

3/4" WATER SERVICE

NOTES:

1. SEE APPROVED MATERIAL LIST; SECTION 600.
2. METER BOX LID SHALL HAVE A 4-1/8 INCH DIAMETER RECESSED HOLE FOR TRANSMITTER.

TOWN OF APEX  
STANDARDS

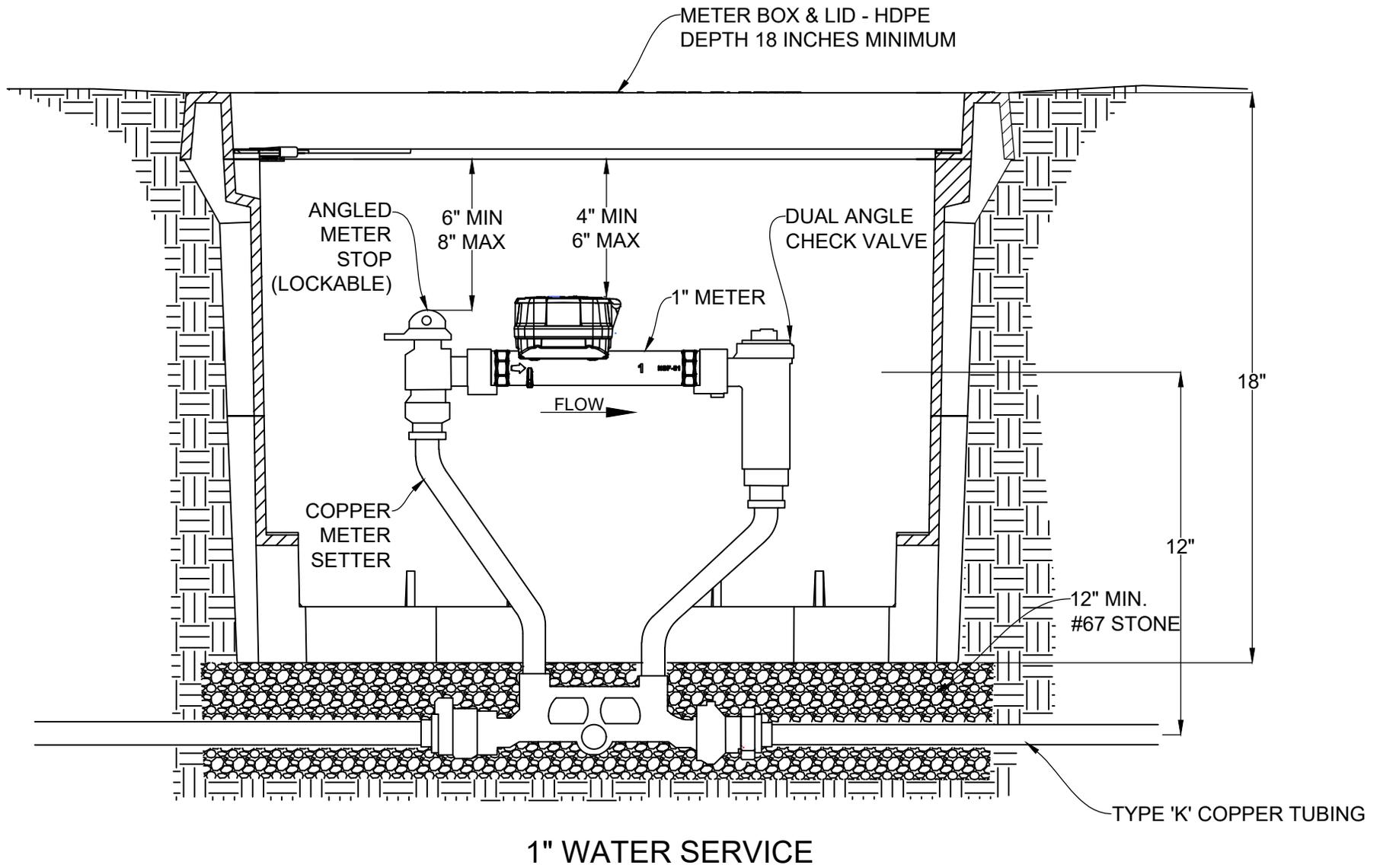
EFFECTIVE: JUNE 11, 2024

3/4" & 1" WATER SERVICE & METER BOX

STD. NO.

600.01

SHEET 1 OF 3



NOTES:

1. SEE APPROVED MATERIAL LIST; SECTION 600.
2. METER BOX LID SHALL HAVE A 4-1/8 INCH DIAMETER RECESSED HOLE FOR TRANSMITTER

TOWN OF APEX  
STANDARDS

EFFECTIVE: JUNE 11, 2024

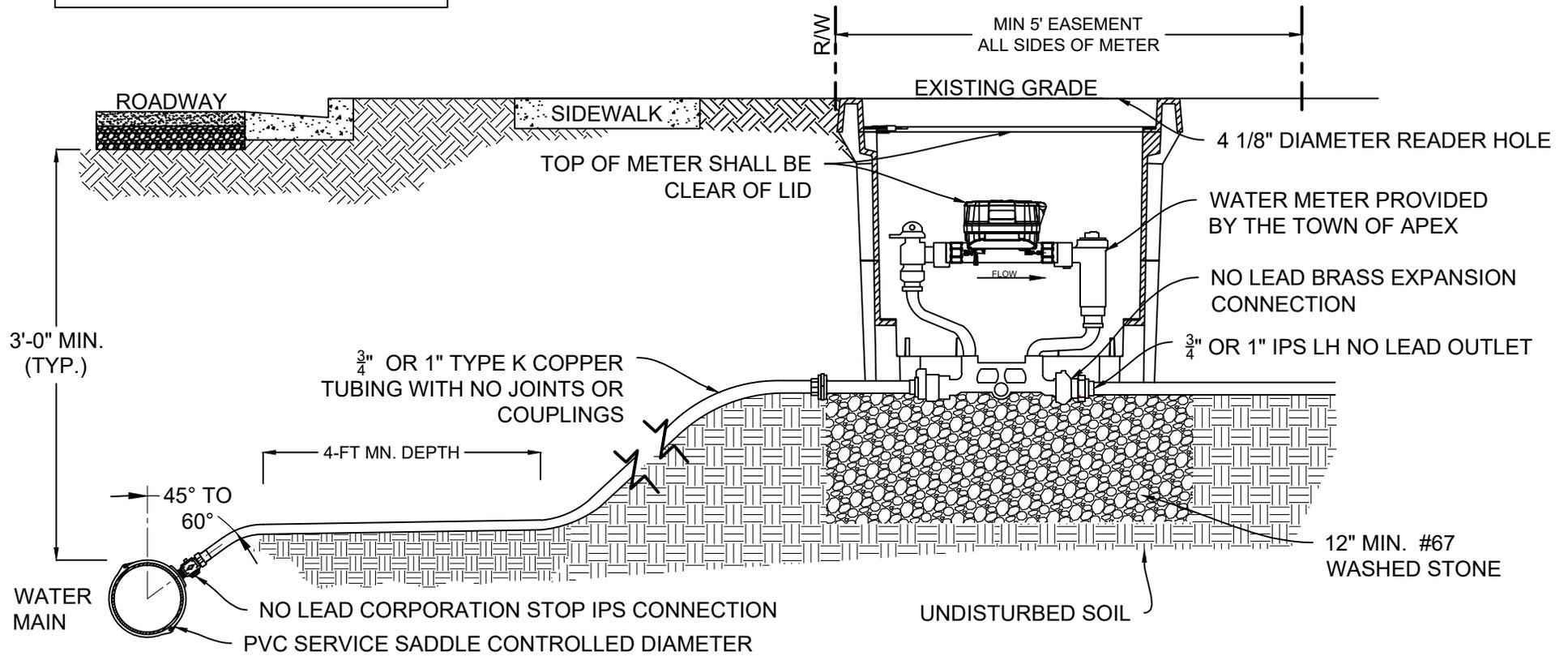
**3/4" & 1" WATER SERVICE & METER BOX**

STD. NO.

**600.01**

SHEET 2 OF 3

TOWN MAINTENANCE ENDS AT R/W.



**NOTES:**

1. WATER METER SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC.
2. ALL SERVICE LINES, VALVES AND FITTINGS SHALL COMPLY WITH AWWA C800.
3. THE INTERIOR AND EXTERIOR OF THE BOX AND LID SHALL BE COLORED BLACK.
4. ALL RELOCATIONS OF EXISTING OR PERMITTED INFRASTRUCTURE INCLUDING SERVICE PIPING AND METER BOXES SHALL BE PERMITTED AND INSPECTED IN CONFORMANCE WITH TOWN POLICIES AND PROCEDURES.
5. BOX AND LID SHALL BE HDPE.
6. COPPER TUBING SHALL BE LEAD FREE, TYPE K SOFT COPPER TUBING CONFORMING TO ASTM STANDARD B58.
7. MARKING TAPE SHALL BE INSTALLED FOR ALL SERVICE CONNECTIONS FROM THE MAIN LINE TO THE METER FOR ALL NEW CONSTRUCTION OR RETROFIT INSTALLATIONS USING OPEN TRENCH METHODS.
8. METER BOX LID SHALL HAVE A 4-1/8 INCH DIAMETER RECESSED HOLE FOR TRANSMITTER.
9. SEE APPROVED MATERIAL LIST; SECTION 600.

**NO WATER SERVICES ARE PERMITTED ON HYDRANT LEGS, WITHIN 3' OF PIPE BELL, OR WITHIN 20' OF DEAD END.**

TOWN OF APEX  
STANDARDS

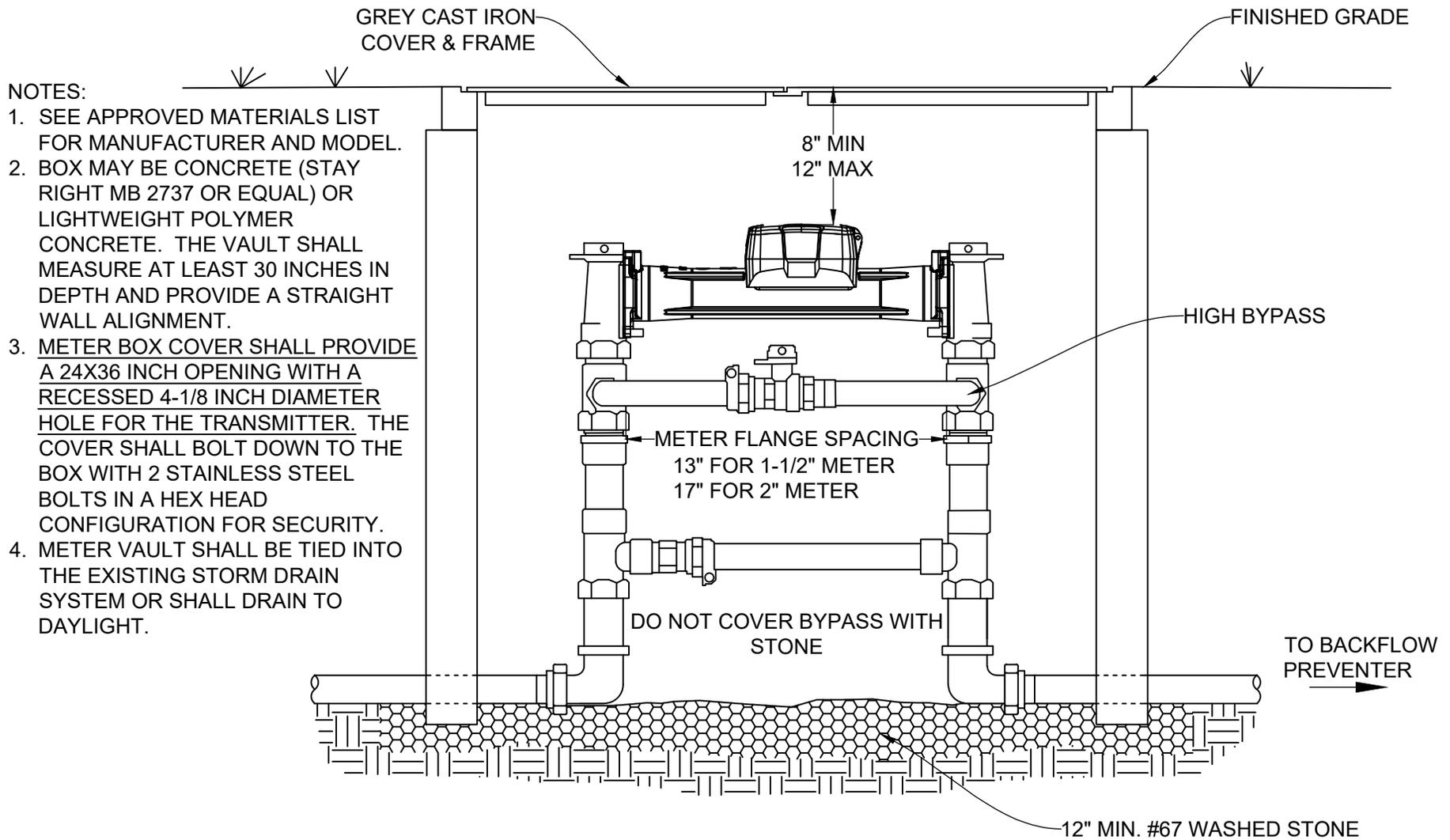
EFFECTIVE: JUNE 11, 2024

**3/4" & 1" WATER SERVICE & METER BOX**

STD. NO.

