City of Sumner

Public Works Department

STANDARD DETAILS

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FORWARD

This document has been prepared to provide a Standard Detail manual for construction within the City of Sumner. The following standard details shall apply unless specifically modified herein: “2026 Standard Specifications for Road, Bridge, Municipal Construction” prepared by the Washington State Department of Transportation and the American Public Works Association of Washington State Chapter, “Criteria for Sewage Works Design” prepared by the State of Washington Department of Ecology Revised May 2023, and the “2014 Recommended Standards for Wastewater Facilities” prepared by the Great Lakes – Upper Mississippi River Board (GLUMRB). The City of Sumner has expanded in the specific area of construction which was deemed unique to the local area. This edition was compiled by a committee of City staff representing years of field and design experience. This is an attempt to achieve maximum uniformity of engineering and construction practices within the City of Sumner.

City of Sumner

Public Works Department

WATER

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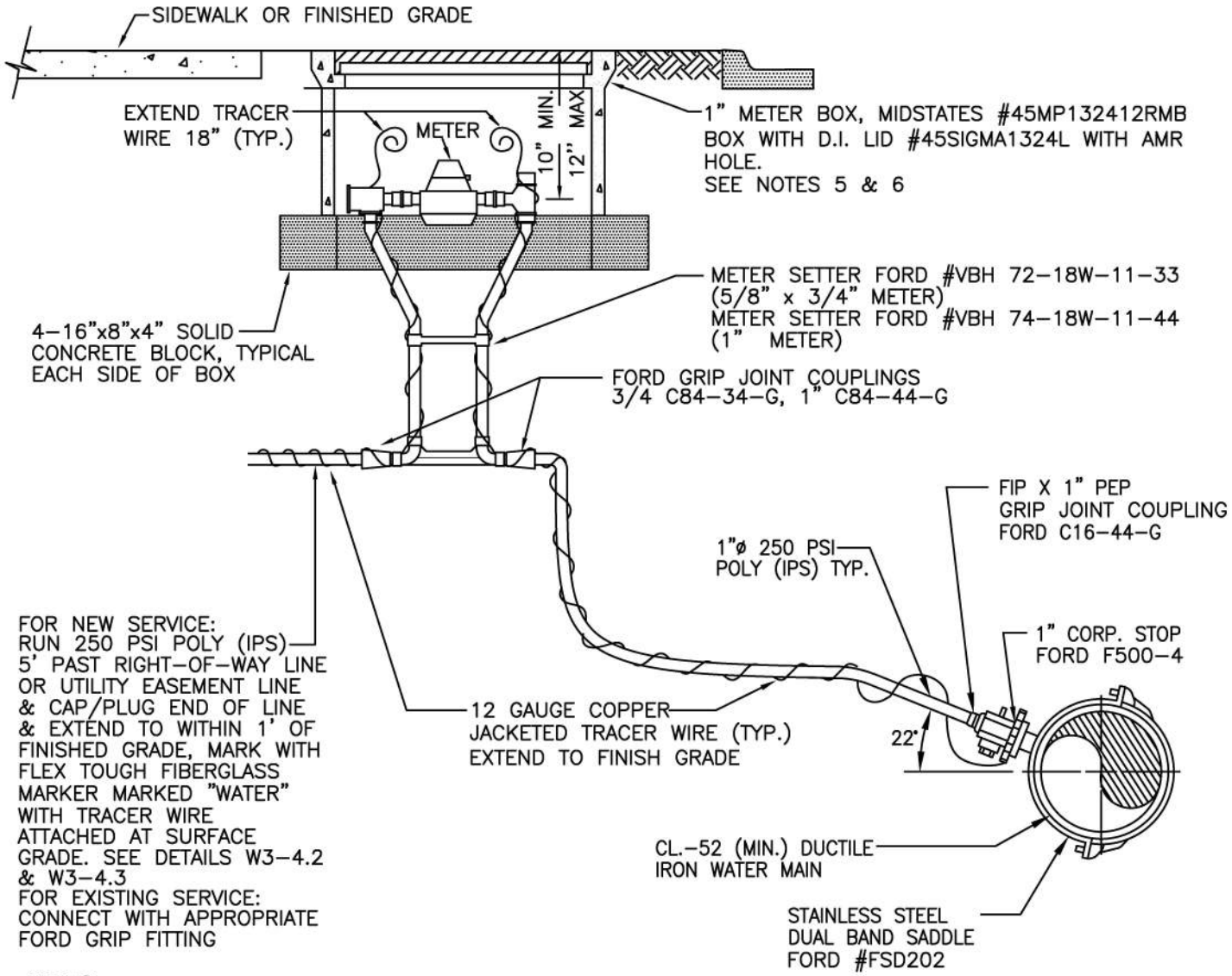


NOTES:

1. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
2. THE WATER METER SHALL BE LOCATED IN THE PLANTING STRIP OR ADJACENT TO THE RIGHT-OF-WAY LINE AS DIRECTED BY THE CITY ENGINEER.
3. THE WATER SERVICE LINE SHALL HAVE 36" OF COVER BELOW FINISHED GRADE WITHIN THE RIGHT-OF-WAY.
4. THE CITY SHALL SUPPLY AND INSTALL THE WATER METER.
5. A CAST IRON TRAFFIC BEARING METER BOX AND LID SHALL BE USED IN TRAFFIC AREAS, ANY DRIVE APPROACH, OR PARKING AREAS. 1" = "OLYMPIC FOUNDRY #SM30".
6. ADA APPROVED BOX (ARMORCAST 20K - POLYMER CONCRETE) TO BE USED IN PEDESTRIAN AREAS.
   3/4" METER BOX = #A6000485 LID = #A6000484T-H2
   1" METER BOX = #A6001946PCX12 LID = #A6001969RCI-H2.
7. ALL CONNECTIONS TO IPS POLY SHALL USE PIPE INSERT STIFFENERS.
8. 12 GA COPPER TRACER WIRE SHOULD BE CONNECTED TO MAINLINE SADDLE OR MAINLINE TRACER WIRE.

APPROVED BY CITY ENGINEER

ALISA O'HAVER-AJALA STATE OF WASHINGTON 39387 REGISTERED PROFESSIONAL ENGINEER

04/23/26

EXPIRES 01/07/2028

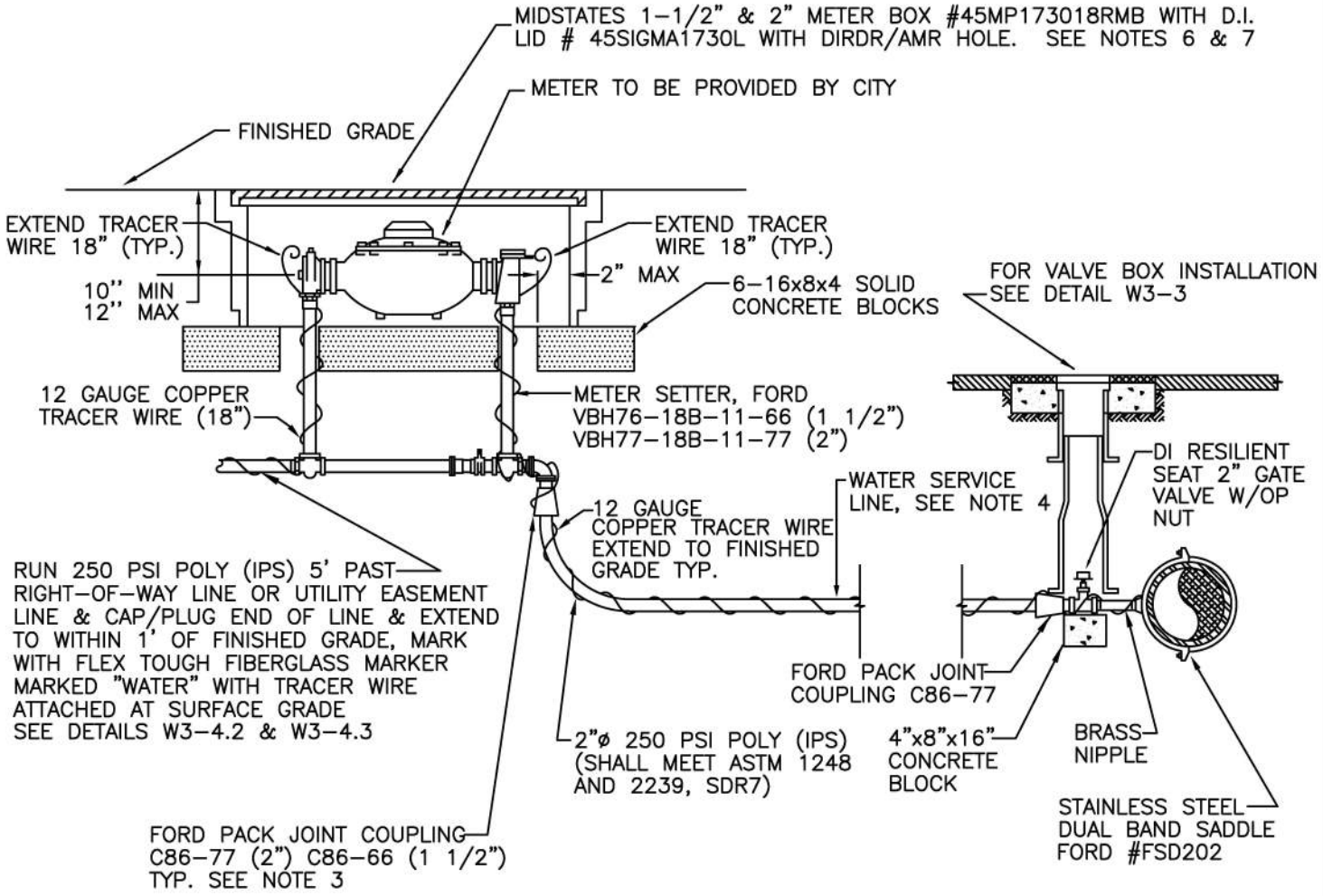
CITY OF SUMNER WASHINGTON

3/4" & 1" WATER SERVICE CONNECTION

LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL W3-01



NOTES:

1. ALL MATERIALS AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
2. THE WATER METER SHALL BE LOCATED IN THE PLANTING STRIP OR ADJACENT TO THE RIGHT–OF–WAY LINE AS DIRECTED BY THE CITY ENGINEER.
3. ALL POLY FITTINGS SHALL USE PIPE INSERT STIFFENERS.
4. THE WATER SERVICE LINE SHALL HAVE 36" MIN. OF COVER BELOW FINISHED GRADE WITHIN THE RIGHT–OF–WAY.
5. FOR A 1 1/2" WATER SERVICE A 2" RESILIENT SEAT GATE VALVE W/2 OP NUT SHALL BE USED AND BRASS BUSHING SHALL BE USED TO REDUCE FROM 2" TO 1–1/2" AT THE SETTER.
6. A CAST IRON TRAFFIC BEARING METER BOX AND LID, "OLYMPIC FOUNDRY SM30", SHALL BE INSTALLED WHEN THE METER IS INSTALLED IN A TRAFFIC AREA. ANY DRIVE APPROACH OR PARKING AREA.
7. ADA APPROVED ARMORCAST 17"X30'X18" POLYMER CONCRETE BOX SHALL BE INSTALLED WHEN IN PEDESTRIAN TRAVEL AREA. BOX #A6001640PCX18, LID #A6001947TRCI–H9.
8. THE CITY SHALL SUPPLY AND INSTALL THE WATER METER.
9. 12 GA COPPER TRACER WIRE SHOULD BE CONNECTED TO MAINLINE SADDLE OR MAINLINE TRACER WIRE.

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04/23/26

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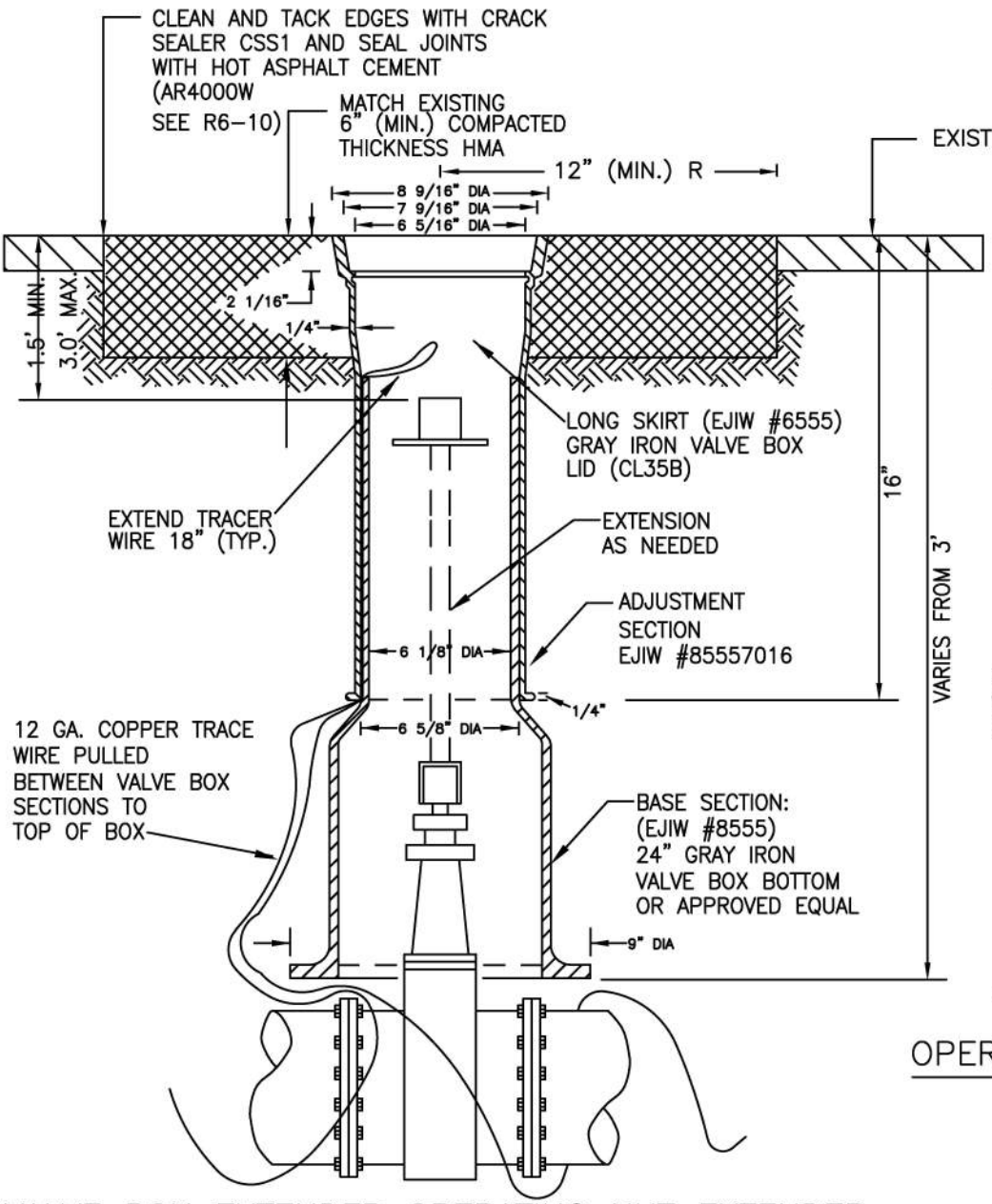
CITY OF SUMNER WASHINGTON

1–1/2" & 2" WATER SERVICE CONNECTION

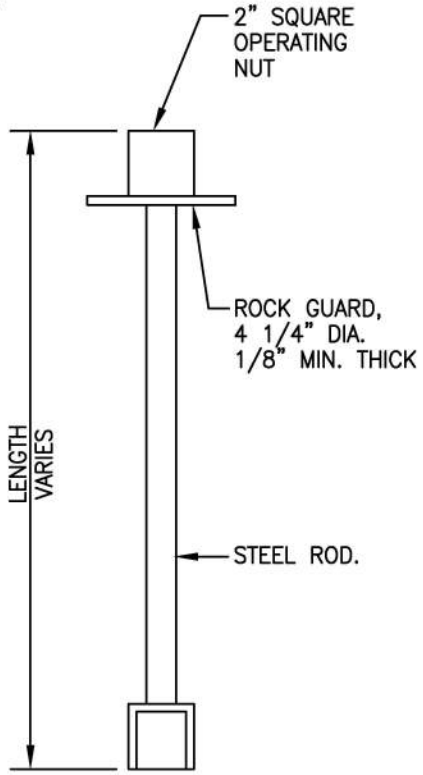
LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

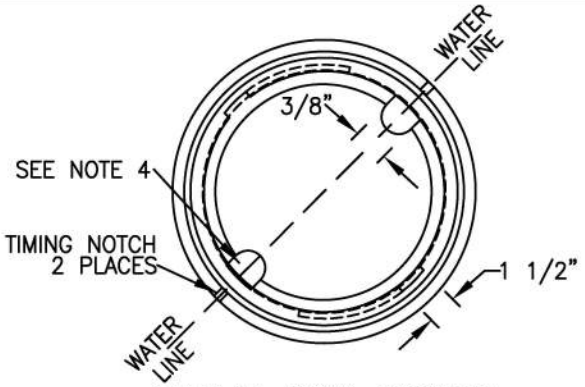
WATER STANDARD DETAIL W3–02



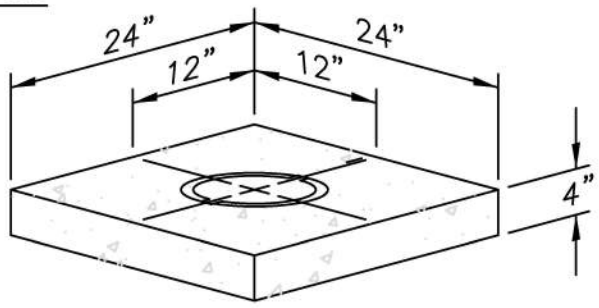
VALVE BOX EXTENDER OPERATING NUT EXTENDER



OPERATING NUT EXTENDER



VALVE BOX COVER



GRAY IRON VALVE BOXES THAT ARE PLACED IN AREAS OTHER THAN ASPHALT OR CONCRETE SHALL HAVE A CONCRETE PAD AROUND TOP OF VALVE BOX

NOTES:

1. EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN THREE (3) FEET BELOW FINISHED GRADE.
2. EXTENSIONS SHALL BE A MINIMUM OF ONE (1) FOOT LONG.
3. EXTENSIONS SHALL BE SIZED AS NOTED, AND PAINTED WITH TWO (2) COATS OF METAL PAINT.
4. ALIGN INTERNAL VALVE BOX NUBS IN THE DIRECTION OF THE WATER MAIN (AS SHOWN).

