

City of Watsonville

PUBLIC IMPROVEMENT STANDARDS WATER SYSTEM



CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

**JUNE 26, 2018
RESOLUTION 98-18 (CM)**

CITY OF WATSONVILLE WATER SYSTEM

STANDARD SPECIFICATIONS

GENERAL

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CITY OF WATSONVILLE WATER SYSTEM STANDARD SPECIFICATIONS, THE LATEST EDITIONS OF THE AMERICAN WATER WORKS ASSOCIATION STANDARDS (AWWA), THE AMERICAN SOCIETY FOR TESTING AND MATERIAL (ASTM), AND THE CALIFORNIA PLUMBING CODE, EXCEPT AS MODIFIED HEREIN.

SUBMITTAL REQUIREMENTS

1. APPLICANT SHALL SUBMIT WATER SYSTEM PLANS AND CALCULATIONS FOR ENGINEER REVIEW AND APPROVAL FOR TENANT IMPROVEMENTS, DEVELOPMENT, AND RE-DEVELOPMENTS WHICH REQUIRE NEW WATER SERVICE AND/OR CHANGE OF AN EXISTING SERVICE. PLANS SHALL SHOW THE SIZE, TYPE AND LOCATION OF INFRASTRUCTURE TO BE INSTALLED.
2. TWO WEEKS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT CUT SHEETS AND SPECIFICATIONS FOR ALL PROPOSED MATERIAL TO BE USED IN THE CONSTRUCTION OF THE PROJECT OF WHICH WILL BECOME THE PROPERTY OF THE CITY. NO CONSTRUCTION TO BE ALLOWED UNTIL THE SUBMITTAL PACKAGE IS APPROVED BY THE PUBLIC WORKS ENGINEER.

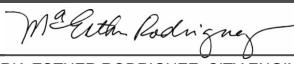
PERMITTING

1. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS FOR CONSTRUCTION OF THE NEW WATER SYSTEM AND SERVICES.
2. ALL CONTRACTORS SHALL SUBMIT A CONTRACTOR EVALUATION APPLICATION FORM 1, FOR CITY APPROVAL, TO WORK ON CITY MAINS AND SERVICES.
3. ALL WATER SYSTEM WORK SHALL BE SUBJECT TO CITY INSPECTION. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR NO LESS THAN 48 HOURS PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL KEEP THE INSPECTOR INFORMED OF THE WORK SCHEDULE AND ALERT THE INSPECTOR OF ANY CHANGES.
4. THERE SHALL BE NO WORK ON WEEKENDS AND HOLIDAYS OBSERVED BY THE CITY.
5. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL SUBMIT A HARD COPY SET AND A PDF FILE OF THE AS-BUILT PLANS OF COMPLETED WORK TO THE PUBLIC WORKS ENGINEER.

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CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

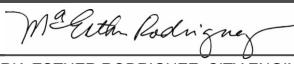
SCALE: NTS		WATER DIVISION STANDARD DRAWING GENERAL NOTES	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF			RESOLUTION: 98-18 (CM)	
CHECKED BY: TC				DWG NO. W-A

MARIA ESTHER RODRIGUEZ, CITY ENGINEER

MATERIAL SPECIFICATIONS

1. WATER MAINS: ALL WATER MAINS SHALL BE EPOXY ZINC COATED DUCTILE IRON PIPE (CLASS 52) OR APPROVED EQUAL MEETING AWWA C151.
 - a. ZINC COATING SHALL ACHIEVE A LAYER OF 200 g/m² MEETING ISO 8179-1.
 - b. EPOXY PROTECTIVE COATING SHALL COLORED BLUE AND APPLIED WITH 3mm THICK OVER THE ZINC CORROSION PROTECTIVE LAYER.
 - c. WATER MAINS SHALL HAVE A CEMENT-MORTAR LINING MEETING AWWA C104.
2. WATER SERVICES: ALL WATER SERVICES 2" AND SMALLER SHALL BE TYPE "K" POLY-WRAP COPPER PIPE MEETING ASTM B 88.
3. FITTINGS: DUCTILE IRON FITTINGS SHALL CONFORM TO AWWA C110 OR C153. JOINTS SHALL BE PUSH-ON, MECHANICAL, OR FLANGED RUBBER GASKET JOINTS CONFORMING TO AWWA C111. RUBBER GASKETS AND GASKET LUBRICANTS SHALL BE CERTIFIED BY AN ANSI ACCREDITED ORGANIZATION TO BE IN COMPLIANCE WITH NSF/ANSI 61 AND SHALL NOT IMPART TASTE OR ODOR TO THE WATER.
4. RESTRAINED JOINTS: PIPE JOINTS SHALL BE RESTRAINED AT ALL FITTINGS AND VALVES. ALL JOINT RESTRAINT HARDWARE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. IN ADDITION TO RESTRAINING THE JOINTS, THE CONTRACTOR SHALL INSTALL CONCRETE THRUST BLOCKS OR REVERSE ANCHORS IN ACCORDANCE WITH THE STANDARD DETAILS.
5. POLYETHYLENE ENCASEMENT: WHERE POLY-WRAP IS REQUIRED TO WRAP NON-ZINC COATED PIPES, VALVES, AND FITTINGS, POLY-WRAP SHALL BE 8-mil MINIMUM MEETING AWWA C105.
6. VALVES
 - a. BRASS VALVES SHALL CONFORM TO AWWA C800 AND THESE SPECIFICATIONS. BRASS VALVES SHALL BE CERTIFIED BY AN ANSI ACCREDITED ORGANIZATION TO BE IN COMPLIANCE WITH NSF/ANSI 61. BRASS VALVES SHALL CONSIST OF BRASS ALLOY HAVING A LEAD CONTENT NOT MORE THAN 0.25 PERCENT BY WEIGHT AND SHALL BEAR A MARK FROM THE MANUFACTURER INDICATING THAT THE FITTING IS COMPOSED OF NO-LEAD ALLOY.
 - b. ALL GATE VALVES SHALL MEET THE STANDARDS OF AWWA C509. THE VALVES SHALL HAVE ENDS DESIGNED TO JOIN DIRECTLY WITH THE TYPE OF PIPE OR FITTING BEING USED OR WITH ENDS CALLED FOR ON THE PLANS. INTERIOR CORROSION PREVENTION COATINGS SHALL MEET THE REQUIREMENTS OF AWWA C550. ALL VALVES SHALL BE "OPEN LEFT" RESILIENT WEDGE, NON-RISING STEM AND DOUBLE O-RING EQUIPPED. BUTTERFLY VALVES SHALL BE USED UPON THE DISCRETION OR APPROVAL OF THE PUBLIC WORKS ENGINEER AND SHALL MEET THE REQUIREMENT OF AWWA C504.
7. BACKFLOW PREVENTION: ALL BACKFLOW ASSEMBLIES SHALL BE USC-APPROVED AND LEAD-FREE. REDUCED PRESSURE PRINCIPLE DEVICES SHALL BE USED ON DOMESTIC AND IRRIGATION SYSTEMS.
8. MECHANICAL BOLTS AND NUTS SHALL BE HIGH STRENGTH LOW CARBON STEEL IN ACCORDANCE WITH AWWA C111.
9. FLANGED BOLTS AND NUTS SHALL MEET ASTM A307 AND A563 IN ACCORDANCE WITH THE PROVISIONS OF AWWA C110. BOLTS AND NUTS SHALL BE FABRICATED OF LOW CARBON STEEL CONFORMING WITH ASTM A307 GALVANIZED AFTER FABRICATION.
10. FIRE HYDRANTS: SEE STANDARD DETAIL W05.
11. ALL CONCRETE SHALL BE COMPOSED OF TYPE II OR V PORTLAND CEMENT CONFORMING TO ASTM C150, FINE AND COARSE AGGREGATES, WATER AND ADMIXTURES. THE CONCRETE MIX DESIGN SHALL HAVE MAXIMUM AGGREGATE SIZE OF NO GREATER THAN 1" MESH AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
12. REINFORCING STEEL REBAR SHALL CONFORM TO ASTM A615.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING MATERIAL SPECIFICATIONS	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF			RESOLUTION: 98-18 (CM)	
CHECKED BY: TC			MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-B

CLEANING & PRESSURE TESTING

1. AFTER INSTALLATION AND PRIOR TO SERVICE, WATER MAINS AND SERVICES SHALL BE FLUSHED BY THE CONTRACTOR WITH POTABLE WATER. ONLY THE CITY OF WATSONVILLE WATER SERVICE PERSONNEL SHALL OPEN VALVES TO THE CITY'S WATER SYSTEM.
2. ALL WATER LINES SHALL BE TESTED AFTER THE PIPE HAS BEEN LAID AND BACKFILLED AND SHALL NOT BE PERFORMED UNTIL 72 HOURS HAVE ELAPSED SINCE THE LAST THRUST BLOCK HAS BEEN POURED.
3. WATER LINES SHALL BE TESTED FOR TIGHTNESS AT THE LOWER END OF THE LINE UNDER A HYDROSTATIC PRESSURE OF 160 PSI, OR 2.5 TIMES ABOVE NORMAL OPERATING PRESSURE, WHICHEVER IS GREATER. THE CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT, LABOR AND MATERIALS NEEDED FOR THE TEST. TESTING SHALL CONFORM TO AWWA C600 SECTION 4 AND BE CONDUCTED FOR AT LEAST 2 HOURS.
4. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ADDITIONAL VALVES AND TAPS IN ORDER TO EXPEL ALL AIR FROM THE PIPE FOR THE CLEANING AND TESTING.
5. NO TESTING SHALL BE DONE UNTIL ALL SERVICES, BRANCHES, AND HYDRANTS HAVE BEEN INSTALLED.

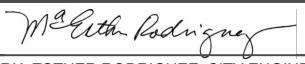
DISINFECTION

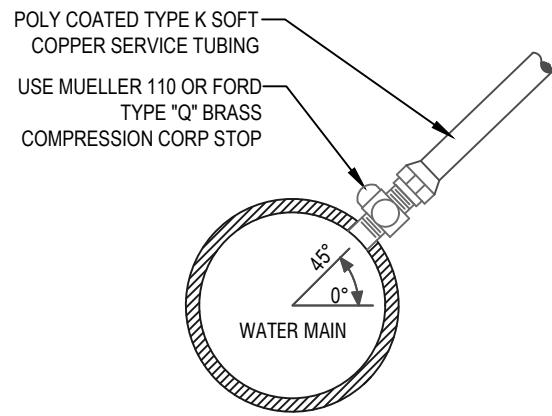
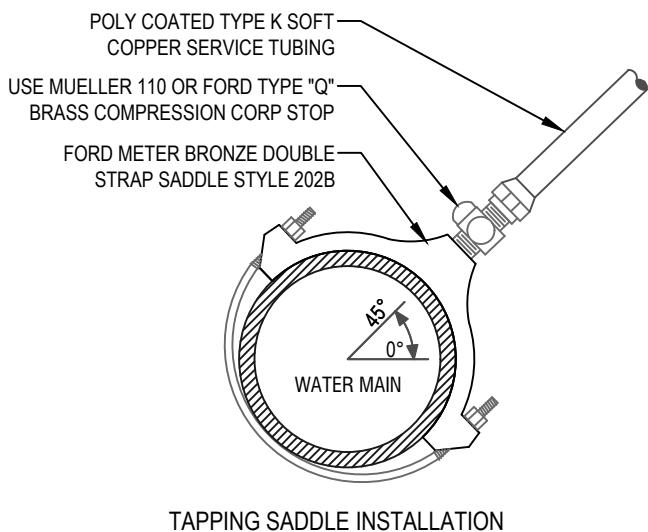
1. AFTER PRESSURE TESTING, AND BEFORE PUTTING INTO SERVICE, ALL WATER LINES SHALL BE CHLORINATED BY THE CONTRACTOR IN ACCORDANCE WITH AWWA C651 OR AS DIRECTED BY THE PUBLIC WORKS ENGINEER.
2. THE CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT, LABOR AND MATERIAL NEEDED FOR THE TEST. CHLORINE IS FURNISHED BY THE CONTRACTOR AND CHLORINATION SHALL BE SUPERVISED BY THE CITY INSPECTOR. NO TABLETS SHALL BE USED FOR STERILIZATION.

