

**RULE NO.: R161-16.01**

**NOTICE OF PROPOSED RULE**

**POSTING DATE: April 5, 2016**

The Director of the Department of Austin Water Utility proposes to adopt the following rule after May 7, 2016.

Comments on the proposed rule are requested from the public. Comments should be submitted to Mr. Britt Jones; Austin Water Utility, 625 E. 10<sup>th</sup> Street, 3rd Floor Suite 300, Austin, Texas 78701, 512-972-0235, or via email at [britt.jones@austintexas.gov](mailto:britt.jones@austintexas.gov). To be considered, comments must be submitted before May 7, 2016, the 32nd day after the date this notice is posted. A summary of the written comments received will be included in the notice of rule adoption that must be posted for the rule to become effective.

An affordability impact statement regarding the proposed rule has been obtained and is available for inspection or copying at the address noted in the preceding paragraph.

**EFFECTIVE DATE OF PROPOSED RULE**

A rule proposed in this notice may not become effective before the effective date established by a separate notice of rule adoption. A notice of rule adoption may not be posted before May 7, 2016 (the 32nd day after the date of this notice) or not after July 4, 2016 (the 90th day after the date of this notice).

If a proposed rule is not adopted on or before July 4, 2016, it is automatically withdrawn and cannot be adopted without first posting a new notice of a proposed rule.

**TEXT OF PROPOSED RULE**

A copy of the complete text of the proposed rule is available for public inspection and copying at the following locations. Copies may be purchased at the following locations at a cost of ten cents per page:

Austin Water Utility, located at 625 E. 10<sup>th</sup> Street, 3rd Floor Suite 300, Austin, Texas.  
See Mr. Britt Jones and:

Office of the City Clerk, City Hall, located at 301 West 2nd Street, Austin, Texas.

2016 APR 5 PM 2 21

AUSTIN CITY CLERK  
RECEIVED

## **BRIEF EXPLANATION OF PROPOSED RULE**

R161-16.01: Proposed revision to the Standards Manual Section

- **511S-1** 25 mm (1") - 50 mm (2") Vented Air Release Valve Installation (Type 1) – Delete
- **511S-1BR** Reclaimed Water Connection 25 mm (1") or 50 mm (2") Reclaimed Water Automatic Air Release Valve – Delete
- **511S-2** Type II-76 mm (3") or Larger Vented Air/Vacuum Valve Installation – Delete
- **511S-3** Type III-76 mm (3") or Larger Vented Air/Vacuum Valve Installation – Delete
- **511S-3B** Type III-76 mm (3") or Larger Non-Vented Air/Vacuum Valve Installation – Delete
- **511S-5** Dual PRV Installation Guideline - Delete
- **511S-7** Typical Gate Valve 100 mm—600 mm (4"—24") – Delete
- **511S-8** Typical Butterfly Valve 900 mm (36") and Larger – Delete
- **511S-9A** Drain Valve Installation - Delete
- **511S-10** Debris Cap Installation - Delete
- **511-11** Valve Box Casting C-3 Lid – Delete
- **511S-11R** Reclaimed Water Connection Valve Box and Cover - Delete
- **511S-12** Valve Box Casting C-7 Lid – Delete
- **511S-13A** Water Valve Box Adjustment to Grade w/Full Depth Concrete – Delete
- **511S-13B** Water Valve Box Adjustment to Grade w/Concrete and H.M.A.C. – Delete
- **511S-13C** Water Valve Box Concrete Pad in Unpaved Area – Delete
- **511S-14** Valve Box Casting C-6 Paving Ring - Delete
- **511S-15** Valve Box Casting Base – Delete
- **511S-16** Valve Box Casting C-5A Collar – Delete
- **511S-17** Standard Fire Hydrant Installation - Delete
- **511S-17A** Fire Hydrant Installation on Deep Water Mains - Delete
- **511S-17B** Deep Main Fire Hydrant Installation w/90° Bend- Delete
- **511S-18** Fire Hydrant Installation With PRV - Delete
- **511S-19R** Reclaimed Water Connection 4" Non-Traffic Rated, Non-Freezing Blow-Off Valve – Delete
- **511-20** Automatic Flush Valve - Delete
- **511-AW-01** Typical Gate Valve 4" – 16" – New Detail and New Number
  - Combine 511S-7, 511-11, 511S-11R, 511S-12, 511-13A, B & C, 511S-14, 511S-15 and 511S-16 into one Standard

- **511-AW-02** Fire Hydrant – New Detail and New Number
  - Combine 511S-17, 511S-17A & B, 511S-18 into one Standard
- **511-AW-03** Drain Valve – New Detail and New Number
- **511-AW-04** Air Release and Air/Vacuum Valve – New Detail Number
  - Combine 511S-1, 511S-1BR, 511S-2, 511S-3 and 511S-3B into one Standard
- **511-AW-05** Automatic Flush Valve – New Detail and New Number
- **511-AW-06** 2” Non-Traffic Rated Reclaimed Blow-Off Valve – New Detail and New Number

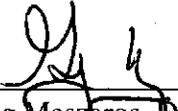
## **AUTHORITY FOR ADOPTION OF PROPOSED RULE**

The authority and procedure for adoption of a rule to assist in the implementation, administration, or enforcement of a provision of the City Code is provided in Chapter 1-2 of the City Code. The authority to regulate construction requirements is established in Section 552.001 and Title 15 of the City Code.

**CERTIFICATION BY CITY ATTORNEY**

By signing this Notice of Proposed Rule R161-16.01, the City Attorney certifies the City Attorney has reviewed the rule and finds that adoption of the rule is a valid exercise of the Director's administrative authority.

**REVIEWED AND APPROVED**

  
\_\_\_\_\_  
Greg Meszaros, Director  
Austin Water Utility

Date: 3/24/16

  
\_\_\_\_\_  
Anne L. Morgan  
City Attorney

Date: 3/24/16

## Summary of 511 Series Detail Drawings

- **511S-1** 25 mm (1") - 50 mm (2") Vented Air Release Valve Installation (Type 1) - Delete
- **511S-1BR** Reclaimed Water Connection 25 mm (1") or 50 mm (2") Reclaimed Water Automatic Air Release Valve - Delete
- **511S-2** Type II-76 mm (3") or Larger Vented Air/Vacuum Valve Installation - Delete
- **511S-3** Type III-76 mm (3") or Larger Vented Air/Vacuum Valve Installation - Delete
- **511S-3B** Type III-76 mm (3") or Larger Non-Vented Air/Vacuum Valve Installation - Delete
- **511S-5** Dual PRV Installation Guideline - Delete
- **511S-7** Typical Gate Valve 100 mm—600 mm (4"—24") - Delete
- **511S-8** Typical Butterfly Valve 900 mm (36") and Larger - Delete
- **511S-9A** Drain Valve Installation - Delete
- **511S-10** Debris Cap Installation - Delete
- **511-11** Valve Box Casting C-3 Lid - Delete
- **511S-11R** Reclaimed Water Connection Valve Box and Cover - Delete
- **511S-12** Valve Box Casting C-7 Lid - Delete
- **511S-13A** Water Valve Box Adjustment to Grade w/Full Depth Concrete - Delete
- **511S-13B** Water Valve Box Adjustment to Grade w/Concrete and H.M.A.C. - Delete
- **511S-13C** Water Valve Box Concrete Pad in Unpaved Area - Delete
- **511S-14** Valve Box Casting C-6 Paving Ring - Delete
- **511S-15** Valve Box Casting Base - Delete
- **511S-16** Valve Box Casting C-5A Collar - Delete
- **511S-17** Standard Fire Hydrant Installation - Delete
- **511S-17A** Fire Hydrant Installation on Deep Water Mains - Delete
- **511S-17B** Deep Main Fire Hydrant Installation w/90° Bend- Delete
- **511S-18** Fire Hydrant Installation With PRV - Delete
- **511S-19R** Reclaimed Water Connection 4" Non-Traffic Rated, Non-Freezing Blow-Off Valve - Delete
- **511-20** Automatic Flush Valve - Delete
- **511-AW-01** Typical Gate Valve 4" - 16" - New Detail and New Number
  - Combine 511S-7, 511-11, 511S-11R, 511S-12, 511-13A, B & C, 511S-14, 511S-15 and 511S-16 into one Standard
- **511-AW-02** Fire Hydrant - New Detail and New Number
  - Combine 511S-17, 511S-17A & B, 511S-18 into one Standard
- **511-AW-03** Drain Valve - New Detail and New Number
- **511-AW-04** Air Release and Air/Vacuum Valve - New Detail and New Number
  - Combine 511S-1, 511S-1BR, 511S-2, 511S-3 and 511S-3B into one Standard
- **511-AW-05** Automatic Flush Valve - New Detail and New Number
- **511-AW-06** 2" Non-Traffic Rated Reclaimed Blow-Off Valve - New Detail and New Number

STANDARD CITY OF AUSTIN  
 LARGE CONCRETE METER BOX  
 SPL WW-145 AND COVER  
 SPL WW-622, OR HDPE METER BOX  
 PER SPL WW-145A

BOLTED CAST COUPLING  
 (UNION, BLACK DRESSER  
 OR EQUIVALENT)

SCREEN COVER VENT CAP (#401  
 CLAY AND BAILEY MFG. CO.  
 OR EQUIVALENT)

LOCATE AS SPECIFIED ON  
 DRAWINGS

SEE NOTE 4

R.O.W.

CURB & GUTTER

SIDEWALK

25 mm (1") OR 50 mm (2")  
 AIR RELEASE VALVE, SPL  
 WW-367

25 mm (1") OR  
 50 mm (2")  
 GALV. IRON PIPE

BALL VALVE,  
 SPL WW-275

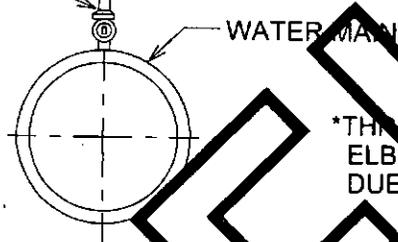
25 mm (1") PIPE WEEP HOLE WITH  
 300 mm x 300 mm x 300 mm  
 (1' x 1' x 1') ROCK OR GRAVEL  
 DRAIN POCKET

BRICK OR PIPE EXTENSION  
 IF REQUIRED

CLASS A CONCRETE PER SPEC 403 OR  
 CLSM PER SPEC 407B, SLOPE TO DRAIN.

CORPORATION COCK

25 mm (1") OR 50 mm (2") TUBING SHALL BE  
 ANNEALED SEAMLESS TYPE K COPPER TUBING  
 MEETING THE CURRENT ASTM B88 STANDARD  
 WITH NO SWEAT OR SOLDERED JOINTS WITH  
 POLYETHYLENE WRAP



\*THREAD TO COMPRESSION BRASS  
 ELBOW ALLOWED IF NECESSARY  
 DUE TO DEPTH LIMITATIONS

**NOTES:**

1. EXTERIOR SURFACES OF EXPOSED AIR VENT PIPE AND D.I. SUPPORT PIPE SHALL BE PAINTED PER SPL WW-26, POTABLE WATER PIPE - SAFETY BLUE.
2. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO RIGHT-OF-WAY LINE WITH MINIMUM CLEARANCE OF 450mm (18") FROM ANY OBSTACLE.
3. CONCRETE METER BOX PENETRATION SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED BY PRESS-SEAL GASKET CORN. PSX RESILIENT CONNECTOR MEETING ASTM C923 OR APPROVED EQUAL.
4. IN UNDEVELOPED AREAS, THE AIR RELEASE SHALL BE .6m (2') MIN. IN HEIGHT SUPPORTED BY A 100mm (4") DIA. STEEL PIPE WHICH HAS BEEN PAINTED BLUE (SEE NOTE ONE) AND FILLED WITH CONCRETE. (STEEL PIPE SHALL BE 1.8m (6') LONG, BURIED IN CLASS A CONCRETE OR CLSM 0.9m (3') BELOW FINAL GRADE AND EXTENDING, 0.9m (3') ABOVE FINAL GRADE). FLEXSTAKE SOIL ANCHOR BELINEATOR OR EQUIVALENT 1.8m (6'), BLUE, SHALL BE PLACED WITHIN 0.9m (3') OF VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AWJ. IN DEVELOPED AREAS, THE AIR RELEASE SHALL BE 200mm (8") TO 300mm (12") IN HEIGHT AND LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY OR OTHER PEDESTRIAN TRAFFIC.
5. THE AIR VALVE AND ASSOCIATED PIPING SHALL BE INSTALLED ABOVE THE HIGHEST ELEVATION OF THE WATER MAIN. AIR VALVE PIPING, FROM THE WATER MAIN TO THE AIR VALVE, SHALL MAINTAIN A CONSTANT RISE, WITH NO DIPS, TO THE TOP OF THE GROUND.

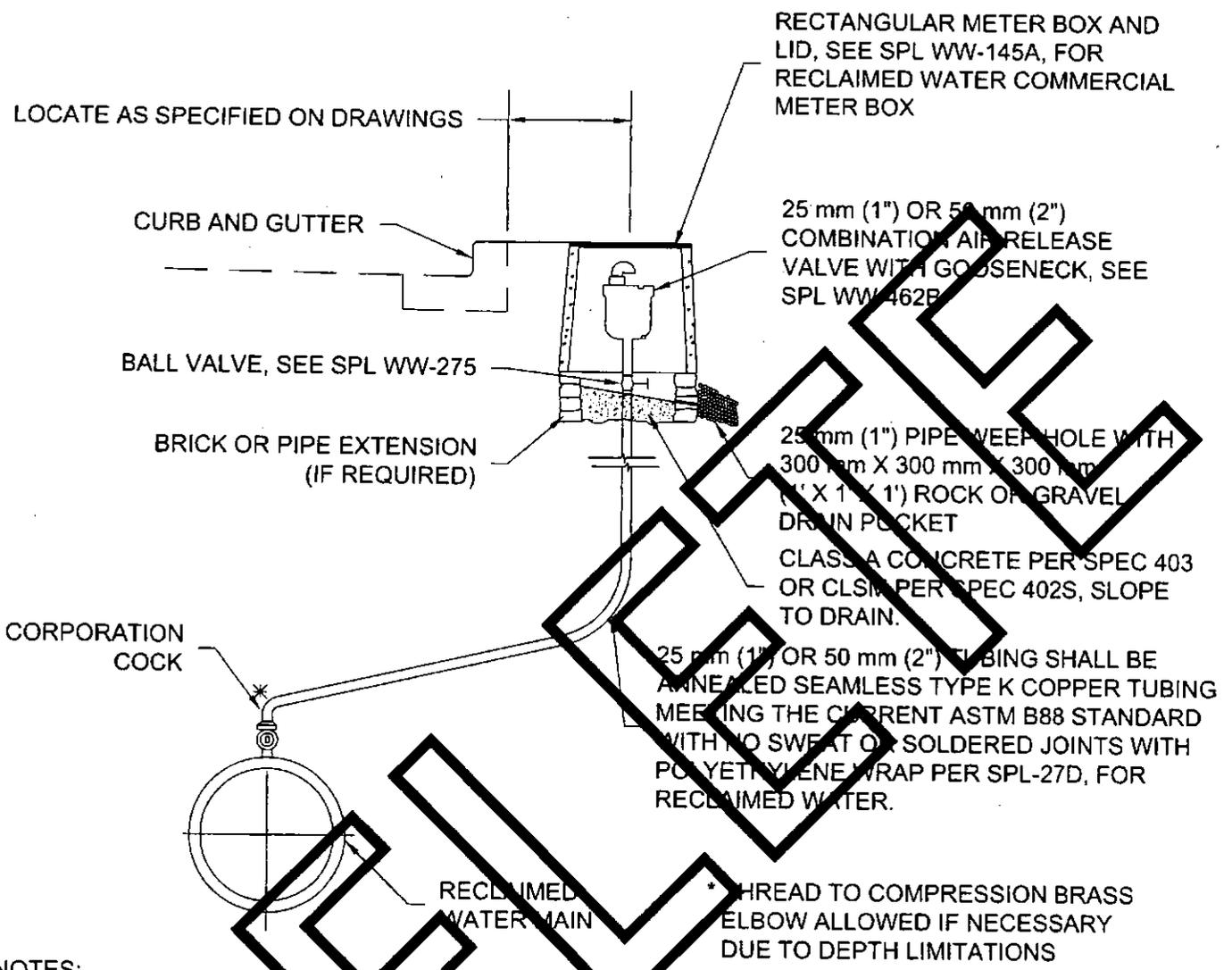
CITY OF AUSTIN  
 AUSTIN WATER UTILITY

25mm (1") - 50 mm (2") VENTED AIR  
 RELEASE VALVE INSTALLATION (TYPE 1)

RECORD COPY SIGNED BY  
 KATHI L FLOWERS 08/31/2011

THE ARCHITECT/ENGINEER ASSUMES  
 RESPONSIBILITY FOR APPROPRIATE USE  
 OF THIS STANDARD.

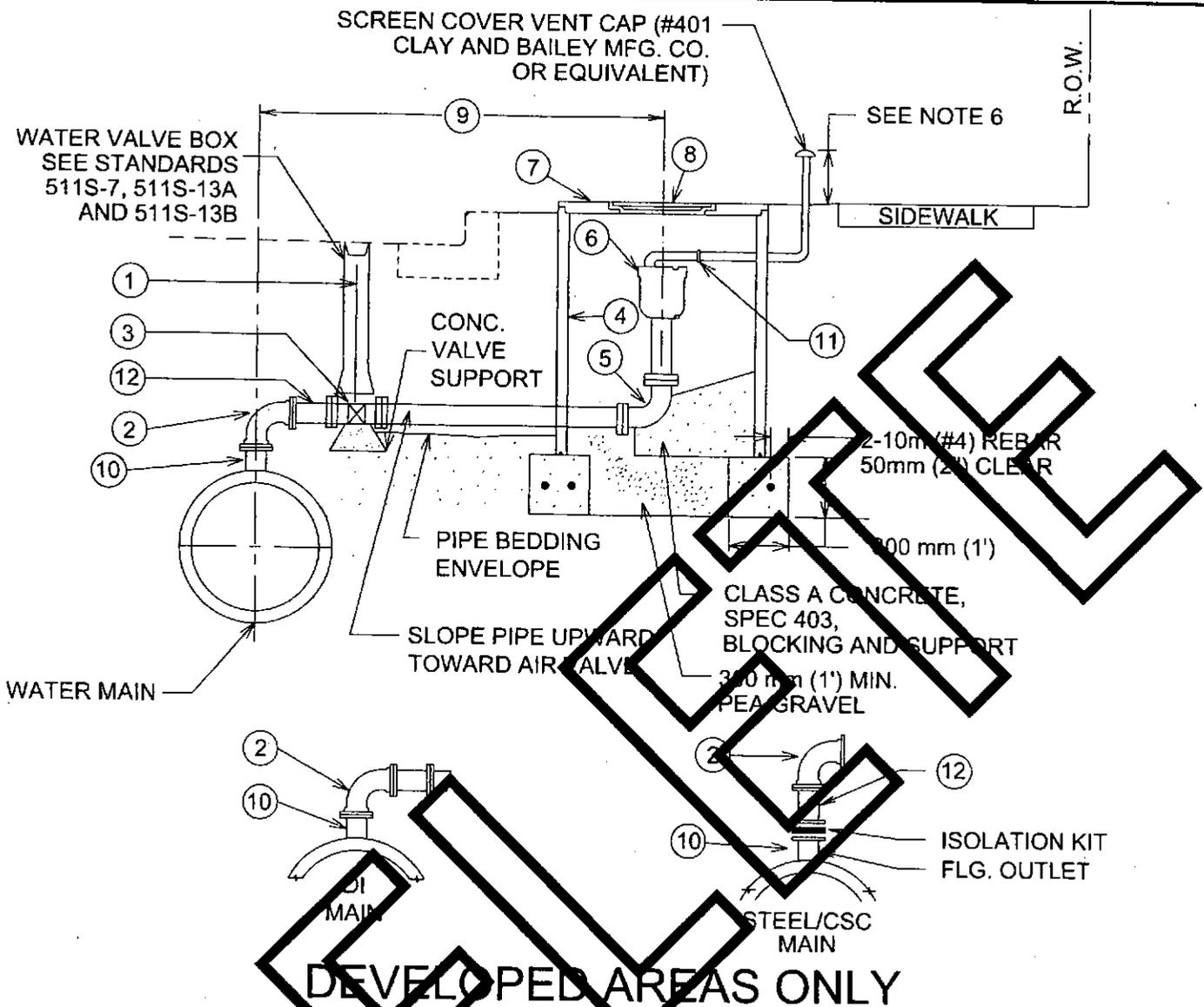
STANDARD NO.  
**511S-1**



**NOTES:**

1. LID AND METER BOX TO BE RECTANGULAR WITH "RECLAIMED WATER" CAST INTO IT.
2. ALL RECLAIMED WATER PIPING AND APPURTENANCES TO BE MANUFACTURED PURPLE, WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D OR PAINTED PURPLE PER SPL WW-30.
3. IF INSTALLED IN AN UNDEVELOPED AREA, INSTALL A 100 mm (4") DIA. STEEL PIPE WHICH HAS BEEN PAINTED PURPLE (SEE NOTE 2) AND FILLED WITH CONCRETE (STEEL PIPE SHALL BE 1.8 m (6') LONG, BURIED IN CLASS A CONCRETE OR CLSM 0.9 m (3') BELOW FINAL GRADE AND EXTENDING 0.9 m (3') ABOVE FINAL GRADE). FLEXSTAKE SOIL ANCHOR DELINEATOR OR EQUIVALENT 1.8 m (6'), PURPLE, SHALL BE PLACED WITHIN 0.9 m (3') OF METER BOX ON THE VEHICULAR ACCESS SIDE OF METER BOX OR AS DIRECTED BY AWU.
4. THE AIR VALVE AND ASSOCIATED PIPING SHALL BE INSTALLED ABOVE THE HIGHEST ELEVATION OF THE RECLAIMED WATER MAIN. AIR VALVE PIPING, FROM THE RECLAIMED WATER MAIN TO THE AIR VALVE, SHALL MAINTAIN A CONSTANT RISE, WITH NO DIPS, TO THE TOP OF THE GROUND.
5. AIR VALVE SHALL BE INSTALLED IN THE RIGHT-OF-WAY BUT NOT IN A DRIVEWAY, SIDEWALK OR AREAS OF VEHICULAR TRAFFIC.

<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>RECLAIMED WATER CONNECTION 25 mm (1") OR 50 mm (2") RECLAIMED WATER AUTOMATIC AIR RELEASE VALVE</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS</p>	<p>8/31/11</p> <p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-1BR</b></p>



**DEVELOPED AREAS ONLY**

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>① VALVE STEM EXTENSION</li> <li>② 90° BEND WITH FACTORY RESTRAINED JOINT BEH. ENDS SPL WW-27F</li> <li>③ GATE VALVE (FLG x FLG). GATE VALVE SHALL NOT BE INSTALLED DIRECTLY ABOVE MAIN.</li> <li>④ CLASS III R.C.P. VAULT 1.524 m (60") MIN. I.D.</li> <li>⑤ 90° BEND (FLG x FLG)</li> <li>⑥ COMBINATION AIR RELEASE VALVE WITH GOOSENECK PER SPL WW-367 OR WW-462A</li> <li>⑦ REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING)</li> </ul> | <ul style="list-style-type: none"> <li>⑧ C.O.A. RING AND 813 mm (32") COVER. SEE STD. DETAIL 503S-6W (MODIFY LETTERING TO WATER)</li> <li>⑨ PER PLAN DIMENSION, OR AS DETERMINED BY LICENSED ENGINEER OR AUSTIN WATER UTILITY.</li> <li>⑩ FOR STEEL/CSC MAIN: WELDED-ON FLANGED OUTLET WITH ISOLATION KIT AND FLG x FACTORY RESTRAINED SPIGOT END. OR<br/>FOR DI MAIN: WELDED-ON OUTLET WITH FACTORY RESTRAINED JOINT SPIGOT END.</li> <li>⑪ BOLTED CAST COUPLING (SMITH-BLAIR 441 OMNI CAST COUPLING OR APPROVED EQUIVALENT)</li> <li>⑫ PIPE FLG x FACTORY RESTRAINED JOINT SPIGOT END.</li> </ul> |
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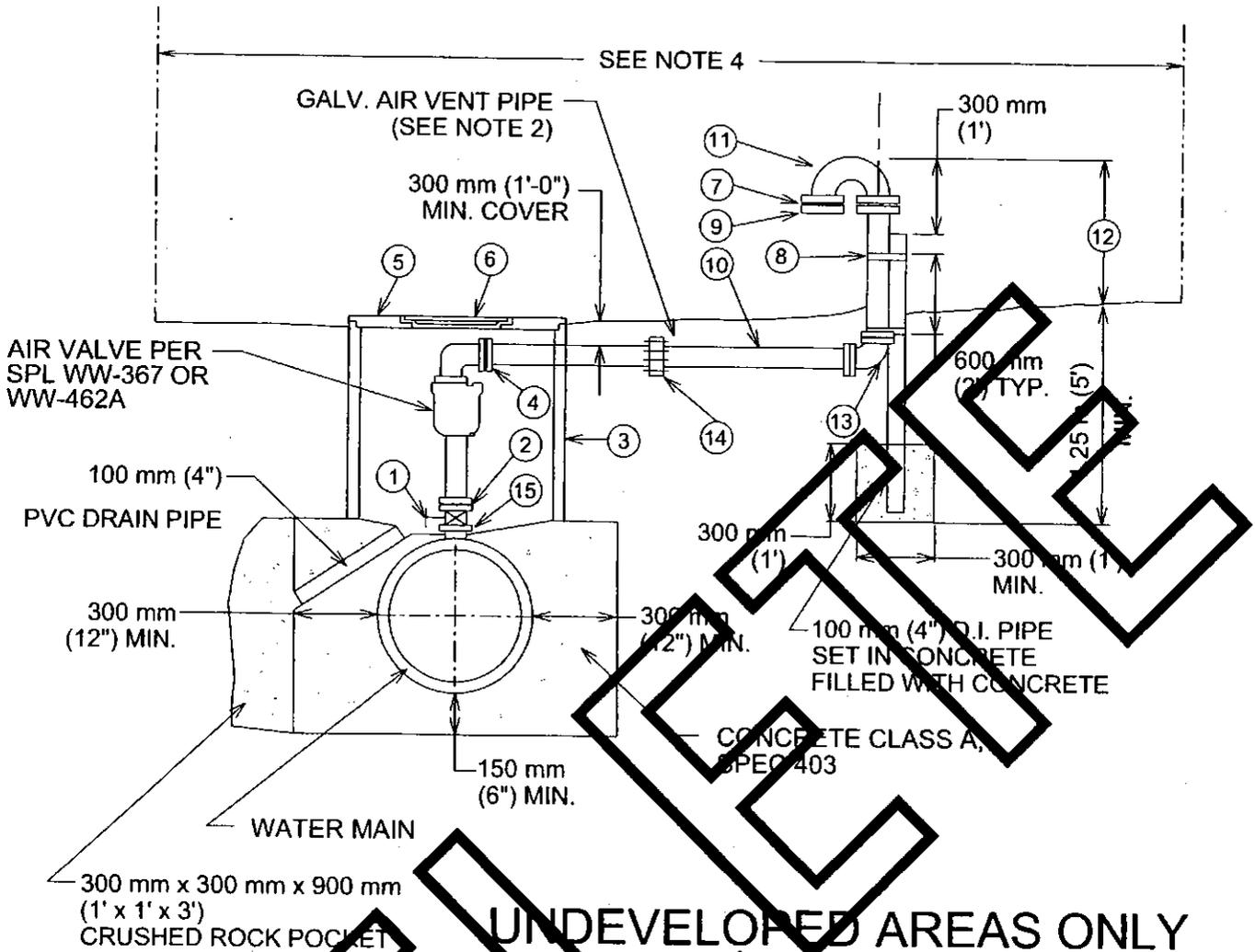
CITY OF AUSTIN AUSTIN WATER UTILITY	<b>TYPE II-76 mm (3") OR LARGER VENTED          AIR/VACUUM VALVE INSTALLATION</b>	
RECORD COPY SIGNED BY <b>KATHI L FLOWERS</b> 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-2</b> 1 OF 2

**NOTES:**

1. ON 250 mm (10") AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE
2. AIR VENT PIPE 150 mm (6") AND LARGER SHALL BE D.I. (CLASS 350 MIN.) PIPE FLANGE FITTINGS AND EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE SAFETY BLUE. SURFACE PREPARATION SHALL BE PER PAINT MANUFACTURER'S REQUIREMENTS.
3. AIR VENT PIPE INSTALLATION SHALL BE AS NEAR AS PRACTICAL TO THE RIGHT-OF-WAY LINE.
4. CONCRETE PIPE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE SEALED W/LINKSEAL LS 300 OR APPROVED EQUAL.
5. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.
6. THE AIR RELEASE SHALL BE 200mm (8") TO 300mm (12") IN HEIGHT AND LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.

