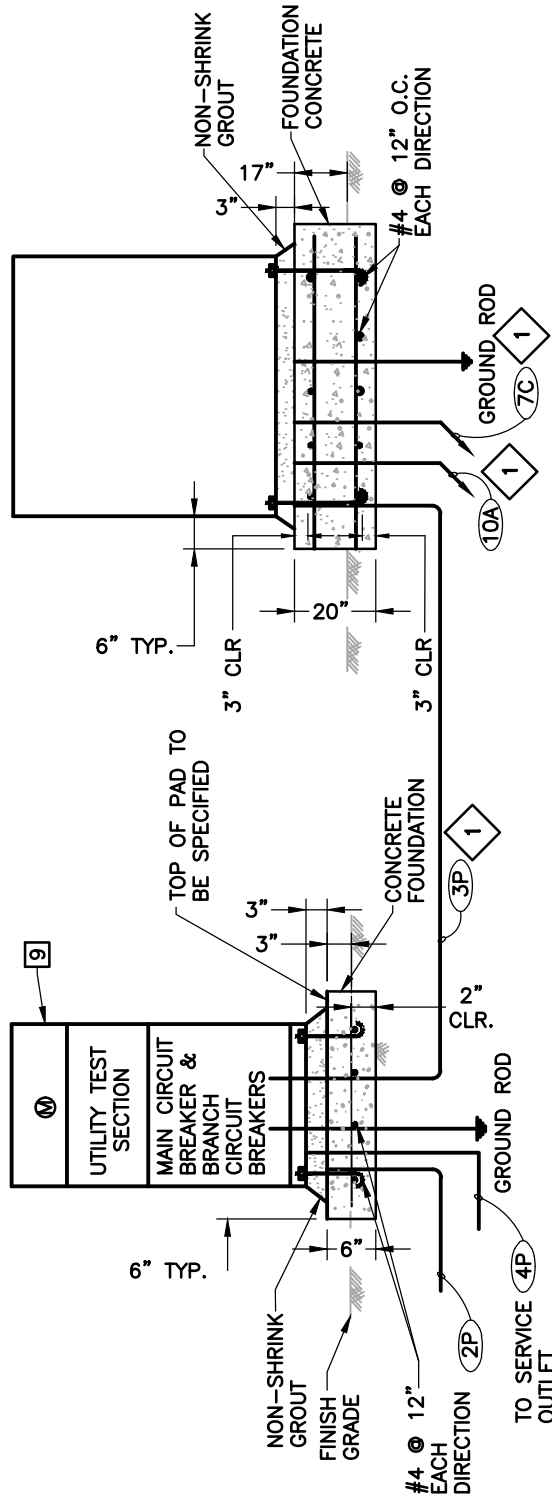


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**TELEMETRY CABINET—ELEVATION**  
SCALE: NONE

**SERVICE & METERING CABINET  
ELEVATION**  
SCALE: NONE

## PRESSURE REDUCING STATION ELECTRICAL DIAGRAM AND DETAILS

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CONDUIT SCHEDULE							
SYMBOL	CONDUIT		WIRE	DESCRIPTION	LOCATION		REMARKS
	QTY.	SIZE			FROM	TO	
(1P)	1	4"	C.O.	POWER	SCE XFMR	EXISTING SCE POWER	IF REQ'D
(2P)	1	2"	C.O.	POWER	SCE XFMR	SVS & MTR CAB	120/240 SVS FDR
(3P)	1	3/4"	2#12&1#12 GND	POWER	SVS & MTR CAB	TELEMETRY CAB	SEE NOTE
(4P)	1	3/4"	4#12&1#12 GND	POWER	SVS & MTR CAB	PULL BOX J1	SUMP PUMP & OUTLET
(5P)	1	3/4"	2#12&1#12 GND	POWER	PULL BOX J1	OUTLET W/GFI	
(6P)	1	3/4"	2#12&1#12 GND	POWER	PULL BOX J1	SUMP PUMP & CONTROLS	
(7C)	1	1"	8#14&1#12 GND	CONTROL	TELEMETRY CAB	PULL BOX J2	SEE NOTE
(8C)	1	3/4"	4#14&1#12 GND	CONTROL	PULL BOX J2	XS-1,LS-1	
(9C)	1	3/4"	4#14&1#12 GND	CONTROL	PULL BOX J2	XS-2,XS-3	
(10A)	1	1"	2,2/C#18 SH.&1#12GND	CONTROL	TELEMETRY CAB	PT-1,PT-2	SEE NOTE