MICROBIOLOGICAL TESTING

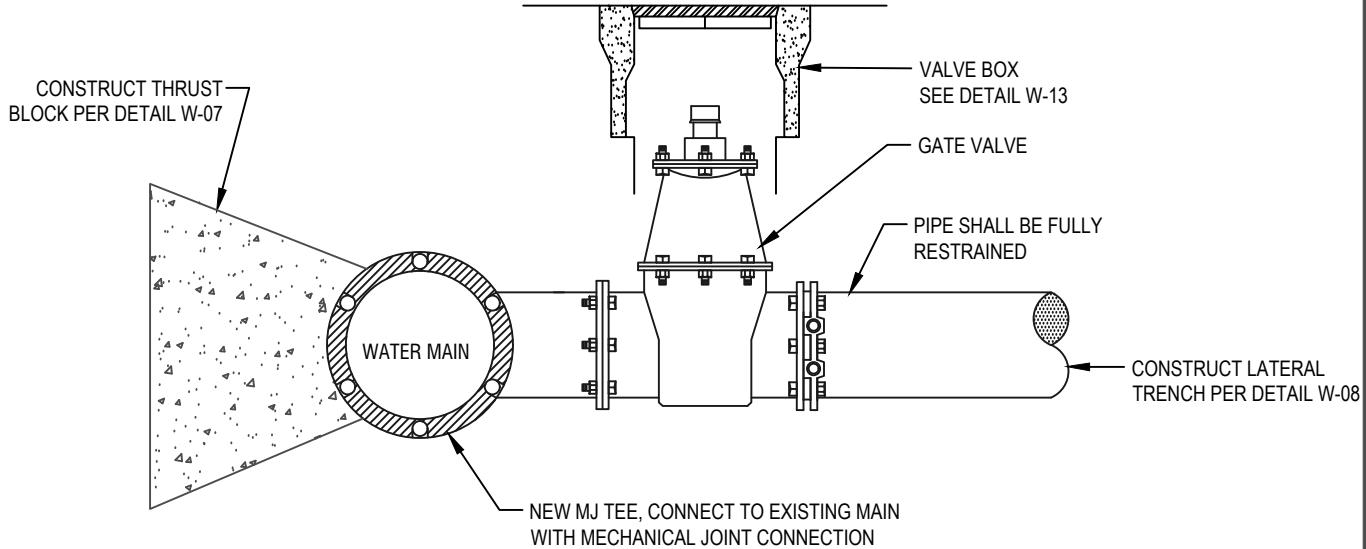
1. SAMPLES SHALL BE GATHERED AND TESTS SHALL BE CONDUCTED BY THE CITY. THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS IN ADVANCE FOR SAMPLES TO BE COLLECTED AND TESTS TO BE CONDUCTED.
2. NEW FACILITIES SHALL REMAIN ISOLATED AND OUT OF SERVICE UNTIL SATISFACTORY TEST RESULTS HAVE BEEN OBTAINED WHICH MEET THE CITY OF WATSONVILLE LABORATORY REQUIREMENTS AND THE ENGINEER HAS ACCEPTED THE RESULTS AS INDICATIVE OF THE BACTERIOLOGICAL CONDITIONS OF THE FACILITY.
3. IF UNSATISFACTORY OR DOUBTFUL RESULTS ARE OBTAINED FORM THE INITIAL SAMPLING, THE DISINFECTION PROCESS SHALL BE REPEATED UNTIL ACCEPTABLE TEST RESULTS ARE OBTAINED.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING CLEANING AND TESTING	DRAWN: MAY 2018	REV:
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CHECKED BY: TC		 MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-C	



2" AND SMALLER



LARGER THAN 2"

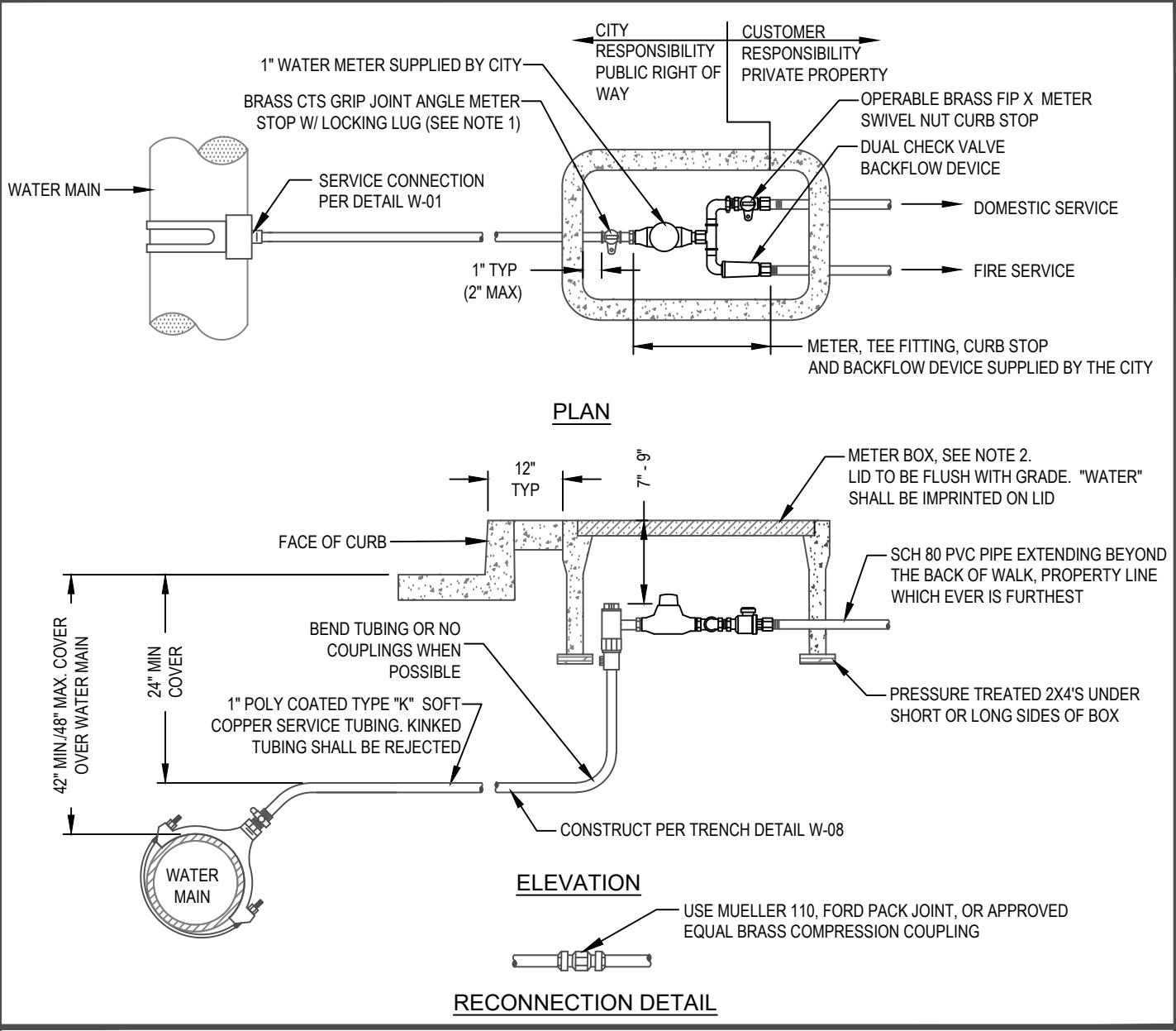
NOTES:

1. ALL HOT TAP CONNECTIONS (4" AND LARGER) AND AIR TESTS SHALL BE MADE IN THE PRESENCE OF THE PUBLIC WORKS ENGINEER OR INSPECTOR.
2. ALL HOT TAP CONNECTIONS SHALL BE AT LEAST 24" AWAY FROM ANY JOINT OR FITTING AND 18" AWAY FROM ANY OTHER TAP.
3. FOR DIRECT TAP ONLY CONTRACTOR SHALL APPLY TWO LAYERS OF ADHESIVE TAPE COMPLETELY AROUND PIPE AT TAPPING LOCATION PRIOR TO TAPPING.
4. CONTRACTOR SHALL ENCASE TAPPING SADDLE, ALL FASTENERS, ALL PIPE FITTINGS, AND SERVICE LINE WITHIN WITH POLYWRAP.
5. COUPON OR "COOKIE" SHALL BE RETAINED AND DELIVERED TO THE WATER SERVICES DIVISION.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING STANDARD SERVICE CONNECTION	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF		RESOLUTION: 98-18 (CM)		
CHECKED BY: TC		DWG NO. W-01		