**600.01**

SHEET 3 OF 3



NOTES:

1. SEE APPROVED MATERIALS LIST FOR MANUFACTURER AND MODEL.
2. BOX MAY BE CONCRETE (STAY RIGHT MB 2737 OR EQUAL) OR LIGHTWEIGHT POLYMER CONCRETE. THE VAULT SHALL MEASURE AT LEAST 30 INCHES IN DEPTH AND PROVIDE A STRAIGHT WALL ALIGNMENT.
3. METER BOX COVER SHALL PROVIDE A 24X36 INCH OPENING WITH A RECESSED 4-1/8 INCH DIAMETER HOLE FOR THE TRANSMITTER. THE COVER SHALL BOLT DOWN TO THE BOX WITH 2 STAINLESS STEEL BOLTS IN A HEX HEAD CONFIGURATION FOR SECURITY.
4. METER VAULT SHALL BE TIED INTO THE EXISTING STORM DRAIN SYSTEM OR SHALL DRAIN TO DAYLIGHT.

TOWN OF APEX  
STANDARDS

EFFECTIVE: JUNE 11, 2024

1-1/2" & 2" METER INSTALLATION & VAULT

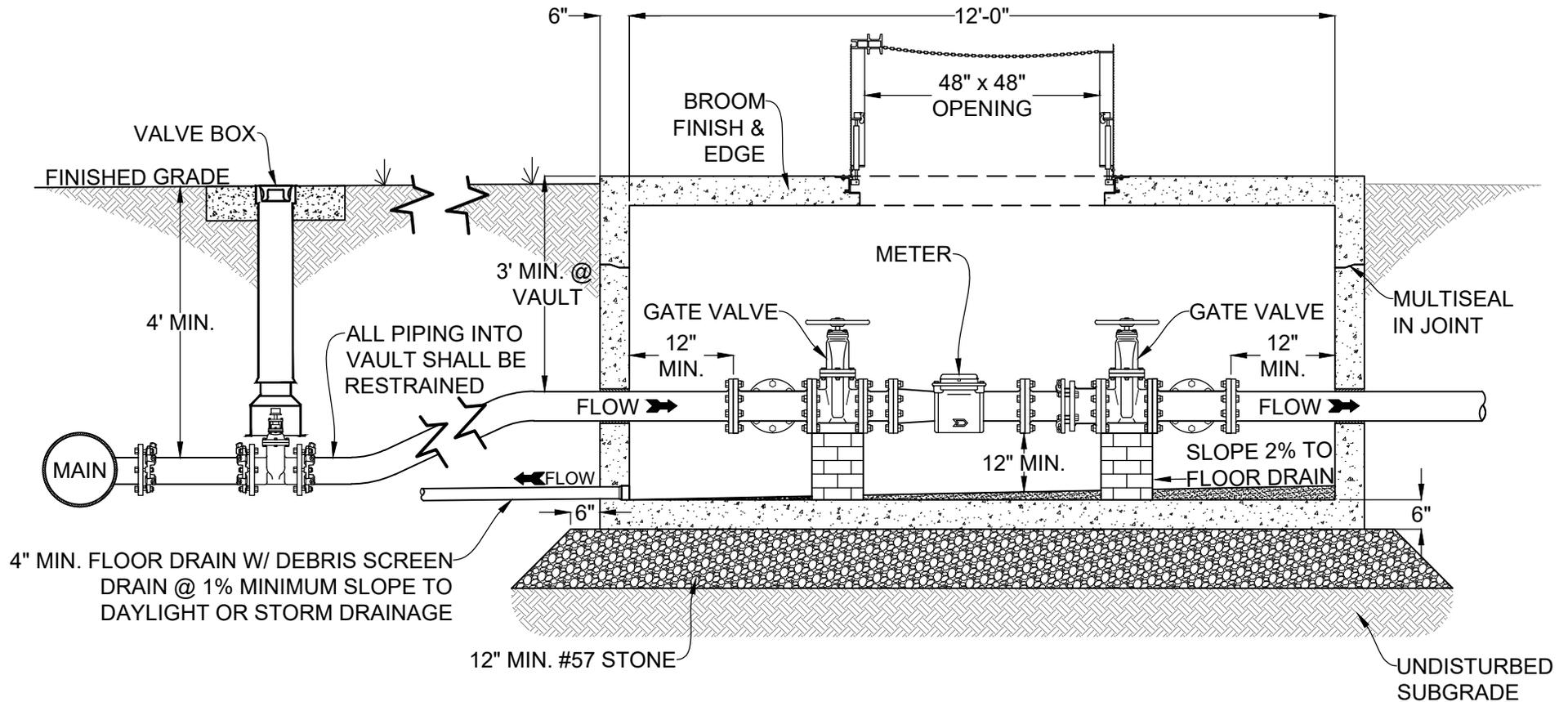
STD. NO.

600.02

SHEET 1 OF 1

**NOTES:**

1. INSTALLATIONS LARGER THAN 3" SHALL REQUIRE A SPECIAL DETAIL AND PRIOR APPROVAL FROM THE WATER RESOURCES DEPARTMENT.
2. ALL PIPE SHALL BE DUCTILE IRON. A BYPASS LINE MUST BE INCLUDED.
3. THERE SHALL BE A MINIMUM 5' EASEMENT AROUND ALL SIDES OF THE WATER METER VAULT.
4. CONTACT WATER RESOURCES OPERATIONS FOR COST OF METERS 3" AND GREATER AND THE OPENING REQUIRED FOR INSTALLATION OF METER.
5. VAULT PIPE INLET AND OUTLET SHALL BE SEALED AROUND PIPE WITH CONCRETE OR WITH BRICK AND MORTAR.
6. METER VAULT TOP SHALL HAVE A 4-1/8" DIAMETER RECESSED HOLE FOR TRANSMITTER.



**SECTION VIEW**

**TOWN OF APEX  
STANDARDS**

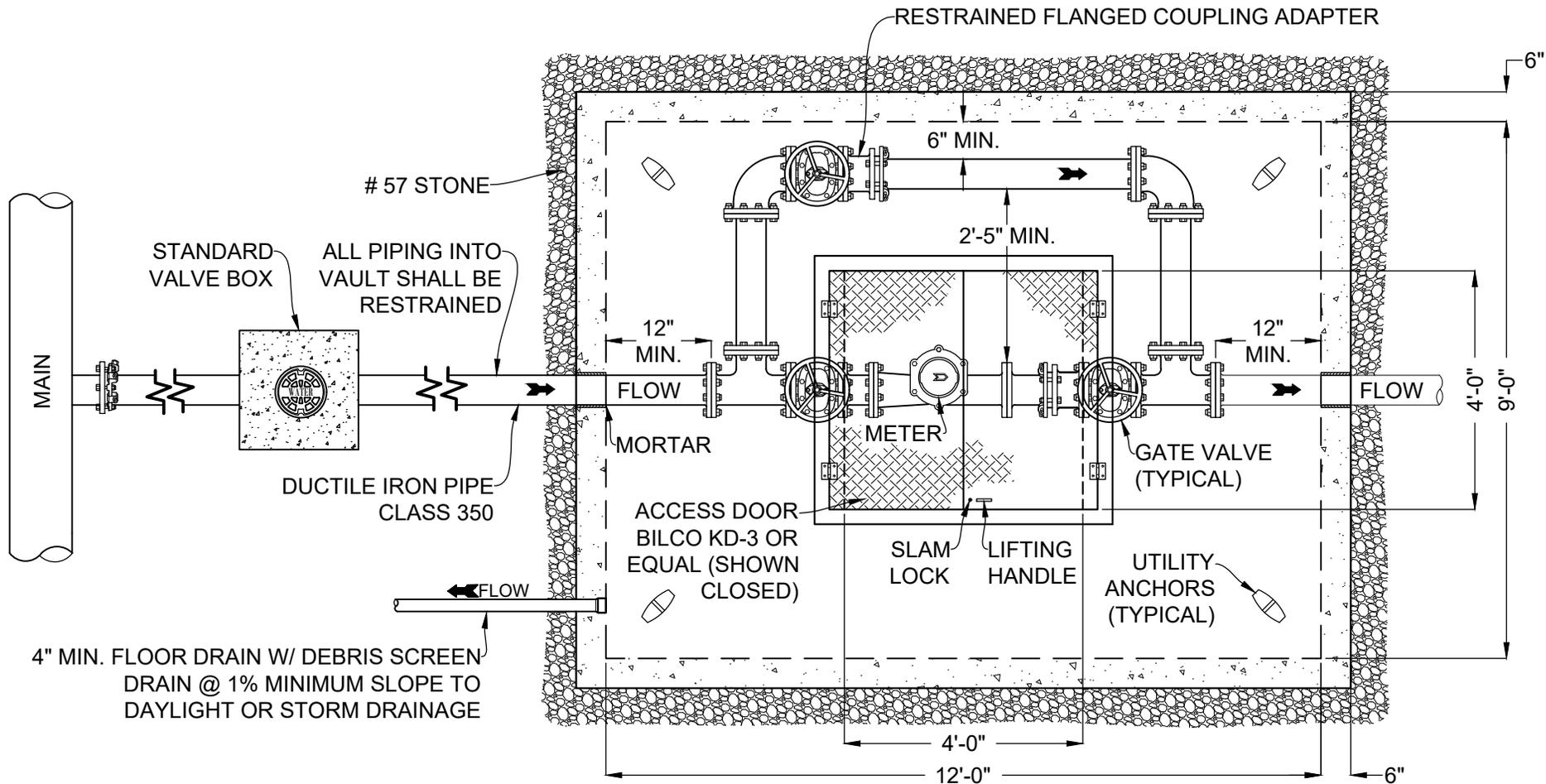
EFFECTIVE: JUNE 11, 2024

**3" & LARGER METER INSTALLATION & VAULT**

STD. NO.

**600.03**

SHEET 1 OF 2



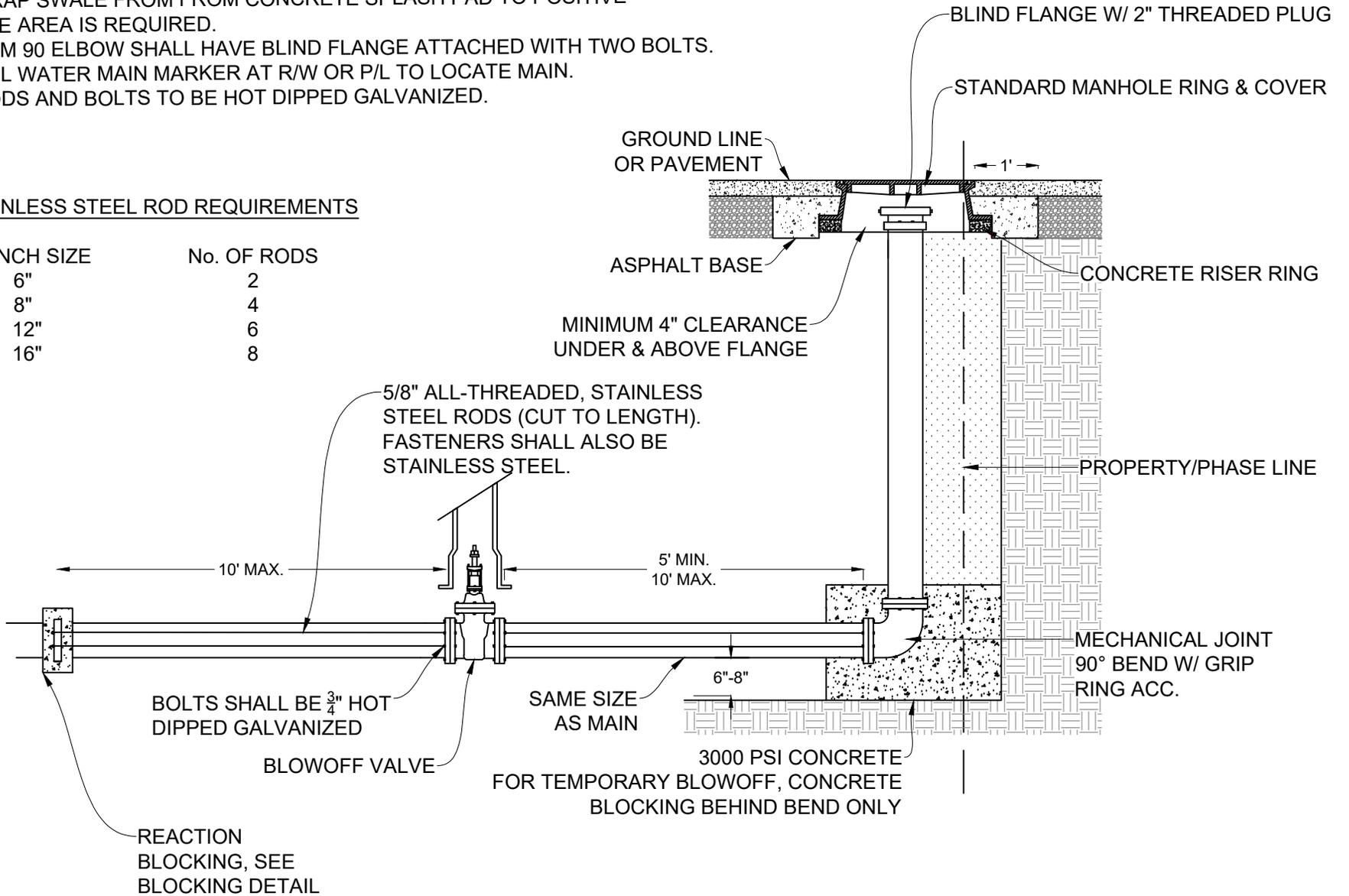
PLAN VIEW

**NOTES:**

1. DRILL 1/4" WEEP HOLE FOR STACK DRAINAGE INTO STONE.
2. DOUBLE 3/4" BRIDLE RODS ON BOTH SIDES.
3. A RIP-RAP SWALE FROM FROM CONCRETE SPLASH PAD TO POSITIVE DRAINAGE AREA IS REQUIRED.
4. BOTTOM 90 ELBOW SHALL HAVE BLIND FLANGE ATTACHED WITH TWO BOLTS.
5. INSTALL WATER MAIN MARKER AT R/W OR P/L TO LOCATE MAIN.
6. 3/4" RODS AND BOLTS TO BE HOT DIPPED GALVANIZED.