AIR VALVE	GATE VALVE	VENT PIPE (MIN.)	VAULT DIA. (MIN.)
76 mm (3")	76 mm (3")	76 mm (3")	1.524 m (5')
102 mm (4")	102 mm (4")	102 mm (4")	1.829 m (6')
152 mm (6")	152 mm (6")	152 mm (6")	1.829 m (6')
203 mm (8")	203 mm (8")	203 mm (8")	1.829 m (6')
254 mm (10")	254 mm (10")	254 mm (10")	2.134 m (7')
305 mm (12")	305 mm (12")	305 mm (12")	2.134 m (7')

CITY OF AUSTIN AUSTIN WATER UTILITY		TYPE II-76 mm (3") OR LARGER VENTED AIR/VACUUM VALVE INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-2</b> 2 OF 2



- ① GATE VALVE WITH HAND WHEEL (FLG X FLG OR APPROVED EQUIVALENT)
- ② FLANGE CONNECTION
- ③ CLASS III R.C.P. VAULT 1.52 m (60") MIN. I.D. SEE SCHEDULE ON PAGE 2
- ④ FLG CONNECTION OF APPROVED EQUIVALENT
- ⑤ REINFORCED PRECAST CONCRETE LID
- ⑥ C.O.A. RING AND 813 mm (32") COVER PER STD. DETAIL 503S 16W (MODIFY LETTERING TO WATER)
- ⑦ NO. 16 MESH BRASS CLOTH
- ⑧ 6 mm x 25 mm (1/4" x 1") GALV. STRAPS DRILLED TO 100 mm (4") D.I. PIPE FILLED WITH CONCRETE (SEE NOTE 7)
- ⑨ COMPANION FLANGE (SEE NOTE 5)
- ⑩ AIR VENT PIPE, 3"-GALVANIZED IRON, 4" AND LARGER-D.I. ONLY
- ⑪ RETURN BEND (FLG x FLG)
- ⑫ 1.25m (4') MIN. (UNDEV. AREAS) 200mm (8") TO 300mm (12") (DEV. AREAS)
- ⑬ 90° BEND (FLG x FLG)
- ⑭ BOLTED CAST COUPLING (SMITH-BLAIR 441 OMNI CAST COUPLING OR APPROVED EQUIVALENT)
- ⑮ FOR D.I. MAIN: WELDED-ON FLANGED OUTLET.  
OR  
FOR STEEL/CSC MAIN: WELDED-ON FLANGED OUTLET WITH FLANGE ISOLATION KIT BETWEEN WELDED-ON OUTLET AND VALVE

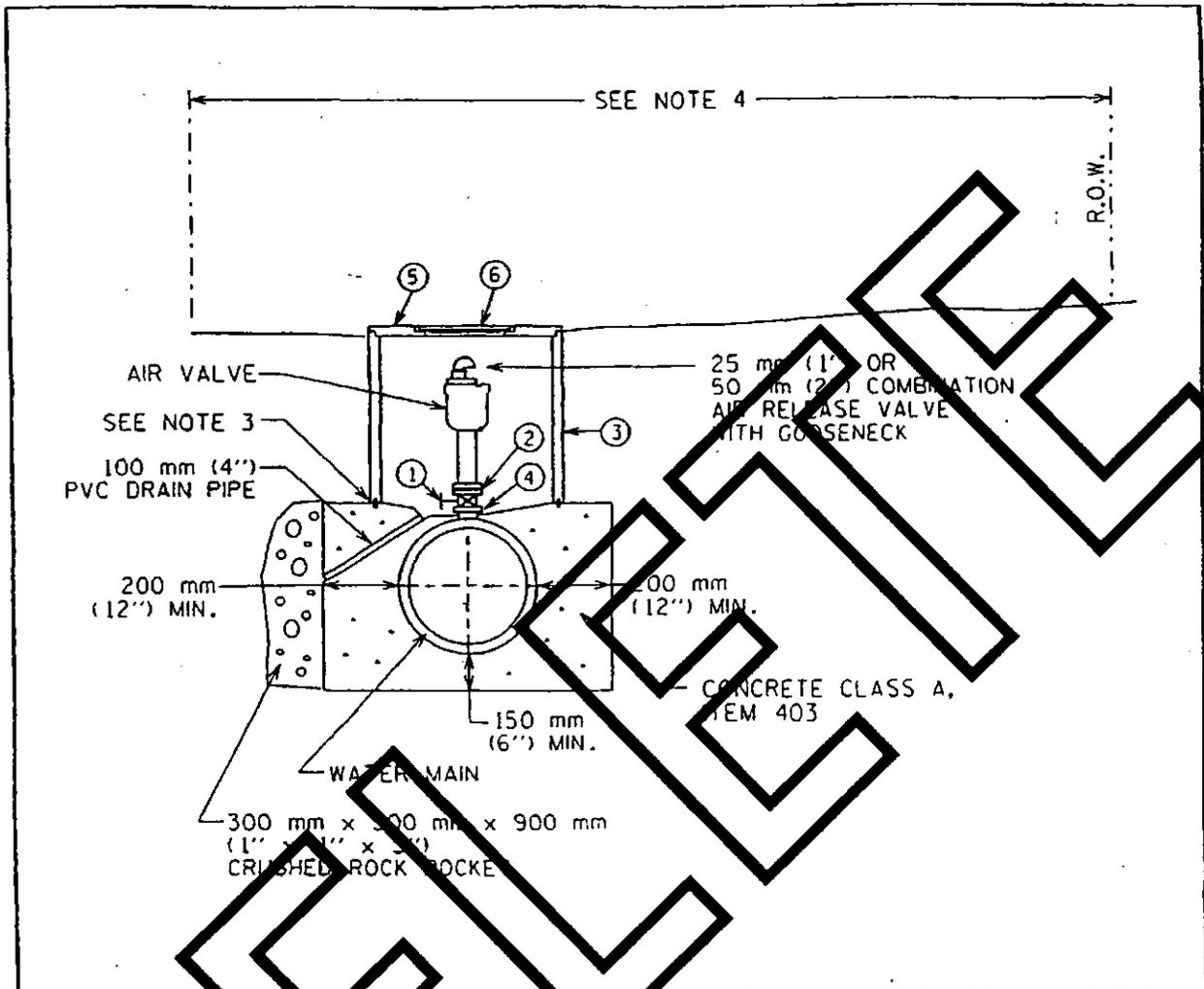
CITY OF AUSTIN AUSTIN WATER UTILITY	TYPE III-76 mm (3") OR LARGER VENTED AIR/VACUUM VALVE INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS      08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-3</b> 1 OF 2

**NOTES:**

1. ON 250 mm (10") AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE
2. AIR VENT PIPE 150 mm (6") AND LARGER SHALL BE D.I. (CLASS 350 MIN.) PIPE FLANGE FITTINGS AND EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE SAFETY BLUE. SURFACE PREPARATION SHALL BE PER PAINT MANUFACTURER'S REQUIREMENTS.
3. THIS DETAIL TO BE USED IN UNPAVED AREAS ONLY. ENTIRE AIR VENT ASSEMBLY SHALL BE LOCATED WITHIN EASEMENT OR R.O.W.
4. CONCRETE PIPE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE SEALED W/LINKSEAL LS 300 OR APPROVED EQUAL.
5. CROSS SECTIONAL AREA OF OPENING TO BE EQUAL TO OR GREATER THAN CROSS SECTIONAL AREA OF AIR VENT PIPE.
6. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.
7. IN UNDEVELOPED AREAS, THE AIR RELEASE SHALL BE 1.25m (4') MIN. IN HEIGHT SUPPORTED BY A 100mm (4") DIA. STEEL PIPE WHICH HAS BEEN PAINTED BLUE (SEE NOTE TWO) AND FILLED WITH CONCRETE (STEEL PIPE SHALL BE 1.8m (6') LONG, BORED IN CLASS A CONCRETE OR CLSM 0.9m (3') BELOW FINAL GRADE AND EXTENDING 0.9m (3') ABOVE FINAL GRADE). FLEXSTAKE SOIL ANCHOR DELINEATOR OR EQUIVALENT, 1.8m (6'), BLUE, SHALL BE PLACED WITHIN 0.9m (3') OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AWJ.

AIR VALVE	GATE VALVE	VENT PIPE (MIN.)	VAULT DIA. (MIN.)
76 mm (3")	76 mm (3")	76 mm (3")	1.524 m (5')
102 mm (4")	102 mm (4")	102 mm (4")	1.829 m (6')
152 mm (6")	152 mm (6")	152 mm (6")	1.829 m (6')
203 mm (8")	203 mm (8")	203 mm (8")	1.829 m (6')
254 mm (10")	254 mm (10")	254 mm (10")	2.134 m (7')
305 mm (12")	305 mm (12")	305 mm (12")	2.134 m (7')

CITY OF AUSTIN AUSTIN WATER UTILITY		TYPE III-76 mm (3") OR LARGER VENTED AIR/VACUUM VALVE INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-3</b> 2 OF 2



- ① LAY DOWN DATE VALVE WITH HAND WHEEL
- ② INSULATED FLANGE CONNECTION
- ③ CLASS III R.C.P. MANHOLE 1.524 m (60") MIN. I.D.
- ④ FLANGED OUTLET PER ANSI B 16.1
- ⑤ REINFORCED PRECAST CONCRETE LID
- ⑥ C.P.A. RING AND 813 mm (32") COVER

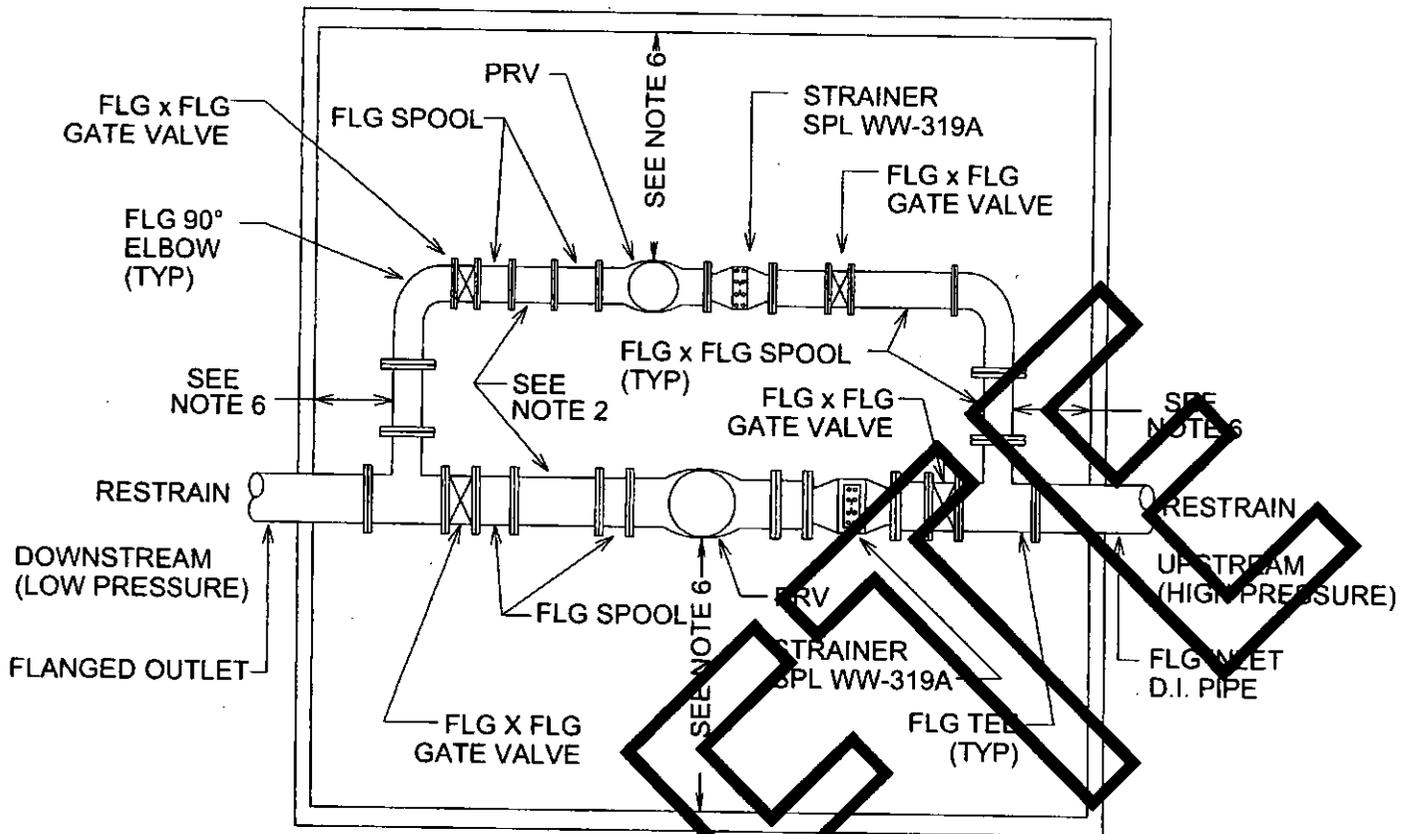
<p>CITY OF AUSTIN WATER AND WASTEWATER UTILITY</p>	<p>TYPE III-76 mm (3") OR LARGER NON-VENTED AIR/VACUUM VALVE INSTALLATION</p>
<p><i>Kathie J. Downs</i> 11/17/00 ADOPTED</p>	<p>STANDARD NO. 511S-3B 1 OF 2</p> <p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>

NOTES:

1. ON 250 mm (10'') AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE MANHOLE INTO THE SIDE OF THE LARGER VENT PIPE THAT GOES ABOVE GROUND.
2. AIR VENT PIPE 150 mm (6'') AND LARGER SHALL BE D.I. (CLASS 350 MIN.) PIPE; FLANGE FITTINGS ORDERED SPECIAL WITH SHOP APPLIED KOPPER INERTOL RUST INHIBITIVE PRIMER 621, OR EQUAL, IN LIEU OF COAL TAR. EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED WITH RUST-OLEUM ACRYLIC 5225 (SAFETY BLUE), OR EQUAL, PER COATING MANUFACTURER'S INSTRUCTIONS PRIOR TO INSTALLATION.
3. SEALANT SHALL BE 32 mm (1 1/4'') FLEXIBLE BUTYL RESIN SEALANT CS-102 AS MANUFACTURED BY CONCRETE SEALANTS, INC. OR EQUAL.
4. AIR VENT PIPE INSTALLATION SHALL BE LOCATED WITHIN CEMENT.
5. CONCRETE MANHOLE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE FILLED BY PRESSING SEAL GASKET CORP. PSX RESILIENT CONNECTOR MEETING ASTM C923 OR APPROVED EQUAL.
6. CROSS SECTIONAL AREA OF OPENING TO BE EQUAL TO OR GREATER THAN CROSS SECTIONAL AREA OF AIR VENT PIPE.
7. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LIE.

AIR VALVE	GATE VALVE	VENT PIPE (MIN.)	M.H. DIA. (MIN.)
76 mm (3'')	76 mm (3'')	76 mm (3'')	1.524 m (5')
102 mm (4'')	102 mm (4'')	102 mm (4'')	1.829 m (6')
152 mm (6'')	152 mm (6'')	152 mm (6'')	1.829 m (6')
203 mm (8'')	203 mm (8'')	203 mm (8'')	1.829 m (6')
254 mm (10'')	254 mm (10'')	254 mm (10'')	2.134 m (7')
305 mm (12'')	305 mm (12'')	305 mm (12'')	2.134 m (7')

CITY OF AUSTIN WATER AND WASTEWATER UTILITY		TYPE III-76 mm (3'') OR LARGER NON-VENTED AIR/VACUUM VALVE INSTALLATION	
<i>Kelli Flowers</i>	<i>Whelan</i> ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-3B</b> 2 OF 2



ELEVATION

**NOTES:**

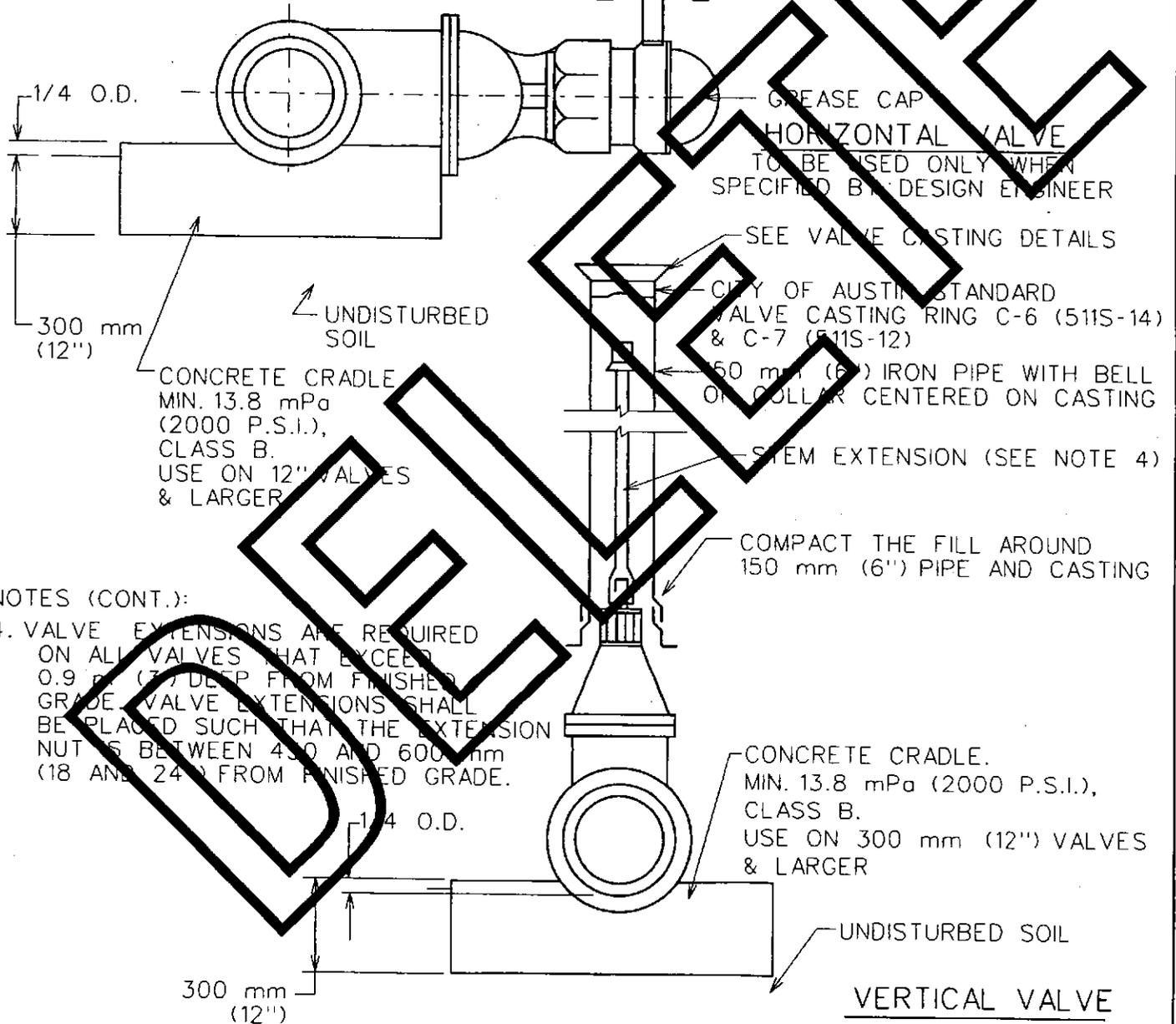
1. GATE VALVES TO BE WHEEL OPERATED, WHEEL ON TOP.
2. SLEEVES ARE ALLOWED ON DOWNSTREAM (LOW PRESSURE) SIDE ONLY, IF NEEDED.
3. ALL UPSTREAM OR HIGH PRESSURE MATERIALS TO BE FLANGED.
4. ALL NON-FLANGED PIPE TO BE INSTALLED WITH RESTRAINT PER SPL WW-27A.
5. ALL VALVES TO HAVE CONCRETE SUPPORT BLOCKS.
6. DIMENSIONS SHALL HAVE A MINIMUM 450 mm (18") CLEARANCE.
7. ALL PIPE IN PRV/BYPASS INSTALLATION TO BE THREADED BRASS OR FLANGED D.I. PIPE.
8. PRESSURE REDUCER VALVE SHALL BE IN ACCORDANCE WITH STANDARD PRODUCTS LIST NO. WW-319.
9. THE DESIGN ENGINEER SHALL PROVIDE THE ELEVATION ABOVE MEAN SEA LEVEL AND THE PRESSURE ON THE LOW PRESSURE SIDE OF THE PRV ON THE PLANS SUBMITTED FOR COA/WU REVIEW.
10. PRV VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREAS.
11. INSTALL STRAINER WITH COVER ORIENTED ON TOP.
12. VAULT LID PER SPL WW-614
13. RESTRAINED PIPE AND FITTINGS REQUIRED, EACH WAY, TO ALLOW REMOVAL OF ALL VALVES AND FITTINGS IN VAULT WITHOUT ADDITIONAL SUPPORT.

\*SEE DETAILED ENGINEERING DESIGN IN PLANS

CITY OF AUSTIN AUSTIN WATER UTILITY		DUAL PRV INSTALLATION GUIDELINE*	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-5</b>

NOTES:

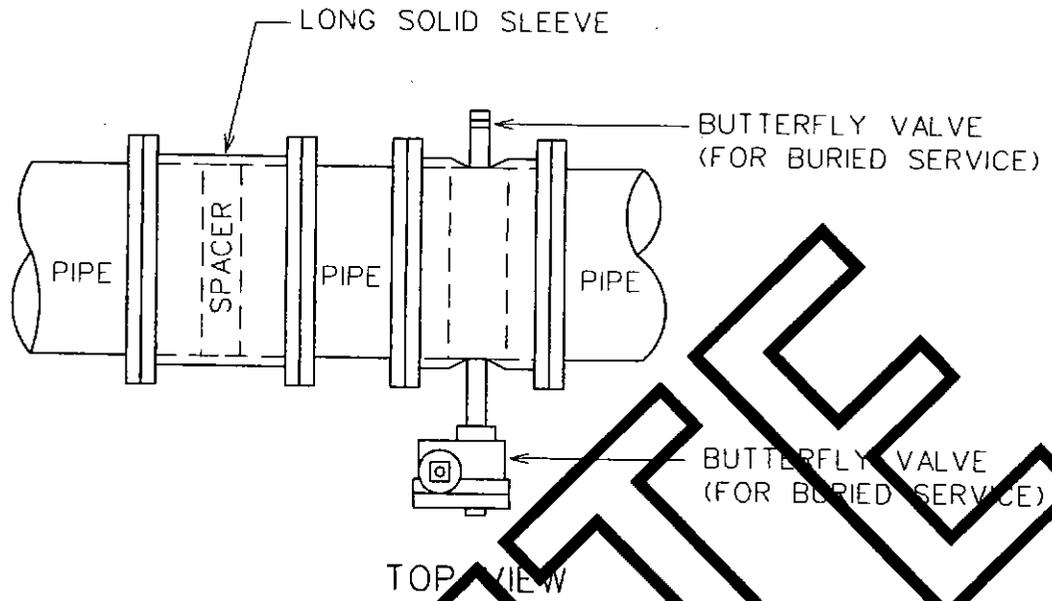
1. WELD SOCKET 64 mm X 51 mm (2½" X 2") DEEP TO 25 mm (1") SCH. 40 ROUND STEM EXTENSION, FITTED ON OPERATING NUT, SCH. 80 FOR LENGTHS OVER 3 m (10').
2. CITY OF AUSTIN STANDARD VALVE CASTING RING C-6 & LID C-7 OR C-5A LID IN UNPAVED AREAS. SEE VALVE CASTING DETAIL.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 51 mm (2") LONG WELDED TO TOP OF ROD.



NOTES (CONT.):

4. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUTS BETWEEN 450 AND 600 mm (18 AND 24") FROM FINISHED GRADE.

CITY OF AUSTIN AUSTIN WATER UTILITY		TYPICAL GATE VALVE 100 mm-600 mm (4"-24")	
RECORD COPY SIGNED BY KATHI L. FLOWERS	3/9/04 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511S-7



750 mm (2'-6") MIN.  
900 mm (3'-0") MAX.

44 mm  
(1 3/4")

NUT AT TOP OF VALVE EXTENSION  
ROD SHALL BE 50 mm (2") SQUARE,  
38 mm (1 1/2") LONG, WELDED TO  
THE TOP OF THE ROD  
150 mm (6") IRON PIPE CASTING  
WITH BELL OR COLLAR CENTERED  
ON CASTING

END VIEW

NOTES:

1. WELD SOCKET 66 mm X 31 mm (2 5/8" X 1 1/4") TO 28 mm (1 1/8") SOLID ROUND STEM EXTENSION.
2. SEE CITY OF AUSTIN STANDARDS ON VALVE BOX CASTING PAVING RING C-6, STANDARD NO. 511S-14 AND C-7 LID, STANDARD NO. 511S-12 OR C-3 LID, STANDARD NO. 511-11 IN UNPAVED AREAS. ALSO, REFER TO STANDARDS 511S-13A AND 511S-13B ON WATER VALVE BOX ADJUSTMENT.

