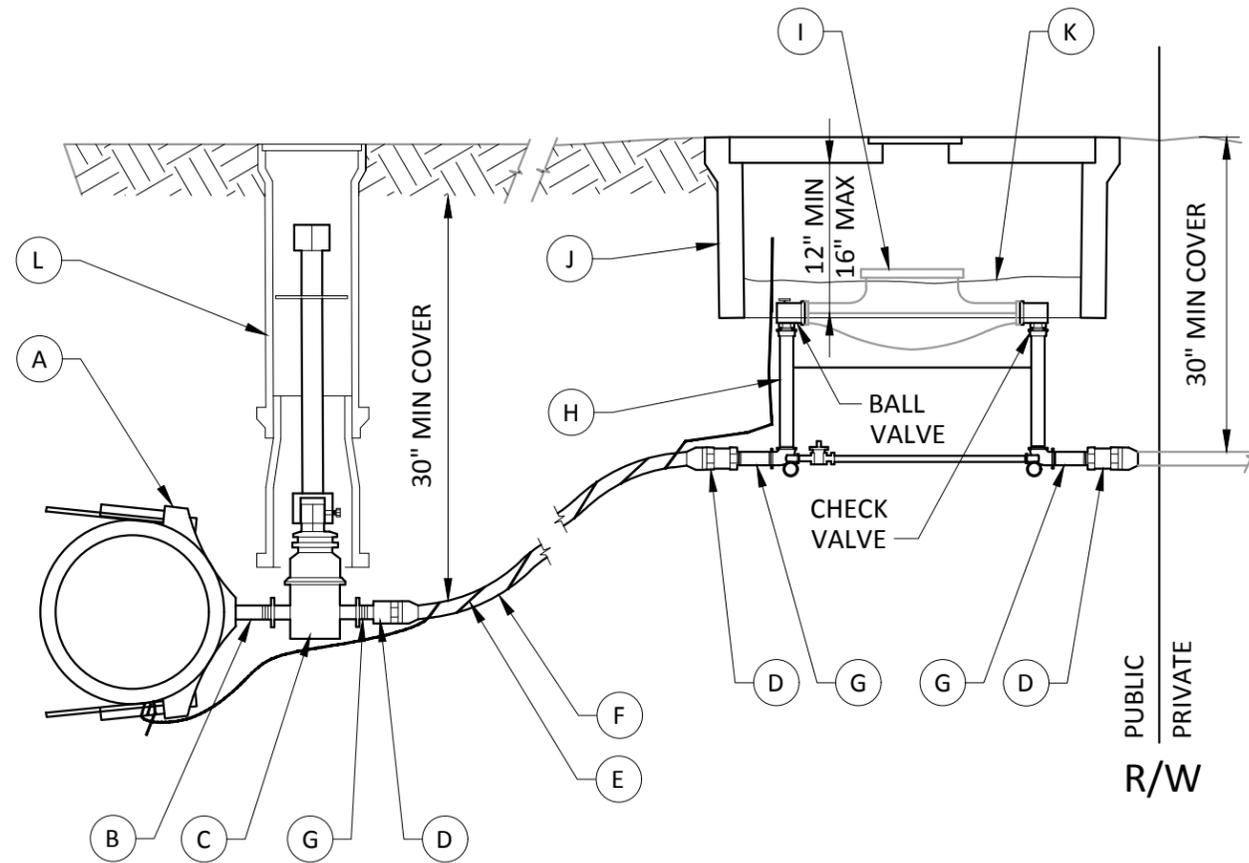




## NOTES

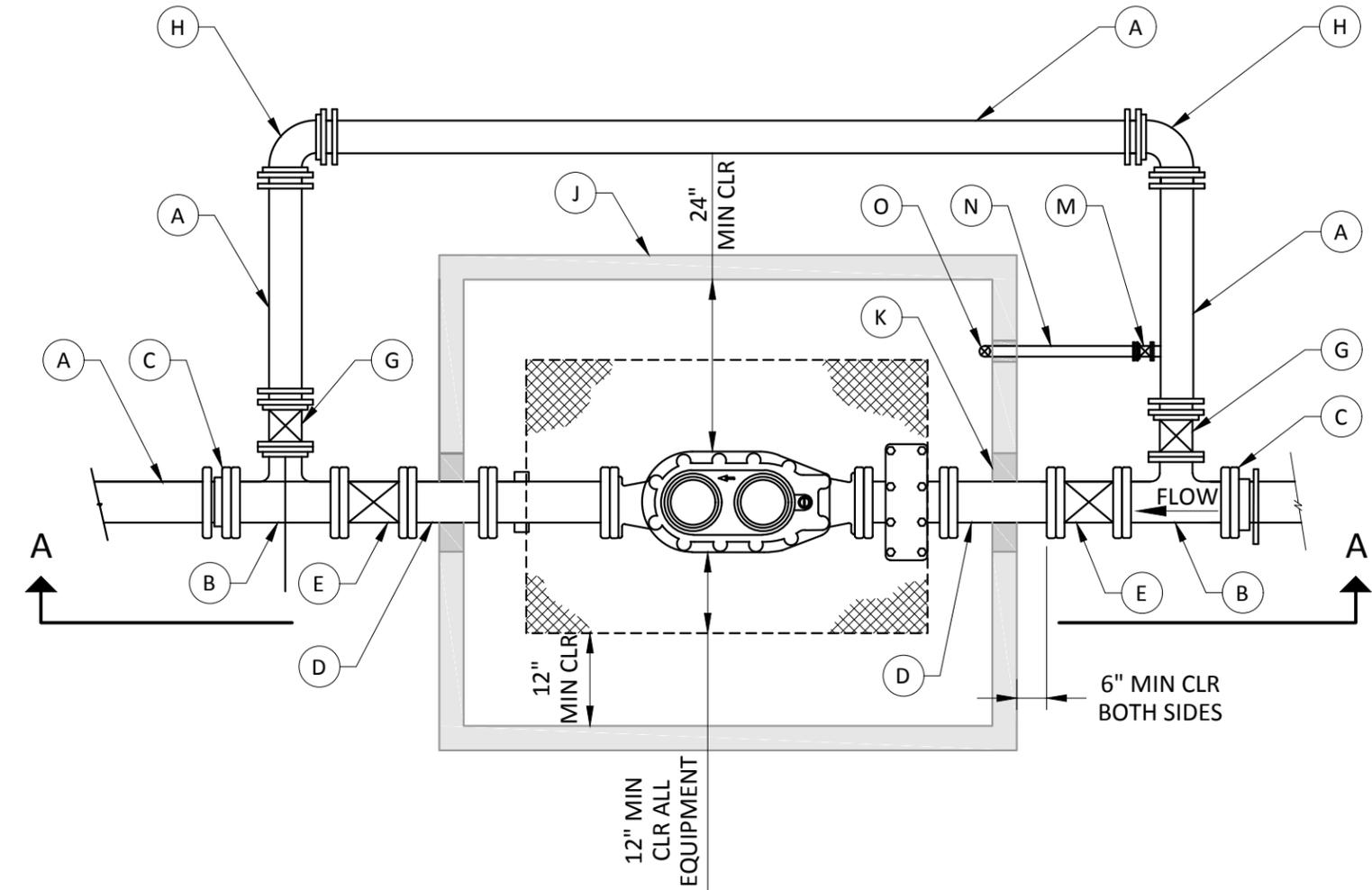
- A. ROMAC, FORD OR MUELLER DOUBLE STRAP SERVICE SADDLE WITH I.P. THREAD TO BE USED ON ALL MAINS 4" DIA AND LARGER. ALL NEW TAPS ON EXISTING WATER MAINS SHALL BE DONE BY THE CITY OF EVERETT UTILITIES DEPARTMENT AT THE DEVELOPERS OR CONTRACTORS EXPENSE.
- B. 2" BRASS NIPPLE.
- C. HEAVY DUTY 2" GATE VALVE WITH RESILIENT SEAT AND 2" OPERATING NUT. GATE VALVES SHALL BE "WATEROUS" SERIES 2500 OR CITY APPROVED EQUAL.
- D. MUELLER H-15451N OR H-15428N OR APPROVED EQUAL. USE APPROPRIATE STAINLESS STEEL INSERT STIFFENER WITH POLYETHYLENE TUBING. PHYSICAL BENDS IN POLY PIPE ARE NOT ALLOWED, USE BRASS ELBOWS.
- E. RESIDENTIAL SERVICE
  - 1. PROVIDE 2" POLYETHYLENE TUBING MEETING THE FOLLOWING REQUIREMENTS:
    - a. AWWA C901.
    - b. ASTM D2737, SIDR 9 (pe3608/4710).
    - c. ASTM 3350 - PE3608 OR PE4710.
  - 2. PROVIDE A #10 AWG, SINGLE STRAND COPPER WIRE WITH BLUE TYPE UF OR USE COATING SUITABLE FOR DIRECT BURY.
    - a. WRAP WIRE AROUND TUBING, ONE WRAP PER FT, ITS ENTIRE LENGTH.
    - b. SECURE ONE END AROUND THE SADDLE BOLT BETWEEN TWO NUTS AND EXPOSE A MINIMUM OF 18" OF THE OTHER END IN THE METER BOX.
- F. NON-RESIDENTIAL SERVICE
  - 1. PROVIDE 2" TYPE K COPPER TUBING MEETING ASTM B88, ANSI/NSF 61 & APPLICABLE IAPMO STANDARDS.
- G. BRASS ELBOWS & NIPPLES AS NEEDED.
- H. METER SETTERS SHALL BE "FORD" 70 SERIES COPPER SETTER VBH77-12B-11-77 WITH HORIZONTAL INLET AND OUTLET OR APPROVED EQUAL.
- I. METER SHALL BE SUPPLIED AND INSTALLED BY CITY UTILITIES DEPARTMENT AT THE DEVELOPERS OR CONTRACTORS EXPENSE.
- J. PROVIDE METER BOX BODY MANUFACTURED BY "RAVEN PRODUCTS, MODEL RMB-17-30-12", MOUSEHOLES CUT, WITH AASTHO H-20 RATED DUCTILE IRON FLUSH SOLID COVER LID OR EQUAL.
- K. PLACE SAWDUST IN METER BOX AROUND PIPE TO TOP OF METER TO PREVENT FREEZING.
- L. ADJUSTABLE VALVE BOX AND EXTENSION SEE STD 505.



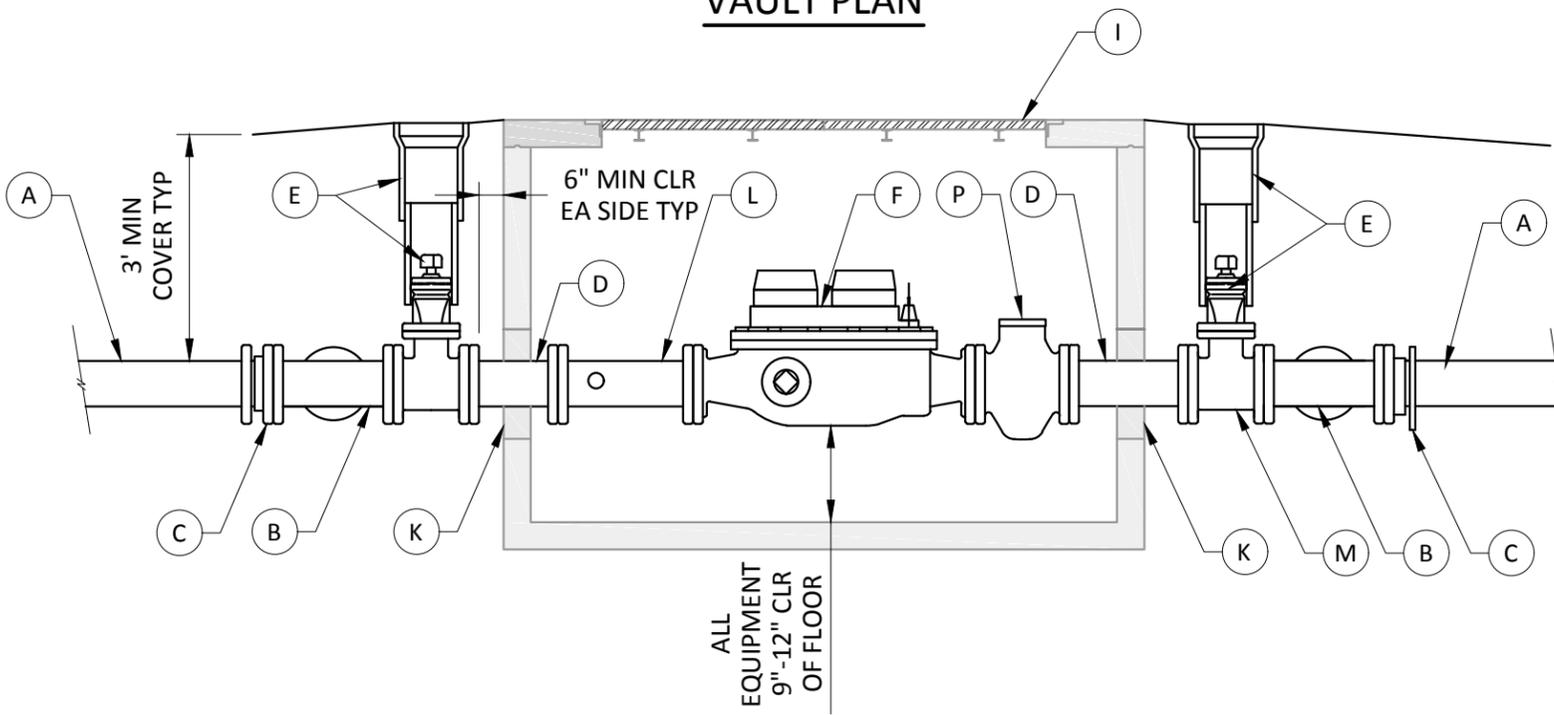
**2" METERED WATER SERVICE**

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>METERED WATER SERVICES</b> <b>2"</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>502</b>



**VAULT PLAN**



**SECTION A-A**

**NOTES**

1. CONTRACTOR SHALL INSTALL VAULT, BYPASS, AND STRAIGHT PIPE THRU VAULT. CITY UTILITIES DEPARTMENT SHALL PROVIDE AND INSTALL ALL FITTINGS AND APPURTENANCES WITHIN THE VAULT INCLUDING METER, VALVES AND SPOOLS AT THE DEVELOPERS OR CONTRACTORS EXPENSE.
2. CITY OF EVERETT WILL SUPPLY AND INSTALL METER AND NOTES "L", IF NEEDED, & "P".
3. PIPING AND VALVES SHALL BE SUPPORTED BY STEEL STANDS. THE NUMBER OF AND PLACEMENT OF SUPPORT STANDS TO BE DETERMINED BY CITY OF EVERETT UTILITIES DEPARTMENT ACCORDING TO SIZE OF PIPE AND METER.
4. VALVES SHALL HAVE A MINIMUM CLEARANCE OF 3" BETWEEN OPERATING NUT AND TOP OF VAULT.
5. VAULTS SHALL NOT BE INSTALLED IN AREAS WITH VEHICULAR TRAFFIC.
6. GATE VALVES SHALL BE "WATEROUS" SERIES 2500 OR CITY APPROVED EQUAL.
7. INSTALLATION OF COMPOUND METERS LARGER THAN 8" SHALL BE APPROVED BY THE CITY ON AN INDIVIDUAL BASIS.