Maria Esther Rodriguez, City Engineer

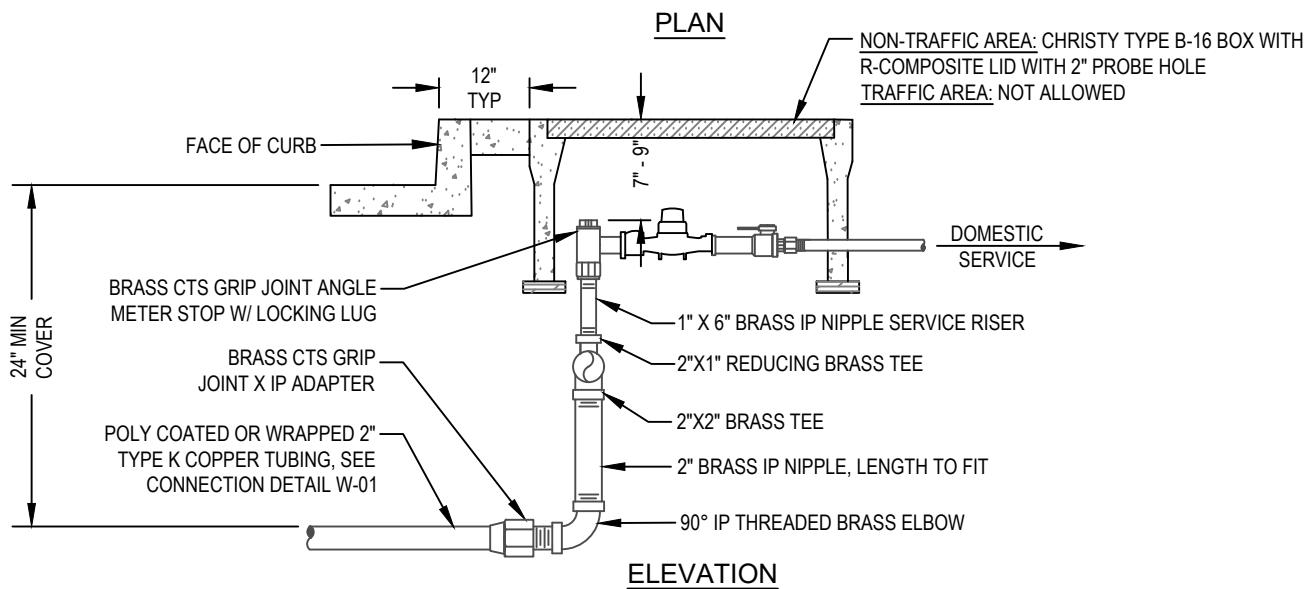
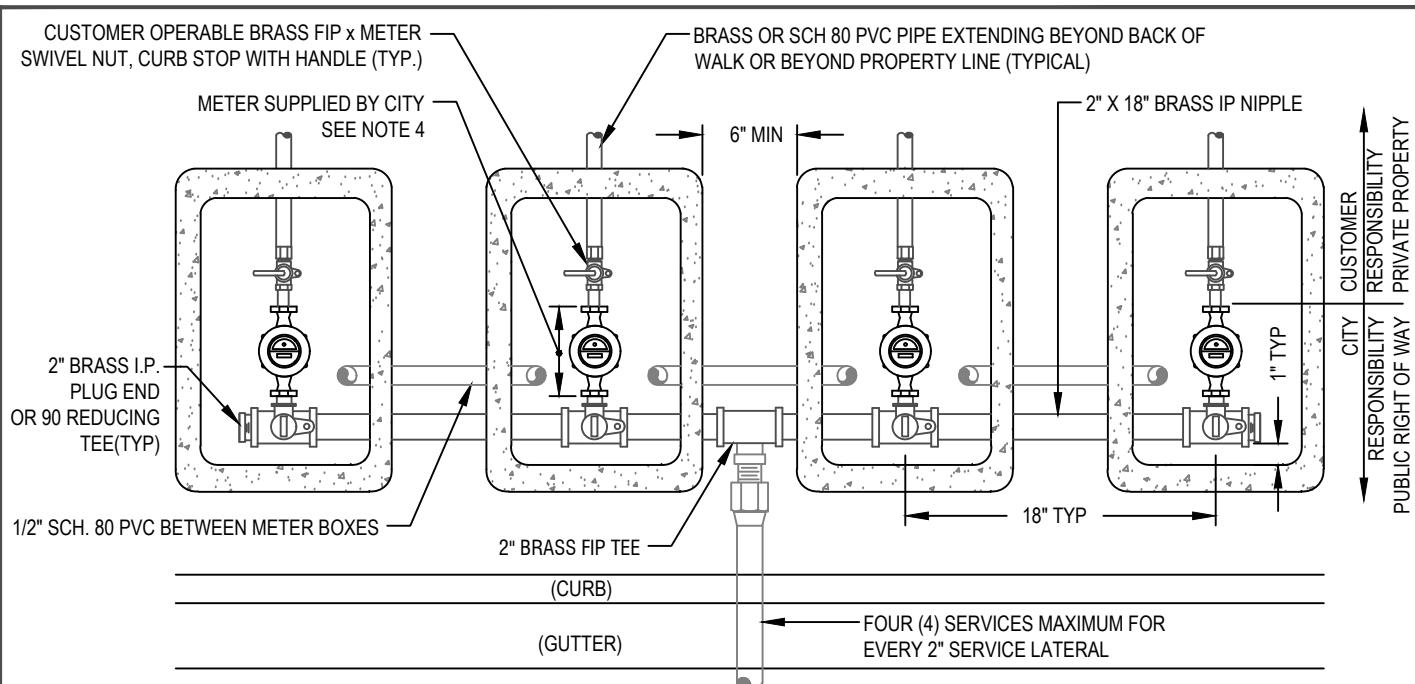


NOTES:

1. BALL ANGLE CURB METER VALVES: MUELLER #110 COMPRESSION TYPE 3/4" B-24258, MUELLER #110 COMPRESSION TYPE 1" B-24258, FORD COMPRESSION TYPE "Q", OR CITY APPROVED EQUAL 3/4" BA-43-33WQ, 1" BA-43-444WQ
2. METER BOX: CHRISTY B-36 W/ N36RP R-COMPOSITE LID NON TRAFFIC, B-1730 BOX W/ B1730-51GH STEEL CHECKER PLATE LID FOR TRAFFIC. ALL LIDS SHALL HAVE A PORT ACCEPTING THE WIRELESS METER READER.
3. ALL CORPORATION STOPS, ANGLE METER STOPS, COUPLINGS AND CONNECTIONS SHALL BE MUELLER 110, OR FORD TYPE "Q" COMPRESSION TYPE FITTINGS WITH CC THREAD, OR CITY APPROVED EQUAL.
4. ALL PRIVATE INSTALLATION SHALL COMPLY WITH CITY ORDINANCE NO. 503-80 AS AMENDED REGARDING "WATER SERVICES AND CHARGES". DOMESTIC AND FIRE SERVICE LINE SHALL BE SIZED PER CALIFORNIA PLUMBING AND FIRE CODES.
5. THE CUSTOMER SHALL INSTALL SUITABLE CONTROL VALVES ON EACH PRIVATE SERVICE LINE ON THE RISER TO EACH BUILDING OR A MAXIMUM OF 50 FEET FROM THE METER. THE VALVES SHALL CONTROL THE ENTIRE WATER SUPPLY FROM THE SURFACE.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS	 CITY OF WATSONVILLE CALIFORNIA	WATER DIVISION STANDARD DRAWING 1-INCH COMBINATION METER	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF				RESOLUTION: 98-18 (CM)
CHECKED BY: TC		Maria Esther Rodriguez Signature MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO.	W-02



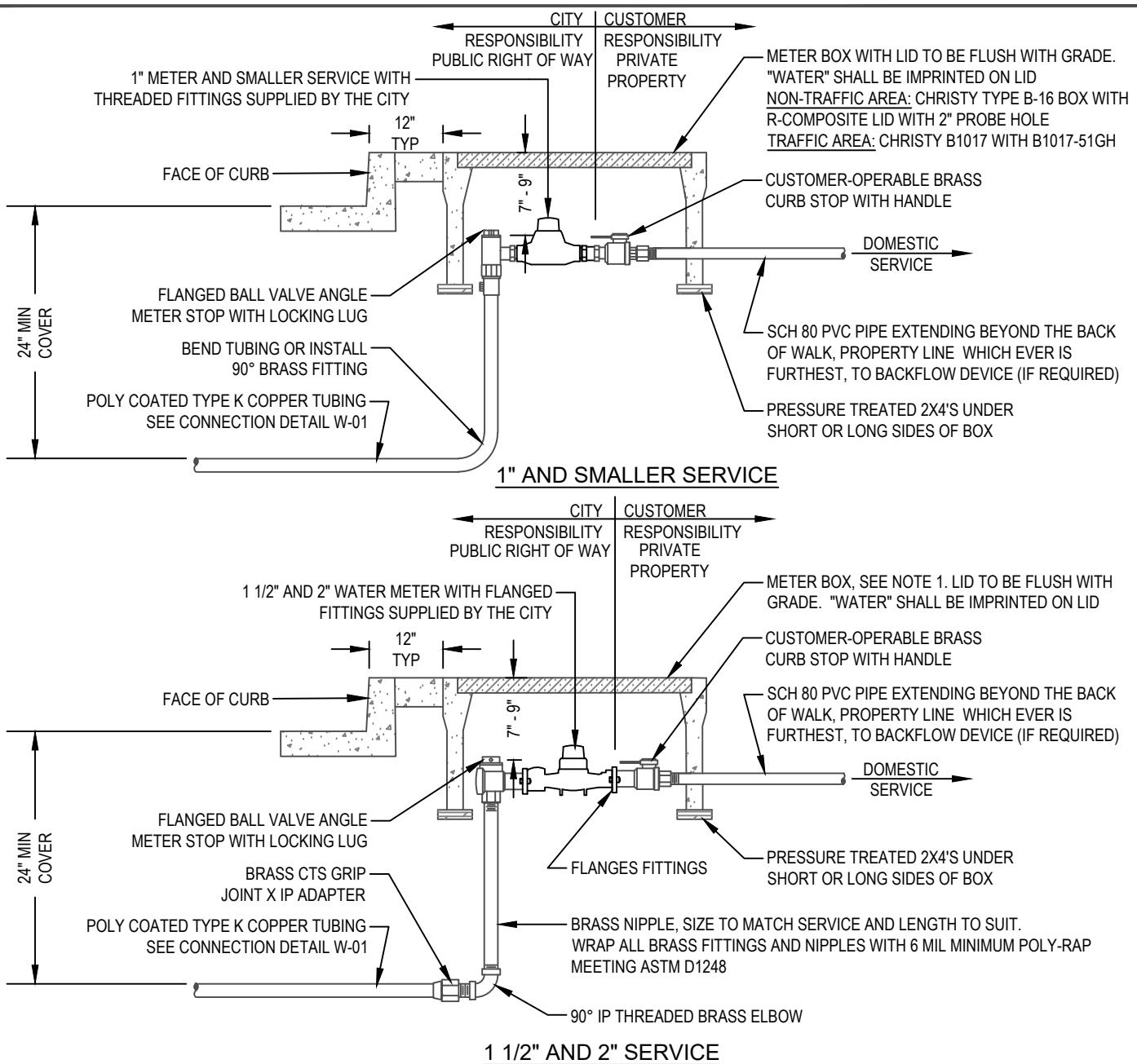
NOTES:

1. REFER TO DRAWINGS W01 & W02 FOR TYPICAL SERVICE CONNECTION INFORMATION. THIS DETAIL IS FOR MULTI-FAMILY RESIDENCES WITH SEPARATE FIRE SERVICE.
2. FOR MULTIPLE BOX INSTALLATIONS, INSTALL 1/2" SCH. 80 PVC CONDUIT BETWEEN WATER METER BOXES WITH 90 SWEEPS INSIDE (TAPE HOLES SHUT).
3. SET BOX ON TOP OF 2"x4" PRESSURE TREATED DOUGLAS FIR.
4. WATER METER SIZE MAY VARY PER ENGINEERING SIZING CALCULATIONS. 1" METER SIZE MAXIMUM IN THIS CONFIGURATION WITH A COMBINATION OF 4 SERVICES MAXIMUM.
5. ALL BRASS FITTINGS BELOW THE ANGLE STOP SHALL BE POLY-WRAPPED MEETING ASTMD1248. BRASS FITTINGS, VALVES AND PIPE SHALL CONSIST OF LOW-LEAD BRASS ALLOY AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS	<p>CITY OF WATSONVILLE CALIFORNIA</p>	WATER DIVISION STANDARD DRAWING MULTIPLE BRANCH METER CONFIGURATION	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF		RESOLUTION: 98-18 (CM)		
CHECKED BY: TC		DWG NO. W-03		