CITY OF AUSTIN  
WATER AND WASTEWATER UTILITY

TYPICAL BUTTERFLY VALVE  
900 mm (36") AND LARGER

RECORD COPY SIGNED  
BY KATHI L. FLOWERS

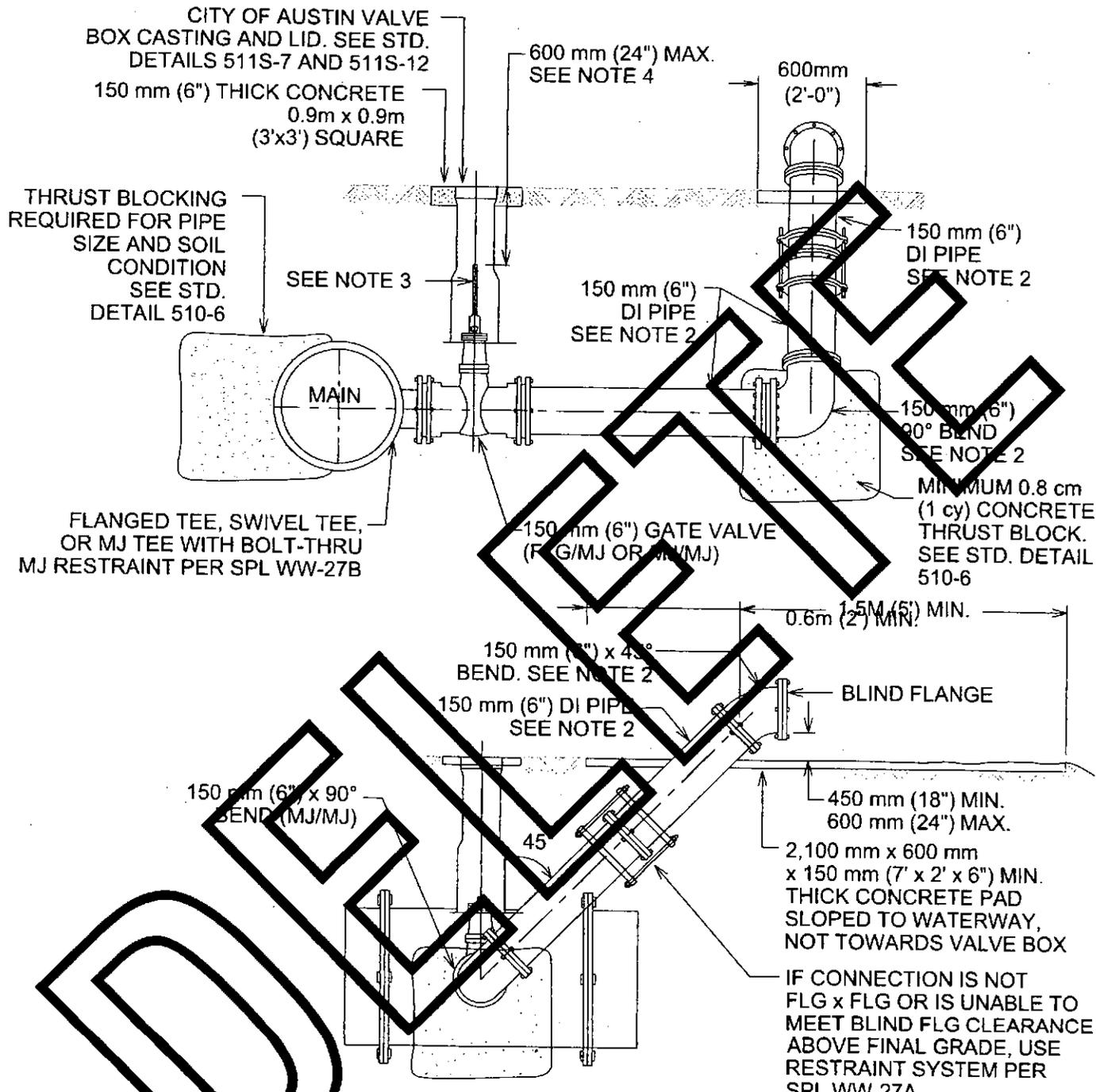
9/23/02

ADOPTED

THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR APPROPRIATE USE  
OF THIS STANDARD.

STANDARD NO.

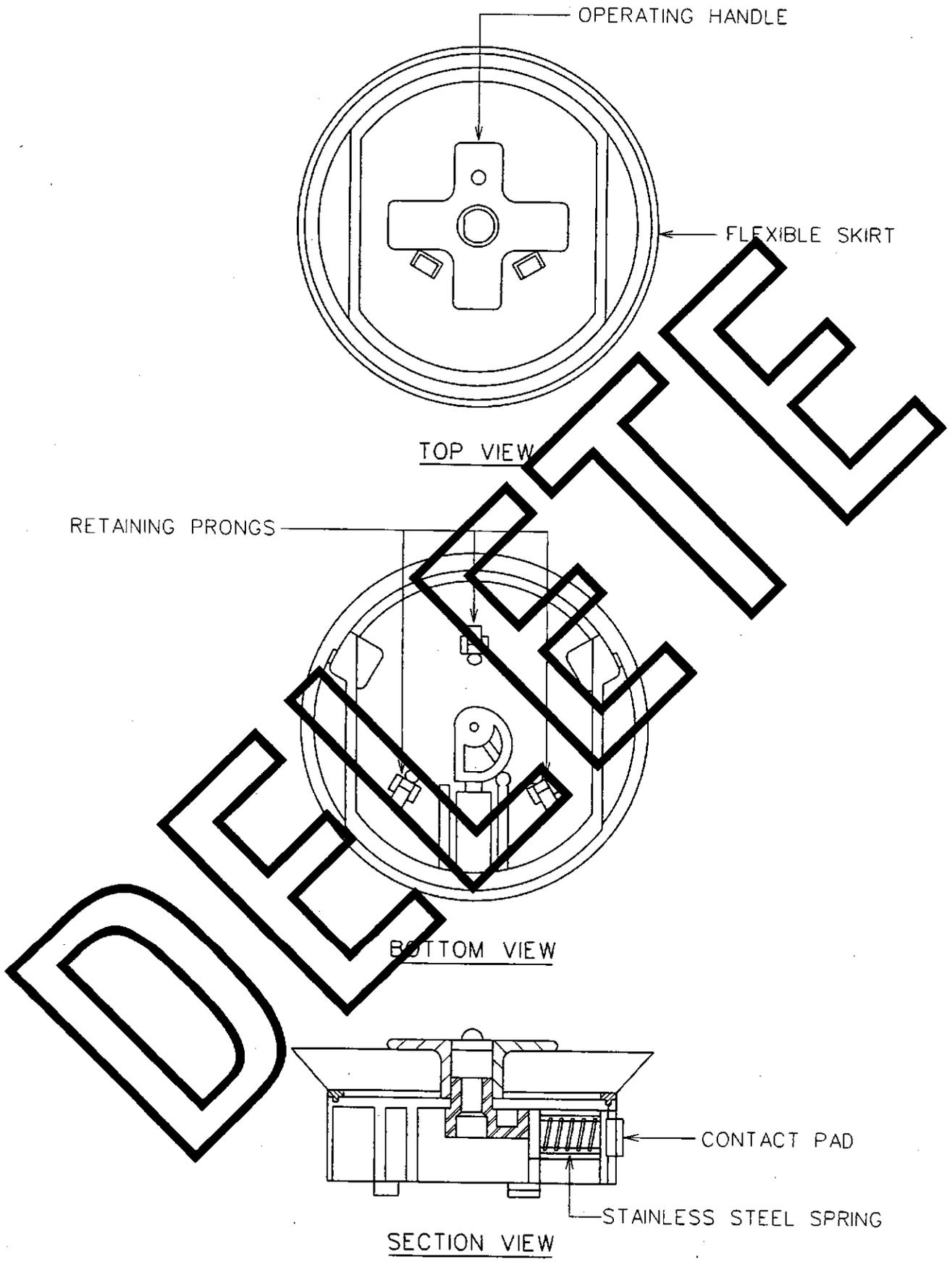
511S-8



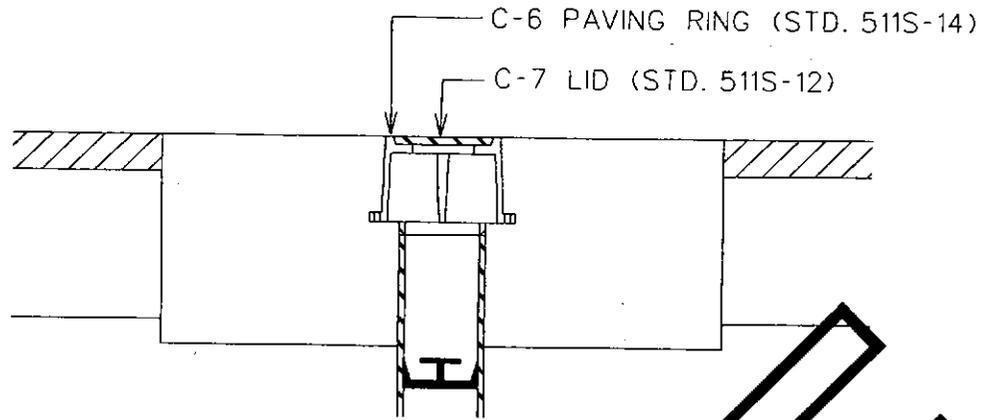
**NOTES:**

1. WRAP 8 MIL POLY FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
2. PROVIDE RESTRAINED JOINTS FOR ALL JOINTS PER SPL WW-27A. FLG X FLG JOINTS ARE ACCEPTABLE FROM 90° BEND TO BLIND FLANGE.
3. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION, FITTED ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10').
4. VALVE EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED .9m (3') DEEP FROM FINISHED GRADE TO VALVE NUT. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE NUT IS BETWEEN 450mm AND 600mm (18" AND 24") FROM FINISHED GRADE.
5. ABOVE-GROUND EXPOSED PIPE SURFACES SHALL BE PAINTED PER SPL WW-3C, POTABLE WATER PIPE SHALL BE SAFETY BLUE.

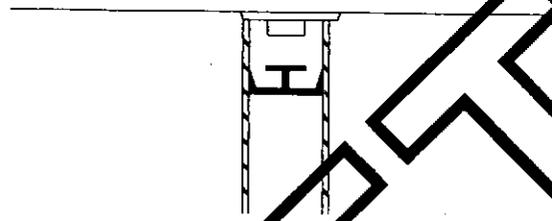
<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p><b>DRAIN VALVE INSTALLATION</b></p>	
<p>RECORD COPY SIGNED BY <b>KATHI L FLOWERS</b> 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-9A</b></p>



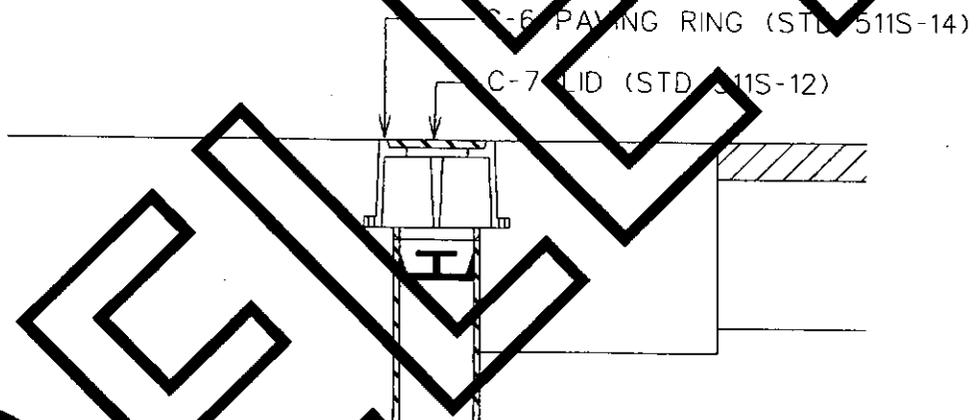
CITY OF AUSTIN WATER AND WASTEWATER UTILITY		DEBRIS CAP INSTALLATION	
RECORD COPY SIGNED BY KATHI L. FLOWERS	12/23/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-10</b> 1 OF 2



TYPE "A"



TYPE "B"



TYPE "C"

NOTES:

1. DEBRIS CAP SHALL BE INSTALLED AS CLOSE UNDER THE CAST IRON COVER WITHOUT INTERFERING WITH COVER OPERATION.
2. FLEXIBLE SKIRT SHALL BE TRIMMED TO PROVIDE A SMOOTH CONTACT WITH THE INTERIOR DIAMETER OF THE PIPE.
3. THE DEBRIS CAP SHALL BE MANUFACTURED BY SW SERVICES, INC., PHOENIX, ARIZONA OR EQUAL.
4. THE DEBRIS CAP SHALL BE COMPRISED OF A HOLLOW MEMBER HAVING A CYLINDRICAL OUTER SURFACE, A CLOSURE FOR ONE END AND THREE POINT RESILIENT CONTACT PADS PROJECTING FROM THE OUTER SURFACE. THE CAP SHALL HAVE A FLEXIBLE SKIRT PROVIDING AN OUTWARD SEAL PREVENTING DEBRIS FROM GETTING PAST THE CAP. THE CAP MUST WITHSTAND, WITHOUT SLIPPAGE, A MINIMUM VERTICAL FORCE OF 23 kg (50 lbs), AT A LOADING RATE OF 25 mm (1.0 in) PER MINUTE. THE CAP SHALL BE MOLDED USING GENERAL ELECTRIC ABS \*HIM 4500. THE CAP SHALL HAVE RETAINING PRONGS TO RETAIN A STANDRAD LOCATION COIL.

CITY OF AUSTIN  
WATER AND WASTEWATER UTILITY

DEBRIS CAP INSTALLATION

RECORD COPY SIGNED  
BY KATHI L. FLOWERS

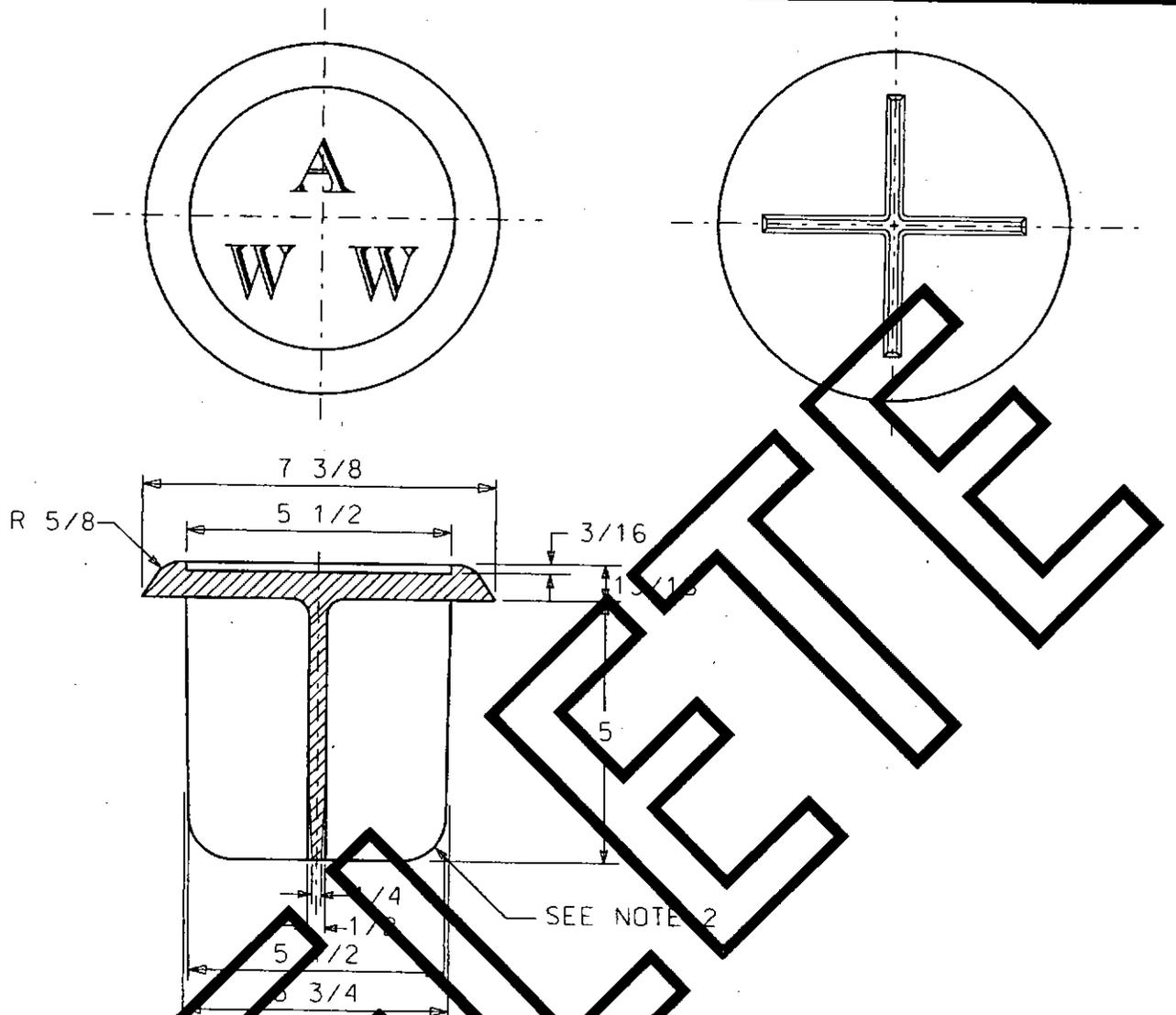
12/23/02

ADOPTED

THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR APPROPRIATE USE  
OF THIS STANDARD.

STANDARD NO.  
511S-10

REV. DATE: 2-10-97 DESCRIPTION: STANDARD MANUAL

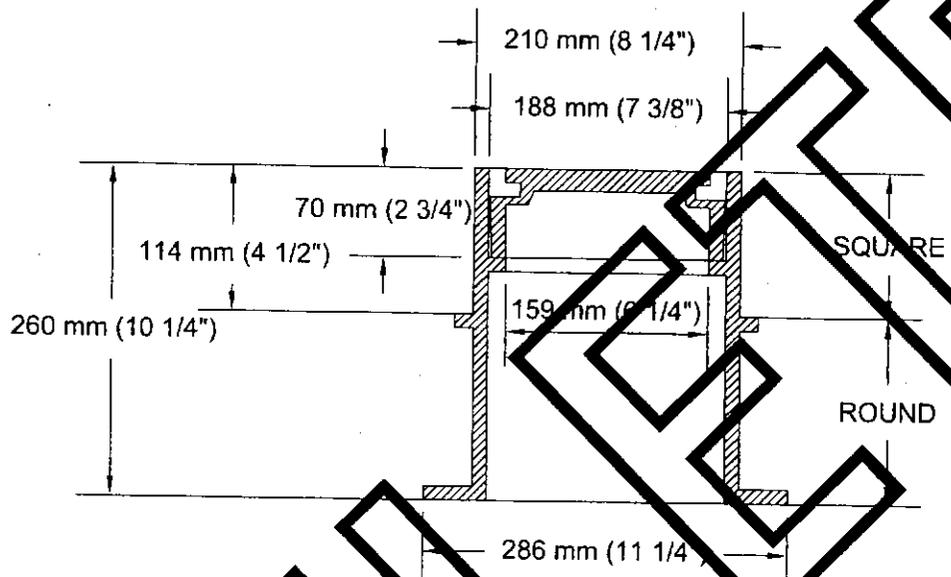
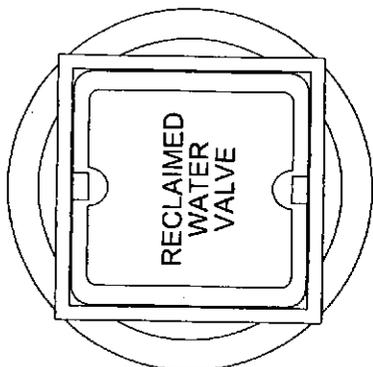


NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. TYPICAL FILLET IS 3/16" RADIUS
3. LETTERING SHALL BE 1 1/2" HEIGHT AND LOCATED AS SHOWN.
4. THIS LID FITS INSIDE 6" I.D. PIPE.
5. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINS AND FLASHING; PAINT WITH BLACK ASPHALT COATING.
8. WEIGHT: APPROXIMATELY 13 LBS.
9. ALL DIMENSIONS IN INCHES.

<b>CITY OF AUSTIN</b> WATER AND WASTEWATER UTILITY		<b>VALVE BOX CASTING</b> <b>C-3 LID</b>	
RECORD COPY SIGNED BY G. L. MARTIN	4/22/97	ADOPTED: 9/16/88	STANDARD NO.
APPROVED	DATE	SCALE: N.T.S. INITIAL: RAM	<b>511-11</b>

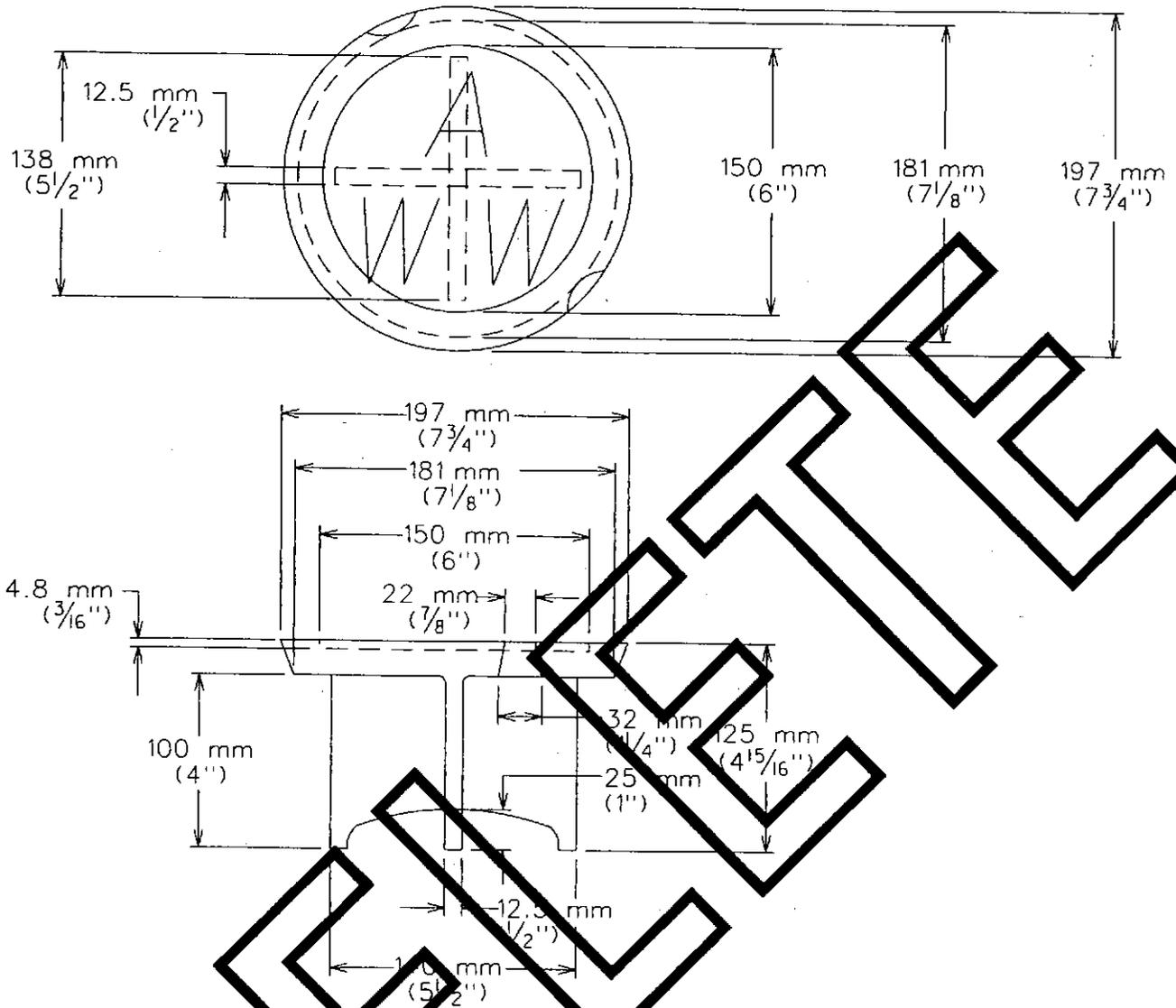
WEIGHT	
LID	6.8 kg (15 LBS.)
BOX	15 kg (33 LBS.)