**PARTS**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>A. DUCTILE IRON PIPE.</li> <li>B. TEE (MJ W/MEGA LUGS x FL).</li> <li>C. FLANGE COUPLING ADAPTOR (FLxMJ).</li> <li>D. SPOOL (FLxFL).</li> <li>E. GATE VALVE CL 125 (FLxFL) W/2" OPERATING NUT &amp; ADJUSTABLE VALVE BOX WITH EXTENSIONS. SEE STD 505.</li> <li>F. METER ASSEMBLY SEE NOTE 2.</li> <li>G. GATE VALVE (FLxMJ W/MEGA LUG) WITH ADJUSTABLE VALVE BOX AND EXTENSION SEE STD 505.</li> <li>H. 90° ELL (MJ W/MEGA LUGS).</li> <li>I. UTILITY VAULT CO LID 332P WITH TRAFFIC LOADED LOCKING STEEL COVERS OR CITY APPROVED EQUAL. PROVIDE NON-SLIP COVER IF VAULT IS LOCATED IN PEDESTRIAN WALKWAY.</li> </ul> | <ul style="list-style-type: none"> <li>J. UTILITY VAULT CO PRECAST VAULT OR CITY APPROVED EQUAL.</li> <li>K. NON-SHRINK GROUT.</li> <li>L. FLANGE x FLANGE SPOOL WITH TWO 2" TEST OUTLETS &amp; BRASS PLUGS. LENGTH OF SPOOL TO BE 3 TIMES THE DIAMETER OF THE PIPE TO THE TEST PLUGS PLUS 5".</li> <li>M. 1" CORPORTION AND SERVICE SADDLE IN ACCORDANCE WITH COE STD DWG 502C, PARTS A &amp; B.</li> <li>N. 1" DRAIN LINE.</li> <li>O. 1" 90° BEND.</li> <li>P. STRAINER.</li> </ul> |
|---|--|

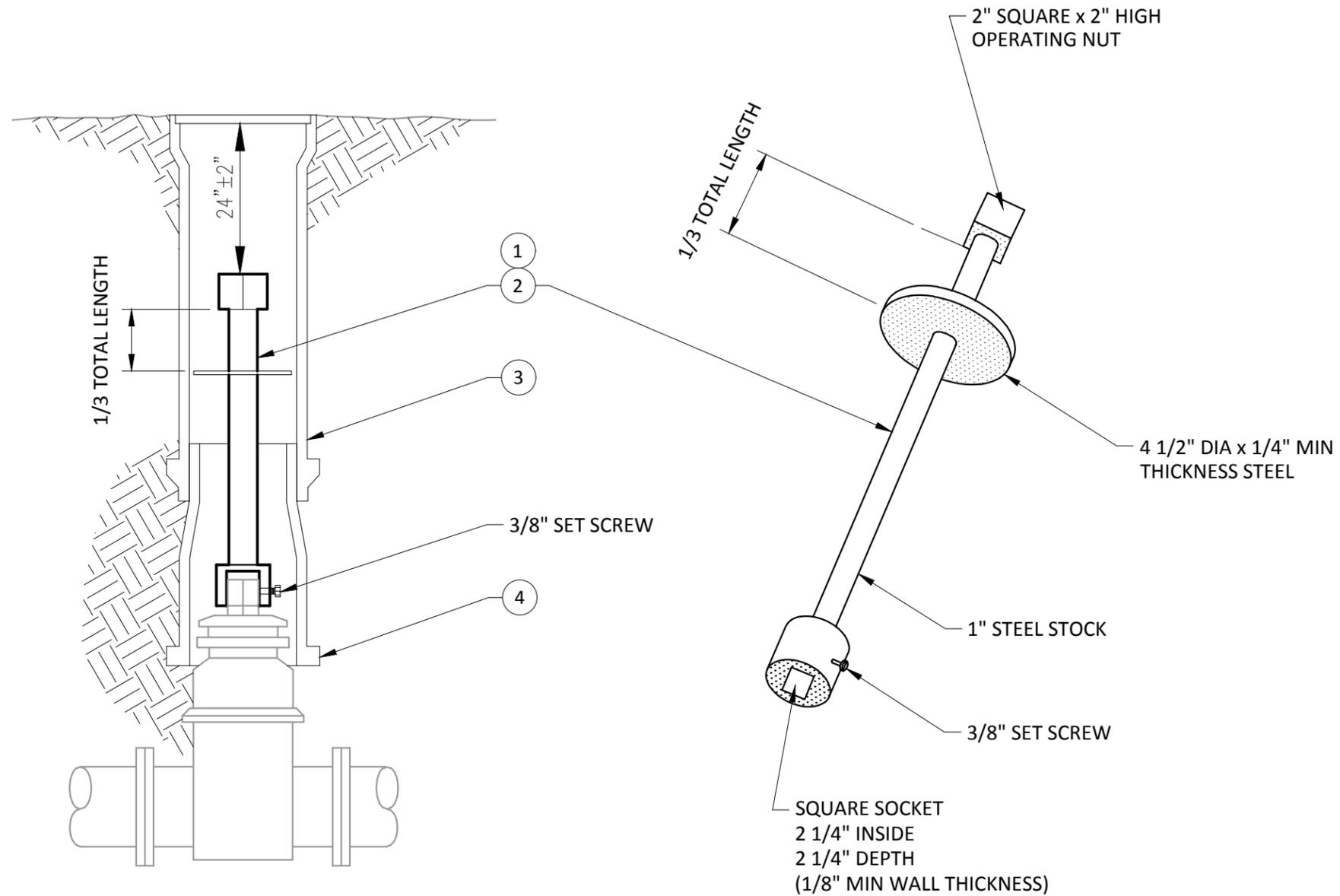
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD504.DWG  
 12/27/2016 7:57 AM

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
<b>COMPOUND METER</b> FOR 4", 6" & 8"			Current Rev Date <b>12/30/2016</b> <small>STANDARD DRAWING No.</small> <b>504</b>

DRAFT

## NOTES

1. VALVE OPERATING NUT EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN THREE (3) FEET BELOW FINISHED GRADE. EXTENSIONS ARE TO BE A MINIMUM OF ONE (1) FOOT LONG. ONLY ONE EXTENSION WILL BE ALLOWED PER VALVE.
2. ALL VALVE OPERATING NUT EXTENSIONS ARE TO BE MADE OF STEEL, SIZED AS NOTED, AND PAINTED WITH TWO (2) COATS OF METAL PAINT.
3. VALVE BOXES IN PAVED AREAS SHALL BE #940 STYLE CAST IRON, TWO PIECE UNITS, DESIGNED WITH LUGS ON COVER AND DEEP SKIRT. IN GRASS, NON-PAVED OR NON-TRAFFIC AREAS USE OF PLASTIC VALVE BOXES, WITH CAST IRON LID AS MANUFACTURED BY HANDLEY INDUSTRIES ARE ACCEPTABLE.
4. USE OF PLASTIC VALVE BOX EXTENSIONS, AS MANUFACTURED BY HANDLEY INDUSTRIES ARE ACCEPTABLE.



VALVE BOX AND EXTENSION

VALVE OPERATING NUT EXTENSION

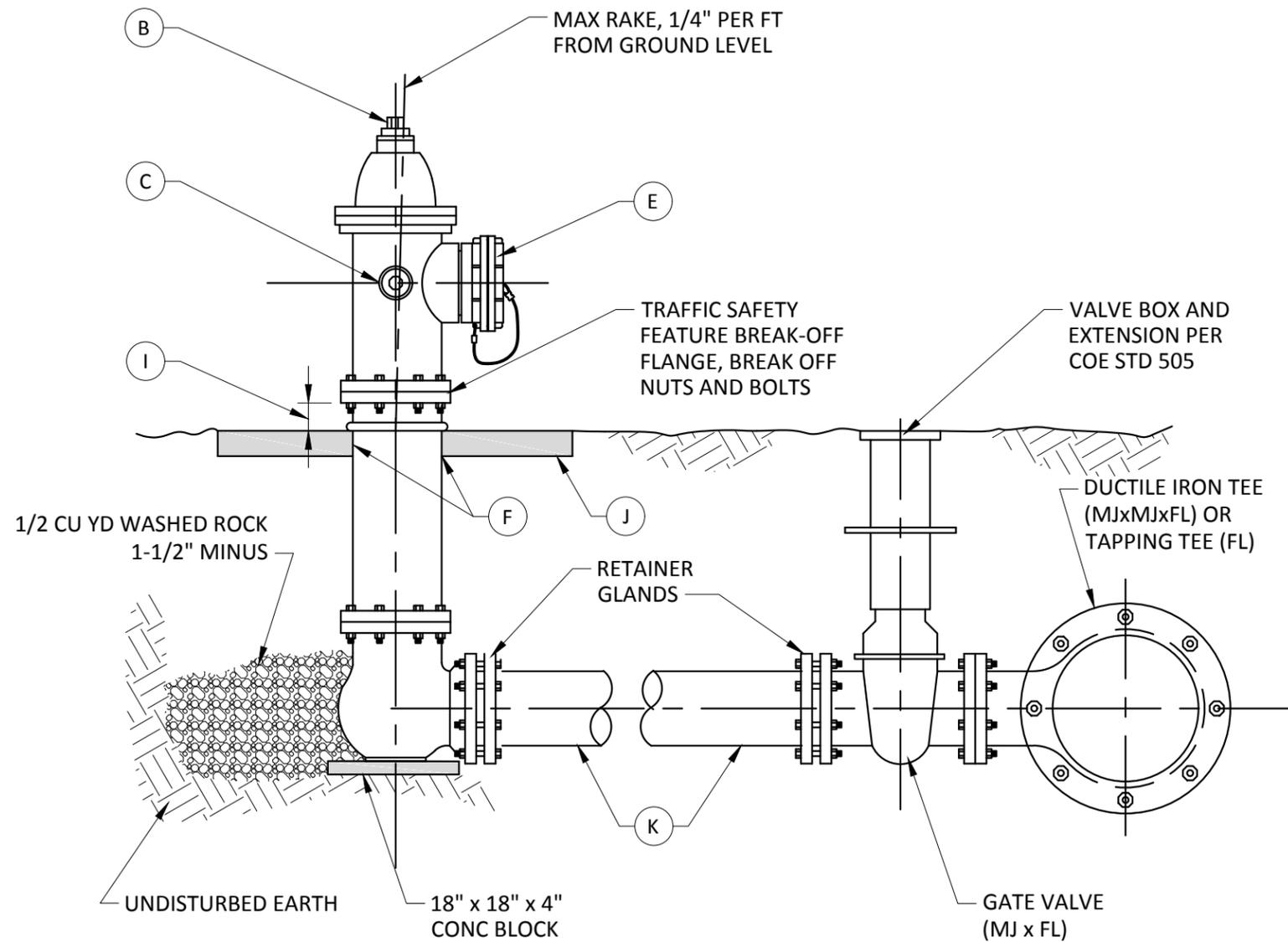
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD505.DWG  
 12/27/2016 8:02 AM

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>			
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>VALVE BOX AND EXTENSION</b>			Current Rev Date <b>12/30/2016</b>
			STANDARD DRAWING No. <b>505</b>

**DRAFT**

## PARTS

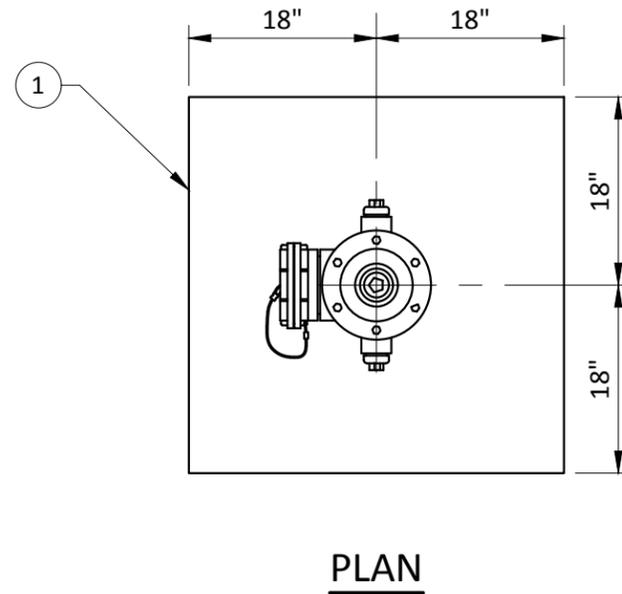
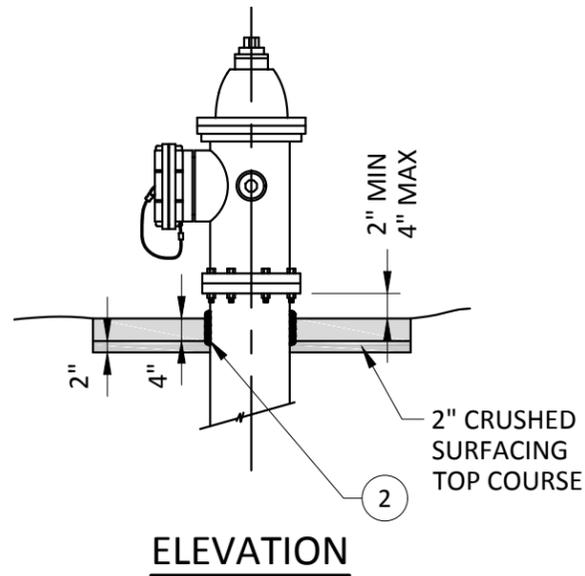
- A. HYDRANTS AND ALL MATERIALS SHALL CONFORM TO AWWA STANDARDS AND SHALL BE OF STANDARD MANUFACTURE (MUELLER SUPER CENTURION #250, WATEROUS PACER #WB67, OR CITY APPROVED EQUAL).
- B. 5-1/4" VALVE MINIMUM.
- C. 1-1/4" OPERATING NUT AND CAP NUT FOR 2-1/2" PORTS.
- D. NATIONAL STANDARD THREAD ON 2-1/2" PORTS.
- E. 5" STORZ FITTING WITH NATIONAL STANDARD THREAD ON THE 4-1/2" PORT.
- F. IF HYDRANT RISES THROUGH CONCRETE, USE EXPANSION STRIP AROUND HYDRANT BARREL, PER STD PLAN 509. IN ADDITION, INSTALLATION OF THE HYDRANT ON PRIVATE PROPERTY SHALL EQUAL OR EXCEED THE STANDARDS FOR INSTALLATION OF PUBLIC FIRE HYDRANTS IN THE CITY OF EVERETT.
- G. PROVIDE FOR VEHICULAR TRAFFIC PROTECTION WHEN NECESSARY PER STD. PLAN 508.
- H. STEAMER PORT TO BE FACING STREET OR ROADWAY FOR FIRE ENGINE ACCESS.
- I. BREAK-OFF FLANGE TO BE 2"-4" ABOVE GROUND LEVEL.
- J. INSTALL CONCRETE PAD AROUND HYDRANT IN UNPAVED, SOD AND ASPHALT AREAS PER STD. PLAN 508.
- K. HYDRANT CONNECTION PIPE TO BE DUCTILE IRON CLASS 52, ANY INTERMEDIATE JOINTS TO BE MJ WITH RETAINER GLANDS, OR FIELD LOCK GASKETS.
- L. FIRE HYDRANTS SHALL BE PAINTED WITH TWO COATS OF HIGH GLOSS CATERPILLAR YELLOW, LUXLITE #6100-516 OR "RUST-OLEUM" #7448 OR APPROVED EQUAL. THE PORT CAPS WILL BE PAINTED BLACK.
- M. PROVIDE FOR A MINIMUM OF 3' CLEAR ZONE AROUND HYDRANT.