MARIA ESTHER RODRIGUEZ, CITY ENGINEER



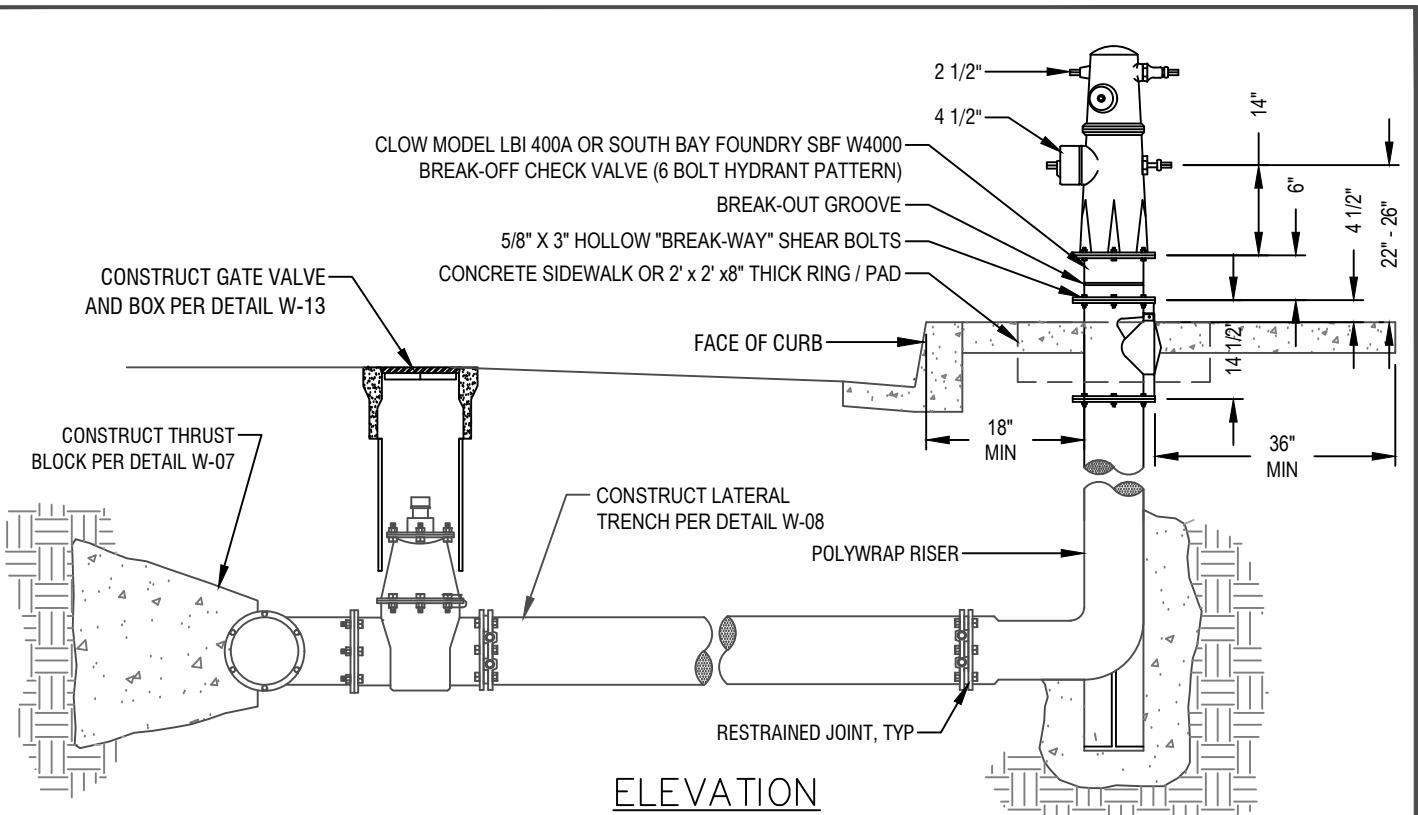
NOTES:

1. METER BOX: CHRISTY B-36 W/ FL36DFIBRELYTE LID NON TRAFFIC, B-1730 BOX W/ B1730-51GH STEEL CHECKER PLATE LID FOR TRAFFIC. ALL LIDS SHALL HAVE A PORT ACCEPTING THE WIRELESS METER READER.
2. ALL PRIVATE INSTALLATION SHALL COMPLY WITH CITY ORDINANCE WMC 6-3.4 AS AMENDED REGARDING "WATER SERVICES AND CHARGES". DOMESTIC AND FIRE SERVICE LINE SHALL BE SIZED PER CALIFORNIA PLUMBING AND FIRE CODES.
3. THE CUSTOMER SHALL INSTALL SUITABLE CONTROL VALVES ON EACH PRIVATE SERVICE LINE ON THE RISER TO EACH BUILDING OR A MAXIMUM OF 50 FEET FROM THE METER. THE VALVES SHALL CONTROL THE ENTIRE WATER SUPPLY FROM THE SURFACE.
4. ALL CORPORATION STOPS, ANGLE METER STOPS, COUPLINGS AND CONNECTIONS SHALL BE BRASS FITTINGS LEAD-FREE COMPLIANCE AND HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.

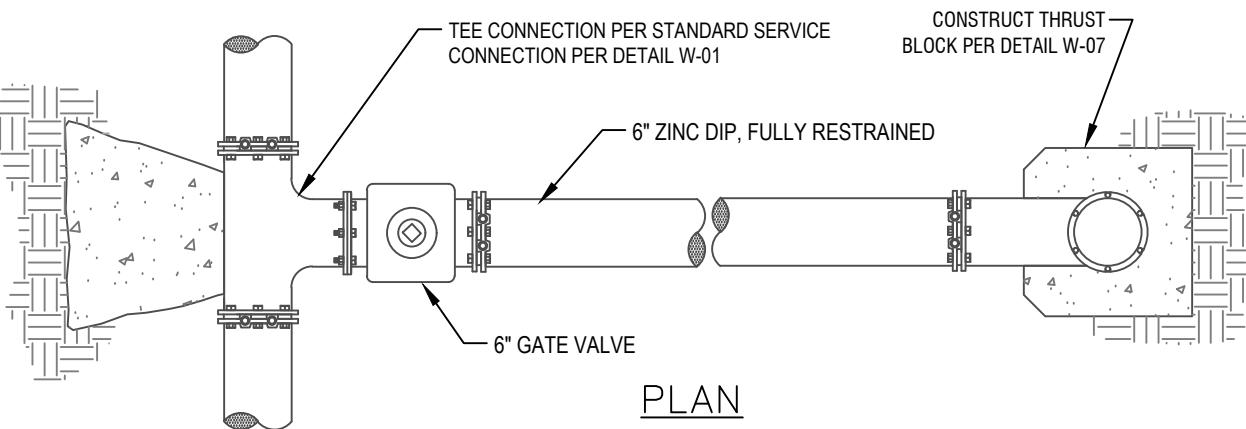
CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS	<p>CITY OF WATSONVILLE CALIFORNIA</p>	WATER DIVISION STANDARD DRAWING 2" AND SMALLER STAND-ALONE SERVICE	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF			RESOLUTION: 98-18 (CM)	
CHECKED BY: TC		Maria Esther Rodriguez Signature	DWG NO. W-04	

MARIA ESTHER RODRIGUEZ, CITY ENGINEER



ELEVATION

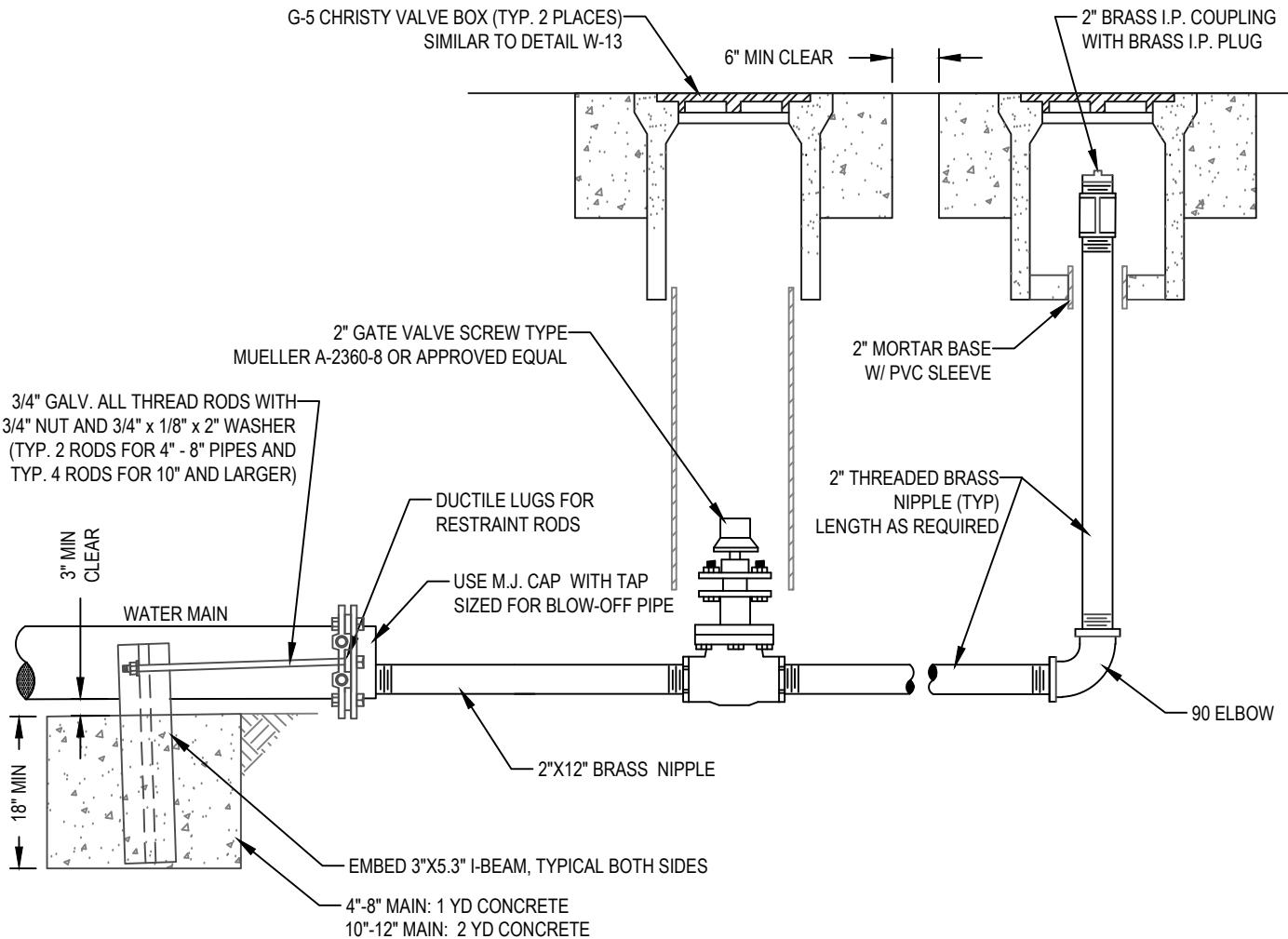


NOTES:

1. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF FIRE HYDRANT WITH THE ENGINEER.
2. ALL HYDRANTS TO BE SET TRUE AND PLUMB.
3. NO OBSTRUCTIONS SHALL BE WITHIN 36" OF FIRE HYDRANT.
4. PUBLIC HYDRANTS SHALL BE PAINTED CHROME YELLOW.
5. WITNESS HOLE MUST BE ABOVE CONCRETE SURFACE AND HAVE ADEQUATE CLEARANCE.