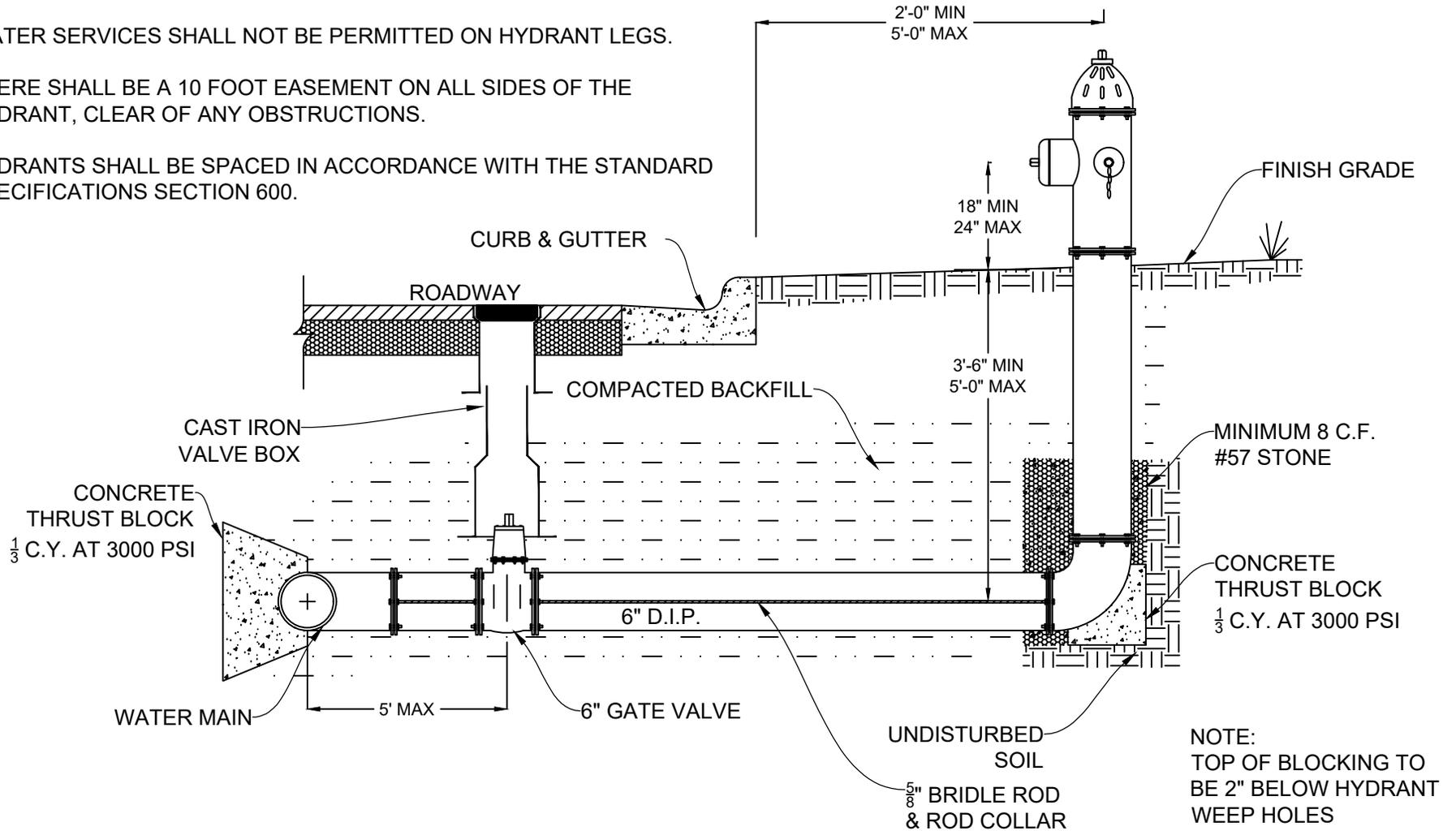
**STAINLESS STEEL ROD REQUIREMENTS**

BRANCH SIZE	No. OF RODS
6"	2
8"	4
12"	6
16"	8



**NOTES:**

1. HYDRANT TO BE PLACED WITH PUMPER NOZZLE FACING THE CLOSEST CURB.
2. HYDRANT TO BE PAINTED ONE COAT OF RED AFTER INSTALLATION.
3. WATER SERVICES SHALL NOT BE PERMITTED ON HYDRANT LEGS.
4. THERE SHALL BE A 10 FOOT EASEMENT ON ALL SIDES OF THE HYDRANT, CLEAR OF ANY OBSTRUCTIONS.
5. HYDRANTS SHALL BE SPACED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 600.



**TOWN OF APEX  
STANDARDS**

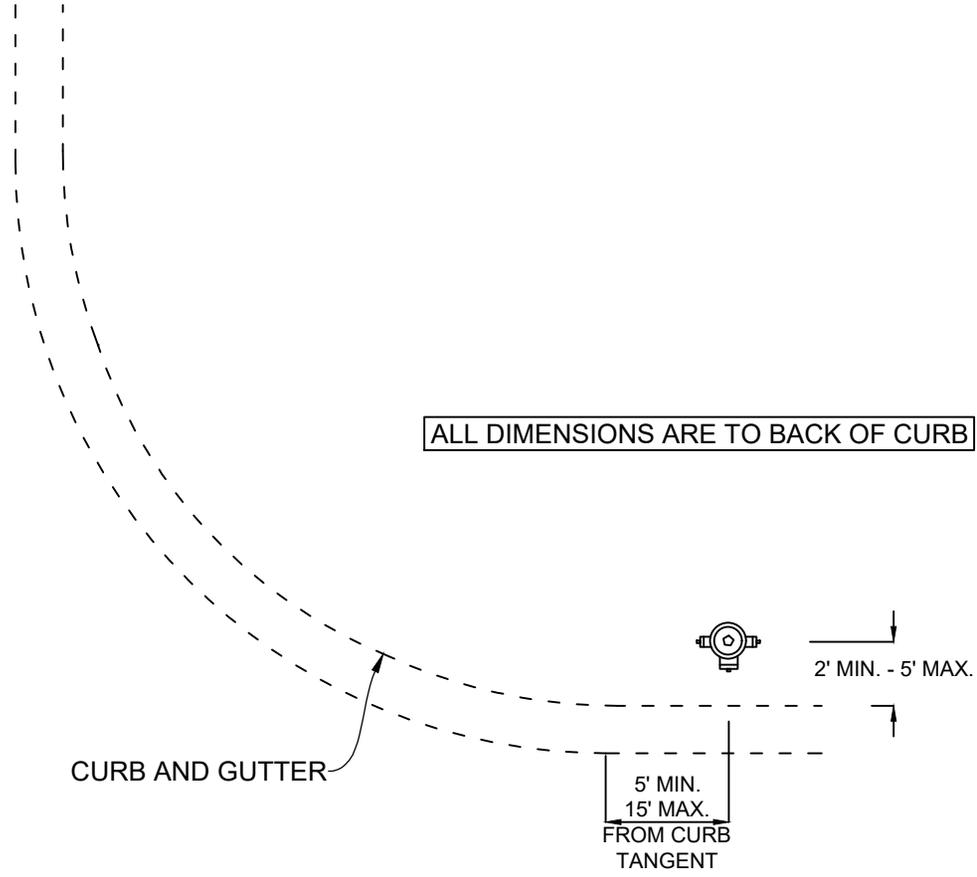
EFFECTIVE: MARCH 23, 2021

**HYDRANT INSTALLATION**

STD. NO.