T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD507.DWG  
 12/27/2016 8:30 AM

**DRAFT**

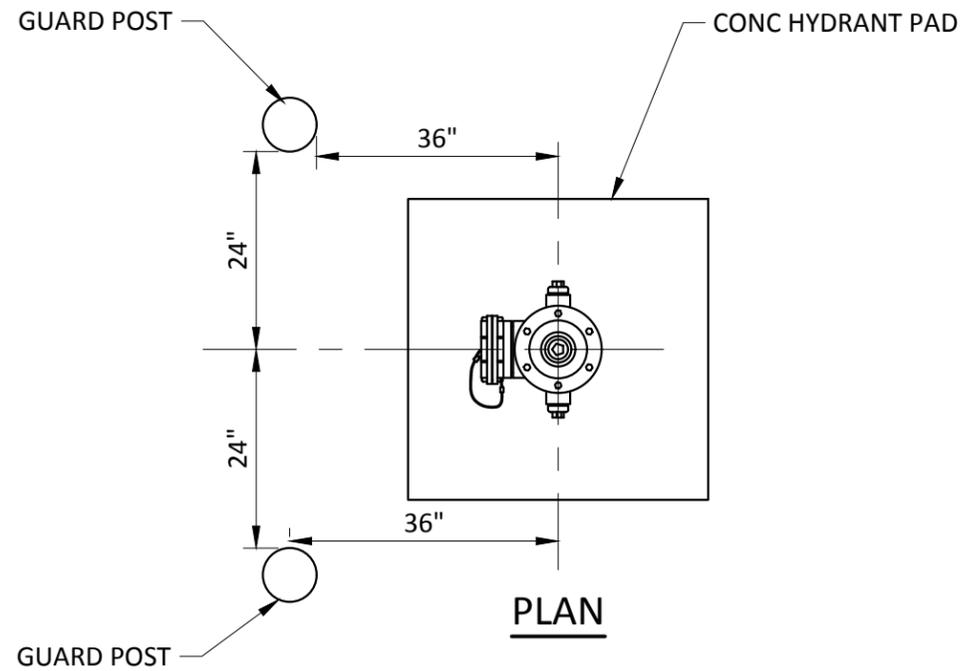
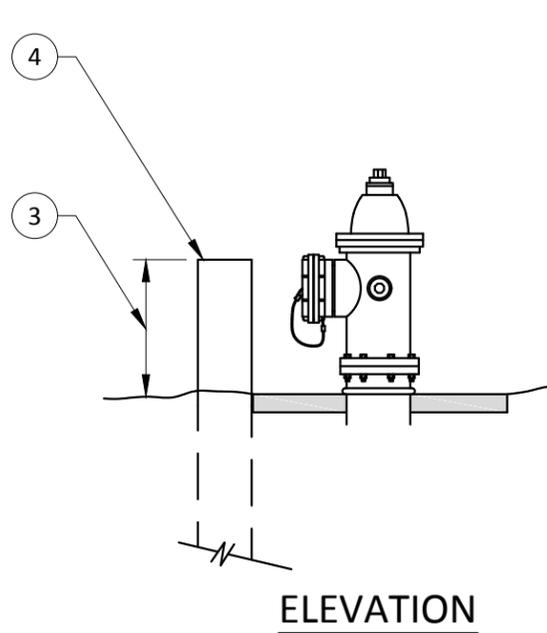
		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE			Current Rev Date 12/30/2016
FIRE HYDRANT INSTALLATION			STANDARD DRAWING No. 507



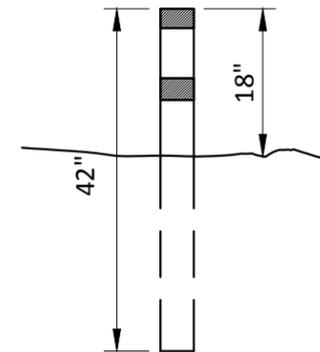
**FIRE HYDRANT CONCRETE PAD**  
(SEE NOTES 1 AND 2)

**NOTES**

1. CONCRETE SHALL BE CLASS 3000.
2. INSTALL 1/2"x4" EXPANSION STRIP AROUND HYDRANT.
3. GUARD POSTS SHALL BE 6' LONG, 9" IN DIAMETER PRECAST CONCRETE OR 6' LONG, 6" DIAM SCH 40, CONCRETE FILLED CLASS 52 STEEL PIPE. PAINTED WITH TWO COATS OF KELLY-MOORE LUXLITE Q.D. ALKYD GLOSS ENAMEL #6100-516 CAT YELLOW OR CITY APPROVED EQUAL.
4. TOP OF GUARD POST SHALL BE LEVEL WITH TOP OF PUMPER PORT.
5. VALVE MARKER POST SHALL BE 42" PORTABLE TRAFFIC DELINEATOR POST W/TWO REFLECTOR STRIPS. THEY SHALL BE FURNISHED NEW AND UNUSED AND BURIED 24" DEEP, TO LEAVE 18" EXPOSED AS A MARKER POST THE LETTER "V" AND THE DISTANCE TO THE VALVE SHALL BE STENCILED ON THE POST WITH 2" HIGH NUMERALS, WITH BLACK ENAMEL PAINT.
6. VALVE MARKER POSTS SHALL BE INSTALLED FOR ALL VALVES LOCATED IN UNIMPROVED OR UNPAVED AREAS. VALVE MARKER POSTS SHALL BE SET AS DIRECTED BY THE PUBLIC WORKS INSPECTOR IN A SAFE AND REASONABLY CONSPICUOUS LOCATION.
7. VALVE MARKER POSTS ARE NOT REQUIRED FOR AUXILIARY HYDRANT VALVES.



**FIRE HYDRANT GUARD POSTS**  
(SEE NOTES 3 AND 4)

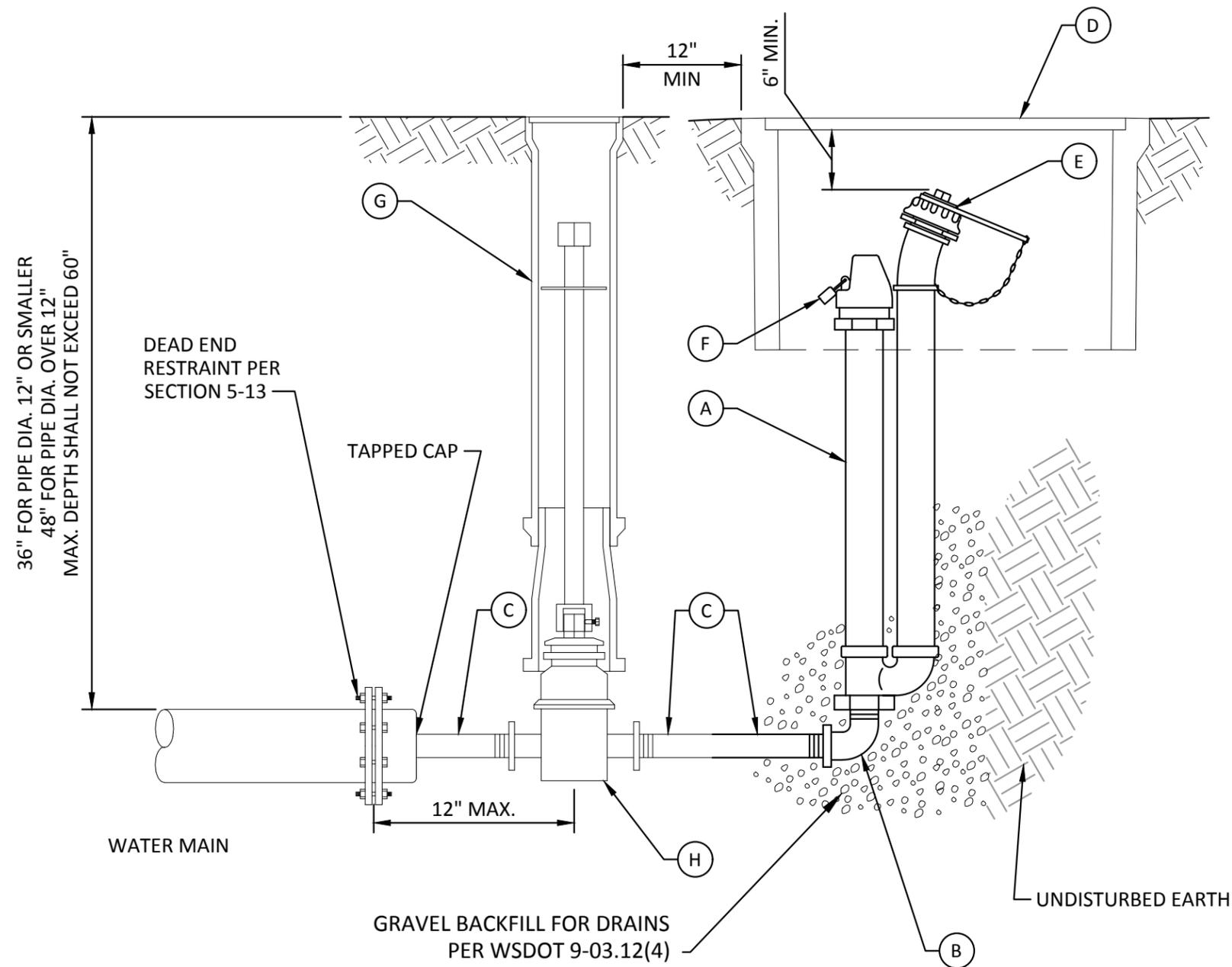


**VALVE MARKER POST**  
(SEE NOTES 5, 6 AND 7)

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD508.DWG  
 12/27/2016 8:30 AM

**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>FIRE HYDRANT CONC. PAD, GAURD POSTS &amp; VALVE MARKER</b>				STANDARD DRAWING No. <b>508</b>



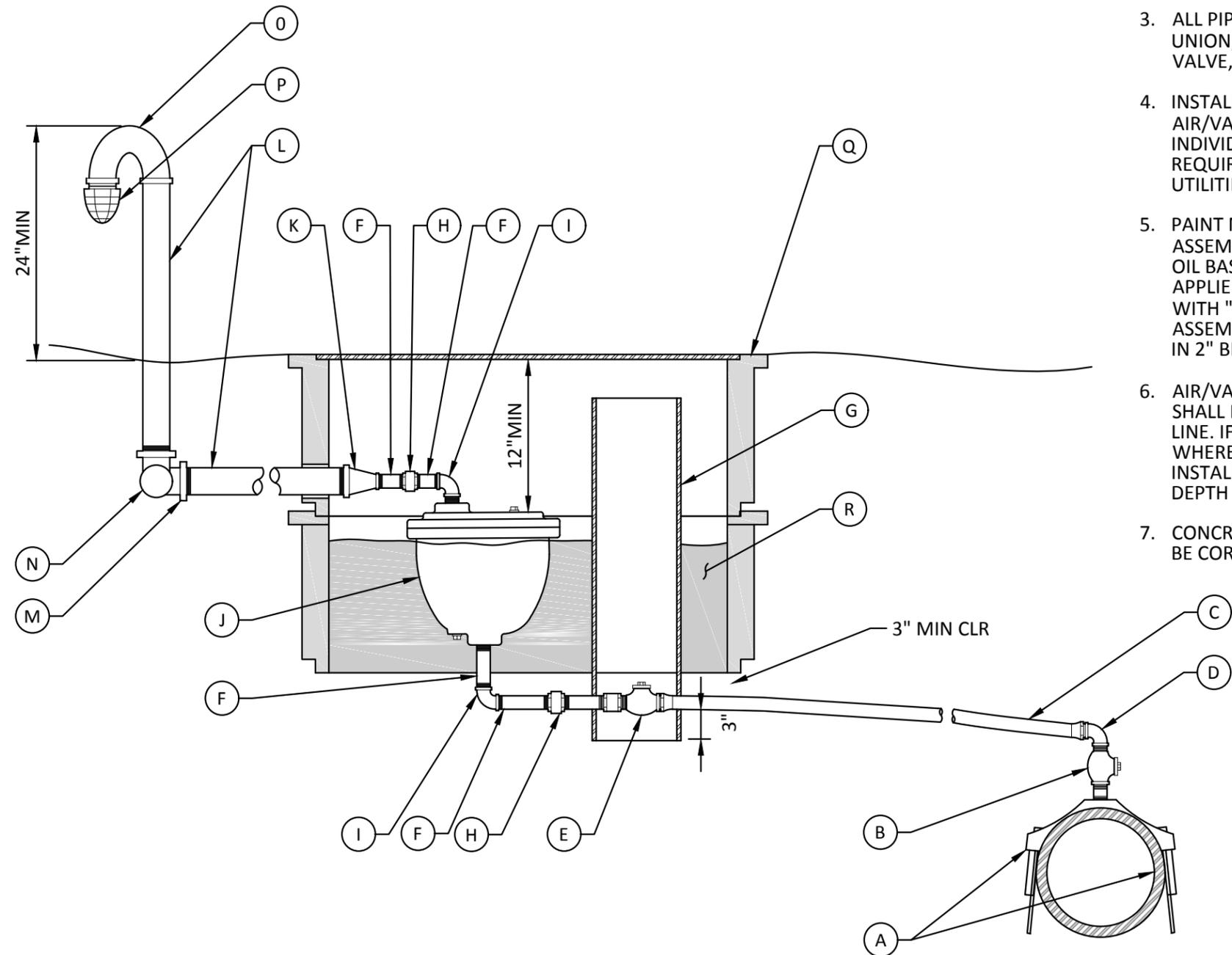
**PARTS:**

- A. GIL # 101GHS BLOW-OFF
- B. 2" BRASS STREET "ELL"
- C. 2" BRASS NIPPLE
- D. PROVIDE METER BOX BODY MANUFACTURED BY "RAVEN PRODUCTS, MODEL RMD-17-30-12", MOUSEHOLES CUT, WITH AASTHO H-20 RATED DUCTILE IRON FLUSH SOLID COVER LID OR EQUAL.
- E. 2" CAP NATIONAL STANDARD THREAD.
- F. LOCK TO BE SUPPLIED BY CITY OF EVERETT UTILITIES DEPARTMENT.
- G. VALVE BOX AND EXTENSION PER STD DWG 505
- H. HEAVY DUTY 2" GATE VALVE WITH RESILIENT SEAT. GATE VALVES SHALL BE "WATEROUS" SERIES 2500 OR CITY APPROVED EQUAL

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD511.DWG  
 12/27/2016 8:30 AM

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE			Current Rev Date 12/30/2016
BLOW-OFF ASSEMBLY			STANDARD DRAWING No. 511



**NOTES**

1. AIR-VAC UNIT AND BOX TO BE INSTALLED IN NON-TRAFFIC AREA.
2. USE MUELLER DOUBLE STRAP SERVICE CLAMP OR APPROVED EQUAL ON ALL MAINS LESS THAN 8" IN DIAMETER.
3. ALL PIPE FITTINGS BETWEEN MAIN AND UNION, AFTER AIR/VACUUM RELIEF VALVE, SHALL BE BRASS.
4. INSTALLATIONS FOR OTHER SIZE AIR/VACUUM RELIEF VALVES SHALL BE INDIVIDUALLY DESIGNED AND WILL REQUIRE APPROVAL BY THE CITY UTILITIES DEPARTMENT.
5. PAINT METER BOX LID AND RISER ASSEMBLY (2) COATS SAFETY YELLOW, OIL BASE ENAMEL- HAND BRUSH APPLIED. STENCIL RISER ASSEMBLY WITH "AV" AND SIZE OF AIR/VAC ASSEMBLY ON SIDE FACING ROADWAY IN 2" BLACK LETTERS.
6. AIR/VAC RELEASE VALVE ASSEMBLY SHALL BE INSTALLED AT HIGH POINT ON LINE. IF HIGH POINT FALLS IN LOCATION WHERE ASSEMBLY CANNOT BE INSTALLED, PROVIDE ADDITIONAL DEPTH TO CREATE NEW HIGH POINT.
7. CONCRETE VAULT PENETRATIONS SHALL BE CORE DRILLED AND GROUTED.

