

*ONLY IF EXISTING MAIN IS D.I. OTHERWISE USE SADDLE W/ CC THREAD

STD. DETAIL No. 1



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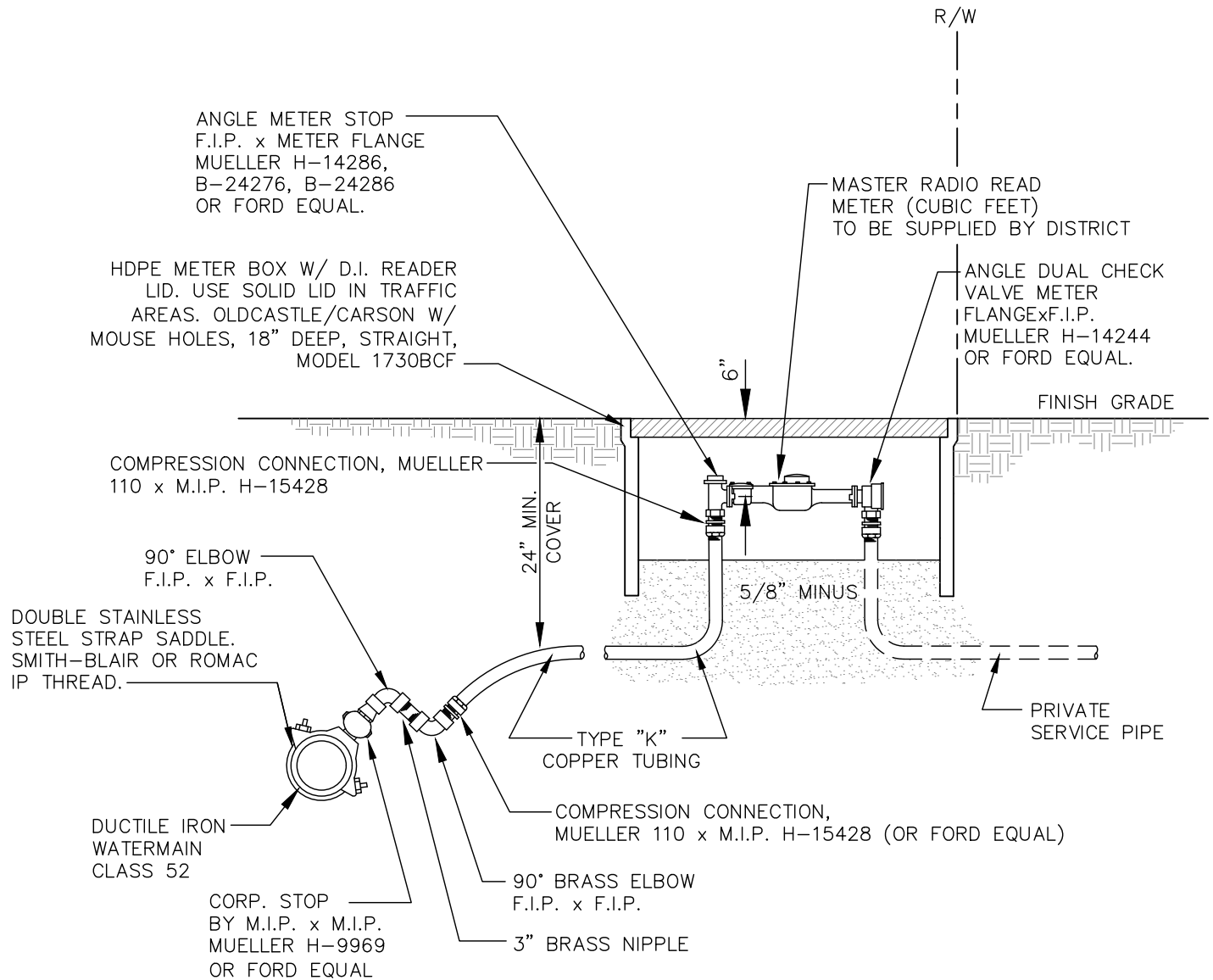
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3/4" & 1" DOMESTIC SERVICE DETAIL

| | | | | |
|-----------------------|--|---------------|--------------------|-------------------|
| PLOT DATE AUG 2019 | DRAWN AMJ | DESIGN BS | CHECKED DBH/RDS | DISTRICT APPROVED |
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STD. DETAIL No. 2



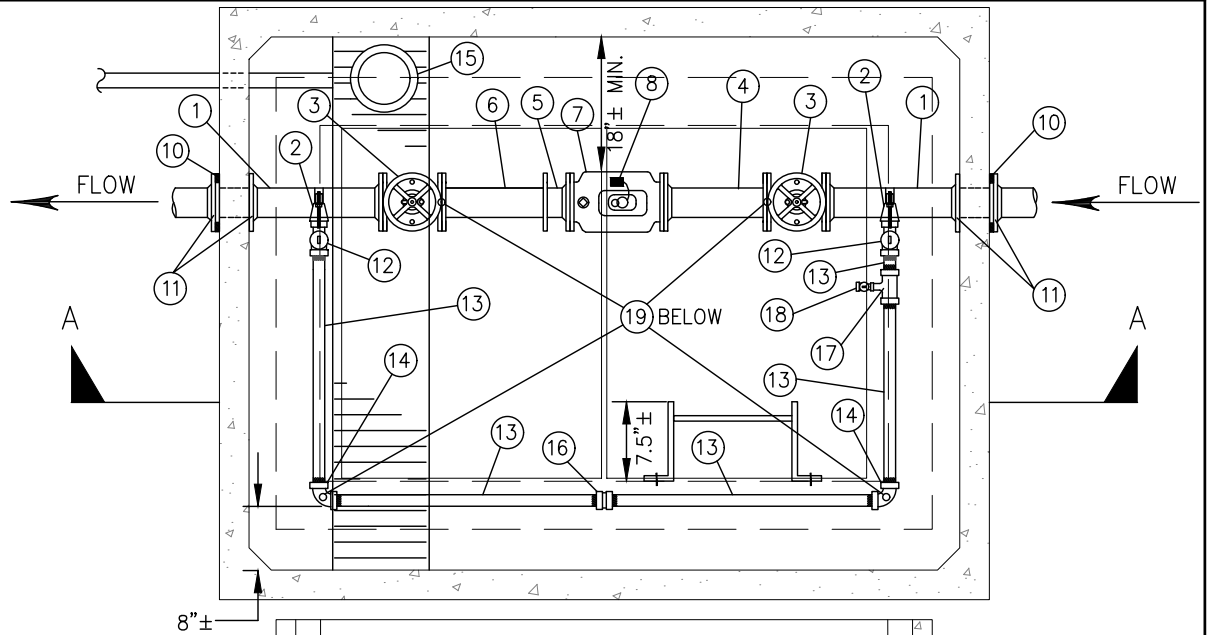
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1-1/2" & 2" DOMESTIC SERVICE DETAIL

| | | | | |
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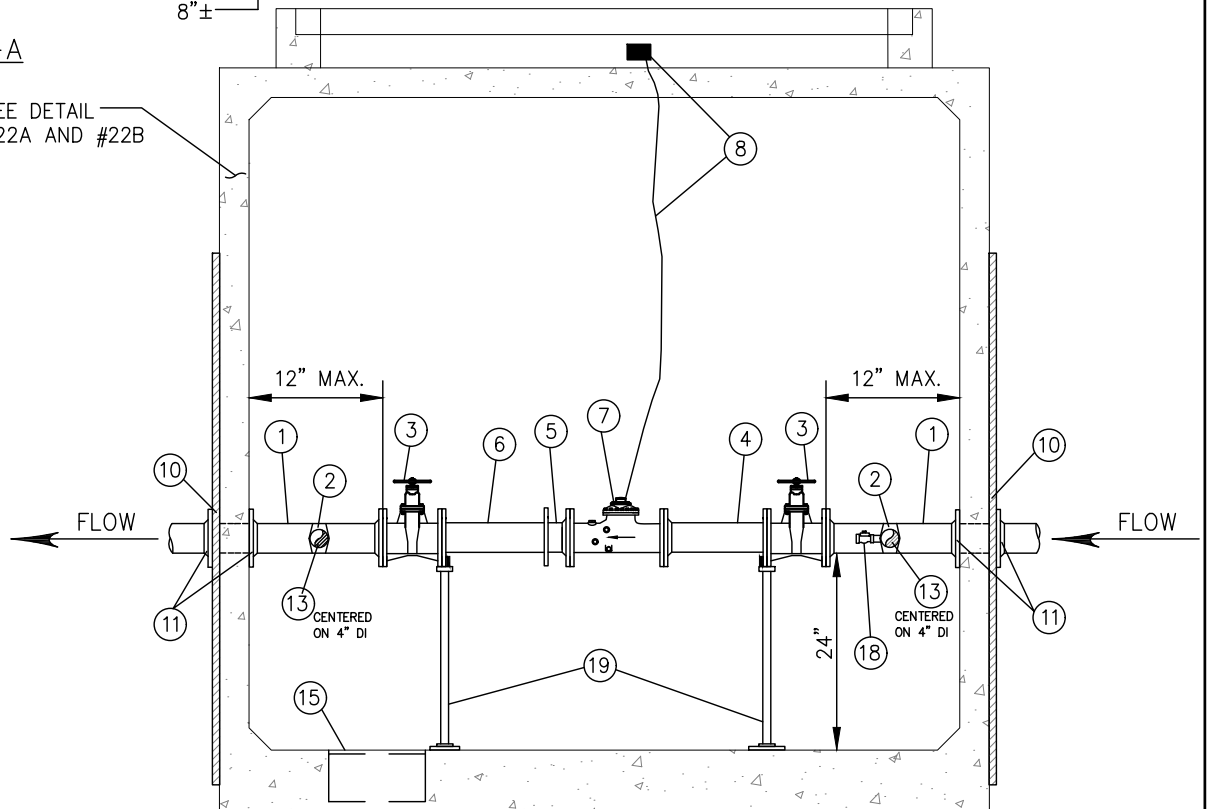


PLAN VIEW
NOT TO SCALE



SECTION A-A
NOT TO SCALE

SEE DETAIL
#22A AND #22B



METER VAULT REQUIREMENTS (ALL VAULTS TO BE SOLID WALL-NO KNOCK-OUTS)

| METER SIZE | MAINLINE | BY-PASS | MAINLINE METER TYPE |
|------------|----------|---------------|---------------------------------|
| 6" | 6" D.I. | 2" COPPER | 6" SENSUS COMPOUND OR MAG METER |
| 4" | 4" D.I. | 1 1/2" COPPER | 4" SENSUS COMPOUND OR MAG METER |
| 3" | 4" D.I. | 1 1/2" COPPER | 3" SENSUS COMPOUND OR MAG METER |

STD. DETAIL No. 3A



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3" & 4" WATER SERVICE

PLOT DATE
AUG 2019

DRAWN
AMJ

DESIGN
PGL

CHECKED
DBH/RDS

DISTRICT APPROVED

PLOT SCALE
NTS

FILE NAME

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DATE APPROVED



MATERIAL LIST:

| ITEM | QTY. | DESCRIPTION |
|------|------|--|
| ① | 2 | D.I. ADAPTER, FL x PE, 3'± LONG. |
| ② | 2 | SADDLE WITH STAINLESS STEEL STRAP, 2" IP TAP, FORD#FS202 SADDLE WITH IP7 TAP OR EQUAL |
| ③ | 2 | RESILIENT SEAT GATE VALVE, NRS, FL, O-RING PACKING WITH HANDWHEEL. VALVE TO BE, MUELLER, M&H, OR CLOW MEETING AWWA C-515. |
| ④ | 1 | D.I. SPOOL, FL x FL, LENGTH TO FIT |
| ⑤ | 1 | ROMAC RFCA. |
| ⑥ | 1 | D.I. ADAPTER, FL x PE, LENGTH TO FIT. |
| ⑦ | 1 | FLANGED SINGLE REGISTER HIGH PERFORMANCE COMPOUND METER, TO BE PROVIDED BY DISTRICT AND INSTALLED BY CONTRACTOR. |
| ⑧ | 1 | METER TRANSCEIVER UNIT (MXU) AND MOUNTING BRACKET, TO BE PROVIDED BY DISTRICT AND INSTALLED BY CONTRACTOR ON HATCH RISER. |
| ⑨ | 1 | NOT USED. |
| ⑩ | 4 | 2" X 2" X 1/4" MIN. WALL THICKNESS SQUARE STEEL TUBING, 6' MIN. LENGTH. BOLT TO VAULT WALL IN FOUR PLACES WITH STAINLESS STEEL ANCHOR BOLTS. |
| ⑪ | 4 | UNI-FLANGE ADAPTER SERIES 400. |
| ⑫ | 2 | 2" MIP X FIP LOCKABLE BALL VALVE. |
| ⑬ | 5 | 2" BRASS NIPPLE, LENGTH TO FIT. |
| ⑭ | 2 | 2" BRASS 90° BEND. |
| ⑮ | 1 | SUMP PUMP OR GRAVITY DRAIN AS REQUIRED BY SITE CONDITIONS, TO BE DETERMINED BY THE DEVELOPER AND CONTRACTOR AND REVIEWED AND APPROVED BY THE DISTRICT. FOR GRAVITY: SUMP DRAIN, ZURN Z-551, THREADED, WITH ZURN Z-1099 BACKWATER VALVE, THREADED x NO-HUB, WITH 4" D.I. PIPE TO 12" MIN. BEYOND VAULT WALL AND 4" D.I., MIN. 1% SLOPE TO DAYLIGHT OR C.B. FOR SUMP PUMP: 16" DIAM. x 6" DEEP SUMP WITH ZOELLER MODEL 57 SUMP PUMP. PROVIDE ELECTRICAL POWER PER ALL APPLICABLE CODES. CONSTRUCT 1-1/4", SCH. 80 PVC DISCHARGE PIPING, WITH LOCATE WIRE. TO NEAREST CATCH BASIN OR APPROVED LOCATION. |
| ⑯ | 1 | 2" BRASS UNION. |
| ⑰ | 1 | 2" X 1" BRASS TEE. |
| ⑱ | 1 | 3/4" HOSE BIB AND/OR #S92. |
| ⑲ | 4 | ADJUSTABLE PIPING SUPPORT, STANDON MODEL #S89, OR EQUAL, SET ON CONCRETE. |

NOTES:

1. PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR ALL MATERIALS TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. SEE STANDARD DETAIL #22A FOR VAULT DETAIL.
3. ALL PIPE AND CONDUIT PENETRATIONS SHALL BE CORE-DRILLED ON-SITE AND SHALL BE SEALED WATERTIGHT. PROVIDE "LINK-SEAL" FITTINGS AT ALL PENETRATIONS.
4. ALL PIPING AND APPURTENANCES OUTSIDE THE VAULT SHALL BE RESTRAINED JOINT. IN ADDITION TO THE RESTRAINED JOINTS, VERTICAL & HORIZONTAL THRUST BLOCKING AT ALL TEES AND BENDS PER DISTRICT STANDARD WATER DETAIL #7 & #8 SHALL BE REQUIRED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL PERMITS AND APPROVALS FOR SUMP PUMP INSTALLATIONS.
6. IF REQUIRED FOR PREMISE ISOLATION, AN APPROVED BACKFLOW ASSEMBLY SHALL BE INSTALLED IMMEDIATELY BEHIND THE WATER METER PER DISTRICT STANDARD DETAIL #23.

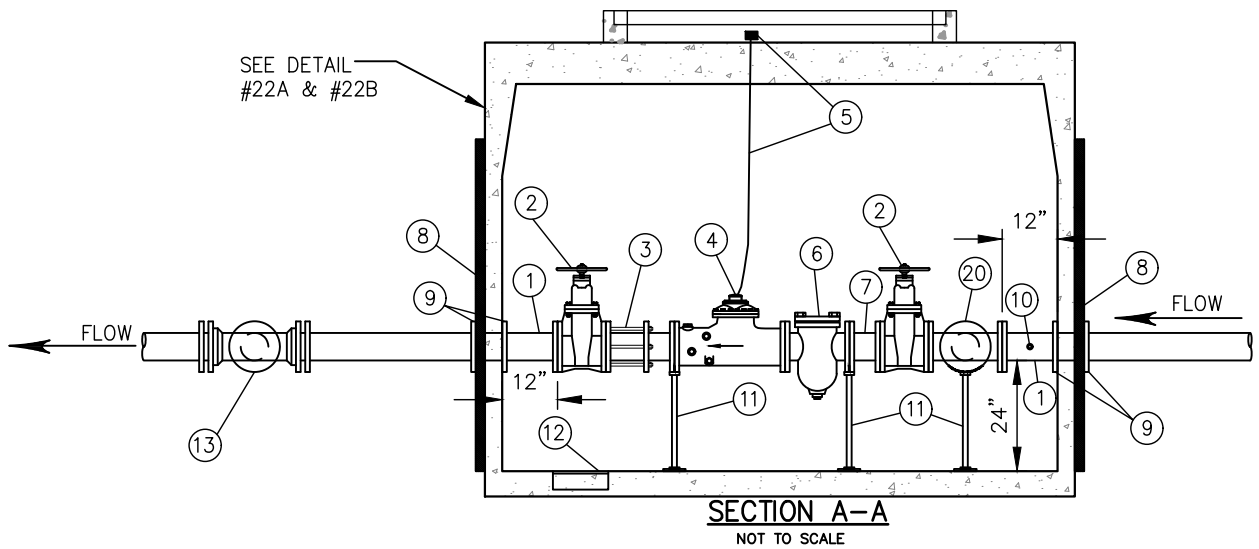
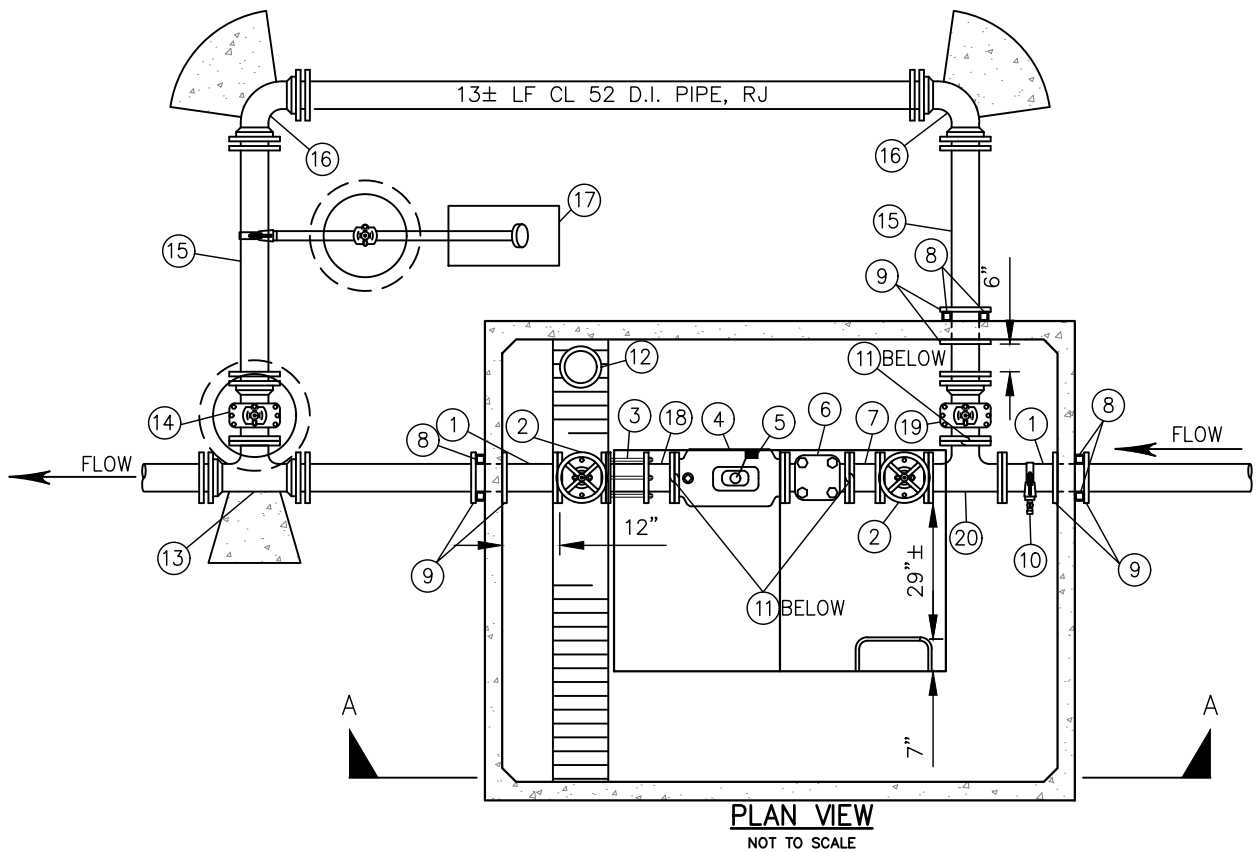
STD. DETAIL No. 3B