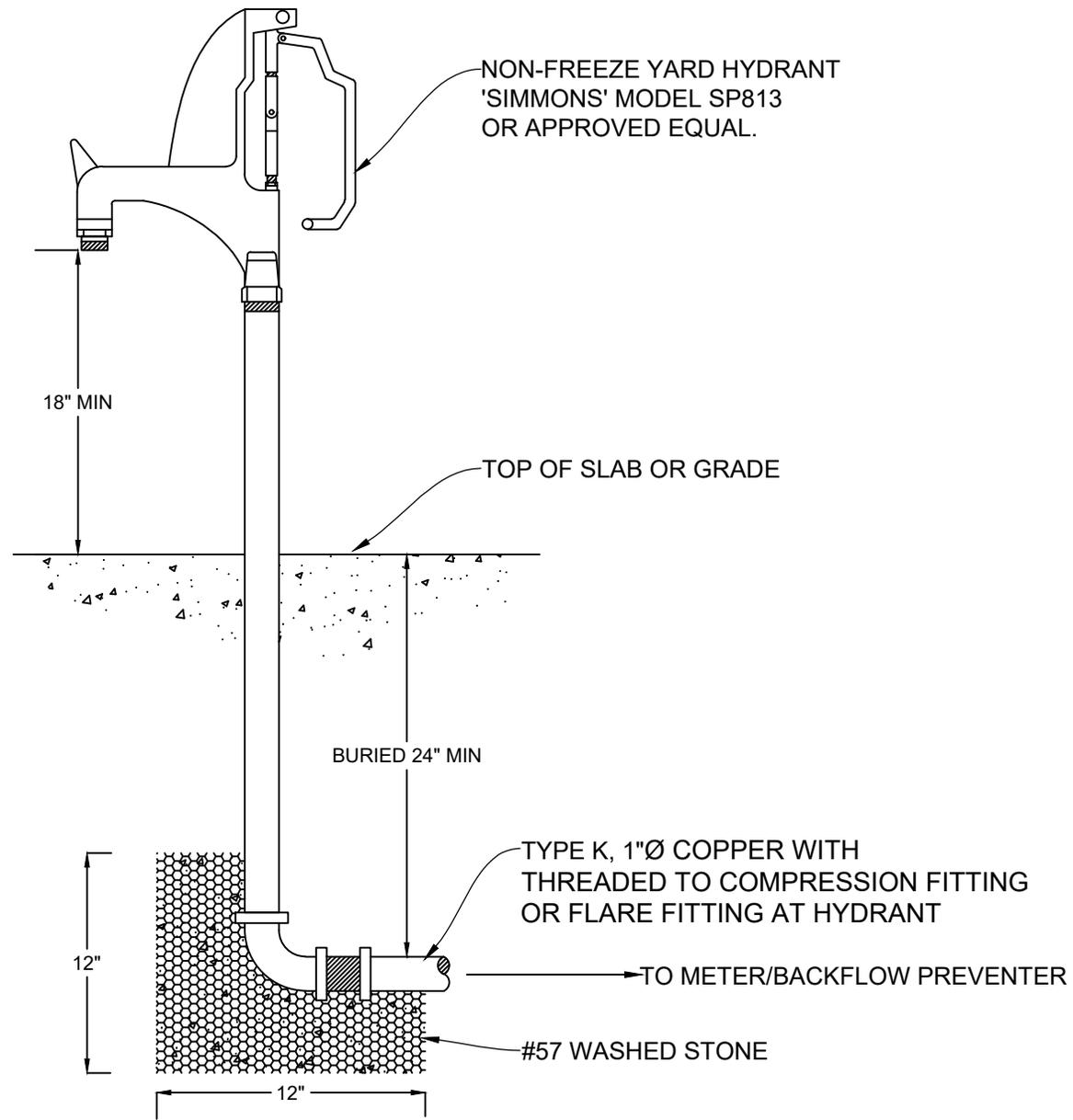
**600.05**

SHEET 1 OF 1



**NOTES:**

1. HYDRANTS SHALL BE SPACED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS SECTION 600.



TOWN OF APEX  
STANDARDS

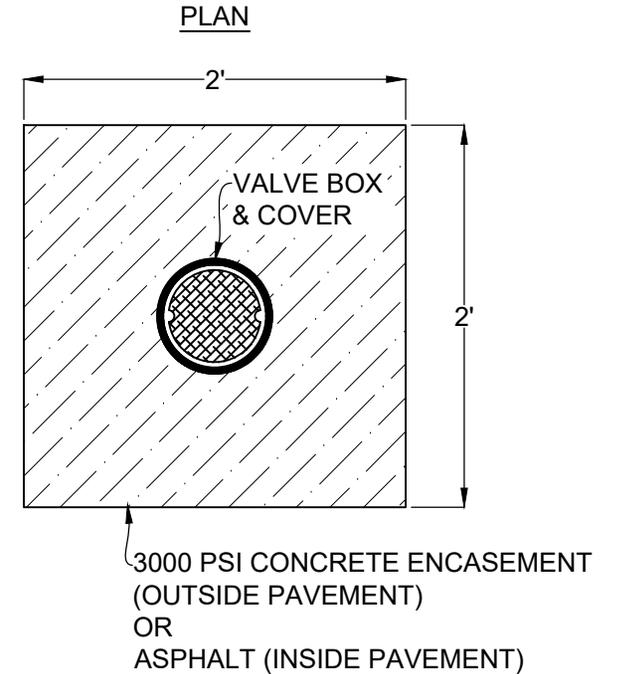
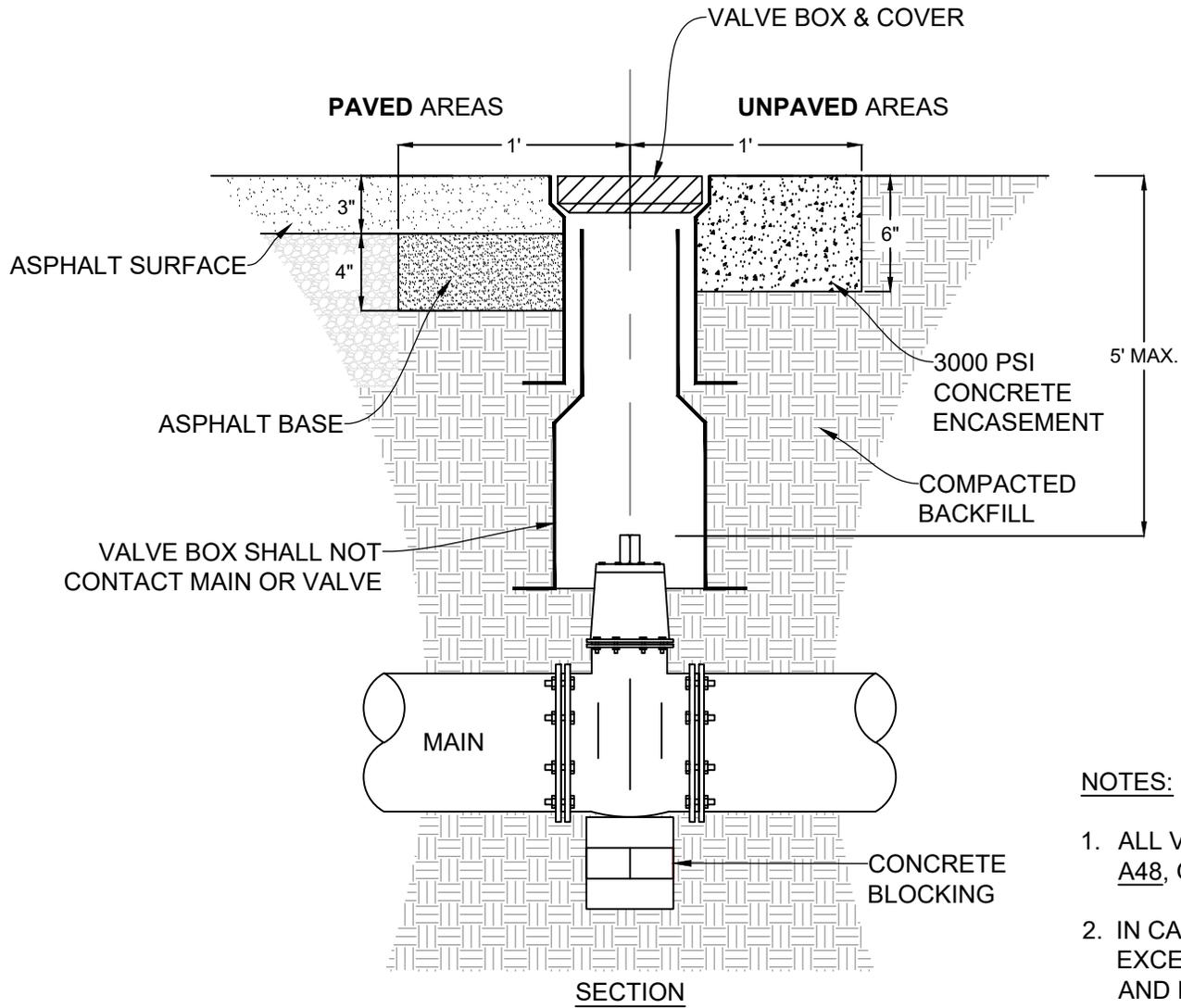
# YARD HYDRANT (NON-FREEZE)

STD. NO.

600.07

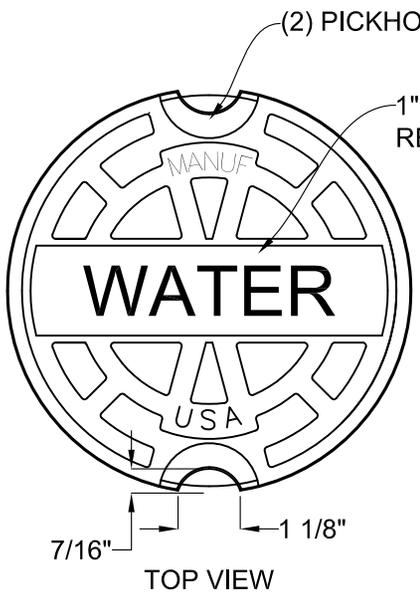
EFFECTIVE: MARCH 23, 2021

SHEET 1 OF 1

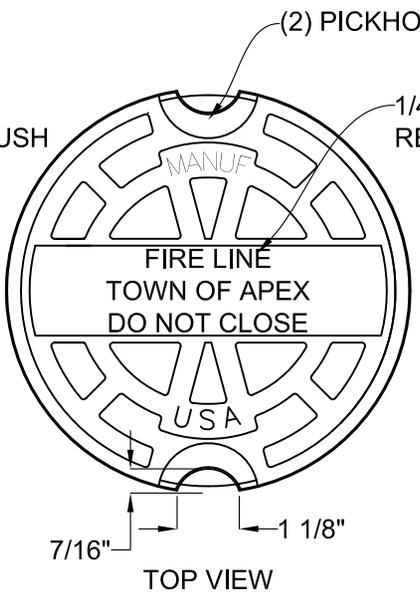


**NOTES:**

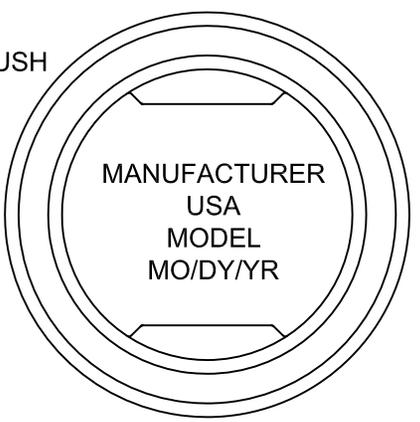
1. ALL VALVE BOXES AND COVERS SHALL MEET ASTM A48, GRADE 35B IRON REQUIREMENTS.
2. IN CASES WHERE MAX. VALVE BOX HEIGHT IS EXCEEDED, USE 6" DIP AS A PROTECTIVE SLEEVE AND INCLUDE A VALVE NUT EXTENSION.
3. IF THE VALVE OPERATING NUT IS GREATER THAN 6 FEET FROM THE SURFACE AN EXTENSION KIT FROM THE VALVE MANUFACTURER MUST BE PROVIDED.



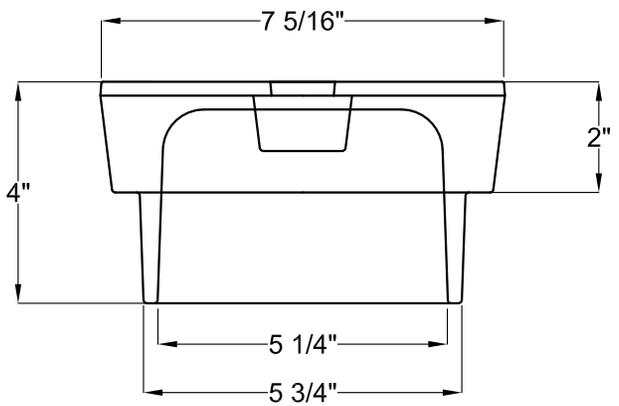
TOP VIEW



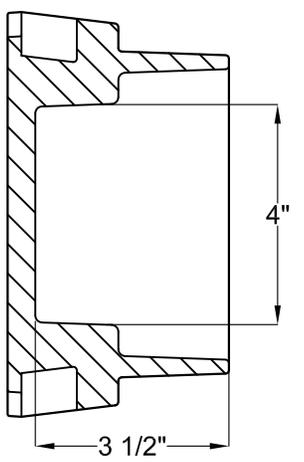
TOP VIEW



BOTTOM VIEW



FRONT VIEW



SECTION VIEW

COVER WEIGHT: 16 LBS

TOWN OF APEX  
STANDARDS

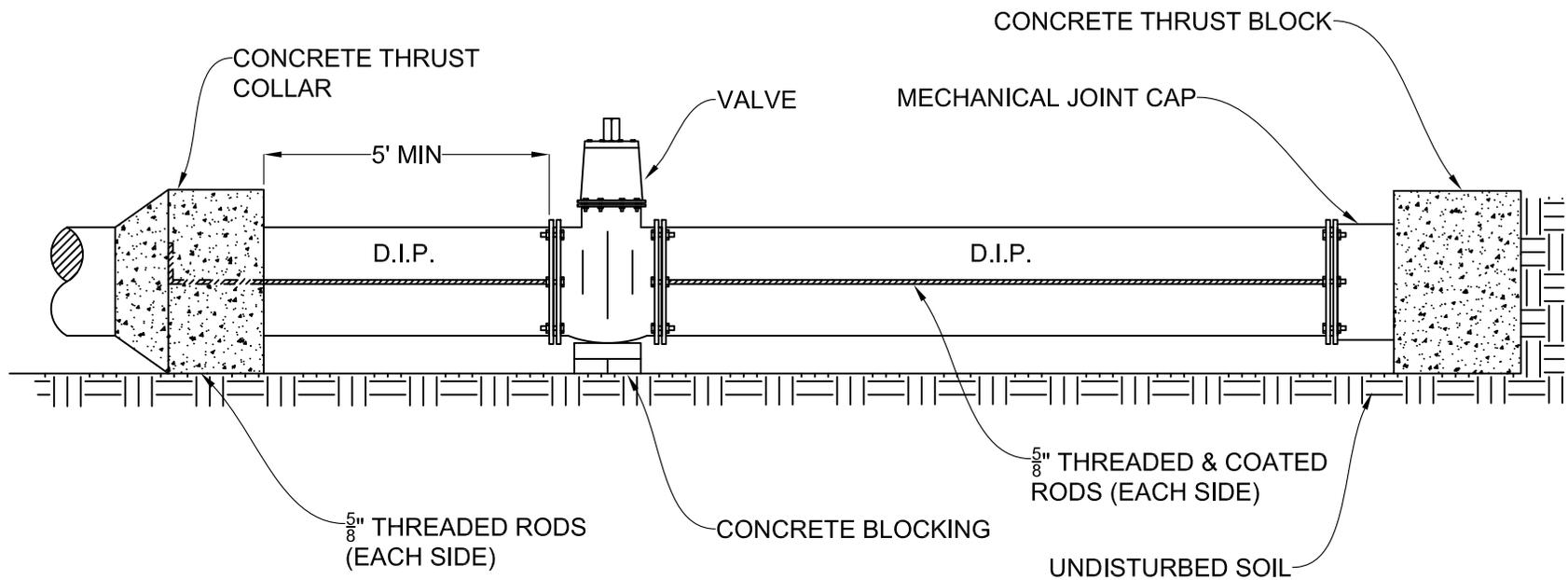
EFFECTIVE: NOVEMBER 20, 2007

VALVE COVER

STD. NO.

600.09

SHEET 1 OF 1



TOWN OF APEX  
STANDARDS

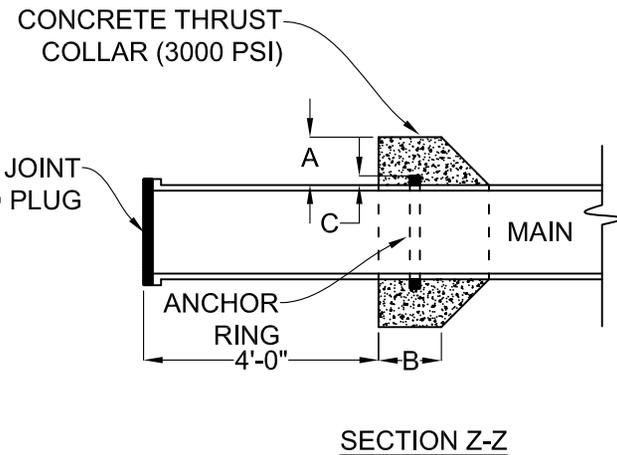
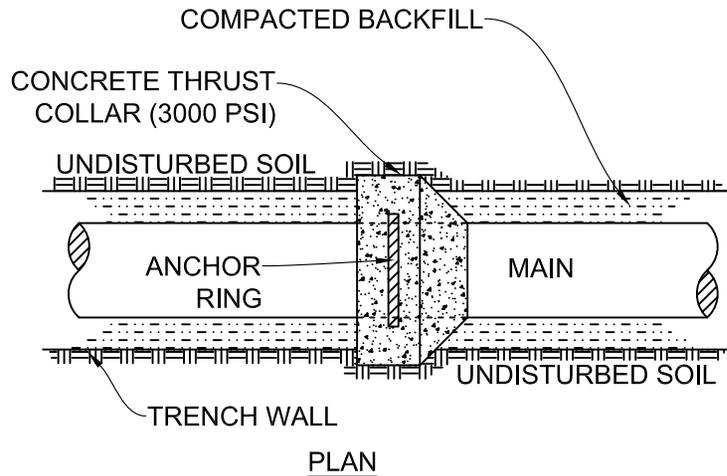
EFFECTIVE: DECEMBER 3, 2002

## CAPPING DETAIL

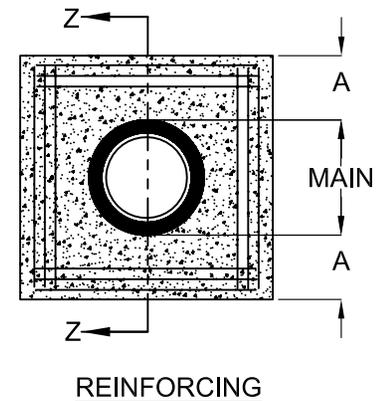
STD. NO.