**PRESSURE REDUCING STATION  
ELECTRICAL DIAGRAM AND DETAILS**

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ELECTRICAL COMPONENTS					
ITEM NO.	DEVICE ID.	DESCRIPTION	MANUFACTURE	MODEL NUMBER	REMARKS
1	PT-1	DOWNSTREAM PRESS. XMTR	ROSE MOUNT	#3051CG-X-A22 AU-M6210-S-140	150/250 PSI
2	PT-2	UPSTREAM PRESS. XMTR	ROSE MOUNT	#3051CG-X-A22 AU-M6210-S-140	150/250 PSI
3	XS-1	HATCH ENTRY SWITCH	ALLEN BRADLEY	E50DRI	W/CUTLER HAMMER ROLLER #E50KL546
4	XS-2	STEM POS. SWITCH (CLOSED)			SUP. W/VALVE
5	XS-3	STEM POS. SWITCH (CLOSED)			SUP. W/VALVE
6	LS-1	VAULT FLOODED SWITCH	GEMS	LS270	
7	P-1	SUMP PUMP AND CONTROLS	ZOELLER	GRANGER CAT. #2P547	
8	NA	SERVICE OUTLET WITH GFI	NA		20A
9	NA	SERVICE AND METERING CAB	MEYERS	MEUGQ100	120/240 V, 100A
10	NA	TELEMETRY CABINET			SEE YVWD SDT DWG W-23D, DETAIL A

NOTE:

1 COIL 3" OF CONDUCTORS 3P, 7C, AND 10A IN TELEMETRY PANEL.

## PRESSURE REDUCING STATION ELECTRICAL DIAGRAM AND DETAILS

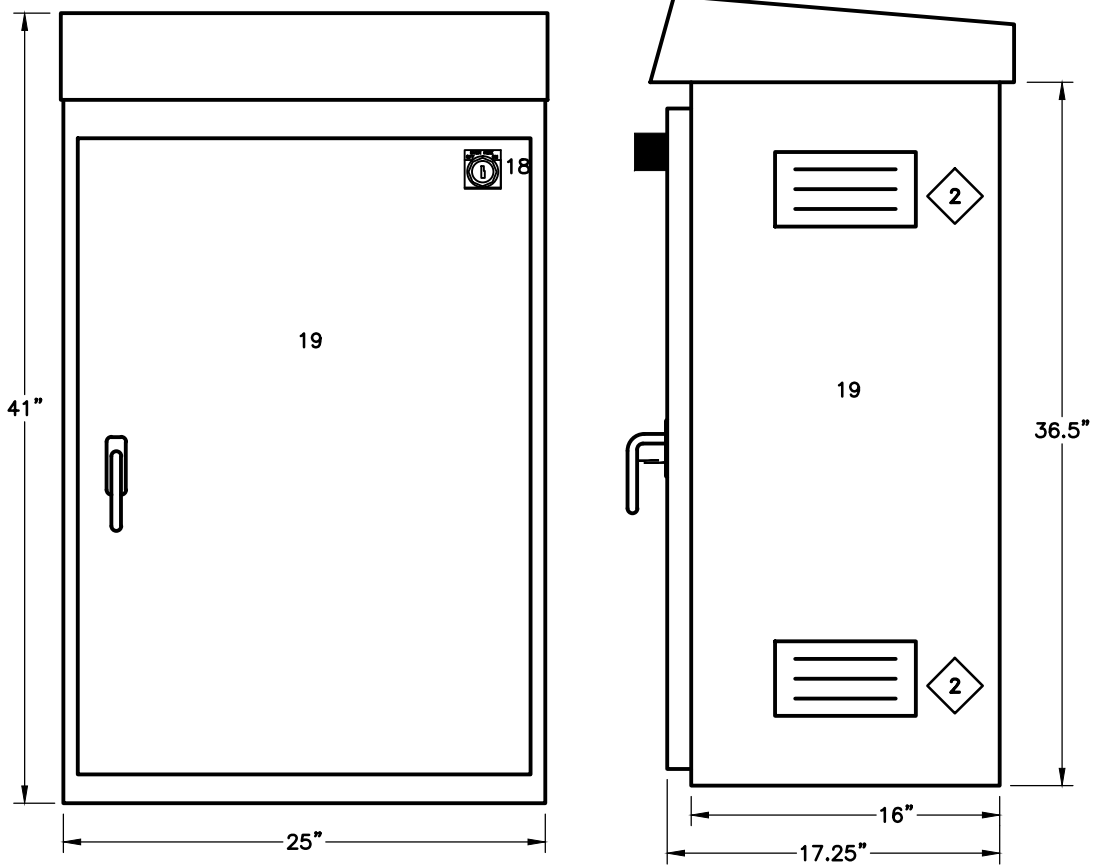
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**NOTES:**

- 1 PROVIDE CABINET WITH SUB BACK PANEL.
- 2 PROVIDE VENTILATION WITH LOUVERS TOP AND BOTTOM.
- 3 CREATE POSITIVE PRESSURE WITH SUPPLY FAN ON THERMOSTAT.

