

CONCRETE BRICK UNDER CORPORATION COCK FOR SUPPORT

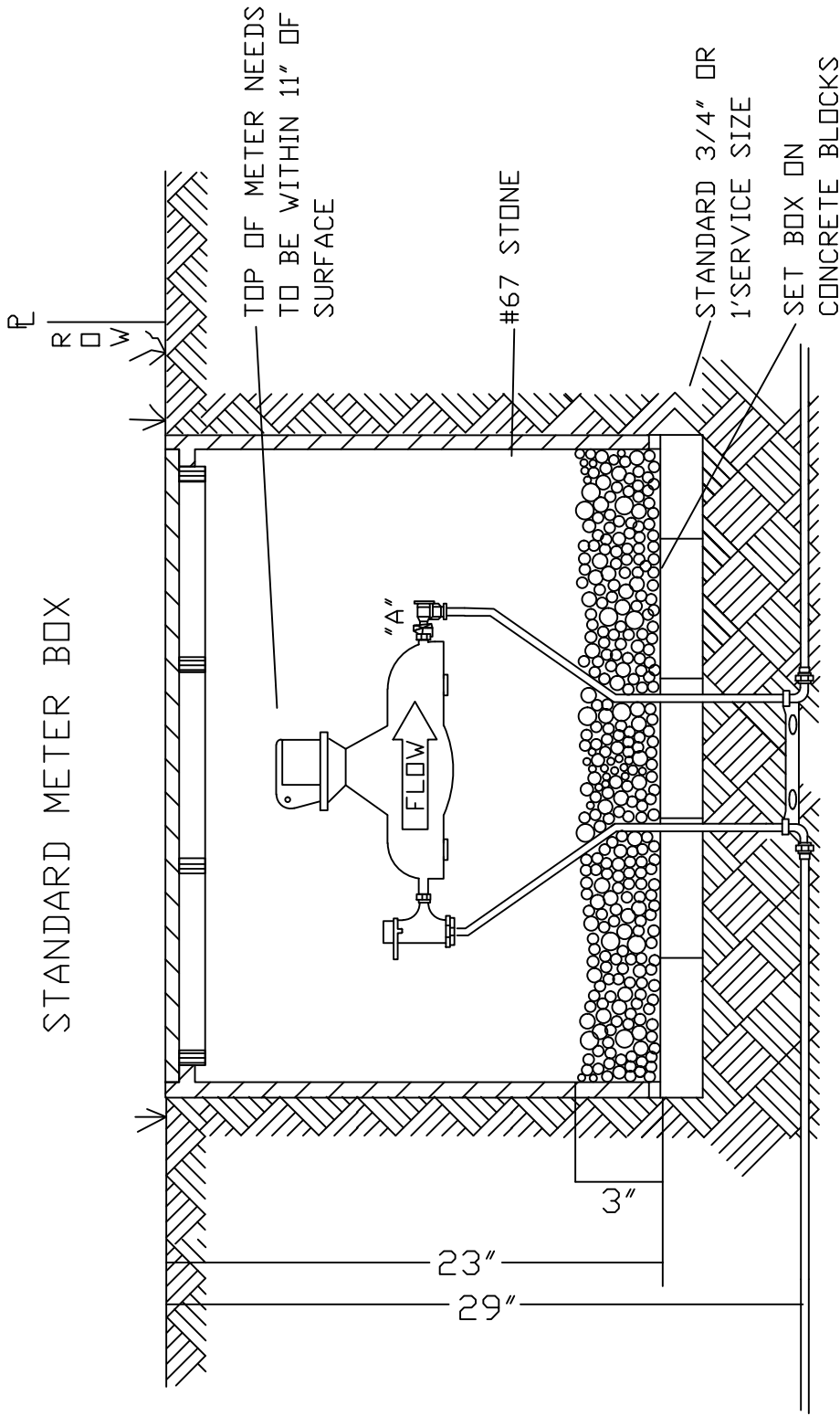
\*PER NC DEH, NO DDCVA CAN BE USED WHEN FDCs ARE INSTALLED. RPZs MUST BE USED.

**NOTES:**

- 1.) Meter shall be installed by the Authority after all fees have been received.
- 2.) MAXIMUM DIRECTION TAP SIZE ARE INDICATED IN PART NINE, II, H.
- 3.) METER BOX TO BE LOCATED IN R/W JUST OUTSIDE PROPERTY LINE.
- 4.) WHEN THE GRADE CHANGES, A COPPER RESETTER CAN BE USED TO ADJUST TO PROPER GRADE.