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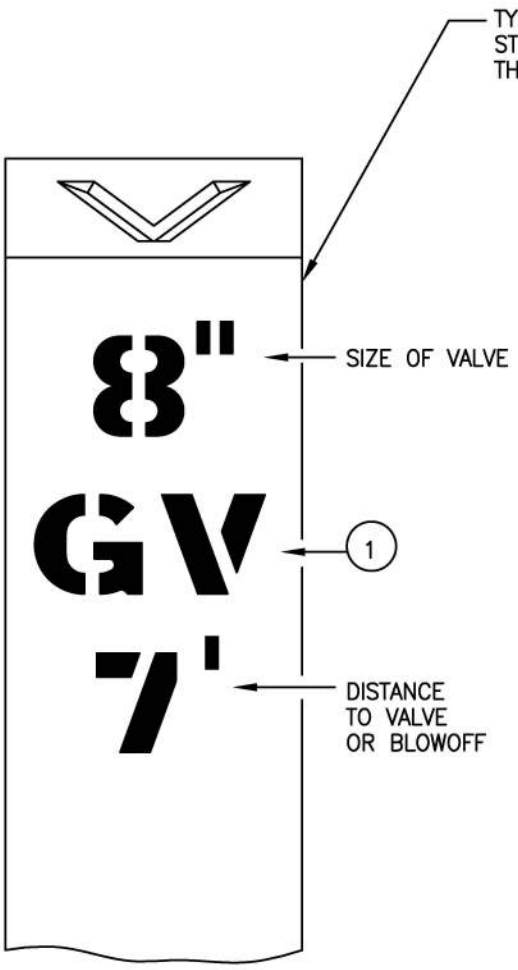
CITY OF SUMNER WASHINGTON

VALVE BOX & OPERATING NUT EXTENDER

LAST REVISION: 04/01/26

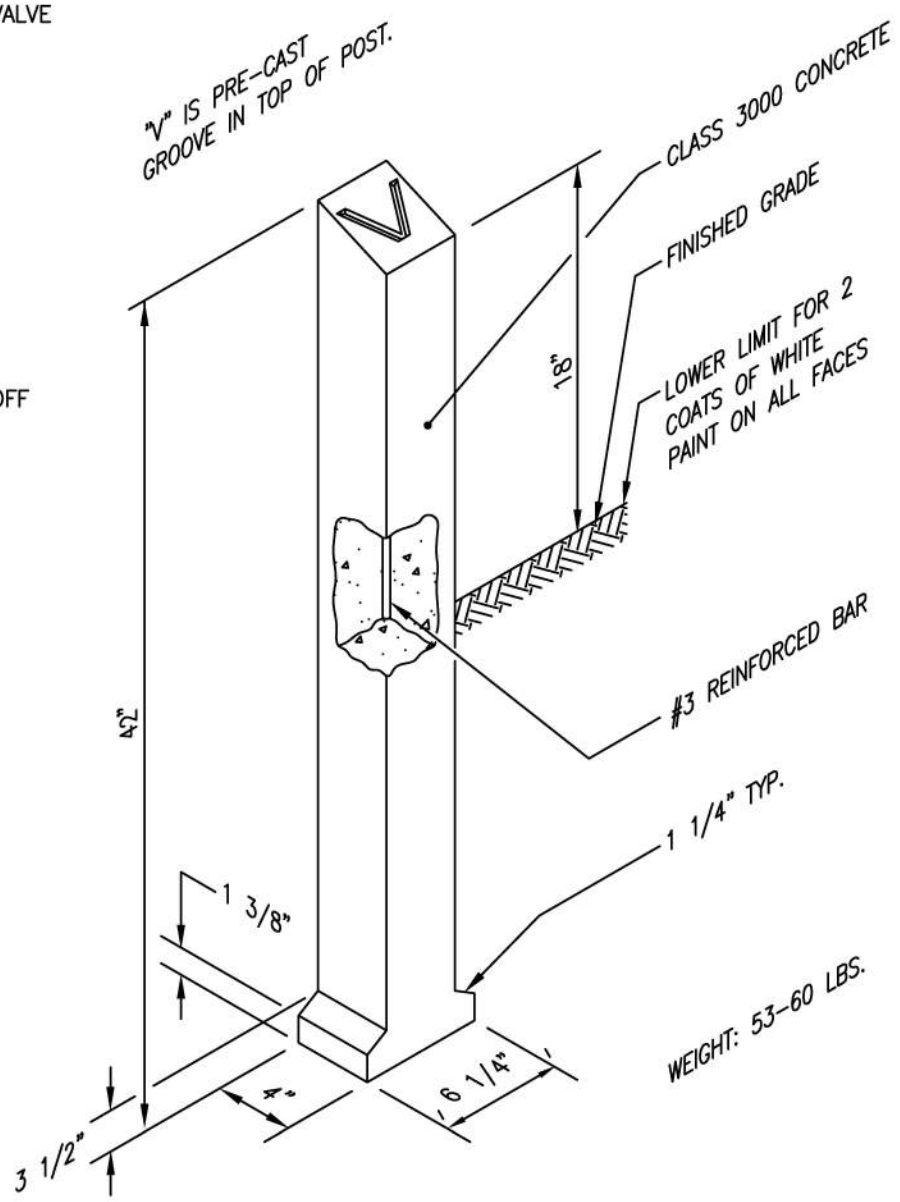
SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL W3-03



(1) USE

"GV" FOR GATE VALVE
OR
"BV" FOR BUTTERFLY VALVE
OR
"BO" FOR BLOWOFF ASSEMBLY



THE FOG TITE INC. VALVE MARKER POST WITH THE "WATER" LEGEND IS THE PRE-APPROVED PRODUCT. ALL OTHERS REQUIRE THE WRITTEN APPROVAL OF THE CITY ENGINEER PRIOR TO INSTALLATION.

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04/23/26
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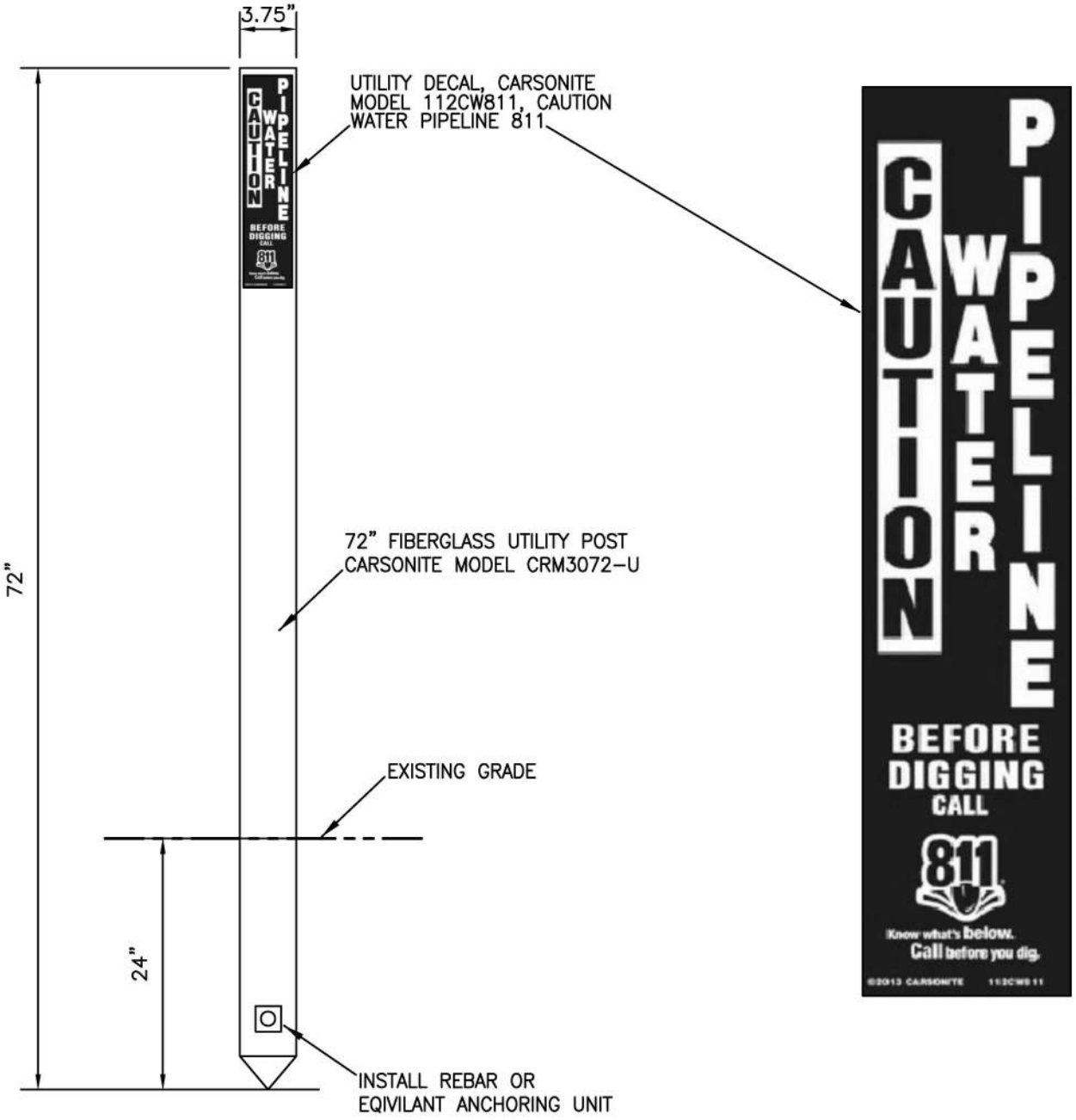
CITY OF SUMNER WASHINGTON

VALVE MARKER POST

LAST REVISION: 04/01/26

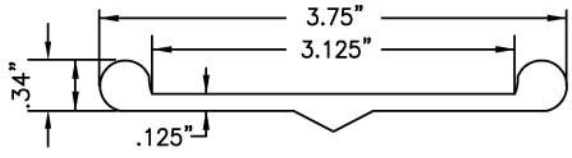
SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL
W3-04.1



NOTES:

1. MARKER AND/OR STICKER DECAL SHALL BE BLUE COLORED.
2. INFORMATION INCLUDED ON THE MARKER AND/OR STICKER SHALL INCLUDE PIPE SIZE, PIPE DEPTH AND DISTANCE TO A PERMANENT REFRENCE POINT.



TOP VIEW

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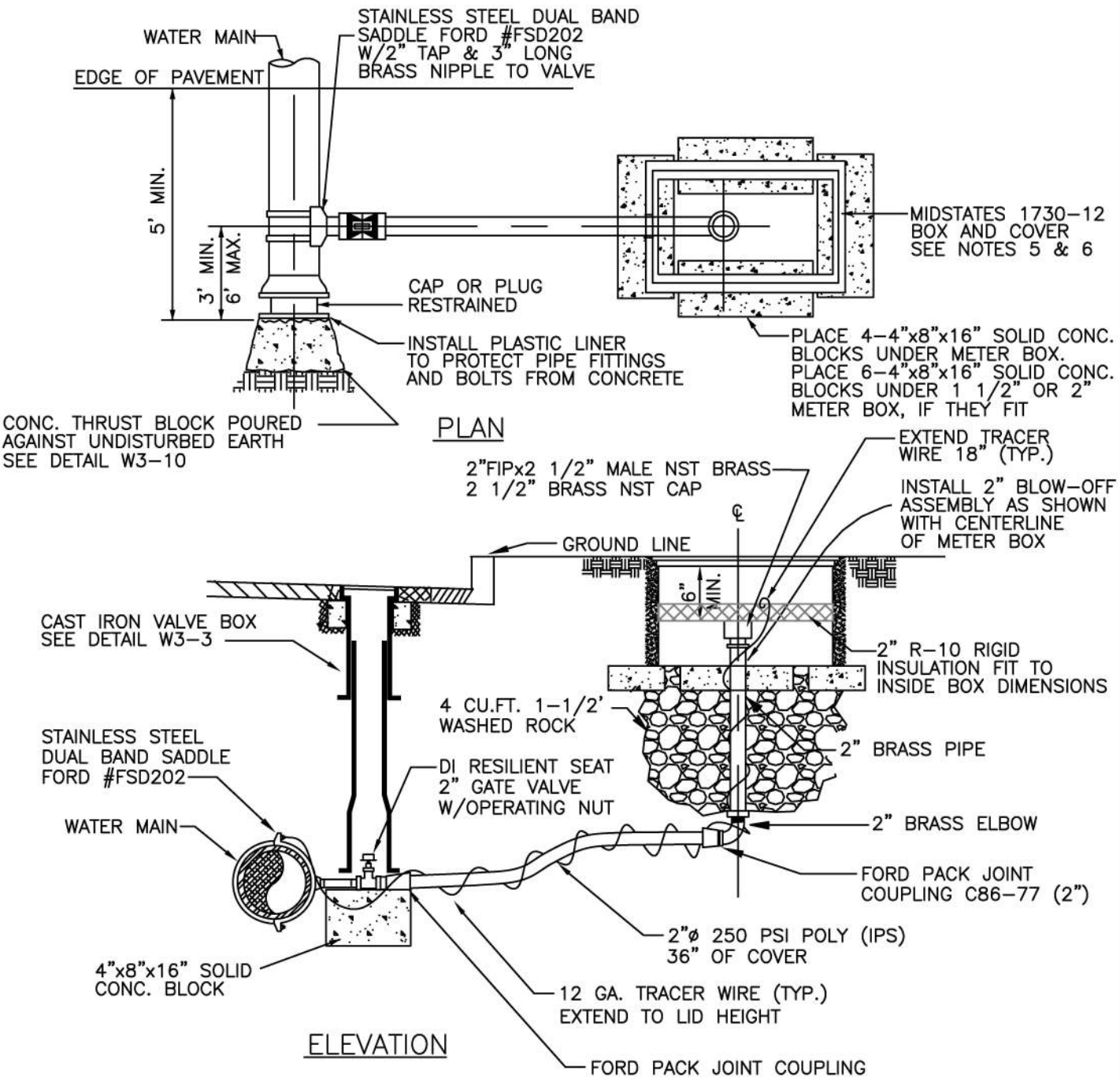
CITY OF SUMNER WASHINGTON

FIBERGLASS MARKER

LAST REVISION: 04/01/26		WATER STANDARD DETAIL
SHEET 1 of 1	N.T.S.	W3-04.2



NOTES:

1. LOCATE BOX IN PLANTING STRIP OR ADJACENT TO RIGHT-OF-WAY.
2. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
3. WATER MAIN + BLOW OFF ASSEMBLY TO BE EXTENDED A MIN. OF 5' PAST ROAD-WAY IMPROVEMENTS OR AS DIRECTED BY CITY ENGINEER.
4. ALL POLY FITTINGS SHALL USE PIPE INSERT STIFFENERS.
5. ADA APPROVED ARMORCAST 17"X30'X18" POLYMER CONCRETE BOX SHALL BE INSTALLED WHEN IN PEDESTRIAN TRAVEL AREA. BOX #A6001640PCX18, LID #A6001947TRCI-H9.
6. A TRAFFIC BEARING METER BOX AND LID, "OLYMPIC FOUNDRY SM29", SHALL BE INSTALLED WHEN THE METER IS INSTALLED IN A TRAFFIC AREA, ANY DRIVE APPROACH, OR PARKING AREA.
7. VALVE MARKER POST REQUIRED FOR INSTALLATIONS OUTSIDE OF PLANTER AREA. SEE DETAILS W3-4.2 & W3-4.3
8. 12 GA COPPER TRACER WIRE SHOULD BE CONNECTED TO MAINLINE SADDLE OR MAINLINE TRACER WIRE.

