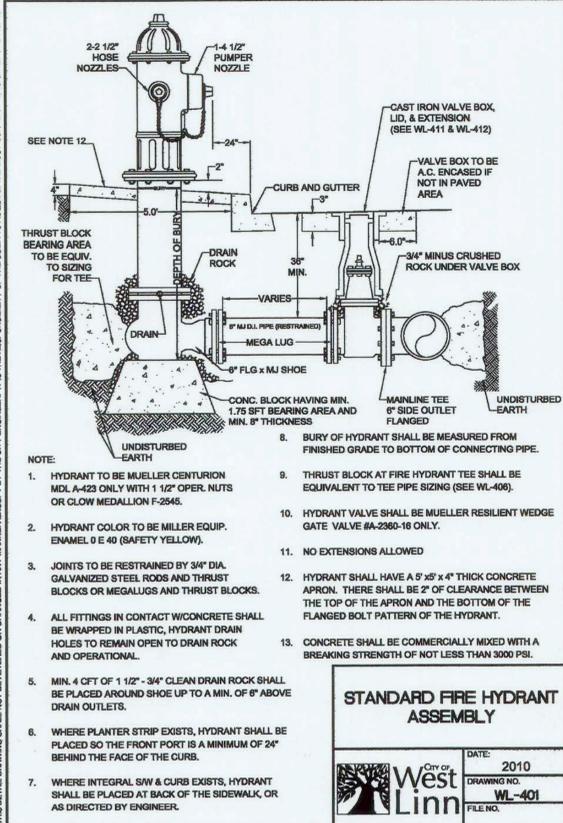


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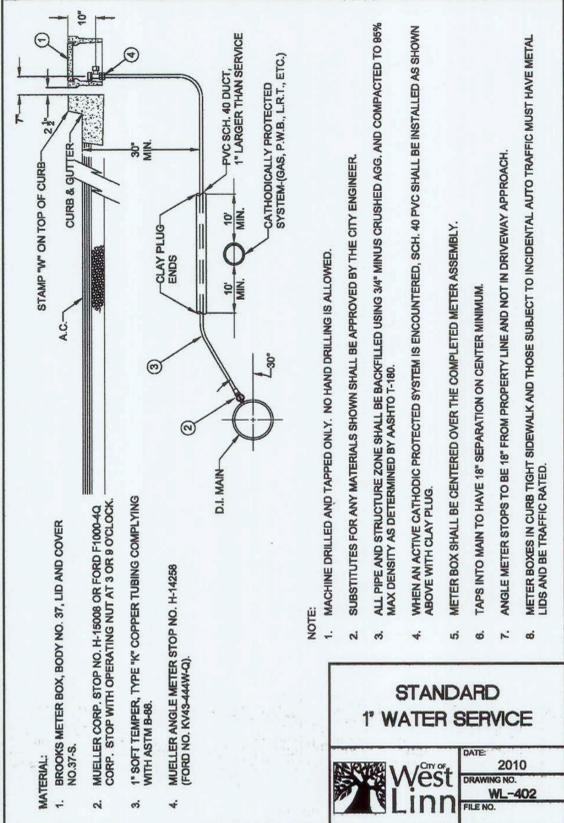


- NOTE:**
- HYDRANT TO BE MUELLER CENTURION MDL A-423 ONLY WITH 1 1/2\"/>
  - HYDRANT COLOR TO BE MILLER EQUIP. ENAMEL 0 E 40 (SAFETY YELLOW).
  - JOINTS TO BE RESTRAINED BY 3/4\"/>
  - ALL FITTINGS IN CONTACT WITH CONCRETE SHALL BE WRAPPED IN PLASTIC. HYDRANT DRAIN HOLES TO REMAIN OPEN TO DRAIN ROCK AND OPERATIONAL.
  - MIN. 4\"/>
  - WHERE PLANTER STRIP EXISTS, HYDRANT SHALL BE PLACED SO THE FRONT PORT IS A MINIMUM OF 24\"/>
  - WHERE INTEGRAL SW & CURB EXISTS, HYDRANT SHALL BE PLACED AT BACK OF THE SIDEWALK, OR AS DIRECTED BY ENGINEER.