NOTE: Residential meter yokes shall contain a double check valve. IF THE WATER LINE ENTERS THE METER BOX THROUGH KNOCK-OUTS, THEN BRICKS SHALL BE USED AROUND THE PIPE TO CLOSE OFF THE HOLE TO PREVENT DIRT FROM ENTERING THE BOX.

# STANDARD METER BOX



THE BACKFLOW PREVENTER LOCATION IS DEPENDENT ON THE TYPE DEVICE PROPOSED FOR USE AS FOLLOWS:

LOCATION	DEVICE
"A"	FORD ANGLE DOUBLE CHECK (VHH-71-12W FOR 3/4") (VHH-74-12W FOR 1")

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UTILITY DEPARTMENT

SINGLE FAMILY, RESIDENTIAL, NEW CONSTRUCTION,  
BACKFLOW PREVENTION/ METER ASSEMBLY INSTALLATION

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-22				

**LOAD BEARING AREAS:**

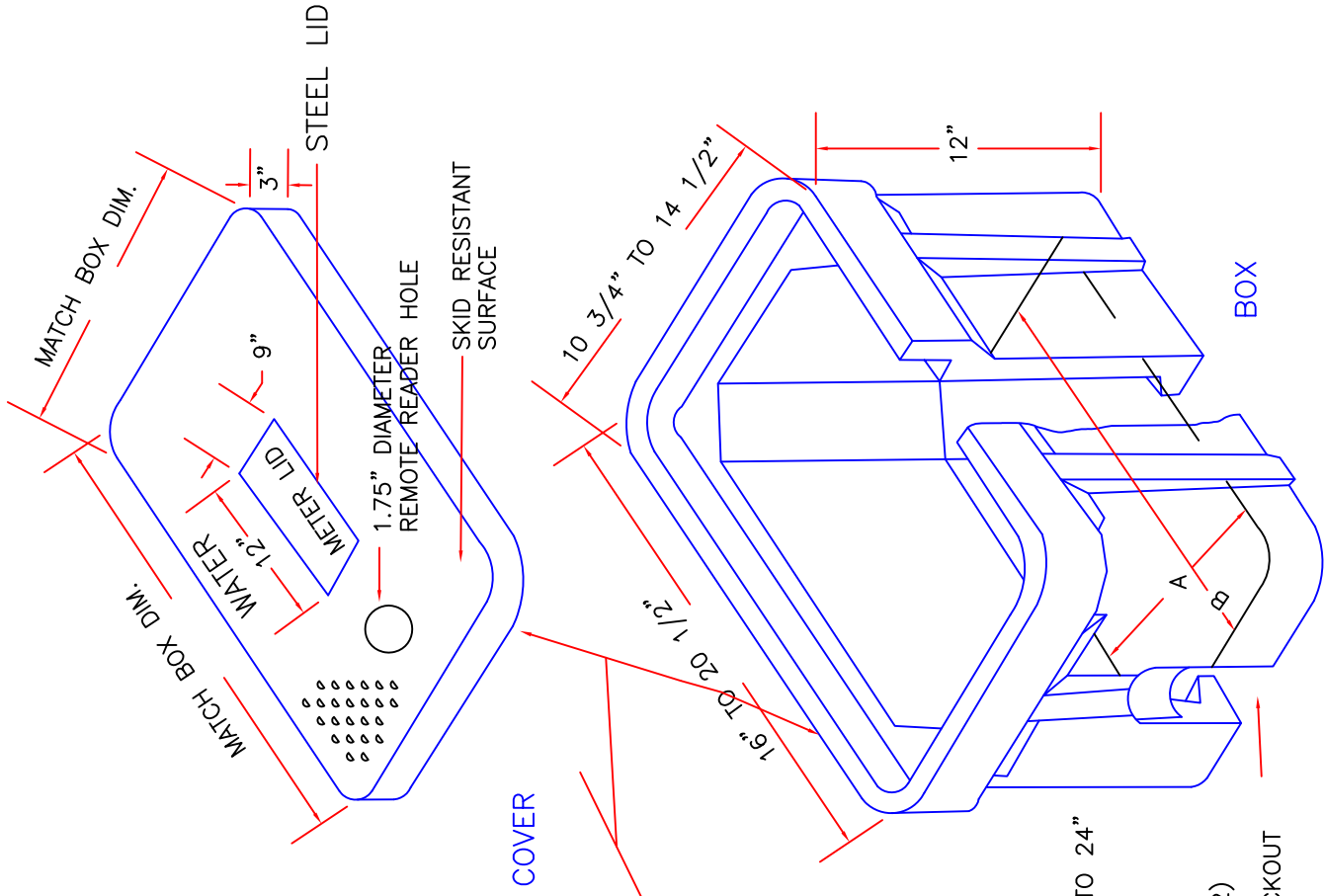
THE MATERIAL MUST BE HIGH-DENSITY POLYETHYLENE WITH A DUCTILE IRON LID WITH A IRON READER FLAP. THE BOX AND LID MUST BEAR A 20,000 POUND LOAD IN A WHEEL LOAD (H-20).