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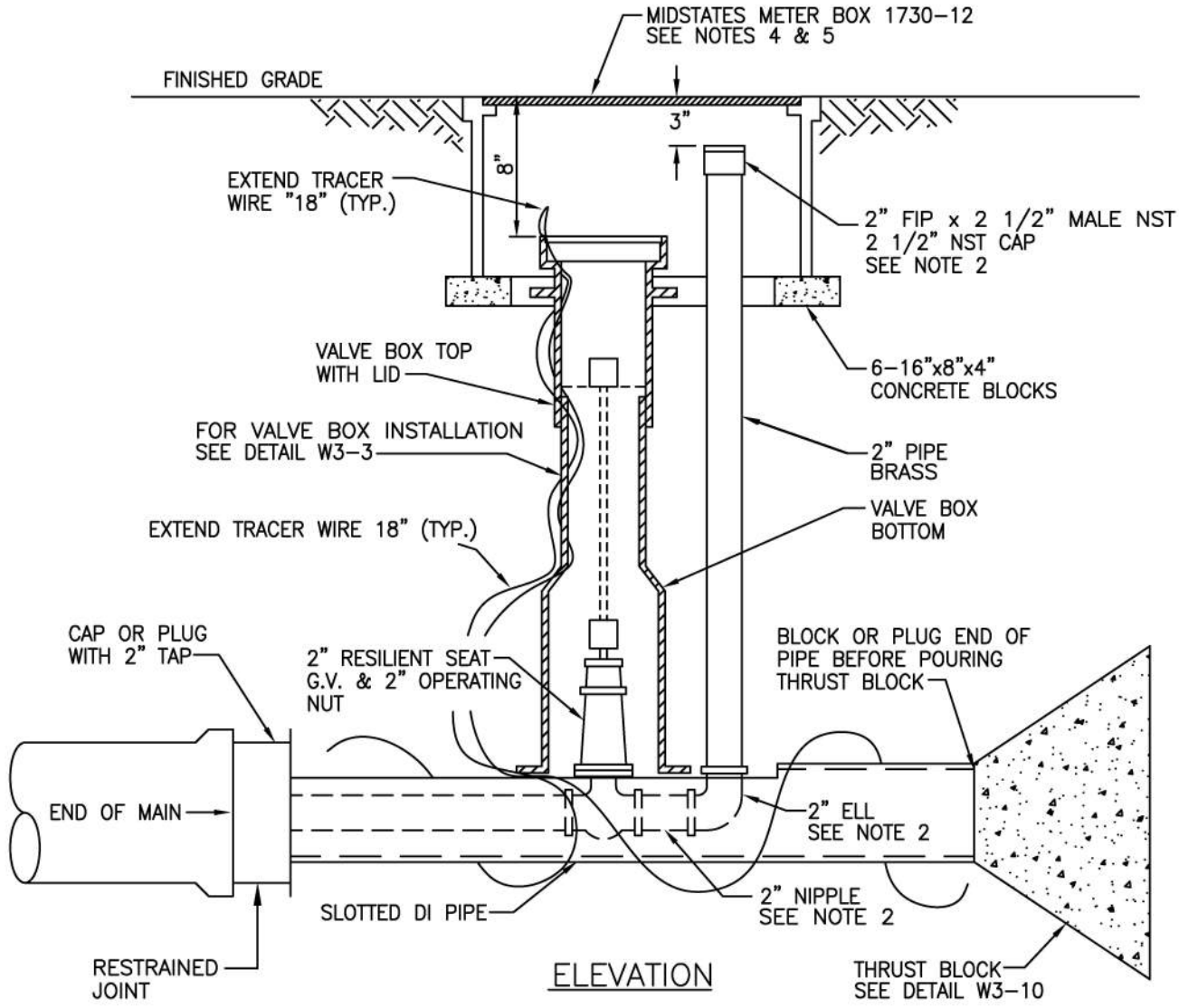
EXPIRES 01/07/2028

CITY OF SUMNER WASHINGTON

2" BLOW OFF ASSEMBLY

LAST REVISION: 04/01/26		WATER STANDARD DETAIL
SHEET 1 of 1	N.T.S.	W3-05.1



NOTES:

1. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
2. FITTINGS AND NIPPLES TO BE BRASS.
3. A CAST IRON TRAFFIC BEARING METER BOX AND LID, "OLYMPIC FOUNDRY SM30" SHALL BE USED WHEN METER IS INSTALLED IN TRAFFIC AREA. ANY DRIVE APPROACH OR PARKING AREA.
4. ADA APPROVED ARMORCAST 17"X30'X18" POLYMER CONCRETE BOX SHALL BE INSTALLED WHEN IN PEDESTRIAN TRAVEL AREA. BOX #A6001640PCX18, LID #A6001947TRCI-H9.
5. VALVE MARKER POST REQUIRED FOR PLANTER AREA INSTALLATIONS. SEE DETAILS 3-4.2 & 3-4.3.
6. 12 GA COPPER TRACER WIRE SHOULD BE CONNECTED TO THE MAINLINE SADDLE OR MAINLINE TRACER WIRE.

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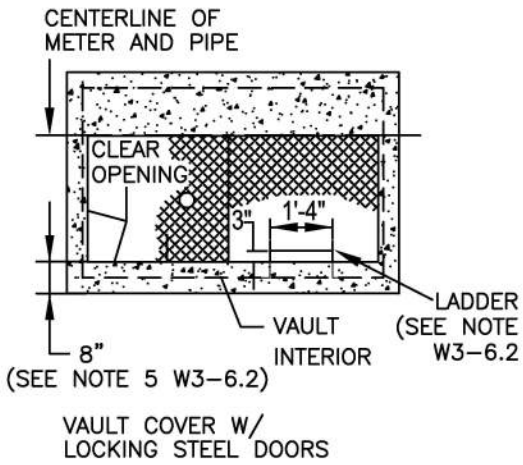
CITY OF SUMNER WASHINGTON

2" BLOW OFF ASSEMBLY "END CAP"

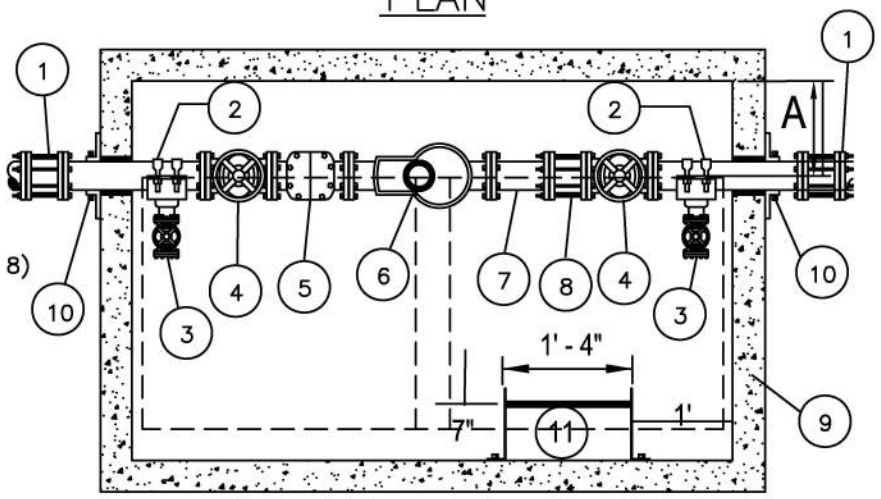
LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL
W3-05.2



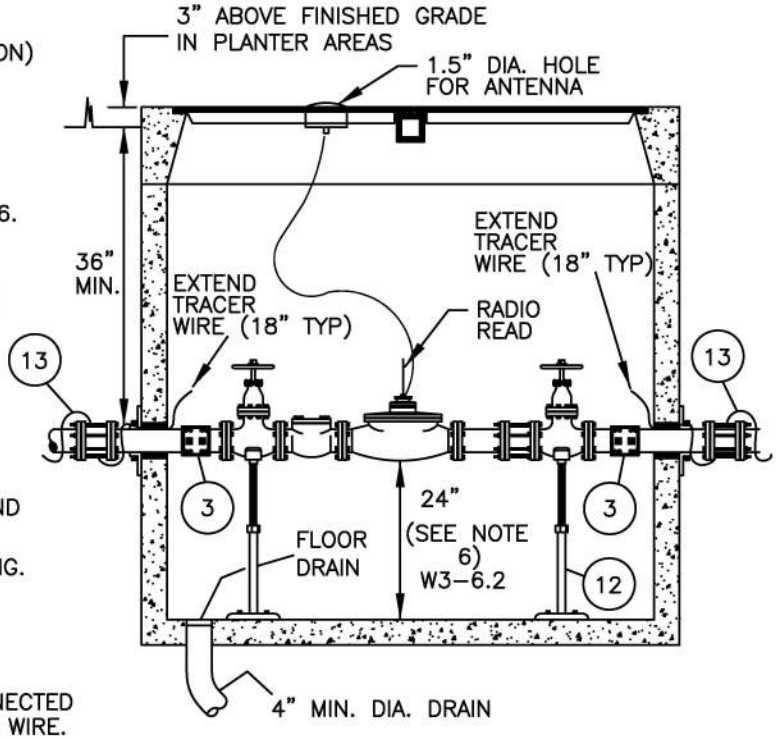
PLAN



MATERIAL LIST:

1. FLEX. CPLG. TO FIT, EQUAL ROCKWELL 441 (4"X3" REDUCER,M.J. FOR 3" METER INSTALLATION)
2. DOUBLE STRAP SERVICE CLAMP EQUAL TO 'ROMAC' 202S WITH IPS TAP.
3. 2" GATE VALVE WITH BLIND FLANGE OR PLUG.
4. GATE VALVE FL. EQUAL TO 'MUELLER' A-2360-6.
5. NEPTUNE TURBINE STRAINER
6. NEPTUNE TRU/FLO COMPOUND METER W/R900i ECODERS.
7. D.I. ADPT., FL X PE, LENGTH TO FIT.
8. RESTRAINED FL, EBAA IRON SERIES 2100 MEGAFLANGE OR EQUAL.
9. PRECAST CONC. VAULT BY 'UTILITY VAULT CO.' (SEE TABLE FOR MODEL NO.) WITH TWO DIAMOND PLATE DOORS RATED FOR H-20 LOADING.
10. WELDED FL. RESTRAINT OR MEGALUG WALL RING.
11. POLY LADDER TO BE ATTACHED TO VAULT.
12. ADJUSTABLE STANCHION BOLTED TO FLOOR.
13. 12 GA COPPER TRACER WIRE SHOULD BE CONNECTED TO THE MAINLINE SADDLE OR MAINLINE TRACER WIRE.

PROFILE



METER SIZE	SERVICE* SIZE	VAULT MODEL	VAULT COVER (WITH SPECIAL OFFSET)
3"	4" D.I.P.	577 – LA	57 TL – 2 – 332 P
4"	4" D.I.P.	676 – WA	676 – TL – 2 – 332 P
6"	6" D.I.P.	4484 – LA	4484 – TL 2 – 332 P

*SEE NOTES ON STANDARD DETAIL W3-6.2 FOR ADDITIONAL GUIDANCE REGARDING SERVICE SIZE.

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04/23/26

EXPIRES 01/07/2028

CITY OF SUMNER WASHINGTON

3" TO 6" DOMESTIC METER INSTALLATION

LAST REVISION: 04/01/26

SHEET 1 of 2 | N.T.S.

WATER STANDARD DETAIL W3-06

NOTES:

1. ALL MATERIALS, INCLUDING METER SHALL BE FURNISHED BY THE CONTRACTOR.
2. ALL PIPE AND FITTINGS 3" AND LARGER SHALL BE CEMENT LINED DUCTILE IRON PIPE (D.I.P.) CLASS 52 MINIMUM.
3. PIPING FROM MAIN TO VAULT SHALL BE 4" ON 3" METER INSTALLATION, TEE WITH VALVE ON EXISTING MAIN REQUIRED.
4. VAULTS SHALL NOT BE INSTALLED IN AREAS WITH VEHICULAR TRAFFIC.
5. VAULT COVER SHALL INCLUDE TWO LOCKING STEEL DOORS (GALVANIZED DIAMOND PLATE). DOORS SHALL BE CAST IN COVER WITH 8" SPECIAL OFFSET FROM VAULT WALL, AS SHOWN.
6. PROVIDE 24" CLEARANCE BETWEEN VAULT FLOOR AND BOTTOM OF METER. WHERE ELEVATION OF VAULT FLOOR IS TOO LOW TO DRAIN TO DAYLIGHT OR STORM SYSTEM, THIS CLEARANCE CAN BE REDUCED TO A MINIMUM OF 12". IF SUBSTITUTION OF A SHORTER VAULT ALLOWS FLOOR TO DRAIN TO DAYLIGHT OR STORM SYSTEM (APPROVED BY THE UTILITY ON A CASE BY CASE BASIS ONLY). SUBSTITUTE VAULTS ARE AS FOLLOWS:
   3" 575–LA WITH 57TL–2–332P COVER (W/ SPECIAL OFFSET)
   4" 675–LA WITH 675–TL–2–332P COVER (W/ SPECIAL OFFSET)
7. LADDER TO BE BOLTED TO VAULT FLOOR AND TO VAULT WALL AT TWO LOCATIONS. RUNGS SHALL BE SPACED 12" ON CENTER.
8. 12 GA COPPER TRACING WIRE SHOULD BE CONNECTED TO THE MAINLINE SADDLE OR MAINLINE TRACER WIRE.
9. THE NEPTUNE TURBINE STRAINER MAY BE ELIMINATED. WITH ENGINEER (OR DESIGNEE) APPROVAL, IF AN ULTRASONIC METER IS BEING USED.