**STANDARD FIRE HYDRANT ASSEMBLY**

DATE: 2010  
DRAWING NO. WL-401  
FILE NO.

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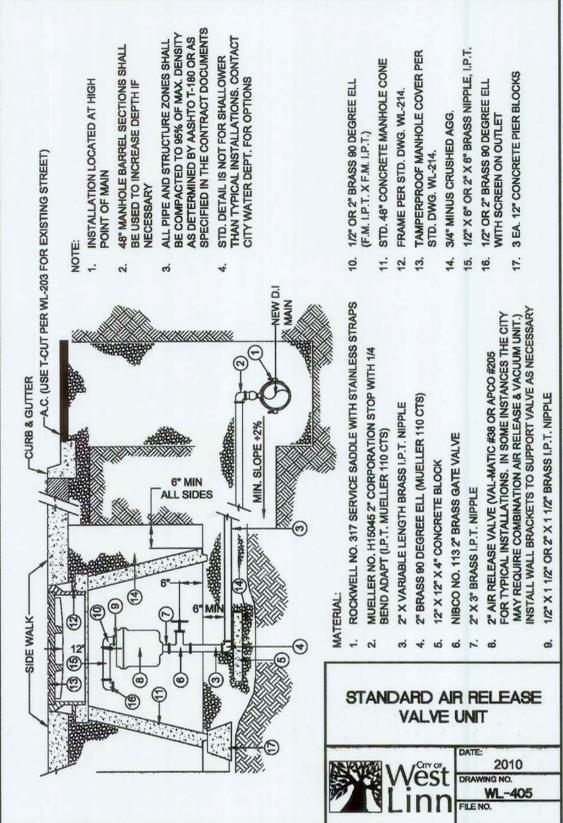


- MATERIAL:**
- BROOKS METER BOX, BODY NO. 37, LID AND COVER NO. 37-S.
  - MUELLER CORP. STOP NO. H-1608S OR FORD F-100-40. CORR. STOP WITH OPERATING NUT AT 3 OR 4 O'CLOCK.
  - 1\"/>
  - MUELLER ANGLE METER STOP NO. H-16258 (FORD NO. KV43-44MAQ).
- NOTE:**
- MACHINE DRILLED AND TAPPED ONLY. NO HAND DRILLING IS ALLOWED.
  - SUBSTITUTES FOR ANY MATERIALS SHOWN SHALL BE APPROVED BY THE CITY ENGINEER.
  - ALL PIPE AND STRUCTURE ZONE SHALL BE BACKFILLED USING 3/4\"/>
  - WHEN AN ACTIVE CATHODIC PROTECTED SYSTEM IS ENCOUNTERED, SCH. 40 PVC SHALL BE INSTALLED AS SHOWN ABOVE WITH CLAY PLUS.
  - METER BOX SHALL BE CENTERED OVER THE COMPLETED METER ASSEMBLY.
  - TAPS INTO MAIN TO HAVE 18\"/>
  - ANGLE METER STOPS TO BE 18\"/>
  - METER BOXES IN CURBS TIGHT SIDEWALK AND THOSE SUBJECT TO INCIDENTAL AUTO TRAFFIC MUST HAVE METAL LIDS AND BE TRAFFIC RATED.

**STANDARD 1\"/>**

DATE: 2010  
DRAWING NO. WL-402  
FILE NO.