## PRESSURE REDUCING STATION TELEMETRY DETAILS

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## LIST OF TELEMETRY CABINET COMPONENTS

ITEM NO.	QTY.	DESCRIPTION	PART NUMBER	MANUFACTURER	TYPE
1	1				
1	2	MULTIPLEXER	245-19	BIF/AQUA	FREQ. T.B.D.
1	1	TRANSMITTER	245-05	BIF/AQUA	FREQ. T.B.D.
1	1	RECEIVER	245-09	BIF/AQUA	FREQ. T.B.D.
1	1	DEMULTIPLEXER	245-20	BIF/AQUA	FREQ. T.B.D.
2	1	DC POWER SUPPLY	HC-28-2-A	POWER-ONE	28VDC, 2A
3	3	CONTROL RELAYS	RR2P-UL-120	IDEC	2PDT
4	1	TIME DELAY RELAY	TCB-115-2-10	R-K	ON DELAY
4	2	TIME DELAY RELAY	TFB-115-2-180	R-K	OFF DELAY
5	1	LOW VOLTAGE PROTECTOR	258-40	BIF/AQUA	ELECTRONIC
6	8	POWER/SIGNAL TERM.	1492-CA1	ALLEN-BRADLEY	600V, 55A
7	1	LINE SURGE PROTECTOR	245-23	BIF/AQUA	ELECTRONIC
8	1	POWER TRANSFER UNIT	258-36	BIF/AQUA	ELECTRONIC
9	8	POWER/SIGNAL TERM.	1492-CA1	ALLEN-BRADLEY	600V, 55A
10	48	TELEMETRY TERMINALS	UK4	PHOENIX	600V, 20A
11	1	UTILITY RECEPTACLE	1591FI	PASS & SEYMOUR	GFI 15A
12	1	TELEPHONE CO. RECPT.	GE5251-2	G.E.	SIMPLEX 15A
13	1	SPACE HEATER	D-AH4001B	HOFFMAN	400 WATT
14	4	GELL CELL BATTERY	NP24-12	YUASA-EXIDE	12V 24AH
15	1	PLYWOOD BAT. SUPPORT	N/A		
16	1	FLUORESCENT LIGHT	2V687/1V173	GRAINGER	15 WATT
17	1	INTRUSION LIGHT SWITCH	10316H2042	CUTLER-HAMMER	LIMIT SWITCH
18	1	INTRUSION AL. OVERRIDE	10250T15113	CUTLER-HAMMER	2 POS. SEL SW.
19	1	TELEMETRY CABINET. THREE POINT PAD LOCKABLE DOOR HANDLE. SOLID BOTTOM.	LS412516AL	HENNESSY	NEMA 4X 5052-H32 ALUMINUM ALLOY 0.125" THICK
20	1	CIRCUIT BREAKER	1492-CB1H20	ALLEN-BRADLEY	20A ONE POLE

## PRESSURE REDUCING STATION TELEMETRY DETAILS

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J-BOX, ACTUATED SWITCH WHEN DOOR OPENS AT 15° MAXIMUM

FLEXIBLE CONDUIT

ROTARY ACTION LIMIT SWITCH (MOUNT OPPOSITE OF DOOR HINGE)