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04/23/26

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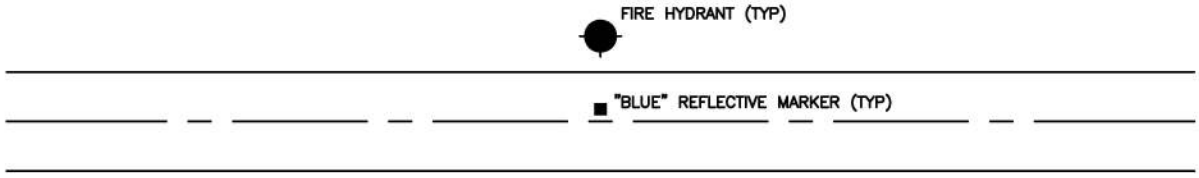
CITY OF SUMNER WASHINGTON

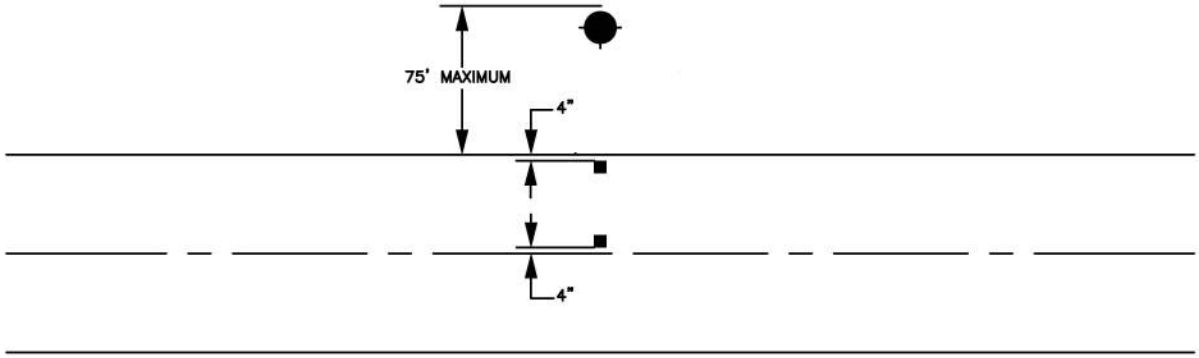
3" TO 6" DOMESTIC METER INSTALLATION – NOTES

LAST REVISION: 04/01/26		WATER STANDARD DETAIL
SHEET 2 of 2	N.T.S.	W3–06

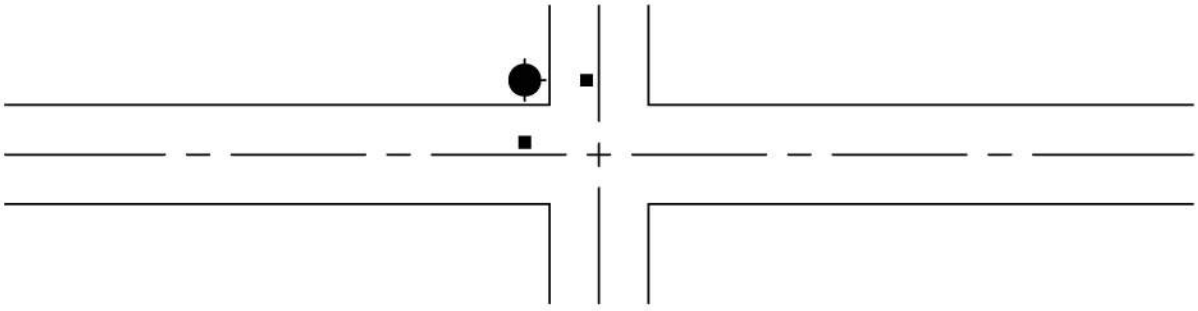
1. USE ONE REFLECTOR WHEN THE HYDANT IS LESS THAN TWENTY FEET (20') FROM THE EDGE OF THE PAVEMENT.



2. USE TWO REFLECTORS WHERE THE HYDRANT IS MORE THAN TWENTY FEET (20') FROM THE EDGE OF THE PAVEMENT UP TO SEVENTY–FIVE FEET (75') AND IS NOT OBSTRUCTED BY A FENCE. REFLECTOR TO BE ON THE HYDRANT SIDE OF THE CENTERLINE AND ON THE STREET SIDE OF THE FOG LINE TO BE IN LINE WITH THE HYDRANT. AT A DISTANCE OF FOUR INCHES (4") FROM THE LINE BEING USED.



3. USE TWO REFLECTORS WHERE A HYDRANT IS IN THE CORNER OF AN INTERSECTION.



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CITY OF SUMNER WASHINGTON

FIRE HYDRANT STREET MARKINGS

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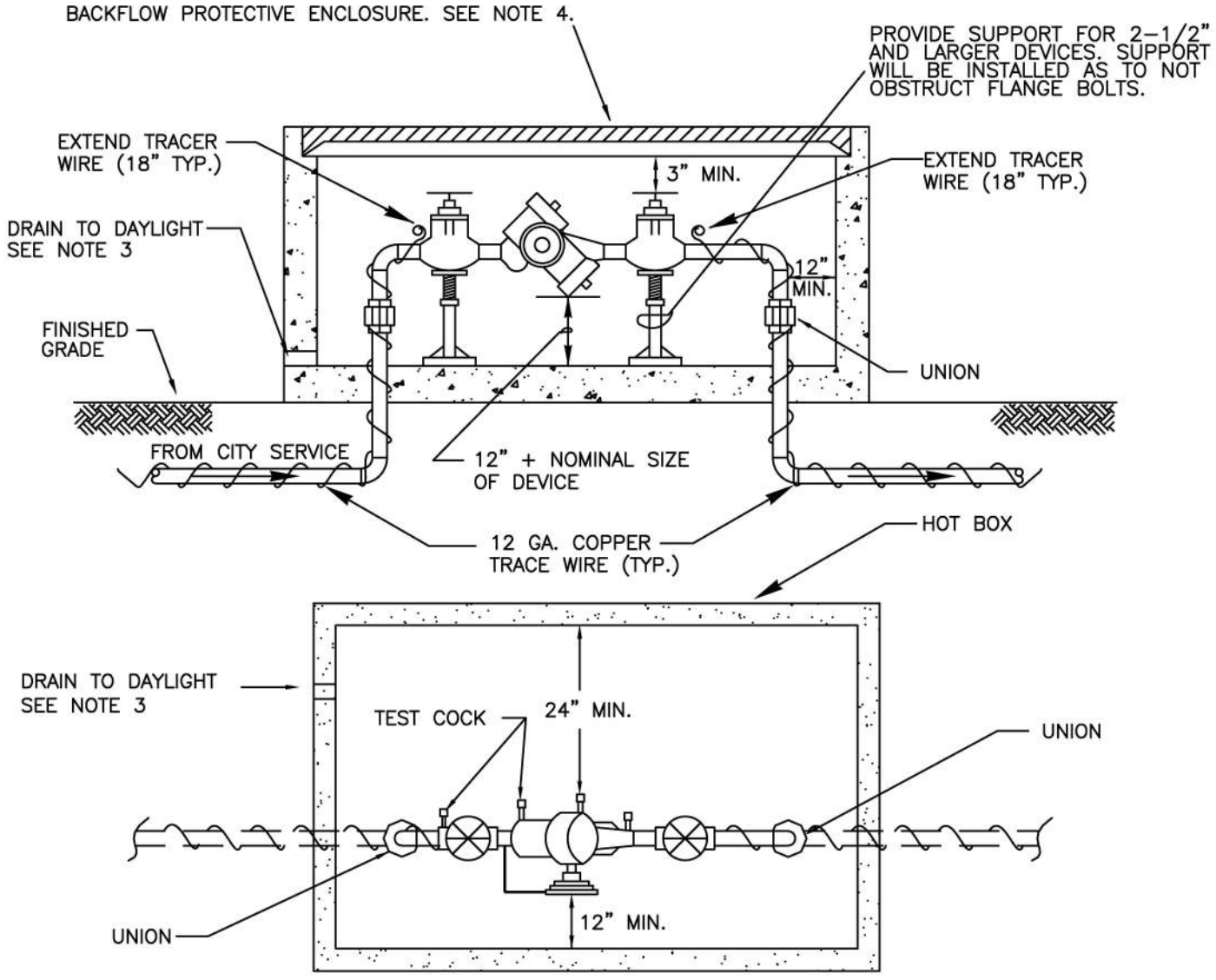
SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL
W3–07



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04/23/26

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CITY OF SUMNER WASHINGTON

REDUCED PRESSURE BLACKFLOW ASSEMBLY

LAST REVISION: 04/01/26

SHEET 1 of 2 | N.T.S.

WATER STANDARD DETAIL

W3-08

NOTES

1. THE RPBA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED AFTER INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACK-FLOW ASSEMBLY TESTER WITH A CITY INSPECTOR PRESENT, TO INSURE ITS SATISFACTORY OPERATION.
2. AN RPBA SHALL NOT BE INSTALLED IN A PIT BELOW GROUND LEVEL. SEMI-BURIED PITS MAY BE ACCEPTABLE IF THE RPBA IS INSTALLED ABOVE GROUND OR MAXIMUM FLOOD LEVEL IN A VAULT WITH AN APPROVED AIR GAP BETWEEN THE RELIEF VALVE PORT AND A BORE-SIGHTED DAYLIGHT DRAIN.
3. THE PROTECTIVE COVERING FOR THE RPBA MUST INCLUDE A DAYLIGHT DRAIN. THE DRAIN MUST BE ABLE TO BE BORE SIGHTED. IT MUST BE INSTALLED ABOVE GROUND OR MAXIMUM FLOOD LEVEL, WHICHEVER IS HIGHER. THE DRAIN MUST ALSO BE ABLE TO HANDLE THE VOLUME OF WATER THAT POTENTIALLY COULD BE DISCHARGED FROM THE RELIEF VALVE PORT.
4. RPBA MUST BE INSTALLED WITHIN A VAULT OR OTHER APPROVED PROTECTIVE COVERING.
5. RPBA MUST BE PROTECTED FROM FREEZING.
6. AN RPBA INSTALLED MORE THAN FIVE (5) FEET ABOVE FLOOR LEVEL MUST HAVE A PLATFORM UNDER IT FOR THE TESTER OR MAINTENANCE PERSON TO STAND ON. THE PLATFORM MUST MEET ALL APPLICABLE SAFETY STANDARDS AND CODES.
7. WHEN THE RPBA IS LOCATED INSIDE A BUILDING IT SHALL BE INSTALLED IN A LOCATION WHERE BOTH THE OCCASIONAL SPITTING FROM THE RELIEF VALVE PORT AND THE POSSIBLE CONSTANT DISCHARGE DURING A FOULED CHECK VALVE SITUATION WILL NOT BE OBJECTIONABLE. AN APPROVED AIR GAP FUNNEL ASSEMBLY, EITHER PROVIDED BY THE MANUFACTURER OR FABRICATED FOR THE SPECIFIC INSTALLATION, MAY BE INSTALLED TO HANDLE THE OCCASIONAL SPITTING OF THE RELIEF VALVE DUE TO PRESSURE FLUCTUATIONS. A LINE FROM THIS FUNNEL ASSEMBLY MAY THEN BE RUN TO AN ADEQUATELY SIZED FLOOR DRAIN OF EQUAL OR GREATER SIZE. IT MUST BE EMPHASIZED THAT THE AIR GAP FUNNEL ASSEMBLY WILL HANDLE ONLY THE OCCASIONAL SPITTING AND WILL NOT CONTROL FLOW IN A CONTINUOUS RELIEF SITUATION.
8. INSTALL A STRAINER WITH BLOWOUT TAPPING AHEAD OF THE RPBA.
9. 12 GA COPPER TRACER WIRE SHOULD BE CONNECTED TO THE MAINLINE SADDLE OR MAINLINE TRACER WIRE

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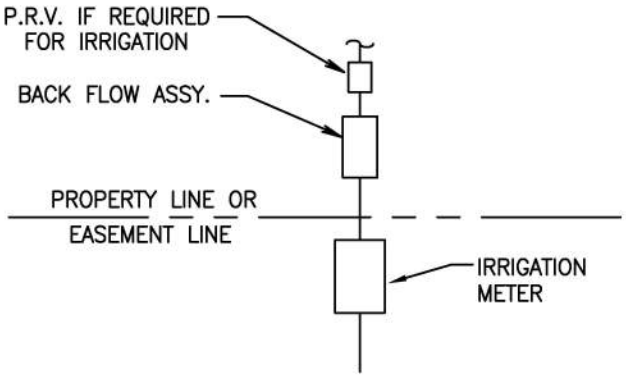
CITY OF SUMNER WASHINGTON

REDUCED PRESSURE BACKFLOW ASSEMBLY – NOTES

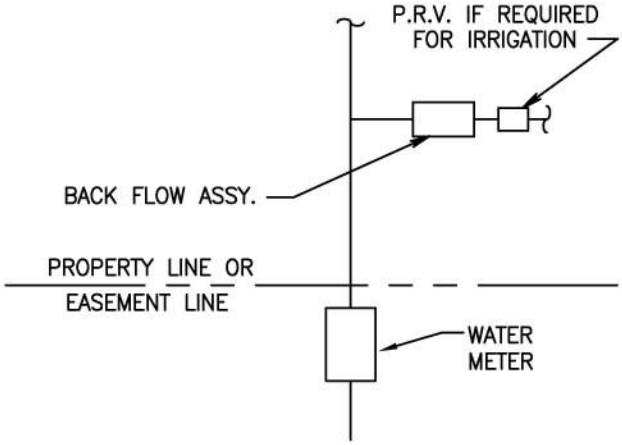
LAST REVISION: 04/01/26

SHEET 2 of 2 | N.T.S.

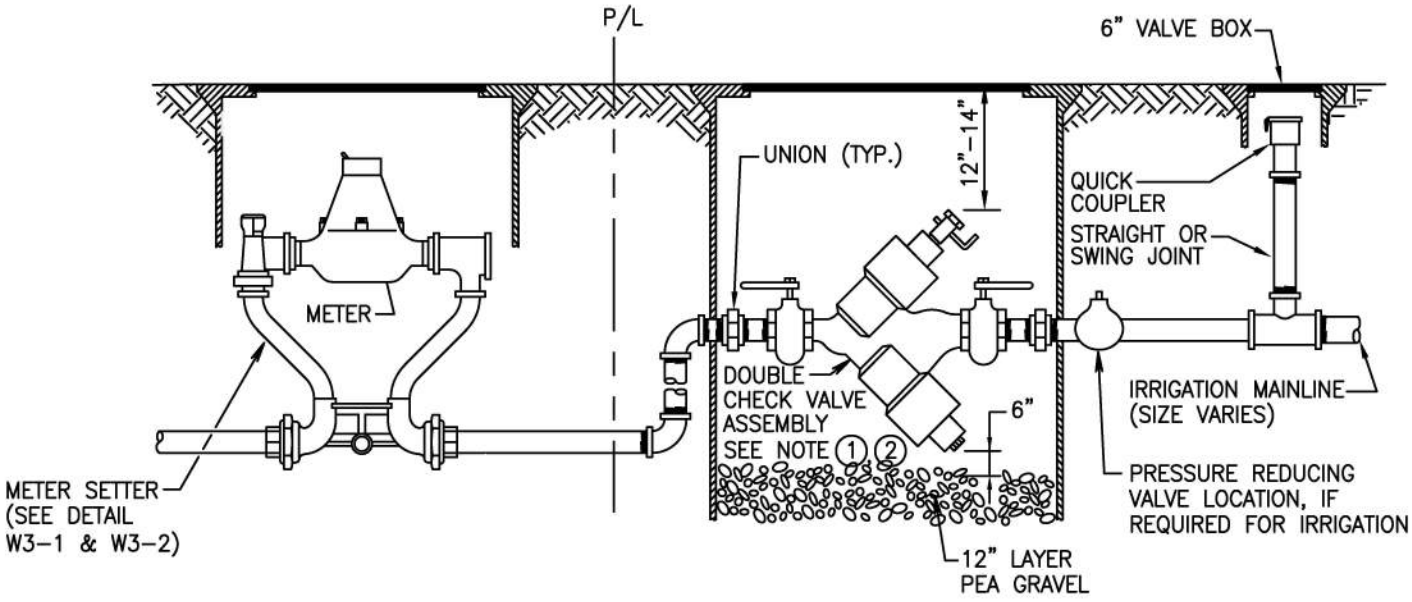
WATER STANDARD DETAIL W3-08



TYPICAL COMMERCIAL IRRIGATION INSTALLATION



TYPICAL RESIDENTIAL IRRIGATION INSTALLATION



NOTES:

1. DCVA SHALL HAVE A MINIMUM CLEARANCE OF 12" FROM ANY OBSTRUCTION ON THE TEST SIDE AND SHALL BE CENTERED IN BOX.
2. DCVA SHALL BE ON THE LATEST WAHINGTON STATE DOH APPROVED LIST, AND SHALL NOT BE ALTERED. REFER TO DETAIL W3–16 (3 OF 3) FOR 2" OR SMALLER DOUBLE CHECK VALVE ASSEMBLY (DVCA).
3. FOR WATER USE ONLY INSTALLATION, THE DCVA AND IRRIGATION BOX SHALL BE INSTALLED PRIOR TO THE METER BEING SET. THE DCVA CAN BE CERTIFIED AFTER INSTALLATION OF THE METER.