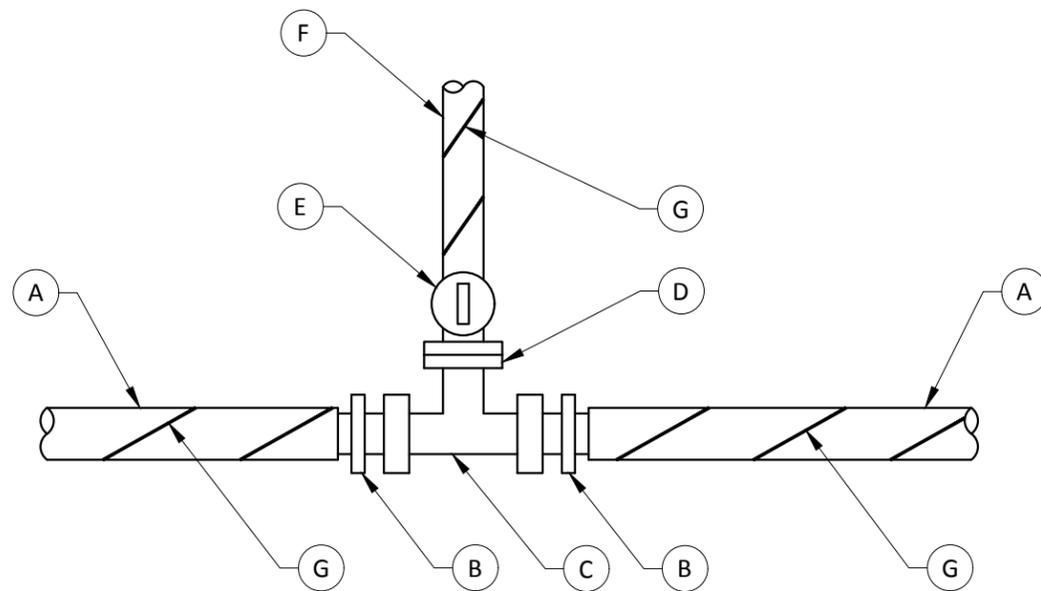
**PARTS**

- A. CL 52 DUCTILE IRON PIPE WITH ROMAC, FORD OR MUELLER SERVICE SADDLE.
- B. 1" FORD F600 SERIES CORPORATION STOP.
- C. 1" TYPE "K" COPPER TUBING.
- D. 1" FORD 602-44 ANGLE COUPLING.
- E. 1" FORD B21-444 CURB STOP.
- F. 1" BRASS NIPPLE.
- G. 6" PVC PIPE.
- H. 1" BRASS UNION.
- I. 1" BRASS 90° ELL.
- J. 1" COMBINATION AIR AND VACUUM RELIEF VALVE APCO 143-C, VALMATIC 201C OR EQUAL.
- K. 2"x1" GALV REDUCER.
- L. 2" GALV PIPE.
- M. 2" STREET ELL (HORIZ).
- N. 2" GALV 90° ELL (VERT).
- O. 2" GALV RETURN BEND.
- P. GALV BEEHIVE STRAINER GREENBURG P-24-08, FOR 2" PIPE.
- Q. UTILITY BOX CARSON BCF1730-12 OR CITY APPROVED EQUAL.
- R. BACKFILL WITH SAWDUST TO BONNET.

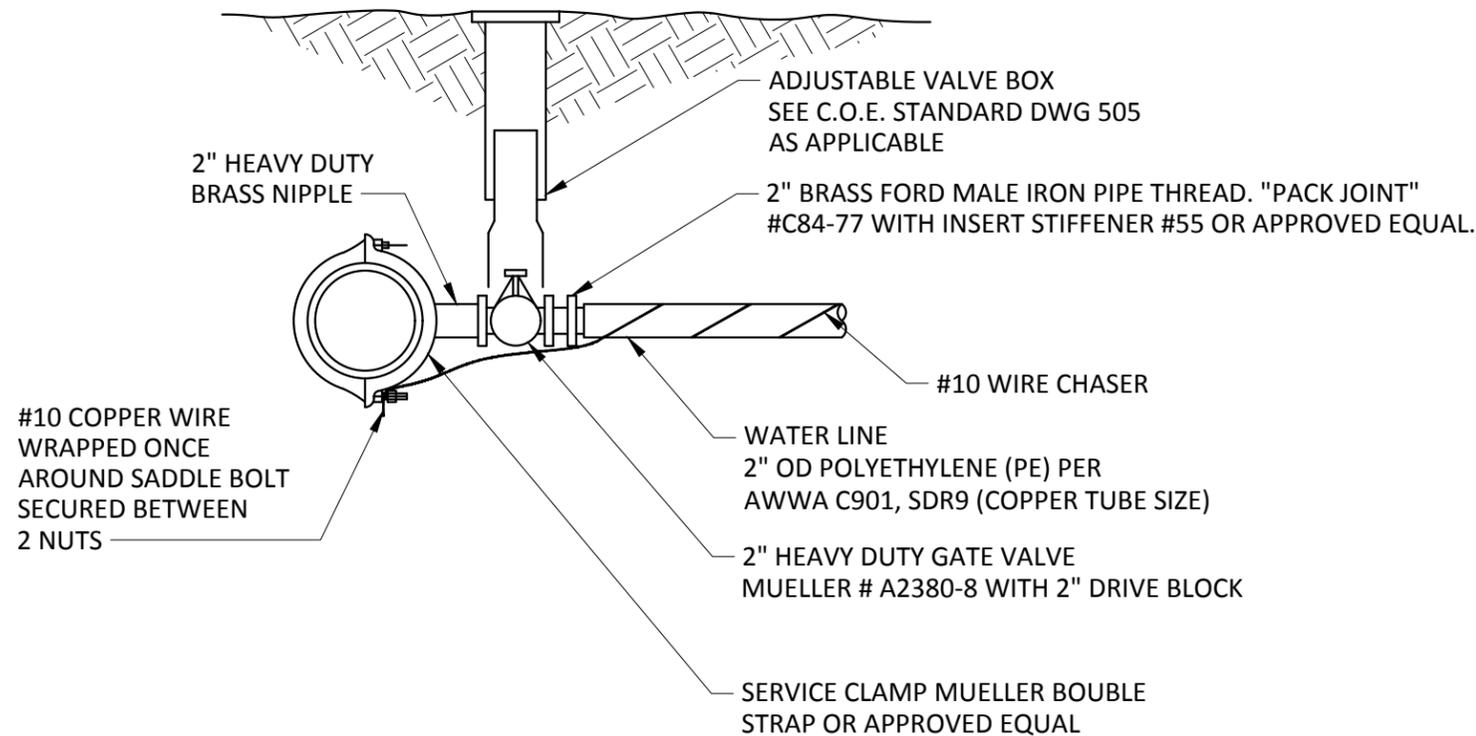
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD512.DWG  
 12/27/2016 8:30 AM

**DRAFT**

		<p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE			Current Rev Date 12/30/2016
1" AIR-VACUUM VALVE ASSEMBLY			STANDARD DRAWING No. 512



**SERVICE CONNECTION PLAN**



**CONNECTION TO MAIN**

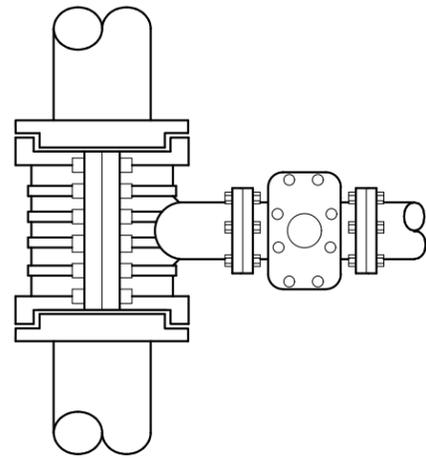
**NOTES**

- A. 2" WATER MAIN SHALL BE POLYETHYLENE PER STANDARD DETAIL 502B. CONNECTION TO MAIN TO BE MADE PER STANDARD DETAIL 502B.
- B. 2" BRASS MALE IRON PIPE THREAD X COMPRESSION FITTING WITH STAINLESS STEEL INSERT STIFFENER. COUPLING SHALL BE "FORD" C84-77 NL OR CITY APPROVED EQUAL.
- C. 2" BRASS TEE (FIP).
- D. BRASS HEX BUSHING 2" X SERVICE SIZE.
- E. CORPORATION STOP SHALL BE FORD FB700 OR CITY APPROVED EQUAL.
- F. METERED WATER SERVICE PER STANDARD 502A OR 502C.
- G. # 10 COPPER TRACE WIRE WRAPPED ALONG ENTIRE LENGTH (ONE WRAP PER FOOT) WITH ONE END WRAPPED AROUND THE SADDLE BOLT AND SECURED BETWEEN 2 NUTS, ON MAIN CONNECTION. THE OTHER END WILL BE EXPOSED IN THE METER BOX. A SCOTCH CAST ELECTRICAL SPLICE KIT TO BE USED TO SPLICE ALL WIRES WHERE REQUIRED. SCOTCH CAST ELECTRICAL SPLICE KITS SHALL BE 3M INSULATION DISPLACEMENT CONNECTORS OR CITY APPROVED EQUAL.

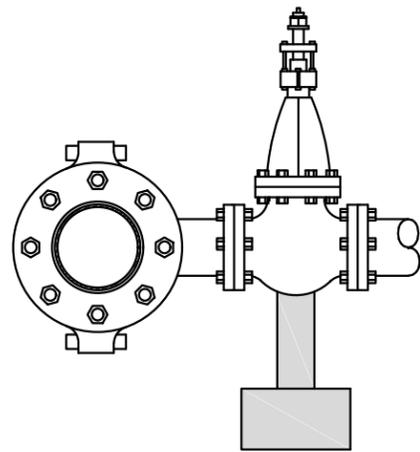
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD513.DWG  
 12/27/2016 8:30 AM

**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>2" POLYETHYLENE WATER MAIN</b>				STANDARD DRAWING No. <b>513</b>



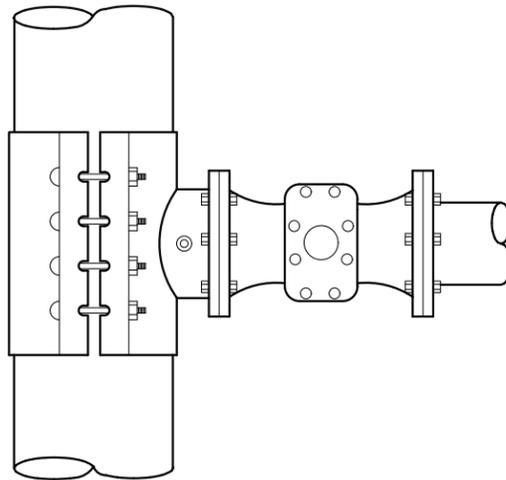
PLAN



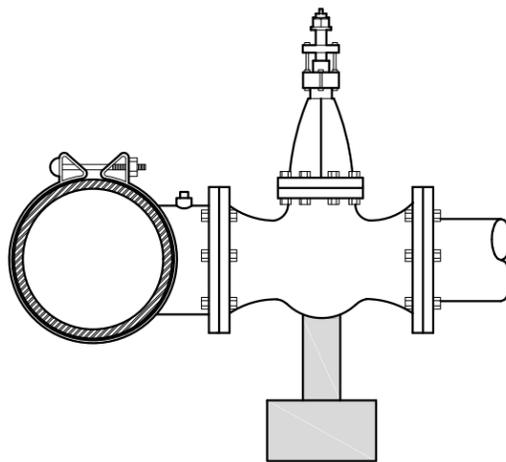
ELEVATION

INSTALLED ON ASBESTOS CEMENT PIPE,  
CAST IRON PIPE AND DUCTILE IRON PIPE.

**CAST IRON MECHANICAL JOINT  
TAPPING TEE**



PLAN



ELEVATION

INSTALLED ON ASBESTOS CEMENT PIPE,  
CAST IRON PIPE AND DUCTILE IRON PIPE.

**STAINLESS STEEL  
TAPPING SLEEVE**

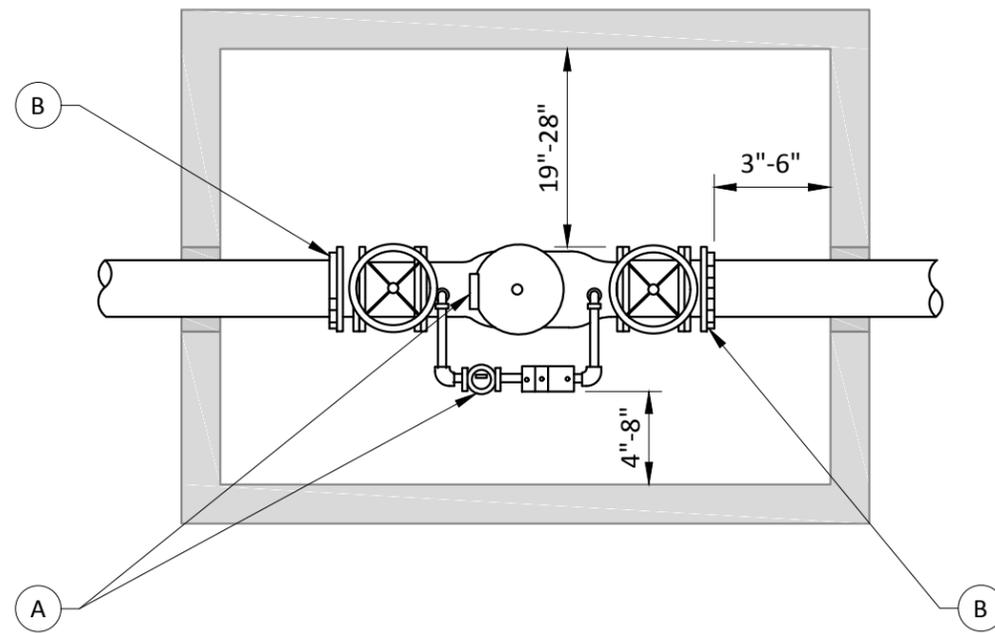
**NOTES**

1. STAINLESS STEEL TAPPING SLEEVES SHALL HAVE FULL CIRCLE SEAL.
2. ALL TEES AND VALVES TO BE WATER TESTED BEFORE TAP.
3. SIZE ON SIZE TAPS ALLOWED ONLY WITH MJ TAPPING TEES. ALL OTHER TAPS SHALL BE AT LEAST 2" SMALLER THAN THE EXISTING MAIN.
4. BRANCH LINE SHALL BE RESTRAINED AS IF A DEAD-END PER SECTION 5-13.

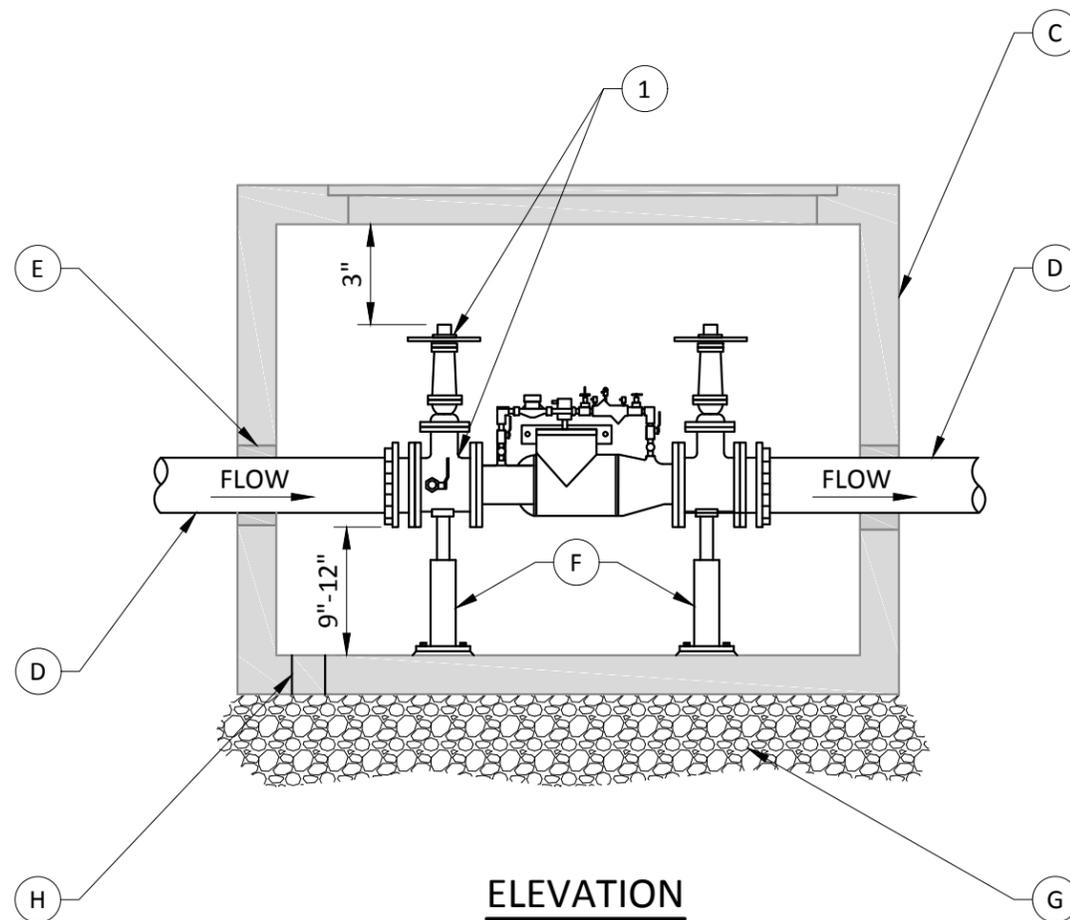
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD514.DWG  
 12/27/2016 8:30 AM

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>TAPPING TEES</b>				STANDARD DRAWING No. <b>514</b>



**PLAN**



**ELEVATION**

**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLY INCLUDING 2-0.S.&Y RESILIENT SEATED GATE VALVES, TEST COCKS, 3/4" BRASS OR COPPER BYPASS WITH INLINE VALVES, 5/8" X 3/4" NEPTUNE METER W/E-CODER R900 I, CU FT W/STUB ANTENNA & A 3/4" DOUBLE CHECK VALVE ASSEMBLY.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTER WITH MEGALUG.
- C. PRE CAST CONCRETE VAULT WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO OR APPROVED EQUAL). PROVIDE OSHA APPROVED HOT DIPPED GALVANIZED STEEL LADDER INSTALLED IN SUCH A WAY THAT VAULT ACCESS DOES NOT INTERFERE WITH INSTALLED EQUIPMENT MAINTENANCE. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT LOCATED IN PEDESTRIAN WALKWAY.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. VAULT PENETRATIONS SHALL BE SEALED WITH WATER TIGHT GROUT, LINK-SEAL WALL SLEEVE OR APPROVED EQUAL.
- F. TWO (2) GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2-1/2" DIAMETER AND LARGER PIPE.
- G. MINIMUM 6" COARSE AGGREGATE AASHTO GRADING NO.4 PER WSDOT 9-03.1(4)C.
- H. 6" FLOOR OPENING FOR DRAINAGE.
- I. 3" MIN. CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF OS&Y WHEN FULLY OPEN.

