

# City of Pacific Water Main

Depth Requirements

DRAWING NO.

APPROVED:

DATE:

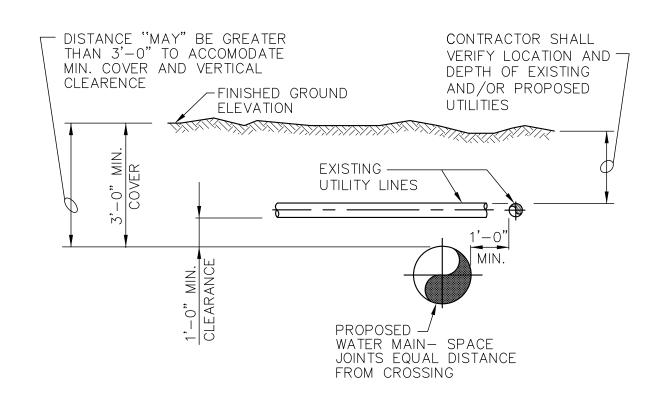
DATE:

DRAWN:

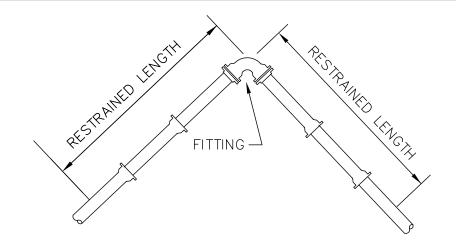
CHECKED:

TJO

None



#### **City of Pacific** Typical Utility Crossing DRAWING NO. WT-Util Xing APPROVED: DATE: DATE: CHECKED: SCALE: DRAWN: 8/96 JH TJO None

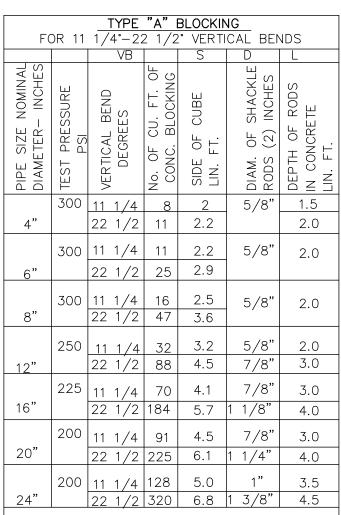


PIPE SIZE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE OR DEAD END CAP
		RESTRAIN	NED LENGTH	H IN FEET	
4"	40	17	8	4	30
6"	55	23	11	6	39
8"	73	31	15	8	53
10"	88	37	18	9	67
12"	103	43	21	10	82
16"	133	55	27	13	110
18"	145	60	29	15	124

RESTRAINED LENGTHS SHOWN ARE MINIMUM AND FOR LINEAL FEET REQUIRED ON EACH SIDE OF FITTING INDICATED.

FOOTAGES ARE BASED ON 250 PSI PRESSURE AND 42 INCHES COVER. IF PRESSURE IS GREATER OR COVER IS LESS, THE RESTRAINED LENGTH SHALL BE INCREASED. DEVELOPER'S ENGINEER TO DESIGN SAME.

#### **City of Pacific** Thrust Restraint for Ductile Iron Pipe DRAWING NO. WT-Thrst-Rest APPROVED: DATE: DATE: CHECKED: SCALE: DRAWN: 8/96 None JH TJO



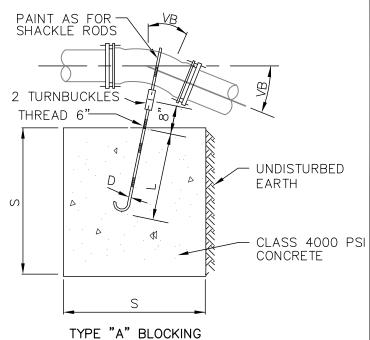
#### TYPE "B" BLOCKING

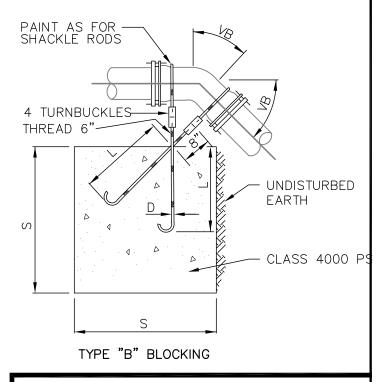
FOR - 45° VERTICAL BENDS

		VB		S	D	L
4"	300	45	30	3.1	5/8"	2.0
6"			68	4.1		
8"			123	5.0		
12"	250		232	6.1	3/4"	2.5
16"	225		478	7.8	1 1/8"	4.0
20"	200		560	8.2	1 1/4"	
24"			820	9.4	1 3/8"	4.5

#### NOTE:

THIS TABLE REPRESENTS THE "MINIMUM" CONSTRUCTION STANDARDS. THE DEVELOPER'S ENGINEER SHALL BE RESPONSIBLE FOR THE DESIGN AND SIZING OF ALL BLOCKING BASED ON SOIL CONDITIONS, TEST PRESSURES, AND OTHER RELEVANT CONSIDERATIONS.

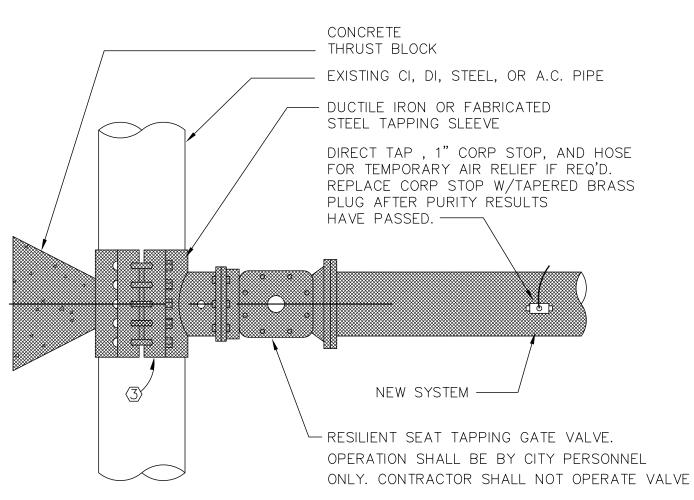




### **City of Pacific**

### Water Thrust Blocking

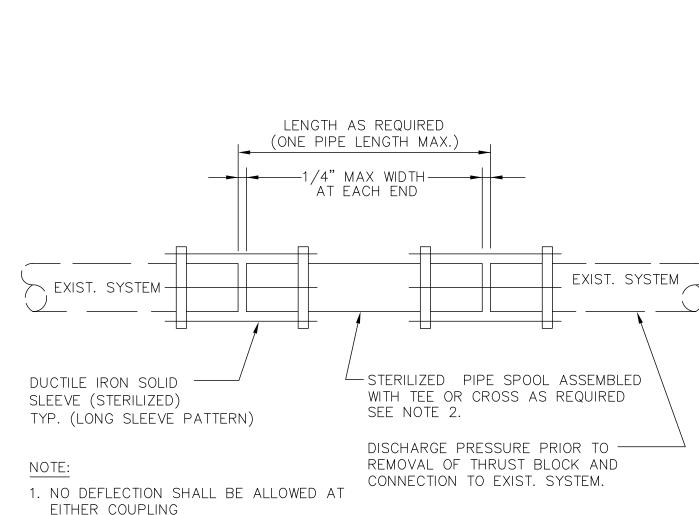
Thrust blocking				
			DRAWING NO.	
			WT- Thrst-Blck	
APPROVED:		DATE:		
DATE:	DRAWN:	CHECKED:	SCALE:	
8/96	JH	TJO	None	