NOTES:

1. THIS VALVE BOX IS DESIGNED TO FIT OVER A 6" DIAMETER PIPE, OR ABOVE AN 8" DIAMETER PIPE.
2. EACH COVER SHALL BE CAST WITH TWO PICK POCKETS SET 180° APART
3. EACH COVER SHALL HAVE "RECLAIMED WATER" CAST INTO IT
4. REFER TO SPL WW-322 MISCELLANEOUS GRAY IRON CASTING FOR RECLAIMED WATER
5. VALVE BOX AND COVER TO BE PAINTED PURPLE PER SPL WW-3C

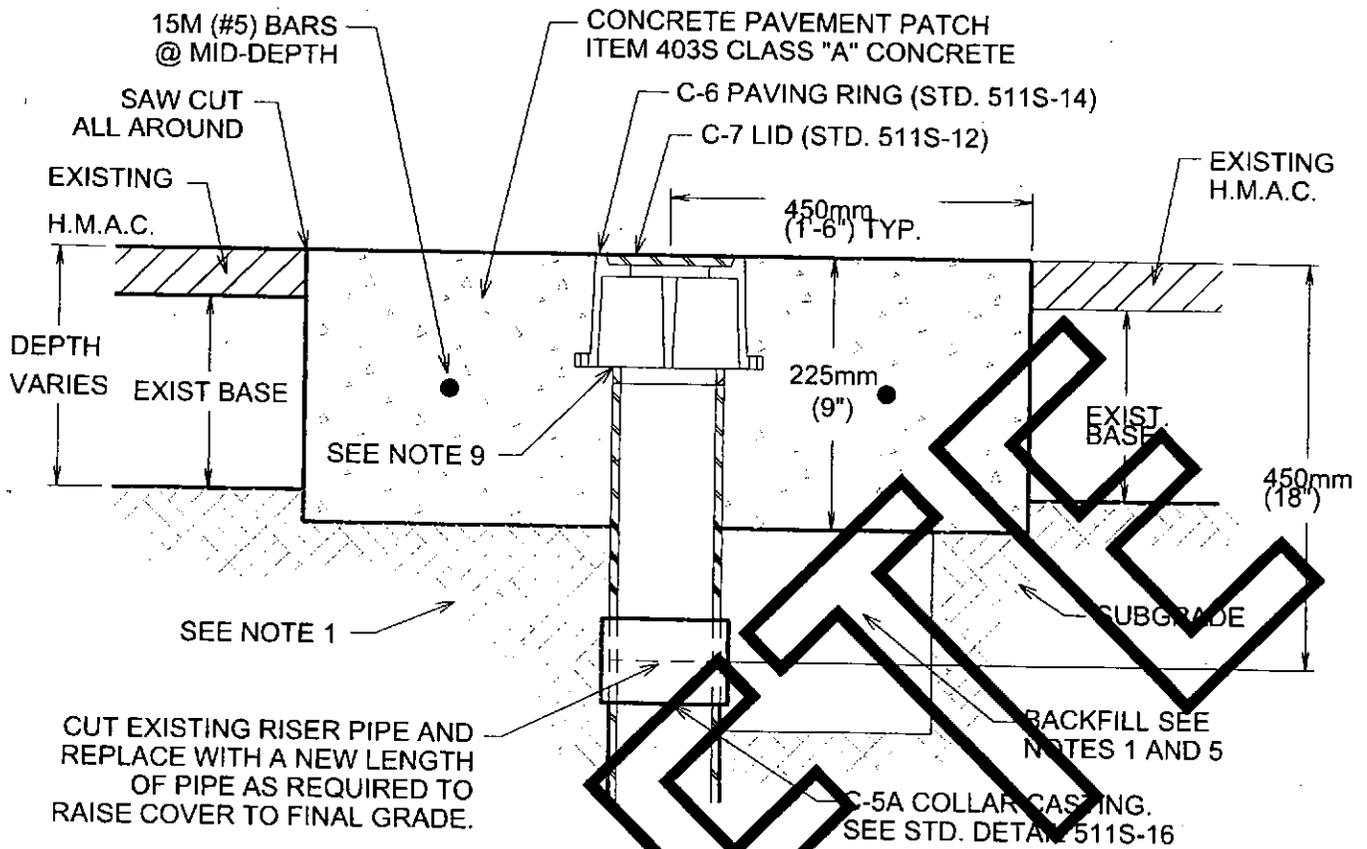
CITY OF AUSTIN AUSTIN WATER UTILITY		RECLAIMED WATER CONNECTION VALVE BOX AND COVER	
RECORD COPY SIGNED BY KATHI L FLOWERS	8/31/11	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-11R</b>



NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. TYPICAL FILLET IS 4.8 mm (3/16") RADIUS
3. LETTERING SHALL BE 38 mm (1 1/2") HEIGHT AND LOCATED AS SHOWN.
4. THIS LID REQUIRES TWO (2) PICK SLOTS.
5. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID.
6. DRAFT AND SPRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE.
7. FINISH BY REMOVING FINIS AND FLASHING; PAINT WITH BLACK ASPHALT COATING,
8. WEIGHT: APPROXIMATELY 6 kg (13 lbs).

<b>CITY OF AUSTIN</b> WATER AND WASTEWATER UTILITY		VALVE BOX CASTING C-7 LID	
RECORD COPY SIGNED BY KATHI F. PAYNE	4/5/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-12</b>

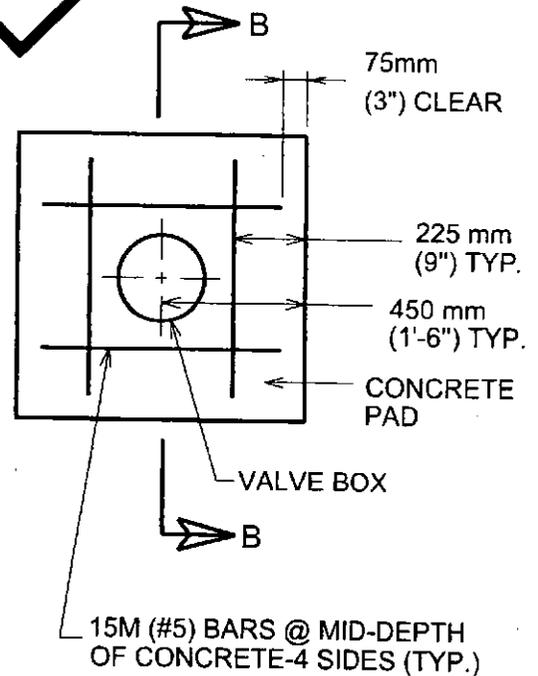


**SECTION B-B**

**NOTES:**

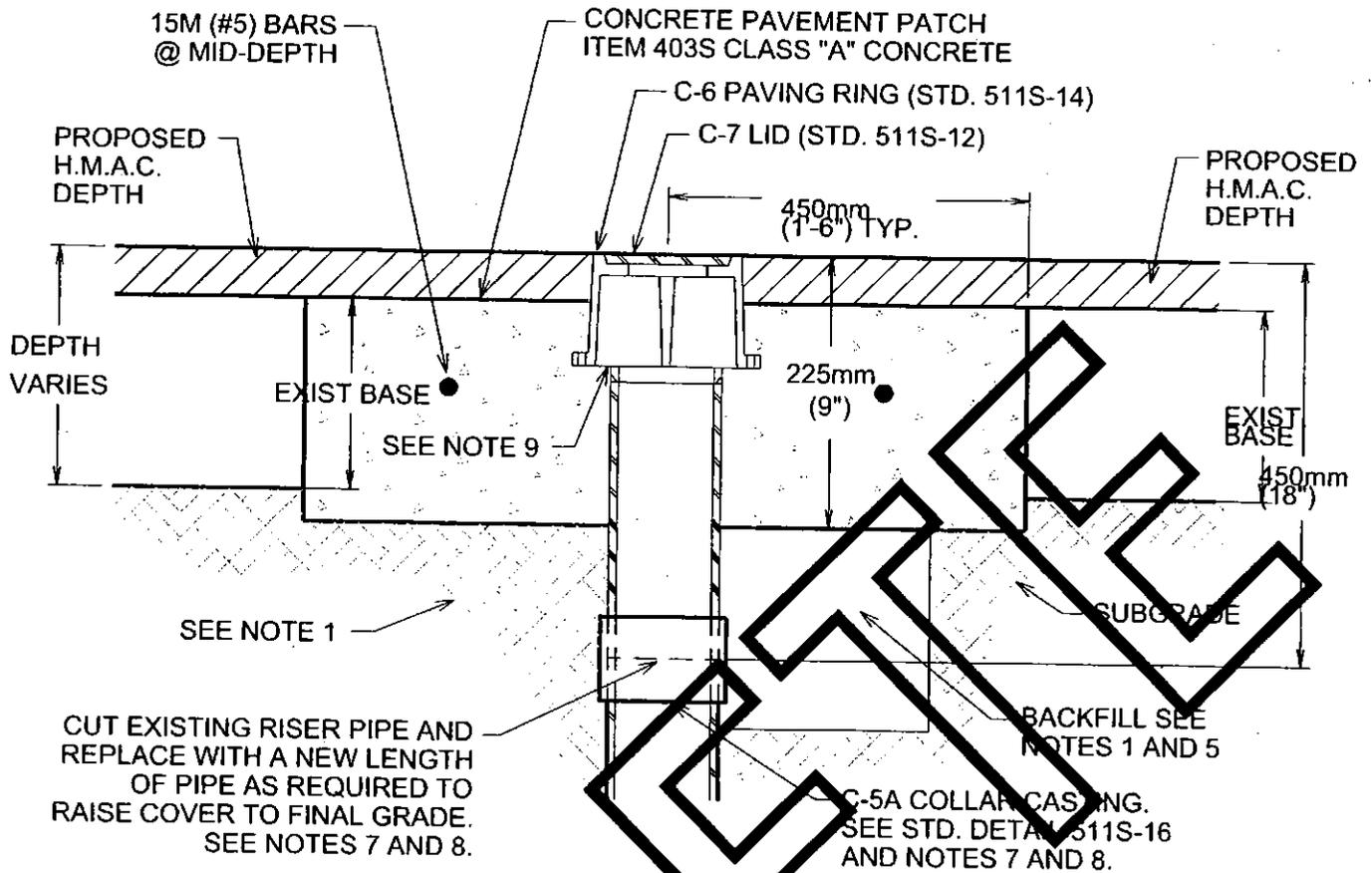
1. SUB-GRADE SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. REMOVE EXISTING RISER PIPE DOWN 450mm (18") AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A C-5A CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 500mm (20") DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 5.5m (18')
8. PAVING RING SHALL SIT FLUSH ON RISER.

DIRECTION OF TRAFFIC



**PLAN VIEW**

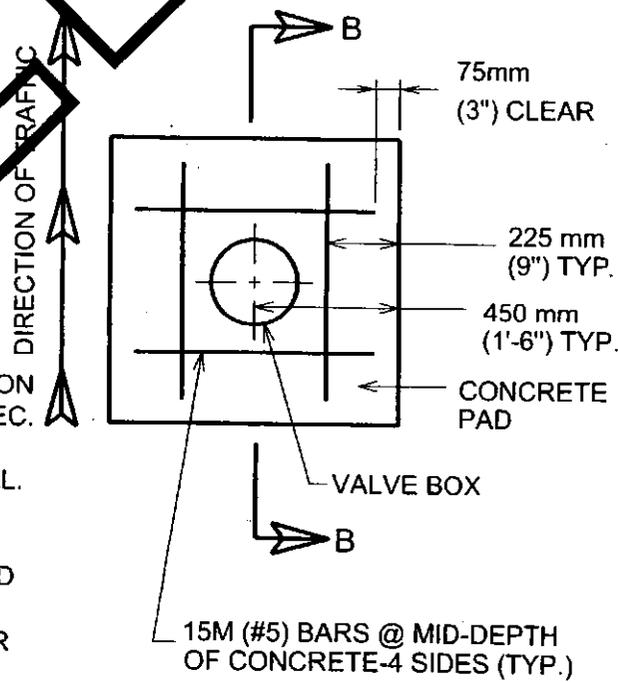
<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>WATER VALVE BOX ADJUSTMENT TO GRADE W/FULL DEPTH CONCRETE</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-13A</b></p>



**SECTION B-B**

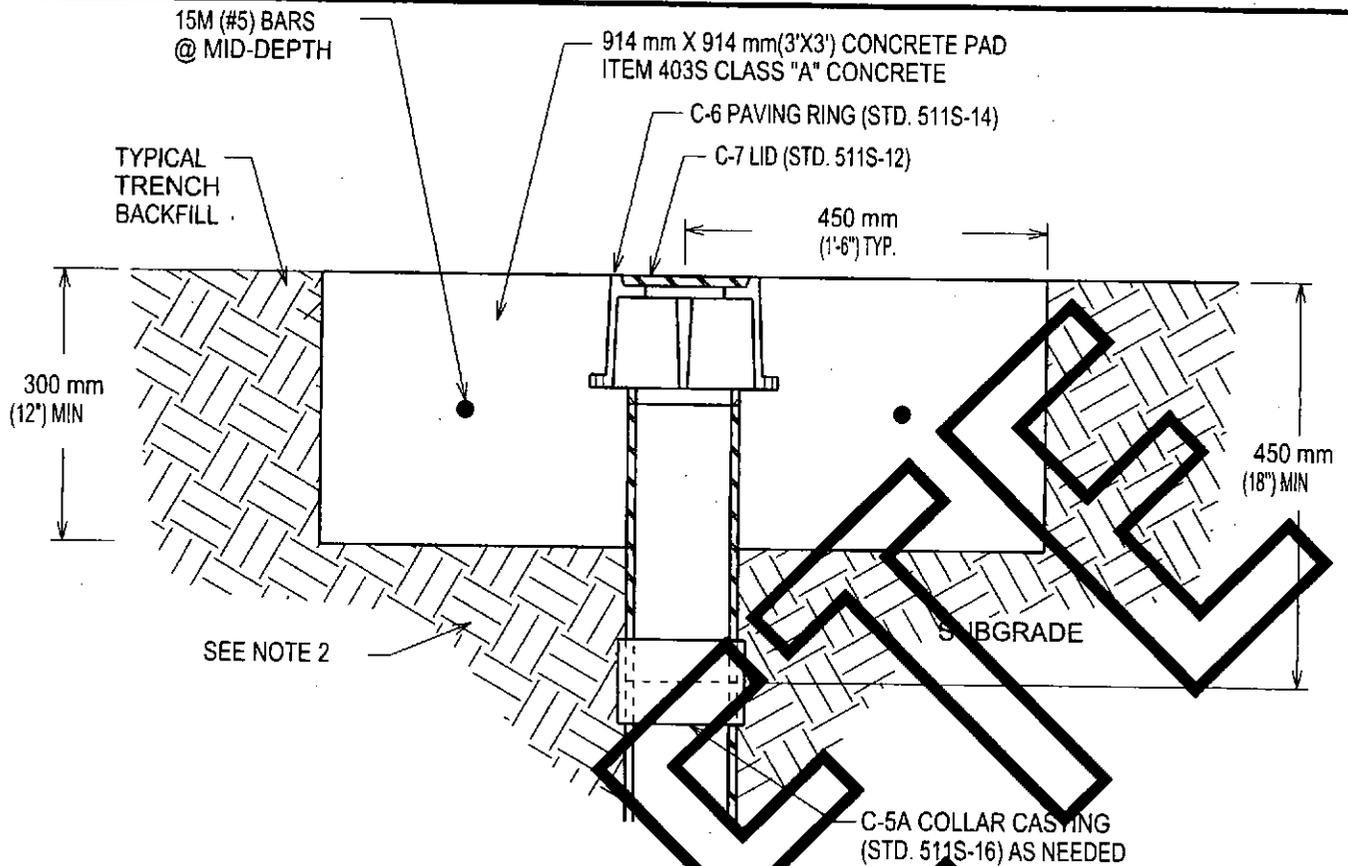
**NOTES:**

1. SUB-GRADE SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. REMOVE EXISTING RISER PIPE DOWN 450mm (18") AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A C-5A CASTING.
5. WHERE CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 500mm (20") DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
6. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.
7. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
8. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 5.5m (18')
9. PAVING RING SHALL SIT FLUSH ON RISER.



**PLAN VIEW**

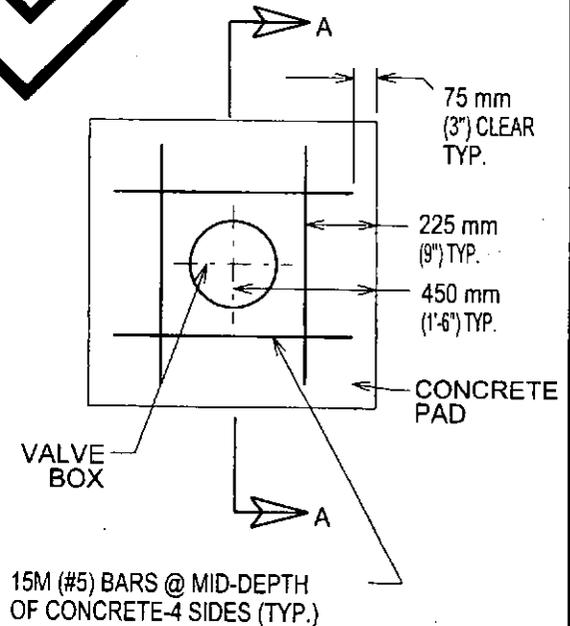
<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p><b>WATER VALVE BOX ADJUSTMENT TO GRADE W/CONCRETE AND H.M.A.C.</b></p>	
<p>RECORD COPY SIGNED BY <b>KATHI L FLOWERS</b>    08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-13B</b></p>



SECTION A-A

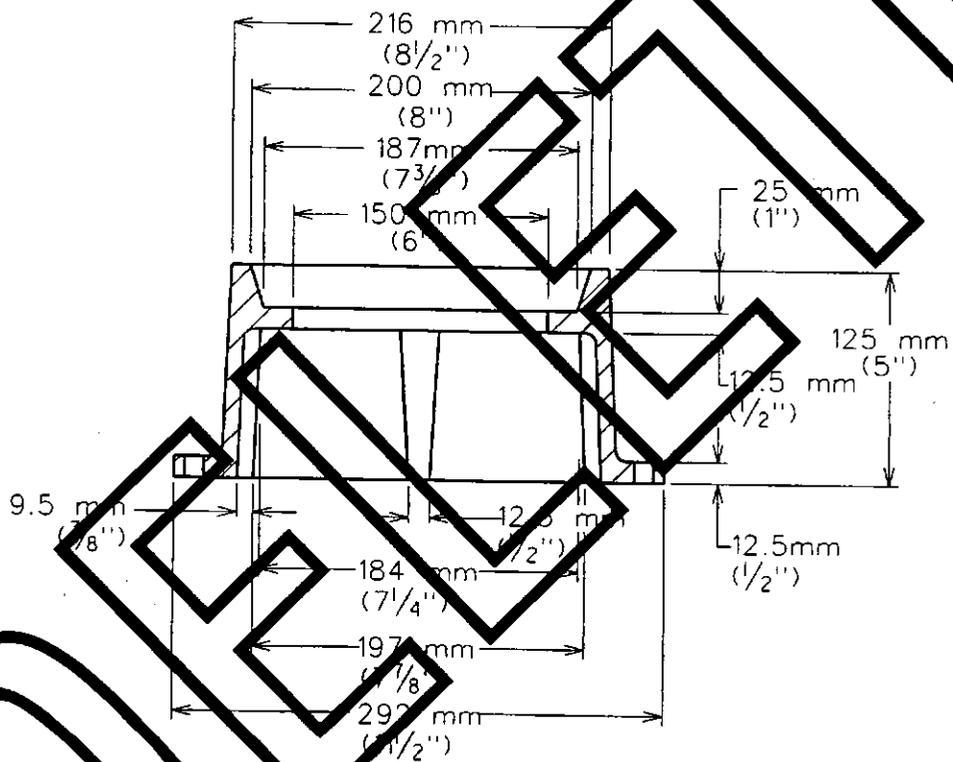
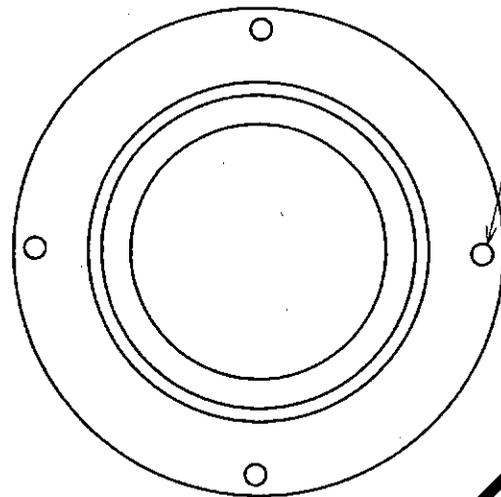
NOTES:

1. PADS ARE TO BE INSTALLED AROUND VALVE BOX LIDS ON ALL WATER VALVES IN UNPAVED AREAS.
2. TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 510.
3. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL GRADING OF TRENCH BACKFILL IS COMPLETED.
4. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE VALVE OPERATOR.
5. REINFORCING STEEL SHALL MEET ITEM 406S, REINFORCING STEEL.
6. IN UNDEVELOPED AREAS THAT WILL NOT BE REGULARLY MOVED AND MAINTAINED, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE PAD. DELINEATOR SHALL BE BLUE FOR WATER (FLEX STAKE HD600 OR APPROVED EQUAL) AND PURPLE FOR RECLAIMED WATER (CHRISTY'S STAKE NO. IDSF66.PRW WITH VANDAL RESISTANT ANCHOR KIT PART NO. IDSF ANCHOR INSTALLED OR APPROVED EQUAL) AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE, TYPE I REFLECTIVE TAPE (COLE FARMS OR APPROVED EQUAL) MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.



PLAN VIEW

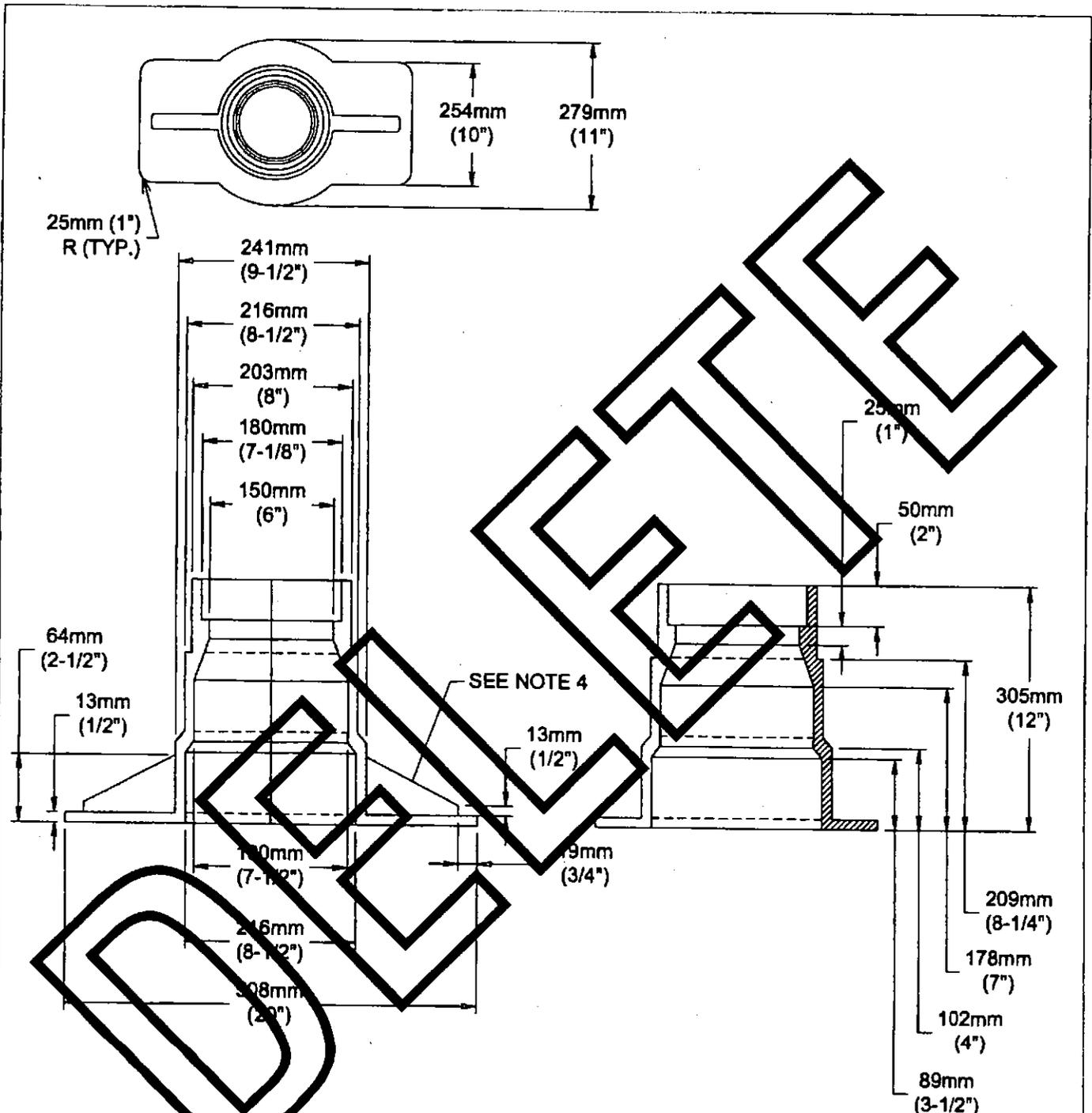
CITY OF AUSTIN AUSTIN WATER UTILITY		WATER VALVE BOX CONCRETE PAD IN UNPAVED AREA	
RECORD COPY SIGNED BY SAM ANGOORI	10/19/09	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-13C</b>
	ADOPTED		



NOTES:

1. MATERIALS SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION & CASTING NUMBER & THE COUNTRY WHERE CAST SHALL BE DISTINCTLY CAST ONTO EACH RING.
3. DRAFT & SHRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE.
4. FINISH BY REMOVING FINIS & FLASHING; PAINT WITH BLACK ASPHALT COATING.
5. WEIGHT: APPROXIMATELY 10.5 kg (23 lbs).

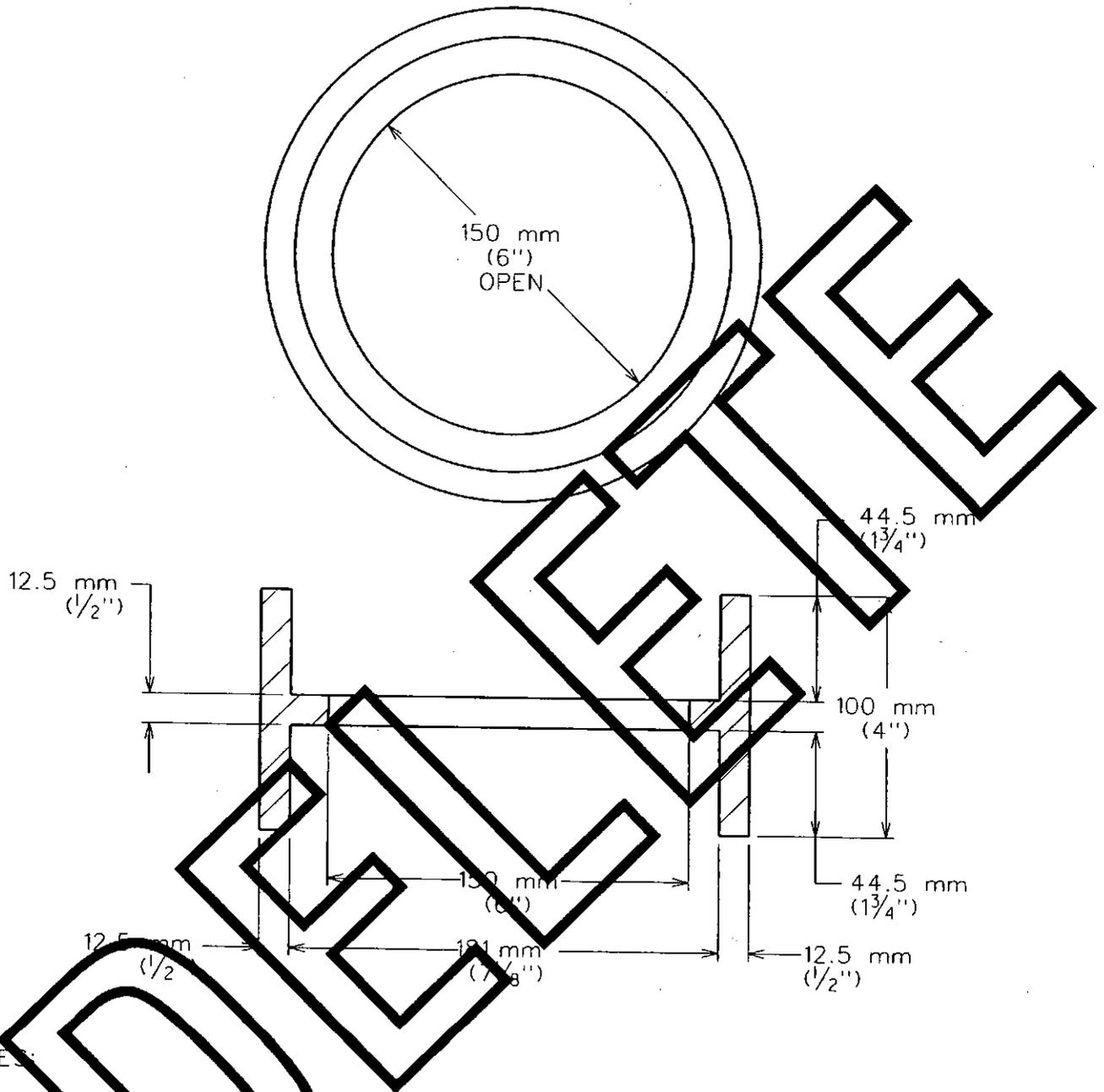
<b>CITY OF AUSTIN</b> WATER AND WASTEWATER UTILITY		<b>VALVE BOX CASTING</b> <b>C-6 PAVING RING</b>	
RECORD COPY SIGNED BY KATHI F. PAYNE	4/5/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-14</b>



**NOTES:**

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER AND THE COUNTRY WHERE CAST SHALL BE DISTINCTLY CAST ONTO EACH VALVE BOX CASTING BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDED REMOVAL OF FINIS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.
5. WEIGHT: APPROXIMATELY 78 LBS.