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ALISA O'HAVER-AYALA
STATE OF WASHINGTON
39387
REGISTERED PROFESSIONAL ENGINEER
04/23/26
EXPIRES 01/07/2028

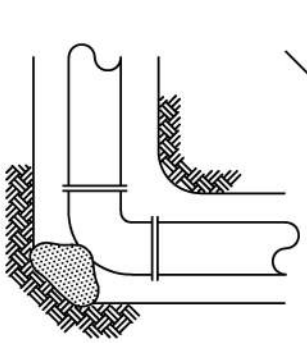
CITY OF SUMNER WASHINGTON

IRRIGATION SERVICE INSTALLATION

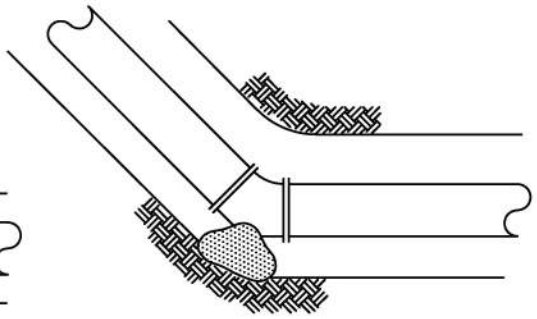
LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

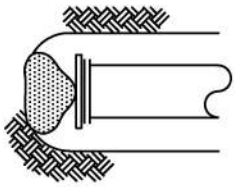
WATER STANDARD DETAIL
W3–09



90° BEND

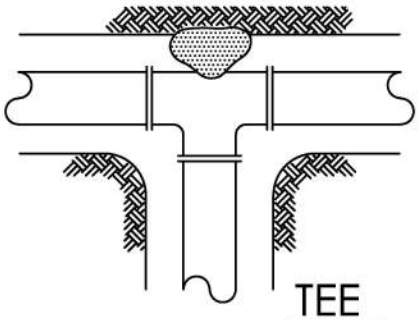


45° BEND

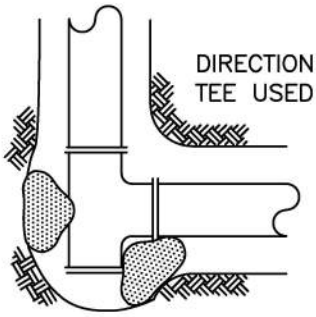


DEAD END

THRU LINE CONNECTION, TEE

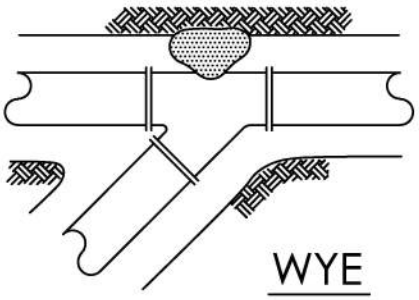


TEE



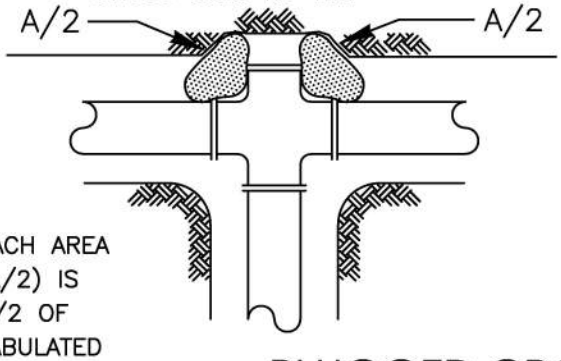
DIRECTION CHANGE,
TEE USED AS ELBO

THRU LINE CONNECTION, WYE

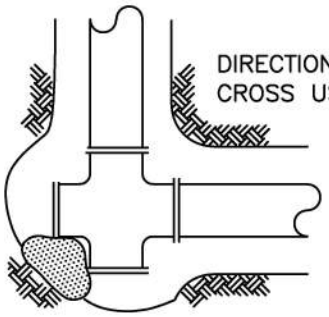


WYE

THRU LINE CONNECTION,
CROSS USED AS TEE



EACH AREA
(A/2) IS
1/2 OF
TABULATED
TOTAL AREA



DIRECTION CHANGE,
CROSS USED AS ELBOW

PLUGGED CROSS

NOTES:

1. THE FOLLOWING PRECAUTIONS MUST BE OBSERVED WHEN CONSTRUCTING THRUST BLOCKS:
   - A. BLOCKS MUST BE POURED AGAINST UNDISTURBED SOIL.
   - B. THE PIPE JOINT AND BOLTS MUST BE ACCESSIBLE. – COVER WITH PLASTIC AND KEEP CONCRETE CLEAR.
   - C. CONCRETE SHOULD BE CURED FOR AT LEAST 5 DAYS AND SHOULD HAVE A COMPRESSION STRENGTH OF 3,000 LBS. AT 28 DAYS.
   - D. BLOCKS MUST BE POSITIONED TO COUNTERACT THE DIRECTION OF THE RESULTANT THRUST FORCE.

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STATE OF WASHINGTON
39387
REGISTERED
PROFESSIONAL ENGINEER
04/23/26

EXPIRES 01/07/2028

CITY OF SUMNER WASHINGTON

THRUST BLOCKING

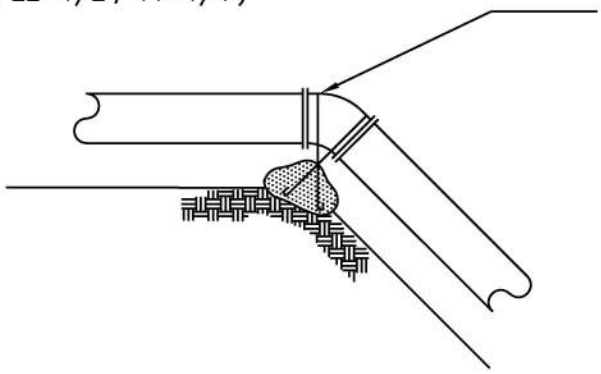
LAST REVISION: 04/01/26

SHEET 1 of 2 | N.T.S.

WATER
STANDARD DETAIL
W3–10

VERTICAL BEND

(45°, 22–1/2°, 11–1/4°)



FOR MAINS 12" AND LESS
2–#6 GALV. "U" RODS PLACED AROUND PIPE FITTING AND EMBEDDED 30" INTO THE CONCRETE THRUST BLOCKING

FOR MAINS 14" TO 16"
2–#8 GALV. "U" RODS PLACED AROUND PIPE FITTING AND EMBEDDED 36" INTO THE CONCRETE THRUST BLOCKING

THRUST BLOCKS FOR VERTICAL BENDS HAVING DOWNWARD RESULTANT THRUSTS SHALL BE THE SAME AS FOR HORIZONTAL BENDS.

VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERT. BENDS)

FITTING SIZE	BENDS		
	45°	22–1/2°	11–1/4°
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

HORIZONTAL BEND

(45°, 22–1/2°, 11–1/4°)

BEARING AREA OF THRUST BLOCKS IN SQ. FT. (HORIZ. BENDS)

FITTING SIZE	TEE, WYE PLUG OR CAP	90°BEND PLUGGED CROSS	TEE PLUGGED ON RUN		BENDS		
			A	B	45°	22–1/2°	11–1/4°
4	1.0	1.4	1.9	1.4	1.0		
6	2.1	3.0	4.3	3.0	1.6	1.0	
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	11.5	16.3	8.9	4.6	2.3

1. REQUIRED VOLUMES OR BEARING AREAS AT FITTINGS SHALL BE AS INDICATED, ADJUSTED, IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES) STATED IN THE SPECIFICATIONS.
2. THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON A TEST PRESSURE OF 150 PSIG AND THE WEIGHT OF CONCRETE = 4050 LBS./CU. YD. TO COMPUTE VOLUMES FOR DIFFERENT TEST PRESSURES. USE THE FOLLOWING EQUATION: VOLUME=(TEST PRESS./150)X(TABLE VALUE).
3. BEARING AREAS FOR HORIZONTAL BEND THRUST BLOCKS ARE BASED ON A TEST PRESSURE OF 150 PSIG AND ALLOWABLE SOIL BEARING STRESS OF 2000 LBS./SQ. FT. TO COMPUTE BEARING ARES FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLING EQUATION: BEARING AREA=(TEST PRESS./150)X(2000/SOIL BEARING STRESS)X(TABLE VALUE)
4. BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER THIS STANDARD.
5. BEARING AREA OF THRUST BLOCK SHALL NOT BE LESS THAN 1.0 SQ. FT.
6. VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CU. YDS. REQUIRE SPECIAL BLOCKING DETAILS. SEE PLANS.

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ALISA O'HAVER-AYALA
STATE OF WASHINGTON
39387
REGISTERED
PROFESSIONAL ENGINEER
04/23/26
EXPIRES 01/07/2028

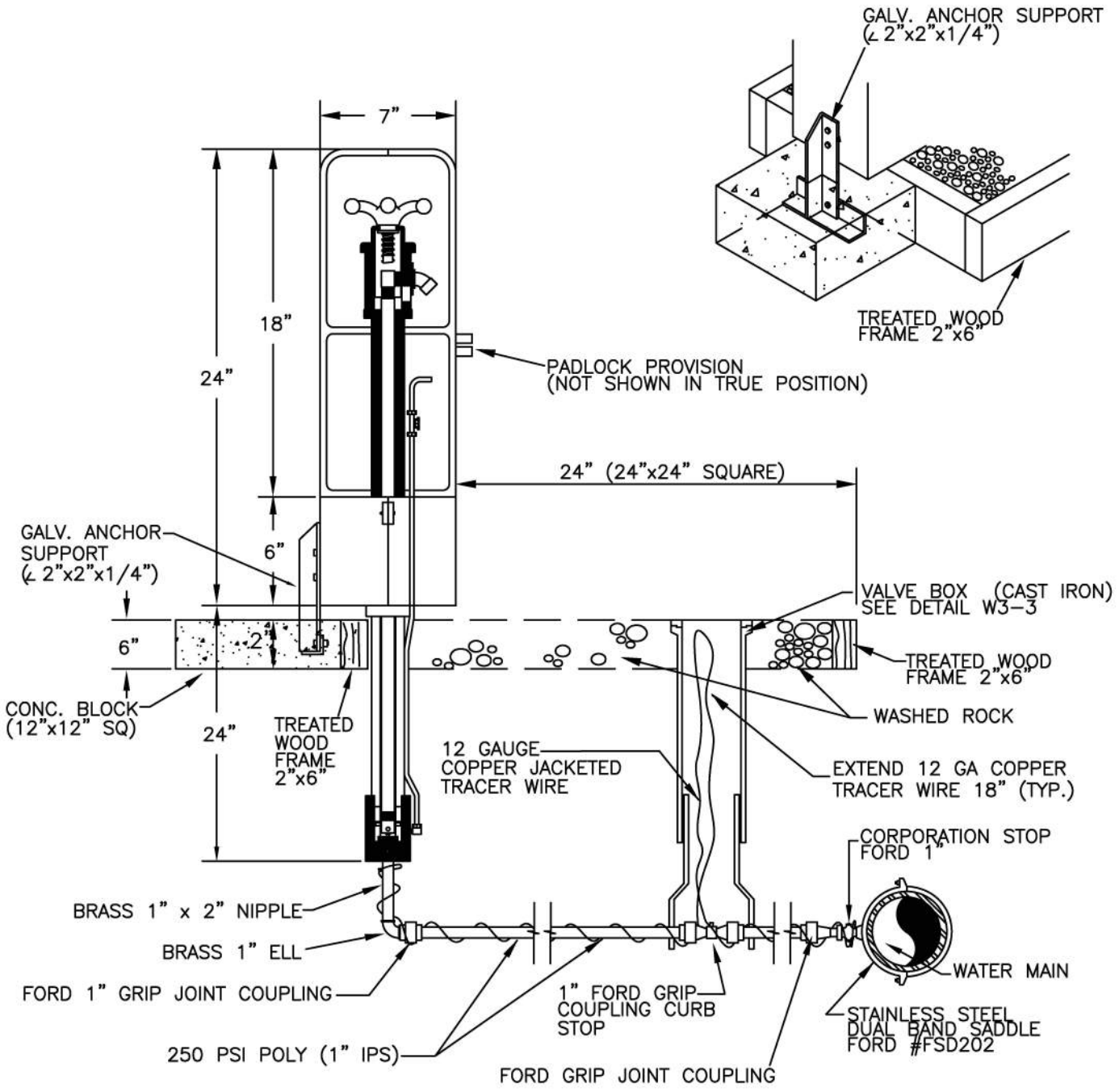
CITY OF SUMNER WASHINGTON

THRUST BLOCKING

LAST REVISION: 04/01/26

SHEET 2 of 2 | N.T.S.

WATER STANDARD DETAIL W3–10



NOTES:

1. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
2. ALL CONNECTIONS TO IPS POLY SHALL USE PIPE INSERT STIFFENERS.
3. THE WATER SERVICE LINE SHALL HAVE 36" OF COVER BELOW FINISHED GRADE WITHIN THE RIGHT-OF-WAY.
4. SAMPLING STATION SHALL BE "ECLIPSE NO.88" OR AN APPROVED EQUAL.

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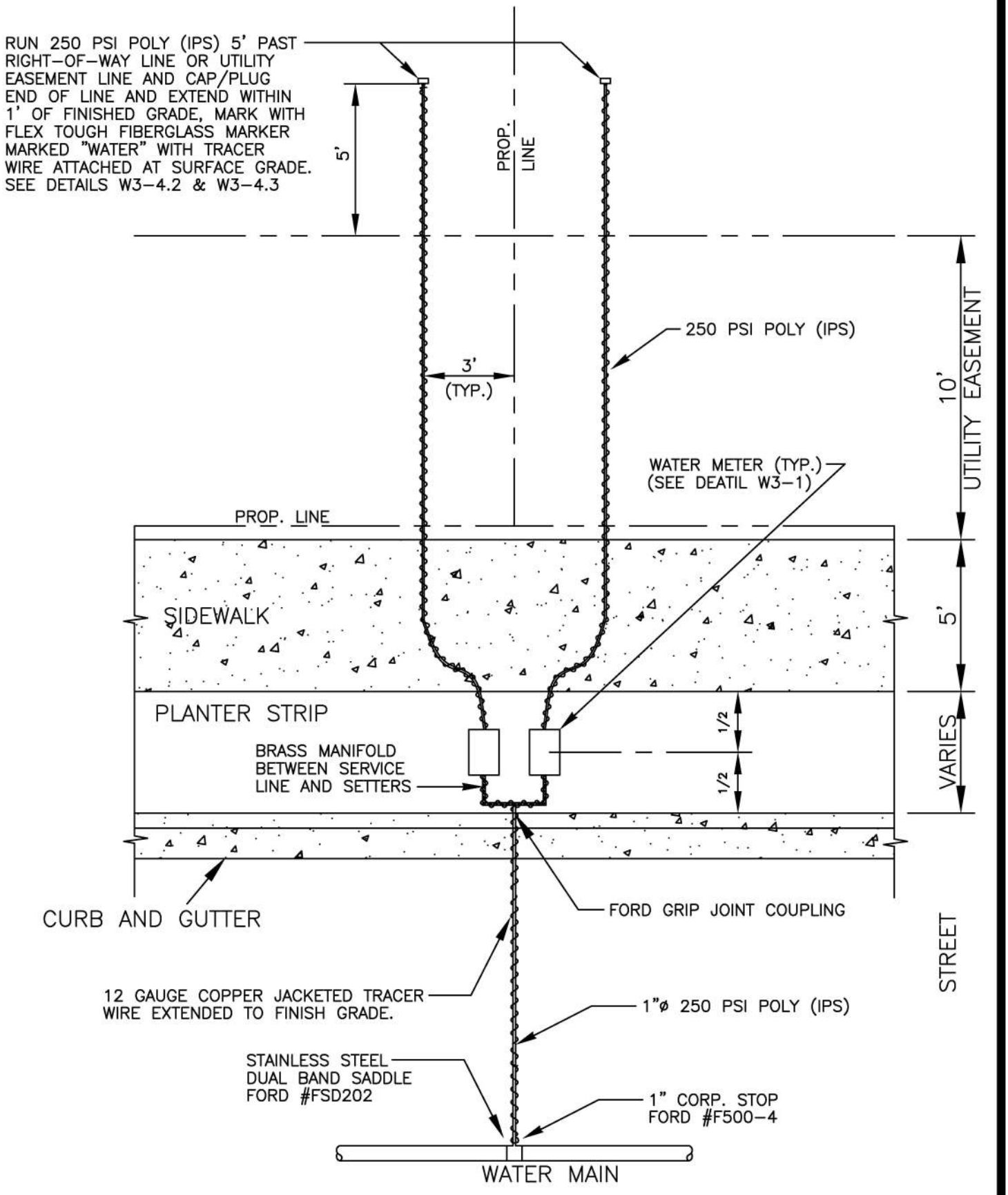
04/23/26