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3" & 4" WATER SERVICE

| | | | | |
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STD. DETAIL No. 4A



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6" WATER SERVICE

| | | | | |
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MATERIAL LIST: ALL PIPING & APPURTENANCES TO MATCH METER SIZE

| ITEM | QTY. | DESCRIPTION |
|------|------|---|
| ① | 2 | D.I. ADAPTER, FL x PE, 5'± LONG. |
| ② | 2 | RESILIENT SEAT GATE VALVE, NRS, FL, O-RING PACKING WITH HANDWHEEL. VALVE TO BE KENNEDY, MUELLER OR CLOW MEETING AWWA C-509. |
| ③ | 1 | ROMAC RFCA. |
| ④ | 1 | FLANGED SINGLE REGISTER HIGH PERFORMANCE COMPOUND METER, TO BE PROVIDED BY DISTRICT AND INSTALLED BY CONTRACTOR. |
| ⑤ | 1 | METER TRANCEIVER UNIT (MXU) AND MOUNTING BRACKET, TO BE PROVIDED BY DISTRICT AND INSTALLED BY CONTRACTOR ON HATCH RISER. |
| ⑥ | 1 | FLANGED STRAINER, TO BE PROVIDED BY DISTRICT AND INSTALLED BY CONTRACTOR. |
| ⑦ | 1 | 6" D.I. SPOOL, FL X FL |
| ⑧ | 6 | 2" X 2" X 1/4" MIN. WALL THICKNESS SQUARE STEEL TUBING, 6' MIN. LENGTH. BOLT TO VAULT WALL IN FOUR PLACES WITH STAINLESS STEEL ANCHOR BOLTS. |
| ⑨ | 6 | UNI-FLANGE ADAPTER SERIES 400. |
| ⑩ | 1 | SADDLE WITH STAINLESS STEEL STRAP, 1" IP TAP AND 3/4" HOSE BIB. |
| ⑪ | 3 | ADJUSTABLE PIPING SUPPORT, STANDON MODEL #S89, OR EQUAL, AND/OR #S92. SET ON CONCRETE. |
| ⑫ | 1 | SUMP PUMP OR GRAVITY DRAIN AS REQUIRED BY SITE CONDITIONS, TO BE DETERMINED BY THE DEVELOPER AND CONTRACTOR AND REVIEWED AND APPROVED BY THE DISTRICT. FOR GRAVITY: SUMP DRAIN, ZURN Z-551, THREADED, WITH ZURN Z-1099 BACKWATER VALVE, THREADED x NO-HUB, WITH 4" D.I. PIPE TO 12" MIN. BEYOND VAULT WALL AND 4" D.I., MIN. 1% SLOPE TO DAYLIGHT OR C.B. FOR SUMP PUMP: 16" DIAM. x 6" DEEP SUMP WITH ZOELLER MODEL 57 SUMP PUMP. PROVIDE ELECTRICAL POWER PER ALL APPLICABLE CODES. CONSTRUCT 1-1/4", SCH. 80 PVC DISCHARGE PIPING, WITH LOCATE WIRE TO NEAREST CATCH BASIN OR APPROVED LOCATION. |
| ⑬ | 1 | D.I. TEE, RJ x FL. |
| ⑭ | 1 | RESILIENT SEAT GATE VALVE, NRS, FL x RJ. VALVE TO BE KENNEDY, MUELLER, M&H, OR CLOW MEETING AWWA C-515. VALVE BOX TO BE PER DISTRICT STANDARD WATER DETAIL #11. |
| ⑮ | 2 | D.I. SPOOLS, 1'± LONG. |
| ⑯ | 2 | 90° D.I. BENDS, RJ. |
| ⑰ | 1 | 2" BLOW-OFF ASSEMBLY, PER DISTRICT STANDARD WATER DETAIL #17. |
| ⑱ | 1 | 9" D.I. SPOOL, FL x PE |
| ⑲ | 1 | RESILIENT SEAT GATE VALVE, NRS, FL x RJ. VALVE TO BE KENNEDY, MUELLER, M&H, OR CLOW MEETING AWWA C-515. |
| ⑳ | 1 | D.I. TEE, FL x FL. |

NOTES:

1. PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR ALL MATERIALS TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. SEE DISTRICT STANDARD DETAIL #22A FOR VAULT SIZE & DETAIL.
3. ALL PIPE AND CONDUIT PENETRATIONS SHALL BE CORE-DRILLED ON-SITE AND SHALL BE SEALED WATERTIGHT. PROVIDE "LINK-SEAL" FITTINGS AT ALL PENETRATIONS.
4. ALL PIPING AND APPURTENANCES OUTSIDE THE VAULT SHALL BE RESTRAINED JOINT. IN ADDITION TO THE RESTRAINED JOINTS, THRUST BLOCKING AT ALL TEES AND BENDS PER DISTRICT STANDARD WATER DETAIL #7 & #8 SHALL BE REQUIRED.
5. THE CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL PERMITS AND APPROVALS FOR SUMP PUMP INSTALLATIONS.
6. IF REQUIRED FOR PREMISE ISOLATION, AN APPROVED BACKFLOW ASSEMBLY SHALL BE INSTALLED IMMEDIATELY BEHIND THE WATER METER PER DISTRICT STANDARD DETAIL #24.

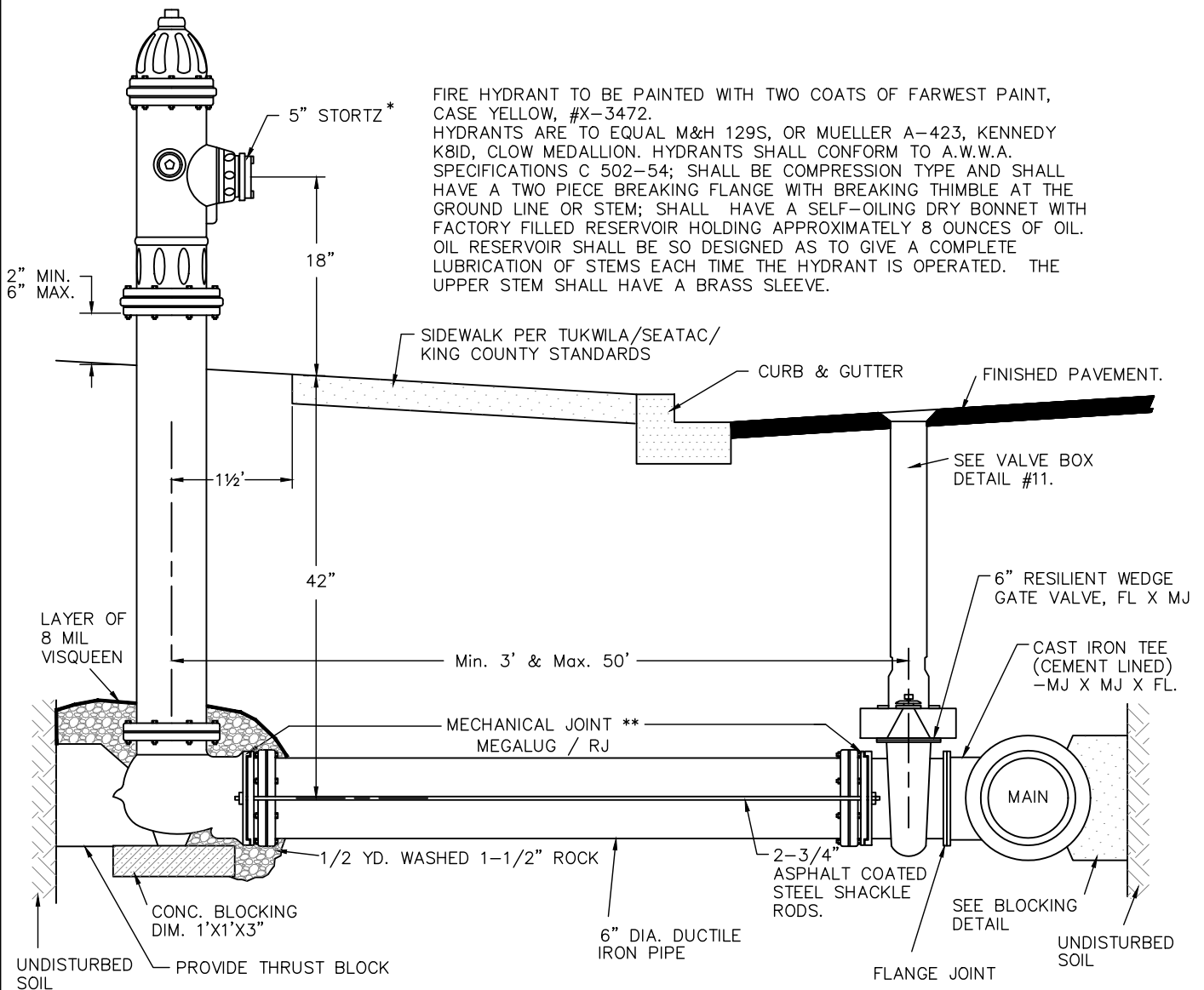
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6" WATER SERVICE

| | | | | |
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FIRE HYDRANT TO BE PAINTED WITH TWO COATS OF FARWEST PAINT, CASE YELLOW, #X-3472. HYDRANTS ARE TO EQUAL M&H 129S, OR MUELLER A-423, KENNEDY K8ID, CLOW MEDALLION. HYDRANTS SHALL CONFORM TO A.W.W.A. SPECIFICATIONS C 502-54; SHALL BE COMPRESSION TYPE AND SHALL HAVE A TWO PIECE BREAKING FLANGE WITH BREAKING THIMBLE AT THE GROUND LINE OR STEM; SHALL HAVE A SELF-OILING DRY BONNET WITH FACTORY FILLED RESERVOIR HOLDING APPROXIMATELY 8 OUNCES OF OIL. OIL RESERVOIR SHALL BE SO DESIGNED AS TO GIVE A COMPLETE LUBRICATION OF STEMS EACH TIME THE HYDRANT IS OPERATED. THE UPPER STEM SHALL HAVE A BRASS SLEEVE.

NOTES:

- HYDRANTS SHALL BE EQUIPPED WITH TWO 2 1/2" N.S.T. HOSE PORTS AND ONE 5" STORTZ PUMPER DISCHARGE PORT, AND SHALL HAVE A 1 1/4" PENTAGON OPEN-LIFT OPERATING NUT. HYDRANTS SHALL HAVE A 6" M.J. BOTTOM CONNECTION AND 5 1/4" MAIN VALVE OPENING, AND SHALL HAVE 18" ABOVE GRADE LEVEL TO THE CENTER OF THE PUMPER DISCHARGE PORT.
- WHERE NO CURB & GUTTER IS INSTALLED, FIRE HYDRANT SHALL BE LOCATED (IN RELATION TO STREET CENTER LINE) CLOSE TO PROPERTY LINE.
- HYDRANT INSTALLATIONS TO BE PER THIS STANDARD PLAN AND REQUIREMENTS OF TUKWILA MUNICIPAL CODE 14.24 AND CITY ORDINANCE OR CITY OF SEATAC REQUIREMENTS.

* 4 1/2" NST CITIES OF SEATAC AND TUKWILA
4 3/4" SST KING COUNTY

** MUST HAVE 2 FORMS OF RESTRAINT: MEGALUG & BLOCK. SHACKLE RODS IF ADEQUATE BLOCKING CANNOT BE INSTALLED. ALSO, PROVIDE SHACKLE RODS OR MEGALUGS PER LOCAL JURISDICTION.

STD. DETAIL No. 5



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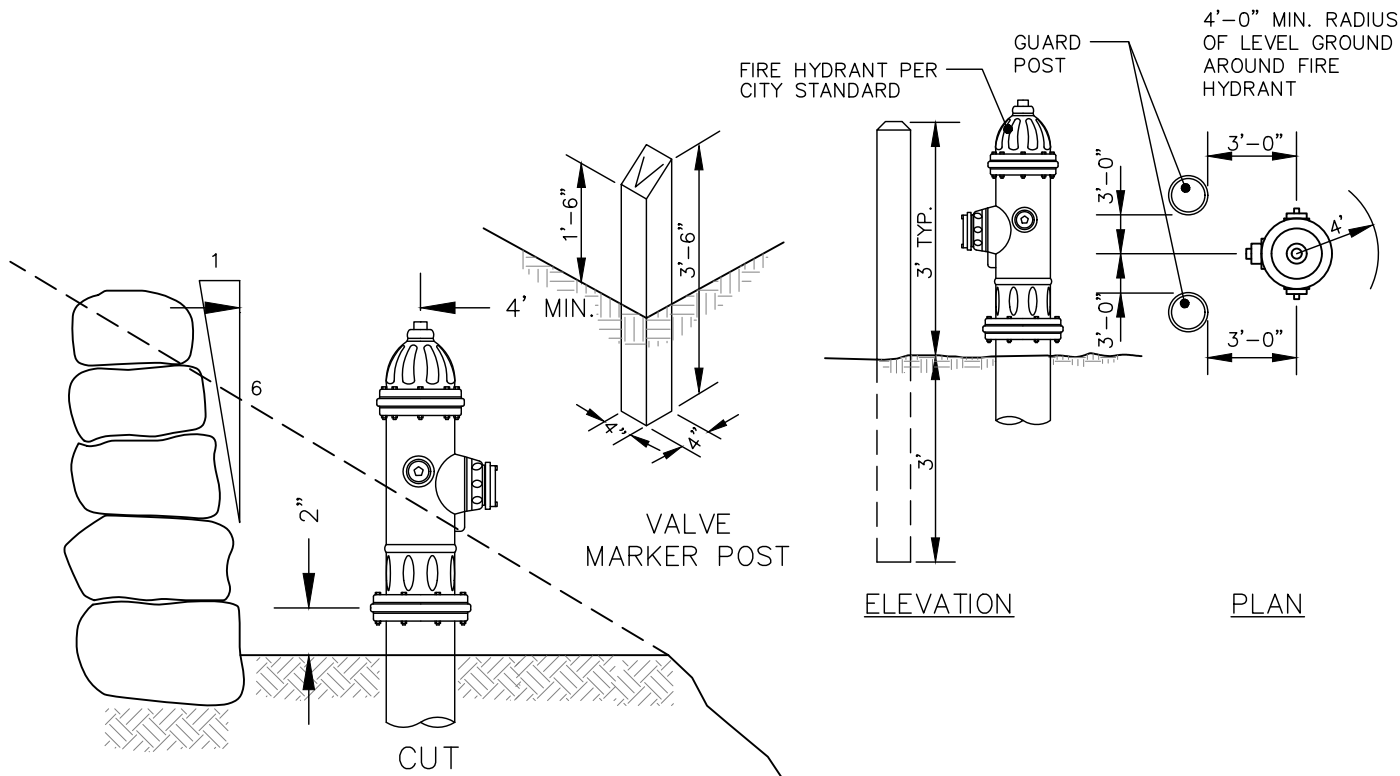
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FIRE HYDRANT ASSEMBLY DETAIL

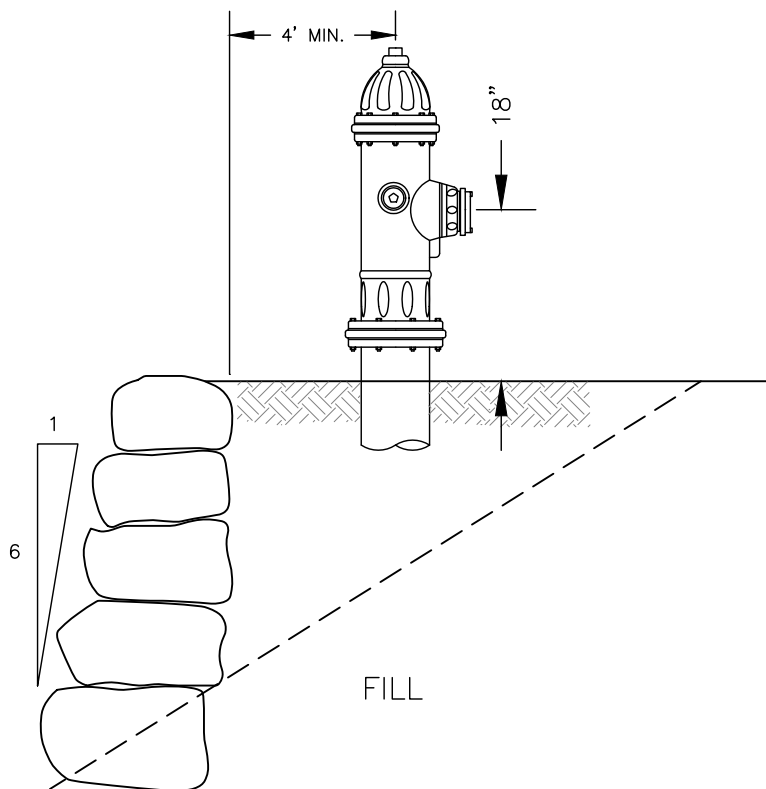
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ELEVATION

PLAN



HYDRANT IN CUT/FILL AREA

NOTES:

GUARD POST SHALL BE CONCRETE (MIN. 8" DIA.). POSTS SHALL BE 3 FEET FROM THE CENTER OF THE HYDRANT AND SHALL NOT BE IN DIRECT LINE WITH ANY DISCHARGE PORTS. POSTS SHALL BE 6 FEET LONG; 3-3 1/2 FEET SHALL BE BURIED. PAINTED FINISH SHALL BE THE SAME AS FOR HYDRANTS.