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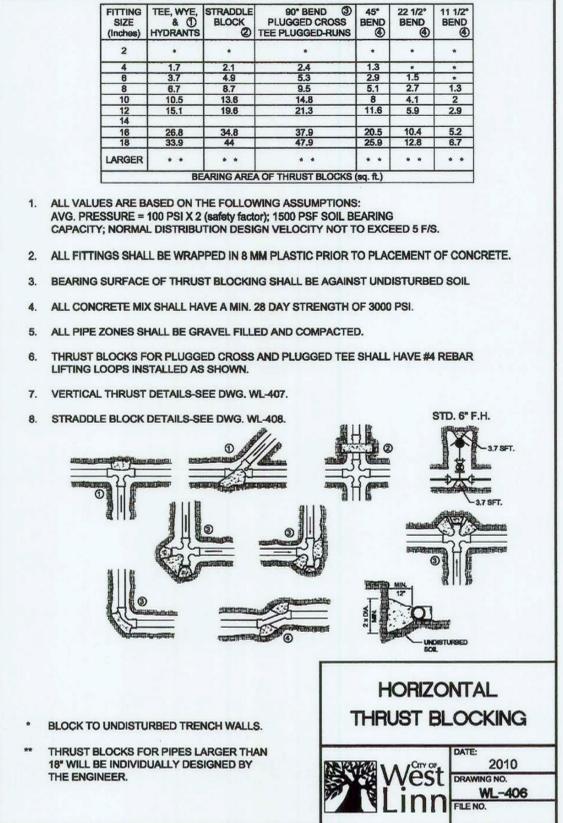


- NOTE:**
- INSTALLATION LOCATED AT HIGH POINT OF MAIN.
  - 48\"/>
  - ALL PIPE AND STRUCTURE ZONES SHALL BE COMPACTED TO 85% OF MAX. DENSITY AS DETERMINED BY AASHTO T-180 OR AS SPECIFIED IN THE CONTRACT DOCUMENTS.
  - STD. DETAIL IS NOT FOR SHALLOWER THAN TYPICAL INSTALLATIONS. CONTACT CITY WATER DEPT. FOR OPTIONS.
- MATERIAL:**
- ROCKWELL NO. 317 SERVICE SADDLE WITH STAINLESS STRAPS (F.M. I.P.T. X F.M. I.P.T.).
  - MUELLER NO. H1546S 2\"/>
  - 2\"/>
  - 2\"/>
  - 12\"/>
  - NIBCO NO. 113 2\"/>
  - 2\"/>
  - 1/2\"/>

**STANDARD AIR RELEASE VALVE UNIT**

DATE: 2010  
DRAWING NO. WL-405  
FILE NO.

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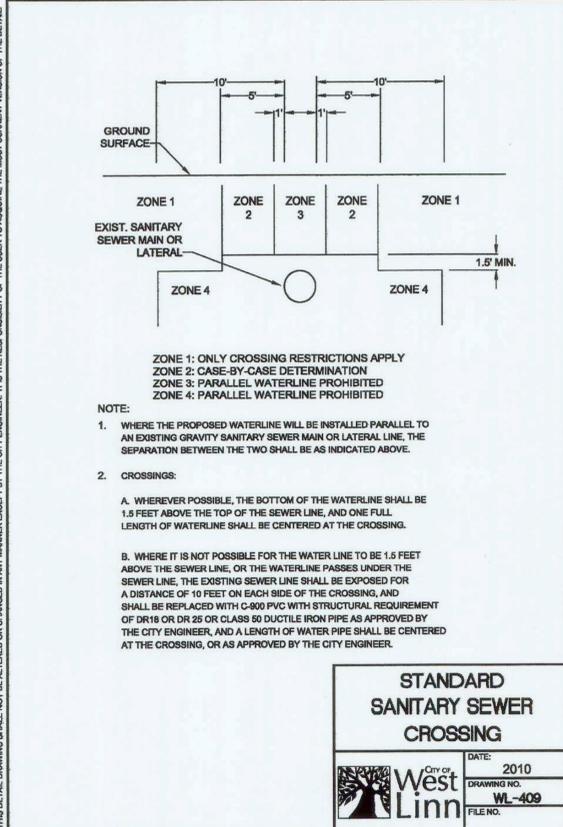