HYDRANT TYPES:		
<u>LOCATION:</u>	<u>JONES</u>	<u>CLOW</u>
CITY RESIDENTIAL:	J-4040	850 DI
CITY COMMERCIAL:	J-4060	860 DI

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT			
SCALE: NTS	WATER DIVISION STANDARD DRAWING NEW FIRE HYDRANT INSTALLATION	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF	RESOLUTION: 98-18 (CM)		
CHECKED BY: TC	DWG NO. W-05		
 MARIA ESTHER RODRIGUEZ, CITY ENGINEER			



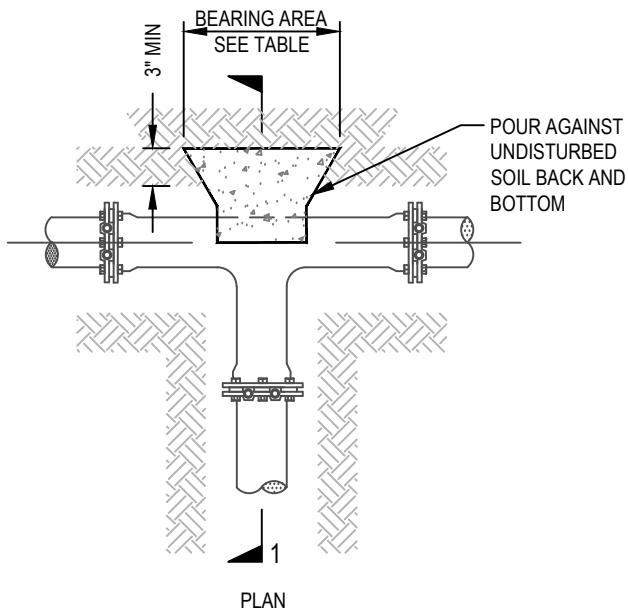
PROFILE VIEW

NOTES:

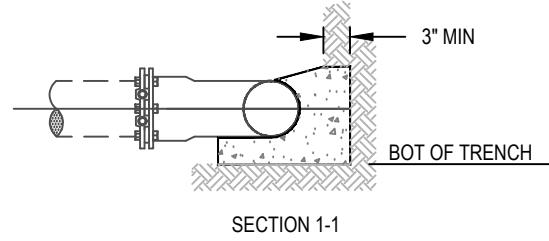
1. WRAP ALL BRASS FITTINGS & PIPES WITH WRAP ALL BRASS FITTINGS AND NIPPLES WITH 6 MIL MINIMUM POLY-RAP MEETING ASTM D1248
2. POLY WRAP M.J. CAP AND GATE VALVE.
3. BRASS FITTINGS AND PIPE SHALL CONSIST OF LOW-LEAD BRASS ALLOY AND SHALL HAVE A MINIMUM WORKING PRESSURE OF 150 PSI.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

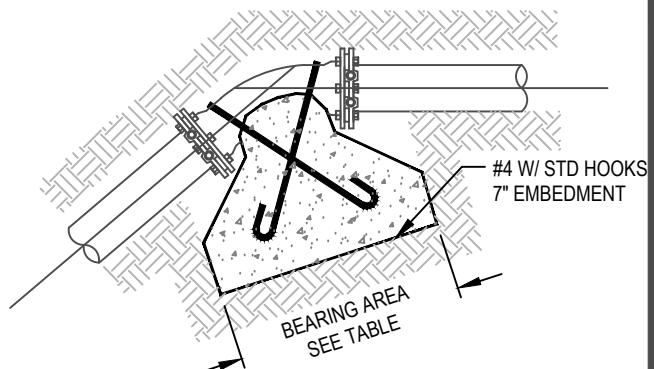
SCALE: NTS		WATER DIVISION STANDARD DRAWING BLOW-OFF ASSEMBLY	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF			RESOLUTION: 98-18 (CM)	
CHECKED BY: TC		Maria Esther Rodriguez Signature	MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-06



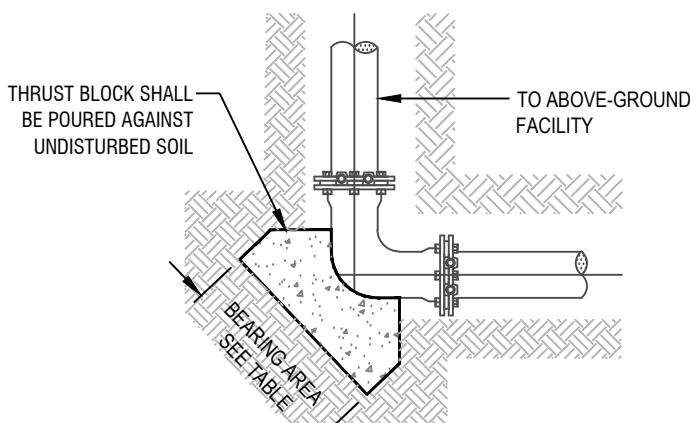
DETAIL A - TEE



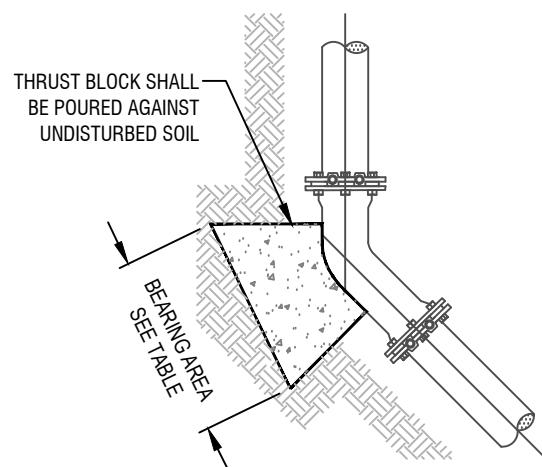
SECTION 1-1



DETAIL B - DOWNWARD VERTICAL BEND



DETAIL C - UPWARD VERTICAL BEND



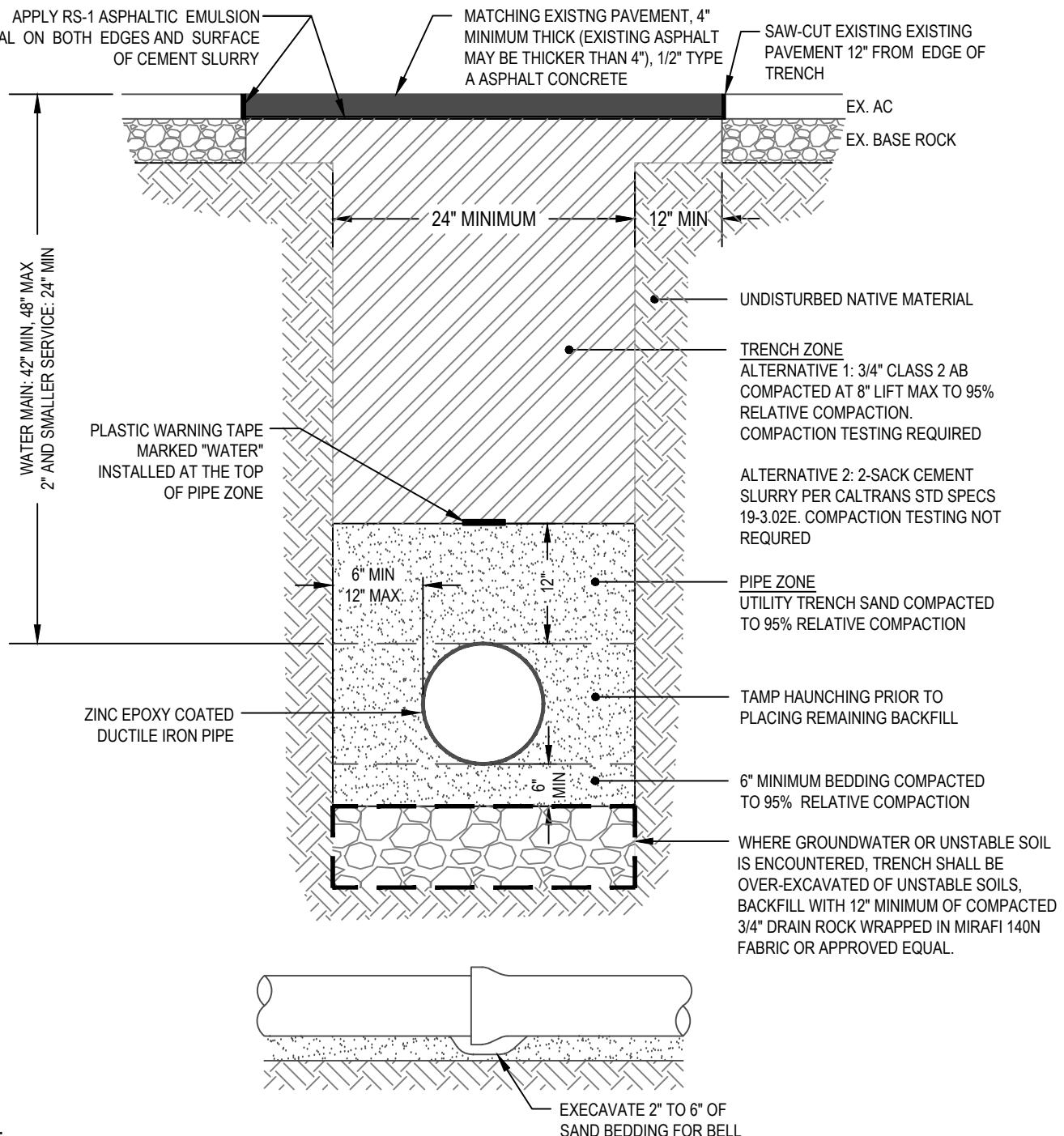
DETAIL D - HORIZONTAL BEND

REQUIRED BEARING AREA IN SQUARE FEET				
PIPE DIA	TEE- A	DOWN VERT- B	UPWARD VERT - C	HRZ BEND - D
4"	2	2	2	2
6"	5	4	6	4
8"	8	7	11	7
10"	11	10	15	10
12"	17	16	24	16
14"	22	23	31	23
16"	30	30	42	30
18"	39	35	54	35

NOTES:

1. CONCRETE SHALL BE KEPT CLEAR OF ALL FLANGES AND LUGS.
2. ALL CONCRETE THRUST BLOCK SHALL HAVE A MINIMUM THICKNESS OF 12 INCHES.
3. BLOCKING IS BASED ON 150 PSI PRESSURE AND 1000 PSF SOIL BEARING.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT				
SCALE: NTS	City of Watsonville Logo	WATER DIVISION STANDARD DRAWING STANDARD THRUST BLOCK	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF				RESOLUTION: 98-18 (CM)
CHECKED BY: TC	 MARIA ESTHER RODRIGUEZ, CITY ENGINEER			DWG NO. W-07

