



East Wenatchee  
Water District



WATER SYSTEM STANDARD DETAIL  
BACKFLOW PREVENTION ASSEMBLY

File: EWDW14 | Revised: MAR 1, 2019 | Printed: MAR 1, 2019



WATER SYSTEM STANDARD DETAIL  
BACKFLOW ASSEMBLY INSTALLATION

DRAWING NO. W-13

SHEET NO. 25

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REVISION HISTORY

**JULY 2014**  
 • W-07 DEFINED MATERIAL FOR ALL TIE/SHACKLE RODS. UPDATED DETAILS (W02, W05, W17, W20, W24) TO REFERENCE BACK TO W-07 FOR ROD MATERIAL.  
 • W-10 ADDED TRACER WIRE TO SUPPLY LINE. ADDED #24 MESH SCREEN TO VENT.  
 • W-12 ADDED DETAIL FOR CURB STOP RISER PIPE.  
 • W-13 UPDATED BYPASS METER REGISTER MODEL.  
 • W-14 ADDED CONCRETE BLOCKING AND PT WOOD SHIM CALLOUT.  
 • CHANGED SERVICE LINE SIZE FOR  $\frac{3}{4}$ " METER BASED ON WHICH SIDE OF THE STREET.  
 • ADDED FOR CONNECTION TO EXISTING SERVICE BE AT OR BEHIND ROW.  
 • W-17 CHANGED  $\frac{1}{2}$ " AIR RELEASE VALVE TO 1" COMBINATION AIR VALVE, UPDATED PIPING. ADDED AIR VALVE TO BOTH SIDES OF PRV.  
 • W-18 UPDATED FORD METER SETTER MODEL NUMBERS. ADDED A 3" LONG BRASS NIPPLE BETWEEN CURB STOP AND SETTER.  
 • W-19 UPDATED LINE WORK FOR AIR VALVE PER CHANGE TO W-17.  
 • W-20 REMOVED BASKET STRAINER.  
 • W-21 UPDATED FORD METER SETTER MODEL NUMBERS. ADDED 6" BRASS NIPPLE BETWEEN CURB STOP AND SETTER.  
 • W-22 CHANGED VALVE ON 2" AND SMALLER DETAIL TO CURB STOP, ADDED MINIMUM WALL THICKNESS TO FLANGED EPOXY ADAPTER. ADDED DETAIL FOR CONNECTION TO EXISTING 2" AND SMALLER DEAD END MAIN.  
 • W-24 REMOVED BASKET STRAINER.  
 • W-26 CREATED NEW DETAIL FOR COMMON LARGE VAULT INFORMATION.  
 • ADDED NOTE THAT ALL EXTERIOR THRUST BLOCKS ON LARGE VAULTS SHALL BE INSTALLED PRIOR TO THE PIPE INSTALLED THROUGH THE VAULT BEING CUT OUT.  
 • ADDED A NOTE THAT REINFORCED THRUST BLOCKS SHALL BE FORMED USING WOOD FORMS NOT Poured DIRECTLY AGAINST SOIL.  
 • ADDED NOTE THAT REINFORCED THRUST BLOCKS SHALL BE CONSOLIDATED USING VIBRATION.  
 • W-29 ADDED NOTE THAT CUSTOMER SIDE CASINGS ARE ALWAYS REQUIRED.  
 • W-30 ADDED NOTE TO DELIVER SALVAGED VAULTS WITHIN ONE WEEK AND UNDAMAGED.  
 • W-30 ADDED NOTE THAT RESTRAINTS AND AFFECTED PIPE MAY NOT BE REUSED ONCE ASSEMBLED.

**NOVEMBER 2014**  
 • W-20 REVISED METER LAY LENGTH AND MODEL FROM NEPTUNE TO SENSUS.  
 • W-24 REVISED METER LAY LENGTH AND MODEL FROM NEPTUNE TO SENSUS.  
 • W-30 ADDED NOTE FOR FLANGE GASKET AND BOLT MATERIALS.