<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>VALVE BOX CASTING BASE</p>	
<p><i>Kathie Flowers</i> 8/31/2011 ADOPTED</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-15</b></p>



NOTES:

1. MATERIALS SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THIS COLLAR REQUIRED ONLY WITH BOOTS SUPPLIED PRIOR 1988
3. THE MANUFACTURER'S IDENTIFICATION & CASTING NUMBER & THE COUNTRY WHERE CAST SHALL BE DISTINCTLY CAST ONTO EACH COLLAR.
4. DRAFT & SHRINKAGE ALLOWANCE SHALL BE IN ACCORD WITH NORMAL FOUNDRY PRACTICE
5. FINISH BY REMOVING FINIS & FLASHING; PAINT WITH BLACK ASPHALT COATING.
6. WEIGHT: APPROXIMATELY 8 kg (17 lbs).

<b>CITY OF AUSTIN</b> WATER AND WASTEWATER UTILITY		<b>VALVE BOX CASTING</b> <b>C-5A COLLAR</b>	
RECORD COPY SIGNED BY KATHI F. PAYNE	4/5/99 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-16</b>

THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1

CITY OF AUSTIN  
VALVE STEM  
CASTING & COVER  
(SEE STD. DETAILS  
511S-7, 511S-13A  
AND 511S-13B)

PAVEMENT  
COMPACTED BASE

SEE OPTIONS BELOW

SEE  
NOTE  
5

600mm (24") MAX.  
SEE NOTE 6

CONCRETE  
CURB

450mm  
(18")

FIRE HYDRANT  
TO BE SET  
PLUMB

50mm  
(2") MIN.  
200mm  
(8") MAX.

SEE  
NOTE 2

GRAVEL  
DRAIN;  
SEE  
NOTE 4

BURY DEPTH  
1.2m (4') MIN.  
5m (5') MAX.

900mm  
(36") MIN.

RESTRAINED JOINTS  
(TYP.) SEE NOTE 3

900mm  
(36")  
MIN.  
300mm  
(12")  
MIN.

SEE NOTE 9

150mm (6") DI  
PRESSURE CLASS  
350 PIPE (TYP.)

100mm x 300mm x 300mm  
(4"x12"x12")  
CONCRETE BLOCK  
(CLASS A)

600mm  
(24")  
MIN.

OPTION 1

OPTION 2

OPTION 3

150mm (6")  
FLG TEE

150mm (6")  
SWIVEL TEE  
(FH TEE)

150mm (6")  
MJ TEE

150mm (6") FLG x MJ  
GATE VALVE

150mm (6") MJ x MJ  
GATE VALVE

BOLT-THRU MJ  
RESTRAINT PER  
SPL WW-27B

150mm (6")  
MJ x MJ GATE  
VALVE

CITY OF AUSTIN  
AUSTIN WATER UTILITY

STANDARD FIRE HYDRANT INSTALLATION

RECORD COPY SIGNED BY  
KATHI L FLOWERS 08/31/2011

THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR APPROPRIATE USE  
OF THIS STANDARD.

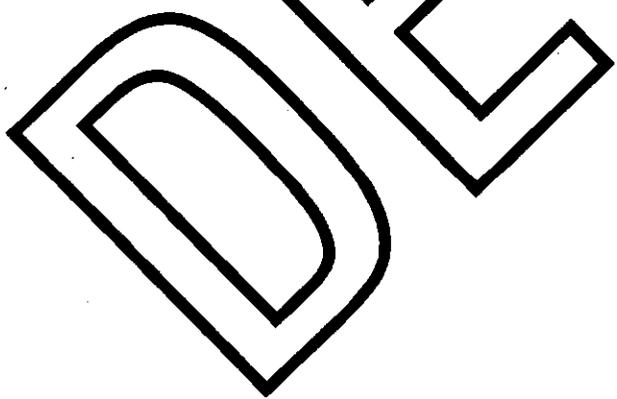
STANDARD NO.

511S-17

1 OF 2

**NOTES:**

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED WHEN EXTENSIONS ARE NEEDED TO ACCOMMODATE FIRE HYDRANTS. SEE STD. DETAIL 511S-17A FOR FIRE HYDRANTS ON DEEP WATER MAINS.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 0.6m (2') IN DIAMETER AND 0.3m (1') DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 50mm (6") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY MIGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES, IF THE HYDRANT LEADS NOT RESTRAINED TO THE MAIN.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION, FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 450 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLANGE x FLANGE REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)



CITY OF AUSTIN AUSTIN WATER UTILITY		STANDARD FIRE HYDRANT INSTALLATION	
RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-17</b> 2 OF 2

THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1.

CITY OF AUSTIN VALVE STEM CASTING & COVER (SEE STD. DETAILS 511S-7, 511S-13A & 511S-13B)

PAVEMENT

STEM EXT. SEE NOTE 5

NO MORE THAN 2 BENDS SHALL BE UTILIZED. BENDS SHALL BE 11-1/4°, 22-1/2°, OR 45°.

SEE OPTIONS BELOW

SEE NOTE 9

600mm (24") MAX. SEE NOTE 6

450mm (18")

SEE NOTE 2

BURY DEPTH 1.2m (4') MIN. 1.5m (5') MAX.

CONCRETE CURB

900mm (36") MIN.

FIRE HYDRANT TO BE SET PLUMB

50mm (2") MIN. 200mm (8") MAX.

GRAVEL DRAIN; SEE NOTE 4

900mm (36") MIN.

300mm (12") MIN.

600mm (24") MIN.

100mm x 300mm x 300mm (4"x12"x12") CONCRETE BLOCK (CLASS A)

150mm (6") DI PRESSURE CLASS 550 PIPE (TYP.)

RESTRAINED JOINTS (TYP.) SEE NOTE 3

OPTION 1

OPTION 2

OPTION 3

150mm (6") FLG TEE

150mm (6") SWIVEL TEE (FH TEE)

150mm (6") MJ TEE

150mm (6") FLG x MJ GATE VALVE

150mm (6") MJ x MJ GATE VALVE

BOLT-THRU MJ RESTRAINT PER SPL WW-27B

150mm (6") MJ x MJ GATE VALVE

CITY OF AUSTIN  
AUSTIN WATER UTILITY

FIRE HYDRANT INSTALLATION  
ON DEEP WATER MAINS

RECORD COPY SIGNED BY  
KATHI L FLOWERS 08/31/2011

THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR APPROPRIATE USE  
OF THIS STANDARD.

STANDARD NO.

511S-17A

1 OF 2

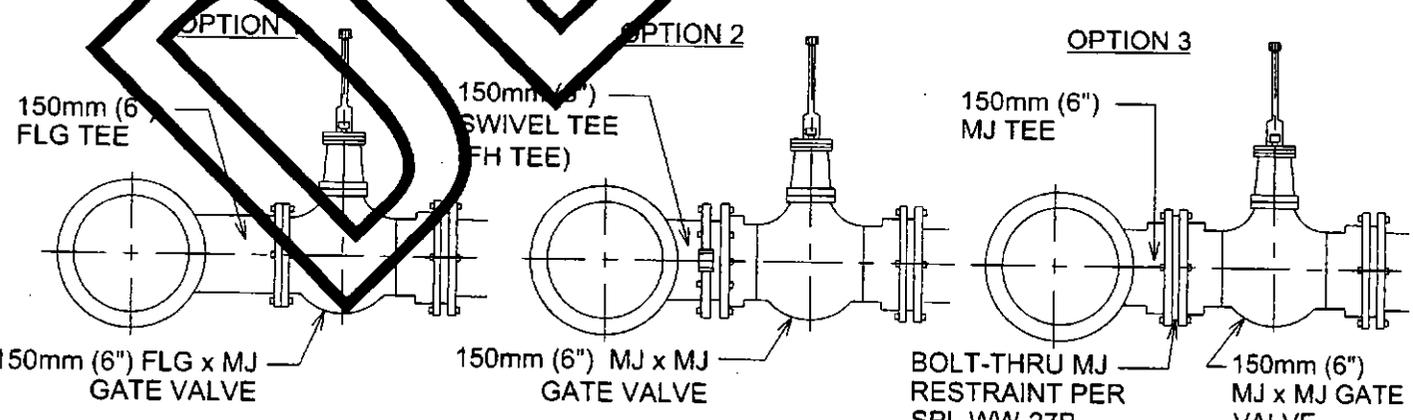
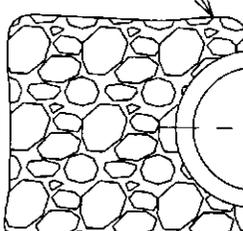
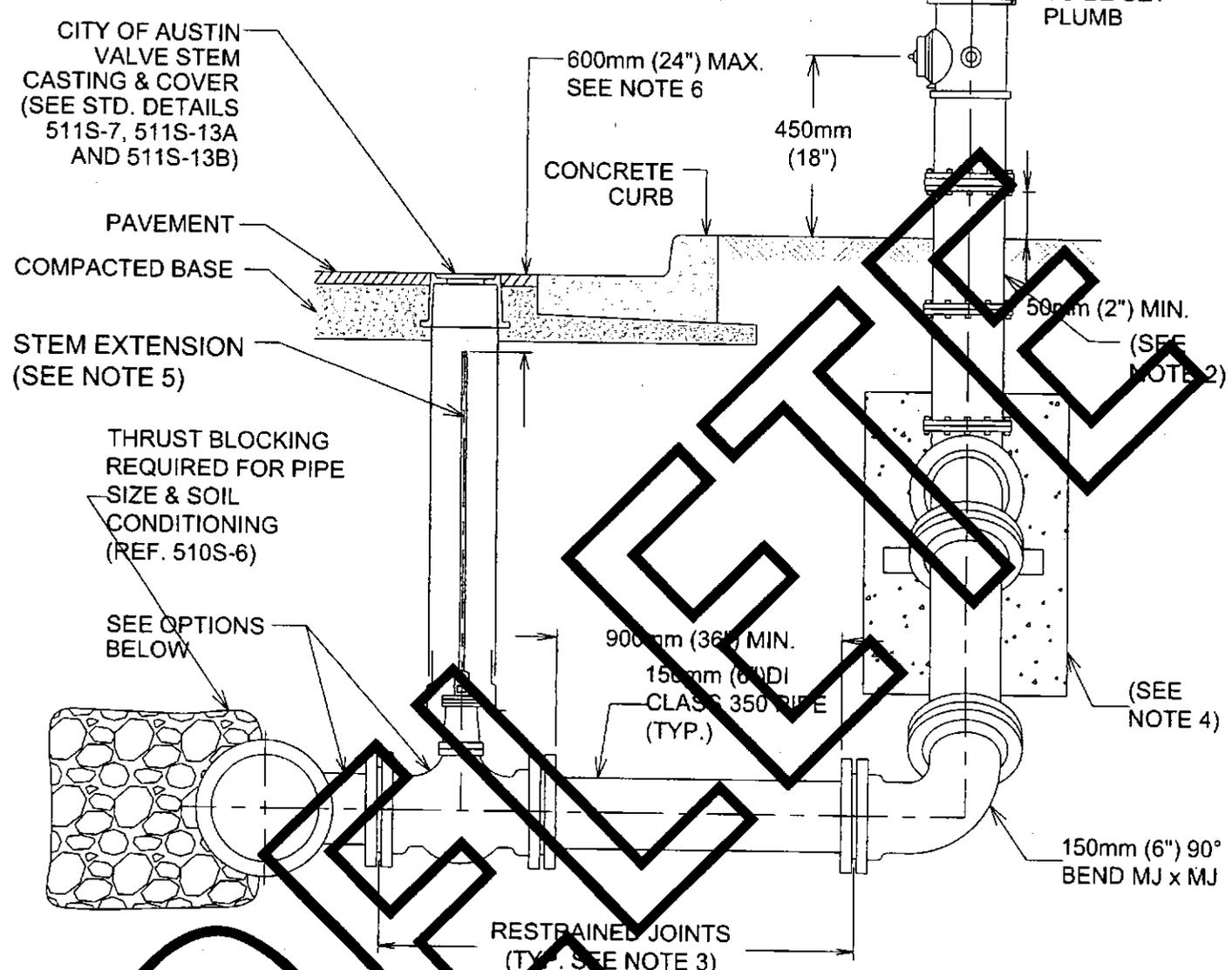
**NOTES:**

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 0.6m (2') IN DIAMETER AND 0.3m (1') DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 150mm (6") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH WATER FABRIC TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY INGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES, IF THE HYDRANT LEAD IS NOT RESTRAINED TO THE MAIN.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION, FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 450 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLANGE x FLANGE REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)

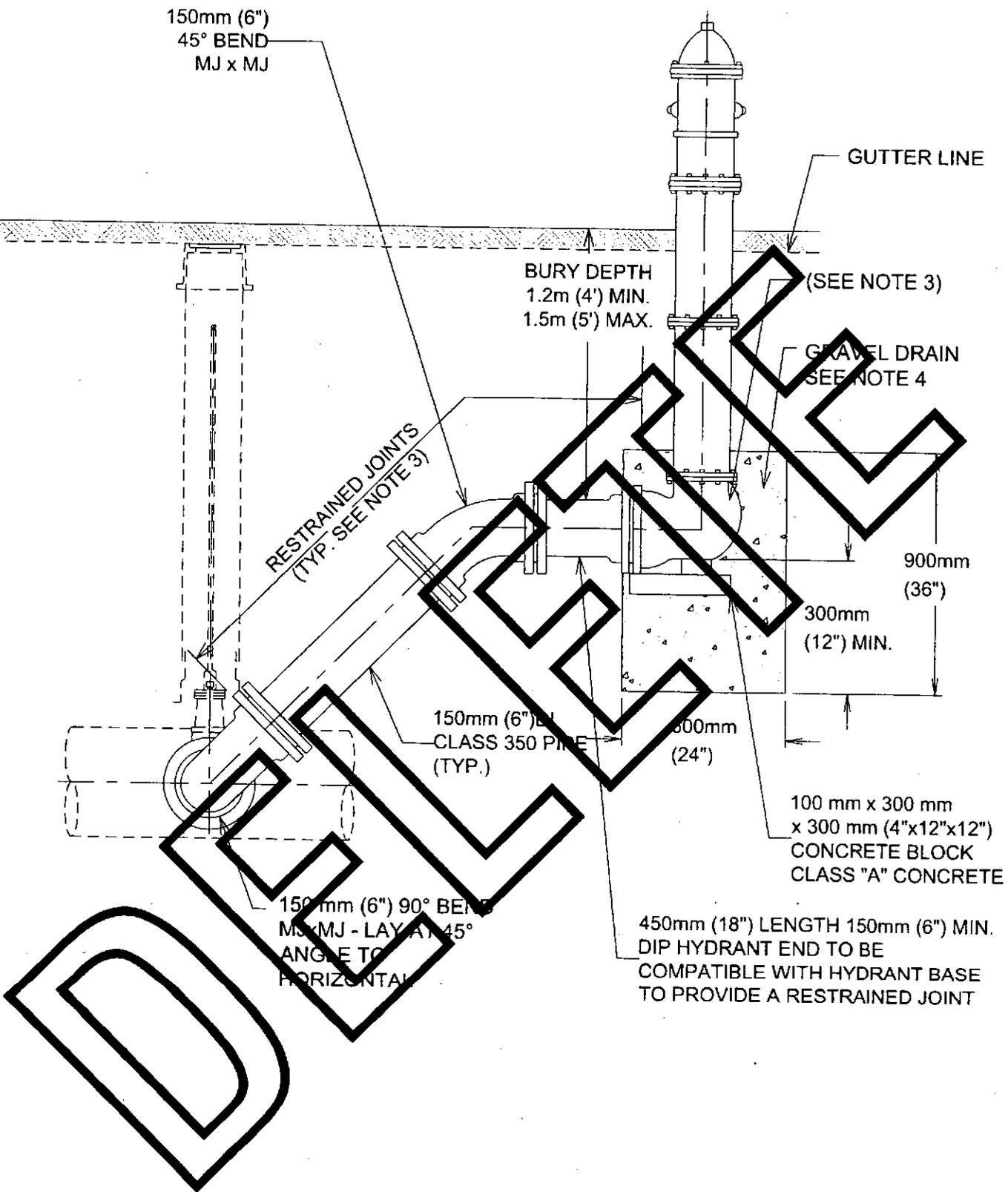
DEFERRED

CITY OF AUSTIN AUSTIN WATER UTILITY	<b>FIRE HYDRANT INSTALLATION                  ON DEEP WATER MAINS</b>	
RECORD COPY SIGNED BY KATHI L FLOWERS      08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-17A</b> 2 OF 2

THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1



<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>DEEP MAIN FIRE HYDRANT INSTALLATION w/90° BEND</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-17B</b> 1 OF 3</p>



<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>DEEP MAIN FIRE HYDRANT INSTALLATION w/90° BEND</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS 08/31/2011</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-17B</b> 2 OF 3</p>

**NOTES:**

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED WHEN EXTENSIONS ARE NEEDED TO ACCOMMODATE FIRE HYDRANTS. SEE STD. DETAIL 511S-17A FOR FIRE HYDRANTS ON DEEP WATER MAINS.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 0.6m (2') IN DIAMETER AND 0.3m (1') DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 150mm (6") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY INGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 40 ROUND STEM EXTENSION. FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 450 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLANGE x FLANGE REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)

DELETED

CITY OF AUSTIN AUSTIN WATER UTILITY	DEEP MAIN FIRE HYDRANT INSTALLATION w/90° BEND	
RECORD COPY SIGNED BY KATHI L FLOWERS      08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511S-17B</b> 3 OF 3

THE AREA 900mm (3') AROUND THE OUTER SURFACE OF THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS AND/OR STRUCTURES GREATER THAN 150mm (6") ABOVE FINAL GRADE. SEE NOTE 1

CITY OF AUSTIN VALVE BOX CASTING & COVER (SEE STD. DETAILS 511S-7, 511S-13A AND 511S-13B)

1.5m (60") DIA. CLASS III RCP VAULT WITH REINFORCED PRE-CAST CONCRETE LID (AASHTO H20 LOADING) WITH COA RING AND 813mm (32") COVER. SEE STD. DETAIL 503S-6W (MODIFY LETTERING TO WATER) SEE NOTE 10

FIRE HYDRANT TO BE SET PLUMB

50mm (2") MIN.  
200mm (8") MAX.

PAVEMENT

600mm (2') MAX. SEE NOTE 6

CONCRETE CURB

SEE NOTE 2

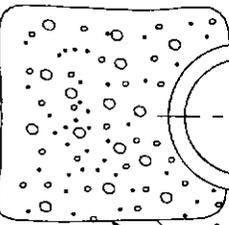
150mm (6") DI PRESSURE CLASS 350 PIPE (TYP.)

150mm (6") PRV

GRAVEL DRAIN; SEE NOTE 4

STEM EXT. SEE NOTE 5

600mm (24") MIN



SEE NOTE 9

150mm (6") DI PRESSURE CLASS 350 PIPE (TYP.)

300mm (12") MIN

SEE OPTIONS BELOW

SEE NOTE 10

600mm (24") MIN.

100mm x 300mm x 300mm (4"x12"x12") CONCRETE BLOCK (CLASS A)

ALL JOINTS RESTRAINED (TYP.) SEE NOTE 3

OPTION 1

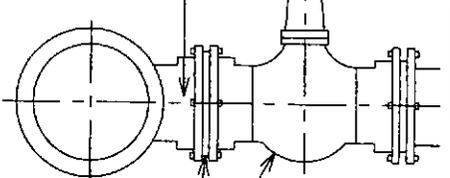
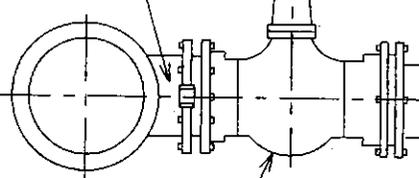
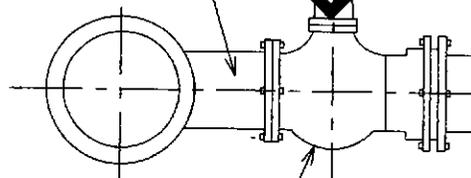
OPTION 2

OPTION 3

150mm (6") FLG TEE

150mm (6") SWIVEL TEE (FH TEE)

150mm (6") MJ TEE



150mm (6") FLG x MJ GATE VALVE

150mm (6") MJ x MJ GATE VALVE

BOLT-THRU MJ RESTRAINT PER SPL WW-27B

150mm (6") MJ x MJ GATE VALVE

CITY OF AUSTIN  
AUSTIN WATER UTILITY

FIRE HYDRANT INSTALLATION WITH PRV

RECORD COPY SIGNED BY  
KATHI L FLOWERS 08/31/2011

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

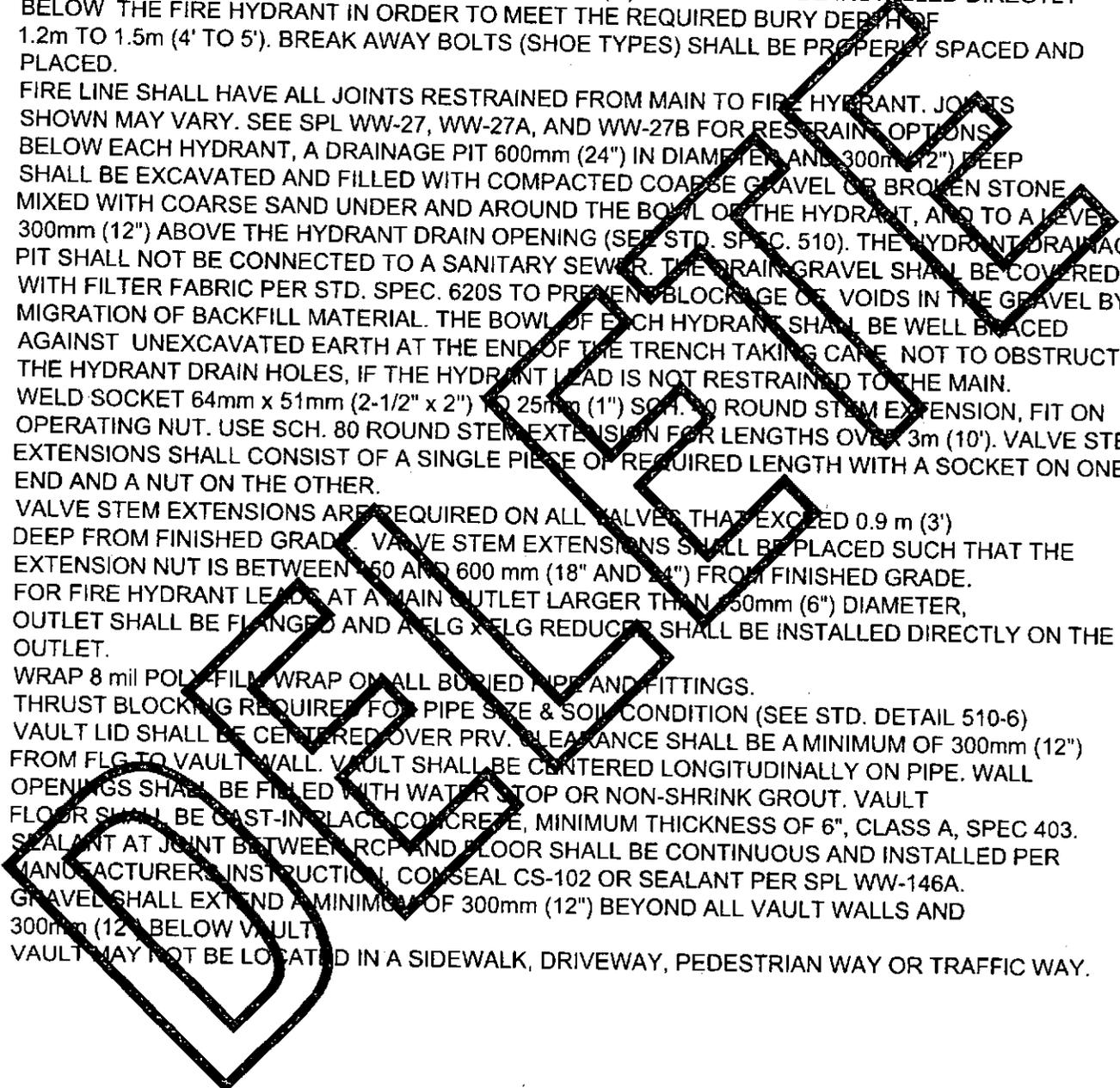
STANDARD NO.