#### NOTE:

- (1) VALVE BOX TO HAVE A LOCKING LID UNTIL ACCEPTED BY THE CITY.
- ② O.D. STEEL PIPE SHALL USE S.S. SLEEVE (FUNSION COATED).
- (3) STAINLESS STEEL SLEEVE IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SEE SECTION 7-04 B3 "TAPPING SLEEVES AND TAPPING VALVES".

#### **City of Pacific** Wet Tap Connection Detail DRAWING NO. WT-Wet Tap DATE: APPROVED: DATE: CHECKED: DRAWN: SCALE: 8/96 JH TJO None

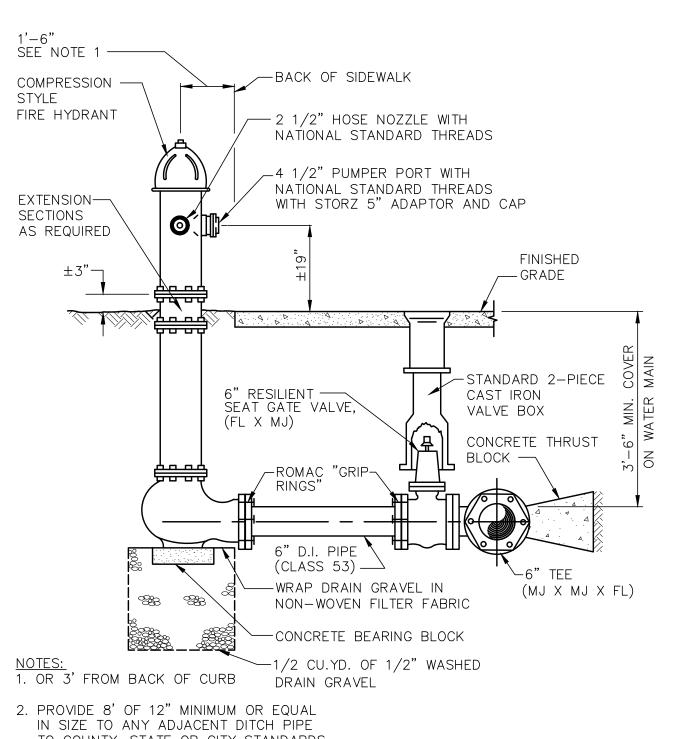


2. ADDITIONAL "IN-LINE" VALVES(S) MAY BE REQUIRED AT THE DIRECTION OF THE CITY.

# **City of Pacific**

Water
A/C Pipe Cut In Connection

			DRAWING NO.
			WT—
			Cut in Conn
APPROVED:		DATE:	
DATE:	DRAWN:	CHECKED:	SCALE:
8/96	JH	TJO	None
	•		



8/96

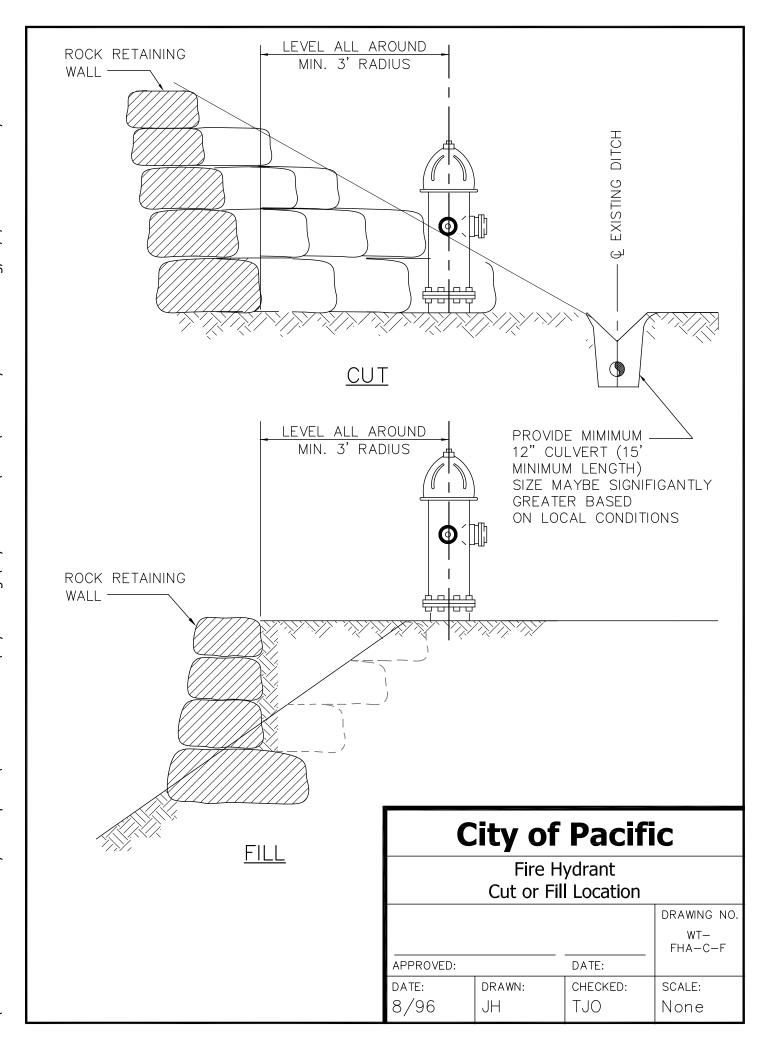
JH

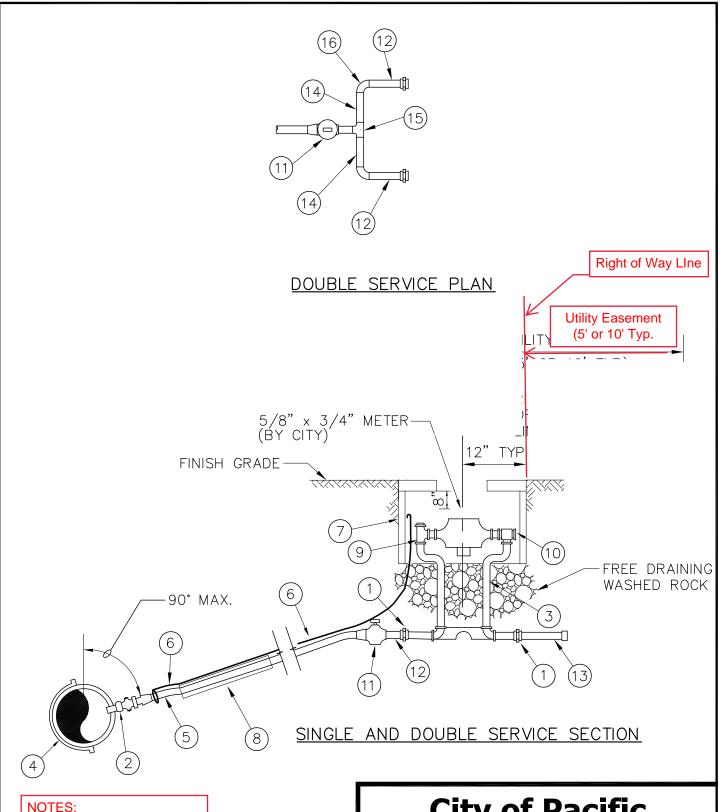
- TO COUNTY, STATE OR CITY STANDARDS IF APPLICABLE.
- 3. PROVIDE MIN. 5'-0" CLEARANCE AND LEVEL AREA AROUND HYDRANT
- 4. PAINT FIRE HYDRANT WITH TWO COATS PRESERVATIVE BRAND No.43-616 YELLOW
- 5. STENCIL FOOTAGE TO VALVE ON FIRE HYDRANT FOOTAGE UNDER PORT
- 6. REMOVE ALL CHAINS FOR FIRE HYDRANT CAPS

#### **City of Pacific** Fire Hydrant **Assembly** DRAWING NO. WT-**FHA** APPROVED: DATE: DATE: DRAWN: CHECKED: SCALE:

TJO

None





- 1. Provide a 2' wide sidewalk panel centered at each meter for maintenance and repair.
- 2. Meter boxes in sidewalks can be concrete or plastic.

Approved by Public Works
Sub-Committee on 1/3p/Q1 1 OF 2

# **City of Pacific**

**Water Services** 3/4 Inches and 1 Inch

			DRAWING NO.
			WT- Res Srvc
APPROVED:		DATE:	