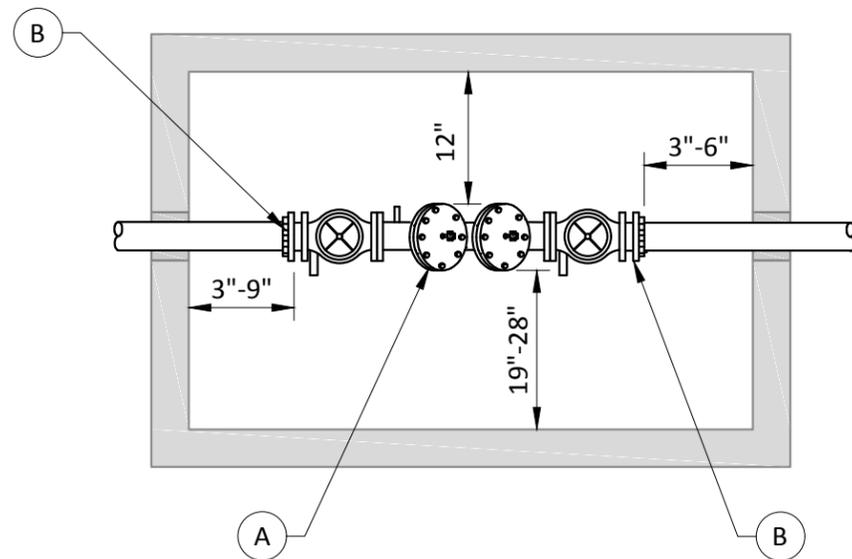
**NOTES**

- 1. TEE AND GATE VALVE REQUIRED ON MAIN.
- 2. SINGLE DETECTOR CHECKS ARE NOT APPROVED BACKFLOW PREVENTION DEVICES.
- 3. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RE-CERTIFICATION ANNUALLY BY OWNER.
- 4. ALL TEST COCKS MUST HAVE BRASS PLUGS.
- 5. ROUND MANHOLE LIDS ARE NOT TO BE USED.
- 6. INSIDE DEPTH IS TO BE KEPT AT A MINIMUM AS PER DIMENSION IN SKETCHES ABOVE AND/OR AS APPROVED BY CITY OF EVERETT UTILITIES DEPARTMENT.
- 7. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITH ACCESS HATCH OPEN AND WITHOUT ENTERING THE VAULT.
- 8. ALL DIMENSIONS ARE MINIMUM CLEARANCE.
- 9. ALL BACKFLOW DEVICES WILL BE INSTALLED IN A VAULT OUTSIDE THE BUILDING UNLESS OTHERWISE APPROVED BY UTILITIES SUPERINTENDENT.

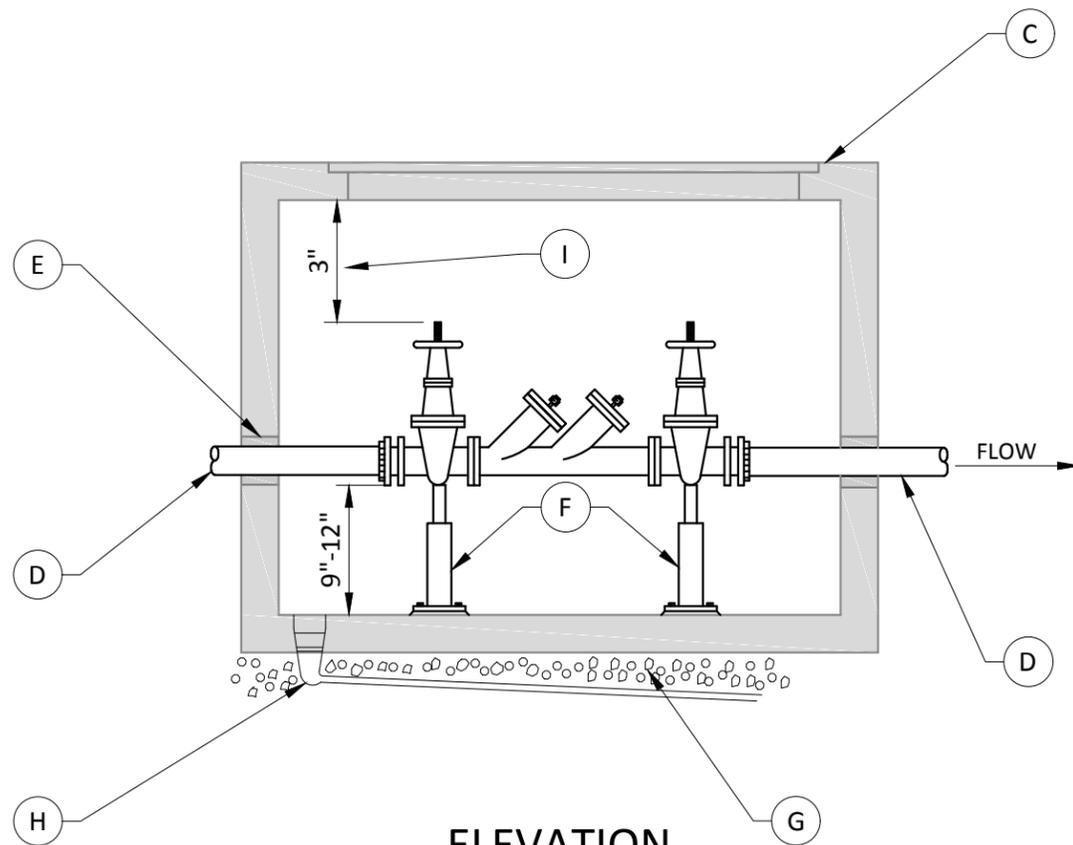
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD515.DWG

**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>DOUBLE CHECK          DETECTOR VALVE (DCDA)          3" &amp; LARGER SERVICE</b>				STANDARD DRAWING No. <b>515</b>



**PLAN**



**ELEVATION**

**NOTES**

1. TEE AND GATE VALVE REQUIRED ON MAIN.
2. SINGLE DETECTOR CHECKS ARE NOT APPROVED BACKFLOW PREVENTION DEVICES.
3. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RECERTIFICATION ANNUALLY BY OWNER.
4. ALL TEST COCKS MUST HAVE BRASS PLUGS.
5. MAXIMUM HEIGHT OF ASSEMBLY IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
6. INSIDE DEPTH IS TO BE KEPT AT A MINIMUM AS PER DIMENSION IN SKETCHES ABOVE AND/OR AS APPROVED BY CITY OF EVERETT UTILITIES DEPARTMENT.
7. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.

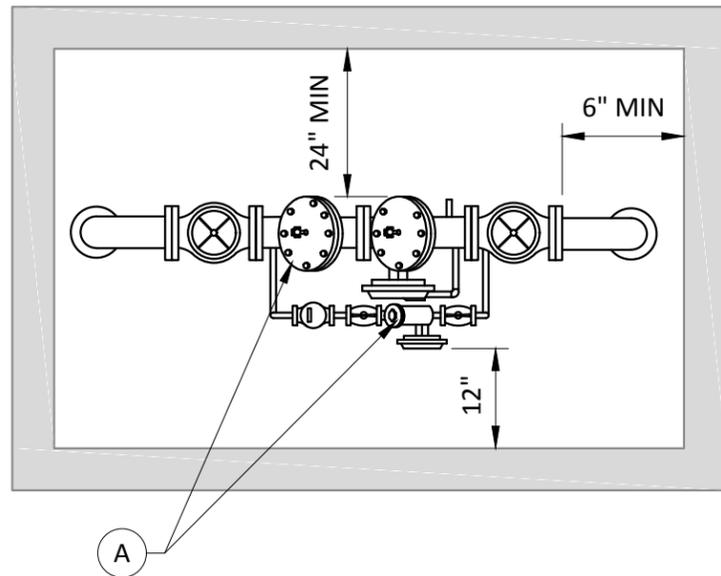
**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY INCLUDING: 2-O.S.& Y RESILIENT SEATED GATE VALVES, AND TEST COCKS.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTER WITH MEGALUG.
- C. PRECAST CONCRETE VAULT WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO OR AN APPROVED EQUAL). PROVIDE OSHA APPROVED HOT DIPPED GALVANIZED STEEL LADDER. INSTALL LADDER IN SUCH A WAY AS TO PROVIDE VAULT ACCESS THAT DOES NOT INTERFERE WITH INSTALLED EQUIPMENT OR MAINTENANCE THEREOF. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT LOCATED IN PEDESTRIAN WALKWAY.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. WATER TIGHT GROUT SHALL BE USED IN ALL VAULT PENETRATIONS.
- F. 2 - GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA. AND LARGER PIPE.
- G. MINIMUM 6" COARSE AGGREGATE, AASHTO GRADING NO. 4 PER WSDOT 9-03.1(4)C.
- H. 6" FLOOR OPENING FOR DRAIN.
- I. 3" MIN CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF O.S. & Y WHEN FULLY OPEN.

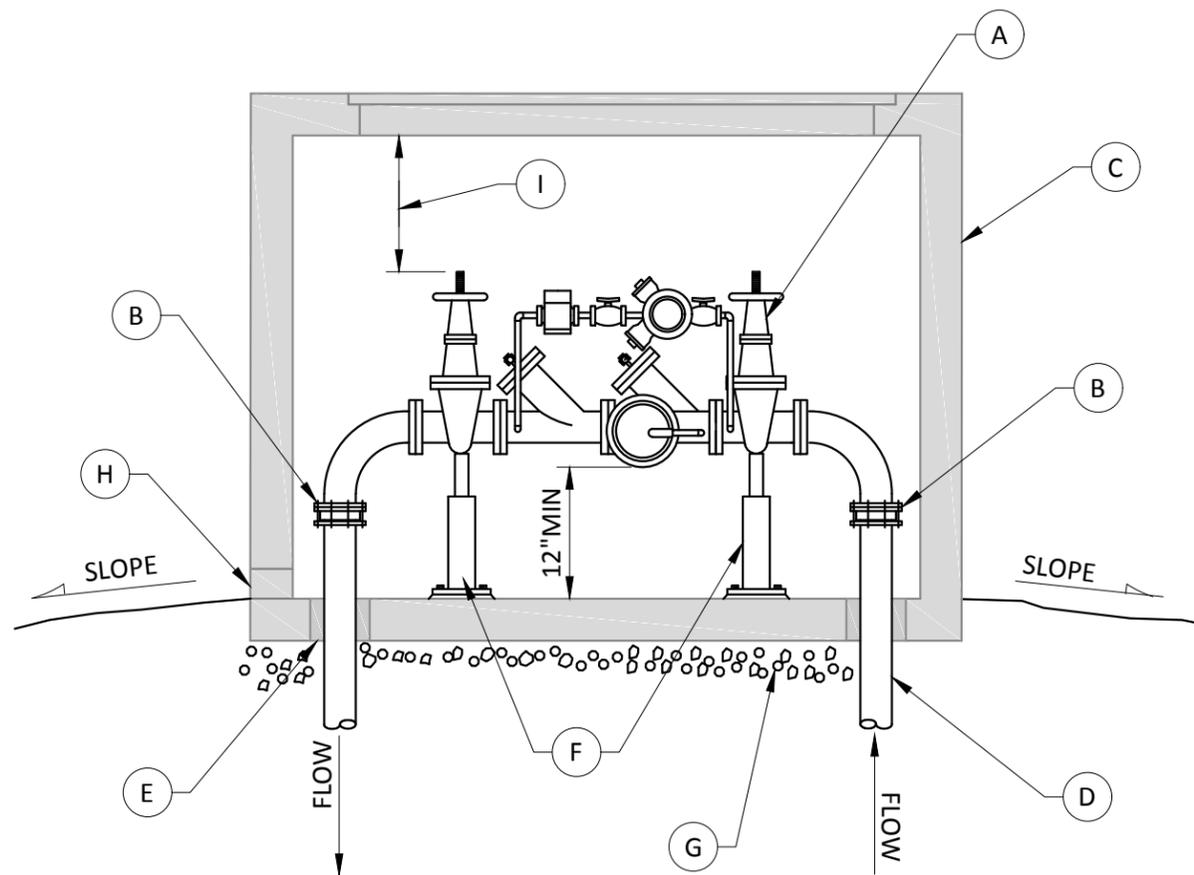
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD516.DWG

**DRAFT**

		<p><b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b></p>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
<p>TITLE <b>DOUBLE CHECK VALVE ASSEMBLY</b> (DCVA) 3" &amp; LARGER SERVICE</p>			<p>Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>516</b></p>



**PLAN**



**ELEVATION**

**NOTES**

1. TEE AND GATE VALVE REQUIRED ON MAIN.
2. ALL TEST COCKS MUST HAVE BRASS PLUGS.
3. MAXIMUM HEIGHT OF ASSEMBLY IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
4. MINIMUM INSIDE VAULT HEIGHT IS 78", OR AS APPROVED BY THE CITY UTILITIES DEPARTMENT.
5. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITHOUT ENTERING VAULT WITH ACCESS HATCH OPEN AND WITHOUT ENTERING THE VAULT.
6. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.
7. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RECERTIFICATION ANNUALLY BY OWNER.

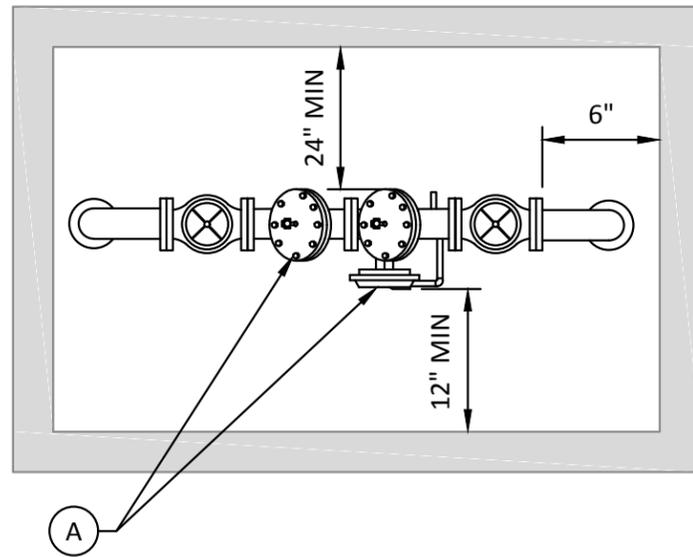
**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED REDUCED PRESSURE DETECTOR ASSEMBLY INCLUDING: 2-O.S.& Y RESILIENT SEATED GATE VALVES, TEST COCKS, 3/4" BRASS OR COPPER BYPASS WITH IN LINE VALVES, 5/8" METER (METER TO READ IN CUBIC FEET), AND A 3/4" REDUCED PRESSURE BACKFLOW ASSEMBLY.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTOR WITH MEGALUG OR GALVANIZED SHACKLE TO MAIN WITH 2-3/4" RODS, OR MJ RETAINER GLANDS.
- C. HOT BOX OR APPROVED EQUAL. DEVICE CAN BE INSIDE BUILDING WITH PROPER DRAIN IN FLOOR AND WITH PRIOR APPROVAL.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. WATER TIGHT GROUT SHALL BE USED IN ALL VAULT PENETRATIONS.
- F. 2 - GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA AND LARGER PIPE.
- G. GRAVEL FOUNDATION AS REQUIRED.
- H. DRAIN SHALL BE INSTALLED WITH APPROVED AIR GAP (SEE STD 519) AND BE ABLE TO BE BORE SIGHTED TO DAYLIGHT WHICH MUST BE ABOVE 100 YEAR FLOOD LEVEL. DRAIN WILL BE SIZED SO AS TO PROVIDE FREE GRAVITY DRAINAGE OF MAX DISCHARGE OF RELIEF VALVE PORT.
- I. 3" MIN CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF OS&Y WHEN FULLY OPEN.