EXPIRES 01/07/2028

CITY OF SUMNER WASHINGTON

SAMPLING STATION

LAST REVISION: 04/01/26		WATER STANDARD DETAIL
SHEET 1 of 1	N.T.S.	W3-12



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STATE OF WASHINGTON
39387
REGISTERED PROFESSIONAL ENGINEER
04/23/26

EXPIRES 01/07/2028

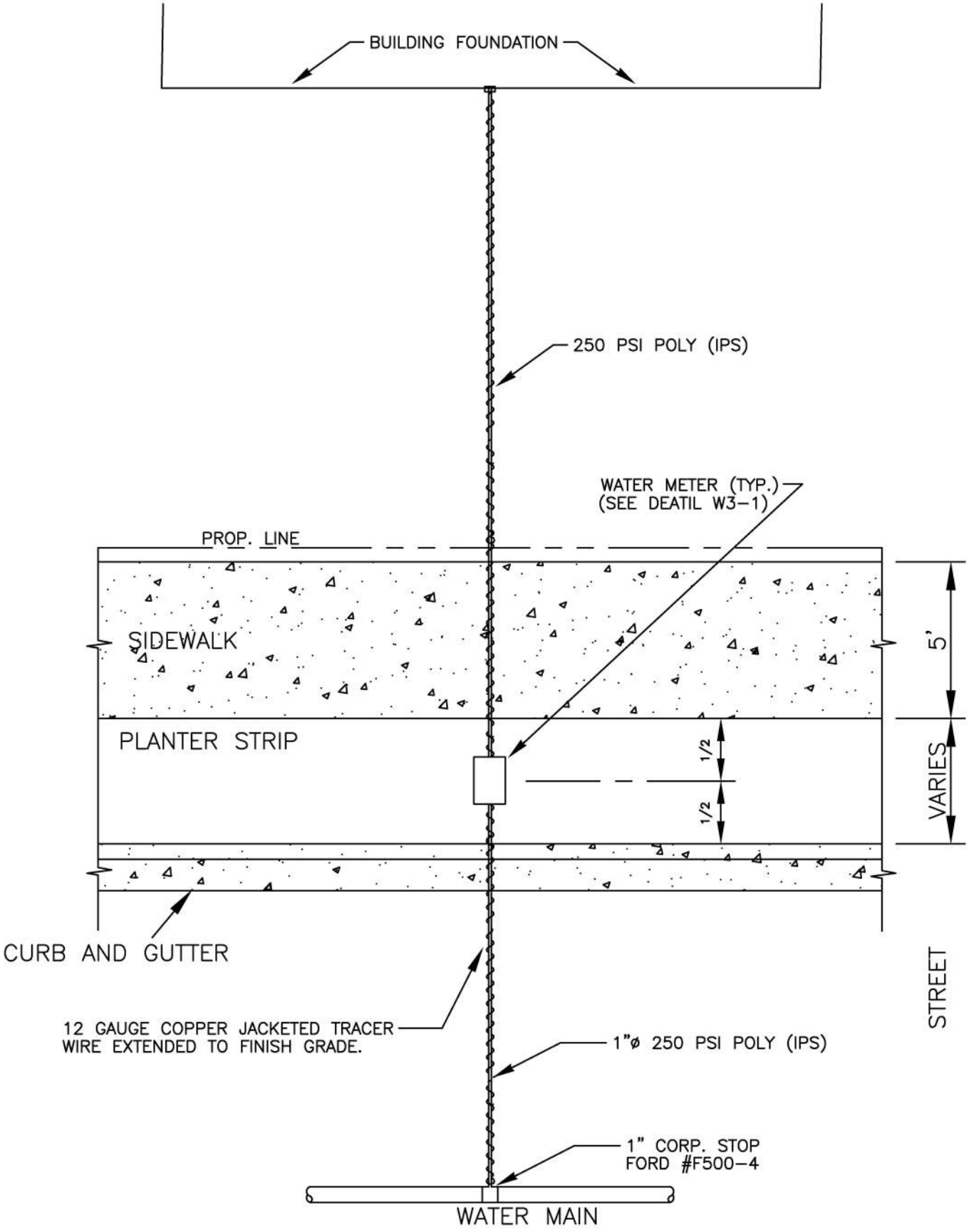
CITY OF SUMNER WASHINGTON

DOUBLE SERVICE CONNECTION (RESIDENTIAL)

LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL W3-13.1



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04/23/26
EXPIRES 01/07/2028

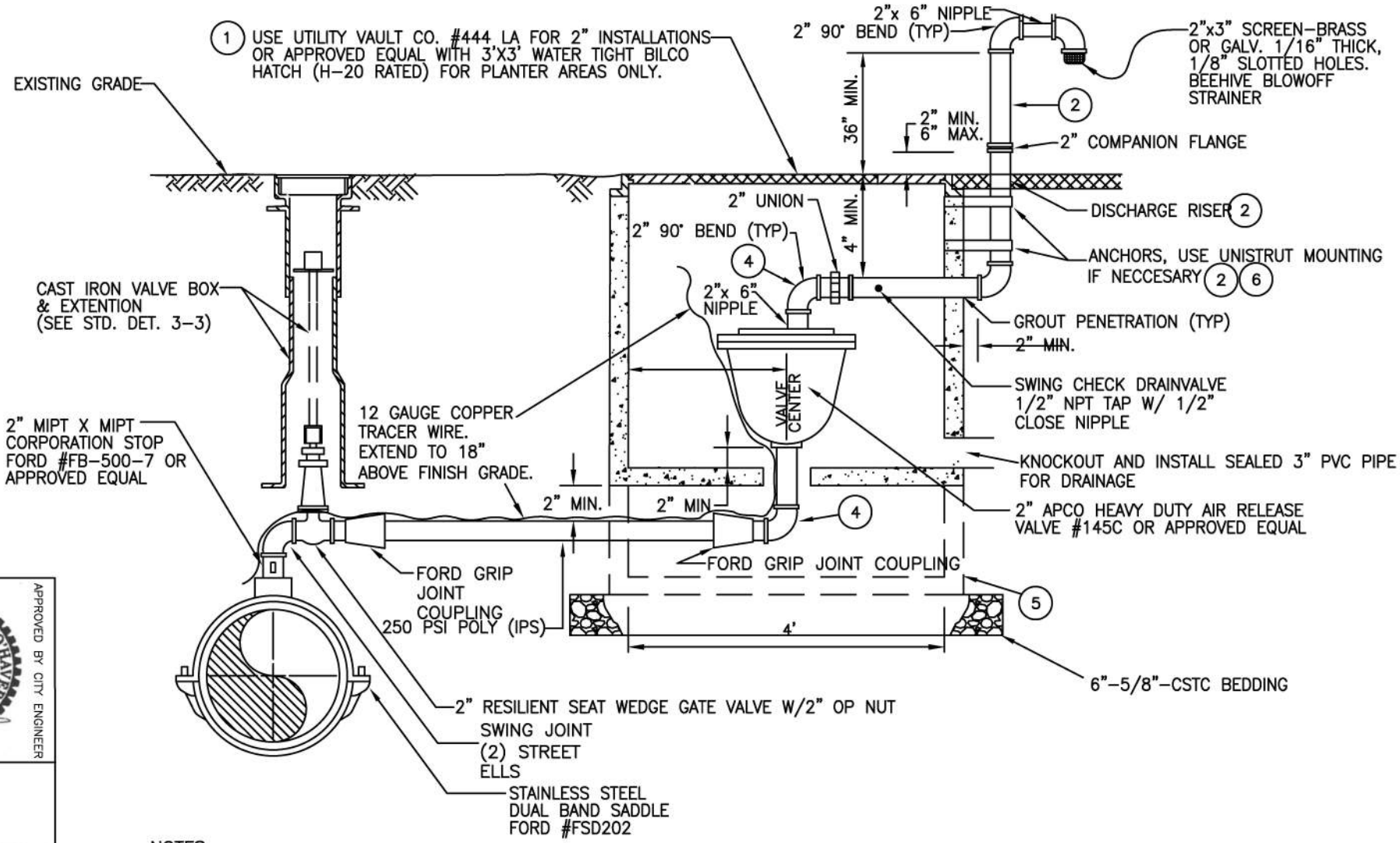
CITY OF SUMNER WASHINGTON

SERVICE CONNECTION (RESIDENTIAL)

LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL
W3-13.2



NOTES:

1. INSTALLATIONS IN AREAS REQUIREING TRAFFIC BEARING VAULTS WITH MANHOLE ENTRY REQUIRE APPROVAL BY ENGINEER.
2. DISCHARGE RISER SHALL BE INSTALLED IN PLANTER AREAS ONLY. ANCHOR RISER W/ 2"x1/4" STAINLESS STEEL STRAPS AND 3/8" HILTI EXPANSION BOLTS. PAINT THE ABOVEGROUND PIPING W/ TWO (2) COATS OF FARWEST WONDERGLO QUICKSET HI-PERFORMANCE ENAMEL, #1100 SERIES, WHITE.
3. ALL MATERIAL AND FITTINGS SHALL BE AS SPECIFIED OR AN APPROVED EQUAL.
4. PIPE AND FITTINGS TO BE BRASS UP TO 2" FLANGE. SCH80 PVC ABOVE 2" FLANGE.
5. OPTIONAL INSTALLATION FOR SHALLOW WATER MAIN DEPTHS
6. IF NECESSARY. USE UNISTRUT MOUNTING UNITS STRAPS MODEL NUMBERS P2558-05 THRU P3558-60
7. 12 GA COPPER TRACER WIRE SHOULD BE CONNECTED TO THE MAINLINE SADDLE OR THE MAINLINE TRACER WIRE.

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ALISA O'HAVER — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — EXPIRES 01/07/2027

CITY OF SUMNER WASHINGTON

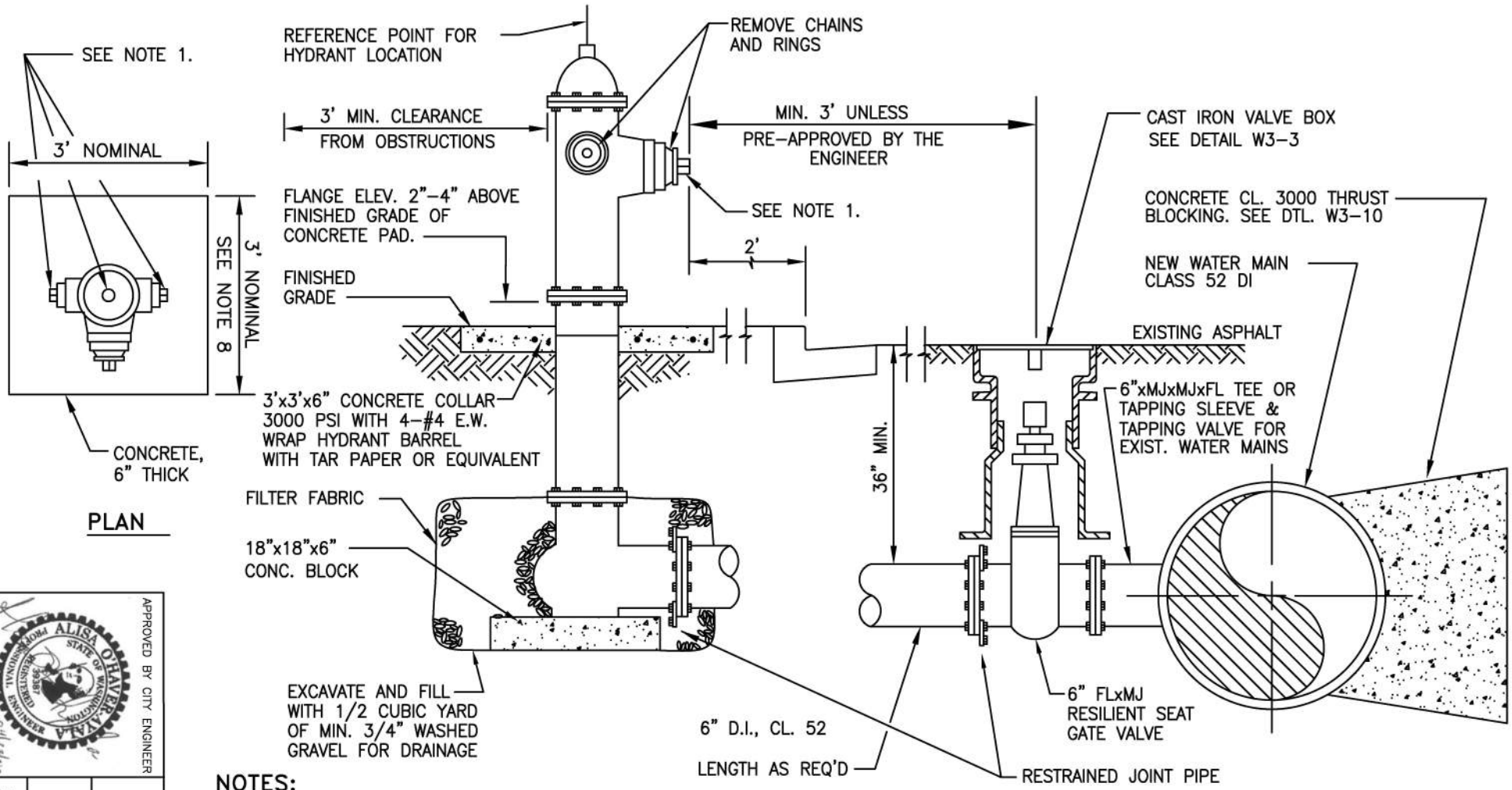
2" COMBINATION AIR VALVE ASSEMBLY

LAST REVISION: 04/01/26

SHEET 1 of 1

N.T.S.

WATER STANDARD DETAIL W3-14



NOTES:

1. FIRE HYDRANT SHALL BE A CENTER OPERATING VALVE SUCH AS MUELLER CENTURION, CLOW #2500, M & H 929 OR AS APPROVED BY CITY ENGINEER OR DESIGNEE. THE STEAMER PORT SHALL BE PROVIDED WITH A 1/4 TURN DISCONNECT TYPE FITTING (5" STORTZ COUPLING AND BLIND CAP) TO BE AN INTEGRAL PART OF THE HYDRANT.
2. PAINT HYDRANTS WITH TWO (2) COATS TRAFFIC YELLOW SEMI GLOSS 756/PC-76 DERUSTO PAINT OR AN EQUIVALANT APPROVED BY THE CITY ENGINEER.
3. ALL FIRE HYDRANTS SHALL BE LOCATED BEHIND SIDEWALK OR AS SHOWN ON PLANS. THE PORT CAP SHALL NOT BE OVER THE SIDEWALK.
4. WHEN FIRE HYDRANTS FALL BEHIND DITCH LINE, PLACE CULVERT IN DITCH FOR MIN. OF 10' & BACK FILL WITH CRUSHED SURFACING. RIP RAP ENDS AS NEEDED FOR EROSION CONTROL.
5. NO HYDRANT SHALL BE INSTALLED LESS THAN 10 FEET FROM THE EDGE OF A RESIDENTIAL DRIVEWAY APPROACH, 50' FROM COMMERCIAL DRIVEWAY OR INTERSECTION.
6. FIRE HYDRANT SHALL FACE THE ADJACENT STREET UNLESS DIRECTED OTHERWISE BY CITY OFFICIALS.
7. WRAP, WITH PLASTIC, ALL PIPE AND FITTINGS THAT WILL COME IN CONTACT WITH THRUST BLOCKS.
8. 6" THICK CONCRETE PAD SHALL BE 3' WIDE AND BE PLACED BETWEEN BACK OF CURB & SIDEWALK WHEN HYDRANT IS INSTALLED IN PLANTER.