DATE: 12/00	DRAWN: EH	CHECKED: DB	scale: None

#### **LEGEND**

#### SINGLE AND DOUBLE WATER SERVICE DETAIL

- (1) 3/4" METER YOKE END CONNECTION EQUAL TO MUELLER H-14222
- (2) 1" IPTxIPS INSTA-TITE CORP STOP EQUAL TO MUELLER B-25005
- (3) 5/8"x3/4"x12" COPPER SETTER EQUAL TO MUELLER B-2404
- 4 ROMAC SADDLE (1" IPT) SINGLE STAINLESS STEEL STRAP FOR PIPE DIAMETERS LESS THAN 10" AND DOUBLE STAINLESS STEEL STRAP FOR PIPE DIAMETERS 10" AND GREATER.
- 5) 1" (DOUBLE) OR 3/4" (SINGLE) HIGH MOLECULAR (200 PSI, SIDR 7) "POLY" PIPE (LENGTH AS REQUIRED)
- (6) 14 GUAGE WIRE FROM MAINLINE TAP TO METER BOX AND EXPOSE 6" MINIMUM IN BOX (RUN INSIDE 2" PVC GUARD CONDUIT WHERE APPLICABLE)
- (7) METER BOX CARSON 1419 OR EQUAL (SET FLUSHED WITH FINISHED GRADE, PIT LID ADAPTER HOLE IN LID)
- (8) INSTALL SERVICE LINE IN 2" PVC GUARD PIPE (SCH-80) WHEN CROSSING ROADWAY (3' MINIMUM BEYOND AND BENEATH PAVEMENT SECTION)
  NOT REQ'D WHEN WATER MAIN IS UNDER STREET PAVEMENT
- (9) TOP ENTRY VERTICAL LOCKING BALL ANGLE METER VALVE
- (10) ANGLE DUAL CHECK VALVE
- (11) 1" IPSxPE INSTA-TITE CURB VALVE EQUAL T MEULLER H-15191
- (12) 3/4" IPSx12" LONG BRASS NIPPLE
- (13) 3/4" IPSx12" LONG BRASS NIPPLE W/CAP

### DOUBLE SERVICE

- (14) 3/4" IPSx18" LONG BRASS NIPPLE
- (15) 3/4"x3/4"x1" BRASS BULLHAD TEE
- (15) 3/4"x3/4"x1" BRASS ELBOW

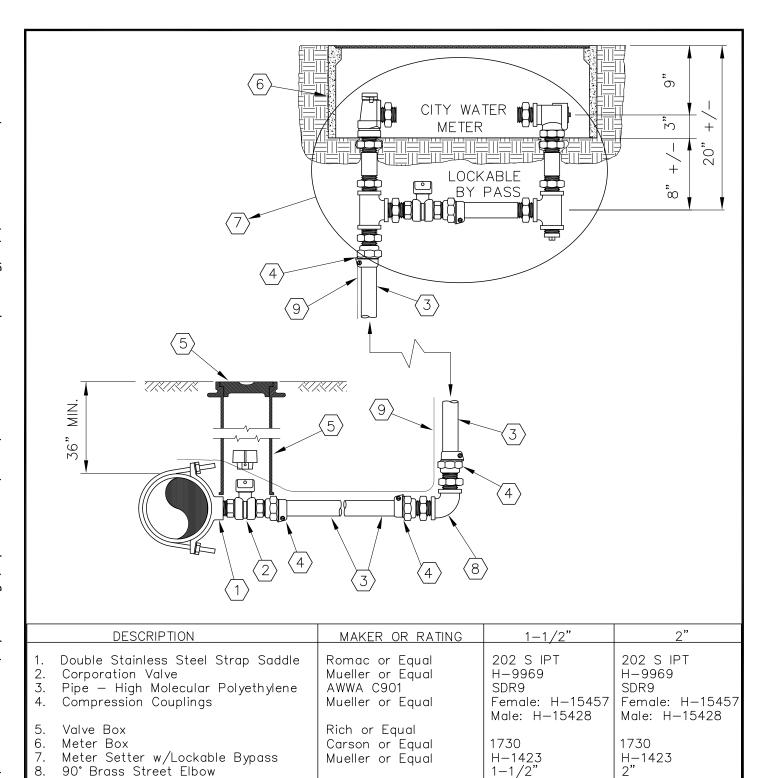
# **City of Pacific**

Water Service 3/4 Inches and 1 Inch

<i>5</i> / 1 11161165	and I men	
		DRAWING NO.
		WT- Srvc 1
	DATE:	
DRAWN:	CHECKED:	SCALE:
EH	DB	None
		DATE:  DRAWN: CHECKED:

Approved by Public Works Sub-Committee on 1/30/01

9. Tracer Wire



14 Gauge Copper Wire

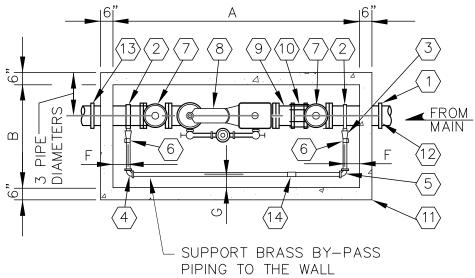
# **City of Pacific**

Solid

Solid

Water Service 1-1/2 Inches and 2 Inches

1-1/2 Inches and 2 Inches				
			DRAWING NO.	
			WT- Service 2	
APPROVED:		DATE:		
DATE:	DRAWN:	CHECKED:	SCALE:	
8/96	JH	TJO	None	



#### NOTES

- 1. "SENSUS" METERS (3" TO 10") SHALL BE FURNISHED BY CONTRACTOR AND SIZED BY CITY. METERS SHALL READ IN CUBIC FEET.
- 2. VAULT SHALL BE PRECAST, UTILITY VAULT OR OWNER APPROVED EQUAL
- 3. ALL PIPE & FITTINGS 4" AND LARGER SHALL BE CEMENT LINED.
- 4. PIPING FROM MAIN TO VAULT SHALL BE AS SHOWN IN TABLE BELOW. PROVIDE TEE WITH VALVE ON DISTRIBUTION MAIN.
- 5. ALL PIPING SHALL BE PAINTED (TWO COATS) WITH PARKER PAINT MARINE ENAMEL, MARATHON 1065, TAHOE BLUE.

METER SIZE	MAIN- LINE	BYPASS	А	В	С	D	E	F	G
3"	4" DI.	1 1/2" BRASS	7'-6"	3'-0"	9 1/2"	6"	2'-8"	9"	4"
4"	4" DI.	1 1/2" BRASS	7'-6"	3'-0"	9 1/2"	6"	2'-8"	9"	4"
6"	6" DI.	2" BRASS	9'-6"	3'-6"	12"	6"	2'-8"	9"	4"
8"	8" DI.	4" DI.	11'-0"	4'-0"	12"	9"	3'-6"	14"	6"
10"	10" DI.	4" DI.	13'-0"	5'-0"	16"	12"	4'-0"	16"	6"

# **City of Pacific**

### Water Meter Vault B-inches thru 10-Inches

3-inches thru 10-Inches				
			DRAWING NO.	
			WT- Mtr 3-10 Pln	
APPROVED:		DATE:		
DATE: 8/96	DRAWN: JH	CHECKED: TJO	scale: None	

PAGE 2 OF 3

#### MATERIAL LIST

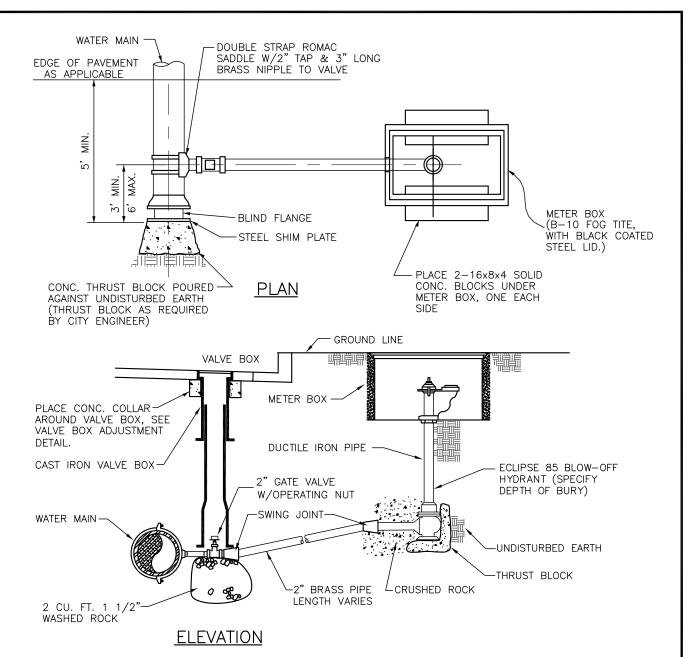
- 1.) 2-FLEX CPLG TO FIT ROCKWELL 441 (4" X 3" REDUCER, M.J. FOR 3" METER
- (2) 2-DOUBLE STRAP SERVICE CLAMPS, ROMAC 101 WITH IPS TAP, OR EQUAL
- 3. 3-STRAIGHT CPLG. BRASS TO OUTSIDE I.P. THREAD MUELLER H-15425,H-15428 110 COMP., OR EQUAL
- 4) 1 1/4" BEND CPLG BRASS TO BRASS MUELLER H-15525.
- 5.) 1 1/4" BEND CPLG, BRASS TO OUTSIDE I.P. THREAD MUELLER H—15530, OR EQUAL.
- 6.) 1 BALL VALVE WITH PADLOCK WING OR LOCK CAP, FORD B21—444W OR B21—666 WITH LOCK CAP OR B21—777 WITH LOCK CAP.
- $\langle 7. \rangle$  2-resilient seat gate valve, fl x fl, (rising stem)
- 8. 1-3" to 10" compound meter ("sensus" touch read) size to be as specified by city and furnished by contractor/developer
- $\langle 9. 
  angle$ 1 C.I. ADPT. FL X PE (LENGTH TO FIT)
- (10) 1—CPLG. ADAPT., FL ROCKWELL 912, OR OWNER APPROVED EQUAL
- (11.) CAST IN PLACE OR PRECAST CONCRETE VAULT WITH (H20) BILCO (HATCH SIZE AND LOCATION TO BE APPROVED BY CITY)
- WELDED FL RESTRAINT OR SHAKLE TO THRUST BLOCK TO PREVENT MOVEMENT IF METER IS REMOVED
- $\overline{(13)}$  insulated cplg. to 3" cu service.
- $\langle 14 \rangle$  UNION
- (15) INSTALL ALUMINUM LADDER WITH TELESCOPIC RISER FASTEN TO WALL WITH STAINLESS STEEL FASTENER AT MAXIMUM THREE FOOT INTERVALS.
- (16) PROVIDE 4" DRAIN PIPE TO DAYLIGHT (MIN. SLOPE = 2%) OR CITY APPROVED SUMP PUMP SYSTEM AS REQUIRED.