MATERIAL SHALL BE POLYMER PLASTIC IN NON-LOAD BEARING AREAS

**NOTES:**

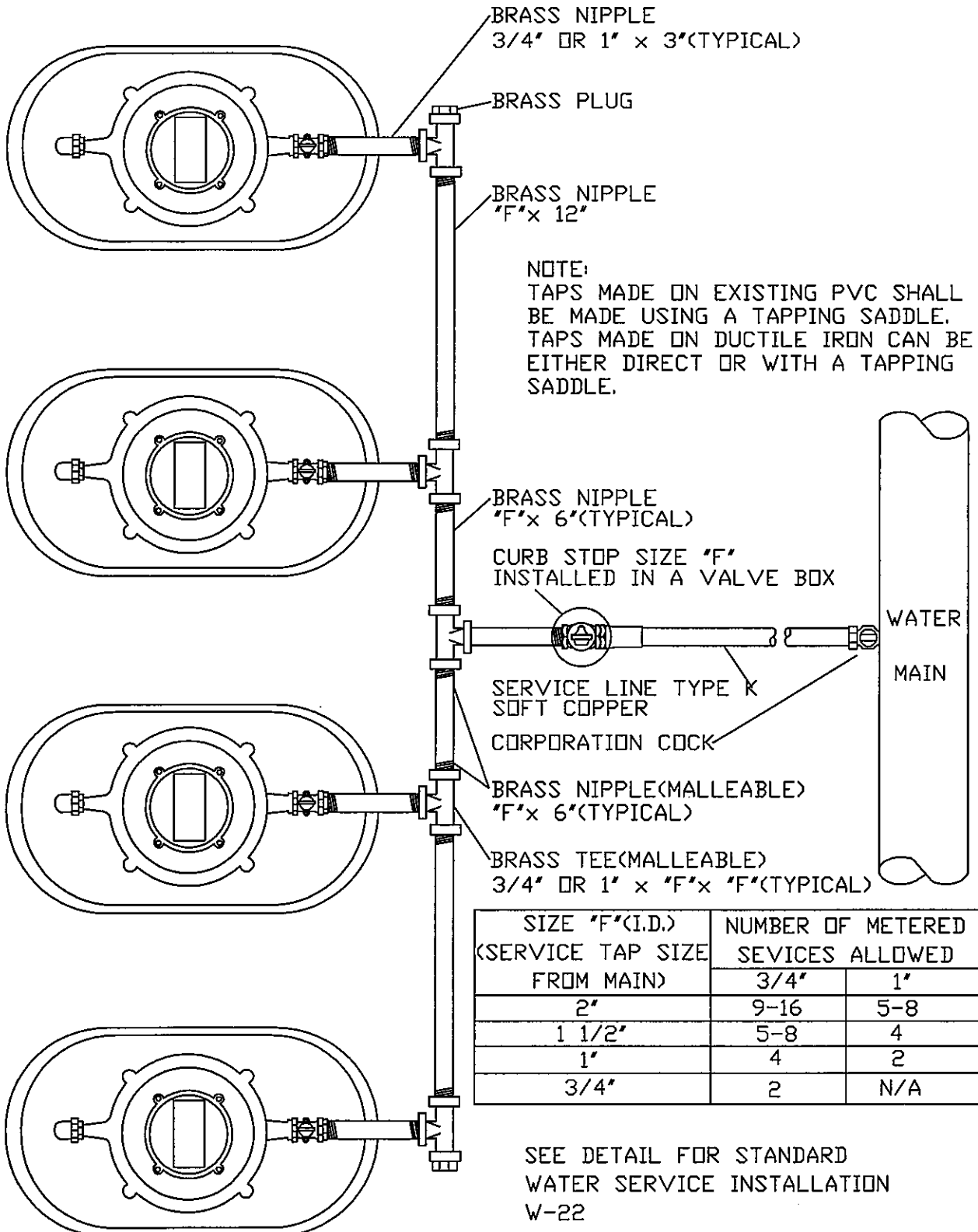
In non-traffic loading areas, a standard plastic meter box may be used. It must contain a steel lid with the dial centered under the lid. Installation must follow standard detail W-21.