511S-18

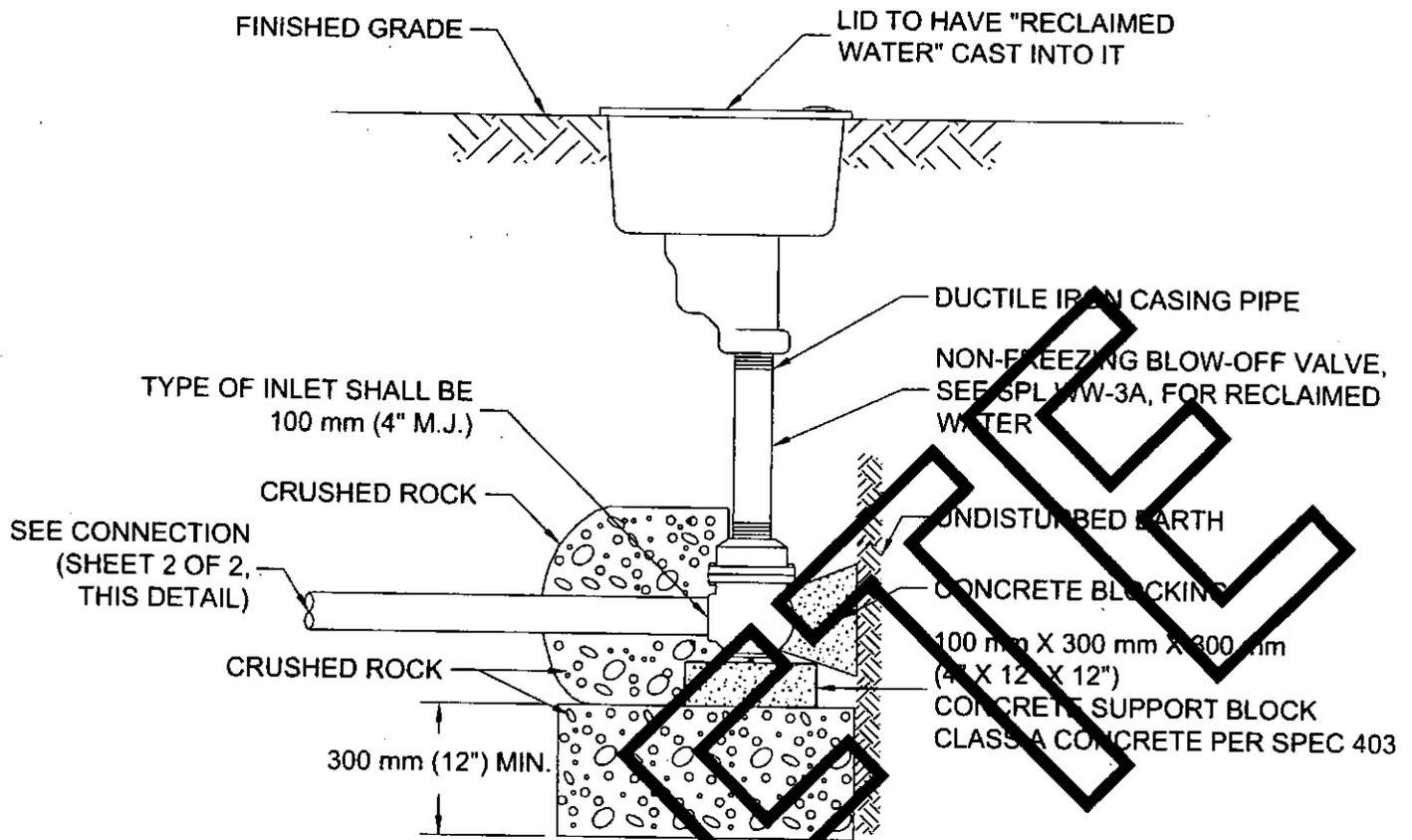
1 OF 2

**NOTES:**

1. DIMENSION FROM GUTTER FACE OF CURB TO OUTERMOST PART OF ANY NOZZLE CAP SHALL BE NOT LESS THAN 0.9m (3'), NOR MORE THAN 1.8m (6'). NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 150mm (6") OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 1.2m (4') FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 600 mm (2') LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 1.2m TO 1.5m (4' TO 5'). BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 600mm (24") IN DIAMETER AND 300mm (12") DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 300mm (12") ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC PER STD. SPEC. 620S TO PREVENT BLOCKAGE OF VOIDS IN THE GRAVEL BY MIGRATION OF BACKFILL MATERIAL. THE BOWL OF EACH HYDRANT SHALL BE WELL BRACED AGAINST UNEXCAVATED EARTH AT THE END OF THE TRENCH TAKING CARE NOT TO OBSTRUCT THE HYDRANT DRAIN HOLES, IF THE HYDRANT LEAD IS NOT RESTRAINED TO THE MAIN.
5. WELD SOCKET 64mm x 51mm (2-1/2" x 2") TO 25mm (1") SCH. 80 ROUND STEM EXTENSION, FIT ON OPERATING NUT. USE SCH. 80 ROUND STEM EXTENSION FOR LENGTHS OVER 3m (10'). VALVE STEM EXTENSIONS SHALL CONSIST OF A SINGLE PIECE OF REQUIRED LENGTH WITH A SOCKET ON ONE END AND A NUT ON THE OTHER.
6. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 0.9 m (3') DEEP FROM FINISHED GRADE. VALVE STEM EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 150 AND 600 mm (18" AND 24") FROM FINISHED GRADE.
7. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 150mm (6") DIAMETER, OUTLET SHALL BE FLANGED AND A FLG x FLG REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
8. WRAP 8 mil POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
9. THRUST BLOCKING REQUIRED FOR PIPE SIZE & SOIL CONDITION (SEE STD. DETAIL 510-6)
10. VAULT LID SHALL BE CENTERED OVER PRV. CLEARANCE SHALL BE A MINIMUM OF 300mm (12") FROM FLG TO VAULT WALL. VAULT SHALL BE CENTERED LONGITUDINALLY ON PIPE. WALL OPENINGS SHALL BE FILLED WITH WATER STOP OR NON-SHRINK GROUT. VAULT FLOOR SHALL BE CAST-IN-PLACE CONCRETE, MINIMUM THICKNESS OF 6", CLASS A, SPEC 403. SEALANT AT JOINT BETWEEN RCP AND FLOOR SHALL BE CONTINUOUS AND INSTALLED PER MANUFACTURER'S INSTRUCTION, COMSEAL CS-102 OR SEALANT PER SPL WW-146A.
11. GRAVEL SHALL EXTEND A MINIMUM OF 300mm (12") BEYOND ALL VAULT WALLS AND 300mm (12") BELOW VAULT.
12. VAULT MAY NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY.



CITY OF AUSTIN AUSTIN WATER UTILITY		FIRE HYDRANT INSTALLATION WITH PRV	
RECORD COPY SIGNED BY <b>ADOPTED</b> KATHIE FLOWERS		THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	
08/31/2011		STANDARD NO. <b>511S-18</b> 2 OF 2	



**NOTES:**

1. REFER TO SPL WW-3A, BLOW-OFF VALVE FOR RECLAIMED WATER.
2. VALVE SHALL BE SET IN 101.6 mm (4 in) OF CRUSHED STONE TO ALLOW FOR PROPER DRAINAGE OF THE VALVE.
3. ALL JOINTS TO BE RESTRAINED FROM MAIN TO BLOW-OFF VALVE. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. CAST IRON LID TO HAVE "RECLAIMED WATER" CAST INTO IT AND BE FACTORY PAINTED PURPLE.
5. ALL PIPE AND APPURTENANCES TO BE MANUFACTURED PURPLE, WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D, OR PAINTED PURPLE PER SPL WW-3C.
6. DO NOT LOCATE IN TRAFFIC AREA OR DRIVEWAY.

<p>CITY OF AUSTIN AUSTIN WATER UTILITY</p>	<p>RECLAIMED WATER CONNECTION 4" NON-TRAFFIC RATED, NON-FREEZING BLOW-OFF VALVE</p>	
<p>RECORD COPY SIGNED BY KATHI L FLOWERS</p> <p style="text-align: right;">8/31/11</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511S-19R</b> SHEET 1 OF 2</p>

SEE RECLAIMED WATER  
VALVE BOX AND COVER DETAIL  
511S-11R AND DETAILS  
511S-13A AND 511S-13B

SEE DETAIL FOR BLOW-OFF VALVE  
(SHEET 1 OF 2, THIS DETAIL)

SEE DETAIL 511S-7,  
TYPICAL GATE VALVE  
100 mm - 600 mm  
(4" - 24")

CONCRETE BLOCKING

SEE OPTIONS BELOW  
FOR TEE CONNECTION

150 mm (6") DI PIPE  
MIN. 350 CLASS (RESTRAINED)

150 mm (6")  
GATE VALVE  
M.S. X M.J.  
(AS SPECIFIED)

150 mm (6") TO 100 mm (4")

100 mm (4") DI PIPE MIN.  
350 CLASS (RESTRAINED)

OPTION 1

OPTION 2

OPTION 3

150 mm (6")  
FLG TEE

150 mm (6")  
SWIVEL TEE  
(FH TEE)

150 mm (6")  
MJ TEE

150 mm (6") FLG x MJ  
GATE VALVE

150 mm (6") MJ x MJ  
GATE VALVE

BOLT-THRU MJ  
RESTRAINT PER  
SPL WW-27B

150 mm (6")  
MJ x MJ GATE  
VALVE

CITY OF AUSTIN  
AUSTIN WATER UTILITY

RECLAIMED WATER CONNECTION  
4" NON-TRAFFIC RATED,  
NON-FREEZING BLOW-OFF VALVE

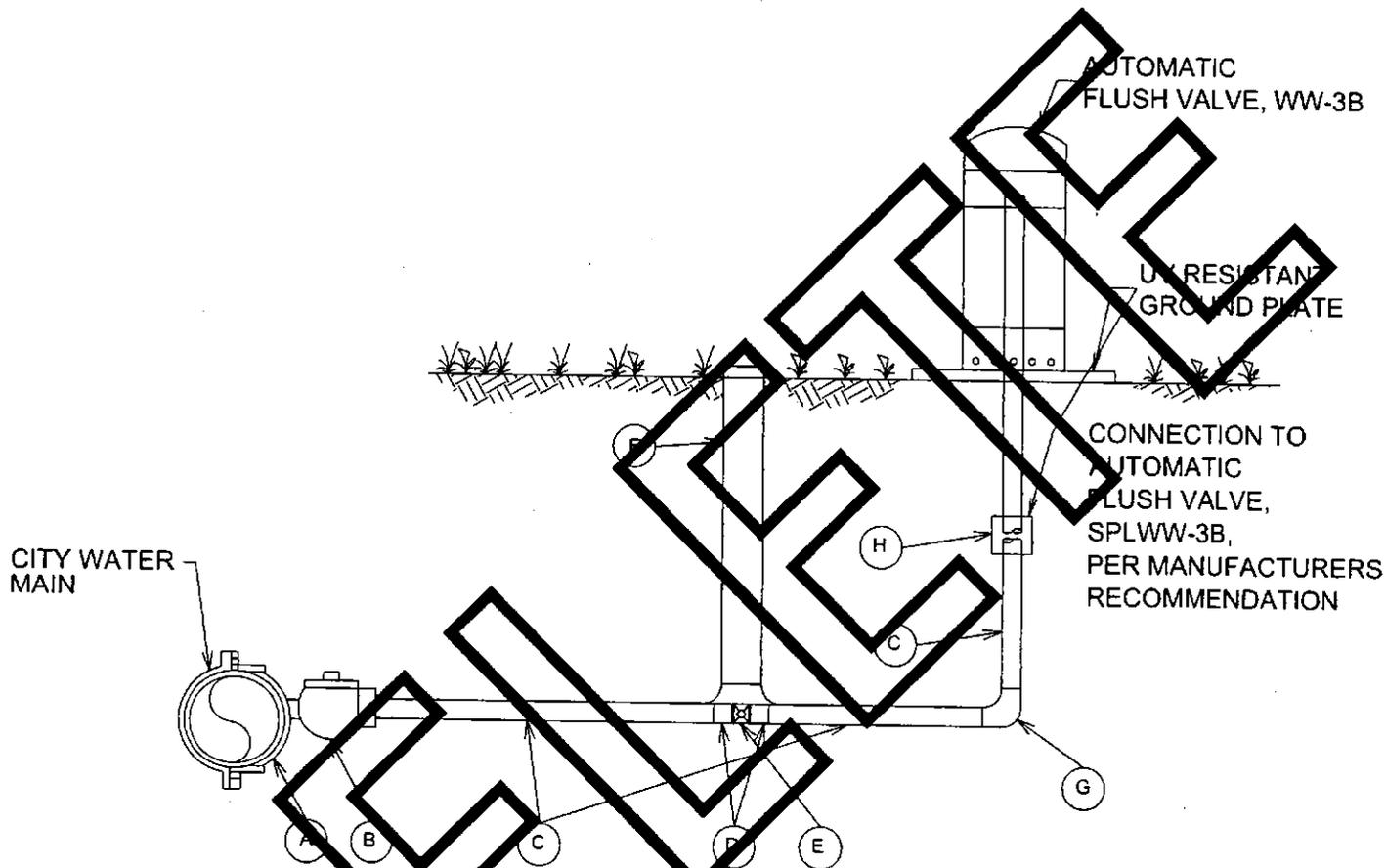
RECORD COPY SIGNED BY  
KATHI L FLOWERS

8/31/11

THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR APPROPRIATE USE  
OF THIS STANDARD.

STANDARD NO.  
**511S-19R**  
SHEET 2 OF 2

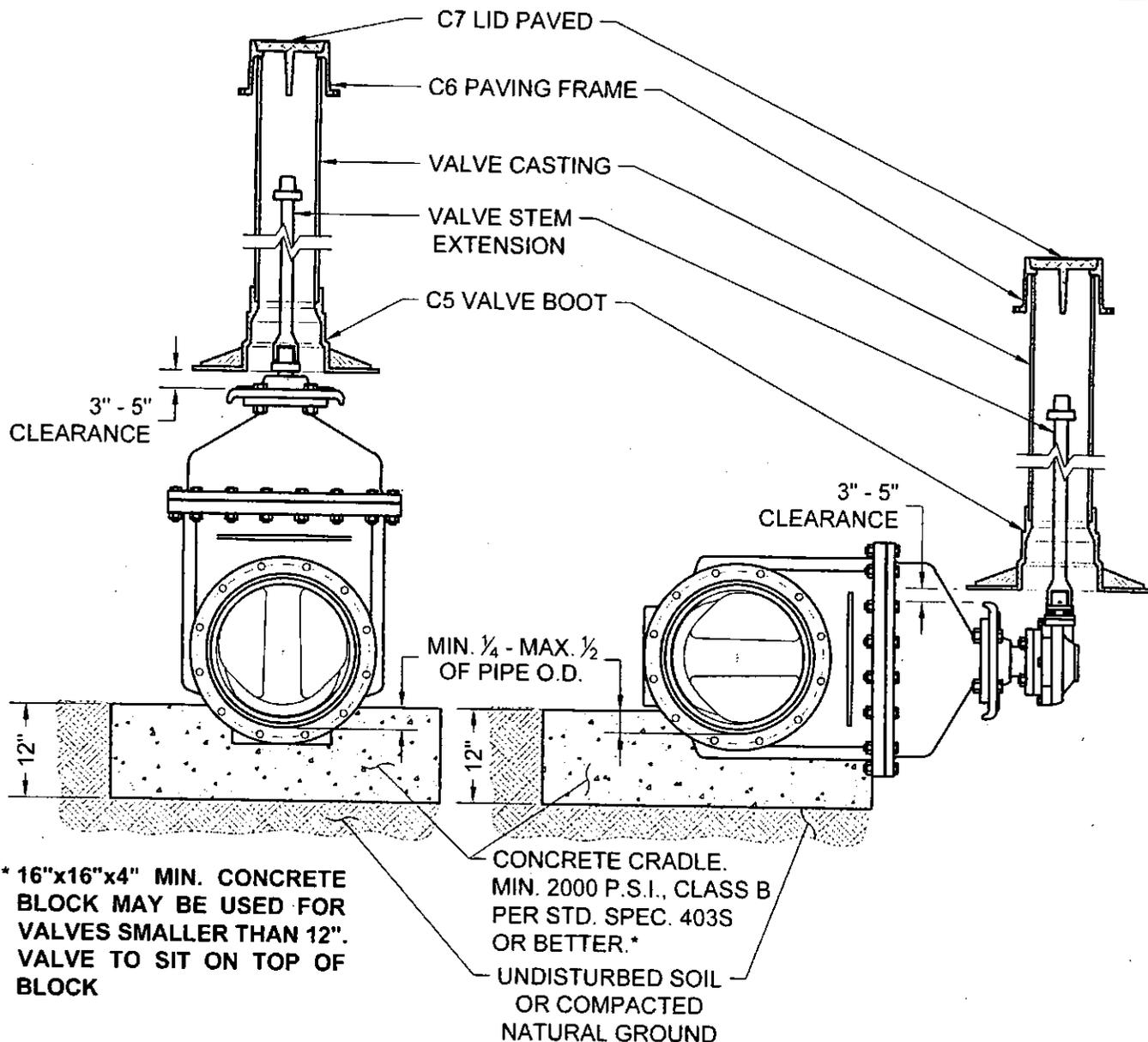
- (A) 2" SERVICE SADDLE, SPL WW-256
- (B) 2" CORPORATION STOP BALL VALVE, SPL WW-68
- (C) 2" COPPER SERVICE TUBING, SPL WW-613
- (D) 2" BRASS COUPLING, COMPRESSION x MIP, SPL WW-68
- (E) 2" GATE VALVE, NRS, NUT OPERATOR, SPL WW-700A
- (F) VALVE BOX, SEE STD. DETAIL 511S-7 VERTICAL VALVE INSTALLATION
- (G) 2" BRASS 90° BEND, COMPRESSION x COMPRESSION
- (H) 2" BRASS COUPLING, COMPRESSION x FIP



**NOTES:**

1. AUTOMATIC FLUSH VALVE MAY ALSO BE USED ON TAPPED PLUGS AND CAPS.
2. THE CONTRACTOR SHALL PROVIDE THE FLUSH VALVE ACCESS KEY TO AUSTIN WATER UTILITY UPON FLUSH VALVE ACCEPTANCE.
3. VALVE (D) SHALL NOT BE LOCATED MORE THAN 36" BELOW FLUSH VALVE OR MORE THAN 24" HORIZONTALLY FROM FLUSH VALVE. VALVE (E) SHALL NOT BE LOCATED IN A SIDEWALK OR DRIVEWAY.
4. METER BOX AND FLUSH VALVE SHALL NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY.
5. A DRAINAGE WAY, CONTAINED WITHIN THE R.O.W. OR AN EASEMENT, SHALL BE PROVIDED FROM FLUSH VALVE TO STORM SEWER SYSTEM OR PUBLIC DRAINAGE WAY.
6. DESIGN ENGINEER SHALL PROVIDE CALCULATIONS WITH PLANS AT THE TIME OF REVIEW INCLUDING FREQUENCY AND FLUSH RATE.

<b>CITY OF AUSTIN</b> AUSTIN WATER UTILITY	<b>AUTOMATIC FLUSH VALVE</b>	
RECORD COPY SIGNED BY <b>KATHI L FLOWERS</b> 08/31/2011	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511-20</b>



**VERTICAL VALVE**

**HORIZONTAL VALVE**

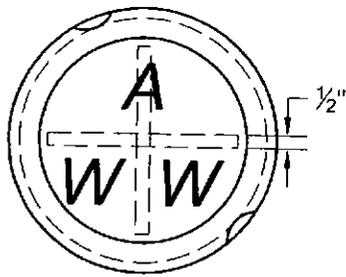
ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS.

**NOTES:**

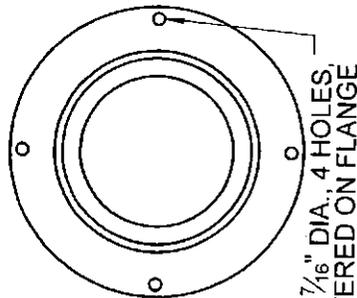
1. WELD SOCKET  $2\frac{1}{2}$ " x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, [SCH. 80 FOR LENGTHS OVER 10'.]
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

**RECLAIMED WATER:** ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511-AW-01</b> 1 OF 4

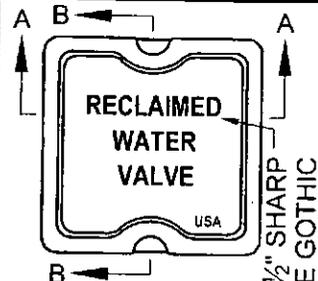


TOP VIEW

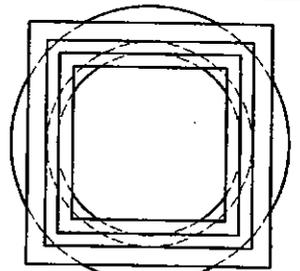


TOP VIEW

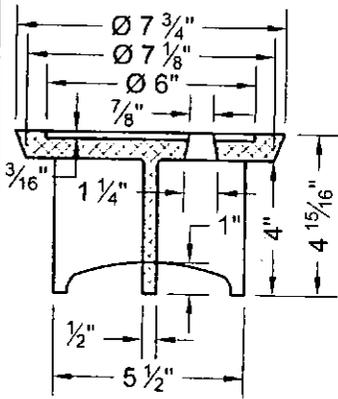
7/16" DIA., 4 HOLES,  
CENTERED ON FLANGE



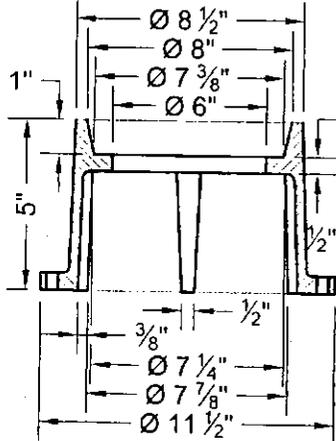
TOP VIEW



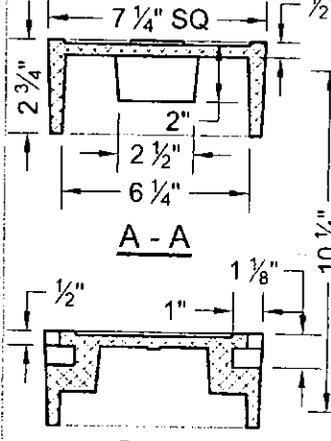
TOP VIEW



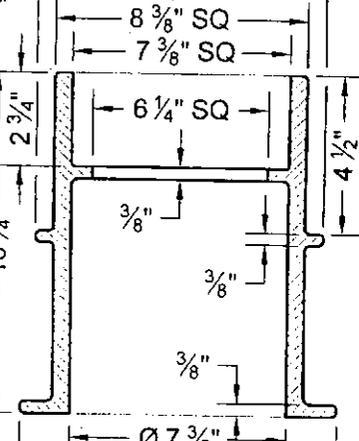
C7 LID\*  
(IN PAVEMENT)



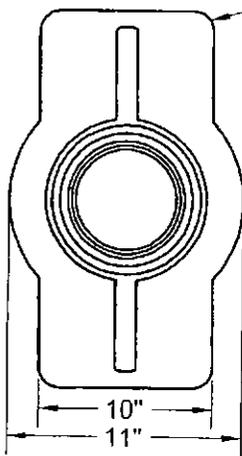
C6 PAVING FRAME  
(PAVEMENT ONLY)



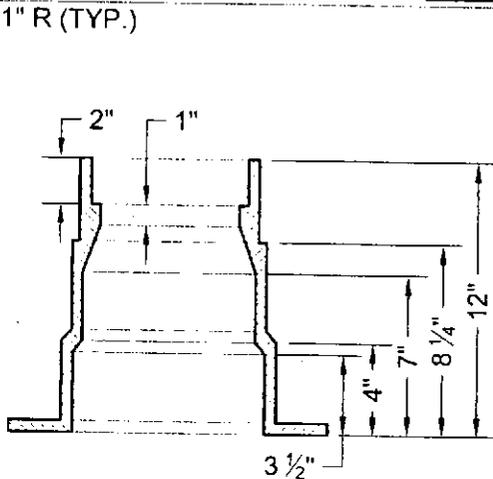
B - B  
RECLAIMED LID



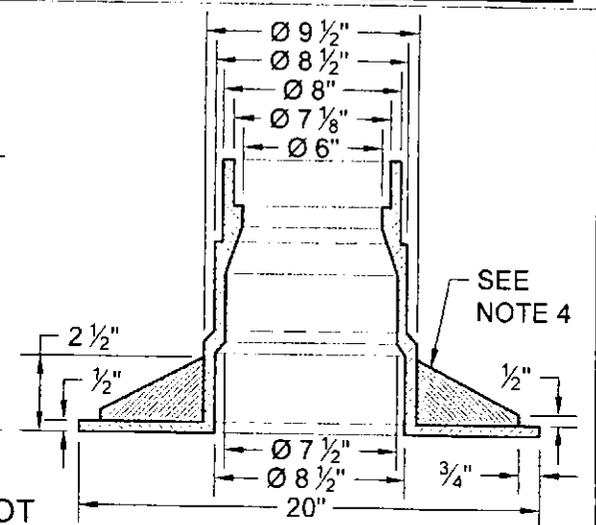
RECLAIMED FRAME



TOP VIEW



C5 VALVE BOOT



NOTES:

1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

WEIGHTS:

- C7 LID: 13 LBS
- RECLAIMED LID: 15 LBS
- C6 FRAME: 23 LBS
- RECLAIMED FRAME: 33 LBS
- C5 BASE: 78 LBS

\* LETTERING SHALL BE 1 1/2"  
2 PICK BAR SLOTS REQUIRED

CITY OF AUSTIN  
AUSTIN WATER

TYPICAL GATE VALVE 4" - 16"

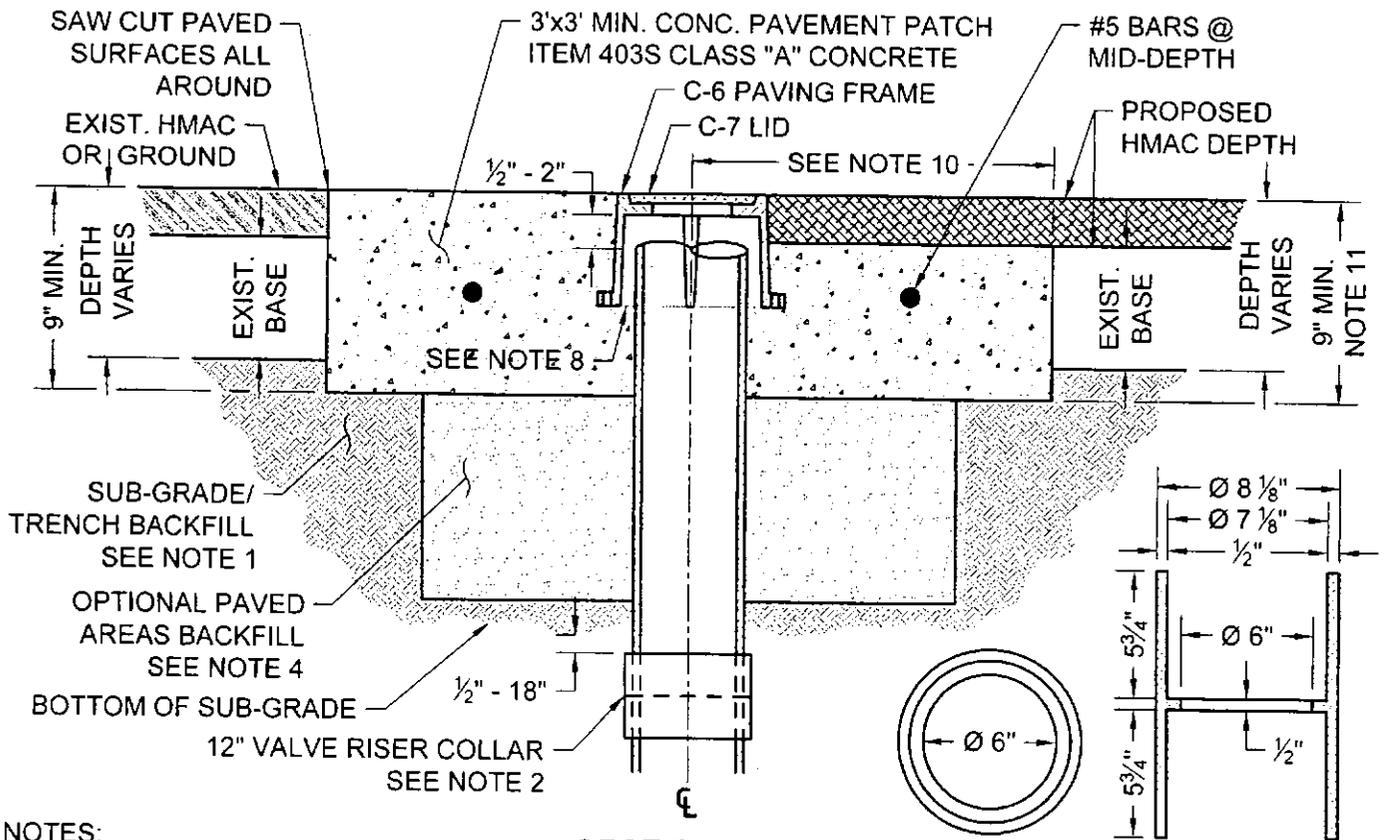
ADOPTED

THE ARCHITECT/ENGINEER ASSUMES  
RESPONSIBILITY FOR APPROPRIATE  
USE OF THIS STANDARD.

