

SAMMAMISH PLATEAU **WATER AND SEWER DISTRICT**



DISTRICT TECHNICAL SPECIFICATIONS

OWNER

Sammamish Plateau Water and Sewer District

1510 - 228th Avenue SE

Sammamish, Washington 98075

(425) 392-6256 FAX (425) 391-5389

Revised December 2011

CROSS CONNECTION DETAILS

PROCEDURE REQUIREMENTS:

1. ALL ASSEMBLIES MUST BE ON THE WASHINGTON STATE DEPARTMENT OF HEALTH APPROVED BACKFLOW ASSEMBLY LIST.
2. ALL ASSEMBLIES ARE REQUIRED TO BE TESTED BY A WASHINGTON STATE CERTIFIED TESTER UPON INSTALLATION AND ANNUALLY. IN ADDITION, ASSEMBLIES MUST BE TESTED AFTER REPAIRS, RELOCATION, REINSTALLATION AND AFTER A BACKFLOW INCIDENT. NOTE THAT AIR GAPS INSTALLED IN LIEU OF A REDUCED PRESSURE BACKFLOW ASSEMBLY ALSO REQUIRE ANNUAL INSPECTION. TEST REPORTS MUST BE SUBMITTED IMMEDIATELY TO THE DISTRICT.
3. CONTACT DISTRICT FOR INSPECTION OF ALL NEWLY INSTALLED ASSEMBLIES.
4. A CATALOG CUT PRODUCT SUBMITTAL SHALL BE PROVIDED TO THE DISTRICT PRIOR TO INSTALLATION FOR VERIFICATION OF ASSEMBLY APPROVAL STATUS.
5. WHEN INSTALLING AN ASSEMBLY INSIDE A BUILDING, ENSURE ASSEMBLY IS LOCATED WHERE OCCASIONAL SPITTING FROM THE RELIEF VALVE PORT, A FOULED CHECK, OR WATER FLUSHED OUT DURING THE ANNUAL TEST WILL NOT BE OBJECTIONABLE. PROPER DRAINAGE MUST BE PROVIDED. DISTRICT WRITTEN APPROVAL MUST BE RECEIVED FOR INSIDE INSTALLATIONS.
6. ALL RBPA ASSEMBLIES SHALL BE PROTECTED FROM FREEZING, FLOODING AND MECHANICAL DAMAGE DUE TO WATER HAMMER AND EXCESSIVE PRESSURE BUILD UP.

INSTALLATION REQUIREMENTS:

1. CONTACT DISTRICT TO ENSURE YOU ARE INSTALLING THE CORRECT ASSEMBLY FOR THE DEGREE OF HAZARD.
2. ASSEMBLY MUST BE INSTALLED AS A UNIT, INCLUDING TWO SHUT OFF VALVES, RELIEF PORT, TWO CHECK VALVES, AND FOUR TEST COCKS. ALL ASSEMBLIES ARE REQUIRED TO BE AS A UNIT IN THE CONFIGURATION THEY WERE APPROVED BY DOH AND USC.
3. THOROUGHLY FLUSH THE WATER LINE PRIOR TO INSTALLING ASSEMBLIES.
4. ASSEMBLIES MUST BE INSTALLED A MINIMUM OF 12-INCHES FROM THE BOTTOM OF THE RELIEF PORT TO FINISHED GRADE, AND NO HIGHER THAN 5-FEET FROM THE FLOOR TO CENTERLINE OF ASSEMBLY. AN ASSEMBLY INSTALLED MORE THAN 5-FEET ABOVE FLOOR OR GROUND LEVEL MUST HAVE A PERMANENT PLATFORM UNDER IT FOR THE TESTER OR MAINTENANCE PERSON TO STAND ON. THE PLATFORM MUST COMPLY WITH ALL CURRENT AND APPLICABLE SAFETY STANDARDS AND CODES IN EFFECT. ALL ASSEMBLIES MUST BE INSTALLED HORIZONTALLY, UNLESS THEY HAVE WASHINGTON STATE APPROVAL TO BE INSTALLED VERTICALLY. IF INSTALLED IN A VERTICAL CONFIGURATIONS, IT MUST BE A MINIMUM OF 12-INCHES FROM FLOOR, AND NO HIGHER THAN 5-FEET FROM THE FLOOR TO CENTER OF THE #2 SHUT OFF VALVE. ALL ASSEMBLIES MUST MAINTAIN A SUFFICIENT CLEARANCE FROM ANY WALL TO ENSURE ACCESSIBILITY OF MAINTENANCE AND TESTING. SIZES 2- $\frac{1}{2}$ INCHES AND LARGER IN DIAMETER MAY REQUIRE ADDITIONAL SPACE ON ONE SIDE OF THE ASSEMBLY. ASSEMBLIES 2- $\frac{1}{2}$ INCHES AND LARGER IN DIAMETER SHALL HAVE SUPPORT BLOCK TO PREVENT FLANGE DAMAGE.
5. REDUCED PRESSURE BACKFLOW ASSEMBLIES SHALL NOT BE INSTALLED BELOW GROUND AT ANYTIME.
6. ASSEMBLIES MUST MEET THE ABOVE REQUIREMENTS TO ENSURE ACCESSIBILITY FOR TESTING, MAINTENANCE AND APPROVAL OF THE DISTRICT. VARIANCE OF ANY INSTALLATION MUST HAVE PRIOR WRITTEN APPROVAL OF THE DISTRICT.