# **City of Pacific**

Water Meter Vault
3 Inches thru 10 Inches

3 Inches und 10 Inches					
			DRAWING NO.		
			WT- Mtr 3-10 Nts		
APPROVED:		DATE:			
DATE:	DRAWN:	CHECKED:	SCALE:		
8/96	JH I	TJO	None		

PAGE 3 OF 3

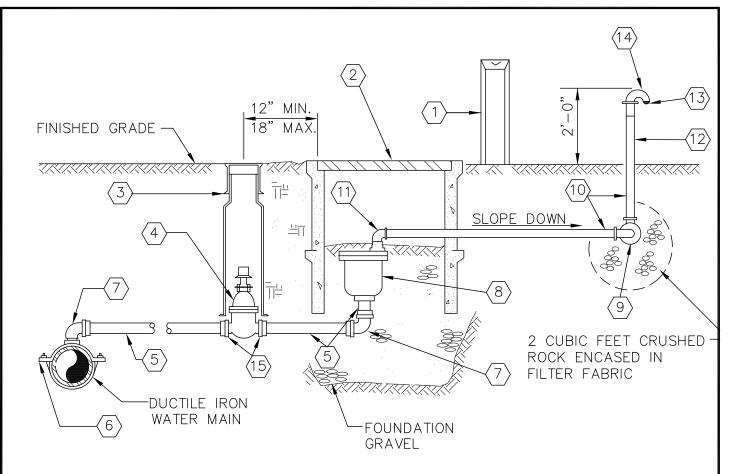


BLOW-OFF HYDRANTS SHALL BE NON-FREEZING, SELF-DRAINING TYPE.

- SET UNDERGROUND IN CITY APPROVED METER BOX, THESE HYDRANTS WILL BE FURNISHED WITH A 2" FIP INLET, A NON-TURNING OPERATING ROD, AND SHALL OPEN TO THE DESIGN, AND BE SERVICEABLE FROM ABOVE GRADE WITH NO DIGGING.
- 2. THE OUTLET SHALL ALSO BE BRONZE AND BE 2-1/2" NST.
- 3. HYDRANTS SHALL BE LOCKABLE TO PREVENT UNAUTHORIZED USE.

(SPECIFY OVERALL LENGTH 6" SHORTER THAN NORMAL DEPTH OF BURY. MINIMUM OPENING IN METER BOX SHALL BE 10".)

#### **City of Pacific** Water 2" Blow-Off Assembly DRAWING NO. WT-Blow-Off APPROVED: DATE: DATE: DRAWN: CHECKED: SCALE: 8/96 JH TJO None



- 1 VALVE MARKER POST PAINTED YELLOW WITH BLACK STENCILED DISTANCE & DIRECTION TO VALVE.
- (2)17"X28" CONC. METER BOX WITH 3/8" STEEL DIAMOND PLATE COVER, FOG-TITE \_\_ METER SEAL CO. NO.2
- 3 CAST IRON VALVE BOX
- 4) 2" AWWA RESILIENT SEAT GATE VALVE THD X THD, WITH OPERATING NUT
- 5)2" TYPE "K" COPPER PIPE
- 6 DOUBLE STRAP SERVICE CLAMP
- 7 90° BEND MUELLER No. H-15526 COMPRESSION X COMPRESSION

#### NOTES:

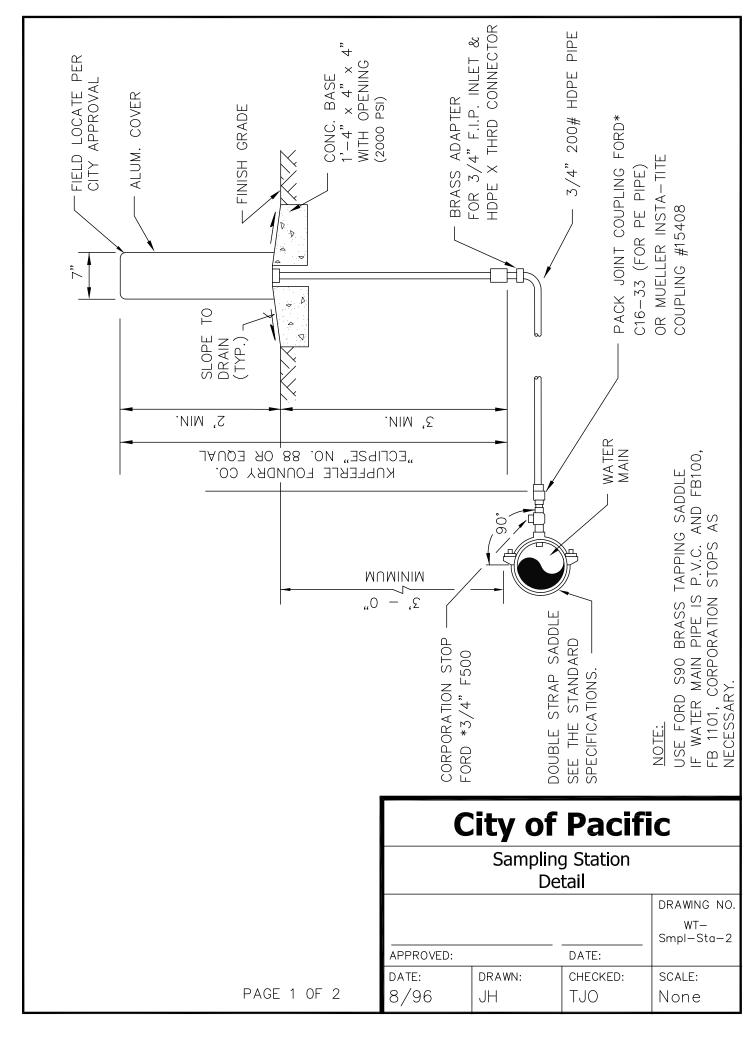
- ALL PIPING BETWEEN DOUBLE STRAP SADDLE AND INLET SIDE OF COMBINATION AIR AND VACUUM ASSEMBLY SHALL BE COPPER
- 2. TAP WATER MAIN AT HIGH POINT, LOCATION TO BE APPROVED BY THE CITY