VALVE MARKER POST FOGTITE OR APPROVED EQUAL. PAINT AS SPECIFIED FOR HYDRANT GUARD POST. PAINT DISTANCE FROM THE VALVE MARKER TO THE VALVE ON THE POST WITH BLACK ENAMEL PAINT, USING 2" HIGH NUMERALS.

STD. DETAIL No. 6

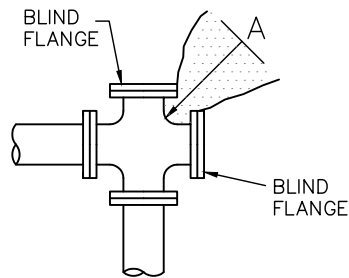


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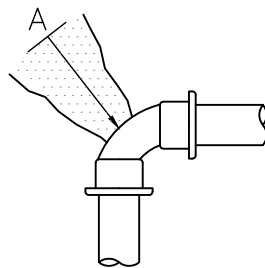
VALVE MARKER - GUARD POSTS

| | | | | |
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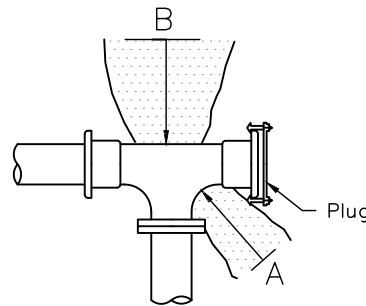




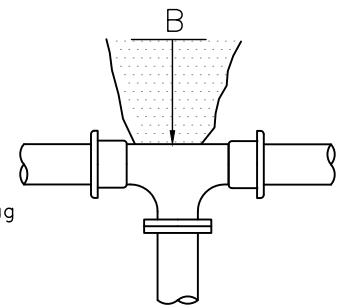
CAPPED CROSS



90° BEND



TEE W/ PLUG



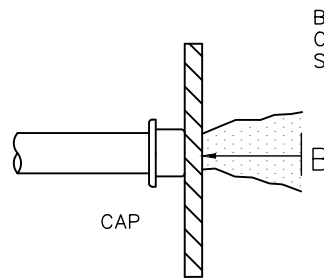
TEE W/O PLUG

THRUST BLOCK — TABLE
Min. Bearing Area Against Undisturbed Soil

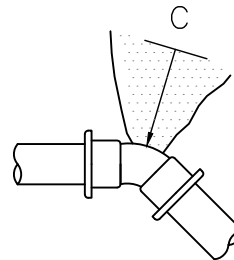
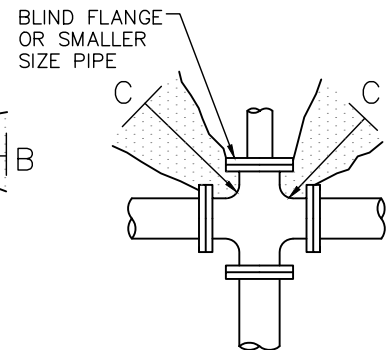
| Pipe Size | A (ft ²) | B (ft ²) | C (ft ²) | D (ft ²) | E (ft ²) |
|-----------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 4" | 3 | 1 | 1 | 1 | 1 |
| 6" | 4 | 4 | 2 | 1 | 1 |
| 8" | 7 | 6 | 4 | 2 | 1 |
| 10" | 11 | 10 | 6 | 3 | 2 |
| 12" | 16 | 14 | 9 | 5 | 3 |
| 14" | 22 | 19 | 12 | 6 | 3 |
| 16" | 29 | 25 | 16 | 8 | 4 |
| 18" | 36 | 31 | 20 | 10 | 5 |
| 20" | 45 | 39 | 24 | 13 | 6 |
| 22" | 54 | 47 | 29 | 15 | 8 |
| 24" | 64 | 56 | 35 | 18 | 9 |
| 28" | 87 | 76 | 48 | 24 | 12 |
| 30" | 101 | 87 | 55 | 28 | 14 |

NOTES:

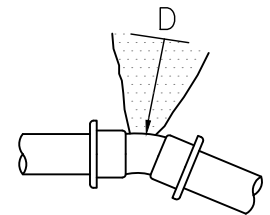
1. BEARING AREA OF CONCRETE THRUST-BLOCK BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2,000 POUNDS PER SQUARE FOOT.
2. AREA MUST BE ADJUSTED FOR OTHER PIPE SIZES, PRESSURES AND SOIL CONDITIONS.
3. CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.
4. BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING OF JOINT.
5. CONTRACTOR SHALL INSTALL BLOCKING ADEQUATE TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND OPERATION PRESSURE UNDER ALL CONDITIONS OF SERVICE.
6. THRUST BLOCK IS CONSIDERED TO ACT AS A SPREAD FOOTING; THEREFORE HEIGHT OF BLOCK MUST BE EQUAL TO OR LESS THAN 1/2 THE DEPTH FROM THE GROUND SURFACE TO THE BLOCK'S BASE.
7. THE QUANTITY OF CONCRETE DEPENDS UPON THE DISTANCE BETWEEN THE PIPE AND THE UNDISTURBED SOIL.
8. PROVIDE RESTRAINED JOINT BENDS AND PIPE IN LIEU OF BLOCKS IF THERE ARE SPACE CONFLICTS OR BEARING AREA HAS BEEN DISTURBED. PROVIDE SHACKLE RODS TO PROVIDE TWO MEANS OF THRUST RESTRAINT.
(THE ABOVE REQUIRES SUPERINTENDENT OR ENGINEER APPROVAL)



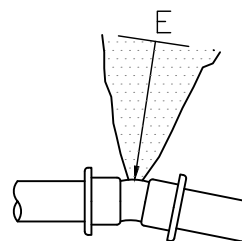
CAP



45° BEND



22 1/2° BEND



11 1/4° BEND

STD. DETAIL No. 7



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HORIZONTAL THRUST BLOCKING DETAIL & TABLE

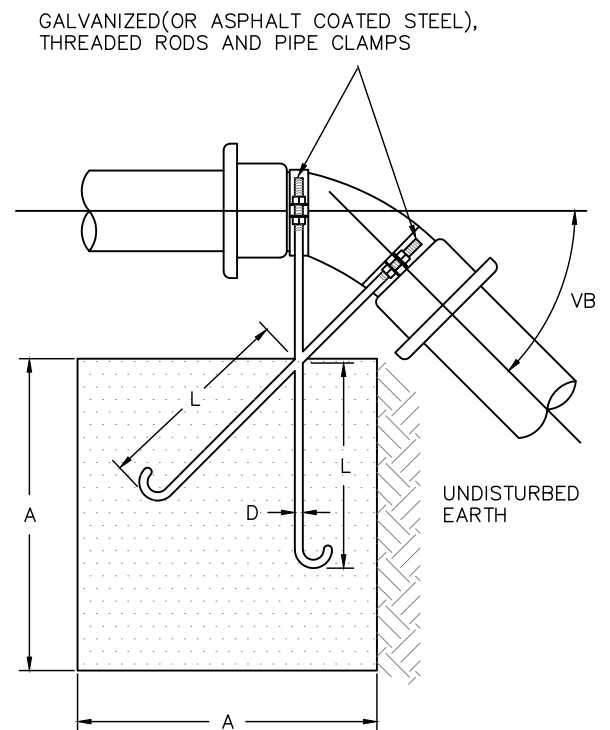
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| VERTICAL BLOCKING FOR 11¼° – 22½° – 30° BENDS | | | | | |
|--|--------------------|---------|-------------|------------------------|-------------|
| PIPE SIZE (inches) | V. B. (degrees) | CU. FT. | A (feet) | ROD Ø D (inches) | L (feet) |
| 4 | 11¼ | 8 | 2.0 | ¾ | 1.5 |
| | 22½ | 11 | 2.2 | | 2.0 |
| | 30 | 17 | 2.6 | | |
| 6 | 11¼ | 11 | 2.2 | ¾ | 2.0 |
| | 22½ | 25 | 2.9 | | |
| | 30 | 41 | 3.5 | | |
| 8 | 11¼ | 16 | 2.5 | ¾ | 2.0 |
| | 22½ | 47 | 3.6 | | |
| | 30 | 70 | 4.1 | ¾ | 2.5 |
| 10–12 | 11¼ | 32 | 3.2 | ¾ | 2.0 |
| | 22½ | 88 | 4.5 | 7/8 | 3.0 |
| | 30 | 132 | 5.1 | | |
| 16 | 11¼ | 70 | 4.1 | 7/8 | 3.0 |
| | 22½ | 184 | 5.7 | 1½ | 4.0 |
| | 30 | 275 | 6.5 | 1¼ | |
| 18–20 | 11¼ | 91 | 4.5 | 7/8 | 3.0 |
| | 22½ | 225 | 6.1 | 1¼ | 4.0 |
| | 30 | 330 | 6.9 | 1¾ | 4.5 |
| 24 | 11¼ | 128 | 5.0 | 1 | 3.5 |
| | 22½ | 320 | 6.8 | 1¾ | 4.5 |
| | 30 | 480 | 7.9 | 1¾ | 5.5 |
| VERTICAL BLOCKING FOR 45° BENDS | | | | | |
| 4 | 45 | 30 | 3.1 | ¾ | 2.0 |
| 6 | | 68 | 4.1 | | |
| 8 | | 123 | 5.0 | | |
| 12 | | 232 | 6.1 | ¾ | 2.5 |
| 16 | | 478 | 7.8 | 1½ | 4.0 |
| 20 | | 560 | 8.2 | 1¼ | |
| 24 | | 820 | 9.4 | 1¾ | 4.5 |

NOTE:

CONCRETE BLOCKING BASED ON 200 PSI PRESSURE AND 2500 PSI CONCRETE, AND 2000 PSF MIN. SOIL BEARING CAPACITY.



VERTICAL BLOCKING FOR 11¼°, 22½°, 30°, 45°, AND 90° BENDS *

* 90° VERTICAL BENDS NOT ALLOWED ON PIPE LARGER THAN 8 INCHES DIA.

STD. DETAIL No. 8



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VERTICAL THRUST BLOCKING DETAIL & TABLE

| | | | | |
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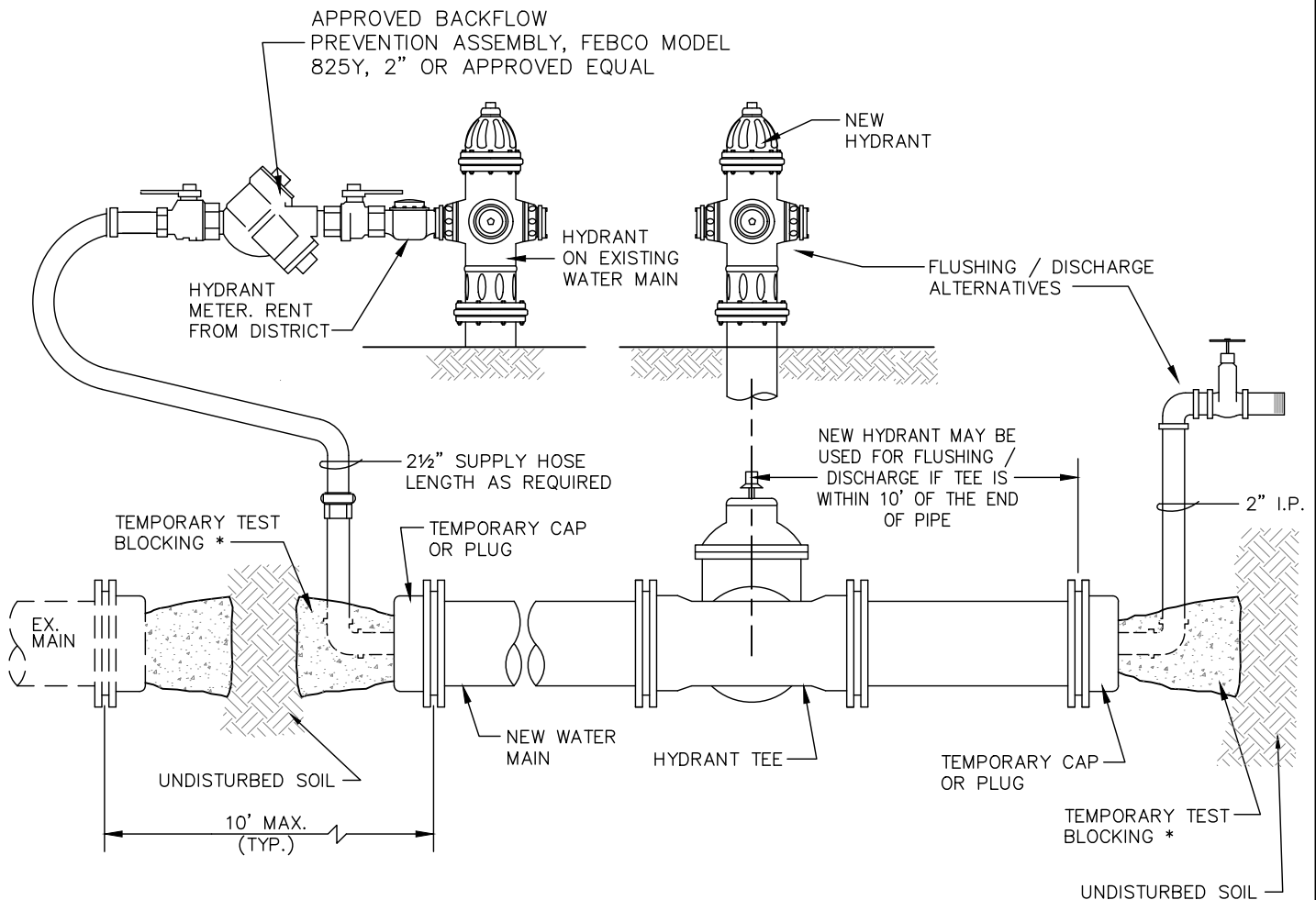


NOTES:

NEW SECTIONS OF WATER MAIN THAT ARE INSTALLED WHEN EXPANDING A DISTRIBUTION SYSTEM MUST BE SEPARATED FROM THE EXISTING SYSTEM. UNTIL SATISFACTORY FLUSHING, DISINFECTION AND BACTERIOLOGICAL SAMPLING HAS BEEN COMPLETED, THE NEW WATER MAIN MUST BE CONSIDERED CONTAMINATED. IN ADDITION, THE CHLORINE CONCENTRATION USED FOR DISINFECTION PROCEDURES (MINIMUM 25 mg/l) MAKES WATER NON-POTABLE.

AN APPROVED BACKFLOW PREVENTION ASSEMBLY MUST BE USED ON THE SUPPLYING WATER LINE WHEN FILLING THE NEW WATER MAIN DURING DISINFECTION AND FLUSHING. THE BACKFLOW PREVENTION ASSEMBLY AND SUPPLY PIPING MUST BE REMOVED DURING HYDROSTATIC PRESSURE TESTING OF THE NEW WATER MAIN.

AFTER SATISFACTORY BACTERIOLOGICAL SAMPLE RESULTS ARE OBTAINED FROM THE NEW WATER MAIN, SECTIONS OF CONNECTING PIPE MUST BE INSTALLED BETWEEN IT AND THE EXISTING SYSTEM. BEFORE INSTALLATION, THE INTERIORS OF ALL PIPE AND FITTINGS USED TO MAKE THE CONNECTION MUST BE SWABBED OR SPRAYED WITH A 1% AVAILABLE CHLORINE SOLUTION.



* REFER TO STD. DETAIL #7 AND #8 FOR THRUST BLOCK SIZING & OTHER BLOCKING REQUIREMENTS.

STD. DETAIL No. 9



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WATER MAIN FILLING DETAIL

| | | | | |
|-----------------------|--|---------------|--------------------|-------------------|
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HYDROSTATIC PRESSURE TEST PROCEDURES

HYDROSTATIC PRESSURE TESTS SHALL BE PERFORMED ON ALL VALVED SECTIONS UPON COMPLETION OF WATER MAIN INSTALLATION AND AFTER BACKFILLING THE WATER MAIN TRENCH WITH SUFFICIENT MATERIAL TO PREVENT MOVEMENT OF THE PIPELINE AND ALLOWING SUFFICIENT TIME FOR THE CONCRETE BLOCKING TO SET. LARGE SECTIONS OF UNTESTED MAIN WILL NOT BE PERMITTED TO ACCUMULATE. THE TEST SHALL BE LOCATED AT THE LOW POINT OF THE SECTION AND SHALL INCLUDE TESTING OF THE SERVICES TO THE ANGLE STOP.