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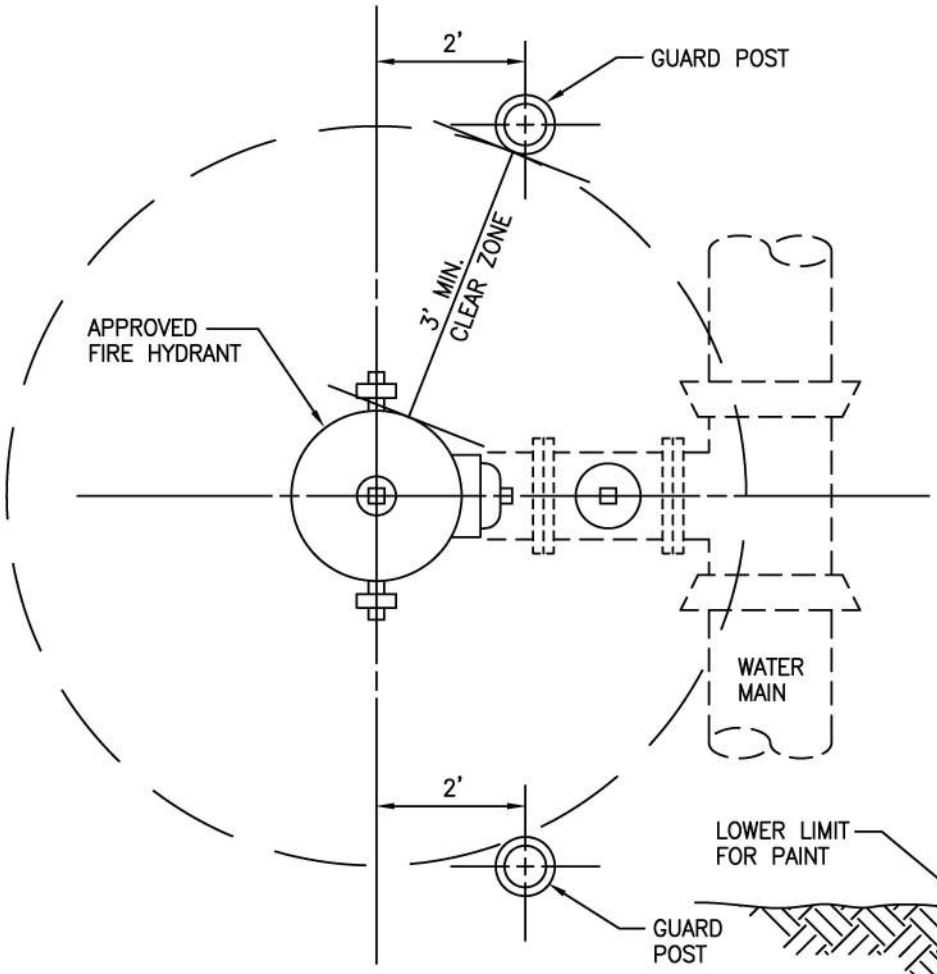
CITY OF SUMNER WASHINGTON

STANDARD FIRE HYDRANT

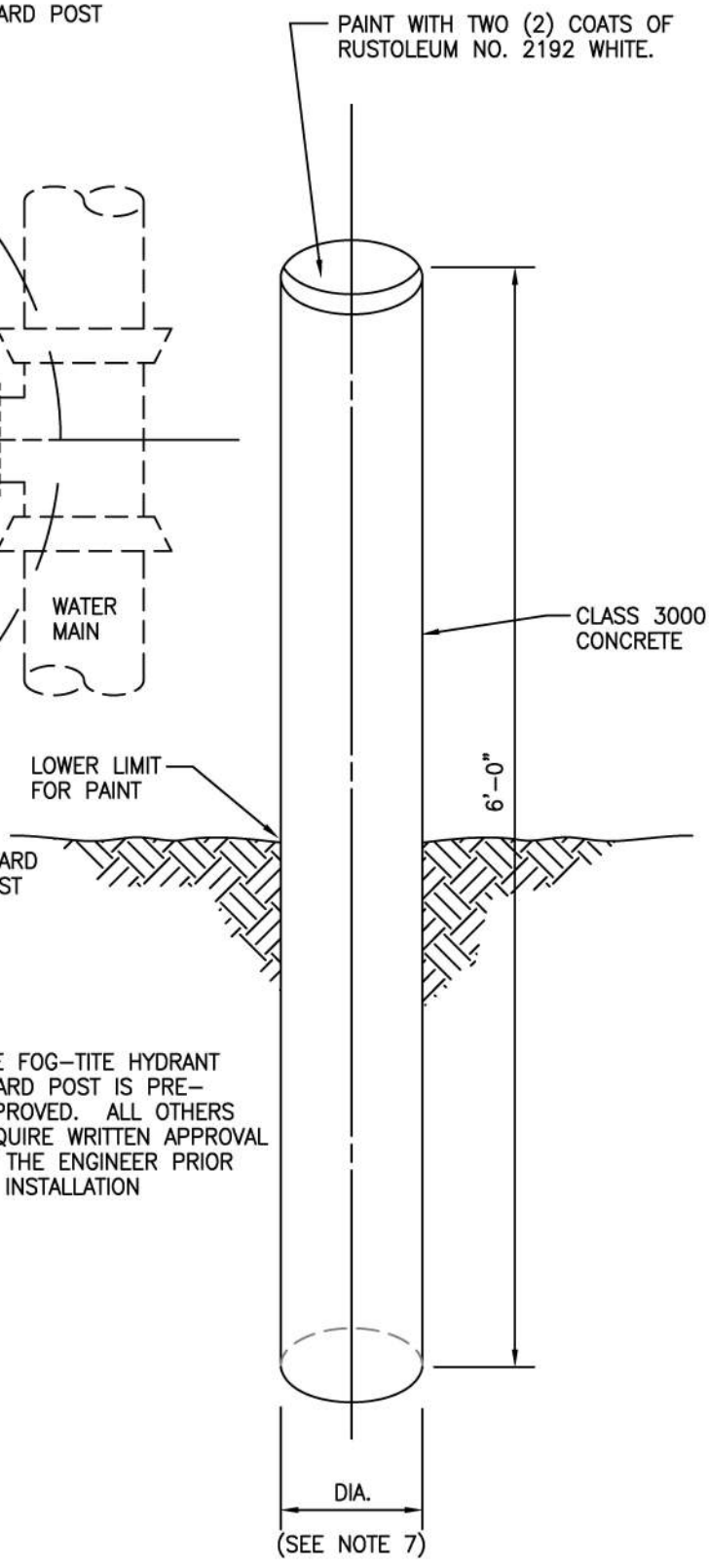
LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL W3-15.1



TYPICAL PLACEMENT DETAIL



THE FOG-TITE HYDRANT GUARD POST IS PRE-APPROVED. ALL OTHERS REQUIRE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION

NOTES:

1. GUARD POSTS SET PLUMB AND BURIED AT LEAST 3-FOOT DEEP.
2. GUARD POST ARE INSTALLED WITH TOPS NO HIGHER THAN HYDRANT. IF MORE THAN ONE POST IS SET, THEY SHALL BE SET AT THE SAME HEIGHT.
3. GUARD POSTS ARE LOCATED NO CLOSER THAN 3 FEET FROM OUTSIDE FACE OF FIRE HYDRANT.
4. EXPOSED PORTION OF GUARD POSTS ARE TO BE PAINTED WITH TWO (2) COATS OF WHITE PAINT.
5. SEE STANDARD DETAIL W3-15.1 FOR FIRE HYDRANT DETAILS.
6. GUARD POSTS ARE NOT USED WHERE FIRE HYDRANT IS LOCATED IN CITY RIGHT-OF-WAY.
7. GUARD POST DIA. TO BE 6" UNLESS IN AREAS OF HEAVY TRUCK TRAFFIC WHERE 10" DIA. POST WILL BE USED.

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ALISA O'HAVER-AYALA STATE OF WASHINGTON 39387 REGISTERED PROFESSIONAL ENGINEER 04/23/26

EXPIRES 01/07/2028

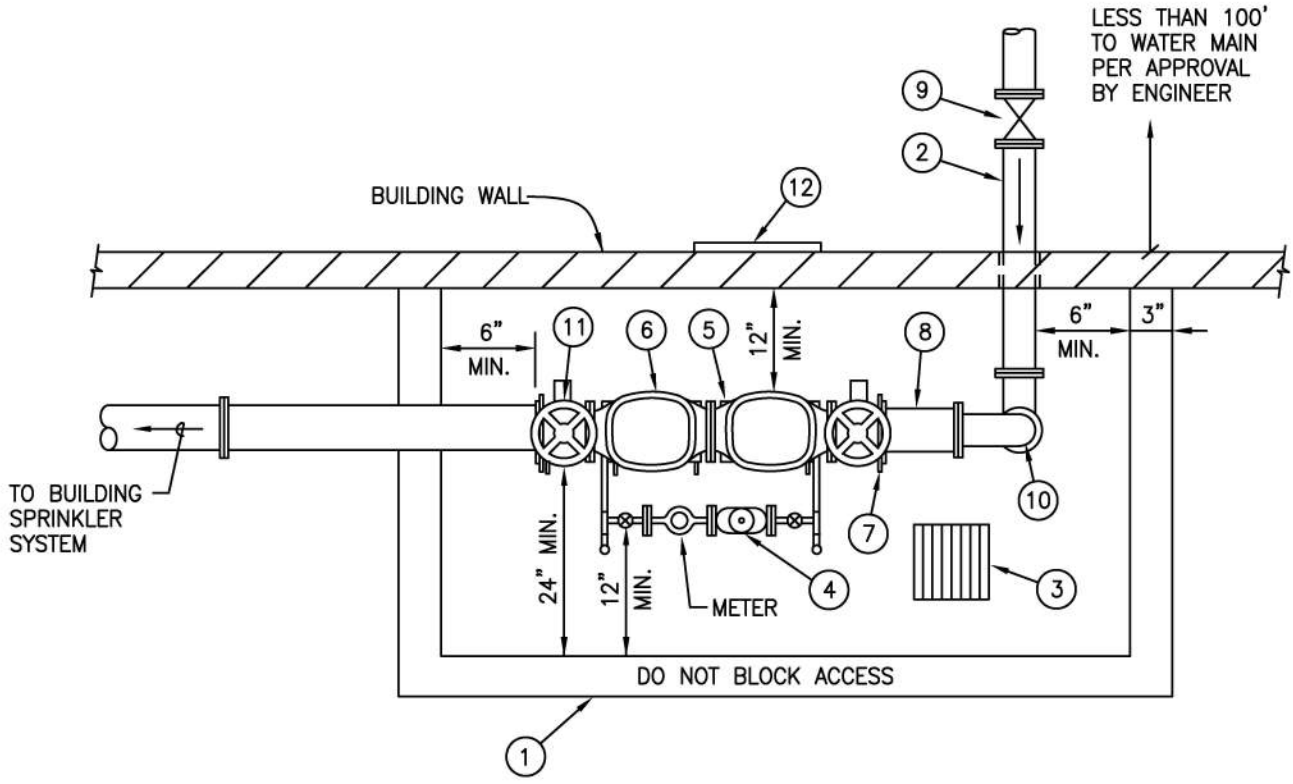
CITY OF SUMNER WASHINGTON

GUARD POST

LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL W3-15.2



INSIDE BUILDING ASSEMBLY LIST (4" OR GREATER):

1) PERIMETERS OF MINIMUM CLEARANCES TO BE PAINTED ON FLOOR IN WHITE ENAMEL PAINT WITH 2" STENCILED BLACK LETTERS "DO NOT BLOCK ACCESS".

2) 4" MINIMUM D.I. CLASS 52.

3) FLOOR DRAIN IN BUILDING TO STORM SYSTEM.

4) DCVA IN BYPASS LINE (LATEST HEALTH DEPT. APPROVED LIST) SHALL BE ON OPPOSITE SIDE OF PUMPER LINE.

5) DCDA IN MAIN LINE (LATEST HEALTH DEPT. APPROVED LIST).

6) CONCRETE SUPPORT PADS UNDER CHECK VALVE.

7) 10", 8", 6" OR 4" FL COUPLING ADAPTER.

8) 10", 8", 6" OR 4" PE x FL PIPE.

9) 10", 8", 6" OR 4" GATE VALVE, FL WITH WALL MOUNTED POST INDICATOR WITH TAMPER SWITCH.

10) 10", 8", 6" OR 4" 90 DEGREE BEND, FL WITH BALL DRIP IN VAULT.

11) O.S. AND Y VALVES TO BE RESILIENT SEATED WITH TAMPER SWITCHES. ADD WIRING IN ACCORDANCE WITH L & I.

12) SIGN ON OUTSIDE OF BUILDING SHALL READ...

FIRELINE
DOUBLE CHECK
INSIDE BLDG

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04/23/26
EXPIRES 01/07/2028

CITY OF SUMNER WASHINGTON

DOUBLE CHECK DETECTOR ASSEMBLY ASSEMBLY – INSIDE BUILDING DETAIL (4" OR GREATER)

LAST REVISION: 04/01/26

SHEET 1 of 2 | N.T.S.

WATER STANDARD DETAIL
W3–16.1

INSIDE BUILDING:
4" OR GREATER DOUBLE CHECK DETECTOR ASSEMBLY NOTES

1) ROOM IN WHICH DCDA IS PROPOSED TO BE LOCATED SHALL:
   - A. HAVE FLOOR DRAINS CONNECTED TO STORM OR SANITARY SEWER.
   - B. HAVE A HEATING SYSTEM (40° F MIN. TEMP.) NO HEAT TAPE.
   - C. NOT BE USED FOR STORAGE AROUND THE DCDA.
   - D. HAVE CLEARLY DELINEATED ACCESS WAYS TO DCDA AND WALL MOUNTED PIVS.

2) MINIMUM APPARATUS SIZE SHALL BE 4 INCHES.

3) ALL BACKFLOW ASSEMBLIES SHALL BE ON THE LATEST LIST APPROVED BY THE DEPARTMENT OF HEALTH AND THE CITY OF SUMNER.

4) MAKE ALL ATTEMPTS TO LOCATE SWING CHECK VAULT IN PLANTING AREA & NOT IN PAVING AREA.

5) ALL BENDS AND ELBOWS TO BE DUCTILE IRON, CLASS 52, CEMENT LINED. (SEE APWA AND AWWA).

6) TEMPORARY SUPPORT SHALL BE PROVIDED UNDER VALVES AT THE TIME OF INSTALLATION. AFTER COMPLETE INSTALLATION REMOVE THE TEMPORARY SUPPORT AND INSTALL CONCRETE SUPPORT PAD WITH 6" BRICK SHIMS AS REQUIRED.

7) GROUT ALL AROUND PIPE WHERE IT ENTERS THE BUILDING.

8) ALL PIPE TO BE DUCTILE IRON CEMENT LINED CLASS 52 PIPE EXCEPT WHERE INDICATED. INSTALLATION MUST ALLOW CLEARANCE FOR PROPER OPERATION OF ALL O.S. AND Y'S.

9) IF A NEW CITY HYDRANT IS NOT REQUIRED ON FIRELINE UPSTREAM OF BUILDING, (THERE IS AN EXISTING CITY HYDRANT WITHIN 50' OF FDC) THEN INSTALL A 2" B.O. PER SUMNER STANDARD DETAIL W3–5.1, 60' FROM CITY MAIN.

10) IF MULTIPLE PRIVATE HYDRANTS ARE REQUIRED FOR PROJECT, ENTIRE SYSTEM (HYDRANTS AND FIRELINE) SHOULD BE ISOLATED FROM CITY SYSTEM BY A DCDA LOCATED IN A VAULT AT THE PROPERTY LINE.

11) DCVA SHALL BE INSTALLED SO THAT INSTALLED ELEVATION IS 1'–5" A.F.F.

12) A HEATED, R–19 INSULATED WOOD FRAMED ENCLOSURE IS AN ACCEPTABLE ALTERNATIVE TO A ROOM IF DCDA IS TO BE LOCATED IN AN UNHEATED BUILDING. THE ENCLOSURE MUST MEET ALL REQUIREMENTS OF THE DEVELOPMENT SERVICES DIVISION.