**JUNE 2015**  
 • W-07 REMOVED ASTM A36 STEEL FROM TABLE HEADING.  
 • W-08 REVISED NOTE TO SEE DETAIL W29 FOR VAULT INSTALLATION REQUIREMENTS.  
 • W-10 REVISED NOTE TO SEE DETAIL W29 FOR VAULT INSTALLATION REQUIREMENTS.  
 • W-10 CHANGED VAULT LOCATION TO BE IN SIDEWALK.  
 • W-13 REVISED VAULT DRAINS TO CONFORM TO DETAIL W-26.  
 • W-15 REVISED FIRST PARAGRAPH.  
 • W-26 REVISED NOTE REGARDING PIPE LENGTHS TO ACCOMMODATE LONG VAULTS.  
 • W-26 ADDED REQUIREMENT OF 2 SUPPORTS FOR LADDER-UP EXTENSIONS.  
 • W-21 ADDED PRESSURE TESTING TO PE PIPE SERVICE CONNECTION.  
 • W-21 ADDED LENGTHS FOR BRASS NIPPLE BASED ON SINGLE OR DOUBLE SERVICE.  
 • W-23 ADDED PRESSURE TESTING TO PE PIPE SERVICE CONNECTION.  
 • W-29 CHANGED DETAIL TITLE TO "WATER SERVICE, AIR VALVE, BLOW OFF VAULT INSTALLATION PLACEMENT".  
 • W-29 ADDED PRESSURE TESTING TO PE PIPE SERVICE CONNECTION.  
 • W-29 CHANGED NOTE ON THE LIDS INSTALLATION WITHIN SIDEWALK DETAIL TO REQUIRING A FULL PANEL OF SIDEWALK AROUND VAULT WHEN SIDEWALK IMPROVEMENTS ARE DEFERRED.

**SPICE DETAIL**  
 1. INSTALL TRACER WIRE ON ALL WATERMAINS, HYDRANTS, SERVICE PIPES, AIR VALVE PIPES, AND BLOW OFF PIPES. DO NOT WRAP WIRE AROUND PIPE.  
 2. TRACER WIRE TO BE SOLID COPPER CORE, UF, BLUE COLOR, 12 AWG FOR LENGTHS 2,000 FEET AND LESS, OR 10 AWG FOR LENGTH OVER 2,000 FEET.  
 3. SEE STANDARD DETAILS W-14, W-18 AND W-21 FOR TRACER WIRE LAYOUT AT WATER SERVICES, W-08 AT BLOW-OFFS, AND W-10 AT AIR VALVES.  
 4. IF SPACING IS GREATER THAN 1,000 FEET BETWEEN WIRE ACCESS POINTS, PROVIDE A VALVE BOX FOR TERMINATION.  
 5. FOR SPLICES, USE A WATERPROOF DBY SPLICE KIT AND SECURE WITH ZIP TIES.

East Wenatchee  
Water District



WATER SYSTEM STANDARD DETAIL  
TRACER WIRE

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DRAWING NO. W-31

SHEET NO. 29

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REVISION HISTORY

W-30 RE-ADDED VAULT LID NOTE, ACCIDENTALLY DELETED DURING 2014 REVISIONS.

W-30 MOVED NOTE REGARDING SALVAGED EQUIPMENT TO DETAIL W-15.

**JUNE 2016**  
 • W-13 REVISED MINIMUM VAULT SIZE REQUIREMENTS  
 • W-14 REVISED SADDLE FIT RANGE  
 • W-18 ADDED MUELLER PRODUCT INFORMATION TO TABLE  
 • W-21 ADDED MUELLER PRODUCT INFORMATION TO TABLE  
 • W-30 ADDITIONAL SPACING REQUIREMENTS FOR CASING RUNNERS

**JANUARY 2017**  
 • W-01 REVISED WATER MAIN COVERAGE DEPTH NOTE  
 • W-01 REVISED THE THRUST RESTRAINT NOTE  
 • W-01 INCLUDED SETTERS AND TAULPIPE IN PRESSURE TEST NOTE  
 • W-01 INCLUDED OPEN END OF VALVES IN PIPE PLUG NOTE  
 • W-08 REMOVED DEADMAN THRUST BLOCK DETAIL  
 • W-07 REVISED ATTACHMENT DETAIL TO INCLUDE A WASHER AND DOUBLE NUT OR NYLOCK NUT  
 • W-10 CLARIFIED CMU BLOCK SIZE REQUIRED AND ELIMINATED CMU BLOCK UNDER CURB STOP