- NOTE:**
- ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS: AVG. PRESSURE = 100 PSI X 2 (safety factor); 1500 PSF SOIL BEARING CAPACITY; NORMAL DISTRIBUTION DESIGN VELOCITY NOT TO EXCEED 5 F/S.
  - ALL FITTINGS SHALL BE WRAPPED IN 8 MM PLASTIC PRIOR TO PLACEMENT OF CONCRETE.
  - BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
  - ALL CONCRETE MIX SHALL HAVE A MIN. 28 DAY STRENGTH OF 3000 PSI.
  - ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
  - THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
  - VERTICAL THRUST DETAILS-SEE DWG. WL-407.
  - STRADDLE BLOCK DETAILS-SEE DWG. WL-408.
- \* BLOCK TO UNDISTURBED TRENCH WALLS.  
\*\* THRUST BLOCKS FOR PIPES LARGER THAN 18\"/>

**HORIZONTAL THRUST BLOCKING**

DATE: 2010  
DRAWING NO. WL-406  
FILE NO.

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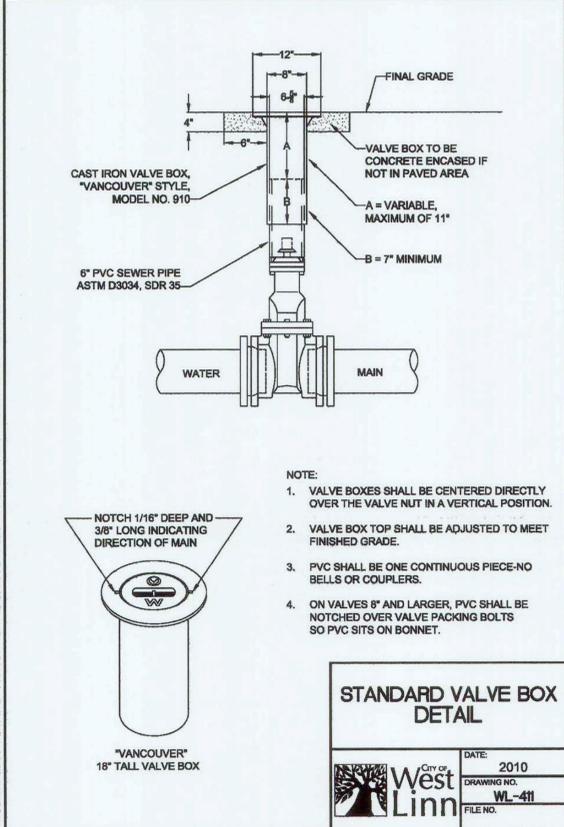


- NOTE:**
- WHERE THE PROPOSED WATERLINE WILL BE INSTALLED PARALLEL TO AN EXISTING GRAVITY SANITARY SEWER MAIN OR LATERAL LINE, THE SEPARATION BETWEEN THE TWO SHALL BE AS INDICATED ABOVE.
  - CROSSINGS:
    - WHEREVER POSSIBLE, THE BOTTOM OF THE WATERLINE SHALL BE 1.5 FEET ABOVE THE TOP OF THE SEWER LINE, AND ONE FULL LENGTH OF WATERLINE SHALL BE CENTERED AT THE CROSSING.
    - WHERE IT IS NOT POSSIBLE FOR THE WATER LINE TO BE 1.5 FEET ABOVE THE SEWER LINE, OR THE WATERLINE PASSES UNDER THE SEWER LINE, THE EXISTING SEWER LINE SHALL BE EXPOSED FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE CROSSING, AND SHALL BE REPLACED WITH C-800 PVC WITH STRUCTURAL REQUIREMENT OF DR18 OR DR 25 OR CLASS 50 DUCTILE IRON PIPE AS APPROVED BY THE CITY ENGINEER, AND A LENGTH OF WATER PIPE SHALL BE CENTERED AT THE CROSSING, OR AS APPROVED BY THE CITY ENGINEER.