600.10

SHEET 1 OF 1



PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR R RING	RINGS REQUIRED
	A	B	C	
6"/8"/12"	1'-0"	1'-0"	2"	ONE
16"	1'-4"	1'-0"	2"	ONE
20"	1'-4"	1'-0"	3"	ONE
24"	1'-4"	1'-0"	3"	TWO
30"	1'-4"	1'-2"	4"	TWO
36"	1'-4"	1'-4"	4"	TWO



NOTE:  
 6" TO 16" MAINS--12-NO. 7 BARS  
 20" TO 36" MAINS--12-NO. 8 BARS  
 \* BARS PLACED AS SHOWN

TOWN OF APEX  
STANDARDS

EFFECTIVE: DECEMBER 3, 2002

# THRUST COLLAR INSTALLATION

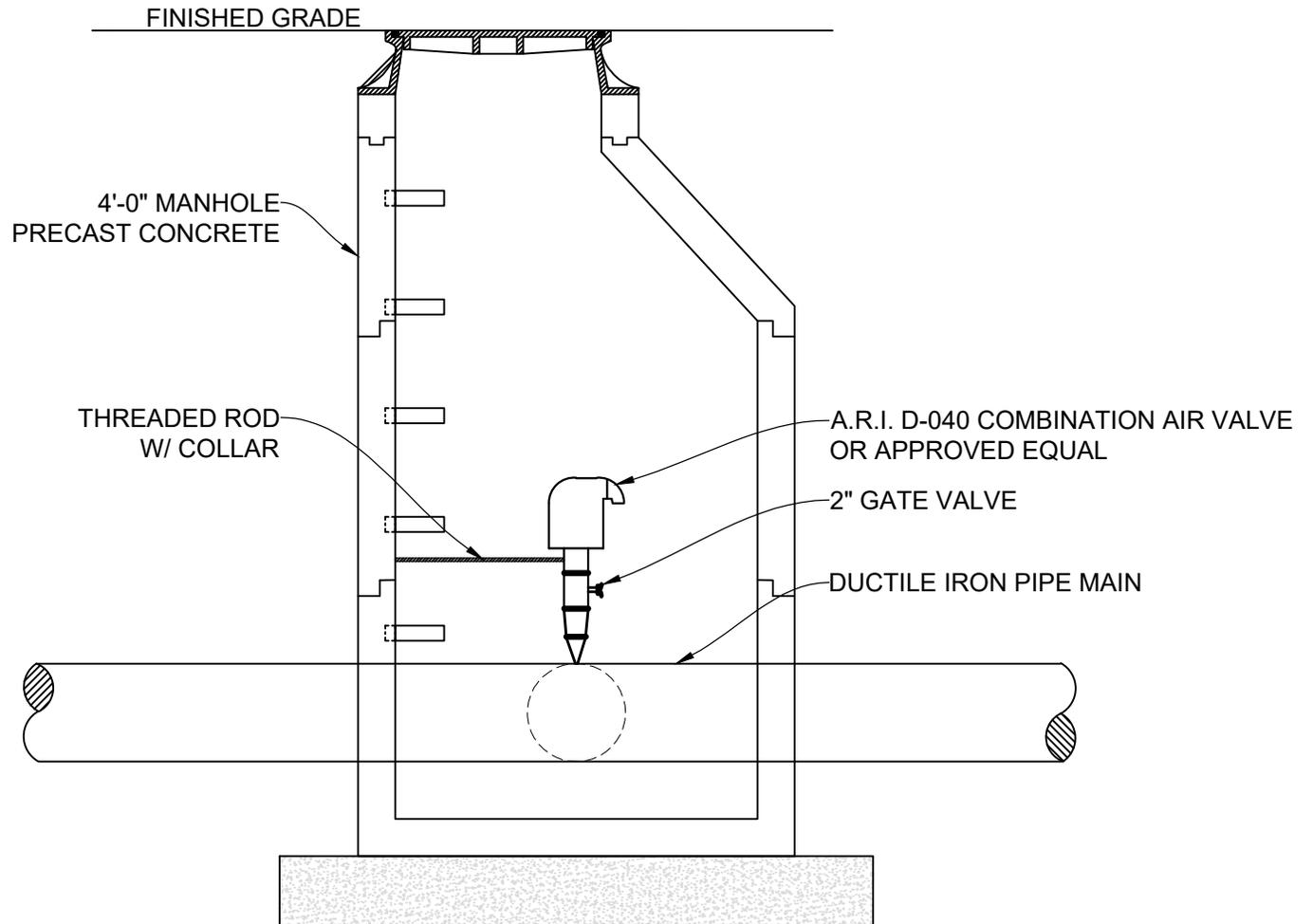
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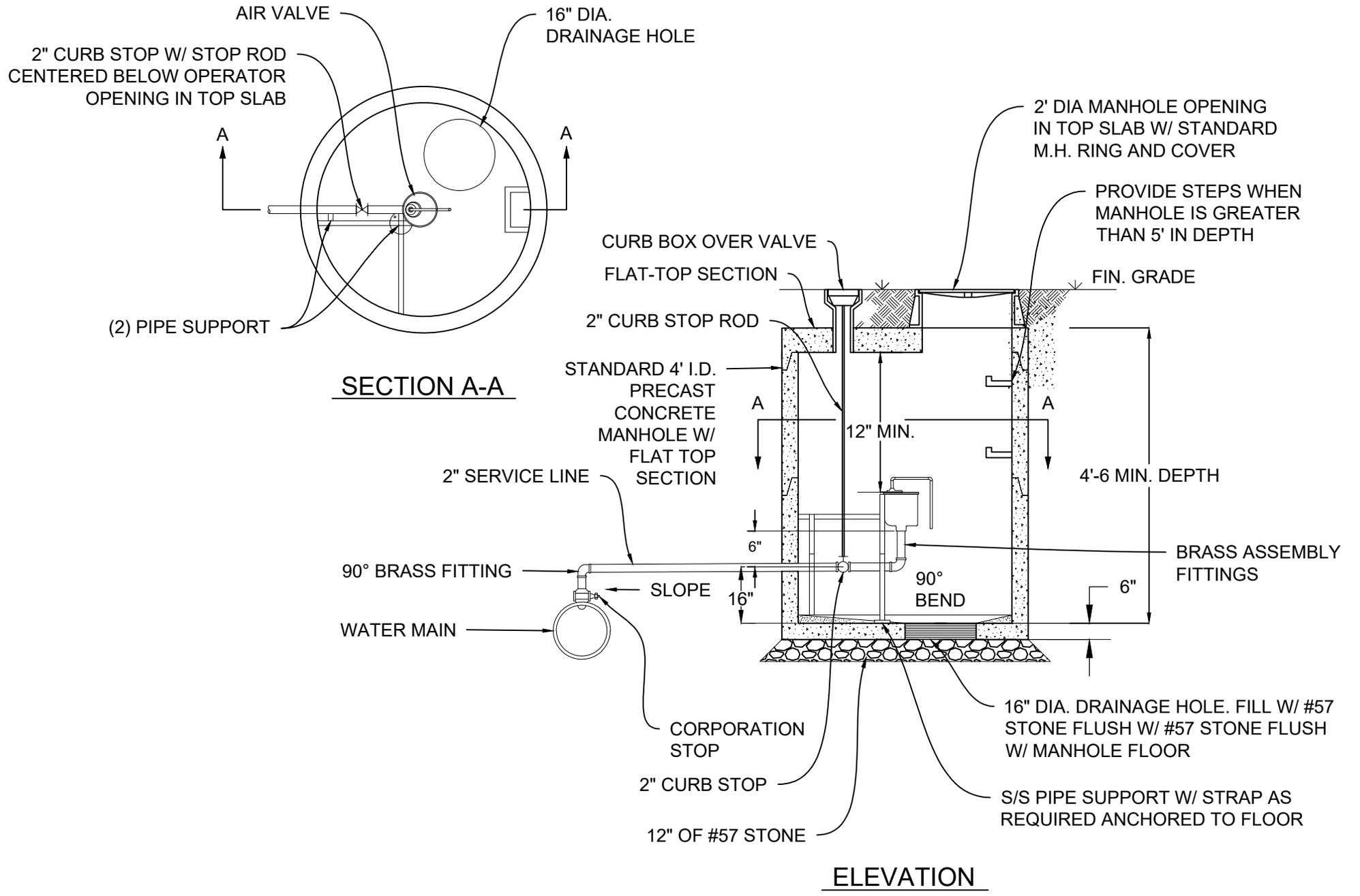
600.11

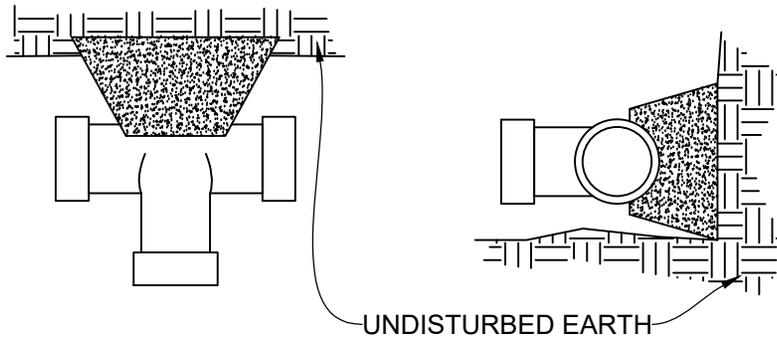
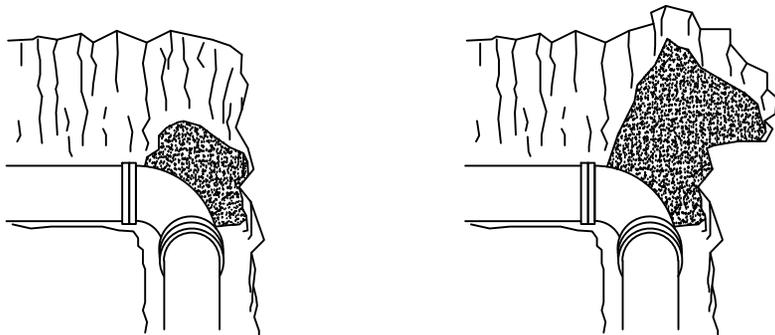
SHEET 1 OF 1

NOTES:

1. TAP SIZE AND ISOLATION VALVE TO BE SAME SIZE AS AIR VALVE.
2. ALL PIPING AND FITTINGS IN THE MANHOLE SHALL BE BRASS OR BRONZE UNLESS NOTED OTHERWISE.
3. MANHOLE STEPS SHALL BE PLACED 16" O.C. WHEN DEPTH OF MANHOLE EXCEEDS 4 FEET.
4. MANHOLE INTERIOR SHALL BE EPOXY COATED IN THE CASE OF SEWER.
5. WATER MAINS 16" AND LARGER OR IN OUTFALLS MAY REQUIRE 5 FOOT DIAMETER MANHOLES AND/OR FLAT TOP MANHOLES.







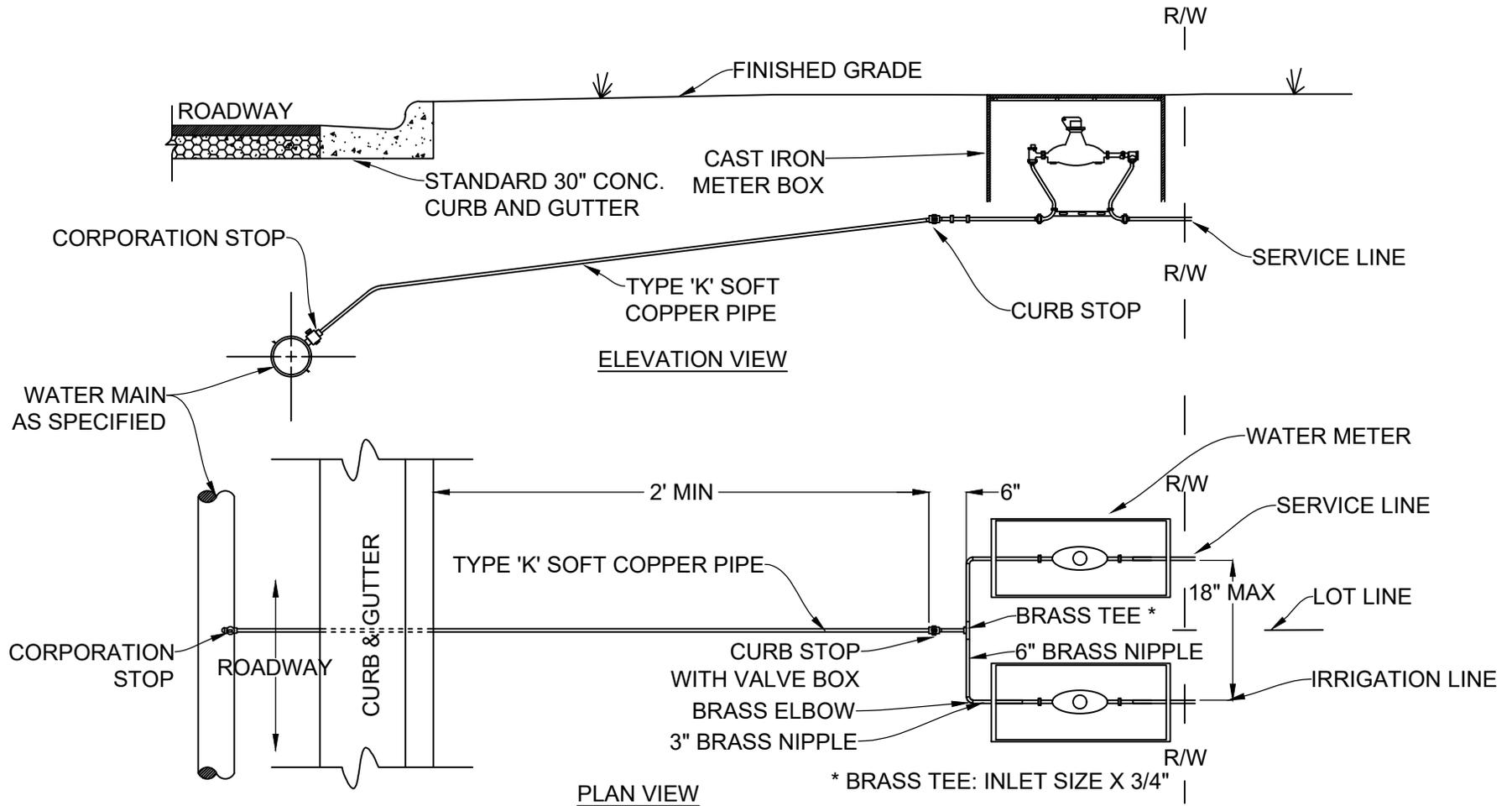
UNDISTURBED EARTH

**NOTES:**

1. WRAP FITTINGS IN 6 MIL PLASTIC BEFORE POURING CONCRETE. (NO CONCRETE SHALL COVER BOLTS OR GLANDS).
2. ALL BLOCKING SHALL BE PLACED SO THAT THE PIPE END FITTING JOINTS WILL BE ACCESSIBLE FOR REPAIRS.
3. REACTION BLOCKING SHALL BE TO SUFFICIENT SIZE TO PREVENT THE FITTING FROM BLOWING OFF THE MAIN A MAXIMUM TEST PRESSURE.
4. FITTINGS SHALL BE BLOCKED TO SOLID , UNDISTURBED EARTH WITH CONCRETE.