• W-14 ADDED 1" MIN SIZE TO PE SERVICE PIPE  
 • W-10 CLARIFIED MATERIAL ALLOWED FOR CORP STOP BLOCKING.  
 • W-12 ADDED NOTE 8 AND ADDED PLAN VIEW OF BOX LID  
 • W-13 UPDATED NOTE 3 TO CLARIFY RESTRAINED PIPE REQUIREMENTS  
 • W-13 REMOVED THRUST BLOCKS AND SHACKLES  
 • W-13 CHANGED THE FCA TO A FLRJ ADAPTER

• W-13 ADDED DISMANTLING JOINT  
 • W-13 UPDATED VAULT MIN INTERIOR DIMENSION REQUIREMENTS TO MATCH NEW PIPE LAYOUT  
 • W-13 INCLUDED IPER IN TYPE OF METER ALLOWED  
 • W-15 INCLUDED AIR VALVE ASSEMBLIES IN WATER SERVICE SECTION TITLE

• W-19 REMOVED EXTERIOR BLOCKS AND SHACKLES, ADDED NOTE 8, UPDATED FITTING NO. 2 FROM MJ TO RJ

• W-26 REMOVED NOTE 2 TO HAVE THE DISTRICT DECIDE IF EXTERNAL BLOCKS ARE REQUIRED.  
 • W-21 REMOVED NOTE 4 REGARDING MASTIC BETWEEN CHAMBER TOP AND BASE

• W-21 ADDED NOTE REGARDING PRESSURE TESTING SERVICE  
 • W-21 ADDED NOTE IN ELEVATION REGARDING REQUIRED ADAPTER IN 1" SETTERS

• W-24 REMOVED EXTERIOR BLOCKS AND SHACKLES, ADDED NOTE 8, UPDATED FITTING NO. 2 FROM MJ TO RJ WITH NO FCA OPTION  
 • W-26 REMOVED ALL WALL COLLARS

• W-26 UPDATED NOTE 2 TO HAVE THE DISTRICT DECIDE IF EXTERNAL BLOCKS ARE REQUIRED.  
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• W-30 REMOVED EXTERIOR BLOCKS AND SHACKLES, ADDED NOTE 8, UPDATED FITTING NO. 2 FROM MJ TO RJ WITH NO FCA OPTION  
 • W-26 REMOVED ALL WALL COLLARS

• W-26 CLARIFIED IN NOTE 3 TO NEATLY ROUTE DRAIN PIPING IN VAULT  
 • W-26 CREATED A NEW NOTE 7 ALLOWING THE DISTRICT TO REQUIRE INTERIOR PAINT PATCHES

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• W-30 MOVED NOTE REGARDING SALVAGED EQUIPMENT TO DETAIL W-15.

**JUNE 2018 (CONTINUED)**  
 • W-08 REVISED THE TRACER WIRE TO NOT WRAP AROUND THE PIPE.  
 • W-10 REVISED TRACER WIRE ROUTING.  
 • W-10 CREATED AN ISOMETRIC OF THE BLOW-OFF TEE.  
 • W-10 UPDATED THE MODEL NUMBERS FOR THE APCO AIR RELEASE/VACUUM VALVE.

• W-10 CALLED OUT THE LENGTH OF THE NIPPLE UNDERNEATH THE AIR RELEASE/VACUUM VALVE.  
 • W-12 ADDED TRACER WIRE TO ISOLATION VALVE DETAIL  
 • W-12 UPDATED VALVE NOTE TO INCLUDE VALVES ON TEES.

• W-12 REVISED ISOLATION VALVE NOTE TO 4" AND LARGER.

• W-12 REVISED ATTACHMENT POST NOTE TO INCLUDE WHEN VALVE IS IN GRAVEL AREA.

• W-13 ADDED 12" VALVE SIZE DATA TO THE VAULT MIN. INSIDE TABLE

• W-14 ADDED 1" MIN SIZE TO PE SERVICE PIPE

• W-14 REVISED TRACER WIRE TO NOT WRAP AROUND PIPE

• W-14 INCLUDED "WHEN TAPPING EXISTING MAIN" TO NOTE ABOUT TRACER WIRE CONNECTION.