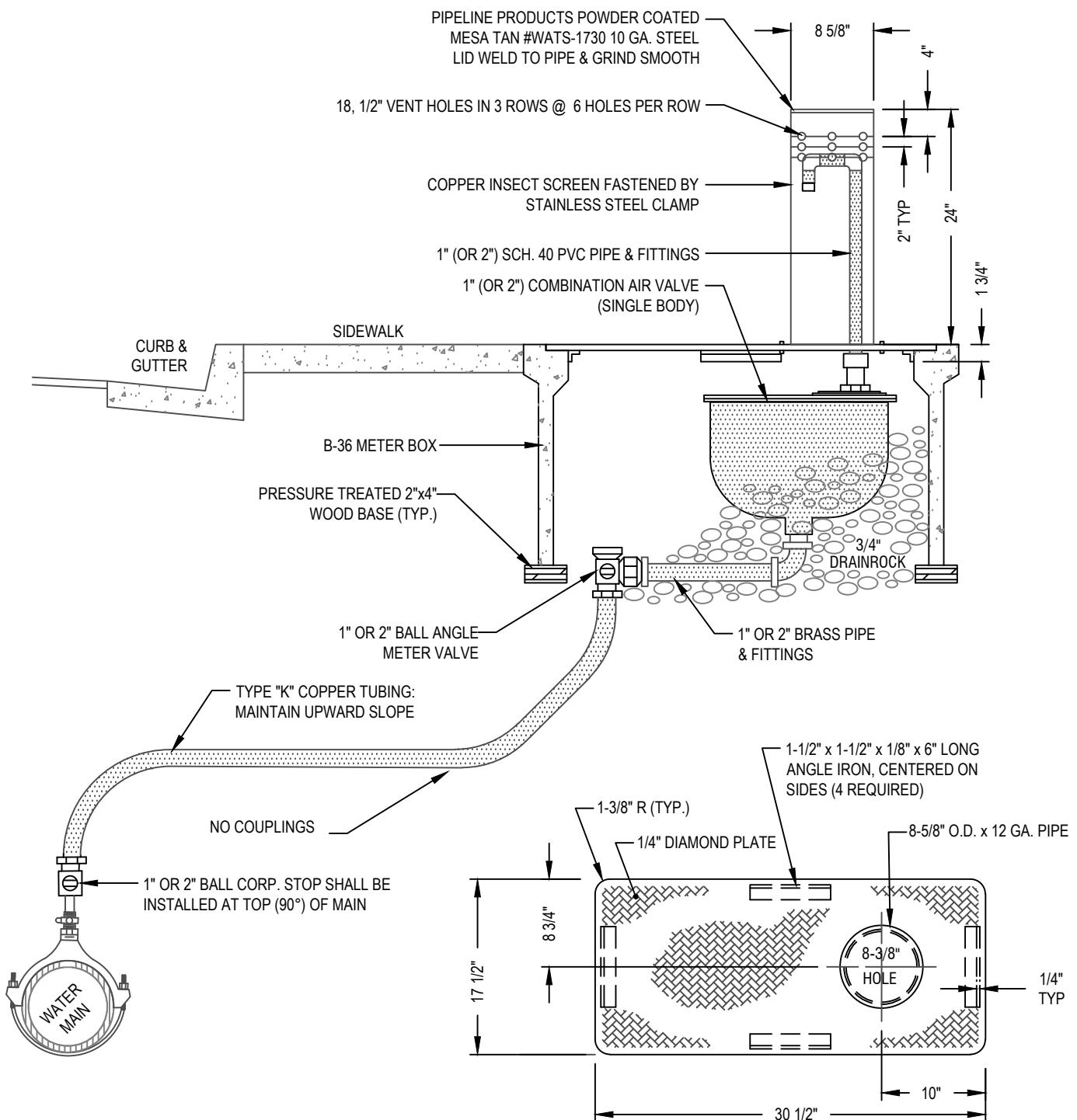


NOTES:

1. TRENCHES SHALL BE EXCAVATED IN A NEAT & WORKMANLIKE MANNER AT THE STREET SURFACE AND THE SHAPE SHALL BE RECTANGULAR.
2. THE MINIMUM PAVEMENT RESTORATION SHALL BE 4" OF TYPE "A" ASPHALT CONCRETE. IF THE EXISTING PAVEMENT SECTION IS THICKER THAN 4" AC, THE RESTORATION PAVEMENT SECTION SHALL MATCH THE EXISTING PAVEMENT THICKNESS.
3. A CONCRETE CAP 6" THICK AND THE WIDTH OF THE TRENCH TO PIPE SPRINGLINE SHALL BE CONSTRUCTED FOR ANY PIPE WITH LESS THAN 24" COVER.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING STANDARD WATER TRENCH DETAIL	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF				RESOLUTION: 98-18 (CM)
CHECKED BY: TC		Maria Esther Rodriguez Signature	MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-08



CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS



DRAWN BY: STAFF

CHECKED BY: TC

WATER DIVISION STANDARD DRAWING
**COMBINATION AIR
VALVE ASSEMBLY**

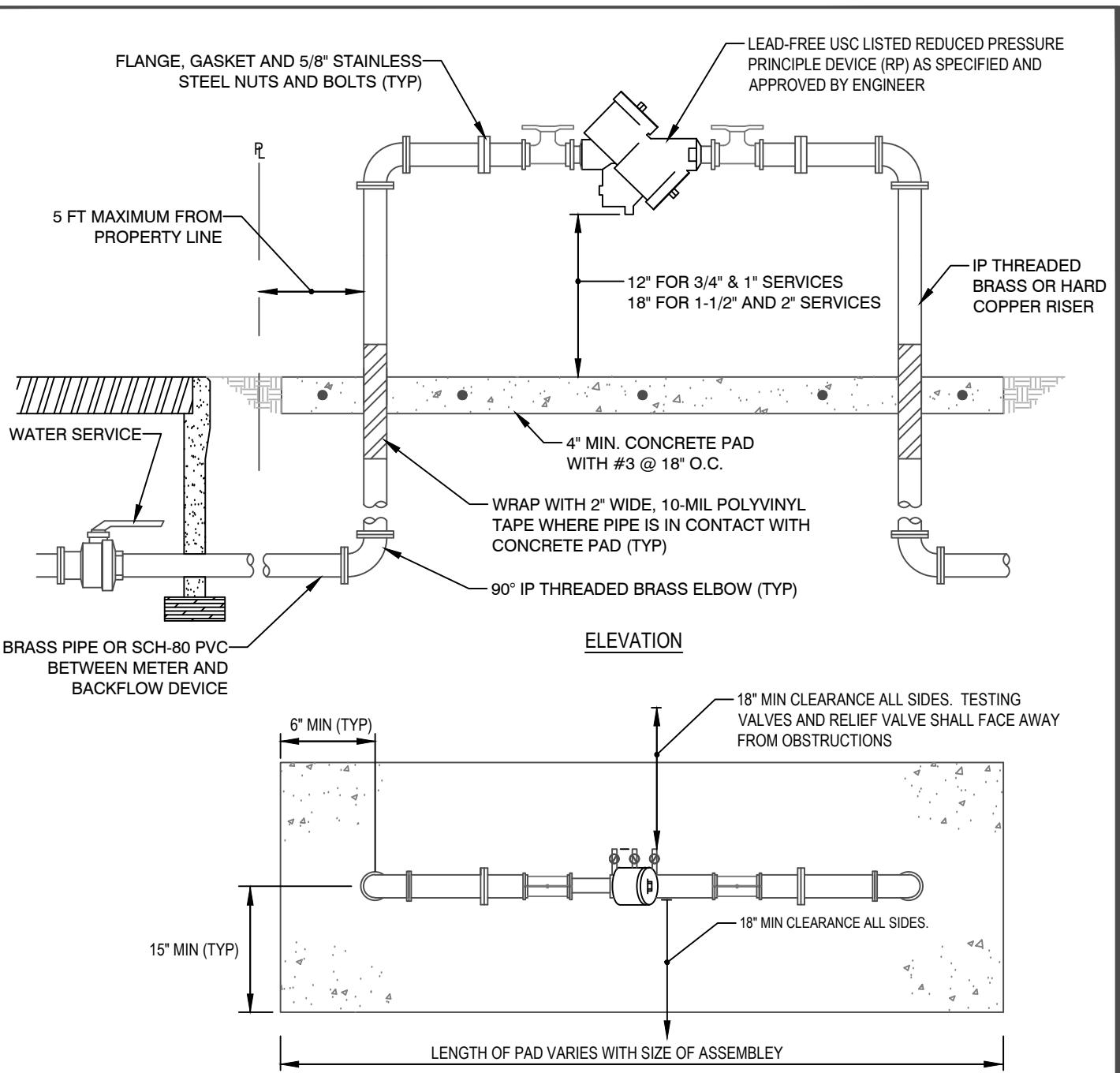
Maria Esther Rodriguez
MARIA ESTHER RODRIGUEZ, CITY ENGINEER

DRAWN:
MAY 2018

REV:

RESOLUTION: 98-18 (CM)

DWG NO. **W-09**

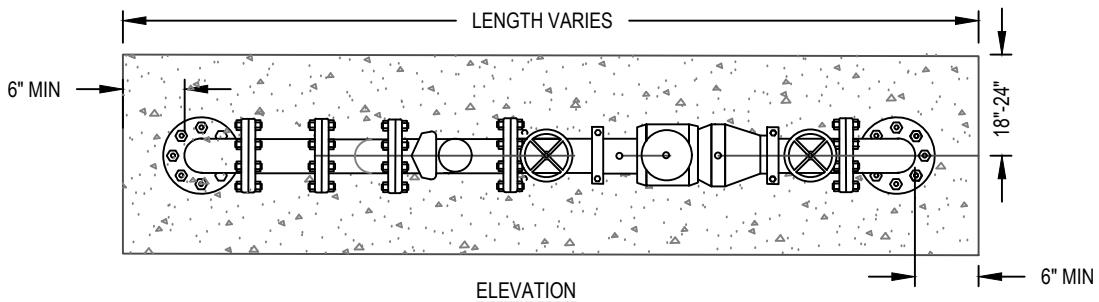
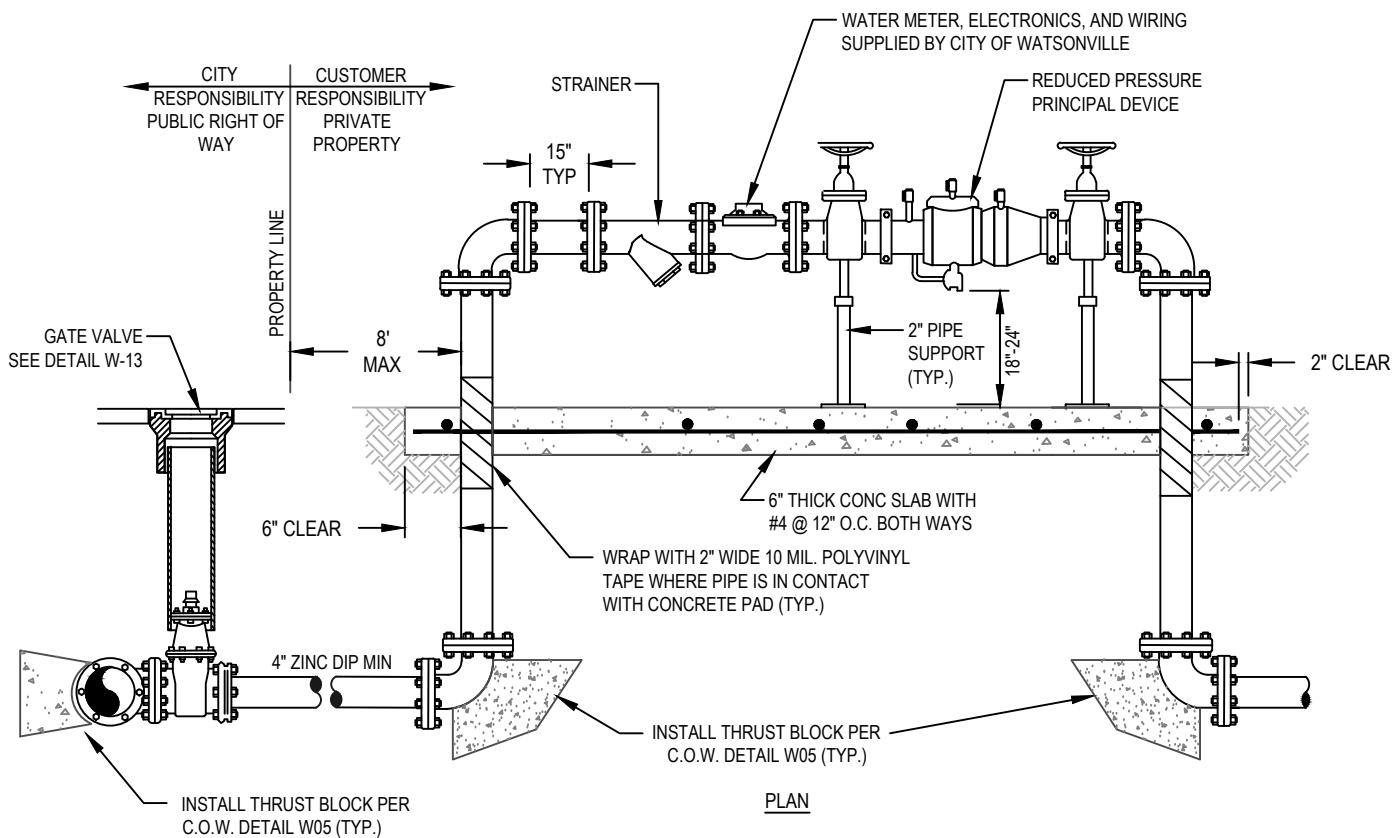