MINIMUM CONCRETE BLOCKING (C.Y.)*					
NOM. PIPE DIA. (INCHES)	TEES & DEAD ENDS	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
4	0.1	0.1	0.1	0.1	0.1
6	0.2	0.2	0.1	0.1	0.1
8	0.2	0.3	0.2	0.1	0.1
10	0.3	0.5	0.3	0.2	0.2
12	0.4	0.6	0.5	0.3	0.3
14	0.7	0.9	0.6	0.5	0.5
16	0.7	0.9	0.6	0.5	0.5
18	0.9	1.2	0.7	0.6	0.6
20	1.1	1.6	1.1	0.7	0.7
24	1.7	2.3	1.6	0.9	0.9

\* CONCRETE SHALL BE 3000 PSI

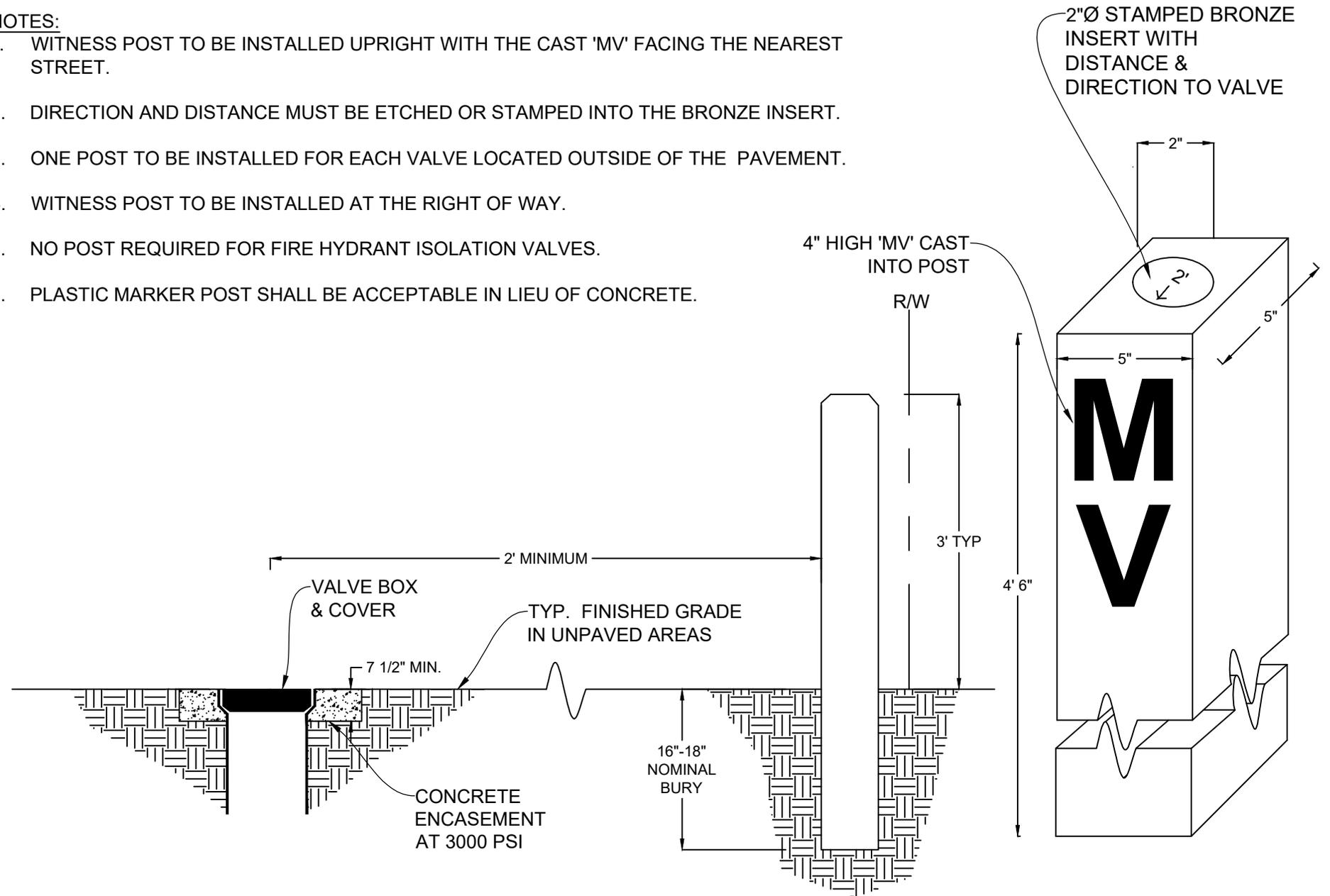


**NOTES:**

1. THERE SHALL BE NO MULTIPLE CONNECTIONS FOR SERVICES OTHER THAN 3/4" AND 1" (FOR RESIDENTIAL ONLY).
2. GATE VALVE REQUIRED ON SERVICE LINE 2" OR GREATER.
3. CURB STOPS SHALL BE AS MANUFACTURED BY FORD OR APPROVED EQUAL.
4. METER BOXES SHALL BE AS DESCRIBED IN THE STANDARD SPECIFICATIONS UNDER WATER DISTRIBUTION; HOWEVER, THE INLET SHALL BE IRON PIPE THREADED INLETS.
5. CURB STOPS SHALL BE CENTERED ON MULTIPLE BRANCH SERVICE AND CONTAINED WITHIN A VALVE BOX.

**NOTES:**

1. WITNESS POST TO BE INSTALLED UPRIGHT WITH THE CAST 'MV' FACING THE NEAREST STREET.
2. DIRECTION AND DISTANCE MUST BE ETCHED OR STAMPED INTO THE BRONZE INSERT.
3. ONE POST TO BE INSTALLED FOR EACH VALVE LOCATED OUTSIDE OF THE PAVEMENT.
4. WITNESS POST TO BE INSTALLED AT THE RIGHT OF WAY.
5. NO POST REQUIRED FOR FIRE HYDRANT ISOLATION VALVES.
6. PLASTIC MARKER POST SHALL BE ACCEPTABLE IN LIEU OF CONCRETE.



TOWN OF APEX  
STANDARDS

EFFECTIVE: MARCH 23, 2021

**VALVE BOX MARKER FOR UNPAVED AREAS**

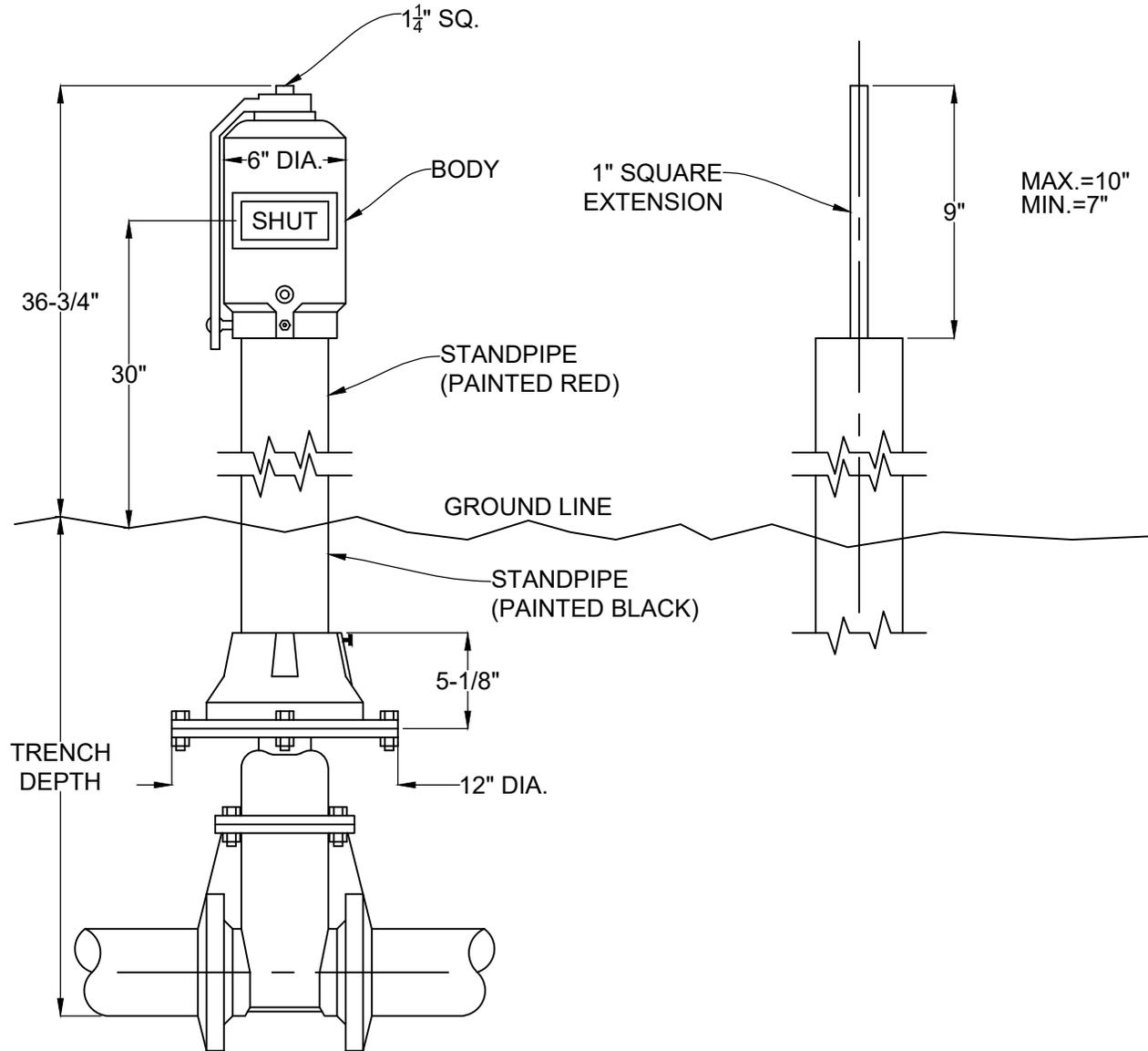
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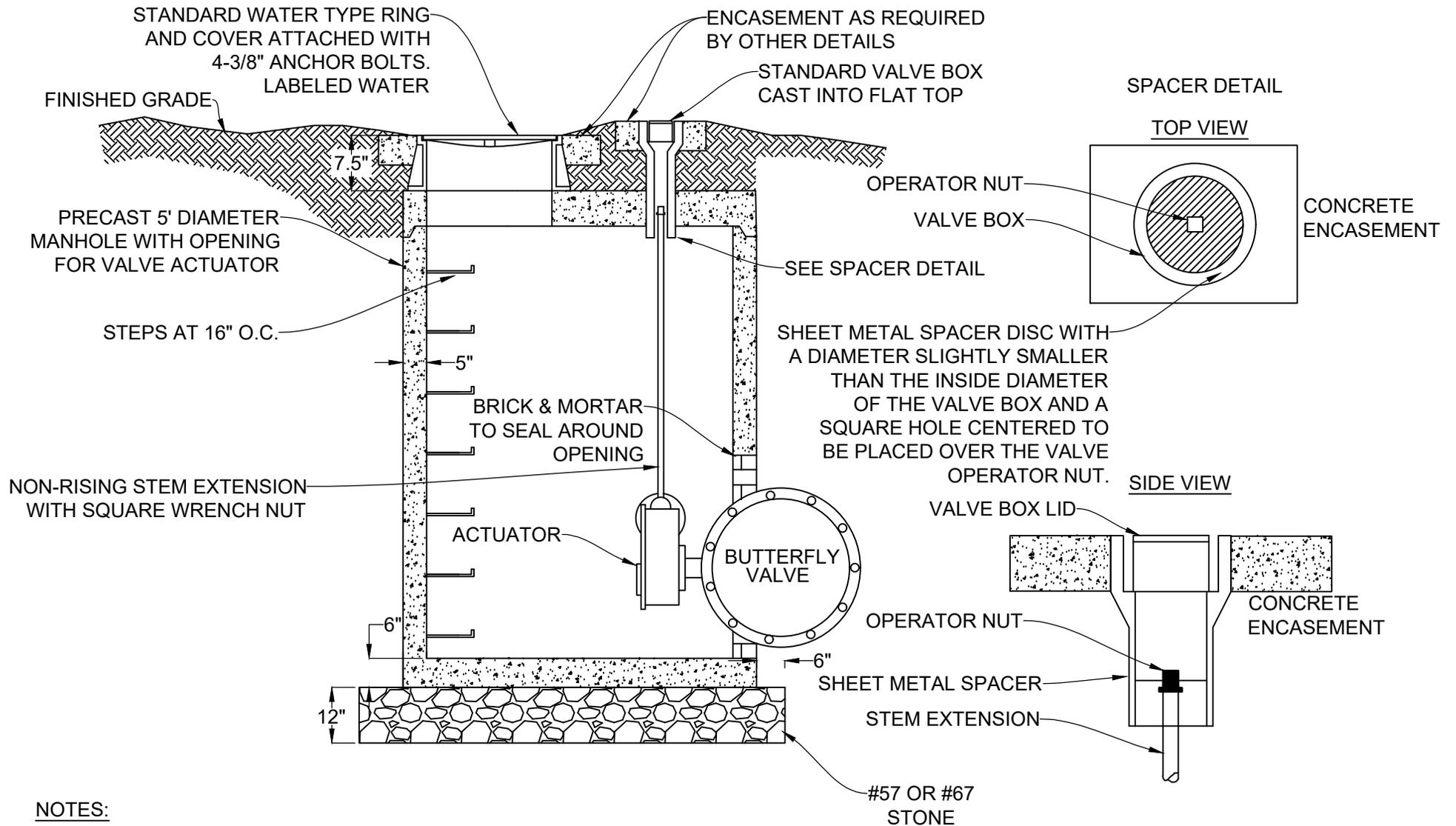
**600.15**