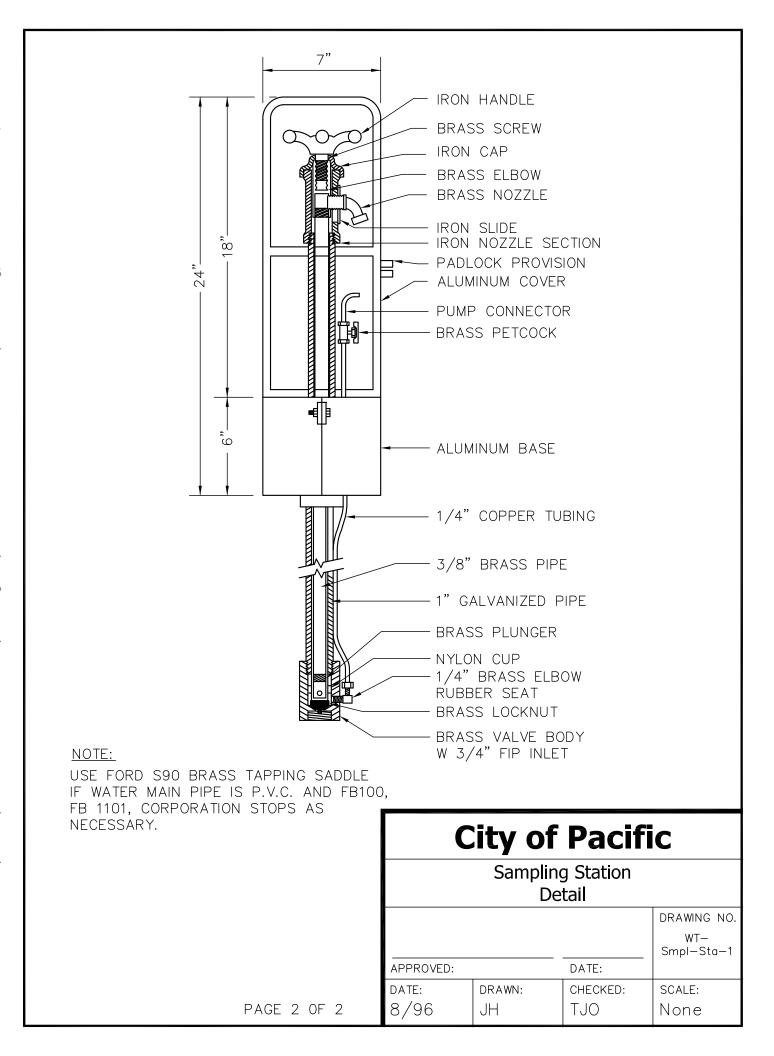
- 8 2" COMBINATION AIR & VACUUM RELEASE ASSEMBLY; A. APCO MODEL 144.
  B. CRISPIN MODEL CRAL 2.
- 9 2, 2"X90° ELL, GALV. WITH WEEP HOLE IN VERTICAL BEND
- 1) 2" GALV. IRON PIPE (FIELD LOCATE NEXT TO EXISTING PROPERTY LINE).
- (1) 2"X90° ELL (GALV.)
- 12 PAINT PORTION ABOVE GROUND WITH TWO COATS OF PRESERVATIVE BRAND No. 43-616 YELLOW PAINT
- (1) 2" BEEHIVE STRAINER
- 14 2" OPEN PATTERN RETURN BEND
- (1) STRAIGHT COUPLING, MUELLER No. H-1542 COMPRESSION X COMPRESSION

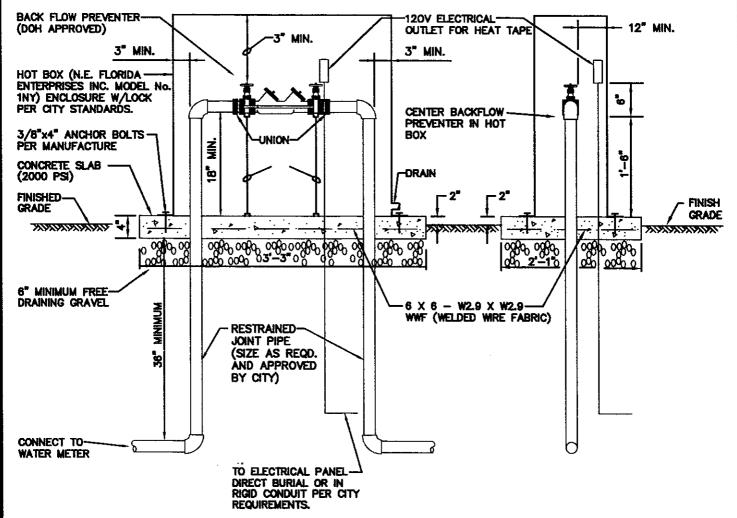
# **City of Pacific**

### Water Combination Air/Vacuum Assembly

			•
			DRAWING NO.
			WT— Air/Vac
APPROVED:		DATE:	
DATE:	DRAWN:	CHECKED:	SCALE:
8/96	JH	TJO	None



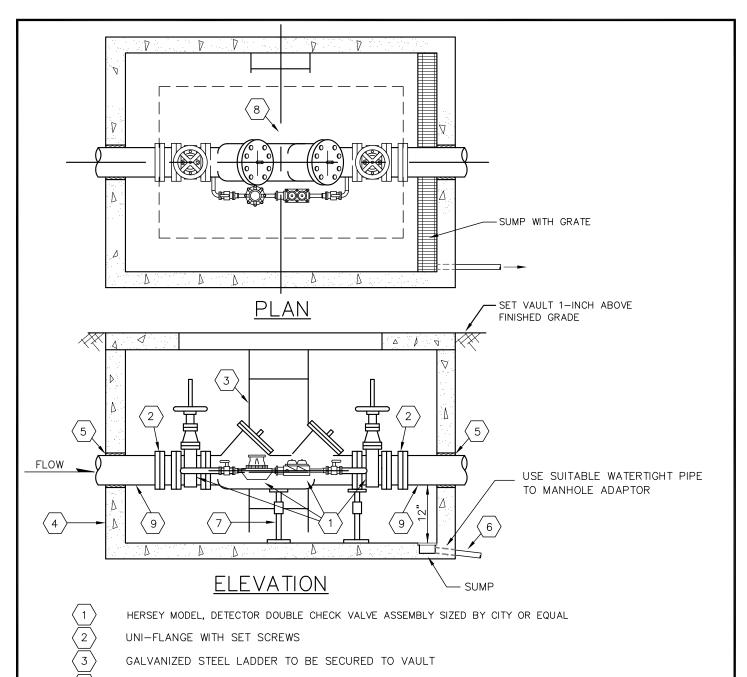




# REDUCED PRESSURE BACKFLOW DEVICE NOT TO SCALE

PROVIDE CITY APPROVED
SUPPORT FOR 2 1/2" AND
LARGER DEVICES.

-					
	CITY OF PACIFIC				
	REDUCED PRESSURE BACKFLOW DEVICE				
•	APPROVED:	ulu_	3・8・ソン DATE	DWG. NO.	
	DATE: 8/96	DRWN: J.H.	CHKD: T.J.O.	SCALE: NONE	
		1	r		



- $\langle$  4 angle concrete vault to be sized by city, with bilco cover (H20 Loading)
- WATER-TIGHT GROUT. RESTRAIN INLET/OUTLET PIPE WITH WELDED FLANGE OR SHACKLE TO THRUST BLOCK TO PREVENT. SHACKEL THROUGH VAULT IF CHECK VALVE ASSEMBLY IS REMOVED.
- $\overline{igg(6igg)}$  4" MIN. DIAMETER PVC DRAIN TO DAYLIGHT WHERE APPLICABLE. MINIMUM SLOPE 2%.
- 7 ADJUSTABLE PIPE STANCHION, GRINELL PIPE SUPPORTS.
- 8 VALVE ASSEMBLY TO BE CENTERED IN VAUL
  - CL. 53 D.I., MJ WITH MEGALUGS

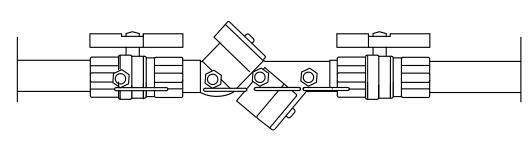
#### NOTES:

- ASSEMBLY SHALL BE MAINTAINED BY PROPERTY OWNER AND ANNUAL CERTIFICATION REQUIRED.
- FIRELINE SHALL NOT BE PUT INTO SERVICE UNTIL THE THE BACKFLOW PREVENTION DEVICE IS APPROVED BY THE DISTRICT.
- A REDUCED PRESSURE BACKFLOW PREVENTION DEVICE MAY BE REQUIRED BY THE DIRECTION OF THE CITY
- 4. PAINT PIPING WITH PARKER PAINT MARINE ENAMEL, MARARTHON 1065, TAHOE BLUE.