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY EQUIPMENT AND SHALL PERFORM ALL WORK CONNECTED WITH TESTS. THE EQUIPMENT MAY INCLUDE, BUT NOT LIMITED TO, PUMPS, VALVES, METER GAUGES, PIPING, 2" BLOW-OFFS, AND HOSES. ALL LABOR IS ALSO TO BE PROVIDED BY THE CONTRACTOR.

THE PIPELINE SHALL BE FILLED WITH WATER SLOWLY AND AIR EXPELLED FROM THE PIPELINE PRIOR TO STARTING THE TEST. ALL PIPELINES SHALL BE TESTED AT A HYDROSTATIC PRESSURE OF 250 PSI AT HIGH POINT FOR PIPES LESS THAN 12 INCHES IN DIAMETER AND 200 PSI FOR PIPE 12 INCHES AND LARGER.

THE PRESSURE TESTS SHALL BE PERFORMED IN THE FOLLOWING MANNER: WATER SHALL BE PUMPED INTO THE MAIN, BRINGING THE PRESSURE IN THE MAIN UP TO THE REQUIRED TEST PRESSURE. FOR APPROVAL, THE PRESSURE SHALL NOT DROP MORE THAN 5 PSI IN 15 MINUTES.

ANY DEFECTIVE JOINTS, PIPE, OR FITTINGS SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AND THE TEST REPEATED UNTIL SATISFACTORY.

STD. DETAIL No. 10



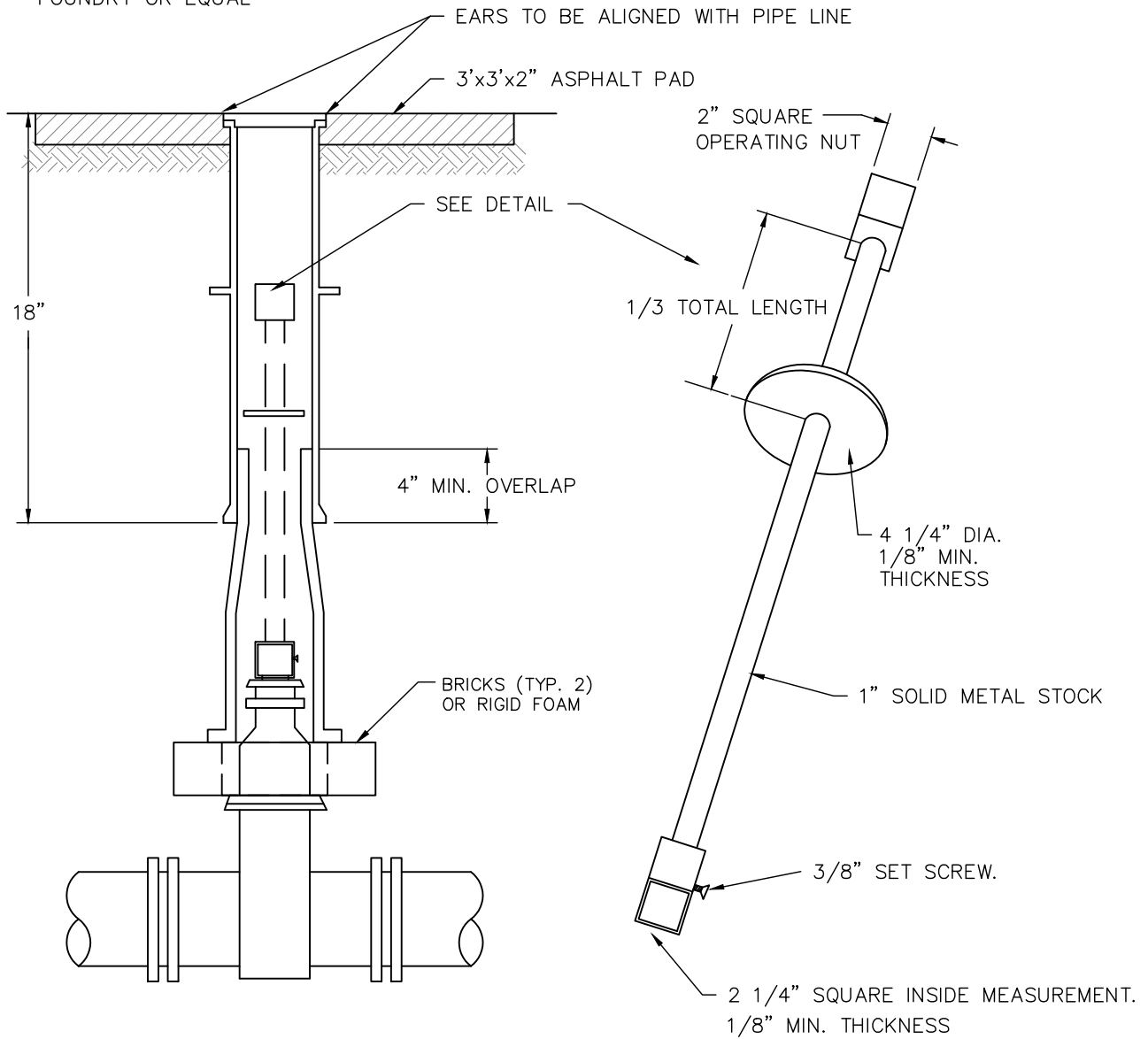
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HYDROSTATIC PRESSURE TEST

| | | | | |
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VALVE BOX TO BE OLYMPIC
FOUNDRY OR EQUAL



VALVE OPERATING NUT EXTENSION

NOTES:

1. EXTENSIONS ARE REQUIRED WHEN THE VALVE NUT IS MORE THAN 5 FEET BELOW FINISHED GRADE.
2. ONLY ONE EXTENSION, MINIMUM OF 3 FEET LONG, TO BE USED PER VALVE.
3. MAXIMUM DISTANCE BETWEEN OPERATING NUT OF EXTENSION AND FINISH GRADE TO BE 2 FEET.
4. ALL EXTENSIONS ARE TO BE MADE OF STEEL AND PAINTED WITH TWO COATS OF METAL PAINT.
5. 3'x3'x2" ASPHALT PAD REQUIRED IF VALVE BOX IS SET IN UNPAVED SURFACE.

STD. DETAIL No. 11

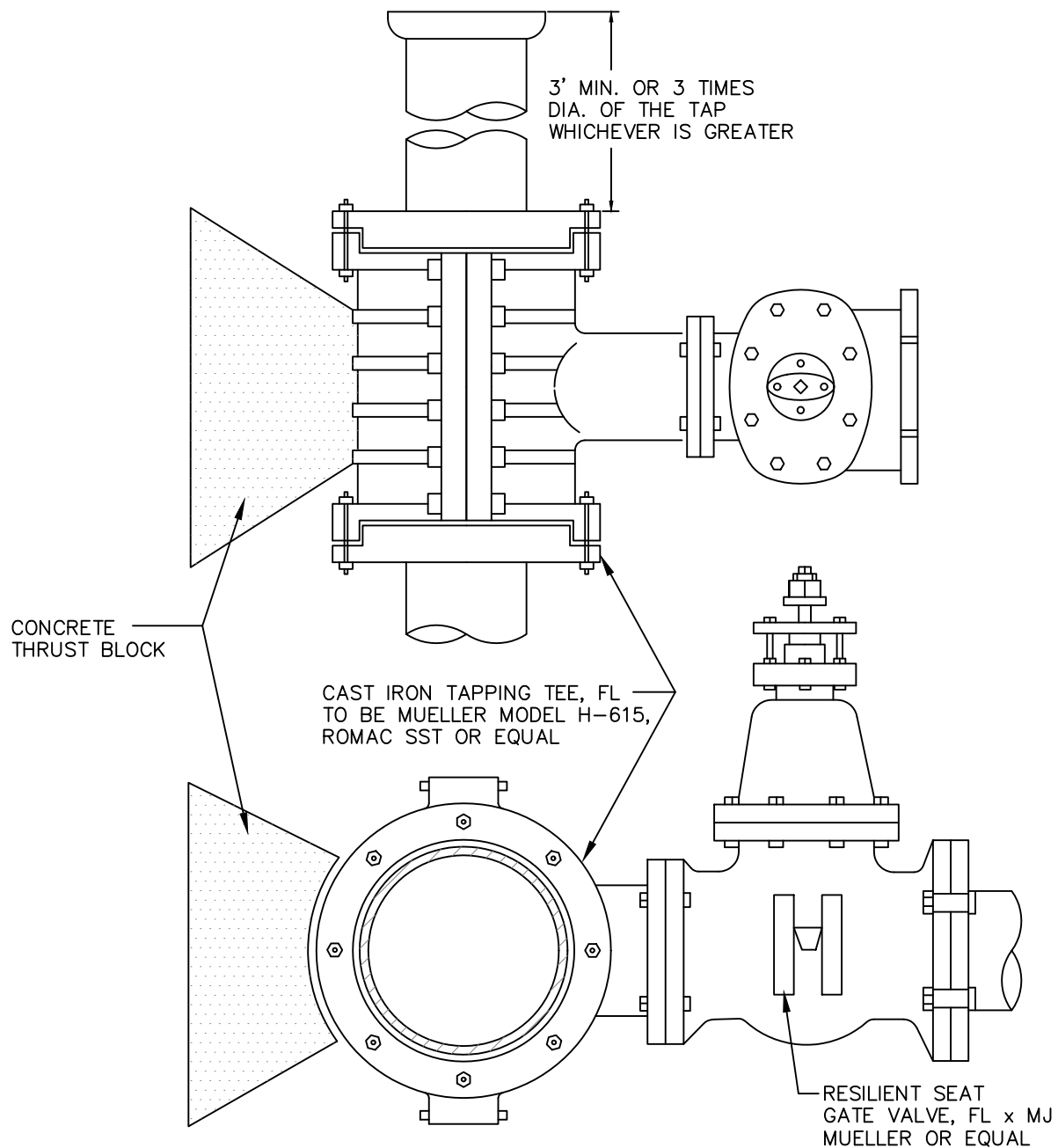


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VALVE BOX & EXTENSION DETAIL

| | | | | |
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| PLOT SCALE NTS | FILE NAME L:\CAD\DETAILS\DISTRICTS\WD 125\STD DET 11 | DATE APPROVED | | |





NOTES:

1. ASSEMBLY TO BE PRE-TESTED BEFORE DRILLING.
2. 3' x 3' x 2" ASPHALT PAD REQUIRED IF VALVE BOX IS SET IN UNPAVED SURFACE.
3. IF TAP IS SAME SIZE AS EXISTING MAIN ONLY MUELLER H-615 ALLOWED.

STD. DETAIL No. 12



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TAPPING TEE AND VALVE DETAIL

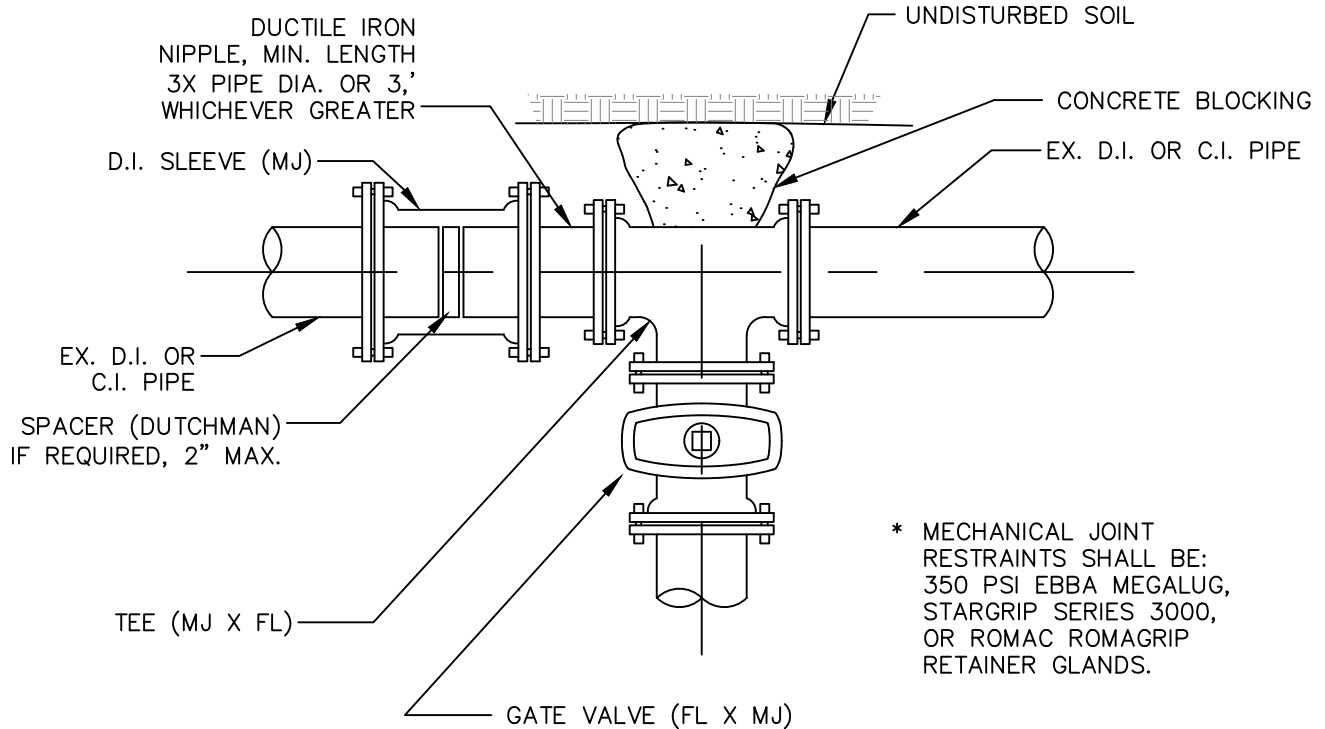
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| PLOT SCALE NTS | FILE NAME L:\CAD\DETAILS\DISTRICTS\WD 125\STD DET 12 | | | DATE APPROVED |



NOTES: ALL CONNECTIONS TO EXISTING MAINS WILL BE MADE IN PRESENCE OF WATER DISTRICT # 125, ENGINEER, OR INSPECTOR AFTER REQUIRED TESTING.

A 3' X 3' X 2" ASPHALT PAD IS REQUIRED IF VALVE BOX IS SET IN GRAVEL OR UNPAVED SURFACE.

STL. PIPES SHALL BE RECOATED WHERE WRAPPING HAS BEEN DISTURBED (PER AWWA STANDARD C210).



STD. DETAIL No. 13



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CUT-IN USING SINGLE VALVE

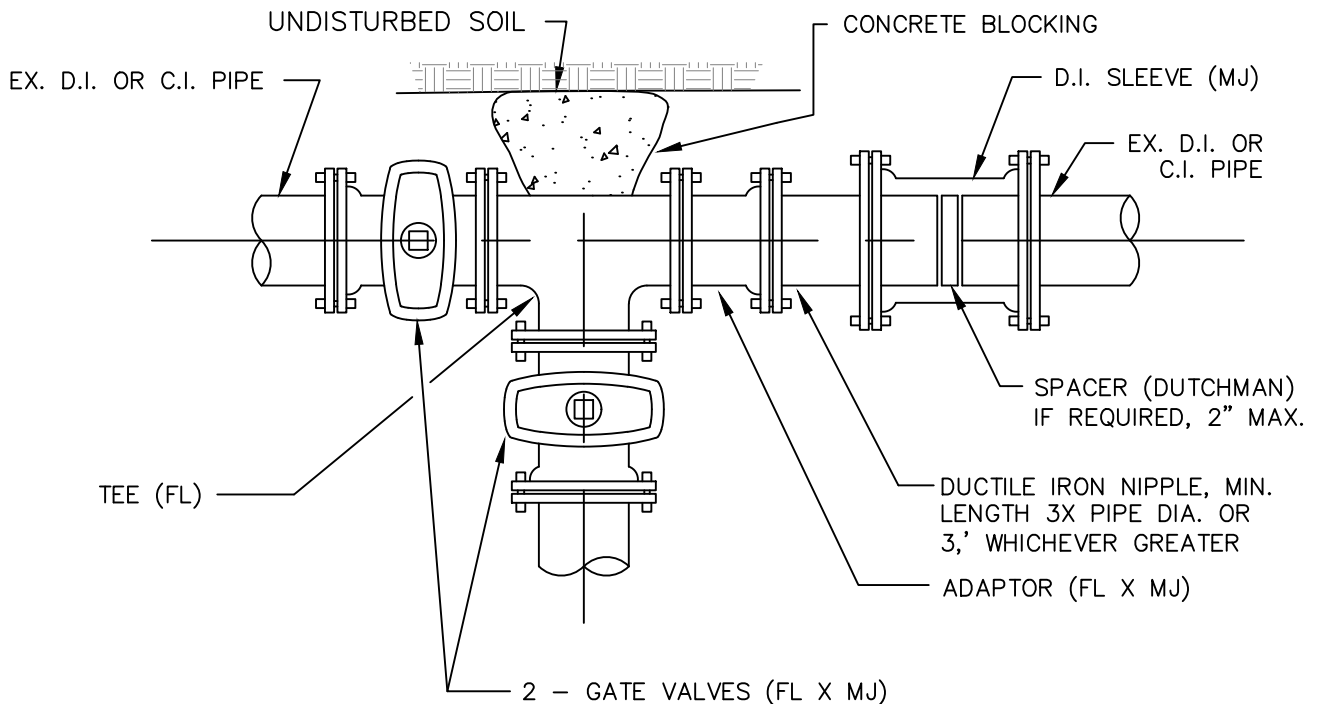
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| PLOT DATE AUG 2019 | DRAWN AMJ | DESIGN PGL | CHECKED DBH/RDS | DISTRICT APPROVED |
| PLOT SCALE NTS | FILE NAME L:\CAD\DETAILS\DISTRICTS\WD 125\STD DET 13 | DATE APPROVED | | |



NOTES: ALL CONNECTIONS TO EXISTING MAINS WILL BE MADE IN PRESENCE OF WATER DISTRICT # 125, ENGINEER, OR INSPECTOR AFTER REQUIRED TESTING.

A 3' X 3' X 2" ASPHALT PAD IS REQUIRED IF VALVE BOX IS SET IN GRAVEL OR UNPAVED SURFACE.

STL. PIPES SHALL BE RECOATED WHERE WRAPPING HAS BEEN DISTURBED (PER AWWA STANDARD C210).