• W-16 ADDED A FUSION BONDED POLYESTER COATING REQUIREMENT TO THE MECHANICAL JOINT RESTRAINTS.

• W-16 UPDATED THE REQUIRED RESTRAINED LENGTHS FOR ALL FITTINGS

• W-17 ADDED A BELL REDUCER ON THE GAUGE & AIR VALVE DETAIL

• W-17 ADDED A MAX TAP SIZE TABLE

• W-18 REVISED TRACER WIRE TO NOT WRAP AROUND PIPE

• W-18 ADDED DETAIL TO SHOW SERVICE LINE GOING UNDER CROSSING UTILITY

• W-18 ADDED 3" CASING TO ELEVATION DETAIL FOR SERVICE PIPE

• W-19 ADDED FLRJ ADAPTERS TO EACH END OF THE MAIN PIPE IN THE VAULT

• W-19 ADDED A SPOON OF PIPE TO SEPARATE THE PRV'S AND MOVE THE LADDER

• W-19 REVISED ITEM NO. 4, REDUCING TEE, TO COME WITH A TAPPED BOSS

• W-20 ADDED A VALVE AND DRAIN ON THE BYPASS

• W-21 REVISED TRACER WIRE TO NOT WRAP AROUND PIPE

• W-21 UPDATED THE MUELLER MODEL NUMBER

• W-22 REMOVED NOTES AND PIPING THAT WAS REDUNDANT TO DETAIL W-15

• W-22 UPDATED COUPLING NOTE TO INCLUDE ROMAC 511 COUPLING OR EQUAL WITH A 7" CENTER RING LENGTH MINIMUM.

• W-24 ADDED A VALVE AND DRAIN ON THE BYPASS

• W-26 CLARIFIED NOTE ABOUT DRILLING 2" HOLE IN DOOR. ONLY IF VAULT HAS METER

• W-30 ADDED NOTE ABOUT A SPRAY UNDERCOAT TO THE GROUT PACK

**MARCH 2019**  
 • W-01 (NOTE 1) ADDED TO USE MOST CURRENT VERSION OF STANDARDS.  
 • W-01 (NOTE 13) ADDED TO PRETEST VALVES PRIOR TO INSTALLATION.  
 • W-13 ADDED MAXIMUM DRINK PIPE LENGTH OF 20 FEET.  
 • W-16 ADDED MULTIPLIER FOR PVC PIPE. ADDED THAT SET-SCREW RESTRAINTS AND TYLER TUFTRIP RESTRAINTS ARE NOT ALLOWED.  
 • W-25 ADDED MAXIMUM DRINK PIPE LENGTH OF 20 FEET.  
 • W-30 (NOTE 23) ADDED COEFFICIENT OF FRICTION REQUIREMENT.  
 • W-31 REMOVED TRACER WIRE IN VALVE BOXES.

**JULY 2019**  
 • W-12 (NOTE 13) ADDED MAXIMUM GAUGE SCALE REQUIREMENT.  
 • W-29 CLARIFIED MAXIMUM 6" VERTICAL ADJUSTMENT.  
 • W-30 (NOTE 23) UPDATED LID/FRAME MODEL NUMBERS.  
 • W-30 (NOTE 29) ADDED NEW NOTE ABOUT DISTRICT LOANED EQUIPMENT.

**JANUARY 2020**  
 • W-02, W-14, W-18, W-21, W-31 REVISED TRACER WIRE CONFIGURATION.  
 • W-04 REVISED PRECAST BLOCK CALLOUT LISTING AVAILABLE SIZES.  
 • W-12 REMOVED TRACER WIRE FROM VALVE BOX.  
 • W-18 UPDATED METER SETTER MODEL NUMBERS.  
 • W-23 CHANGED HILLHOLDER WALLS FROM ROCKS TO PRECAST BLOCK.  
 • W-26 ADDED GAS SHOCK OPTION FOR HATCH.  
 • W-29 NOW GRAPHICALLY SHOWS LID ADJUSTMENT RISERS.



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