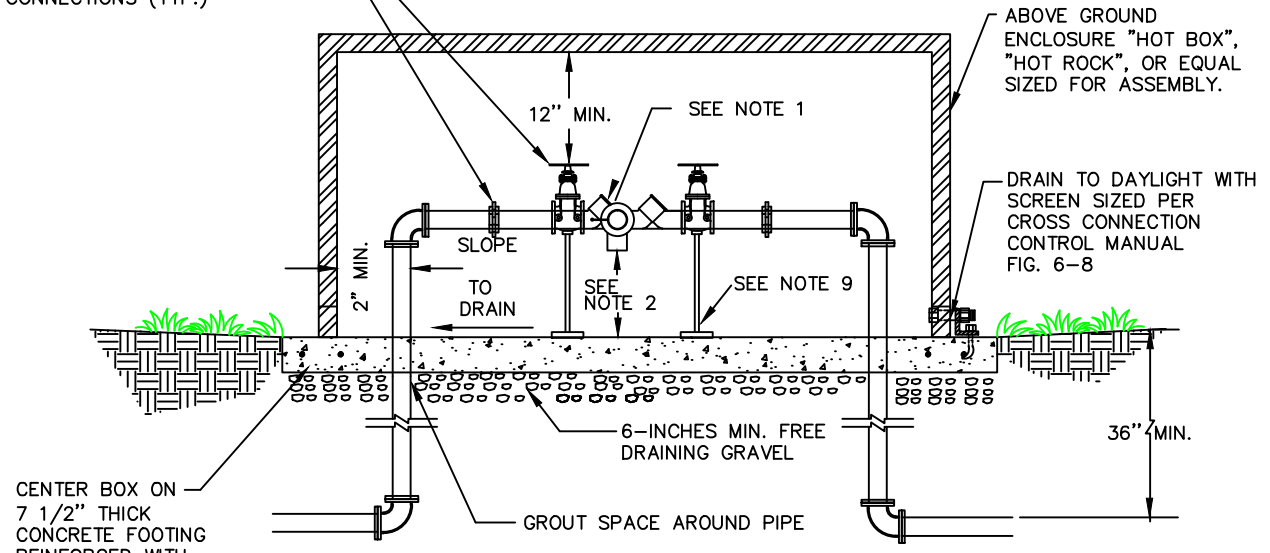
AIR GAP REQUIREMENTS:

1. AIR GAP MUST BE TWICE THE INLET DIAMETER OF THE INLET PIPE, MINIMUM OF 1-INCH FOR 1/2" PIPE OR SMALLER.
2. THE AIR GAP MUST PROVIDE A PHYSICAL SEPARATION FROM THE BOTTOM OF THE INLET PIPING TO THE TOP OF THE OVERFLOW RIM OF THE RECEIVING VESSEL.
3. IF INLET PIPING IS CUT DIAGONALLY TO DECREASE SPLASHING, THE AIR GAP SEPARATION IS MEASURED FROM THE BOTTOM OF THE CUT TO THE RECEIVING VESSEL.
4. IF AIR GAP IS LOCATED NEAR SIDEWALLS, THE SEPARATION INCREASES TO THREE TIMES THE INLET DIAMETER OF THE INLET PIPING, MINIMUM OF 1- $\frac{1}{2}$ INCHES.