* MECHANICAL JOINT RESTRAINTS SHALL BE: 350 PSI EBBA MEGALUG, STARGRIP SERIES 3000, OR ROMAC ROMAGRIP RETAINER GLANDS.

STD. DETAIL No. 14



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CUT-IN USING TWO VALVES

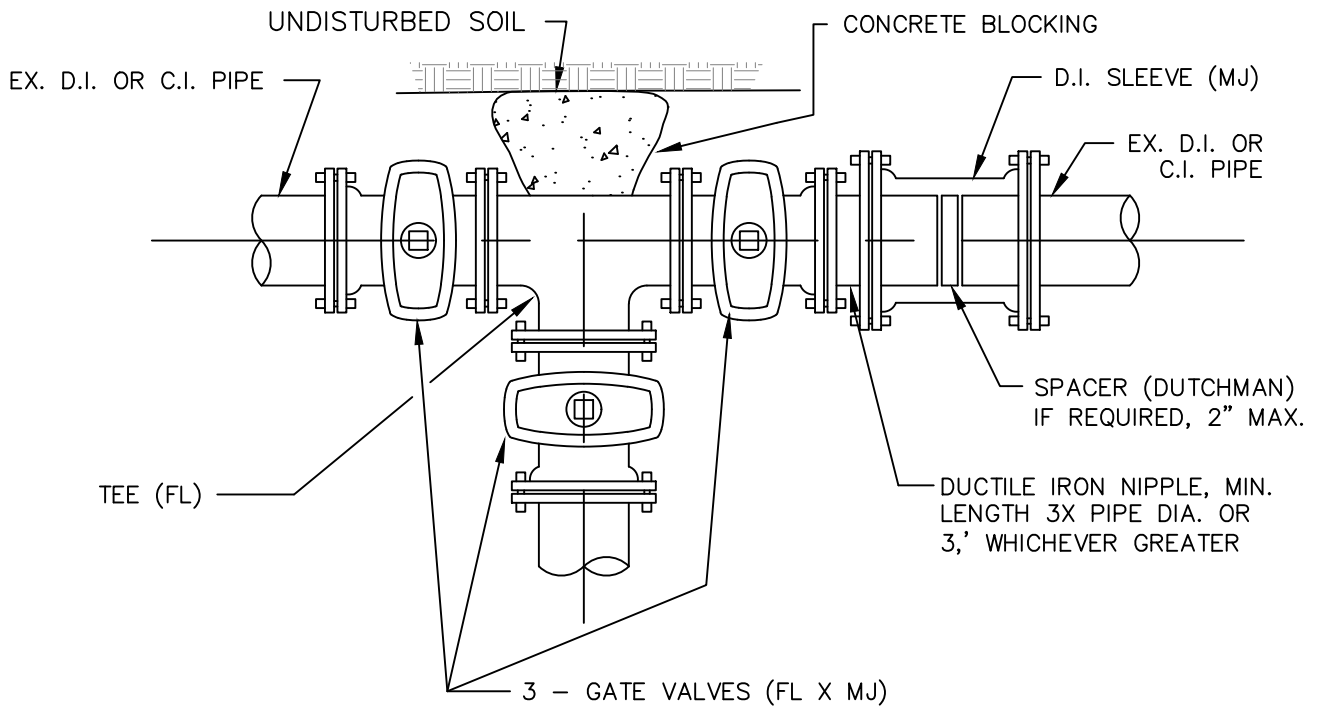
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| PLOT SCALE NTS | FILE NAME L:\CAD\DETAILS\DISTRICTS\WD 125\STD DET 14 | DATE APPROVED | | |



NOTES: ALL CONNECTIONS TO EXISTING MAINS WILL BE MADE IN PRESENCE OF WATER DISTRICT # 125, ENGINEER, OR INSPECTOR AFTER REQUIRED TESTING.

A 3' X 3' X 2" ASPHALT PAD IS REQUIRED IF VALVE BOX IS SET IN GRAVEL OR UNPAVED SURFACE.

STL. PIPES SHALL BE RECOATED WHERE WRAPPING HAS BEEN DISTURBED (PER AWWA STANDARD C210).



* MECHANICAL JOINT RESTRAINTS SHALL BE: 350 PSI EBBA MEGALUG, STARGRIP SERIES 3000, OR ROMAC ROMAGRIP RETAINER GLANDS.

STD. DETAIL No. 15

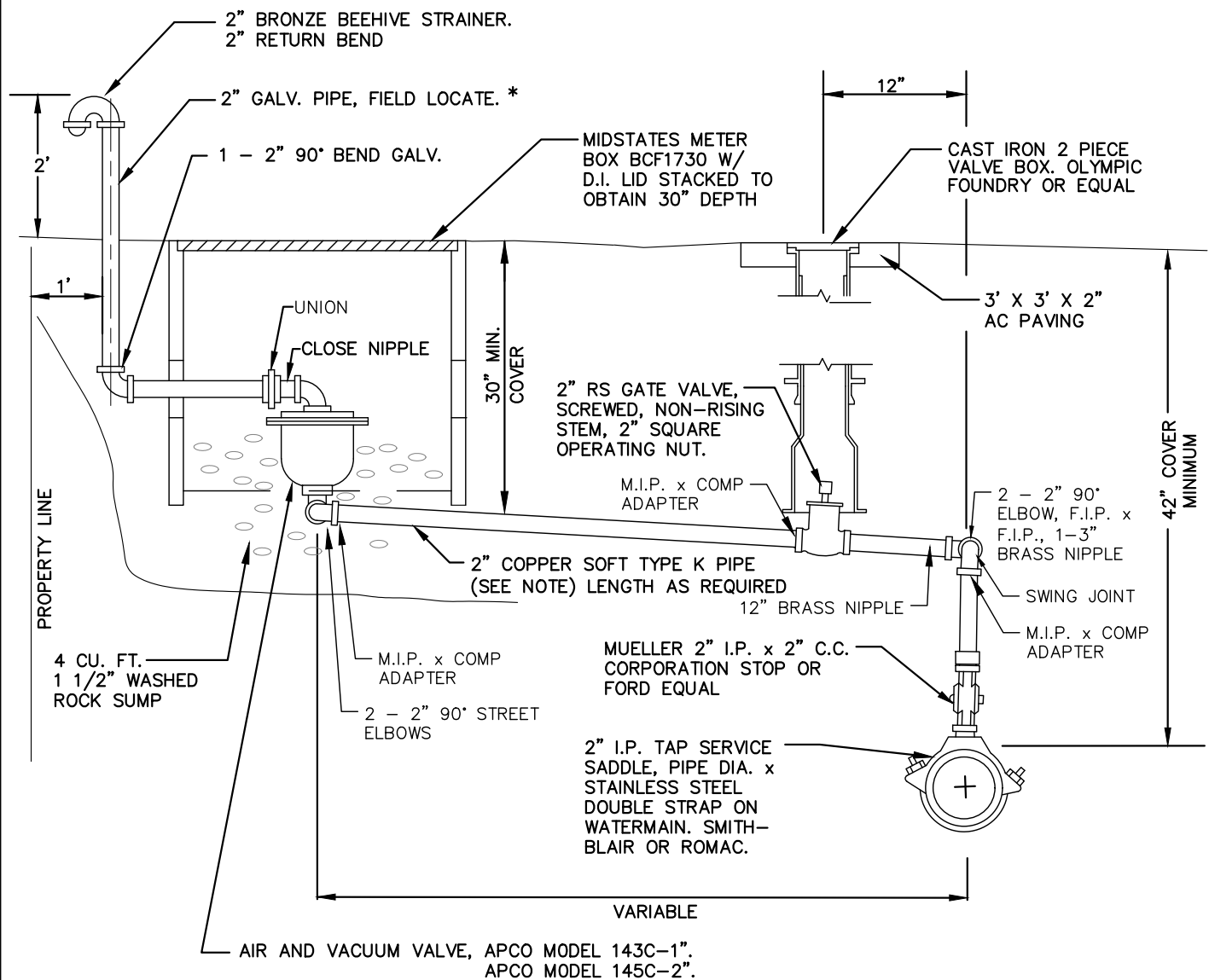


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CUT-IN USING THREE VALVES

| | | | | |
|-----------------------|---|---------------|--------------------|-------------------|
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NOTE: ALL PIPE AND FITTINGS FROM THE MAIN TO THE AIR & VACUUM VALVE SHALL BE BRASS WITH I.P. THREADS OR RIGID COPPER W/ COMPRESSION FITTINGS (MUELLER OR FORD).

* PAINT RISER WITH SAFETY BLUE ENAMEL #257 AS MANUFACTURED BY FARWEST PAINT MFG. CO. OR TAHOE BLUE MARATHON #1065 BY PARKER PAINT CO..

AIR AND VACUUM VALVE ASSEMBLY MUST BE INSTALLED AT HIGHEST POINT IN LINE. IF HIGH POINT FALLS IN LOCATION WHERE ASSEMBLY CANNOT BE INSTALLED, PROVIDE ADDITIONAL DEPTH OF LINE TO CREATE HIGH POINT AT A LOCATION WHERE ASSEMBLY CAN BE INSTALLED.

STENCIL VALVE LOCATION AND DISTANCE NEATLY ONTO RISER W/ 2" NUMERALS USING WHITE ENAMEL PAINT.

STD. DETAIL No. 16

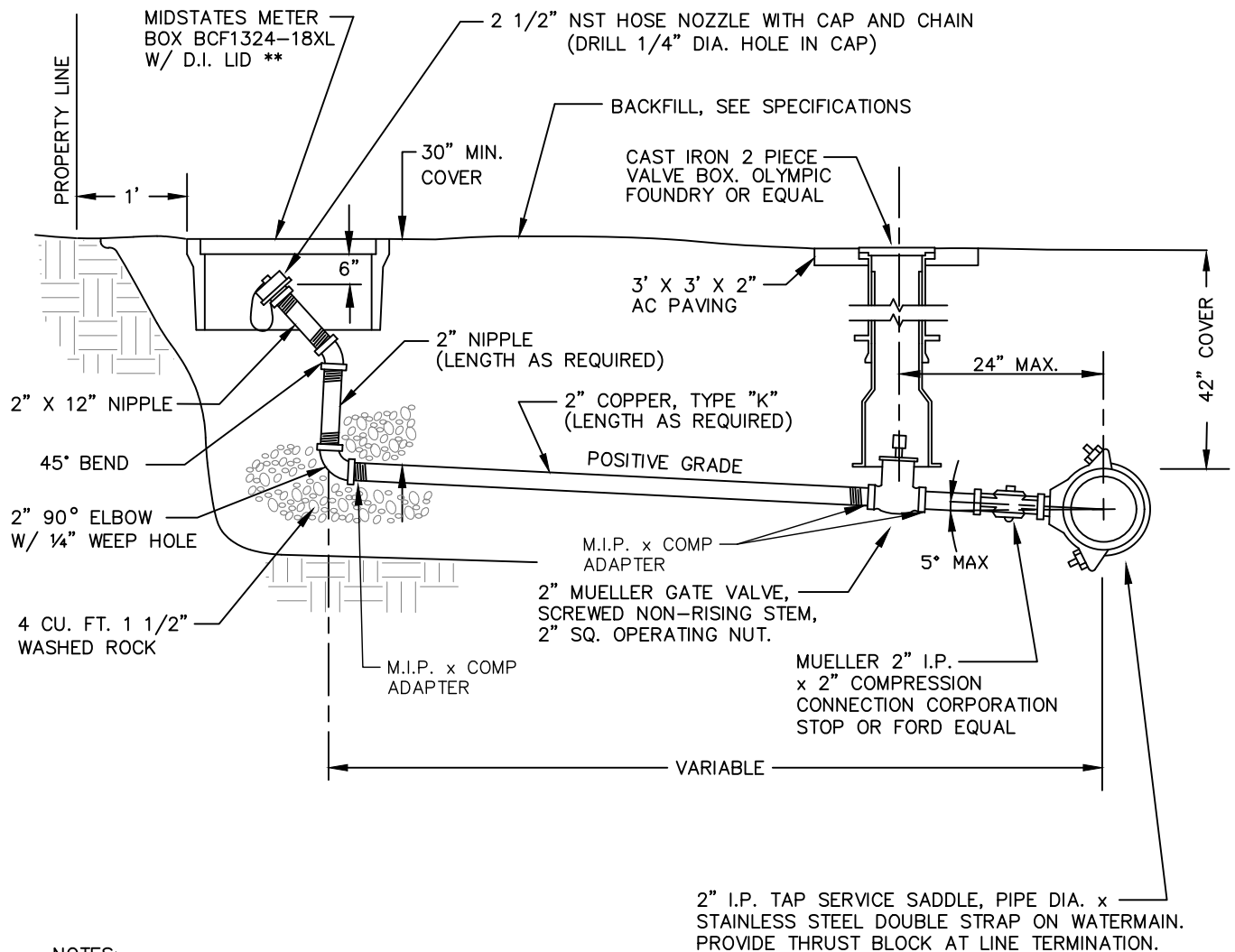


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AIR AND VACUUM VALVE ASSEMBLY

| | | | | |
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| PLOT SCALE NTS | FILE NAME L:\CAD\DETAILS\DISTRICTS\WD 125\STD DET 16 | DATE APPROVED | | |





NOTES:

ALL PIPE AND FITTINGS FROM THE MAIN TO THE GATE VALVE SHALL BE BRASS WITH I.P. THREADS.

INSTALL VALVE MARKER PER DISTRICT STANDARD DETAIL.

STENCIL VALVE LOCATION AND DISTANCE NEATLY ONTO METER BOX LID W/ 2" NUMERALS USING WHITE ENAMEL PAINT.

** PROVIDE POSITIVE DRAINAGE FROM THE METER BOX LOCATION TO THE NEAREST EXISTING STORM DRAINAGE CONVEYANCE SYSTEM OR CATCHMENT STRUCTURE. RESTORE AFFECTED AREAS TO MATCH EXISTING CONDITIONS OR BETTER.

STD. DETAIL No. 17

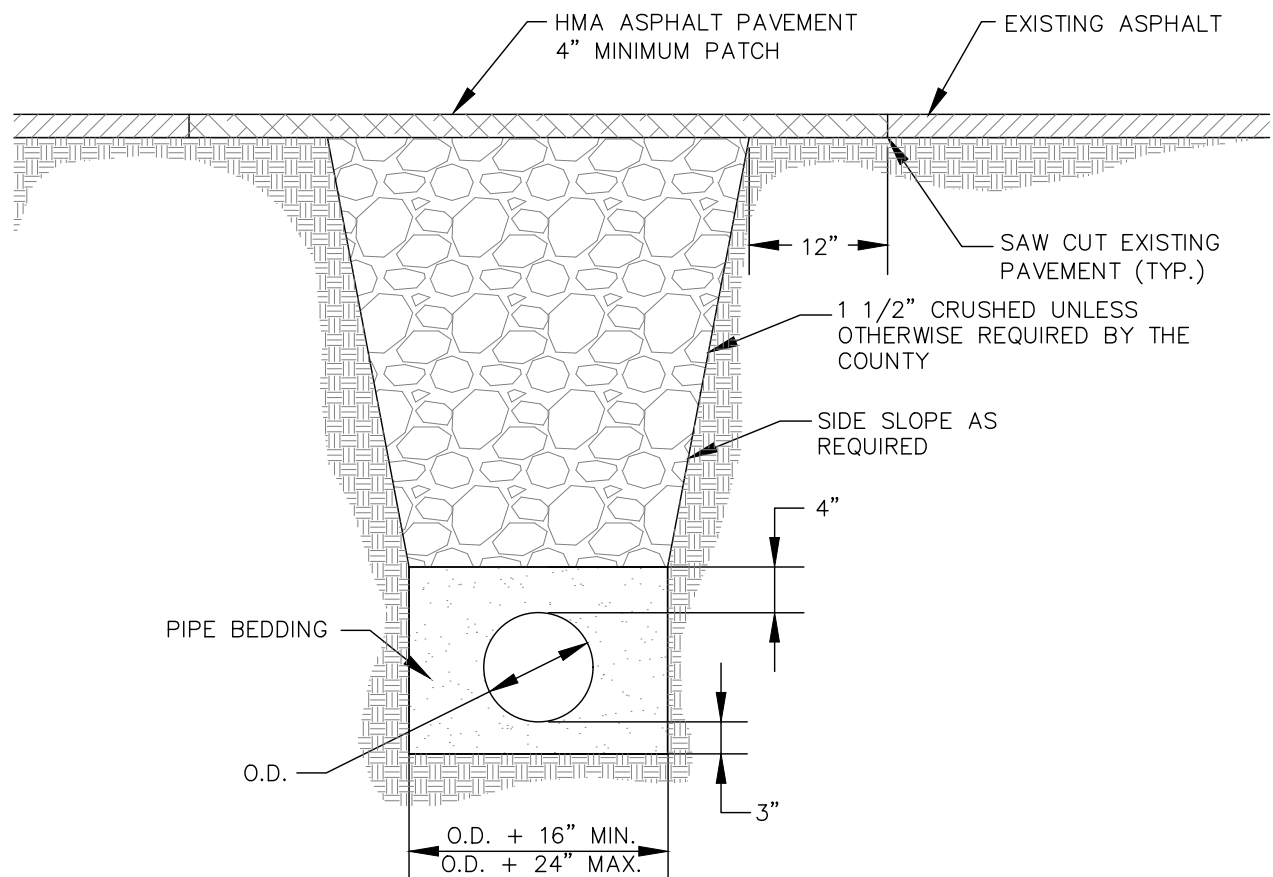


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2" BLOW OFF ASSEMBLY

| | | | | |
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| AUG 2019 | AMJ | BS | DBH/RDS | |
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| NTS | L:\CAD\DETAILS\DISTRICTS\WD 125\STD DET 17 | | | |





NOTES:

1. ALL WORK TO CONFORM TO THE CURRENT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. A MINIMUM OF A TWO YEAR GUARANTEE IS REQUIRED ON ALL PAVEMENT PATCHING AND OVERLAYS.
3. A CONTROLLED DENSITY FILL IN PLACE OF CRUSHED ROCK MATERIAL MAY BE REQUIRED IN CASES OF RECENT PAVEMENT OVERLAY, OR AS DIRECTED BY CITY ENGINEER.
4. OUTSIDE PAVED OR ROCKED AREAS NATIVE BACKFILL MAY BE USED IF APPROVED BY DISTRICT. 90% COMPACTION REQUIRED.