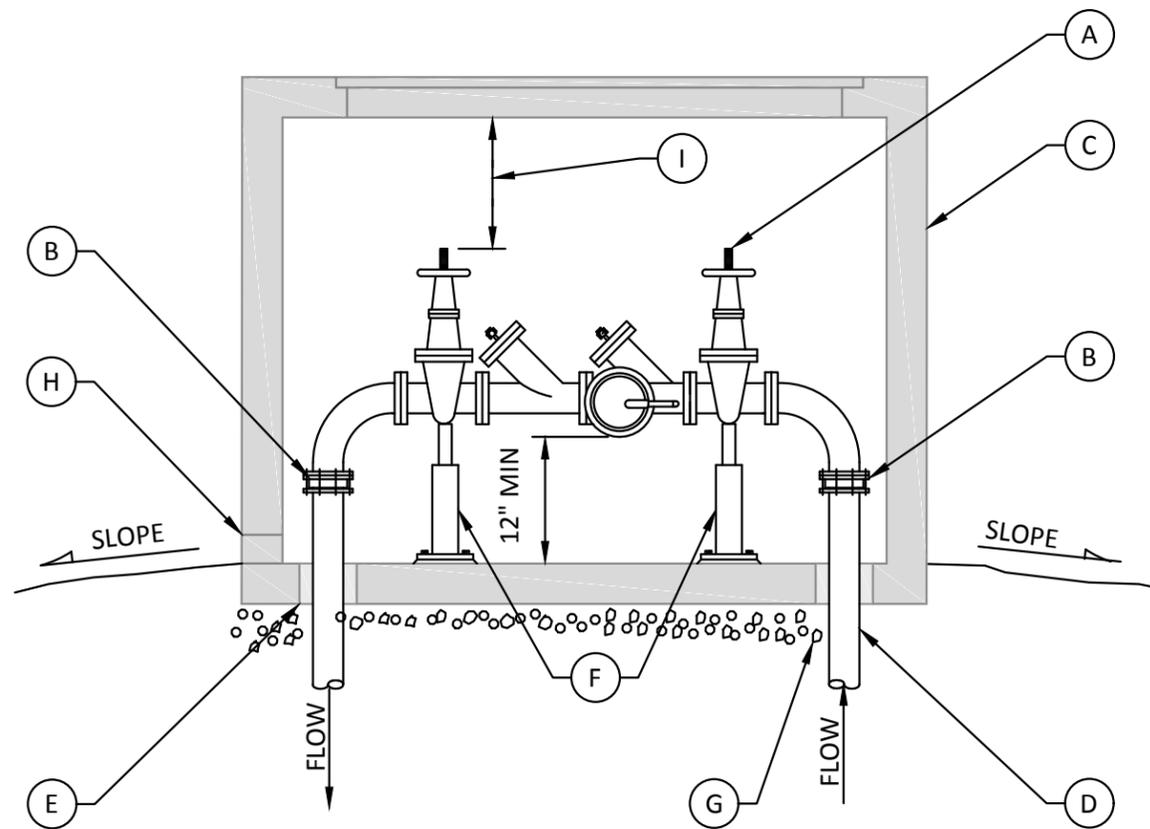
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD517.DWG

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager RICHARD HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
<b>REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) ALL SIZES</b>			Current Rev Date <b>12/30/2016</b> STANDARD DRAWING No. <b>517</b>



**PLAN**



**ELEVATION**

**NOTES**

1. TEE AND GATE VALVE REQUIRED ON MAIN.
2. ALL TEST COCKS MUST HAVE BRASS PLUGS.
3. MAXIMUM HEIGHT OF ASSEMBLY IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
4. MINIMUM INSIDE VAULT HEIGHT IS 78", OR AS APPROVED BY THE CITY UTILITIES DEPARTMENT.
5. METER SHALL BE INSTALLED SUCH THAT IT CAN BE READ WITHOUT ENTERING VAULT WITH ACCESS HATCH OPEN AND WITHOUT ENTERING THE VAULT.
6. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.
7. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION AND RECERTIFICATION ANNUALLY BY OWNER.

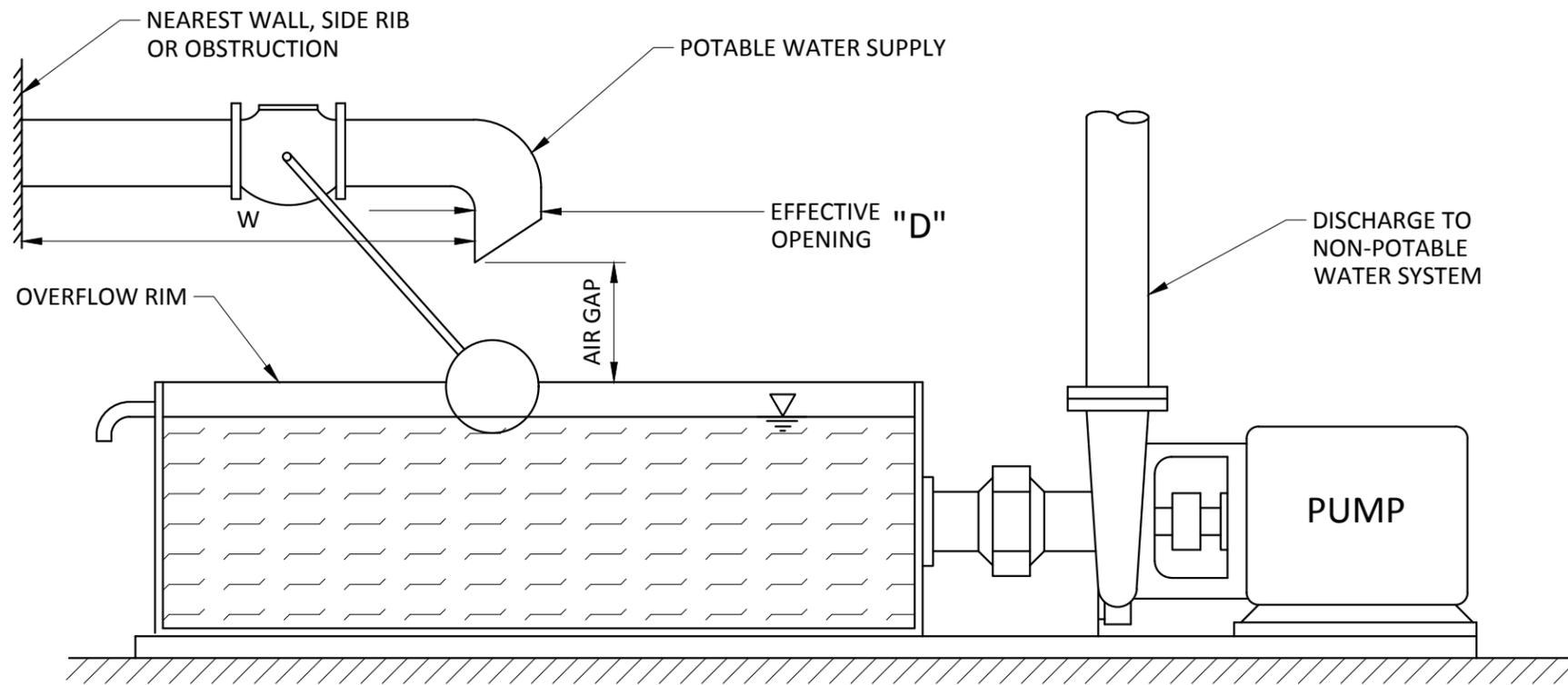
**PARTS**

- A. UL-FM LISTED SOFTSEATED WA STATE APPROVED REDUCED PRESSURE BACKFLOW ASSEMBLY INCLUDING: 2-O.S.& Y RESILIENT SEATED GATE VALVES, AND TEST COCKS.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTOR WITH MEGALUG OR GALVANIZED SHACKLE TO MAIN WITH 2-3/4" RODS, OR MJ RETAINER GLANDS.
- C. PRECAST CONCRETE ENCLOSURE WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO OR AN APPROVED EQUAL). ABOVE GROUND INSTALLATIONS WILL: BE PROVIDED WITH 6'-6"x36" STEEL DOOR FOR ACCESS, THE EXTERIOR WILL BE PAINTED WITH AN APPROVED PAINT, PROVIDED WITH SUFFICIENT INSULATION TO PREVENT FREEZING AND SITE WILL BE PROVIDED WITH A 6' HIGH SECURITY FENCE WITH PEDESTRIAN AND VEHICLE GATES. SEMI-BURIED INSTALLATIONS WILL: BE PROVIDED WITH OSHA APPROVED LADDER. INSTALLED IN SUCH A WAY AS TO NOT INTERFERE WITH INSTALLED EQUIPMENT MAINTENANCE. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT LOCATED IN PEDESTRIAN WALKWAY.
- D. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- E. WATER TIGHT GROUT SHALL BE USED IN ALL VAULT PENETRATIONS.
- F. 2 - GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA AND LARGER PIPE.
- G. GRAVEL FOUNDATION AS REQUIRED.
- H. DRAIN SHALL BE INSTALLED WITH APPROVED AIR GAP (SEE STD 519) AND BE ABLE TO BE BORE SIGHTED TO DAYLIGHT WHICH MUST BE ABOVE 100 YEAR FLOOD LEVEL. DRAIN WILL BE SIZED SO AS TO PROVIDE FREE GRAVITY DRAINAGE OF MAX DISCHARGE OF RELIEF VALVE PORT.
- I. 3" MIN CLEARANCE FROM UNDERSIDE OF VAULT LID TO STEM OF OS&Y WHEN FULLY OPEN.

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD518.DWG  
 12/27/2016 8:21 AM

**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) ALL SIZES</b>				STANDARD DRAWING No. <b>518</b>



**NOTES**

1. ALL INSTALLED AIR GAPS MUST BE WA DOH APPROVED.
2. THE HEIGHT OF THE AIR GAP MUST MEET THE CRITERIA IN TABLE A UNLESS OTHERWISE NOTED.
3. THE CITY UTILITIES DEPARTMENT MAY REQUIRE THE AIR GAP TO BE INCREASED IF INSTALLED WITHIN A BUILDING WHERE THE AIR PRESSURE IS ARTIFICIALLY MAINTAINED OR INCREASED.
4. AIR GAPS LESS THAN 1 INCH SHALL BE APPROVED ONLY AS A PART OF A LISTED DEVICE THAT HAS BEEN TESTED UNDER BACKSIPHONAGE CONDITIONS WITHIN A VACUUM OF A MINIMUM OF 25 INCHES OF MERCURY.
5. TUBULAR SCREENS MAY BE ATTACHED OR THE SUPPLY LINE OUTLET MAY BE CUT AT A 45° ANGLE.
6. HOSES AND BYPASSES ARE NOT ALLOWED.
7. THE INSPECTION OF AIR GAPS SHALL BE INCLUDED IN THE YEARLY TESTING PROGRAM FOR BACKFLOW DEVICES.

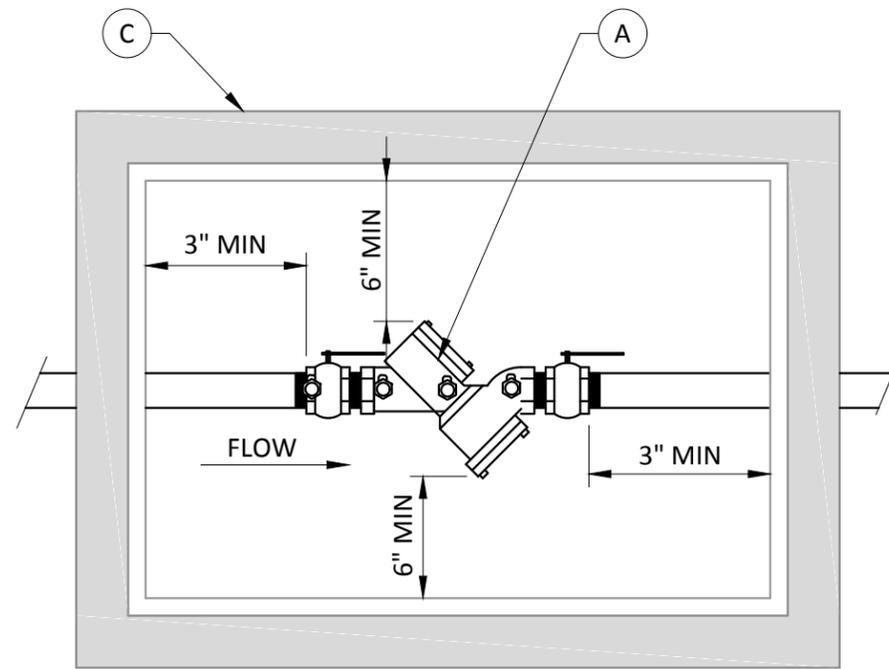
D	AIR GAP (INCHES)	
	IF W > 3D	IF W ≤ 3D (SINGLE WALL) OR IF W ≤ 4D (INTERSECTING WALLS)
< 0.5 INCH	1	1.5
< 0.75 INCH	1.5	2.25
≥ 1 INCH	2 X D	3 X D

TABLE A

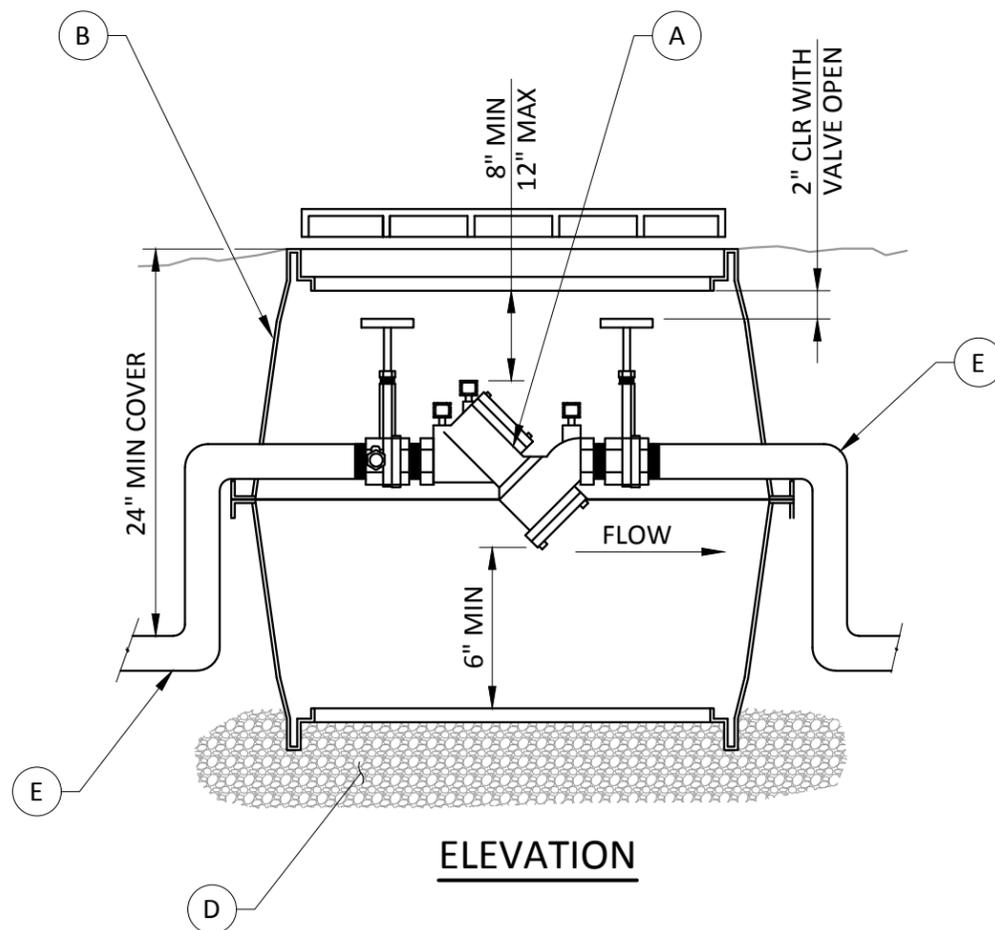
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD519.DWG  
 12/27/2016 8:21 AM

**DRAFT**

		<b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>	
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB
TITLE <b>AIR GAP FOR MAKEUP TANK</b>			Current Rev Date <b>12/30/2016</b> <small>STANDARD DRAWING No.</small> <b>519</b>



**PLAN**



**ELEVATION**

**NOTES**

1. ALL TEST COCKS MUST HAVE BRASS PLUGS.
2. TEST COCKS MUST FACE UP OR SIDEWAYS WHICH EVER IS MORE ACCESSIBLE.
3. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT IS LOCATED IN PEDESTRIAN WALKWAY.