REV. 3/06/07

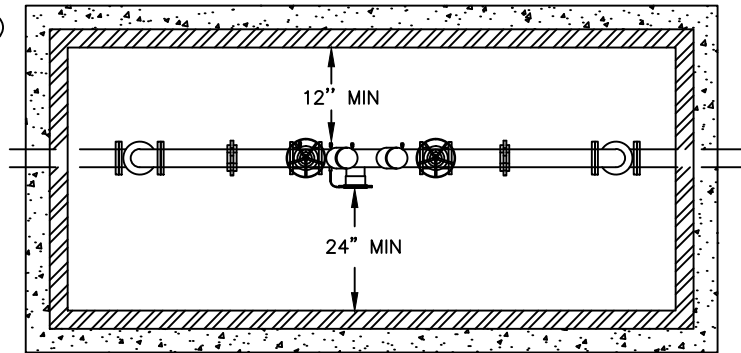
STANDARD RPBA NOTES & INSTALLATION REQUIREMENTS

FOR 2-1/2 INCH & SMALLER USE APPROVED VALVE AND UNION CONNECTIONS (TYP.)



CENTER BOX ON 7 1/2" THICK CONCRETE FOOTING REINFORCED WITH TWO- #4 REBAR (6-INCH THICK FOOTING MAY BE USED FOR 2-1/2 INCH & SMALLER)

PROFILE VIEW



PLAN VIEW

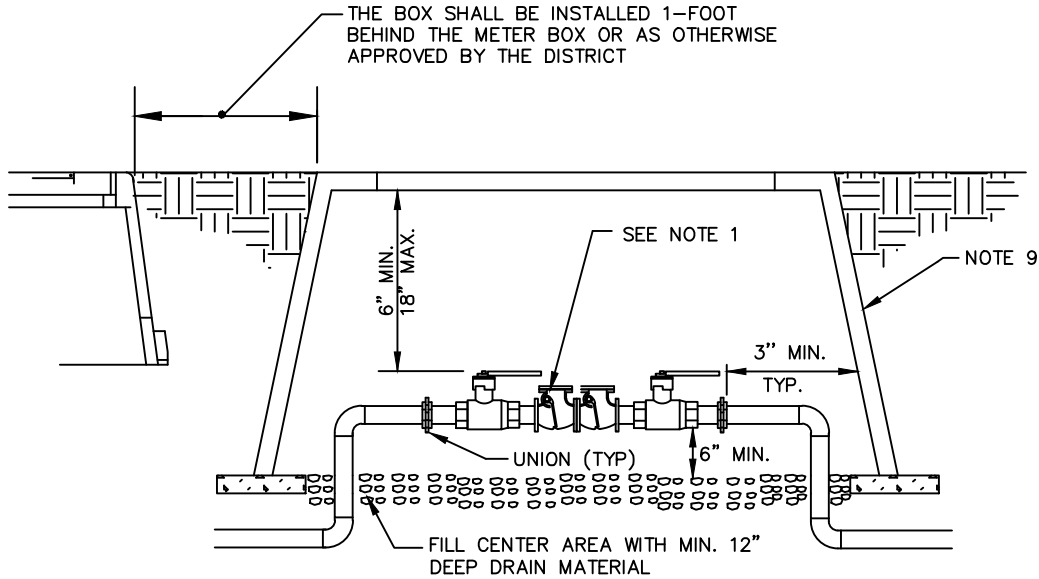
RPBA INSTALLATION

NOTES:

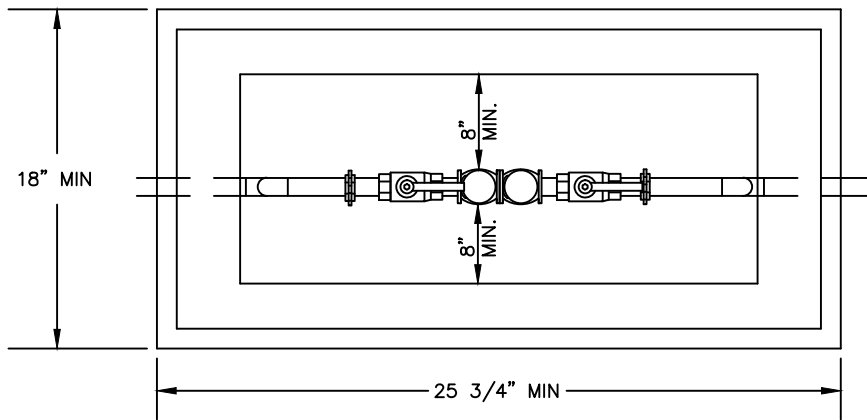
1. MUST BE ON THE LATEST DEPT. OF HEALTH APPROVED LIST OF BACKFLOW PREVENTION ASSEMBLIES.
2. MUST BE INSTALLED ABOVE FINISHED GRADE, MIN. 12 INCHES TO BOTTOM OF RELIEF PORT.
3. WHEN INSTALLED INSIDE A BUILDING, A FLOOR DRAIN SIZED TO ACCEPT MAXIMUM DISCHARGE FROM THE RELIEF ASSEMBLY IS REQUIRED.
4. FREEZE PROTECTION MUST BE PROVIDED.
5. RISERS AND ALL PIPE IN BOX TO BE BRASS, COPPER, OR PVC.
6. DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING. ASSEMBLIES MUST BE INSTALLED ABOVE GROUND.
7. A DISTRICT CROSS CONNECTION SPECIALIST SHALL INSPECT INSTALLATION OF DEVICE AND RECEIVE TEST REPORTS PRIOR TO ESTABLISHMENT OF WATER SERVICE OR APPROVAL. TEST REPORTS MUST BE SIGNED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER AND IMMEDIATELY SENT TO THE DISTRICT.
8. SOME CLEARANCES (I.E. SIDE AND TOP) MAY NOT BE REQUIRED FOR DEVICES WITH A FULLY REMOVABLE ENCLOSURE.
9. SUPPORTS MUST BE INSTALLED FOR SIZES LARGER THAN 2-1/2".

REV. 3/07/07

REDUCED PRESSURE BACKFLOW ASSEMBLY (RPBA) INSTALLATION



PROFILE VIEW



PLAN VIEW

DCVA INSTALLATION

NOTES:

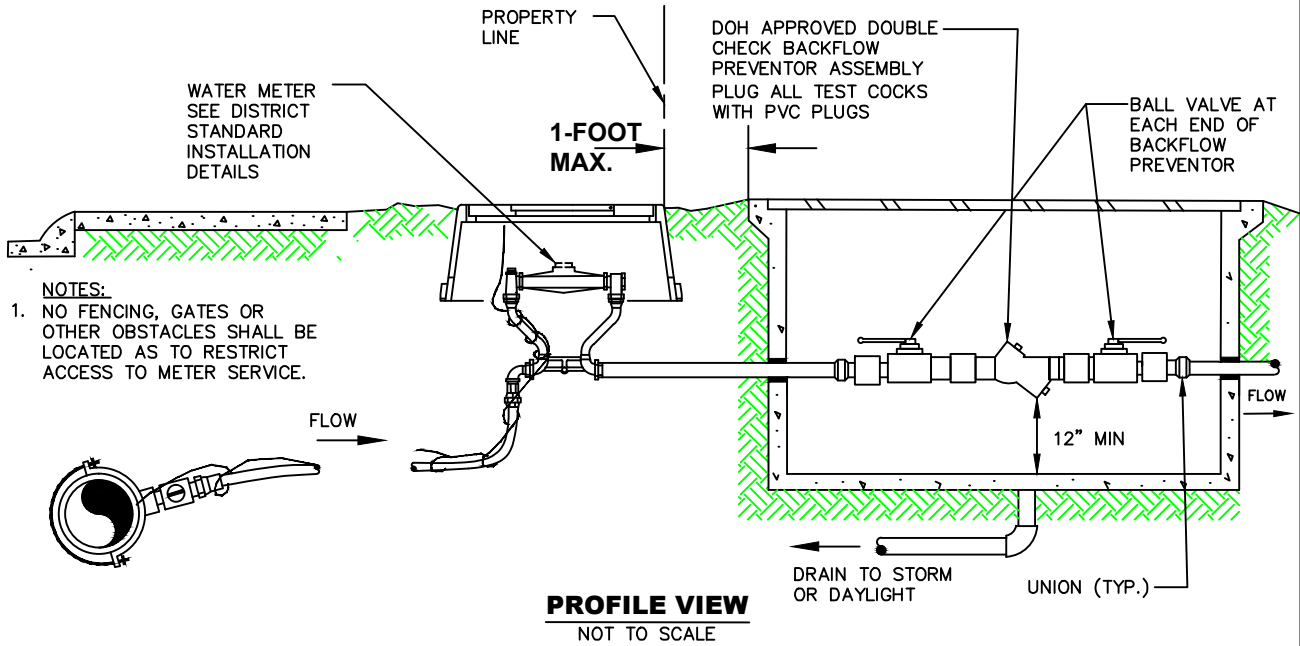
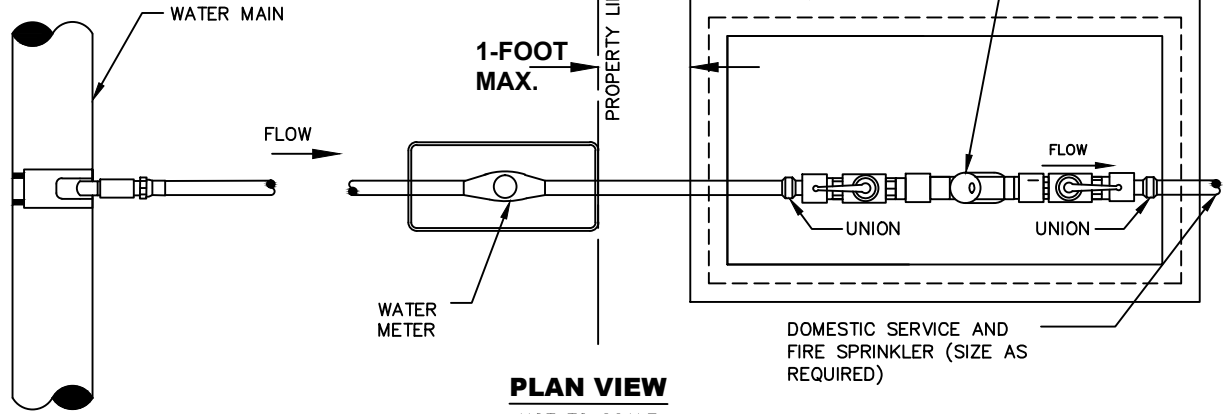
1. MUST BE ON THE LATEST DEPT. OF HEALTH APPROVED LIST OF BACKFLOW PREVENTION ASSEMBLIES.
2. MAY BE INSTALLED BELOW GROUND IN AN APPROVED VAULT.
3. FREEZE PROTECTION IS THE RESPONSIBILITY OF THE OWNER.
4. RISERS AND ALL PIPE IN BOX TO BE BRASS, COPPER, OR PVC.
5. THE DCVA SHALL NOT BE INSTALLED WHERE IT MAY BECOME SUBMERGED.
6. A DISTRICT CROSS CONNECTION SPECIALIST SHALL INSPECT INSTALLATION OF DEVICE AND RECEIVE TEST REPORTS PRIOR TO ESTABLISHMENT OF WATER SERVICE OR APPROVAL. TEST REPORTS MUST BE SIGNED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER AND IMMEDIATELY SENT TO THE DISTRICT.
7. FOR 2-1/2" TO 3-1/2" DCVA'S, USE A UTILITY VAULT 506-LA W/LOCKING STEEL DOOR NO. 55-332.P.
8. FOR 4" AND LARGER DCVA'S, USE A UTILITY VAULT 687-LA W/BASE 687-SB AND 2 LOCKING STEEL DOOR NO. 686-TL-2-332P.
9. FOR 1-INCH AND SMALLER DCVA USE CARSON INDUSTRIES "1220-12" OR EQUAL (21-1/2"X15") FOR 1 1/4-INCH TO 2-INCH DCVA USE CARSON INDUSTRIES "JUMBO BOX 1730-12" OR EQUAL (33-1/2"X20-1/2")