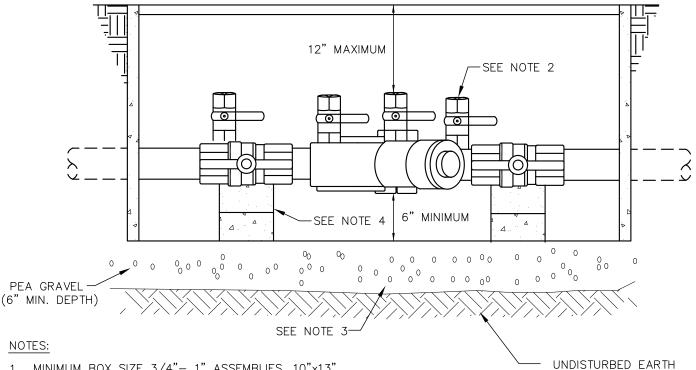
### **City of Pacific**

### Detector Double Check Valve Assembly

			DRAWING NO.
			WT- DDCVA
APPROVED:		DATE:	
DATE: 8/96	DRAWN: JH	CHECKED: TJO	scale: None



#### PLAN VIEW

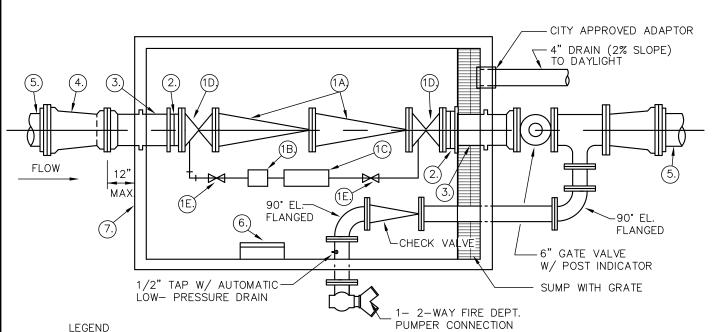


- . MINIMUM BOX SIZE 3/4"- 1" ASSEMBLIES, 10"x13" 1 1/4"- 2" ASSEMBLIES, 14"x20"
- ASSEMBLY MUST BE INSTALLED WITH TEST COCKS FACING UP OR TO ONE SIDE. INSTALL WATERTIGHT PLUGS IN ALL TEST COCKS.
- 3. SUFFICIENT DRAINAGE MUST BE PROVIDED TO PREVENT ASSEMBLY FROM BEING SUBMERGED.
- 4. PROVIDE SUPPPORT BLOCKS AS MAY BE REQUIRED.
- 5. PROVIDE A STRAINER WITH BLOW OUT TAPPING AHEAD OF DEVICE IF REQUIRED BY CITY.
- 6. THOROUGHLY FLUSH THE LINE, PRIOR TO THE INSTALLATION OF THE DCVA.
- 7. PROTECT DEVICE FROM FREEZING BY INSTALLING IN STRUCTURE OR PER "HOT BOX" SHOWN IN REDUCED PRESSURE BACKFLOW DEVICE DETAIL.

# **City of Pacific**

### Detector Double Check Assembly - Residence

	, , ,		
			DRAWING NO.
			WT- DDCVA-R
APPROVED:		DATE:	
DATE:	DRAWN:	CHECKED:	SCALE:
8/96	JH	TJO	None



**LEGEND** 

DOUBLE-CHECK DETECTOR VALVE ASSEMBLY CAPABLE OF METERING WATER USAGE UNDER LOW FLOW CONDITIONS. 10.0 P.S.I. HEAD LOSS AT 1600 GPM FOR 8" SIZE. ASSEMBLY TO BE STATE DOH APPROVED. SIZE AS APPROVED BY CITY. (SENSUS TOUCH READ)

- 1A. 2 CHECK VALVES, (FL)

  1B. 1 BY-PASS METER 5/8" X 3/4" SENSUS (C.F. READING) METER TOUCH READ COMPLETE WITH SPUD NUT.
- 1C. 1 DOUBLE CHECK VALVE ASSEMBLY, (DOH APPROVED.) 3/4" FOR 8" D.D.C.V.
- 2 GATE VALVES, (FL) W/HAND WHEEL; RISING STEM, RESILIENT SEATED AS PER CITY REQUIREMENTS.
- 2 GATE VALVES, (FL) W/ HAND WHEEL; RISING STEM, RESILIENT SEATED AS PER CITY REQUIREMENTS.
- 2 FLANGED COUPLING ADAPTER, SIZE AS SPECIFIED ON PLANS. (LOCATE MINIMUM 6" FROM INNER WALL )
- 2 PIPE SPOOLS, PLAIN END.
- 1- REDUCER (MJ X MJ), IF REQUIRED.
- RESTRAINED JOINT WATER MAIN CL50.
- ALUMINUM (TELESCOPING) LADDER, LOCATE AS DIRECTED BY CITY, USE STAINLESS STEEL FASTNERS AT 3' MAX. SPACING
- UTILITY VAULT CO. VAULTS SHALL BE CITY STD. OF QUALITY; SUBMIT ALTERNATIVES FOR APPROVAL. HINGED AND SPRING LOCKED STEEL DIAMOND P/L COVER 2-332P, (DOUBLE HATCH COVER.) 4" C.I. FLOOR DRAIN INTO 4" PVC DRAIN LINE. DAYLIGHT OR STORM SYSTEM. (NO SUMP PUMPS) PVC DRAIN LINE. DAYLIGHT OR STORM SYSTEM. (NO SUMP PUMPS) CHECK VAULT SIZE REQUIRED FOR ENCLOSING COMPLETE ASSEMBLIES.
- (8.) PROVIDE GRINNEL PIPE SUPPORTS, TO INCLUDE STEEL YOKE, BOLT TO VAULT FLOOR USING RECOMMENDED CONNECTION AND SIZES.