**PARTS**

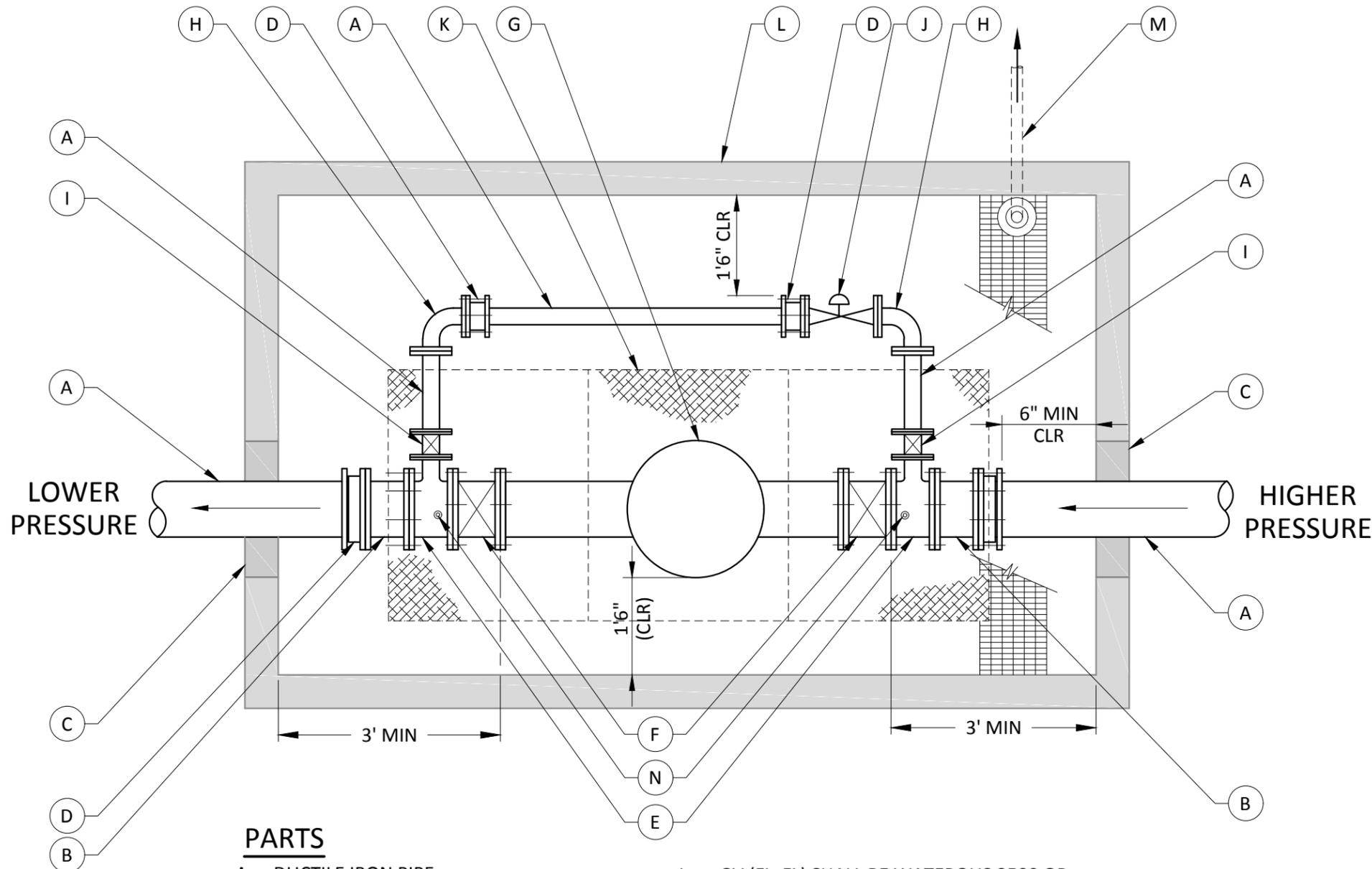
- A. WA STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY.
- B. IN NON-TRAFFIC AREAS USE:  
PRECAST CONCRETE VAULT (UTILITY VAULT CO 233-LA, OR APPROVED EQUAL) OR PLASTIC VALVE BOX (UTILITY VAULT CO 1324-12L OR APPROVED EQUAL)
- C. IN TRAFFIC AREAS:  
A TRAFFIC LOADED BOX MUST BE USED AND LOCATION APPROVED BY THE THE CITY OF EVERETT PRIOR TO INSTALLATION.
- D. IF A DAYLIGHT DRAIN CANNOT BE PROVIDED THERE MUST BE A 4" MIN LAYER OF FREE DRAINING GRAVEL AT THE BOTTOM OF BOX.
- E. ANGLES MAY BE IN OR OUT OF BOX SO LONG AS SUFFICIENT ROOM IS ALLOWED AT EACH END FOR VALVE OPERATOR AND DCVA REPAIR OR MAINTENANCE.

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD520.DWG



City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
TITLE <b>DOUBLE CHECK VALVE ASSEMBLY</b>				STANDARD DRAWING No. <b>520</b>
(DCVA) FOR 2-1/2" & SMALLER SERVICE				

**DRAFT**



**PARTS**

- |   |   |
|---|---|
| <p>A. DUCTILE IRON PIPE.</p> <p>B. SPOOL (FLxFL), IF NEEDED.</p> <p>C. NON-SHRINK GROUT.</p> <p>D. FLANGE COUPLING ADAPTOR (FLxMJ) WITH MEGA LUG OR GALVANIZED SHACKLE TO MAIN WITH 2- 3/4" RODS OR MJ RETAINER GLANDS.</p> <p>E. TEE (FL).</p> <p>F. GV SHALL BE WATEROUS 2500OR APPROVED EQUAL.</p> <p>G. PRV (FLxFL).</p> <p>H. 90° ELL (ALL MJ WITH/MEGA LUGS).</p> | <p>I. GV (FLxFL) SHALL BE WATEROUS 2500 OR APPROVED EQUAL.</p> <p>J. PRV (FLxFL).</p> <p>K. UTILITY VAULT CO LID WITH TRAFFIC LOADED LOCKING STEEL COVERS OR EQUAL.</p> <p>L. UTILITY VAULT CO PRECAST VAULT OR APPROVED EQUAL.</p> <p>M. 2" GRAVITY SUMP DRAIN EXTEND TO DAY-LIGHT OR TO STORM DRAINAGE SYSTEM.</p> <p>N. 1/4" GAUGE TAPS WITH 1/4" BALL VALVES FOR ISOLATION.</p> |
|---|---|

**PLAN**

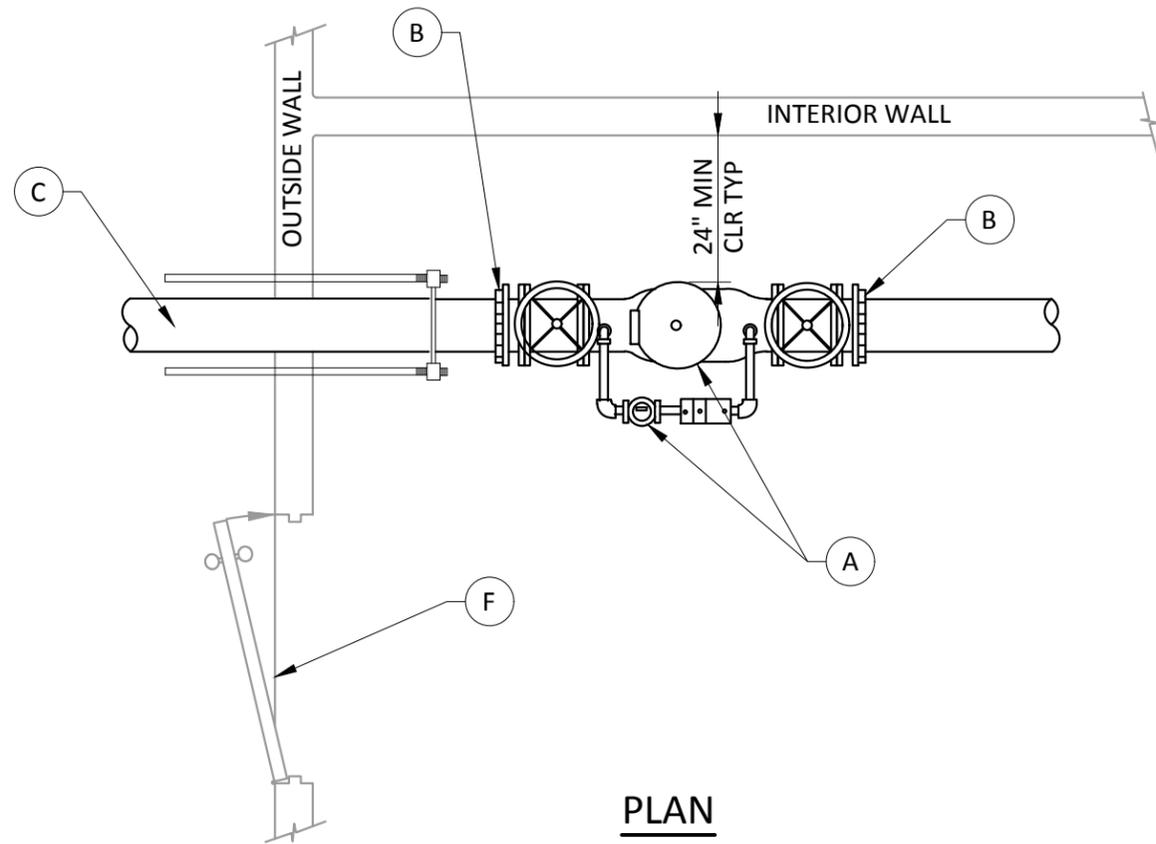
**NOTES**

1. MINIMUM VAULT INSIDE HEIGHT SHALL BE 78", OR AS APPROVED BY THE CITY UTILITIES DEPARTMENT.
2. MINIMUM CLEARANCE BETWEEN PRV VALVES AND FLOOR SHALL BE 12".
3. PROVIDE LIQUID FILLED 2 1/2" PRESSURE GAUGES AMETEK SERIES 550L OR CITY APPROVED EQUAL.
4. ALL EQUIPMENT MUST BE RATED FOR SOURCE PRESSURE.
5. PIPING AND VALVES SHALL BE SUPPORTED BY POURED-IN-PLACE CONCRETE OR STEEL STANDS. NUMBER OF AND PLACEMENT OF STANDS TO BE DETERMINED BY CITY UTILITIES DEPARTMENT ACCORDING TO VALVE SIZE.
6. BRAND, SIZE, MINIMUM CLEARANCES, TYPE OF PRV AND ACCESSORIES TO BE DETERMINED BY CITY OF EVERETT UTILITIES DEPARTMENT.
7. PROVIDE NON-SLIP SURFACE ON ACCESS HATCH IF VAULT IS LOCATED IN PEDESTRIAN WALKWAY.

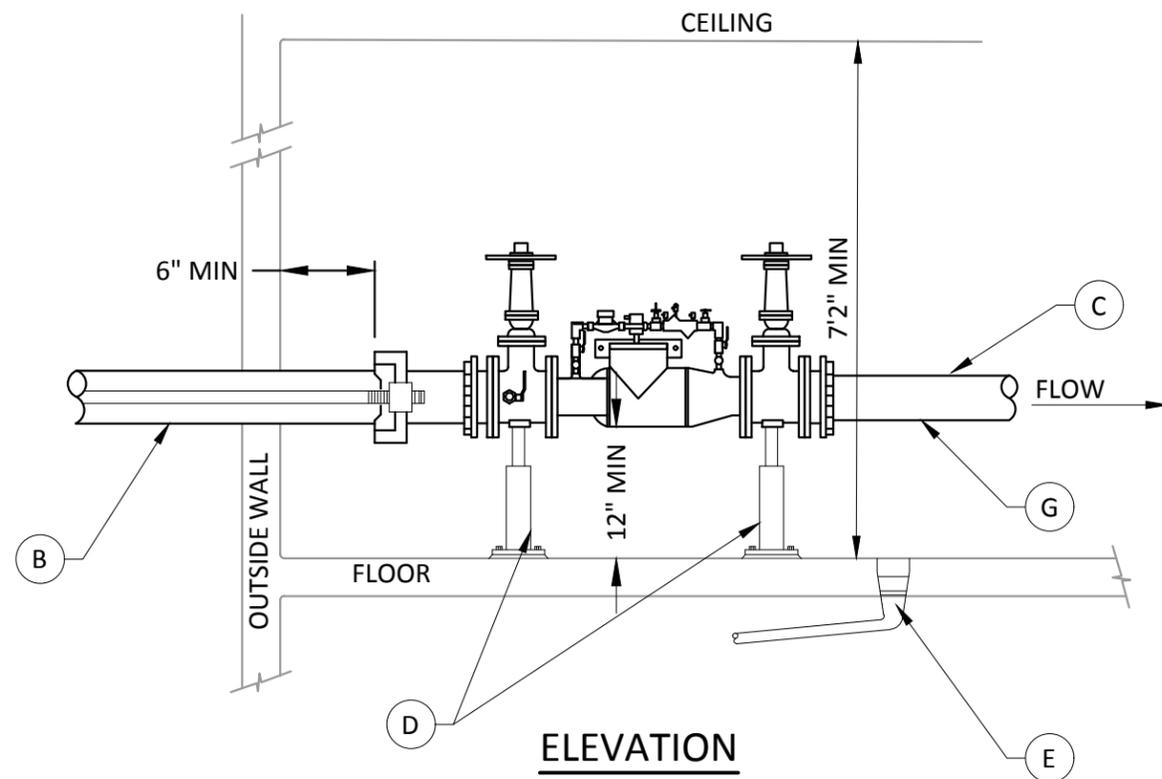
T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD521.DWG

 <p><b>CITY OF EVERETT</b> EVERETT PUBLIC WORKS DEPARTMENT</p>		<p>City Engineer: RYAN SASS    Section Manager: R. HEFTI    CAD Manager: PAUL WILHELM    Drawn By: WRB</p>		<p>Current Rev Date: 12/30/2016</p>
		<p>TITLE: TYPICAL PRESSURE REDUCING VALVE (PRV) INSTALLATION</p>		