REV. 3/7/07

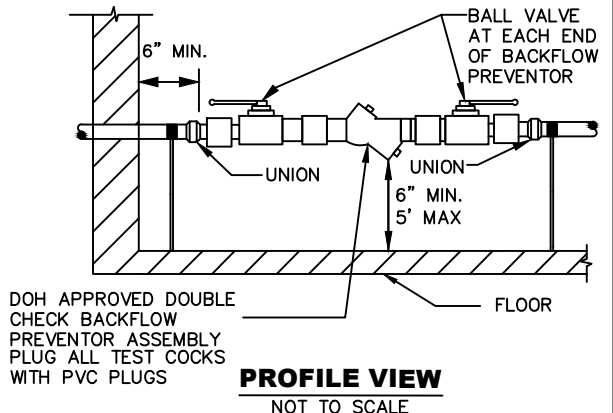
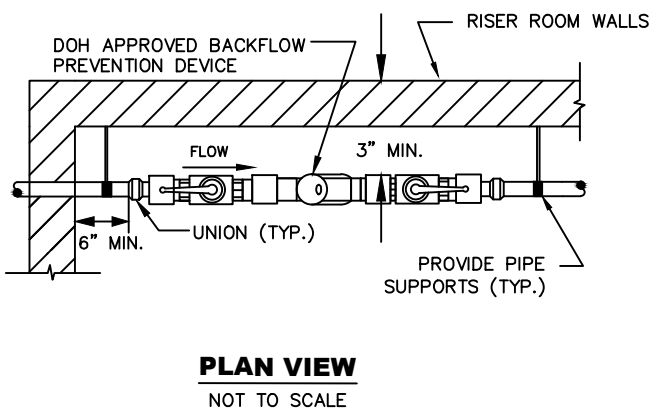
DOUBLE CHECK VALVE ASSEMBLY (DCVA) INSTALLATION

SEE DISTRICT STANDARDS FOR WATER SERVICE METER BOX REQUIREMENTS

FOR AREAS SUBJECT TO VEHICULAR TRAFFIC, USE PRECAST CONCRETE VAULT 3'-8" x 2'-8" x 3'-6" UTILITY VAULT CO. MODEL 233-LA WITH NO. 23-233P DIAMOND PLATE COVER OR EQUAL. FOR NON-TRAFFIC AREAS USE CARSON PLASTIC VAULT NO. 1730 OR EQUAL 1'-6" x 2'-1" x 3'-2"



- NOTES:**
1. NO FENCING, GATES OR OTHER OBSTACLES SHALL BE LOCATED AS TO RESTRICT ACCESS TO METER SERVICE.