SHEET 1 OF 1

FIELD ADJUSTMENT INSTRUCTIONS:

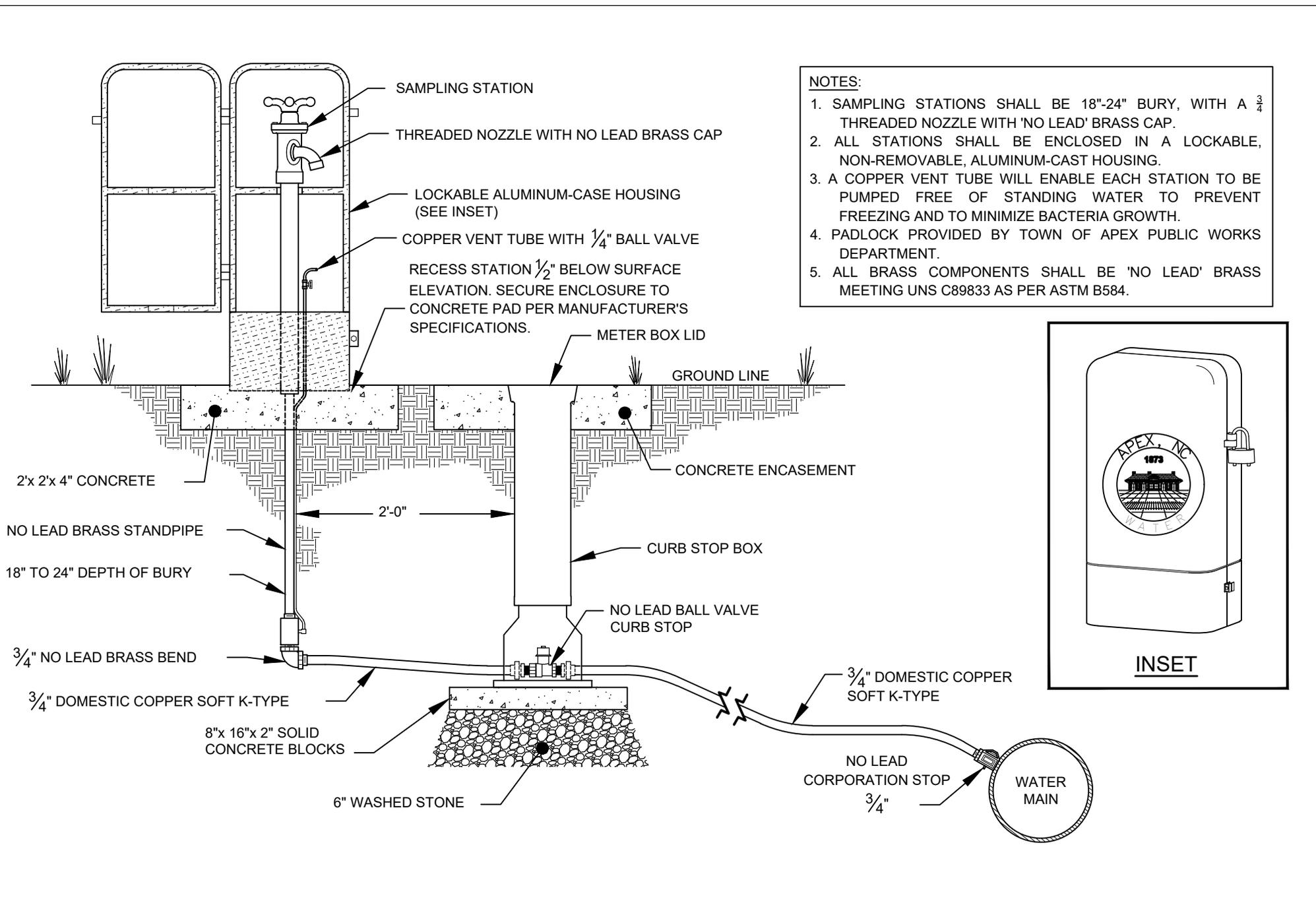
1. REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
2. CUT THE REQUIRED LENGTH OF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH THE STANDPIPE GROUND LINE MARK.
3. CUT THE 1" SQ. EXTENSION AT A DISTANCE OF 9" ABOVE THE TOP OF THE STANDPIPE.
4. SET THE "OPEN" AND "SHUT" TARGETS FOR THE APPROPRIATE VALVE SIZE.
5. REATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.
6. LOCATION OF VALVE PER NFPA.





**NOTES:**

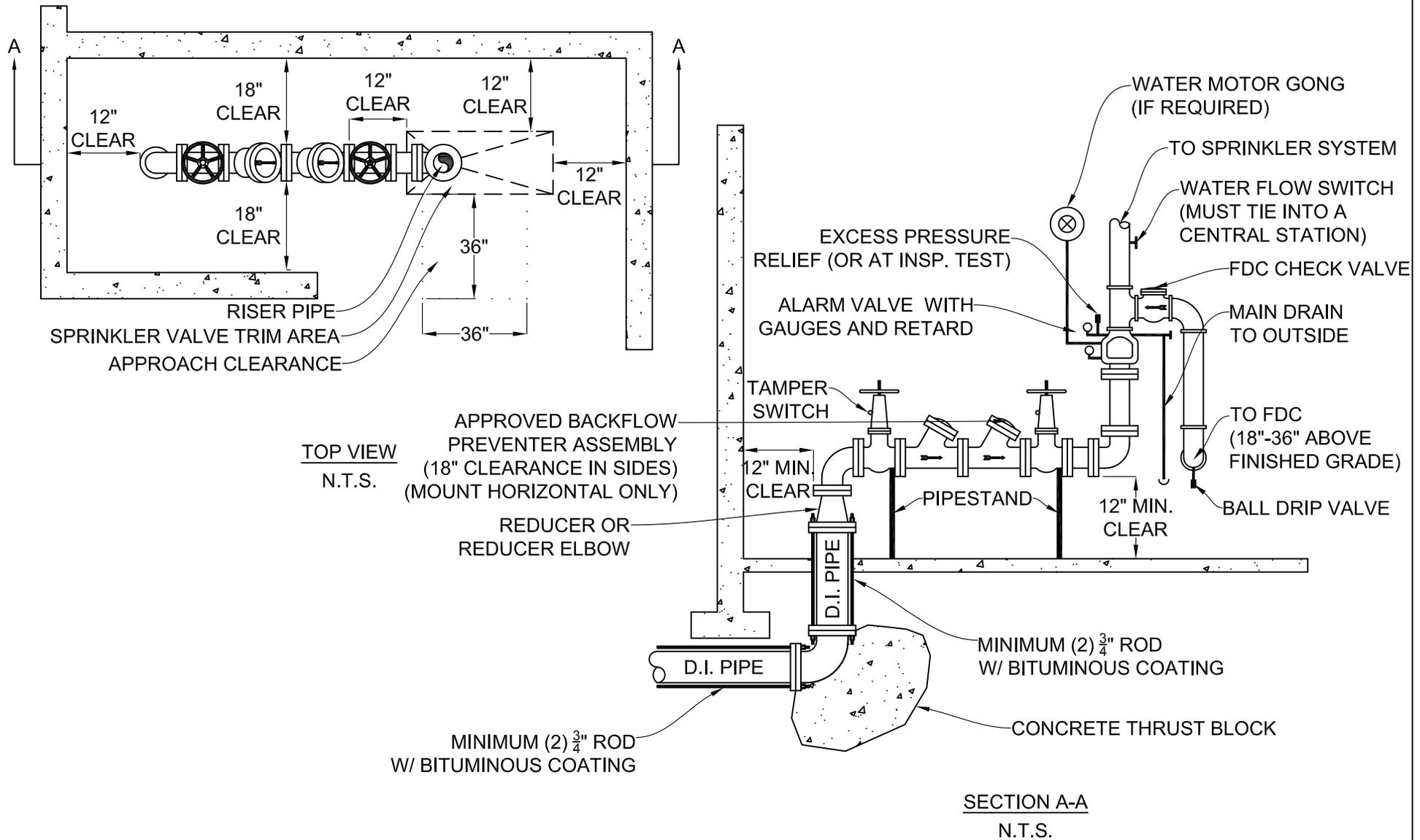
1. MANHOLE TO BE USED ON ALL VALVES 16" AND LARGER.
2. THIS CONFIGURATION TO BE USED ON ALL BUTTERFLY VALVES 16" AND LARGER.



TOWN OF APEX  
STANDARDS  
EFFECTIVE: MARCH 23, 2021

# SAMPLING STATION

STD. NO.  
**600.18**  
SHEET 1 OF 1



TOWN OF APEX  
STANDARDS

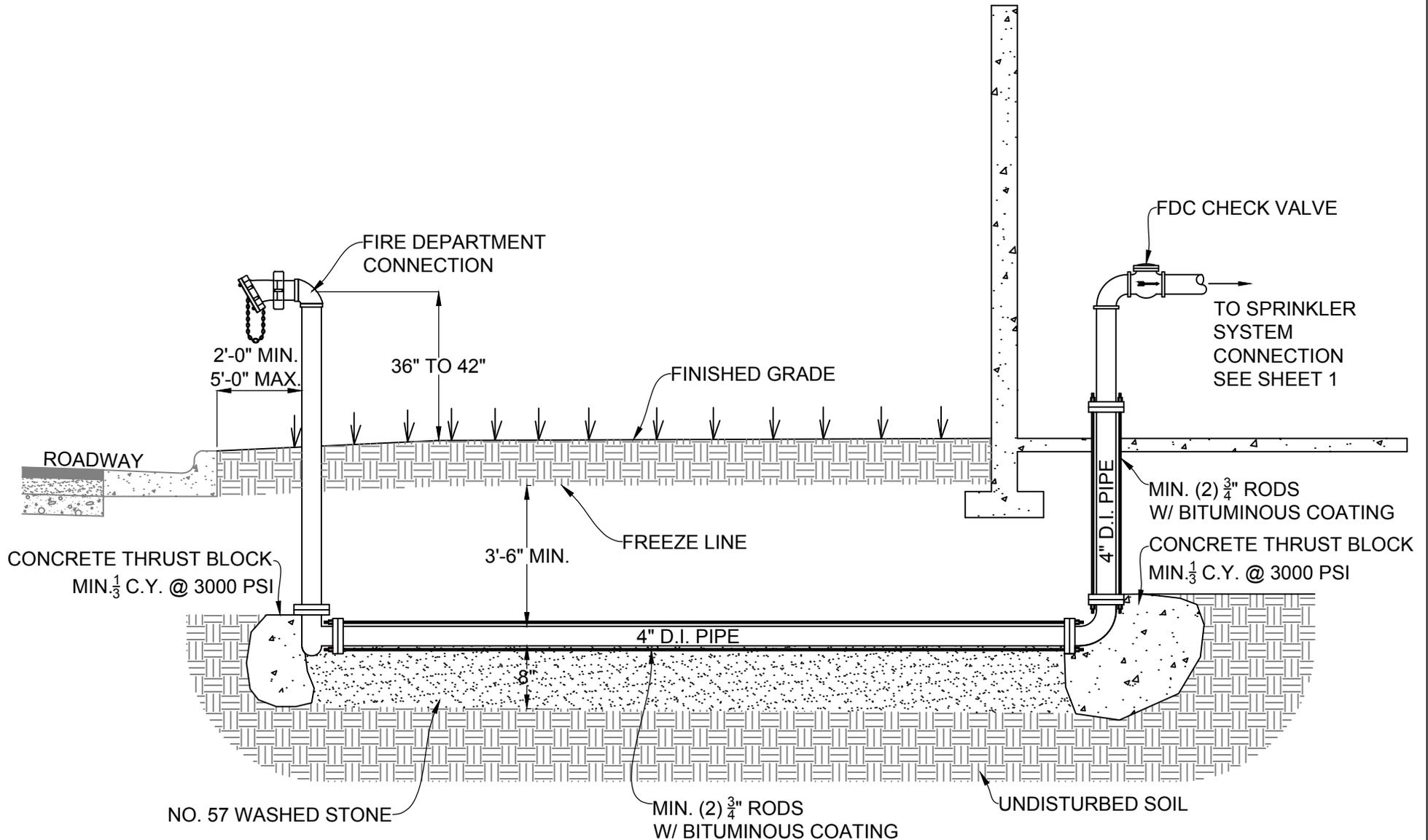
EFFECTIVE: NOVEMBER 20, 2007

# SPRINKLER RISER & FIRE DEPARTMENT CONNECTION

STD. NO.