**DRAFT**



**PLAN**



**ELEVATION**

**PARTS**

- A. UL-FM LISTED SOFT SEATED WA STATE APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLY WHICH MUST BE INSTALLED IN THE SAME ORIENTATION FOR WHICH IT WAS APPROVED. ASSEMBLY TO INCLUDE; TEST COCKS, 3/4" BRASS OR COPPER BYPASS WITH IN-LINE VALVES AND A 5/8" REMOTE METER. METER TO READ IN CUBIC FEET, AND BE REMOTED TO AN EXTERNAL WALL OF BUILDING METER BOX.
- B. UNI-FLANGE WITH SET SCREWS OR MJ x FL ADAPTER WITH MEGALUG RESTRAINT FOR BOTH UPSTREAM AND DOWNSTREAM OF ASSEMBLY.
- C. DUCTILE IRON PIPE (SIZED AS REQUIRED) CLASS 52.
- D. TWO GALVANIZED ADJUSTABLE PIPE SUPPORTS FOR 2 1/2" DIA AND LARGER PIPE.
- E. A SUFFICIENTLY SIZED FLOOR DRAIN OR WALL FOOTING DRAIN MUST BE PROVIDED IN THE SAME ROOM. DRAIN TO SLOPE TO DAYLIGHT OR CONNECT TO STORM DRAIN SYSTEM.
- F. EXTERNAL DOOR WITH KEY IS REQUIRED. EITHER A LOCKSET IN THE DOOR HARDWARE OR A KEY VAULT (I.E. SUPRA S.S.) WITH A 1 5/8" DIAMETER X 1 1/8" LENGTH MORTISE CYLINDER. MORTISE CYLINDER MUST ACCEPT THE CITY STANDARD "BEST" LOCKING SYSTEM. THE WIDTH AND HEIGHT OF THE DOOR(S) MUST EXCEED THE WIDTH AND HEIGHT OF THE ASSEMBLY. CLEARANCE BOTH INSIDE AND OUTSIDE ROOM MUST BE SUFFICIENT TO REMOVE ASSEMBLY INTACT. THE ASSEMBLY MUST BE FULLY ACCESSIBLE (2FT MIN HORIZONTAL CLEARANCE TO ALL WALLS AND OR EQUIPMENT) FOR TESTING AND REPAIRS.
- G. FLUSHING CAPABILITIES MUST BE PROVIDED WITH A 2" FLUSHING LINE DOWNSTREAM OF ASSEMBLY TO OUTSIDE OR SUFFICIENTLY SIZED INTERNAL DRAIN.
- H. WHERE ASSEMBLY IS TO BE LOCATED ABOVE EXTERNAL GROUND LEVEL, ALL BENDS REQUIRED TO LOWER INLET PIPE TO PROVIDE REQUIRED EXTERNAL GROUND COVER SHALL BE FLANGE FITTINGS OR BE FITTED WITH HORIZONTAL AND VERTICAL THRUST RESTRAINTS.
- I. THE ROOM SHOULD BE INSULATED WITH R-19 INSULATION OR GREATER AND HEATED TO ABOVE FREEZING. ONLY CONSTRUCTION MATERIALS THAT CAN WITHSTAND OCCASIONAL SUBMERGENCE WILL BE ALLOWED.

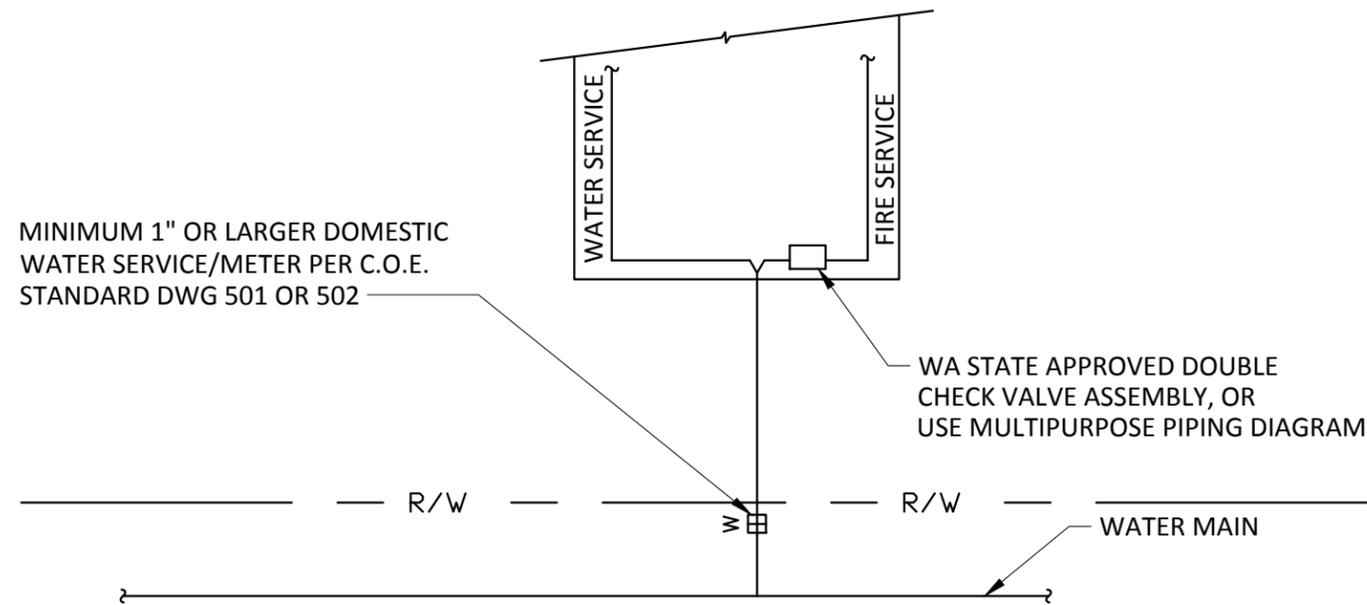
**NOTES**

- 1. TEE AND GATE VALVE REQUIRED ON MAIN.
- 2. SINGLE DETECTOR CHECKS ARE NOT APPROVED BACKFLOW PREVENTION DEVICES.
- 3. ASSEMBLY REQUIRES CERTIFICATION UPON INSTALLATION, AND RECERTIFICATION ANNUALLY BY OWNER.
- 4. ALL TEST COCKS MUST HAVE BRASS PLUGS.
- 5. MAXIMUM HEIGHT OF ASSEMBLY FROM FLOOR IS FIVE FEET UNLESS AN OSHA APPROVED PLATFORM IS PROVIDED.
- 6. ALL DIMENSIONS ARE MINIMUM CLEARANCE REQUIREMENTS.
- 7. FIRE DEPARTMENT PUMPER CONNECTION MUST BE DOWNSTREAM OF ASSEMBLY.
- 8. THE OSY VALVE CAN NOT BE USED AS A POST INDICATOR VALVE. (THESE ARE ONLY PART OF THE BACKFLOW ASSY.)

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD523.DWG

**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>		City Engineer	Section Manager	CAD Manager	Drawn By	Current Rev Date
		RYAN SASS	R. HEFTI	PAUL WILHELM	WRB	12/30/2016
<b>DOUBLE CHECK DETECTOR VALVE ASSEMBLY</b> (DCDA) 3" & LARGER SERVICE INSIDE A BUILDING						STANDARD DRAWING No.
						<b>523</b>

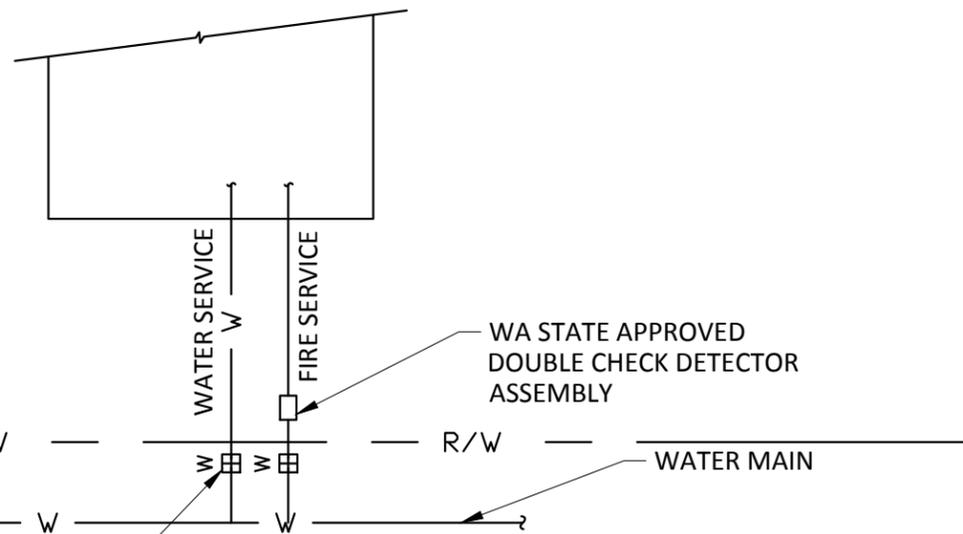


MINIMUM 1" OR LARGER DOMESTIC WATER SERVICE/METER PER C.O.E. STANDARD DWG 501 OR 502

WA STATE APPROVED DOUBLE CHECK VALVE ASSEMBLY, OR USE MULTIPURPOSE PIPING DIAGRAM

IRC DEFINED SINGLE FAMILY, DUPLEX OR TOWNHOUSE STRUCTURES THAT ARE REQUIRED TO OR OPT TO HAVE A FIRE SPRINKLER SYSTEM MAY USE A SINGLE DOMESTIC WATER METER PER COE STD DWG 502B OR 502C. THE SIZE OF THE SERVICE METER SHALL BE CALCULATED BY THE CIVIL ENGINEER OR FIRE SPRINKLER DESIGNER, WHO IS SOLELY RESPONSIBLE FOR THESE CALCULATIONS. THE FIRE SERVICE SIDE OF THE SYSTEM MUST HAVE A WA STATE APPROVED BACKFLOW PREVENTION DEVICE, OR BE INSTALLED PER STD DWG 524B. SYSTEMS INSTALLED IN THIS CONFIGURATION SHALL BE IN ACCORDANCE WITH NFPA 13D.

**1 OR 2 UNITS**

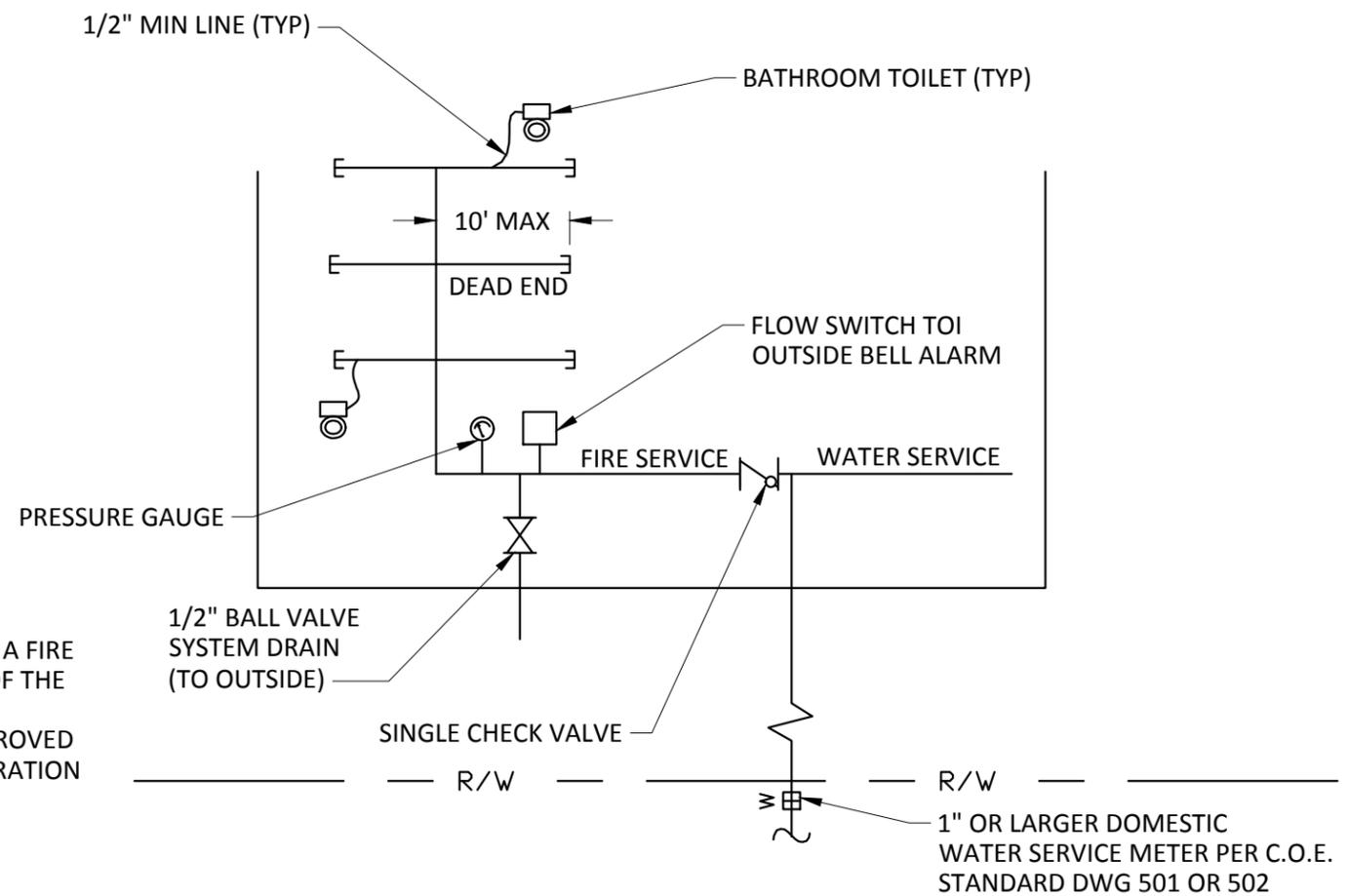


1" OR LARGER DOMESTIC WATER SERVICE/METER PER C.O.E. STANDARD DWG 501 OR 502

WA STATE APPROVED DOUBLE CHECK DETECTOR ASSEMBLY

IBC DEFINED MULTIFAMILY OR COMMERCIAL STRUCTURES THAT ARE REQUIRED TO HAVE A FIRE SPRINKLER SYSTEM MUST HAVE A SEPARATE FIRE SERVICE. THE SIZE OF FIRE SPRINKLER SERVICE AND METER SHALL BE CALCULATED BY A CIVIL ENGINEER OR FIRE SPRINKLER DESIGNER WHO IS SOLELY RESPONSIBLE FOR THIS CALCULATION. FIRE SERVICES LARGER THAN 2" MUST CONFORM TO CITY STANDARD 515 AND 523. THE FIRE SERVICE SIDE OF THE SYSTEM MUST HAVE A STATE APPROVED BACKFLOW PREVENTION DEVICE. SYSTEMS INSTALLED WITH THIS CONFIGURATION SHALL BE IN ACCORDANCE WITH NFPA 13R OR NFPA 13.

**3 UNITS OR MORE**



THIS IS A SCHEMATIC DIAGRAM OF THE MINIMUM REQUIREMENTS FOR A MULTIPURPOSE PIPING SYSTEM, PER NFPA 13D. ALL APPLICABLE CODES ARE TO BE FOLLOWED IN THE DESIGN AND INSTALLATION OF THE RESIDENTIAL PLUMBING. CONTACT THE CITY OF EVERETT FIRE MARSHAL'S OFFICE AT (425) 257-8124 OR (425) 257-8120 TO DISCUSS SPECIFIC PROJECTS.

**REQUIRED:**

- SINGLE CHECK VALVE.
- FLOW SWITCH TO OUTSIDE ALARM BELL.
- 1/2" BALL VALVE SYSTEM DRAIN (TO OUTSIDE).
- PRESSURE GAUGE.
- 1/2" MIN LINES TO MINIMUM 2 TOILETS, AT LEAST ONE TOILET PER FLOOR, FOR EFFECTIVE FLOW THROUGH SYSTEM.

**MULTIPURPOSE PIPING SYSTEM DIAGRAM FOR 1 OR 2 UNITS**

T:\ACAD\EPS-COE DESIGN & CONSTR SPECS FOR DEVELOPMENT\IN-WORK\STD524.DWG 12/27/2016 8:11 AM

**DRAFT**

 <b>CITY OF EVERETT</b> <b>EVERETT PUBLIC WORKS DEPARTMENT</b>				
City Engineer RYAN SASS	Section Manager R. HEFTI	CAD Manager PAUL WILHELM	Drawn By WRB	Current Rev Date 12/30/2016
<b>RESIDENTIAL FIRE SPRINKLER SYSTEM METERING REQUIREMENTS</b>				STANDARD DRAWING No. <b>524</b>