**STANDARD SANITARY SEWER CROSSING**

DATE: 2010  
DRAWING NO. WL-409  
FILE NO.

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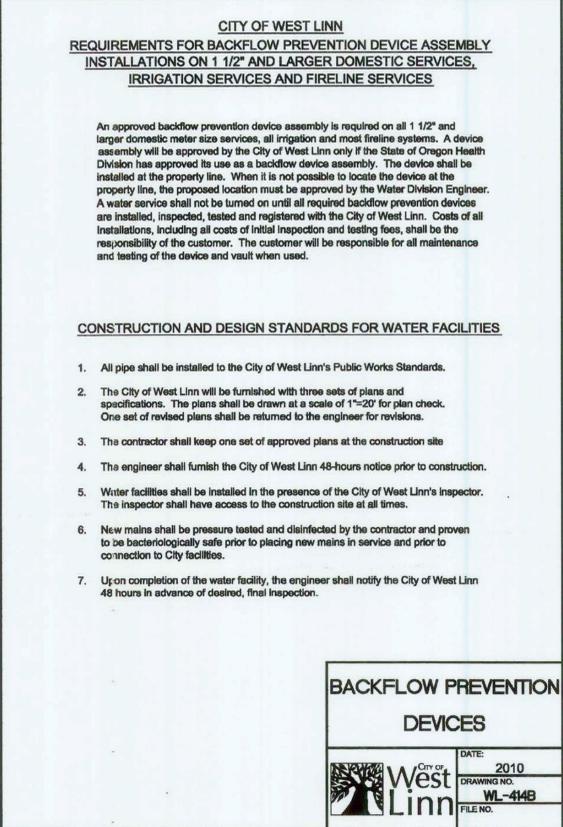


- NOTE:**
- VALVE BOXES SHALL BE CENTERED DIRECTLY OVER THE VALVE NUT IN A VERTICAL POSITION.
  - VALVE BOX TOP SHALL BE ADJUSTED TO MEET FINISHED GRADE.
  - PVC SHALL BE ONE CONTINUOUS PIECE-NO BELLS OR COUPLERS.
  - ON VALVES 8\"/>

**STANDARD VALVE BOX DETAIL**

DATE: 2010  
DRAWING NO. WL-411  
FILE NO.

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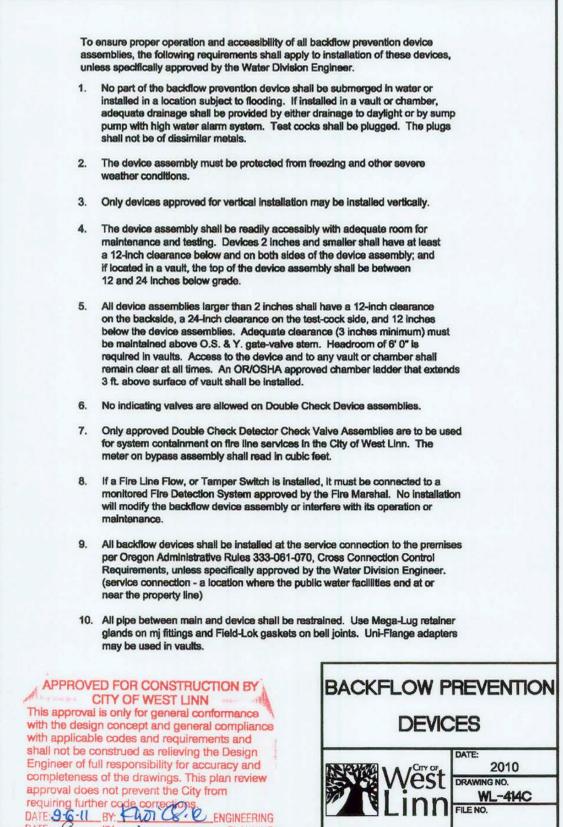
An approved backflow prevention device assembly is required on all 1 1/2\"/>