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STATE OF WASHINGTON
39387
REGISTERED
PROFESSIONAL ENGINEER
04/23/26

EXPIRES 01/07/2028

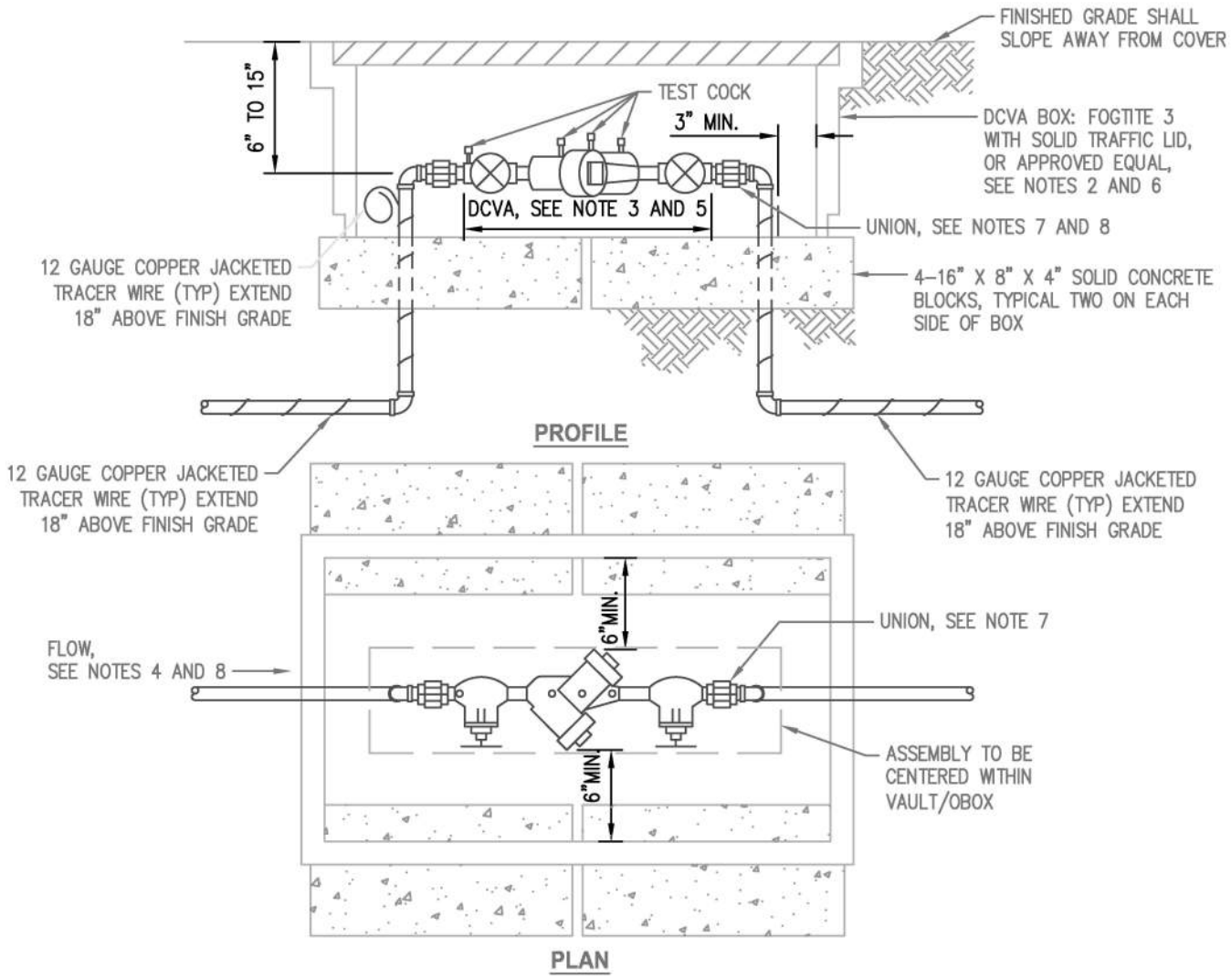
CITY OF SUMNER WASHINGTON

DOUBLE CHECK DETECTOR ASSEMBLY INSIDE BUILDING (4" OR GREATER) – NOTES

LAST REVISION: 04/01/26

SHEET 2 of 2 | N.T.S.

WATER STANDARD DETAIL W3–16.1



NOTES: 2" AND SMALLER DCVA INSTALLATION

1. BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH'S LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
2. THE DCVA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED AFTER INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACK–FLOW ASSEMBLY TESTER, TO INSURE ITS SATISFACTORY OPERATION BEFORE OCCUPANCY, AND ANNUALLY THEREAFTER. SEND TEST RESULTS TO: CITY OF SUMNER 1104 MAPLE STREET, #200 SUMNER, WA 98390.
3. DCVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO THE ASSEMBLY ARE ALLOWED.
4. DCVA SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF WATER METER, BUT NOT WITHIN RIGHT–OF–WAY. REFERENCE W3–9 FOR LOCATION. WHEN IRRIGATION SYSTEM IS CONNECTED OFF DOMESTIC WATER LINE, IRRIGATION DCVA SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF THE BRANCH CONNECTION.
5. VAULT DOORS, COVERS AND SUPPORT ASSEMBLY SHALL BE DESIGNED BY THE OWNER AS REQUIRED. ACCESS DOORS SHALL BE FLUSH MOUNT AND ACCOMMODATE BACKFLOW ASSEMBLY REMOVAL AND VALVE ACCESS.
6. METER BOX SHALL BE LARGE ENOUGH TO ALLOW THE MINIMUM SETBACKS ILLUSTRATED ABOVE. METER BOX LID SHALL BE A TRAFFIC LID WITH A H–20 LOADING.
7. DIELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.
8. USE ONLY BRASS OR COPPER BETWEEN THE METER AND THE UNION ON THE CUSTOMER'S SIDE OF THE DCVA.
9. TEST COCKS SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.
10. AFTER INSTALLATION OF THE BACKFLOW ASSEMBLY, THE DEVELOPER OR INSTALLER SHALL CALL THE CITY FOR AN INSPECTION BY THE CITY CROSS–CONNECTION CONTROL SPECIALIST.
11. FOLLOWING AN INSPECTION APPROVAL BY THE CITY, THE BACKFLOW ASSEMBLY MUST BE SCHEDULED FOR AN INITIAL TEST BY A WASHINGTON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. THE INITIAL TEST OF THE BACKFLOW ASSEMBLY MAY BE OBSERVED BY THE CITY CROSS
12. FREEZE PROTECTION IS THE RESPONSIBILITY OF THE OWNER, AND SHALL NOT INTERFERE WITH THE OPERATION OF TEST OF THE ASSEMBLY.

APPROVED BY CITY ENGINEER

ALISA O'HAVER-AJALA, STATE OF WASHINGTON, 39387, REGISTERED PROFESSIONAL ENGINEER

04/23/26

EXPIRES 01/07/2028

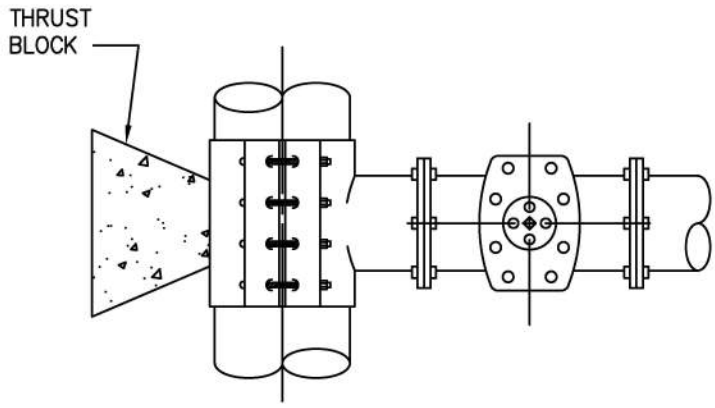
CITY OF SUMNER WASHINGTON

2" OR SMALLER DOUBLE CHECK VALVE ASSEMBLY (DCVA)

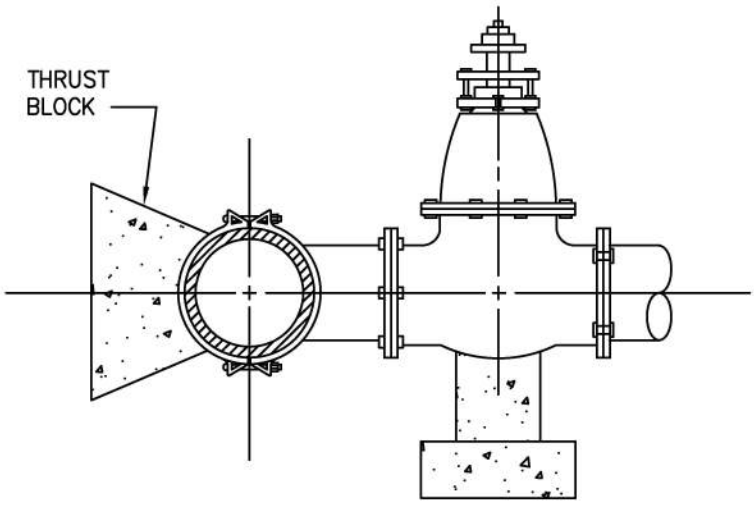
LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL W3–16.2



PLAN



ELEVATION

STAINLESS STEEL TAPPING TEE

NOTE:

1. TAPPING SLEEVE & VALVE ASSEMBLY TO BE PRE-APPROVED BY THE ENGINEER. PRESSURE TESTING SHALL BE APPROVED BY CONSTRUCTION INSPECTOR PRIOR TO TAPPING. FOLLOW AWWA REQUIREMENTS FOR DISINFECTION OF TAPPING SLEEVES (AWWA STD. C651)
2. WET TAPS SHALL NOT BE ALLOWED ON SAME SIZE OR SMALLER MAINS.
3. WRAP, WITH PLASTIC, ALL PIPE AND FITTINGS THAT WILL COME IN CONTACT WITH THRUST BLOCKS.

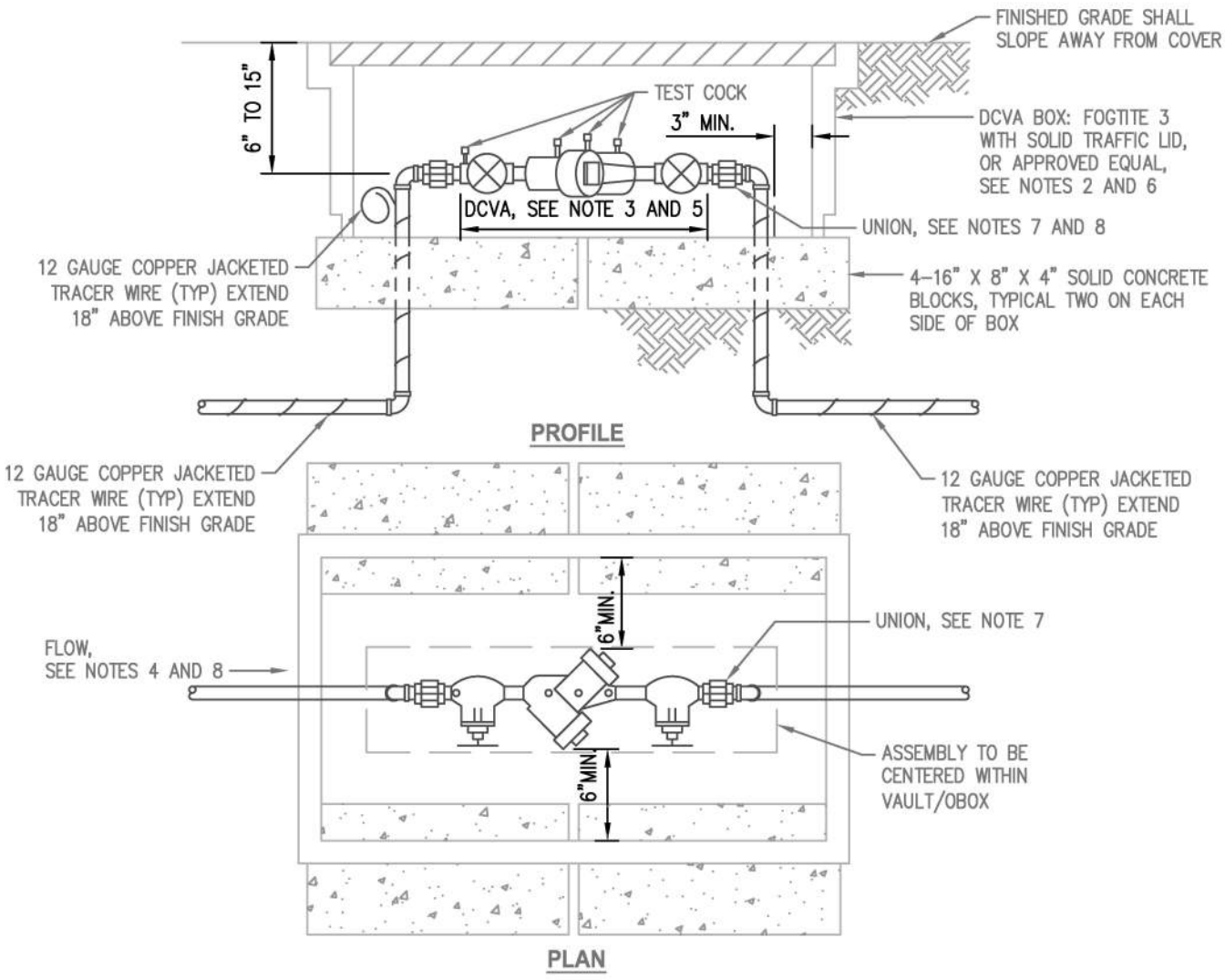
APPROVED BY CITY ENGINEER

ALISA O'HAVER-AYALA
STATE OF WASHINGTON
39387
REGISTERED
PROFESSIONAL ENGINEER
04/23/26
EXPIRES 01/07/2028

CITY OF SUMNER WASHINGTON

TAPPING SLEEVE & VALVE ASSEMBLIES

LAST REVISION: 04/01/26		WATER STANDARD DETAIL
SHEET 1 of 1	N.T.S.	W3-17



NOTES: 2" AND SMALLER DCVA INSTALLATION

1. BACKFLOW ASSEMBLY MUST BE SELECTED FROM WASHINGTON STATE DEPARTMENT OF HEALTH'S LIST OF BACKFLOW PREVENTION ASSEMBLIES APPROVED FOR INSTALLATION IN WASHINGTON STATE, LATEST EDITION.
2. THE DCVA SHALL BE INSTALLED WITH ADEQUATE SPACE TO FACILITATE MAINTENANCE AND TESTING. IT SHALL BE TESTED AFTER INSTALLATION, BY A WASHINGTON STATE CERTIFIED BACK-FLOW ASSEMBLY TESTER, TO INSURE ITS SATISFACTORY OPERATION BEFORE OCCUPANCY, AND ANNUALLY THEREAFTER. SEND TEST RESULTS TO: CITY OF SUMNER 1104 MAPLE STREET, #200 SUMNER, WA 98390.
3. DCVA MUST BE PURCHASED AS A UNIT. NO MODIFICATIONS TO THE ASSEMBLY ARE ALLOWED.
4. DCVA SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF WATER METER, BUT NOT WITHIN RIGHT-OF-WAY. REFERENCE W3-9 FOR LOCATION. WHEN IRRIGATION SYSTEM IS CONNECTED OFF DOMESTIC WATER LINE, IRRIGATION DCVA SHALL BE PLACED IMMEDIATELY DOWNSTREAM OF THE BRANCH CONNECTION.
5. VAULT DOORS, COVERS AND SUPPORT ASSEMBLY SHALL BE DESIGNED BY THE OWNER AS REQUIRED. ACCESS DOORS SHALL BE FLUSH MOUNT AND ACCOMMODATE BACKFLOW ASSEMBLY REMOVAL AND VALVE ACCESS.
6. METER BOX SHALL BE LARGE ENOUGH TO ALLOW THE MINIMUM SETBACKS ILLUSTRATED ABOVE. METER BOX LID SHALL BE A TRAFFIC LID WITH A H-20 LOADING.
7. DIELECTRIC UNIONS MUST BE USED TO SEPARATE DISSIMILAR MATERIALS.
8. USE ONLY BRASS OR COPPER BETWEEN THE METER AND THE UNION ON THE CUSTOMER'S SIDE OF THE DCVA.
9. TEST COCKS SHALL BE INSTALLED UPRIGHT AND IN THE HORIZONTAL POSITION.
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CITY OF SUMNER WASHINGTON

POST INDICATOR VALVE (PIV)

LAST REVISION: 04/01/26

SHEET 1 of 1 | N.T.S.

WATER STANDARD DETAIL W3-18