PRECAST CONCRETE BOX WITH ALUMINUM ACCESS HATCH WILL BE AN ACCEPTABLE ALTERNATIVE ON METERS LARGER THAN 3/4" WITH APPROVAL OF THE CITY ENGINEER



DIMENSIONS (INCHES)	
A	B
13 1/4" TO 18 3/8"	18 1/2" TO 24"

MOUSE HOLES (2)  
4" x 4" OPENING  
WITH 4" x 4" KNOCKOUT  
ABOVE OPENING



SIZE "F" (I.D.) (SERVICE TAP SIZE FROM MAIN)	NUMBER OF METERED SERVICES ALLOWED	
	3/4"	1"
2"	9-16	5-8
1 1/2"	5-8	4
1"	4	2
3/4"	2	N/A

SEE DETAIL FOR STANDARD  
WATER SERVICE INSTALLATION  
W-22

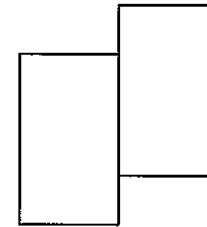
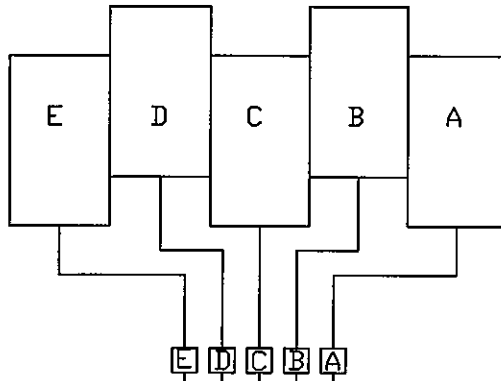
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STANDARD GANG METER ASSEMBLY

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-24				

EVEN NUMBERED ADDRESS

3600

3604

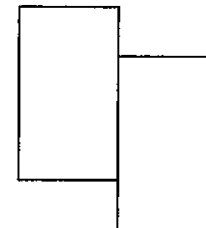
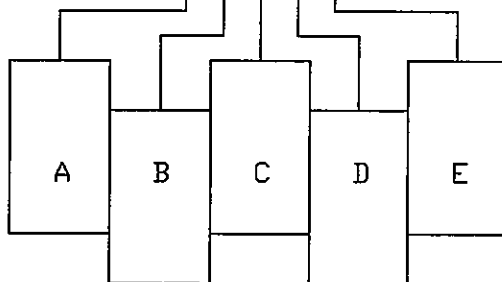


STREET OR PARKING LOT EDGE

WATER MAIN

STREET OR PARKING LOT EDGE

A B C D E



3601

3605

ODD NUMBERED ADDRESS

NOTES:

1. EVEN NUMBERED UNITS' METERS SHALL BE SET TO BE READ RIGHT TO LEFT
2. ODD NUMBERED UNITS' METERS SHALL BE SET TO BE READ LEFT TO RIGHT
3. IF IRRIGATION METER IS INCLUDED, IT SHALL BE THE LAST METER IN NUMBERING SEQUENCE.