NOTES:

1. APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY SHALL BE INSTALLED SUCH THAT IT IS READILY ACCESSIBLE FOR REPAIR AND INSPECTION.
2. BRASS FITTINGS, VALVES, AND PIPE SHALL CONSIST OF BRASS ALLOY AND SHALL HAVE A MINIMUM RATED WORKING PRESSURE OF 150 PSI.
3. BRASS OR PLASTIC PLUGS SHALL BE INSTALLED ON ALL TEST PORTS.
4. ALL ABOVE GROUND PIPE, FITTINGS, AND ASSEMBLY SHALL BE PAINTED WITH TWO COATS OF ENAMEL.
5. AN ENCLOSURE OR CAGE MAY BE INSTALLED AT THE OPTION OF THE PROPERTY OWNER.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING 2" AND SMALLER BACKFLOW SERVICE	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF				RESOLUTION: 98-18 (CM)
CHECKED BY: TC		Maria Esther Rodriguez Signature	MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-10

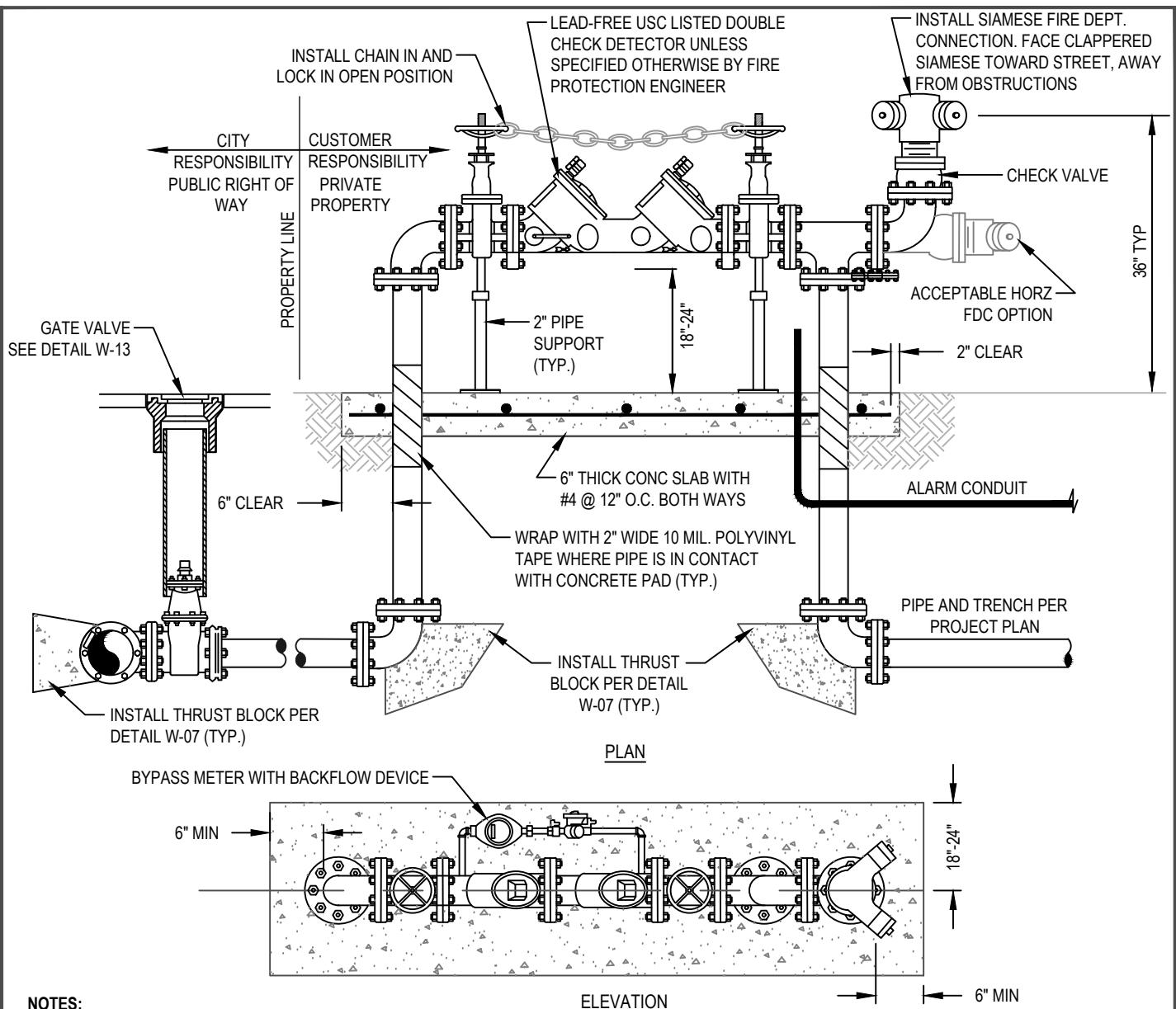


NOTES:

1. ASSEMBLY SHALL HAVE A MINIMUM SIDE CLEARANCE OF 18" EXCEPT THAT A MINIMUM SIDE CLEARANCE OF 24" SHALL BE PROVIDED ON THE SIDE OF THE ASSEMBLY THAT CONTAINS THE TEST COCKS AND/OR RELIEF VALVE.
2. ASSEMBLIES REQUIRE PIPE SUPPORTS UNDER EACH GATE VALVE.
3. ALL PIPES AND FITTINGS BELOW GROUND, EXCEPT FOR ZINC COATED DUCTILE IRON PIPE, SHALL BE POLY WRAPPED.
4. INSTALLATION SHALL BE LOCATED ON THE PROPERTY SUCH THAT THE DETECTOR METER SHALL BE ACCESSIBLE AT ALL TIMES FOR READING & MAINTENANCE PURPOSES. LOCATION MUST BE APPROVED BY CITY WATER DIVISION PRIOR TO INSTALLATION.
5. IF DIRECTED TO DO SO BY THE CITY OF WATSONVILLE, INSTALL PROTECTIVE 4" DIA. STEEL PIPE BOLLARDS.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING 3" & LARGER DOMESTIC BACKFLOW SERVICE	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF				RESOLUTION: 98-18 (CM)
CHECKED BY: TC		Maria Esther Rodriguez Signature	MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-11

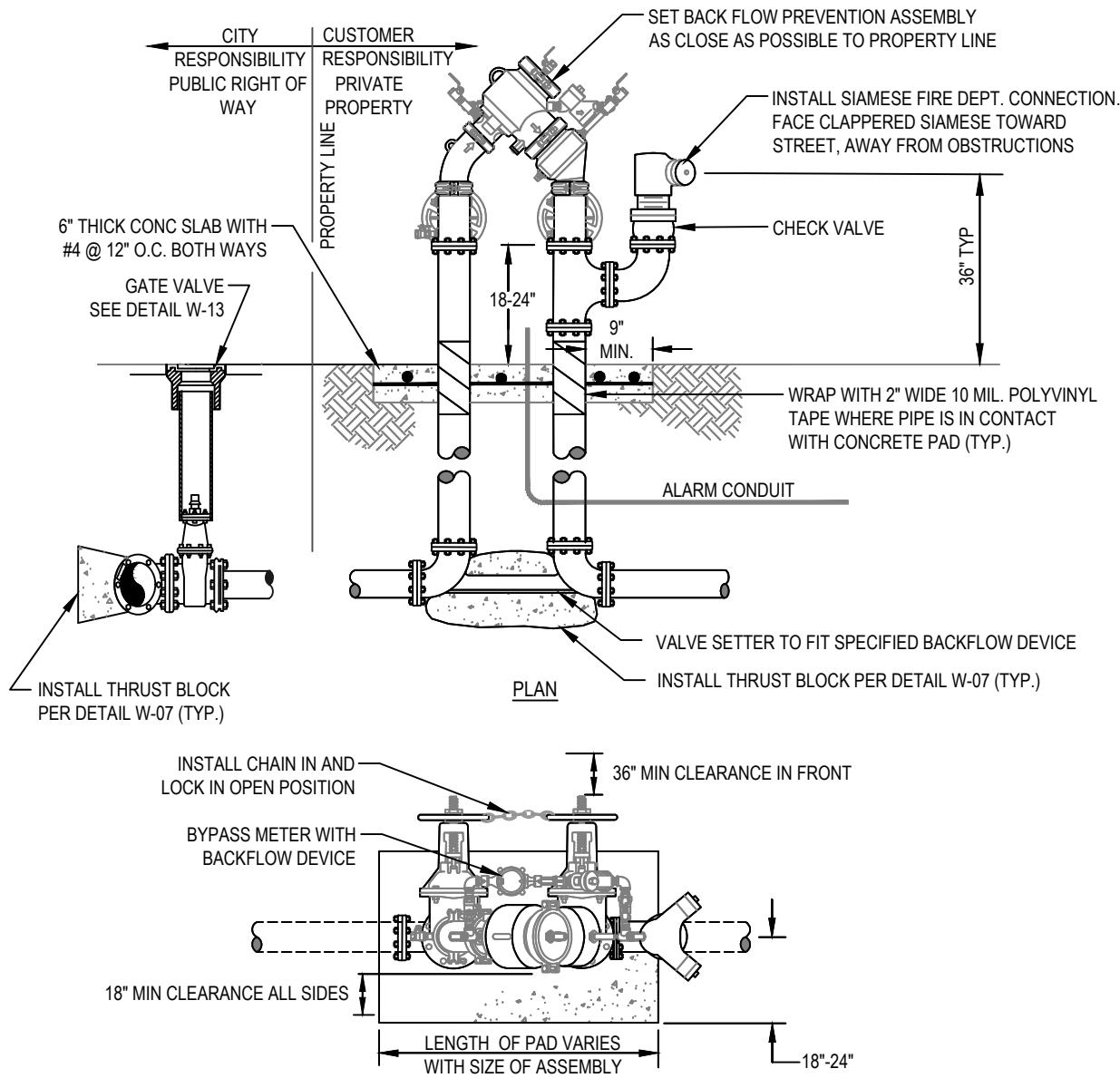


NOTES:

1. ASSEMBLY SHALL HAVE A MINIMUM SIDE CLEARANCE OF 18" EXCEPT THAT A MINIMUM SIDE CLEARANCE OF 24" SHALL BE PROVIDED ON THE SIDE OF THE ASSEMBLY THAT CONTAINS THE TEST COCKS AND/OR RELIEF VALVE.
2. ASSEMBLIES REQUIRE PIPE SUPPORTS UNDER EACH GATE VALVE.
3. INSTALLATION SHALL BE LOCATED ON THE PROPERTY SUCH THAT THE DETECTOR METER SHALL BE ACCESSIBLE AT ALL TIMES FOR READING & MAINTENANCE PURPOSES. LOCATION MUST BE APPROVED BY CITY WATER DIVISION PRIOR TO INSTALLATION.
4. BACKFLOW ASSEMBLY GATE VALVES SHALL BE O.S. & Y. TYPE, EQUIPPED WITH TAMPER-PROOF ALARM DEVICES AND SHALL BE CHAINED AND LOCKED IN THE OPEN POSITION.
5. IF DIRECTED TO DO SO BY THE CITY OF WATSONVILLE, INSTALL PROTECTIVE 4" DIA. STEEL PIPE BOLLARDS.
6. OPENING AND CLOSING OF VALVES IS STRICTLY PROHIBITED: FIRE DEPT. APPROVAL REQUIRED.
7. ALL ABOVE GROUND PIPING SHALL BE PAINTED (COLOR TO BE SELECTED AT TIME OF INSTALLATION BY APPROPRIATE FIRE DEPARTMENT.)

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING 4" AND LARGER FIRE BACKFLOW SERVICE	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF				RESOLUTION: 98-18 (CM)
CHECKED BY: TC		Maria Esther Rodriguez Signature	MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-12A

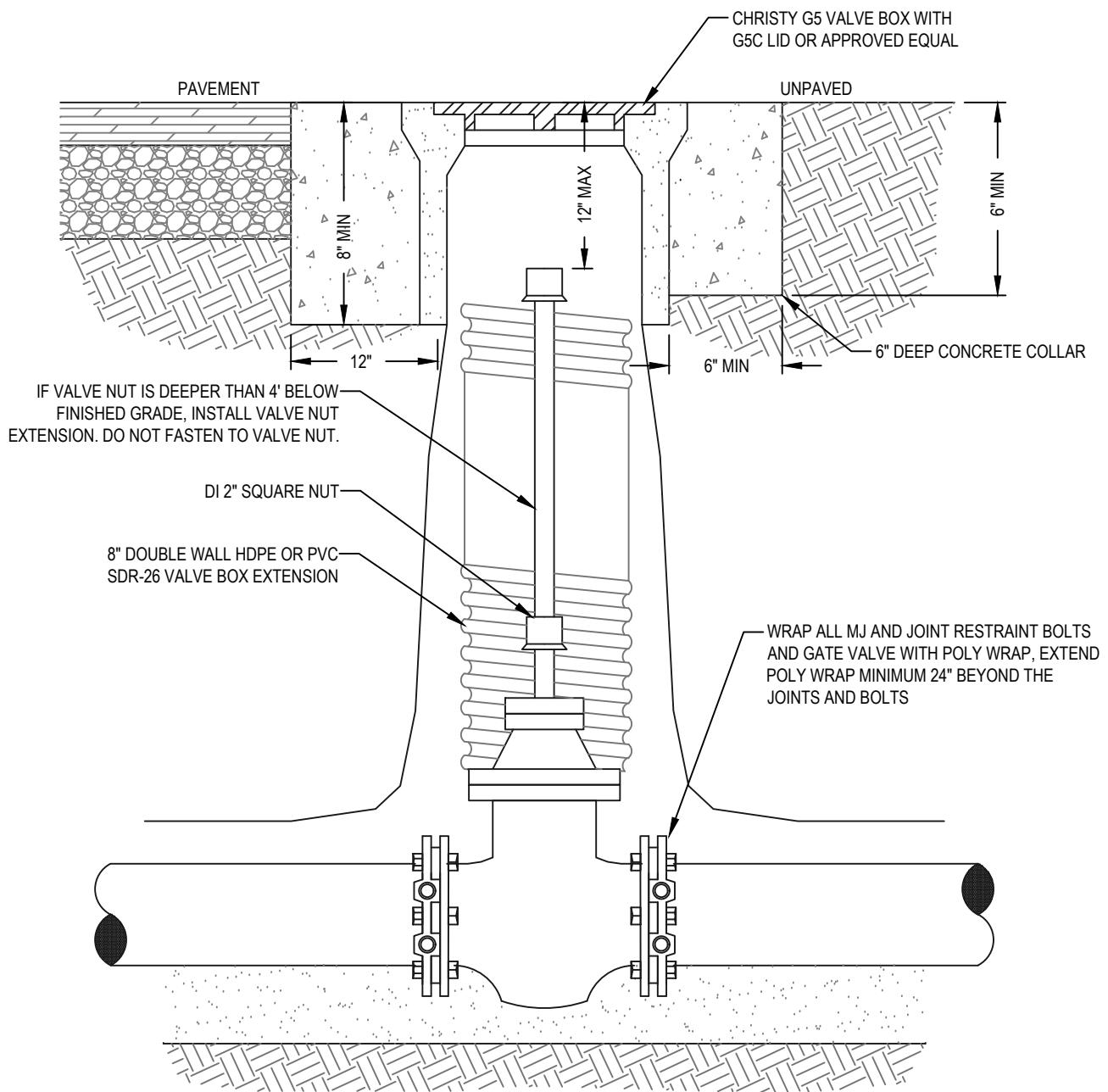


NOTES:

1. REFER TO PROJECT CIVIL PLAN FOR REQUIRED TYPE OF DEVICE OR CALL PUBLIC WORKS & UTILITIES CUSTOMER SERVICE AT (831) 768-3133 FOR SPECIFIED TYPE PRIOR TO INSTALLATION.
2. INSTALLATION SHALL BE LOCATED ON THE PROPERTY SUCH THAT THE DETECTOR METER SHALL BE ACCESSIBLE AT ALL TIMES FOR READING & MAINTENANCE PURPOSES. LOCATION MUST BE APPROVED BY CITY WATER DIVISION PRIOR TO INSTALLATION.
3. BACKFLOW ASSEMBLY GATE VALVES SHALL BE O.S. & Y. TYPE, EQUIPPED WITH TAMPER-PROOF ALARM DEVICES AND SHALL BE CHAINED AND LOCKED IN THE OPEN POSITION.
4. IF DIRECTED TO DO SO BY THE CITY OF WATSONVILLE, INSTALL PROTECTIVE 4" DIA. STEEL PIPE BOLLARDS.
5. OPENING AND CLOSING OF VALVES IS STRICTLY PROHIBITED: FIRE DEPT. APPROVAL REQUIRED.
6. ALL ABOVE GROUND PIPING SHALL BE PAINTED (COLOR TO BE SELECTED AT TIME OF INSTALLATION BY APPROPRIATE FIRE DEPARTMENT.)

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		WATER DIVISION STANDARD DRAWING 4" AND LARGER COMPACT FIRE BACKFLOW SERVICE	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF				RESOLUTION: 98-18 (CM)
CHECKED BY: TC		Maria Esther Rodriguez Signature	MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. W-12B



NOTES:

1. VALVE BOX LID SHALL BE INSTALLED FLUSH WITH FINAL PAVING OR GROUND SURFACE.
2. INSTALL BLOCKING UNDER VALVE IF REQUIRED.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS



DRAWN BY: STAFF

CHECKED BY: TC

WATER DIVISION STANDARD DRAWING
**STANDARD
GATE VALVE**

Maria Esther Rodriguez
MARIA ESTHER RODRIGUEZ, CITY ENGINEER

DRAWN:
MAY 2018

REV:

RESOLUTION: 98-18 (CM)

DWG NO. **W-13**



City of Watsonville

"A Community of Opportunities"

Approved Installation Contractors Requirements

The City of Watsonville requires that water service applicants use contractors, approved by the City, for installation of new services. The names of such contractors are maintained on an "Approved Installation Contractors" list provided to water service applicants. To be considered for such approval and be included on the list, a contractor must meet the following requirements:

Eligibility Requirements for Approval:

1. Be licensed by the State of California as a General Engineering Contractor or a C34 Pipeline Contractor.
2. Have competently performed work similar to city water service installation, including working within a public street right-of-way, performing multiple "hot taps" and traffic control within the last five years.
3. Hold a City of Watsonville business license.
4. Hold insurance coverage that meets the City's requirements.

Approval Process:

1. Contractor submits the attached application, with all required documentation.
2. COW will review the application; contact references, and make a determination of approval within one month.
3. Initial approval, if granted, will be temporary status, until the contractor has completed a minimum of three (3) separate water service installations to the satisfaction of the COW and the customer.
4. Upon successful completion of three installations, the contractor's name and contact information will be placed on the approved list and provided directly to customers.

Requirements to Maintain Approval:

1. Must construct all facilities in conformance with the latest version of COW Standard.
2. Must comply with all instructions given in the field by the City's authorized representatives.
3. Must correct any deficiencies in its installations that are discovered within the one (1) year guarantee period.
4. Must maintain current copies of Certificates of Insurance and Watsonville business license on file with the COW.

Removal from List

A contractor may be removed from the "Approved Installation Contractors" list at anytime by the COW Public Works & Utilities if determined out of compliance with any of the requirements shown above, or in any other way presents a risk to the quality and efficiency of the City Water.



831-768-3100



publicworks@cityofwatsonville.org



www.cityofwatsonville.org



Public Works and Utilities

250 Main Street

Watsonville, CA 95076



City of Watsonville

"A Community of Opportunities"

Contractors Application Form

Contractor Name: _____

Contractor Email: _____

Name of Company: _____

State License Type/Number: _____

Company Mailing Address: _____

Company Phone #'s:

Office: _____ Cell: _____ Fax: _____

The undersigned hereby attests to the following:

- 1) I have acquired, read and understand the latest revision of COW Standards, and agree to construct all City water facilities in conformance with those standards.
- 2) I have read and understand the Approved Installation Contractors Requirements and agree to comply with them.
- 3) I shall defend and hold the City of Watsonville, its officers, agents and employees, free and harmless from and against any and all loss, cost, attorney's fees, suits, claims, or demands arising out of or related to the installation of water services and appurtenances by my company, its agents or employees.

I have attached the following required documents to this application:

- A summary of relevant work experience.
- A minimum of three (3) references, including name of company and telephone number, contact person, project address, and a description of the work I performed within the last five (5) years.
- A current copy of City of Watsonville Business License to perform work inside the city limits.
- A current Certificate of Insurance that meets the City's Insurance Requirements for Approved Contractors.

Contractor's Signature: _____ Date: _____



City of Watsonville

"A Community of Opportunities"

Approved Water Service Installation Contractor List

Company Name	State License	Address	City	State	Zip	Office Ph.	FAX



831-768-3100

publicworks@cityofwatsonville.org

www.cityofwatsonville.org



Public Works and Utilities

250 Main Street

Watsonville, CA 95076