ALTERNATE / ADDITIONAL DCVA IN RISER ROOM DETAIL

STANDARD FIRE SPRINKLER DCVA CONNECTION DETAIL

REV. 07/23/2008

FIRE_SPRINKLER_DETAIL.DWG

GENERAL DCDA NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO THE APPROPRIATE FEDERAL, STATE, COUNTY OR DISTRICT REQUIREMENTS.
2. ALL DCDA_s SHALL BE APPROVED FOR INSTALLATION WITHIN THE STATE OF WASHINGTON BY THE WASHINGTON STATE DEPARTMENT OF HEALTH. THE CONTRACTOR SHALL PROVIDE THE DISTRICT WITH SPECIFICATIONS AND SHOP DRAWINGS OF THE APPROVED DCDA PRIOR TO CONSTRUCTION.
3. THE SUPPLY LINE FOR THE DCDA SHALL BE DUCTILE IRON, A MINIMUM OF 4" DIA. AND MEET THE MATERIAL AND CONSTRUCTION REQUIREMENTS OF THE DISTRICT FOR WATER MAIN CONSTRUCTION.
4. THE CONTRACTOR SHALL INSTALL AT THE WATER MAIN A TEE AND 4" MINIMUM SIZED GATE VALVE ON ALL DCDA SYSTEMS. WET TAPS ARE ONLY ALLOWED ON EXISTING WATER MAINS.
5. A FLEXIBLE FITTING (MJ SLEEVE) SHALL BE INSTALLED WHEN ENTERING THE VAULT. THIS FITTING MAY BE OMITTED IF AN MJ BELL CONNECTION IS WITHIN 5 FEET OF THE VAULT.
6. THE CONTRACTOR SHALL LEVEL THE UTILITY VAULTS AND ADJUST THE COVER TO MATCH THE EXISTING GRADE OR 6" ABOVE GRADE IN UNIMPROVED AREAS.
7. THE CONTRACTOR SHALL INSTALL A LADDER-UP AS SHOWN IN THE DETAILS. SUBMIT PRODUCT INFORMATION FOR DISTRICT REVIEW.
8. ALL VAULTS SHALL BE INSTALLED WITH A 4" ZURN FLOOR DRAIN MODEL 551 W/ GRATING ON A 4" PVC DRAIN PIPE. THE DRAIN SHALL BE RUN TO DAYLIGHT OR A STORM DRAIN SYSTEM WITH A MINIMUM OF 4" SCHEDULE 80 PVC STORM PIPE. IF POSITIVE DRAINAGE FROM THE VAULT CANNOT BE ACHIEVED A SUMP PUMP SYSTEM WILL BE REQUIRED. SUMP PUMP SHALL BE ZOELLER "MIGHTY-MATE" AUTOMATIC SUBMERSIBLE PUMP. WRITTEN DISTRICT APPROVAL IS REQUIRED FOR SUMP PUMP SYSTEM. VAULT SHALL BE CONSTRUCTED SO BACKFLOW ASSEMBLY DOES NOT BECOME SUBMERGED.
9. FIRE DEPARTMENT CONNECTIONS SHALL BE LOCATED, SIZED AND INSTALLED PER THE REQUIREMENTS OF THE FIRE MARSHAL AND AS SHOWN ON THE FIRE MARSHAL APPROVED DRAWINGS.
10. IF REQUIRED, THE POST INDICATOR VALVE IS TO BE INSTALLED AT THE LOCATION APPROVED BY THE FIRE MARSHAL AND AS SHOWN ON THE FIRE MARSHAL APPROVED DRAWINGS.
11. ALL TEST COCKS INSTALLED WITH THE DCDA SHALL HAVE THE APPROPRIATE PLUGS INSTALLED.
12. SIZING OF THE DCDA AND THE DCDA SUPPLY LINE IS THE RESPONSIBILITY OF THE PROPERTY OWNER. WHERE THE DCDA IS INSTALLED WITHIN AN UNDERGROUND VAULT AS SHOWN IN THE DETAILS, THE DISTRICT WILL MAINTAIN AND OPERATE THE SUPPLY LINE BETWEEN THE MAIN LINE AND DCDA. THE DCDA AND ALL ITEMS AFTERWARDS IS THE RESPONSIBILITY OF THE PROPERTY OWNER.
13. BACKFLOW ASSEMBLY TYPE AND INSTALLATION REQUIREMENTS MAY VARY AND WILL BE AT THE DISTRICT'S DISCRETION BASED UPON WASHINGTON STATE DEPARTMENT OF HEALTH DRINKING WATER REGULATIONS RELATING TO CROSS CONNECTION WAC 246-290-010. THE DISTRICT REQUIREMENTS MAY BE EQUAL TO OR MORE STRINGENT THAN THE ABOVE CITED CODE.

PAINT SCHEDULE

EXTERIOR OF VAULT BELOW GRADE TWO COATS OF BLACK BITUMASTIC SOLUTION
VAULT SHOULD BE DRIED WITH NO MOISTURE PRESENT PRIOR TO APPLICATION
OF COATINGS.

PAINT INTERIOR PIPING AND VALVES ONLY, BACKFLOW ASSEMBLY SHALL NOT BE PAINTED.

- 1 - COAT RUST RESISTOR PRIMER RED #1013
- 2 - COATS SAFETY BLUE

REV. 8/28/09

DOUBLE CHECK DETECTOR ASSEMBLY NOTES