STD. DETAIL No. 18A

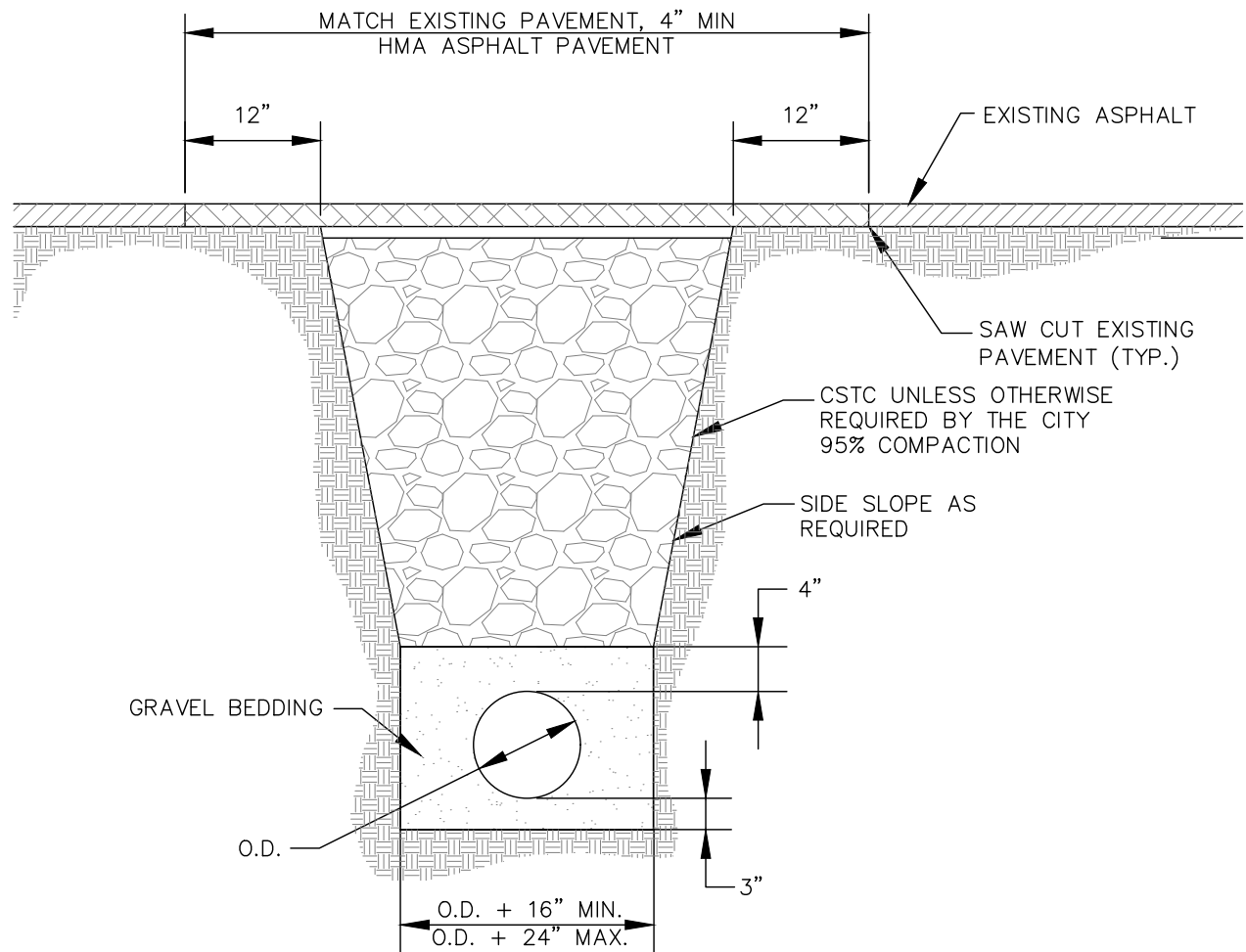


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TRENCH CROSS SECTION - KING COUNTY

| | | | | |
|------------|--|---------------|---------|-------------------|
| PLOT DATE | DRAWN | DESIGN | CHECKED | SHEET 1 OF 4 |
| AUG 2019 | AMJ | BS | DBH/RDS | DISTRICT APPROVED |
| PLOT SCALE | FILE NAME | DATE APPROVED | | |
| NTS | L:\CAD\DETAILS\DISTRICTS\WD 125\STD DET 18 | | | |





NOTES:

1. ALL WORK TO CONFORM TO THE CURRENT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. A MINIMUM OF A TWO YEAR GUARANTEE IS REQUIRED ON ALL PAVEMENT PATCHING AND OVERLAYS.
3. A CONTROLLED DENSITY FILL IN PLACE OF CRUSHED ROCK MATERIAL MAY BE REQUIRED IN CASES OF RECENT PAVEMENT OVERLAY, OR AS DIRECTED BY CITY ENGINEER.
4. OUTSIDE PAVED OR ROCKED AREAS NATIVE BACKFILL MAY BE USED IF APPROVED BY DISTRICT. 90% COMPACTION REQUIRED.

STD. DETAIL No. 18B

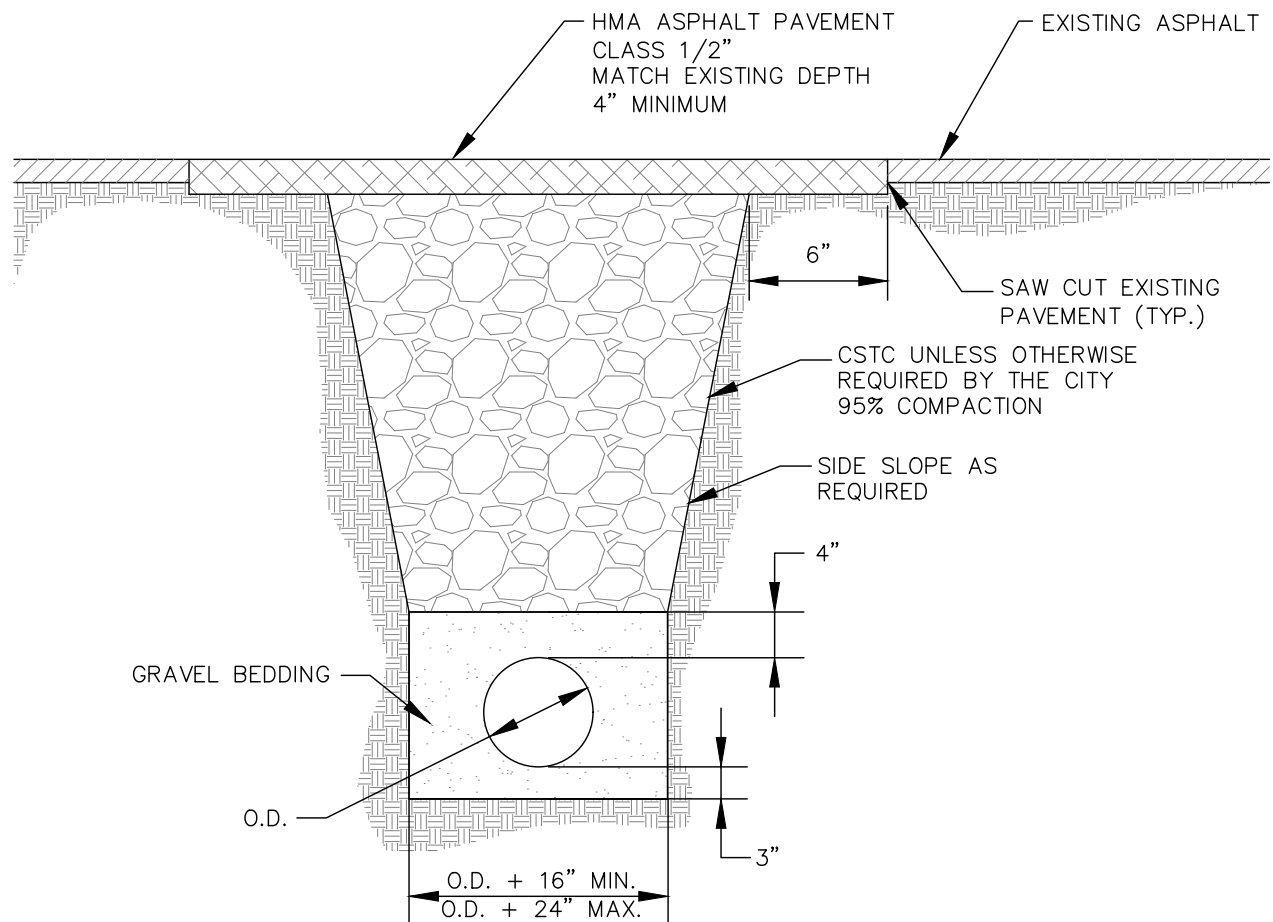


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**TRENCH CROSS SECTION -
CITY OF BURien**

| | | | | |
|-----------------------|---|---------------|--------------------|-----------------------------------|
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NOTES:

1. ALL WORK TO CONFORM TO THE CURRENT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. A MINIMUM OF A TWO YEAR GUARANTEE IS REQUIRED ON ALL PAVEMENT PATCHING AND OVERLAYS.
3. A CONTROLLED DENSITY FILL IN PLACE OF CRUSHED ROCK MATERIAL MAY BE REQUIRED IN CASES OF RECENT PAVEMENT OVERLAY, OR AS DIRECTED BY CITY ENGINEER.
4. OUTSIDE PAVED OR ROCKED AREAS NATIVE BACKFILL MAY BE USED IF APPROVED BY DISTRICT. 90% COMPACTION REQUIRED.

STD. DETAIL No. 18C

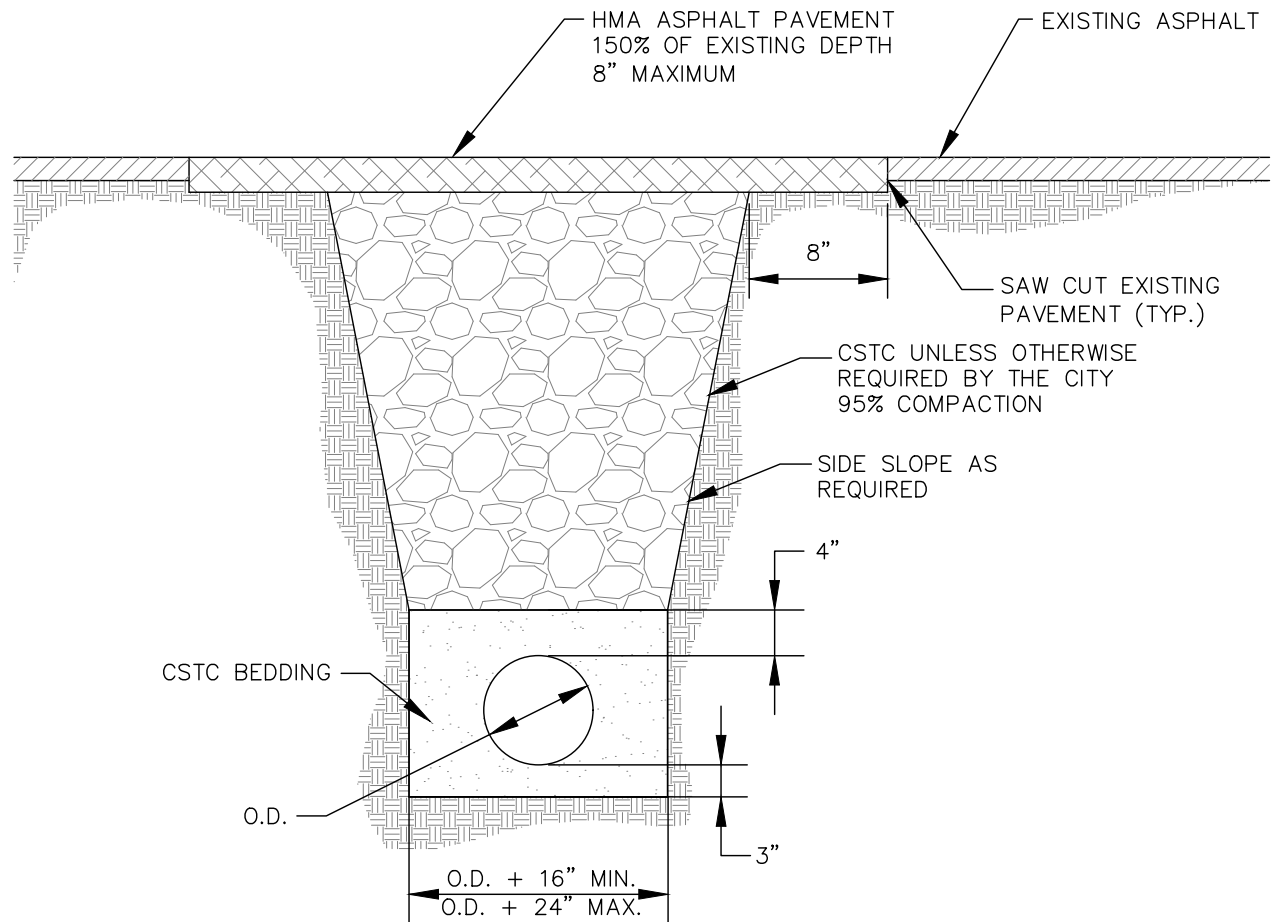


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**TRENCH CROSS SECTION -
CITY OF SEATAC**

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NOTES:

1. ALL WORK TO CONFORM TO THE CURRENT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. A MINIMUM OF A TWO YEAR GUARANTEE IS REQUIRED ON ALL PAVEMENT PATCHING AND OVERLAYS.
3. A CONTROLLED DENSITY FILL IN PLACE OF CRUSHED ROCK MATERIAL MAY BE REQUIRED IN CASES OF RECENT PAVEMENT OVERLAY, OR AS DIRECTED BY CITY ENGINEER.
4. OUTSIDE PAVED OR ROCKED AREAS NATIVE BACKFILL MAY BE USED IF APPROVED BY DISTRICT. 90% COMPACTION REQUIRED.

STD. DETAIL No. 18D



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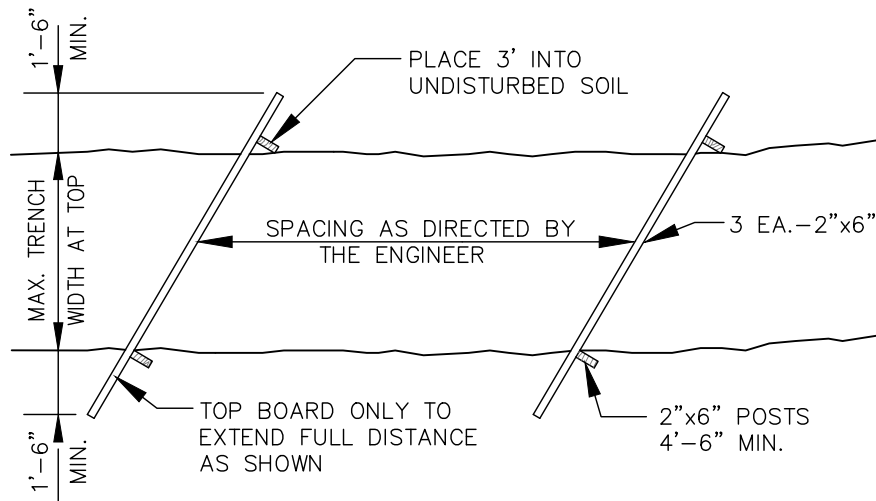
**TRENCH CROSS SECTION -
CITY OF TUKWILA**

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| PLOT DATE AUG 2019 | DRAWN AMJ | DESIGN BS | CHECKED DBH/RDS | SHEET 4 OF 4 DISTRICT APPROVED |
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NOTES:

1. TIMBER BAFFLES TO BE INSTALLED WHERE DIRECTED BY THE ENGINEER OR DISTRICT INSPECTOR.
2. ALL BACKFILL SHALL BE SEEDED.



STD. DETAIL No. 19

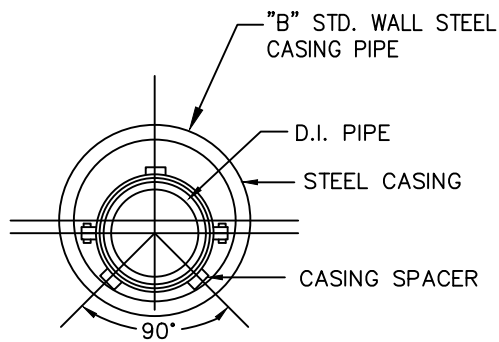
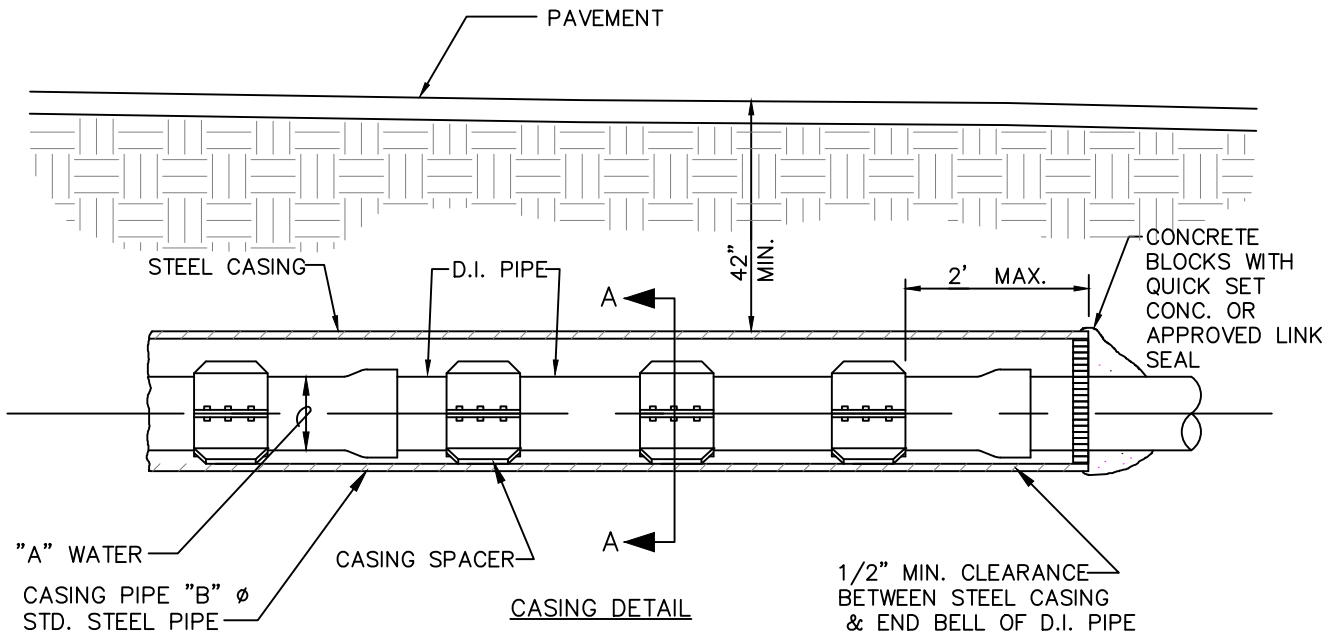


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HILL HOLDER

| | | | | |
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SECTION A-A

| "A" PIPE SIZES | "B" CASING SIZES | CASING WALL THICKNESS |
|-------------------|---------------------|-----------------------------|
| 6" | 12" | 1/4" |
| 8" | 16" | 1/4" |
| 10" | 20" | 1/4" |
| 12" | 24" | 1/4" |
| 14" | 28" | 1/4" |
| 16" | 32" | 1/4" |

NOTES:

CASING SIZE AND MINIMUM THICKNESS OF CASING SHALL BE AS SHOWN ON THE CONTRACT DRAWINGS. HOWEVER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING THE THICKNESS CONSISTENT WITH HIS OPERATION.