STANDARD NO.  
**511-AW-01**  
2 OF 4

**FULL DEPTH CONCRETE  
& UNPAVED AREAS**

**CONCRETE & H.M.A.C.**



**SECTION A - A**

**TOP VIEW**

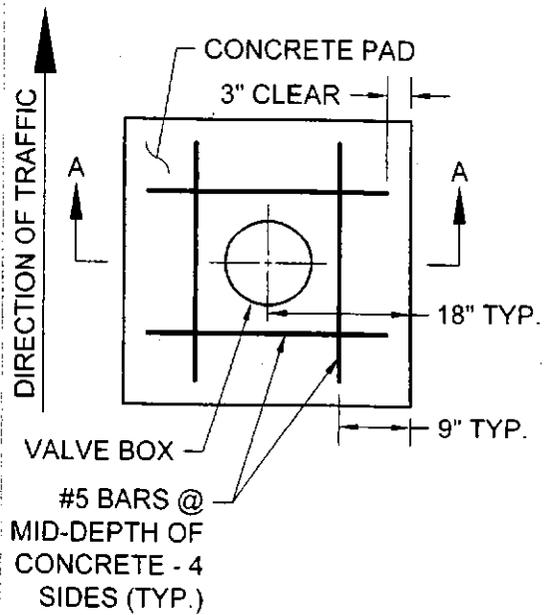
**COLLAR \***

**12" VALVE RISER COLLAR**

\* 12" COLLAR: 39 LBS

**NOTES:**

1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED 1/2" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.

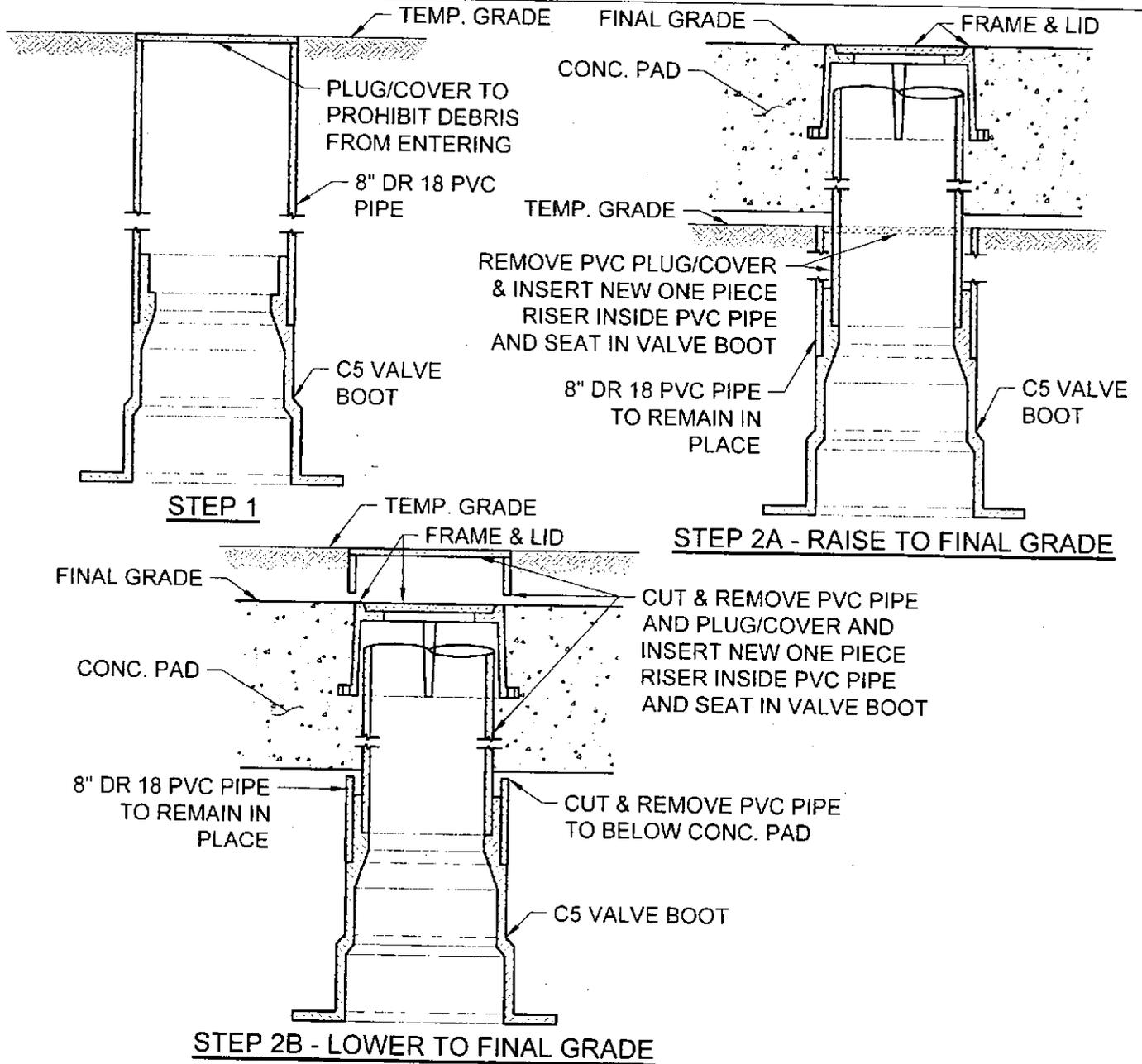


**PLAN VIEW**

<p>CITY OF AUSTIN AUSTIN WATER</p>	<p>TYPICAL GATE VALVE 4" - 16"</p>	
<p>ADOPTED</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511-AW-01</b> 3 OF 4</p>

NOTES (CON'T):

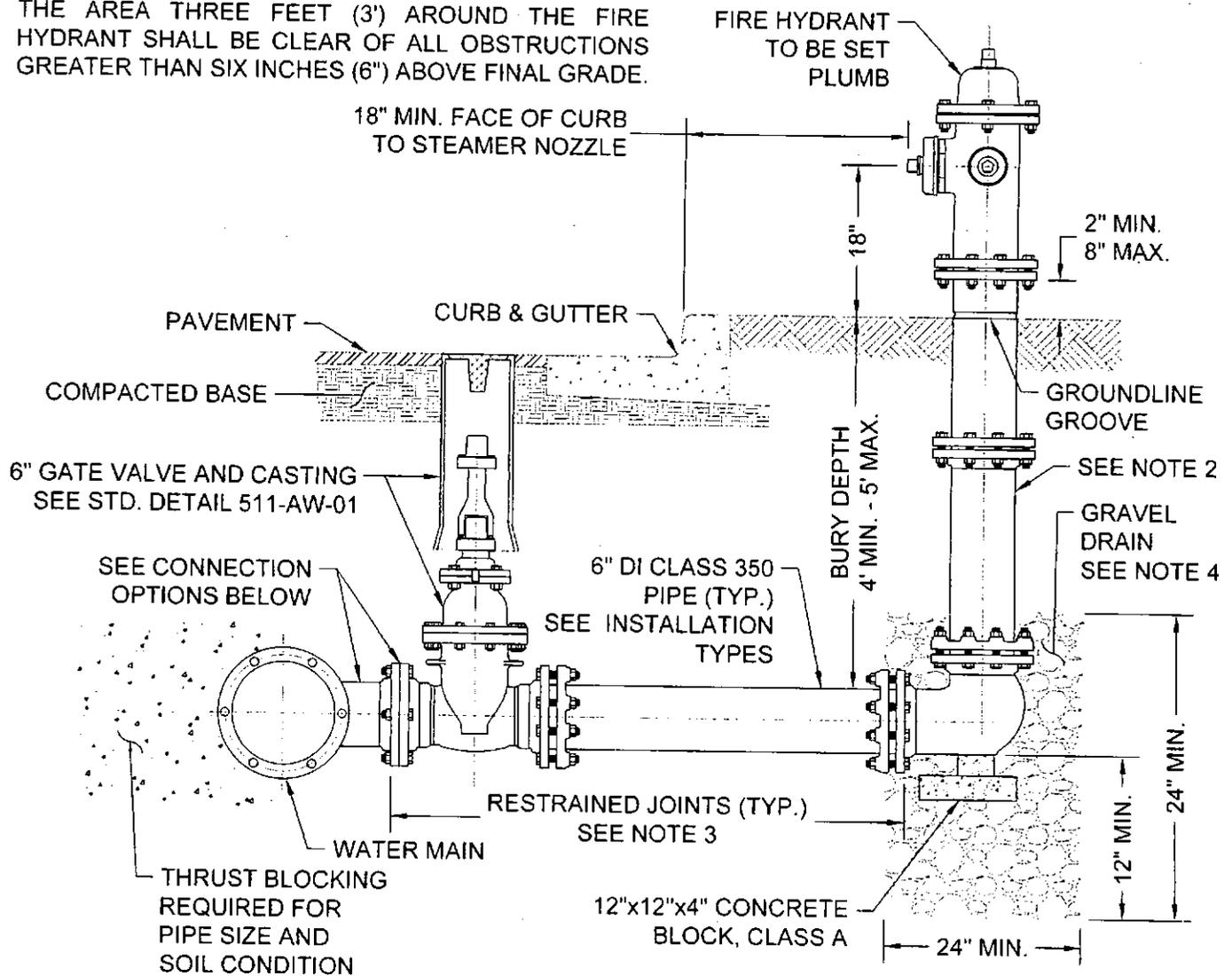
8. PAVING FRAME SHALL BE FLUSH WITH THE CONC. PAD AND PLACED 1/2" - 2" ABOVE RISER PIPE (FRAME SHALL NOT REST ON RISER.)
9. IN UNPAVED AREAS, INSTALL ONE DELINEATOR STAKE IMMEDIATELY ADJACENT TO THE EDGE OF THE CONCRETE PAD. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND PURPLE FOR RECLAIMED WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES.
10. VALVE SHALL TYPICALLY BE CENTERED IN CONCRETE DIAMOND BUT MAY BE OFFSET WITH A MIN. OF 12" FROM CENTER OF VALVE LID TO EDGE OF CONCRETE IN ALL DIRECTIONS.
11. MIN. TOTAL DEPTH OF ASPHALT PLUS CONC. IS 9" AND MIN. DEPTH OF CONC. PAD SHALL BE 5"



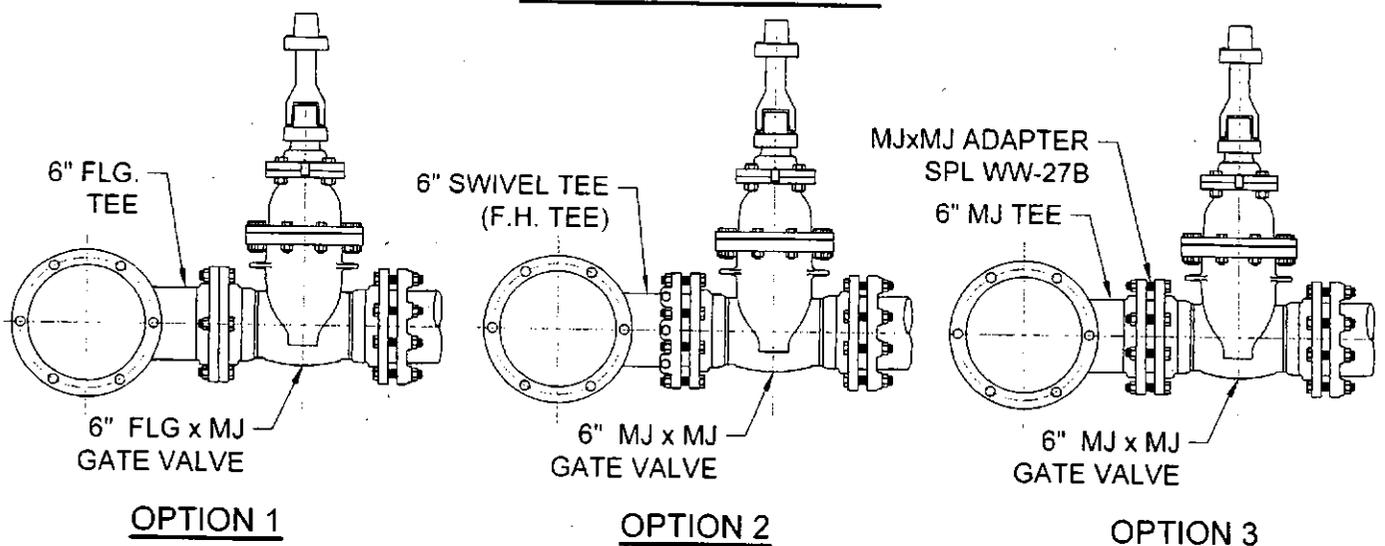
OPTIONAL ONE PIECE VALVE CASTING INSTALLATION

<p>CITY OF AUSTIN AUSTIN WATER</p>	<p>TYPICAL GATE VALVE 4" - 16"</p>	
<p>ADOPTED</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511-AW-01</b> 4 OF 4</p>

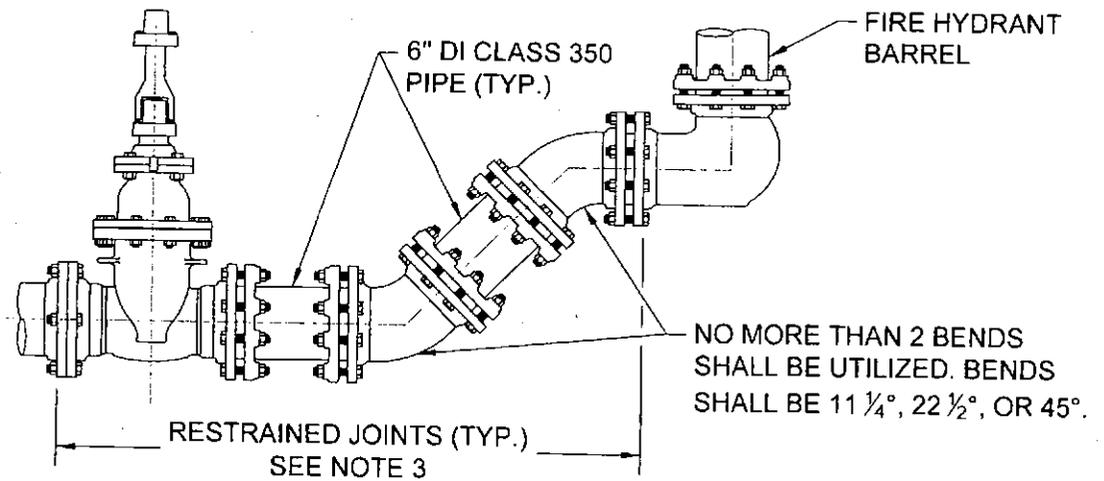
THE AREA THREE FEET (3') AROUND THE FIRE HYDRANT SHALL BE CLEAR OF ALL OBSTRUCTIONS GREATER THAN SIX INCHES (6") ABOVE FINAL GRADE.



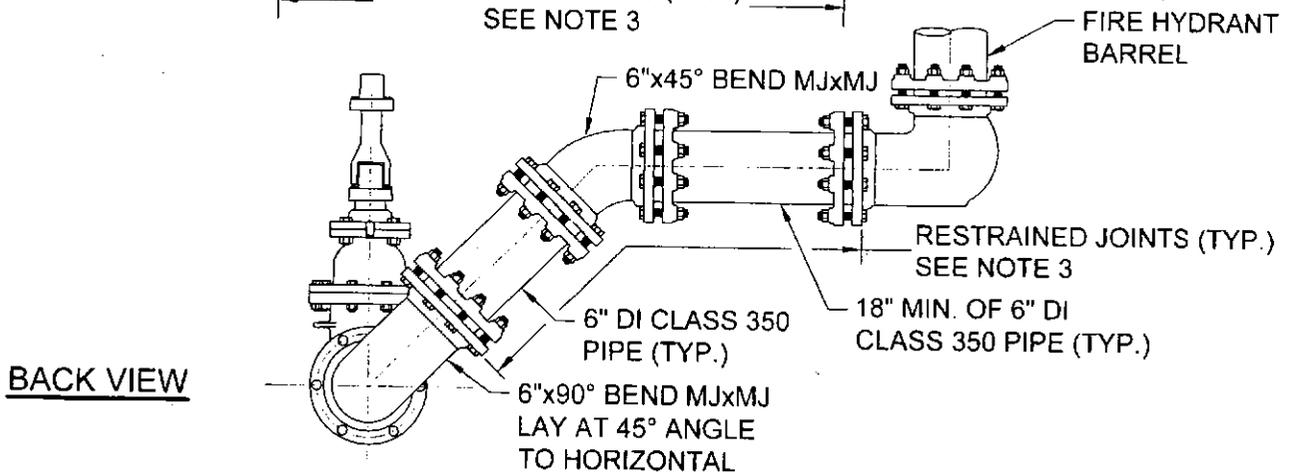
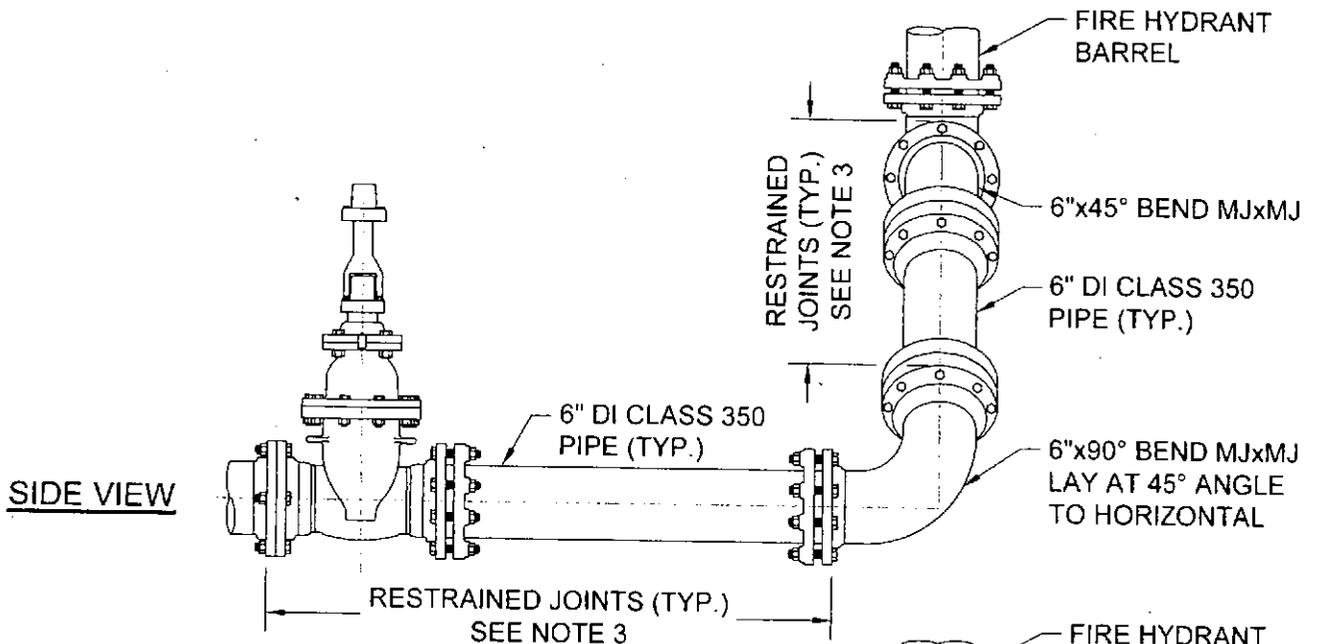
CONNECTION TO MAIN



<p>CITY OF AUSTIN AUSTIN WATER</p>	<p>FIRE HYDRANT</p>	
<p>ADOPTED</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511-AW-02</b> 1 OF 3</p>

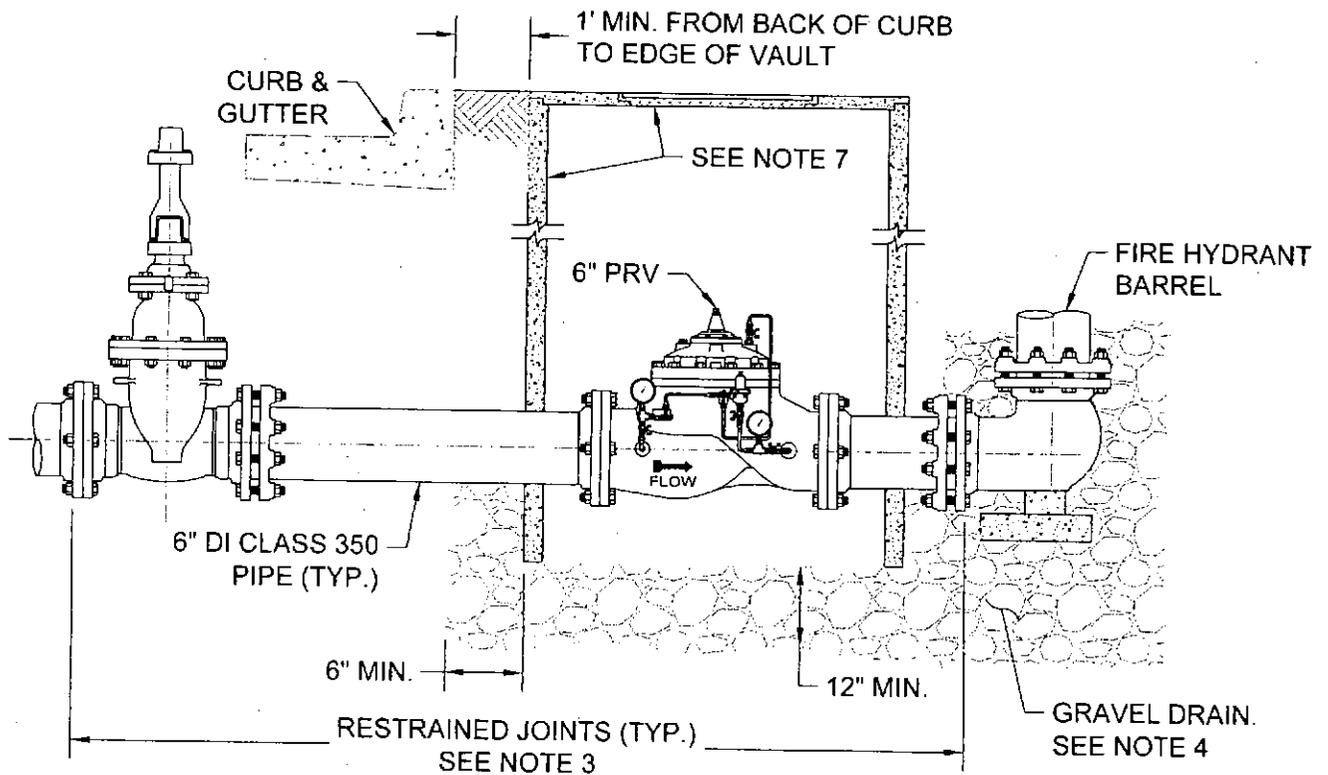


**INSTALLATION ON DEEP WATER MAIN**



**INSTALLATION ON DEEP WATER MAIN WITH 90° BEND**

<p>CITY OF AUSTIN AUSTIN WATER</p>	<p>FIRE HYDRANT</p>	
<p>ADOPTED</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511-AW-02</b> 2 OF 3</p>

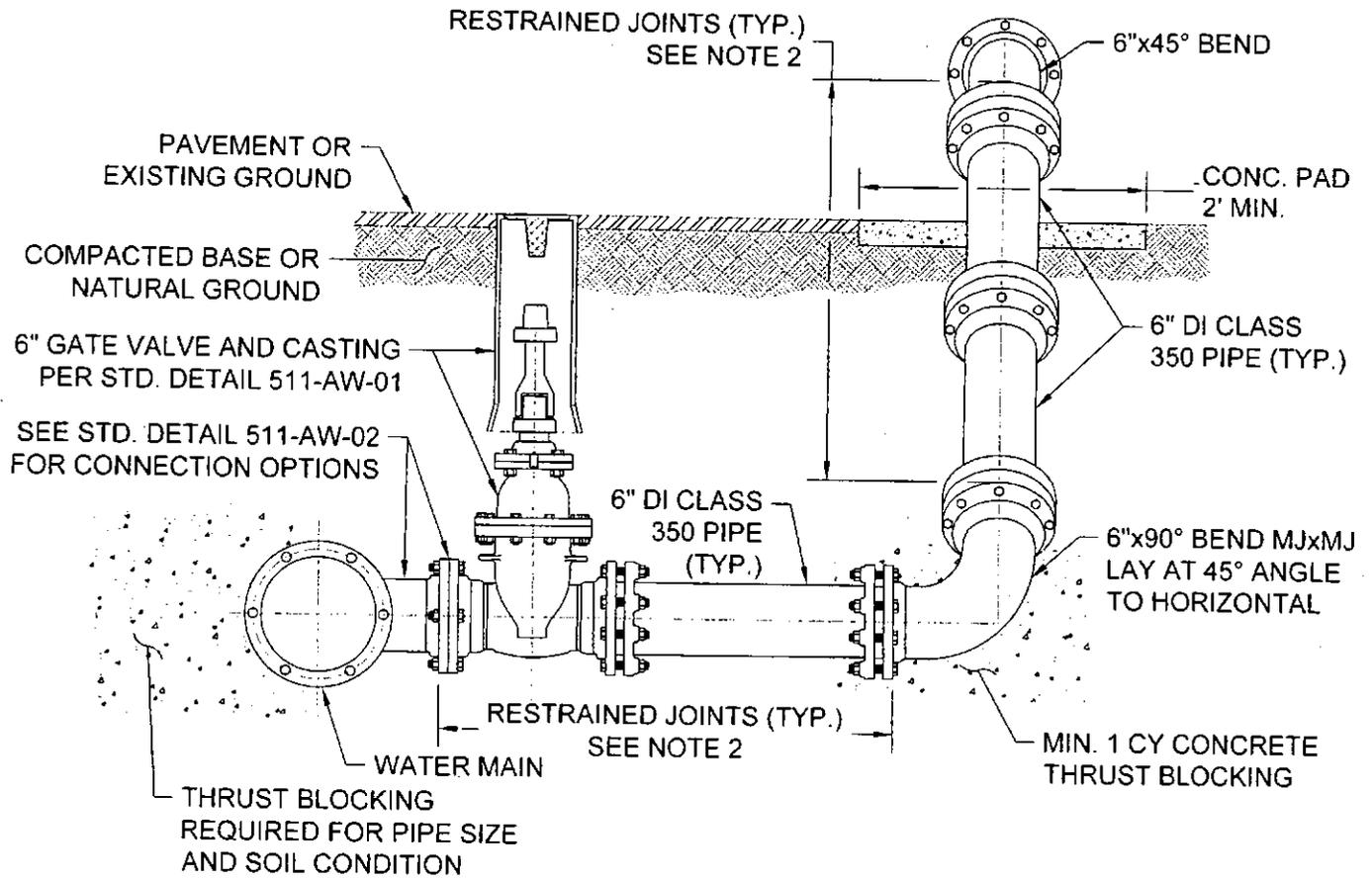


**INSTALLATION ON WATER MAIN WITH  
PRESSURE REDUCING VALVE (PRV)**

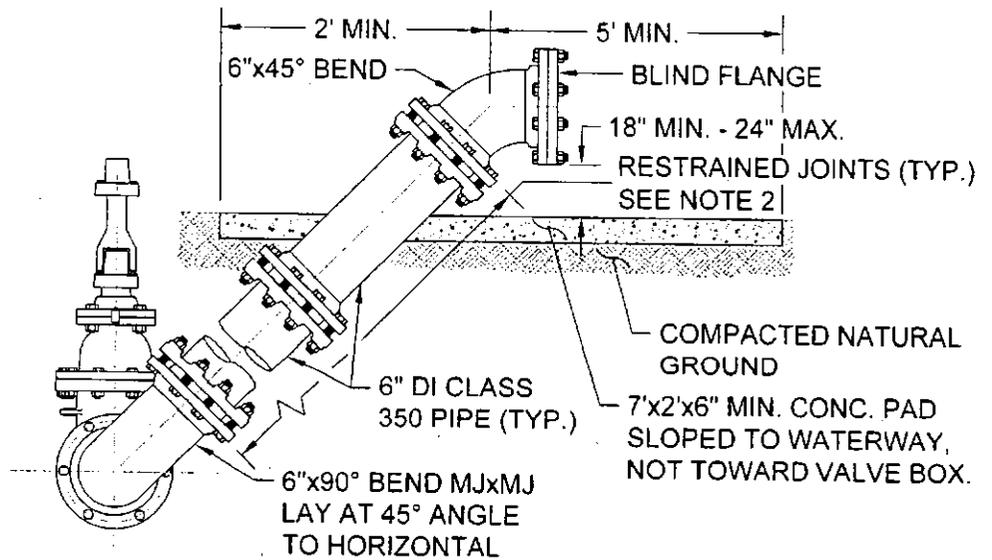
NOTES: APPLICABLE TO ALL INSTALLATION TYPES.

1. NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 6" OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 4' FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 2' LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 4' - 5'. BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 24" IN DIAMETER AND 12" DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 12" ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC PER STD. SPEC. 620S. FOR PRV, GRAVEL SHALL EXTEND UNDER THE PRV VAULT 12" MIN. DEPTH UNDER THE VAULT AND 6" MIN. BEYOND VAULT.
5. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 6" DIAMETER, OUTLET SHALL BE FLANGED AND A FLG x FLG REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
6. WRAP 8 MIL. POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
7. FOR HYDRANTS WITH PRV: CLASS III RCP VAULT 60" MIN. I.D. WITH REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING) WITH COA FRAME AND 32" COVER WITH LETTERING MODIFIED FOR WATER.

CITY OF AUSTIN AUSTIN WATER	FIRE HYDRANT	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511-AW-02</b> 3 OF 3



**SIDE VIEW**



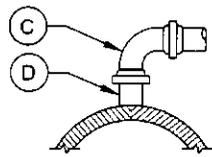
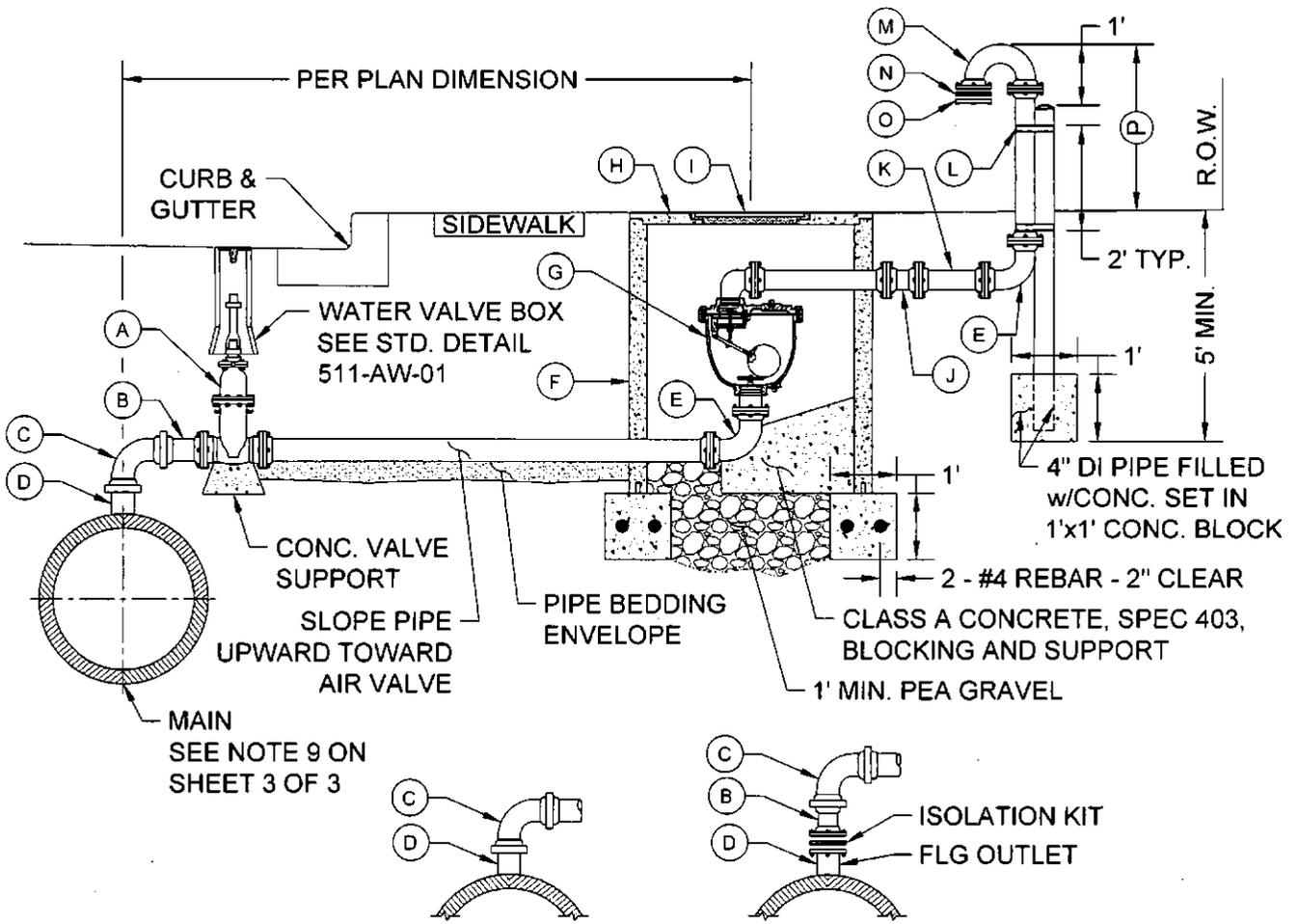
**BACK VIEW**

**NOTES:**

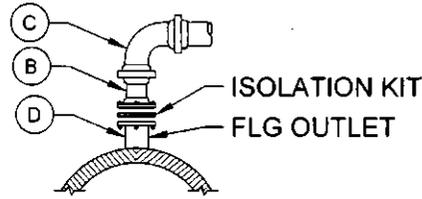
1. WRAP 8 MIL. POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
2. PROVIDE RESTRAINED JOINTS FOR ALL JOINTS PER SPL WW-27A. FLGxFLG JOINTS ARE ACCEPTABLE FROM 90° BEND TO BLIND FLANGE.
3. EXTERIOR SURFACES OF EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE.

CITY OF AUSTIN AUSTIN WATER	DRAIN VALVE	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511-AW-03</b> 1 OF 1





**DI MAIN**



**STEEL/CSC MAIN**

- A. GATE VALVE (FLG x FLG). GATE VALVE SHALL NOT BE INSTALLED DIRECTLY ABOVE WATER MAIN.
- B. PIPE FLG x FACTORY RESTRAINED JOINT SPIGOT END.
- C. 90° BEND w/FACTORY RESTRAINED JOINT BELL ENDS, SPL WW-27F.
- D. FOR DI MAIN: WELDED-ON OUTLET w/FACTORY RESTRAINED JOINT SPIGOT END.  
FOR STEEL/CSC MAIN: WELDED-ON FLANGED OUTLET w/ISOLATION KIT AND FLG x FACTORY RESTRAINED SPIGOT END.
- E. 90° BEND (FLG x FLG).
- F. CLASS III RCP VAULT 60" MIN. I.D.
- G. AIR RELEASE VALVE w/GOOSENECK PER AIR RELEASE VALVES FOR WATER SPL WW-367 OR AIR RELEASE/VACUUM RELIEF VALVES FOR POTABLE WATER SPL WW-462A OR AIR RELEASE/VACUUM RELIEF VALVES FOR RECLAIMED WATER SPL WW-462B OR AIR RELEASE/AIR VACUUM VALVE FOR WASTEWATER SPL WW-462B.
- H. REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING).
- I. COA FRAME AND 32" COVER WITH LETTERING MODIFIED FOR WATER.
- J. BOLTED CAST COUPLING (SMITH-BLAIR 441 OMNI CAST COUPLING OR APPROVED EQUAL).
- K. AIR VENT PIPE, 3" PIPE - GALVANIZED IRON, 4" AND LARGER PIPE - DI ONLY.
- L. ¼" x 1" GALVANIZE STRAPS DRILLED TO 4" DI PIPE FILLED w/CONCRETE (SEE NOTE 7).
- M. RETURN BEND (FLG x FLG).
- N. No. 16 MESH BRASS CLOTH
- O. COMPANION FLANGE (SEE NOTE 5).
- P. 4' MIN. - UNDEVELOPED AREAS.

**3" OR LARGER AIR/VACUUM VALVE INSTALLATION - TYPE II**

CITY OF AUSTIN AUSTIN WATER	AIR RELEASE AND AIR/VACUUM VALVE	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511-AW-04</b> 2 OF 3

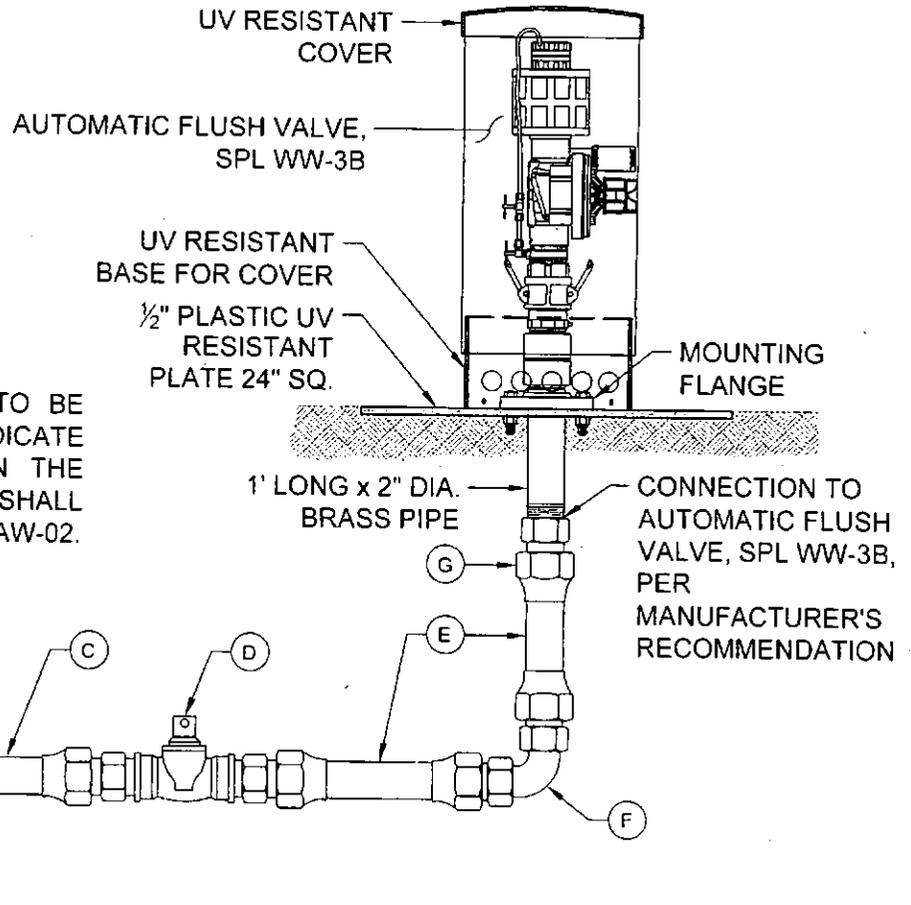
NOTES:

1. ON 10" AND LARGER TWO PIECE COMBINATION AIR VALVES, THE OUTLET PIPING OF THE SMALL VALVE SHALL BE VENTED WITHIN THE VAULT INTO THE LARGER VENT PIPE
2. AIR VENT PIPE 6" AND LARGER SHALL BE DI (CLASS 350 MIN.) PIPE FLANGE FITTINGS AND EXTERIOR SURFACES OF ALL EXPOSED PIPE SHALL BE PAINTED PER SPL WW-3C. POTABLE WATER PIPE SHALL BE PAINTED SAFETY BLUE. SURFACE PREPARATION SHALL BE PER PAINT MANUFACTURER'S REQUIREMENTS.
3. ENTIRE AIR VENT ASSEMBLY SHALL BE LOCATED WITHIN EASEMENT OR R.O.W.
4. CONCRETE PIPE PENETRATIONS SHALL BE CORE BIT DRILLED. VOID SHALL BE SEALED w/LINKSEAL LS 300 OR APPROVED EQUAL.
5. CROSS SECTIONAL AREA OF OPENING TO BE EQUAL TO OR GREATER THAN CROSS SECTIONAL AREA OF AIR VENT PIPE.
6. AIR/VACUUM VALVE SHALL BE INSTALLED IN A MANNER WHICH WILL ALLOW REMOVAL OF ASSEMBLY WITHOUT REMOVAL OF PRECAST CONCRETE LID.
7. IN UNDEVELOPED AREAS, THE AIR VENT PIPE SHALL BE 4' MIN. IN HEIGHT SUPPORTED BY A 4" DIA. DI PIPE WHICH HAS BEEN FILLED WITH CONCRETE (SUPPORT PIPE SHALL BE 6' LONG, BURIED IN CLASS A CONCRETE OR CLSM 3' BELOW FINAL GRADE AND EXTENDING 3' ABOVE FINAL GRADE). INSTALL ONE DELINEATOR STAKE WITHIN 3' OF THE VAULT ON THE VEHICULAR ACCESS SIDE OF VAULT OR AS DIRECTED BY AUSTIN WATER. DELINEATOR SHALL BE BLUE FOR POTABLE WATER AND SHALL EXTEND AT LEAST 60" ABOVE GROUND. DELINEATORS SHALL HAVE 2" WIDE, WHITE IN COLOR, TYPE I REFLECTIVE TAPE MOUNTED DIAGONALLY AT 12" SPACING ON BOTH SIDES. IN DEVELOPED AREAS, THE AIR VENT PIPE SHALL BE LOCATED NOT TO CONFLICT WITH SIDEWALK, DRIVEWAY, OR OTHER PEDESTRIAN TRAFFIC.
8. GATE VALVE, PIPE, AND FITTINGS FROM MAIN TO ARV SHALL BE OF EQUAL DIAMETER AS THE AIR VALVE EXCEPT 3" ARV SHALL HAVE 4" FITTINGS AND A 4"x3" REDUCER AT THE ARV, AND ALL PIPE AND FITTINGS ON THE OUTLET SIDE OF THE ARV SHALL BE EQUAL TO THE SIZE OF THE OUTLET OF THE ARV. VAULTS SHALL BE 5' DIAMETER FOR 3" VALVE; 6' DIAMETER FOR 4", 6", AND 8" VALVES; AND 7' DIAMETER FOR 10" AND 12" VALVES.
9. FOR 24" AND LARGER MAINS, AN 18" OUTLET WITH BLIND FLANGE SHALL BE INSTALLED AT CONNECTION OF ARV.

**3" OR LARGER AIR/VACUUM VALVE INSTALLATION - TYPE II**

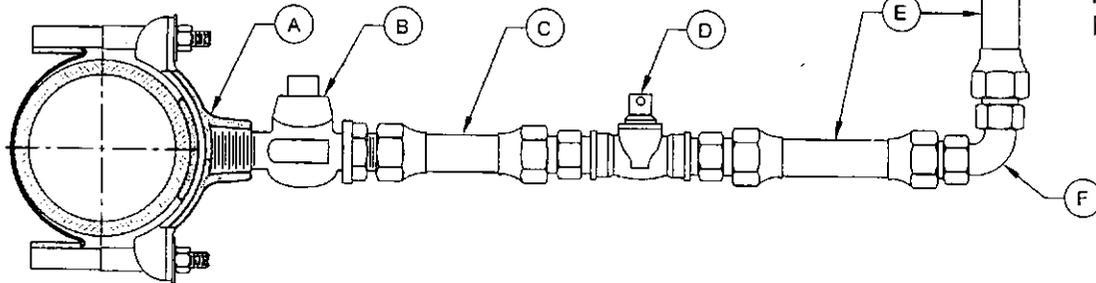
**RECLAIMED WATER:** ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

<p>CITY OF AUSTIN AUSTIN WATER</p>	<p>AIR RELEASE AND AIR/VACUUM VALVE</p>	
<p>_____ ADOPTED</p>	<p>THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.</p>	<p>STANDARD NO. <b>511-AW-04</b> 3 OF 3</p>



**NOTE:**

IF FLUSH VALVE IS REQUIRED TO BE METERED, ENGINEER SHALL INDICATE METER SIZE AND LOCATION ON THE PLANS AND METER INSTALLATION SHALL BE AS PER STANDARD DETAIL 520-AW-02.

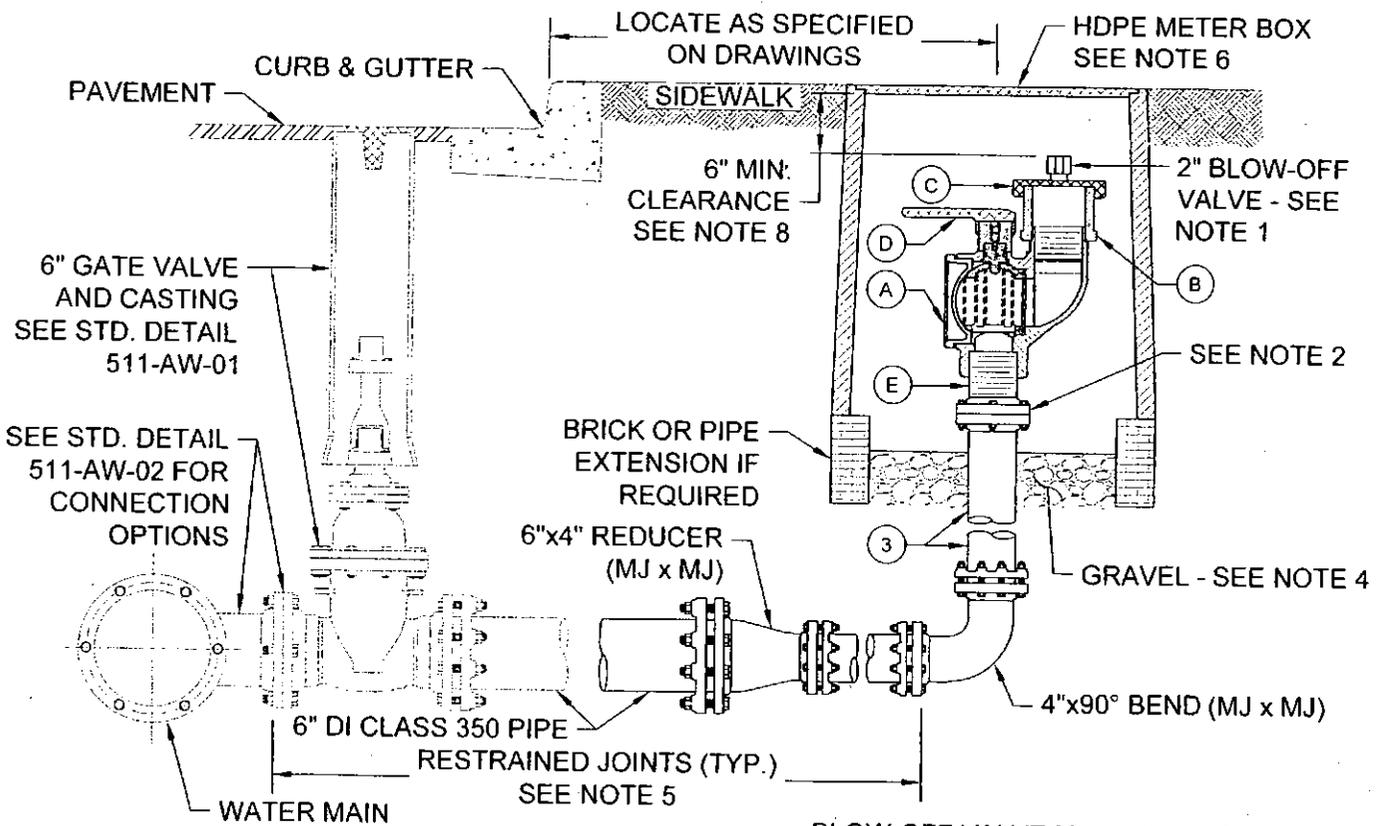


- A. 2" SERVICE CLAMP
- B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
- C. 2" COPPER WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
- D. BALL VALVE, SPL WW-275 (SIZE EQUAL TO "E")
- E. 2" COPPER TUBING PER SPL WW-613 OR 2" HDPE PER SPL WW-65 FOR POTABLE AND PER SPL WW-65A FOR RECLAIMED
- F. 2" BRASS 90° BEND, COMPRESSION x COMPRESSION OR HDPE WITH STIFFENERS PER SPL WW-65B AT ALL CONNECTIONS
- G. 2" BRASS COUPLING, COMPRESSION x FIP

**NOTES:**

1. AUTOMATIC FLUSH VALVE MAY ALSO BE USED ON TAPPED PLUGS AND CAPS.
2. THE CONTRACTOR SHALL PROVIDE THE FLUSH VALVE ACCESS KEY TO AUSTIN WATER UPON FLUSH VALVE ACCEPTANCE.
3. VALVE "D" SHALL NOT BE LOCATED MORE THAN 36" BELOW FLUSH VALVE OR MORE THAN 24" HORIZONTALLY FROM FLUSH VALVE. VALVE "D" SHALL NOT BE LOCATED IN A SIDEWALK OR DRIVEWAY.
4. METER BOX (IF REQUIRED) AND FLUSH VALVE SHALL NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY. TEMPORARY FLUSH VALVES SHALL BE LOCATED AS SHOWN ON APPROVED PLANS.
5. A DRAINAGE WAY, CONTAINED WITHIN THE R.O.W. OR AN EASEMENT, SHALL BE PROVIDED FROM FLUSH VALVE TO STORM SEWER SYSTEM OR PUBLIC DRAINAGE WAY.
6. DESIGN ENGINEER SHALL PROVIDE CALCULATIONS WITH PLANS AT THE TIME OF REVIEW INCLUDING FREQUENCY AND FLUSH RATE REQUIRED TO CIRCULATE WATER IN DEAD END MAIN EVERY 72 HOURS.

CITY OF AUSTIN AUSTIN WATER	AUTOMATIC FLUSH VALVE	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511-AW-05</b> 1 OF 1



BLOW-OFF VALVE MATERIAL LIST

ITEM #	DESCRIPTION
A	ASSY, 2" OFFSET BALL VALVE 2FIP x 2MIP
B	ADAPTER 2" FEMALE NPT x 2 1/2 MALE NHT
C	CAP, 2 1/2 NHT PIN LUG, PAINTED PURPLE
D	LEVER HANDLE, PAINTED PURPLE
E	2" NIPPLE 4" LONG

NOTES:

- 2" BLOW-OFF VALVE FOR RECLAIMED WATER PER SPL WW-3A.
- 2"x9" 125# REDUCING COMPANION FLANGE (MANUFACTURED BY SMITH-COOPER INTERNATIONAL OR EQUIVALENT.)
- 4" DI CLASS 350 PIPE (PE x FLG).
- 6" MIN. DEPTH COMPACTED COARSE GRAVEL OR BROKEN STONE.
- BLOW-OFF VALVE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO BLOW-OFF VALVE. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
- HDPE METER BOX SHALL BE RECTANGULAR, COMMERCIAL METER BOX FOR RECLAIMED WATER PER SPL WW-145A.
- METER BOX AND BLOW-OFF VALVE SHALL NOT BE LOCATED IN A SIDEWALK, DRIVEWAY, PEDESTRIAN WAY OR TRAFFIC WAY. BLOW-OFF VALVES SHALL BE LOCATED AS SHOWN ON APPROVED PLANS.
- BLOW-OFF VALVE MUST BE FREE TO MOVE VERTICALLY WITHIN THE METER BOX, IN ORDER TO PREVENT THE TRANSMISSION LOADS TO THE BLOW-OFF VALVE.

**RECLAIMED WATER:** ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER	2" NON - TRAFFIC RATED, RECLAIMED BLOW-OFF VALVE	
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. <b>511-AW-06</b> 1 OF 1