- CONSTRUCTION AND DESIGN STANDARDS FOR WATER FACILITIES**
- All pipe shall be installed to the City of West Linn's Public Works Standards.
  - The City of West Linn will be furnished with three sets of plans and specifications. The plans shall be drawn at a scale of 1\"/>
  - The contractor shall keep one set of approved plans at the construction site.
  - The engineer shall furnish the City of West Linn 48-hours notice prior to construction.
  - Water facilities shall be installed in the presence of the City of West Linn's inspector. The inspector shall have access to the construction site at all times.
  - New mains shall be pressure tested and disinfected by the contractor and proven to be bacteriologically safe prior to placing new mains in service and prior to connection to City facilities.
  - Upon completion of the water facility, the engineer shall notify the City of West Linn 48 hours in advance of desired, final inspection.

**BACKFLOW PREVENTION DEVICES**

DATE: 2010  
DRAWING NO. WL-414B  
FILE NO.

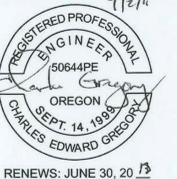
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- To ensure proper operation and accessibility of all backflow prevention device assemblies, the following requirements shall apply to installation of these devices, unless specifically approved by the Water Division Engineer.
- No part of the backflow prevention device shall be submerged in water or installed in a location subject to flooding. If installed in a vault or chamber, adequate drainage shall be provided by either drainage to daylight or by sump pump with high water alarm system. Test cocks shall be plugged. The plugs shall not be of dissimilar metals.
  - The device assembly must be protected from freezing and other severe weather conditions.
  - Only devices approved for vertical installation may be installed vertically.
  - The device assembly shall be readily accessible with adequate room for maintenance and testing. Devices 2 inches and smaller shall have at least a 12-inch clearance below and on both sides of the device assembly; and if located in a vault, the top of the device assembly shall be between 12 and 24 inches below grade.
  - All device assemblies larger than 2 inches shall have a 12-inch clearance on the backside, a 24-inch clearance on the test-cock side, and 12 inches below the device assemblies. Adequate clearance (3 inches minimum) must be maintained above O.S. & Y. gate-valve stem. Headroom of 6' 0\"/>
  - No indicating valves are allowed on Double Check Device assemblies.
  - Only approved Double Check Detector Check Valve Assemblies are to be used for system containment on fire line services in the City of West Linn. The meter on bypass assembly shall read in cubic feet.
  - If a Fire Line Flow, or Tamper Switch is installed, it must be connected to a monitored Fire Detection System approved by the Fire Marshal. No installation will modify the backflow device assembly or interfere with its operation or maintenance.
  - All backflow devices shall be installed at the service connection to the premises per Oregon Administrative Rules 333-081-070, Cross Connection Control Requirements, unless specifically approved by the Water Division Engineer. (service connection - a location where the public water facilities end and/or near the property line)
  - All pipe between main and device shall be restrained. Use Mega-Lug retainer glands on m/j fittings and Field-Lok gaskets on bell joints. Uni-Flange adapters may be used in vaults.

**BACKFLOW PREVENTION DEVICES**

DATE: 2010  
DRAWING NO. WL-414C  
FILE NO.



**Teresa's Vineyard**  
Public Improvements  
Sub-07-02/NDW-07-02/VAR-07-01  
West Linn, Oregon

REV	DATE	SUMMARY
1	8/5/11	Client/Agency Comments

Project #: 9130 Drawn: CL

CITY OF WEST LINN  
STANDARD PLANS  
AND DETAILS  
WATER

Date: April 15, 2011

**C6.4**