CASING SEAL BRICK IN AND MORTAR FINISH

CASING SPACERS TO BE APS MODEL SS1 OR APPROVED EQUAL, MINIMUM 3 PER PIPE LENGTH

STD. DETAIL No. 20

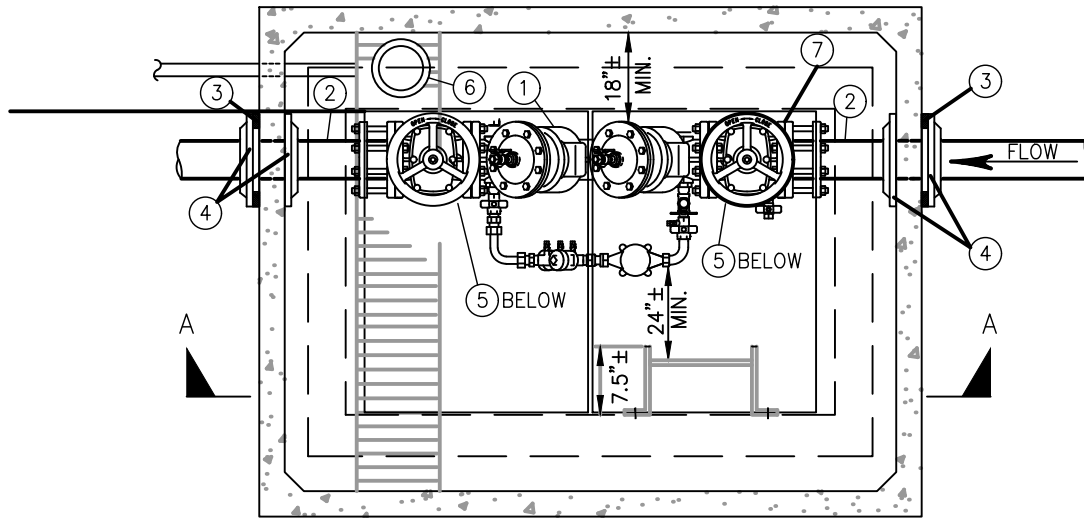


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BORE CASING DETAIL

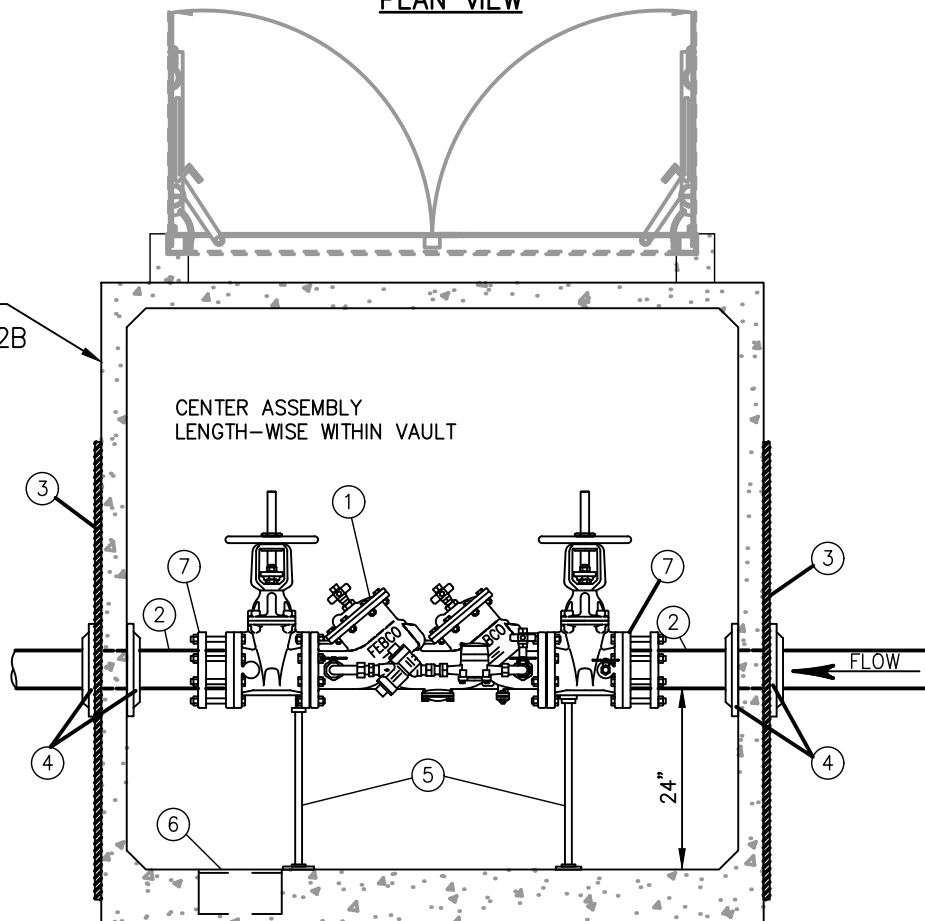
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PLAN VIEW

SEE DETAIL
#22A AND #22B



SECTION A-A

STD. DETAIL No. 21A



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2- $\frac{1}{2}$ " - 8" CHECK DETECTOR ASSEMBLY

| | | | | |
|-----------------------|--|---------------|--------------------|-------------------|
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MATERIAL LIST: ALL PIPING & APPURTENANCES TO MATCH DCDA SIZE

| ITEM | QTY. | DESCRIPTION |
|------|------|--|
| ① | 1 | DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE FEBCO MODEL 856, WILKINS MODEL 350 DA, WATTS SERIES 757 DCDA, OR DISTRICT APPROVED EQUAL MEETING THE AWWA STANDARD C-510 AND BE WASHINGTON STATE APPROVED. TEST COCKS SHALL BE CAPPED WITH PLASTIC CAPS. BYPASS METER TO BE SENSUS, PROVIDED BY THE DISTRICT. |
| ② | 2 | D.I. PIPE 5'± LONG. |
| ③ | 4 | 2" X 2" X 1/4" MIN. WALL THICKNESS SQUARE STEEL TUBING, 6' MIN. LENGTH. BOLT TO VAULT WALL IN FOUR PLACES WITH STAINLESS STEEL ANCHOR BOLTS. |
| ④ | 4 | UNI-FLANGE ADAPTER. SERIES 400. |
| ⑤ | 2 | AJUSTABLE PIPING SUPPORT, STANDON MODEL #S89, OR EQUAL. |
| ⑥ | 1 | <p>SUMP PUMP OR GRAVITY DRAIN AS REQUIRED BY SITE CONDITIONS, TO BE DETERMINED BY THE DEVELOPER AND CONTRACTOR AND REVIEWED AND APPROVED BY THE DISTRICT.</p> <p>FOR GRAVITY: SUMP DRAIN, ZURN Z-551, THREADED, WITH ZURN Z-1099 BACKWATER VALVE, THREADED x NO-HUB, WITH 4" D.I. PIPE TO 12" MIN. BEYOND VAULT WALL AND 4" D.I., MIN. 1% SLOPE TO DAYLIGHT OR C.B.</p> <p>FOR SUMP PUMP: 16" DIAM. x 6" DEEP SUMP WITH ZOELLER MODEL 57 SUMP PUMP. PROVIDE ELECTRICAL POWER PER ALL APPLICABLE CODES. CONSTRUCT 1-1/4", SCH. 80 PVC DISCHARGE PIPING, WITH LOCATE WIRE TO NEAREST CATCH BASIN OR APPROVED LOCATION.</p> |
| ⑦ | 1 | ROMAC RFCA. |

NOTES:

1. PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR ALL MATERIALS TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. DOUBLE CHECK DETECTOR ASSEMBLY AND ALL PIPING SHALL BE SIZED BY A LICENSED FIRE SPRINKLER ENGINEER/CONTRACTOR.
3. SEE DISTRICT STANDARD DETAIL #22A FOR VAULT DETAIL.
4. ALL PIPE AND CONDUIT PENETRATIONS SHALL BE CORE-DRILLED ON-SITE AND SHALL BE SEALED WATERTIGHT. PROVIDE "LINK-SEAL" FITTINGS AT ALL PENETRATIONS.
5. ALL PIPING AND APPURTENANCES OUTSIDE THE VAULT SHALL BE RESTRAINED JOINT. IN ADDITION TO THE RESTRAINED JOINTS, THRUST BLOCKING AT ALL TEES AND BENDS PER DISTRICT STANDARD WATER DETAIL #7 & #8 SHALL BE REQUIRED.
6. THE CONTRACTOR IS RESPONSIBLE FOR ELECTRICAL PERMITS AND APPROVALS FOR SUMP PUMP INSTALLATIONS.
7. THE DCDA SHALL BE INSTALLED OUTSIDE OF THE BUILDING IN A VAULT PER DISTRICT STANDARD DETAIL #22A AND #22B. INSTALLATION OF THE DCDA INTERNAL TO THE BUILDING WILL NOT BE ALLOWED UNLESS APPROVED BY THE DISTRICT (SITE SPECIFIC CONDITIONS OR CONSTRAINTS WILL BE CONSIDERED FOR ALTERNATE LOCATION OF THE DCDA).
8. KCWD#125 OWNERSHIP WILL BE TO THE UPSTREAM EDGE OF THE VAULT, OR IF THE DCDA IS ALLOWED WITHIN A STRUCTURE, UP TO THE FACE OF THE BUILDING.

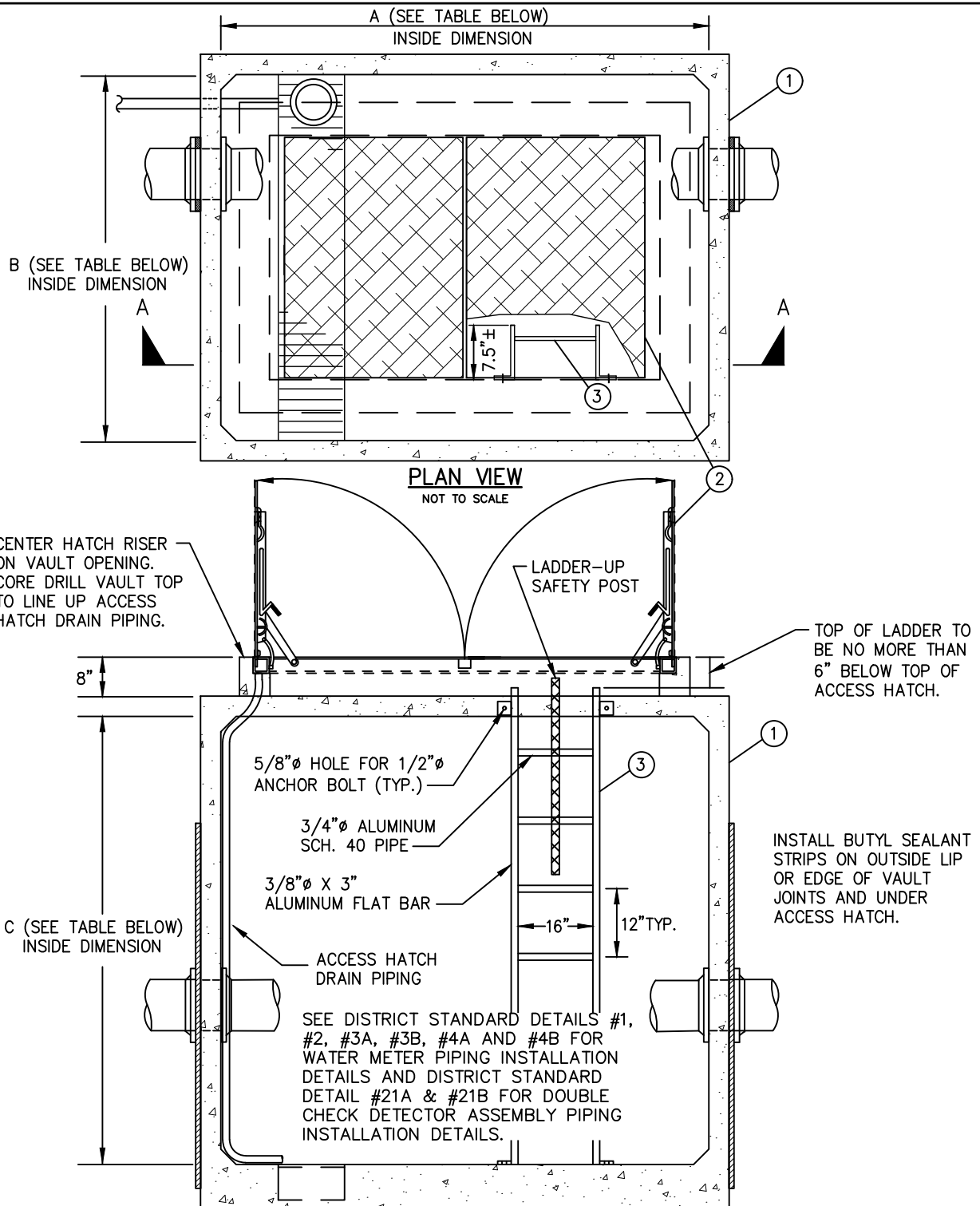
STD. DETAIL No. 21B

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**2-1/2" - 8" CHECK
DETECTOR ASSEMBLY**

| | | | | |
|-----------------------|---|---------------|--------------------|-------------------|
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| PLOT SCALE NTS | FILE NAME L: \CAD\DETAILS\DISTRICTS\WD 125\STD DET 21B | DATE APPROVED | | |





| VAULT | DIMENSION | | | USE |
|--------|-----------|----|----|------------------------|
| | A | B | C | |
| 687-LA | 8' | 6' | 7' | 3" & 4" METERS, DCDA'S |
| 810-LA | 10' | 8' | 7' | 6" METERS |

SECTION A-A
NOT TO SCALE

STD. DETAIL No. 22A



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VAULT DETAIL

| | | | | |
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MATERIAL LIST:

ITEM DESCRIPTION

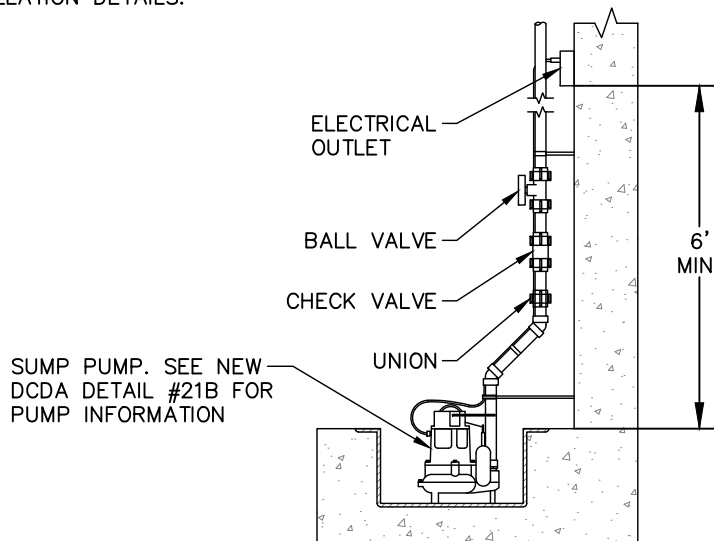
- ① PRECAST CONCRETE UNDERGROUND VAULT SHALL BE 687-LA FOR 3" & 4" METERS AND DCDA'S OR 810-LA FOR 6" METERS MANUFACTURED BY "UTILITY VAULT COMPANY".
BASE SECTION: 687-BL OR 810-SB WITH FULL-WIDTH SUMP AND GRATE.
CENTER SECTION: 687-ML OR 810-ML.
TOP SECTION: 687 OR 810 WITH 48" x 72" HATCH OPENINGS LOCATED AS SHOWN TO ACCOMMODATE THE CONCRETE COVER, NO. 57 CLX 42S, AND THE 48" x 72" DOUBLE LEAF HATCH. CORE DRILL CONCRETE TOP SECTION OF VAULT TO ALIGN WITH ACCESS HATCH DRAIN AND INSTALLATION OF 1-1/2" ACCESS HATCH DRAIN PIPING.

ALL VAULT WALLS SHALL BE SOLID FULL WIDTH WITH NO KNOCK-OUTS OR CHANNELS. THE VAULT MANUFACTURER SHALL ENSURE THAT NO VAULT JOINTS ARE LOCATED WITHIN 6" OF THE EDGE OF CORE-DRILLED PENETRATIONS. SEE NOTES BELOW.

INSTALL BUTYL SEALANT STRIPS BETWEEN VAULT SECTIONS AND UNDER ACCESS HATCH PER MANUFACTURER'S RECOMMENDATIONS AND ENSURE THAT SEALANT IS NOT SQUEEZED INTO VAULT.
- ② ACCESS HATCH: "UTILITY VAULT" CONCRETE COVER NO. 57 CLX 42S WITH "LW PRODUCTS" 48" x 72" DOUBLE LEAF HATCH, H-20. PROVIDE 1-1/2" SCH. 80 CONDUIT FROM HATCH GUTTER TO VAULT SUMP SECURED TO VAULT WALL WITH APPROVED FASTENERS AT 3' SPACING.
- ③ ALUMINUM LADDER BOLTED TO VAULT BASE AND HATCH RISER WITH SS HARDWARE. LADDER TO INCLUDE BILCO "LADDER-UP" SAFETY POST.