#### MIN. VAULT SIZES:

5'-0" X 10'-6" X 6'-3" HIGH 5'-0" X 10'-6" X 6'-3" HIGH 5106 LA 5106 LA 6'-0" X 12'-0" X 6'-6 1/2" 612 LA HIGH

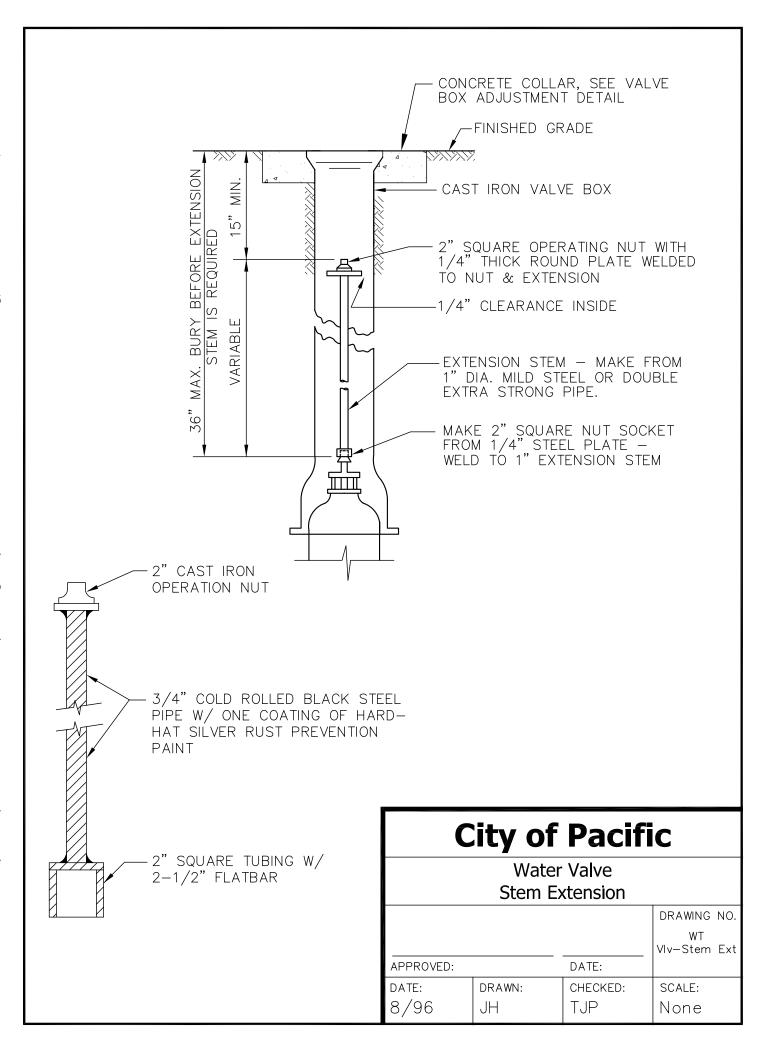
6'-0" X 12'-0" X 6'-6 1/2" 10" 612 LA HIGH

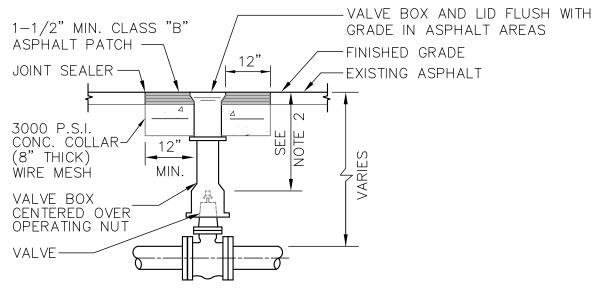
- 1. PAINT ALL PIPING WITH PARKER PAINT MARINE ENAMEL, MARATHON 1065 TAHOE BLUE
- 2. PROVIDE GRINNELL PIPE SUPPORTS. WHERE REQUIRED. (3 MINIMUM)

### **City of Pacific**

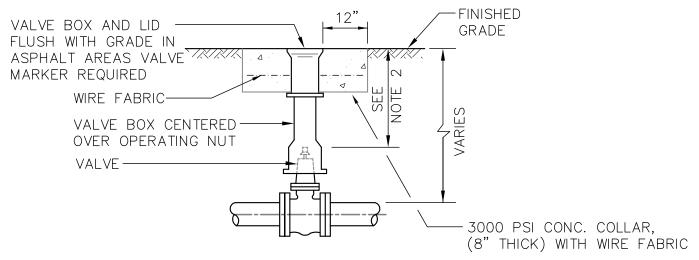
### Detector Double Check with Fire Connection

With the Connection			
			DRAWING NO.
			WT-DDCwFC
APPROVED:		DATE:	
DATE:	DRAWN:	CHECKED:	SCALE:
8/96	JH	TJO	None





### VALVE BOX IN ASPHALT AREA



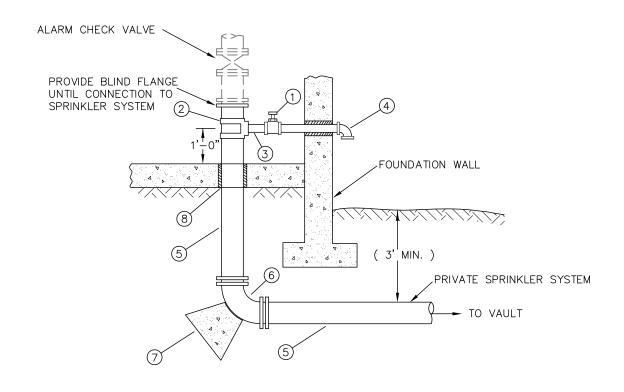
### VALVE BOX IN UNIMPROVED AREA

#### NOTES:

1. EACH VALVE SHALL BE PROVIDED WITH AND ADJUSTABLE CAST IRON VALVE BOX OF 5 INCHES (5") INSIDE DIAMETER. VALVE BOXES SHALL HAVE A TOP SECTION WITH AN EIGHTEEN INCH (18") MIN. LENGTH. THE VALVE BOX SHALL BE RICH No. 940 OR APPROVED EQUAL. VALVE BOX EARS SHALL BE PLACED IN LINE WITH PIPE IT SERVES.

2. 15" MINIMUM, 36" MAXIMUM FOR OPERATOR NUT. EXTENSION MAY BE REQUIRED.

#### **City of Pacific** Water Valve Bos Adjustment DRAWING NO. WT-VIv-Bx-Adj APPROVED: DATE: DATE: DRAWN: CHECKED: SCALE: 8/96 JH TJO None



NO.	DESCRIPTION
1	2" GATE VALVE
2	FORD STAINLESS STEEL DOUBLE STRAP SADDLE (OR APPROVED EQUAL)
3	2" GALV. NIPPLE
4	2" GALV. 90° ELL
5	D.I. CL. 52 SUPPLY MAIN (SIZE AS DETERMINED BY FIRE FLOW REQUIREMENTS)
6	90° BEND (MJ X MJ) WITH MEGALUG ADAPTER
7	CONCRETE THRUST BLOCK (SIZE TO BE APPROVED BY CITY)
8	PIPE SLEEVE

#### NOTES:

 AFTER SYSTEM IS TESTED, PURITY SAMPLES WILL BE TAKEN AT ALL RISERS IN SYSTEM

<b>City of Pacific</b>				
Fire System Riser Detail				
			DRAWING NO.  WT-  Fire Rm Riser	
APPROVED:		DATE:		
DATE: 8/96	DRAWN: JH	CHECKED: TJO	scale: None	