600.19

SHEET 1 OF 1



**NOTE:**  
 1. TOP OF BLOCKING SHALL BE 2" FROM BALL DRIP WEEP HOLE.

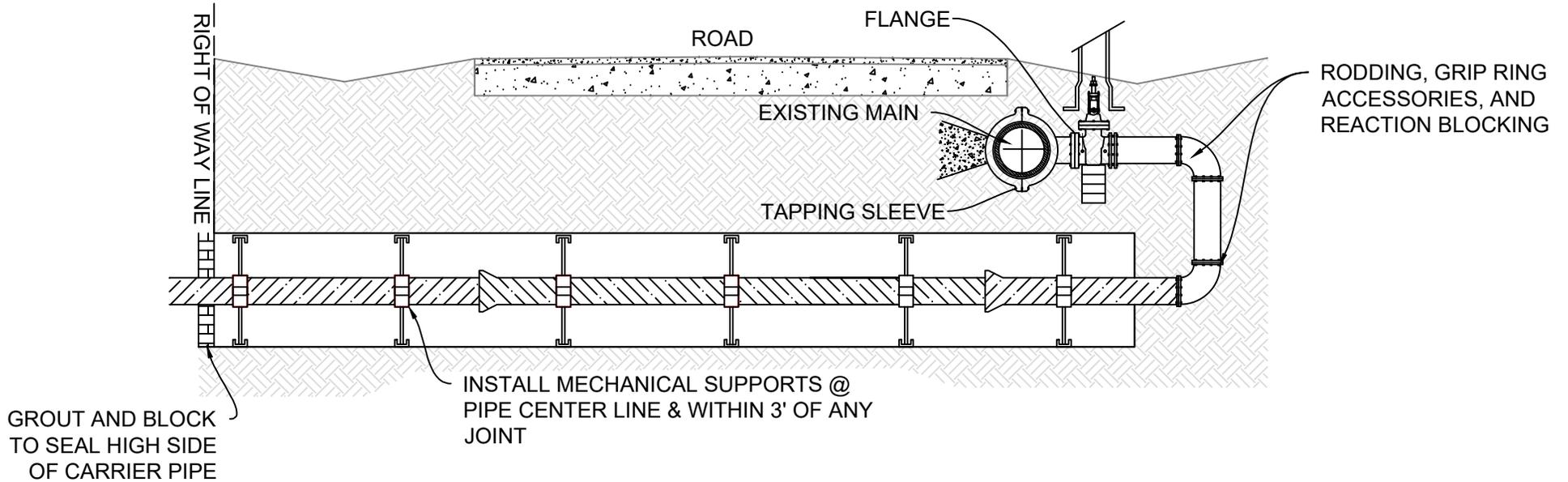
TOWN OF APEX  
 STANDARDS  
 EFFECTIVE: JUNE 18, 2019

# CURB SIDE FIRE DEPARTMENT CONNECTION

STD. NO.  
**600.20**  
 SHEET 1 OF 1

**NOTES:**

1. REFER TO BORE AND JACK DETAIL (450.06) FOR PIPE, CASING, SUPPORTS, AND OTHER DETAILS.
2. PRIOR APPROVAL FROM THE WATER RESOURCES DIRECTOR MUST BE OBTAINED FOR THIS METHOD OF CONNECTION.



TOWN OF APEX  
STANDARDS

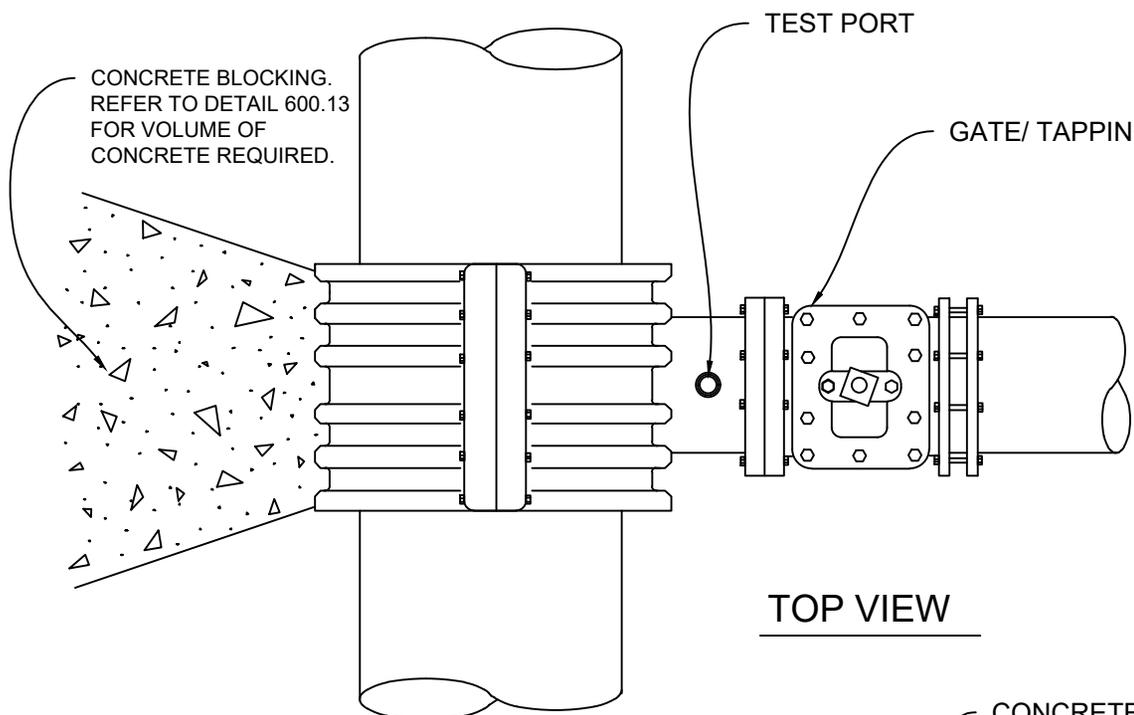
EFFECTIVE: MARCH 23, 2021

REVERSE TAP

STD. NO.

600.21

SHEET 1 OF 1



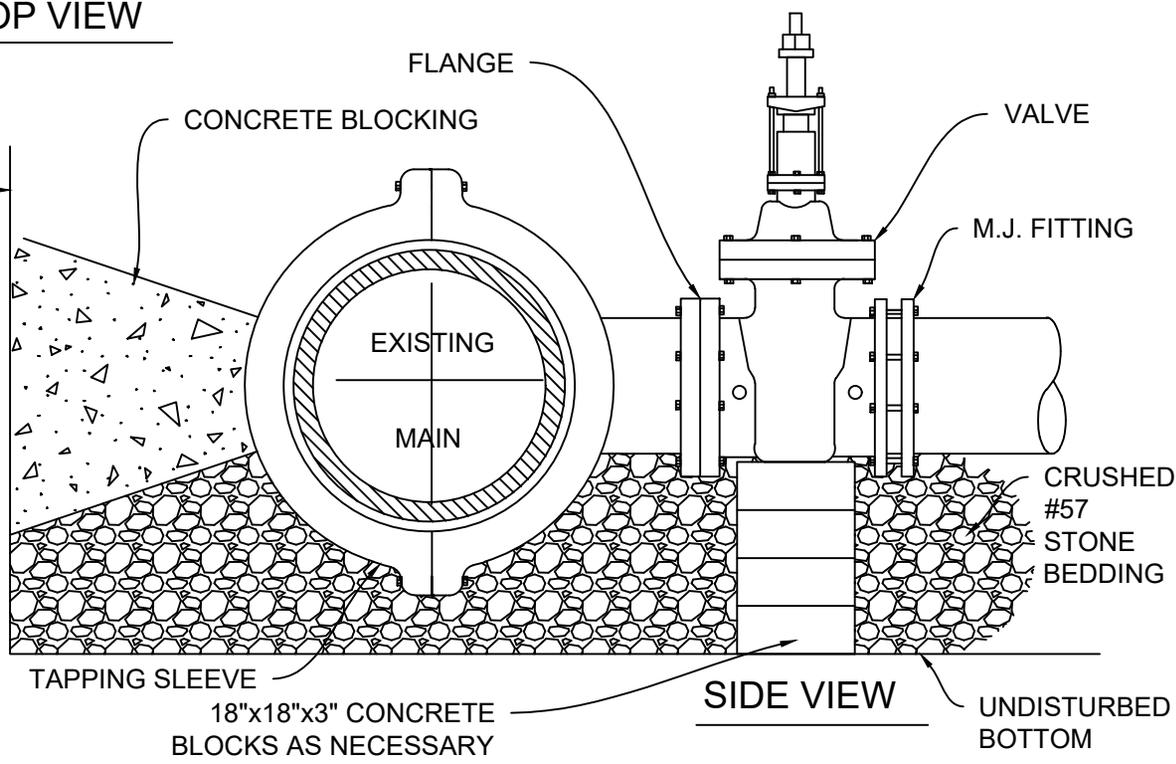
**NOTES:**

1. 3000 PSI SOLID CONCRETE SHALL BE USED AS FOOTING FOR DUCTILE IRON PIPE.
2. ALL FITTINGS SHALL BE COVERED WITH 10 MIL. POLYETHYLENE SHEETS PRIOR TO POURING CONCRETE BLOCKING.
3. PIPES SHALL BE SUPPORTED EITHER SIDE OF SADDLE LOCATION WITH CONCRETE ENCASEMENT PRIOR TO INSTALLING SLEEVE.

**NOTES:**

1. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT FITTINGS.
2. TEST PRESSURE SHALL NOT BE APPLIED FOR A MINIMUM OF 7 DAYS AFTER THRUST BLOCK PLACEMENT.
3. TAPPING SLEEVE & VALVE TO BE HYDROSTATICALLY TESTED AT 150 PSI FOR 15 MINUTES WITH ZERO PRESSURE LOSS.
4. TAPPING SLEEVES SHALL BE STAINLESS STEEL BODY, MECHANICAL JOINT, DESIGNED AND MANUFACTURED FOR A MINIMUM WORKING PRESSURE OF 250 PSI AND MEET AWWA STANDARDS.

UNDISTURBED TRENCH WALL



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STANDARDS

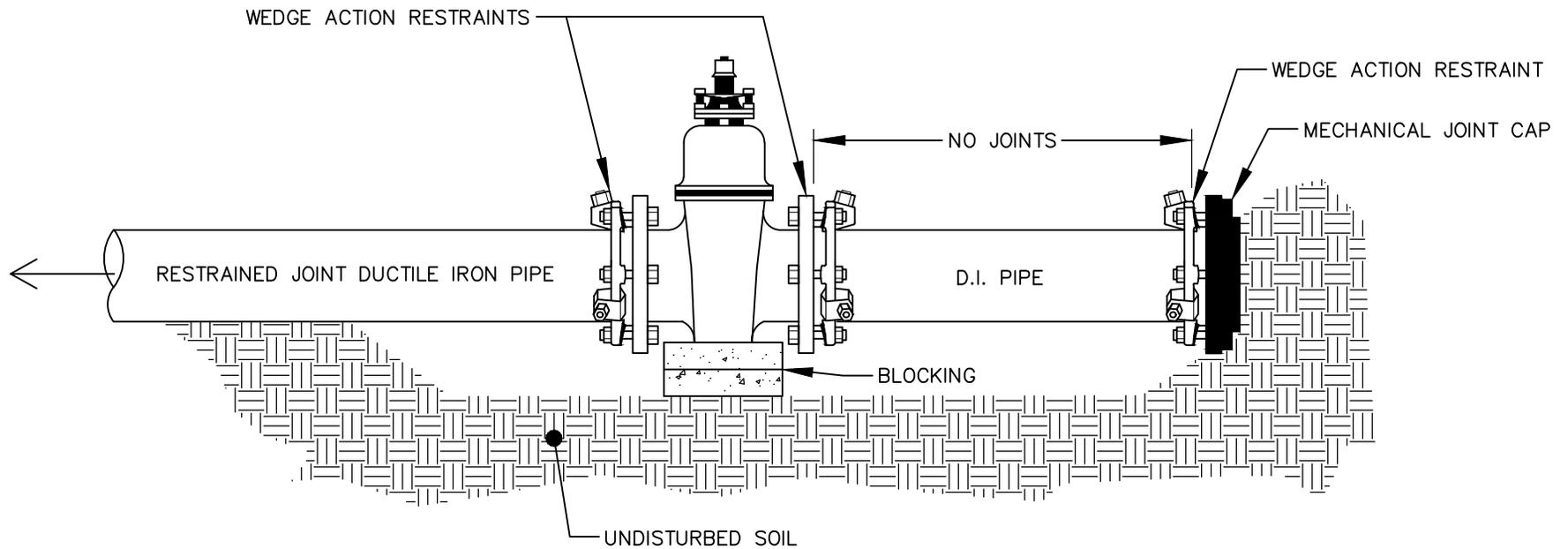
EFFECTIVE: MARCH 23, 2021

**TAPPING SLEEVE AND VALVE**

STD. NO.

**600.22**

SHEET 1 OF 1



**NOTES:**

1. THIS DETAIL SHALL APPLY ONLY TO TEMPORARY CAPPING. PERMANENT DEAD END LINES TO BE IN ACCORDANCE WITH THE STANDARD BLOWOFF DETAIL.
2. REQUIRED RESTRAINT AWAY FROM THE DEAD END MAY BE MJ PIPE WITH WEDGE ACTION RESTRAINTS FOR PIPE  $\leq$  12 INCH DIAMETER.