NOTES:

1. PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR ALL MATERIALS TO THE DISTRICT FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
2. VAULTS FOR WATER METERS AND DOUBLE CHECK DETECTOR ASSEMBLIES 8" AND LARGER WILL BE DETERMINED BY THE DISTRICT AT THE TIME OF PLAN REVIEW.
3. PIPE AND CONDUIT PENETRATIONS SHALL BE CORE-DRILLED ON-SITE AND SHALL BE SEALED WATERTIGHT. PROVIDE "LINK-SEAL" FITTINGS AT ALL PENETRATIONS.
4. SEE DISTRICT STANDARD DETAIL #3A, #3B, #4A & #4B FOR WATER METER PIPING INSTALLATION DETAILS, AND DISTRICT STANDARD DETAIL #20A & #20B FOR DOUBLE CHECK DETECTOR ASSEMBLY PIPING INSTALLATION DETAILS.



SUMP PUMP DETAIL
NOT TO SCALE

STD. DETAIL No. 22B



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VAULT DETAIL

| | | | | |
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IDENTIFY DRAIN SIZE
OR REFER TO THE
7TH EDITION CROSS
CONNECTION
CONTROL MANUAL
FIGURE 6-8 VOLUME
CHART

FLOW FROM METER

ONSITE

PLAN
NTS

LOCKABLE FLIP TOP HOT BOX ENCLOSURE.
FREEZE PROTECTION IS THE RESPONSIBILITY OF
THE OWNER. PROVIDE POWER AS REQUIRED.

RPBA SHALL BE
LOCATED WITHIN
2'-5'DOWNSTREAM
OF THE WATER
METER

FLOW FROM
METER

ONSITE

MIN. 4" COMPACTED CSBC

RESTRAINED DI PIPE

① ADJUSTABLE PIPE SUPPORT, STANDON MODEL S-89
OR EQUAL & SHALL BE BOLTED TO THE SLAB.

② 90° ELBOW, FLxRJ

③ OS& Y RS GATE VALVE

④ UL-FM LISTED WASHINGTON STATE APPROVED
REDUCED PRESSURE BACKFLOW ASSEMBLY THAT IS
ON THE USC APPROVED ASSEMBLIES LIST PER WAC
246-290. CONSULT WITH WD 125 CROSS
CONNECTION CONTROL SPECIALIST PRIOR TO
INSTALLATION. DISTRICT MUST APPROVE DEVICE.

⑤ LINK SEAL OR APPROVED EQUAL

⑥ 90° BEND, FLxFL

⑦ SPOOL, FLxFL

⑧ ROMAC RFCA

⑨ SPOOL, CUT TO LENGTH, PEXFL

SECTION
NTS

1. THE RPBA MUST BE PURCHASED AND INSTALLED AS A UNIT.
NO MODIFICATIONS TO ANY PART OF THE ASSEMBLY ARE
ALLOWED.

2. FOLLOWING AN INSTALLATION INSPECTION APPROVAL BY THE
DISTRICT, THE ASSEMBLY MUST BE SCHEDULED FOR AN INITIAL
TEST BY A WASHINGTON STATE DOH CERTIFIED BACKFLOW
ASSEMBLY TESTER. THE DISTRICT CROSS CONNECTION CONTROL
SPECIALIST MUST WITNESS THE INITIAL TESTING.

3. THE PROPERTY OWNER IS RESPONSIBLE FOR MAINTENANCE,
OPERATION, AND INITIAL AND ANNUAL TESTING OF THE RPBA.

STD. DETAIL No. 23

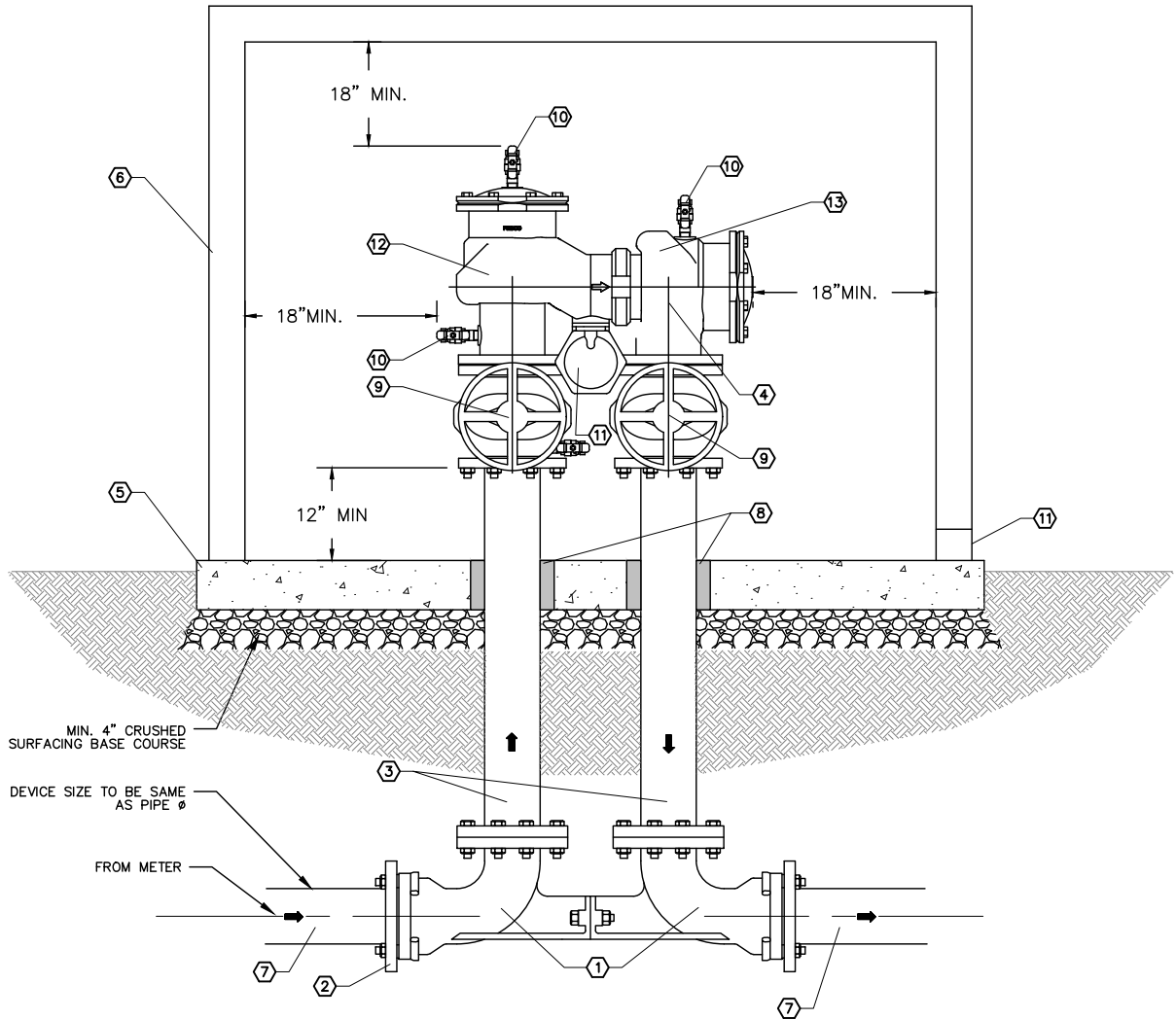


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REDUCED PRESSURE BACKFLOW ASSEMBLY 3" TO 4" SIZE

| | | | | |
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NOTES

- (1) VALVE SETTER, (MJxFL), FEBCO MODEL 611, FOR N-SERIES BACKFLOW DEVICE
- (2) MEGALUG OR APPROVED EQUAL
- (3) SPOOL, (FLxFL), LENGTH AS REQUIRED. PROVIDE MIN. 36\"
- (4) REDUCED PRESSURE PRINCIPLE BACKFLOW DEVICE, FEBCO MODEL LF880V N-SERIES OR APPROVED EQUAL FROM LATEST USC FCCHR BACKFLOW PREVENTION ASSEMBLY
- (5) CONCRETE PAD W/4x4 WIRE MESH
- (6) FIBERGLASS ENCLOSURE HOT BOX. SUPPLY POWER TO HOT BOX. FASTEN HOT BOX TO CONCRETE PAD PER MANUFACTURES RECOMMENDATIONS
- (7) SPOOL, (PExPE) LENGTH AS REQUIRED
- (8) LINK-SEAL OR APPROVED EQUAL
- (9) ISOLATION SHUT-OFF
- (10) TEST COCK
- (11) RELIEF VALVE/DRAIN - SEE FIGURE 6-8 OF THE CROSS CONNECTION CONTROL MANUAL (PNWS-AWWA) FOR SIZE
- (12) FIRST CHECK ASSEMBLY
- (13) SECOND CHECK ASSEMBLY

*MUST CONSULT WITH
WD#125 CROSS
CONTROL SPECIALIST
PRIOR TO INSTALLATION

STD. DETAIL No. 24

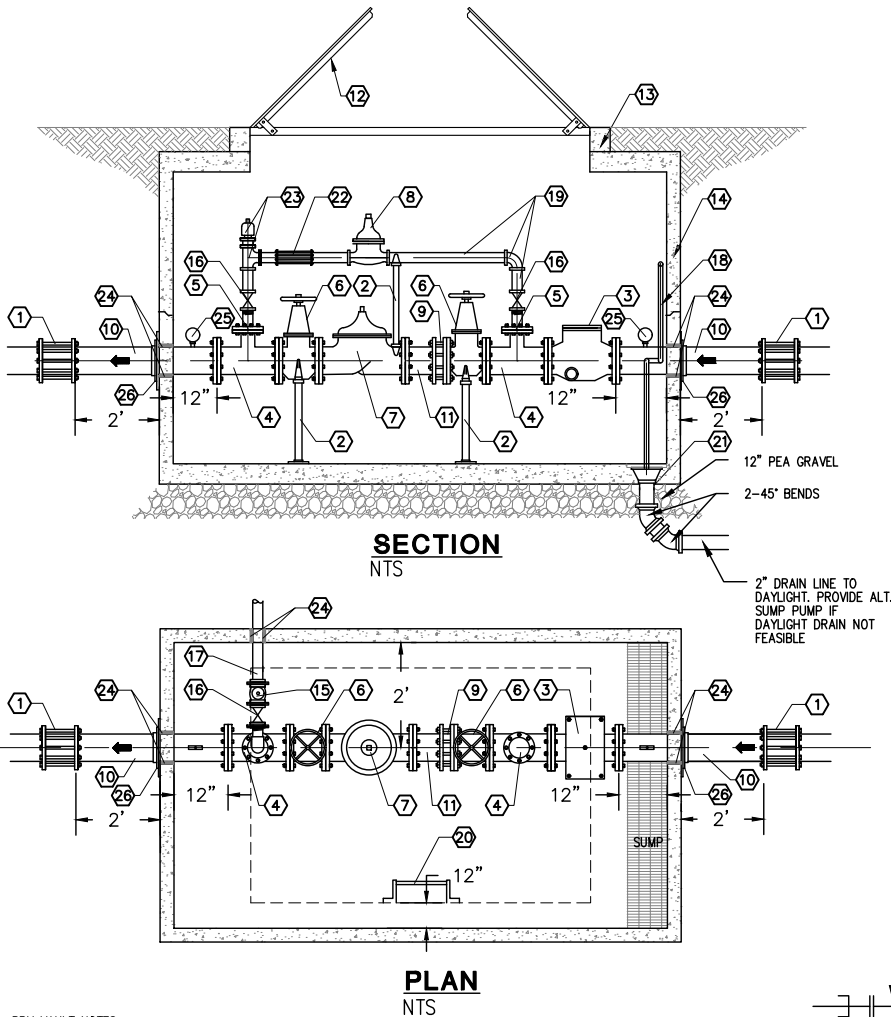


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REDUCED PRESSURE BACKFLOW ASSEMBLY 2- $\frac{1}{2}$ \"

| | | | | |
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PRV VAULT NOTES:

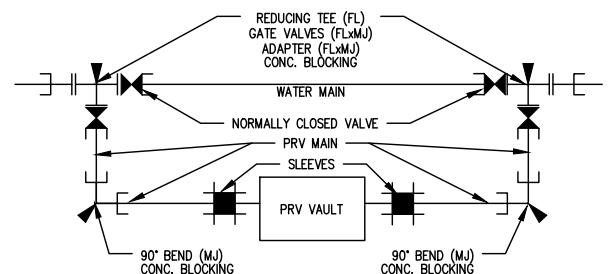
1. ALL 3" BYPASS PIPE AND FITTINGS TO BE DUCTILE OR CAST IRON.
2. ALL VAULT PENETRATIONS SHALL BE CORED, WITH LINK-SEAL OR APPROVED EQUAL INSTALLED AROUND PIPE.
3. EXTERIOR VAULT TO BE COATED WITH 2 COATS OF BLACK BITUMASTIC SOLUTION. VAULT TO BE DRY PRIOR TO APPLICATION.
4. VAULTS TO BE SOLID WALL WITH NO KNOCKOUTS.
5. IF SUMP PUMP IS REQUIRED, SUPPLY POWER TO THE VAULT IN CONFORMANCE WITH ALL LOCAL AND STATE CODES.
6. ALL CONSTRUCTION SHALL CONFORM TO THE KING COUNTY WATER DISTRICT 125 STANDARD SPECIFICATIONS.

| METER VAULT REQUIREMENTS (ALL VAULTS TO BE SOLID WALL-NO KNOCK-OUTS) | | | | |
|--|---------------|--------------|---------------------------|---|
| WATER MAIN SIZE | PRV MAIN SIZE | BY-PASS SIZE | PRV PRECAST UTILITY VAULT | MAINLINE PRV TYPE |
| 8" DI | 6" | 3" BRASS | DET #22A & #22B | 6" PRV/PRESSURE SUSTAINING (FL) CLA-VAL NO. 92-01 BCSY* |
| 12" DI | 8" | 3" BRASS | DET #22A & #22B | 8" PRV/PRESSURE SUSTAINING (FL) CLA-VAL NO. 92-01 BCSY* |

*BYPASS PRV SHALL BE 3" CLA-VAL NO. 92-01 BCSY WITH EPOXY LINING, VALVE POSITION INDICATOR & SIGHT GAUGE SPEED CONTROL (OPEN & CLOSE) & COMPANION FLANGES

MATERIAL LIST FOR 6" AND 8" PRV ASSEMBLIES

| ITEM | DESCRIPTION |
|------|--|
| 1 | DI SLEEVE OR APPROVED EQUAL |
| 2 | ADJUSTABLE PIPE SUPPORTS. ANVL #264 OR APPROVED EQUAL |
| 3 | STRAINER, CLA-VAL, "X43H", H STYLE, FL x FL |
| 4 | TEE, FL x FL |
| 5 | 4" BLIND FLANGE, TAPPED FOR 3" BY-PASS LINE |
| 6 | R.S. GATE VALVE, FLANGE BY FLANGE WITH HANDWHEEL |
| 7 | PRV PER TABLE BELOW W/ SS TRIM, EPOXY LINING VALVE, POSITION INDICATOR & SIGHT GAUGE SPEED CONTROL (OPEN & CLOSE) |
| 8 | BYPASS PRV PER TABLE BELOW W/ SS TRIM, EPOXY LINING VALVE, POSITION INDICATOR & SIGHT GAUGE SPEED CONTROL (OPEN & CLOSE) |
| 9 | FL COUPLING ADAPTER, SMITH-BLAIR NO. 912 W/ ANCHOR STUDS |
| 10 | DUCTILE IRON PIPE, PLAIN END BY FLANGE, 2' MIN. |
| 11 | DUCTILE IRON PIPE, FLANGE BY FLANGE (MIN. 2X PIPE DIAMETER) |
| 12 | 48"x72" ALUMINUM HATCH, LW PRODUCTS COMPANY, RATED FOR H-20 LOADING |
| 13 | 6" EXTENSION RING |
| 14 | PRECAST VAULT, OLDCASTLE PRECAST (SEE BELOW FOR CALL OUTS) |
| 15 | 3" RELIEF VALVE, CLA-VAL NO. 50-01, GLOBE STYLE, FL FOR 3" RELIEF LINES |
| 16 | 3" CI RS LOCKABLE GATE VALVE, SCREWED END WITH HANDWHEEL |
| 17 | 3" BRASS PRESSURE RELIEF DISCHARGE LINE WITH COMPANION FLANGES, 180" WITH RETURN ELBOW & BEEHIVE STRAINER 2' ABOVE GRADE. DRILL 1/8" HOLE IN PIPE DIRECTLY ABOVE RELIEF VALVE. |
| 18 | HYDRAULIC SUMP PUMP IF REQUIRED |
| 19 | 3" DI PIPE AND FITTINGS (BYPASS) |
| 20 | FREE STANDING ALUMINUM LADDER WITH LADDER UP ACCESSORY ATTACHED TO SIDE OF HATCH AND FLOOR |
| 21 | 2" FLOOR DRAIN, ZURN NO. 551 WITH GRATING ON INLET |
| 22 | 3" ROMAC 501 COUPLING, 10" BARREL LENGTH |
| 23 | STREET ELBOW FOR RELIEF LINE IN TOP OF TEE WITH NIPPLE |
| 24 | CORE DRILL AND INSTALL LINK SEAL (ALL PENETRATIONS) |
| 25 | 4" GLYCERINE FILLED PRESSURE GAUGE WITH 12" BALL VALVE 1/2" TAP. INCOMING GAUGE: 0 TO 200 PSI WITH 50 PSI FIGURE 1 INTERVAL AND 2 PSI GRADUATION. OUTGOING GAUGE: 1 TO 160 PSI WITH 20 PSI FIGURE 1 INTERVAL & 2 PSI GRADUATION INTERVAL. NOSHOK SEIRS 500 OR EQUAL. |
| 26 | PIPE RESTRAINT STEEL PLATE WITH UNI-FLANGE OR MEGA-LUG GLAND |



STD. DETAIL No. 25



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6" & 8" PRESSURE REDUCING VALVE

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