1/2" TO 4" ADJUSTABLE LEVER ACTUATOR WITH ROLLER

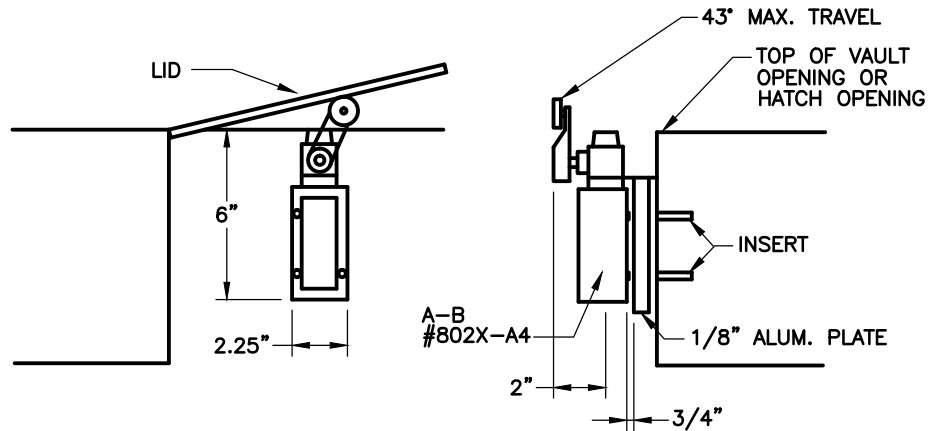
PROVIDE ALUMINUM SHIM WHERE REQUIRED. SECURE TO DOOR (2) PLACES MINIMUM

PROVIDE ALUMINUM MOUNTING BRACKET WHERE REQUIRED

SECURE TO FRAME WITH (2) MOUNTING SCREWS MINIMUM. MOUNTING SCREWS ARE NOT TO PENETRATE OUTSIDE WALL

OUTSIDE ENTRY

**DOOR HATCH ENTRY SWITCH**



**INTRUSION SWITCH DETAIL**

**PRESSURE REDUCING STATION  
ENTRY SWITCH DETAILS**

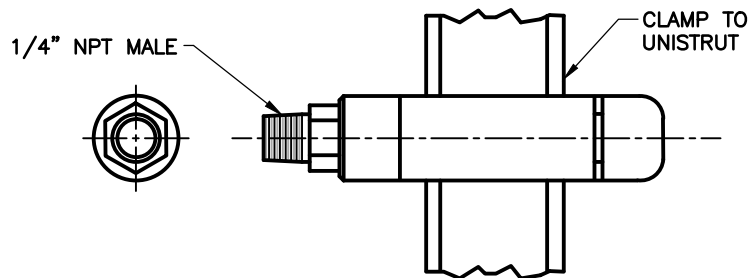
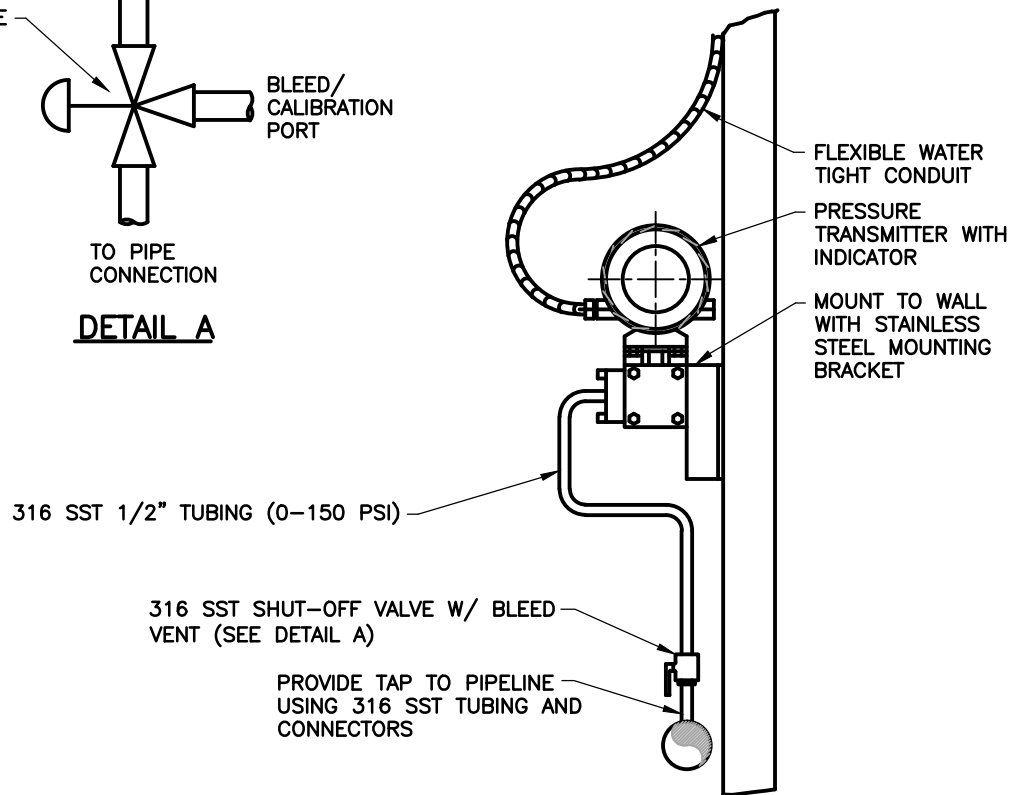
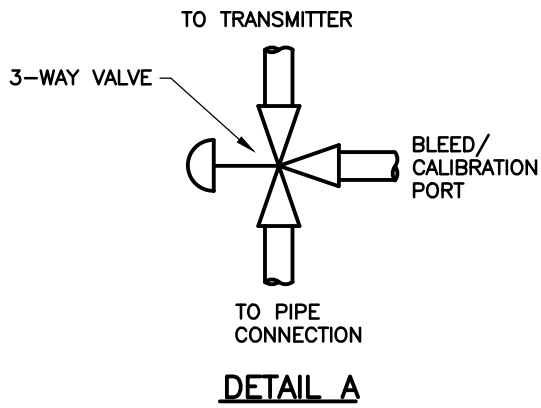
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**SUBMERSIBLE TYPE**

**PRESSURE REDUCING STATION  
PRESSURE TRANSMITTER INSTALLATION DETAILS**

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