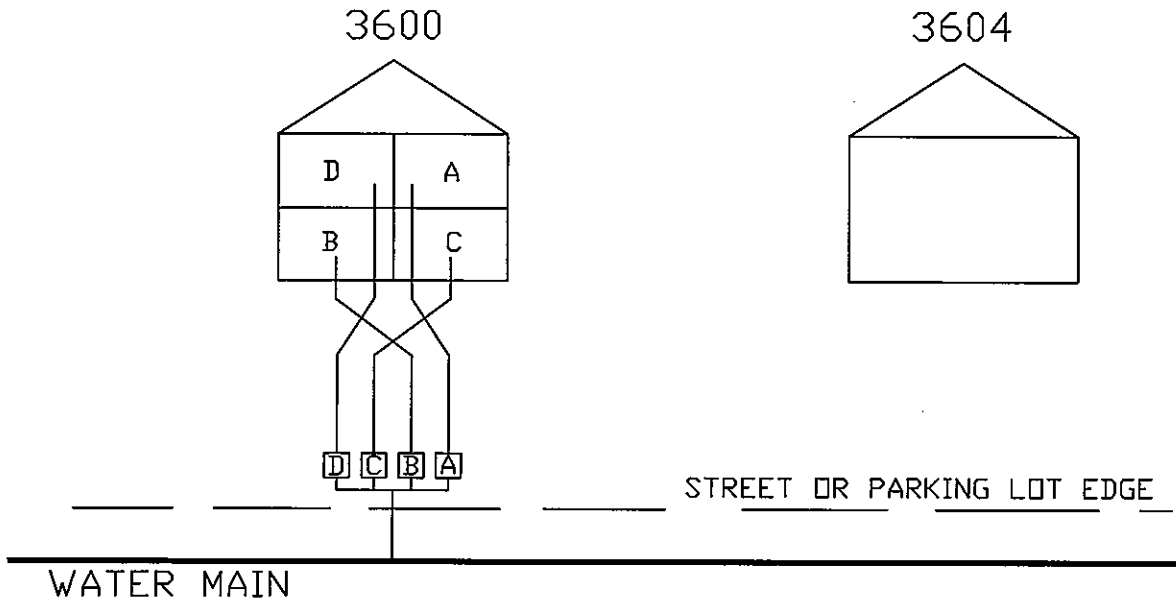
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UTILITY DEPARTMENT

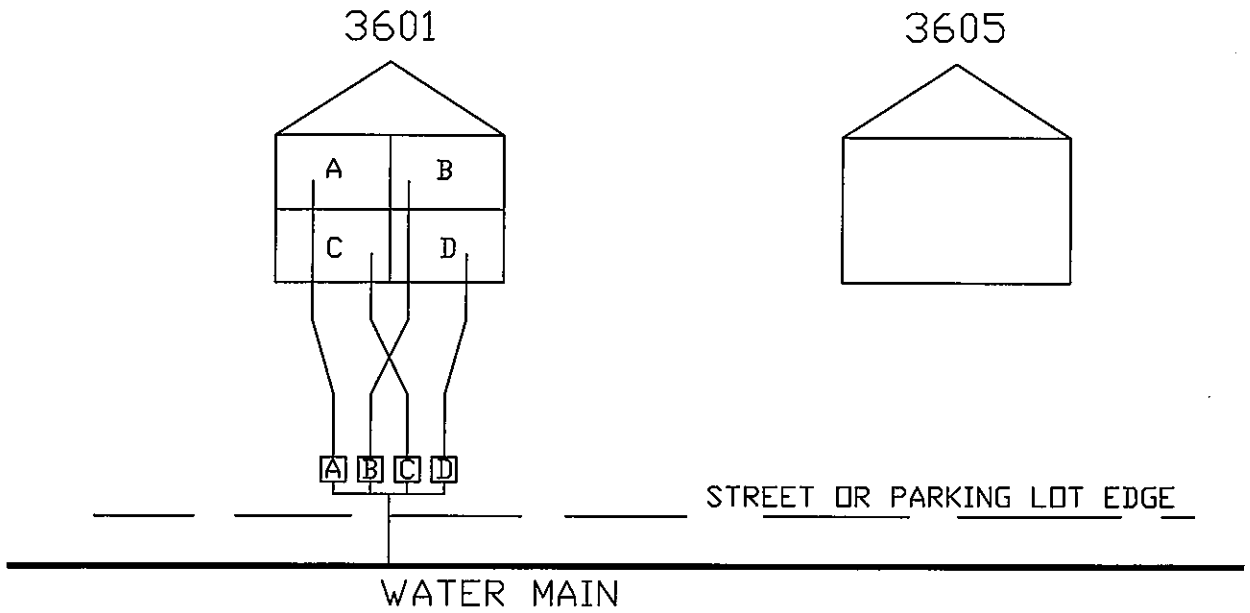
GANG METER ADDRESSING  
SINGLE STORY BUILDING

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-25				

EVEN NUMBERED ADDRESS



ODD NUMBERED ADDRESS



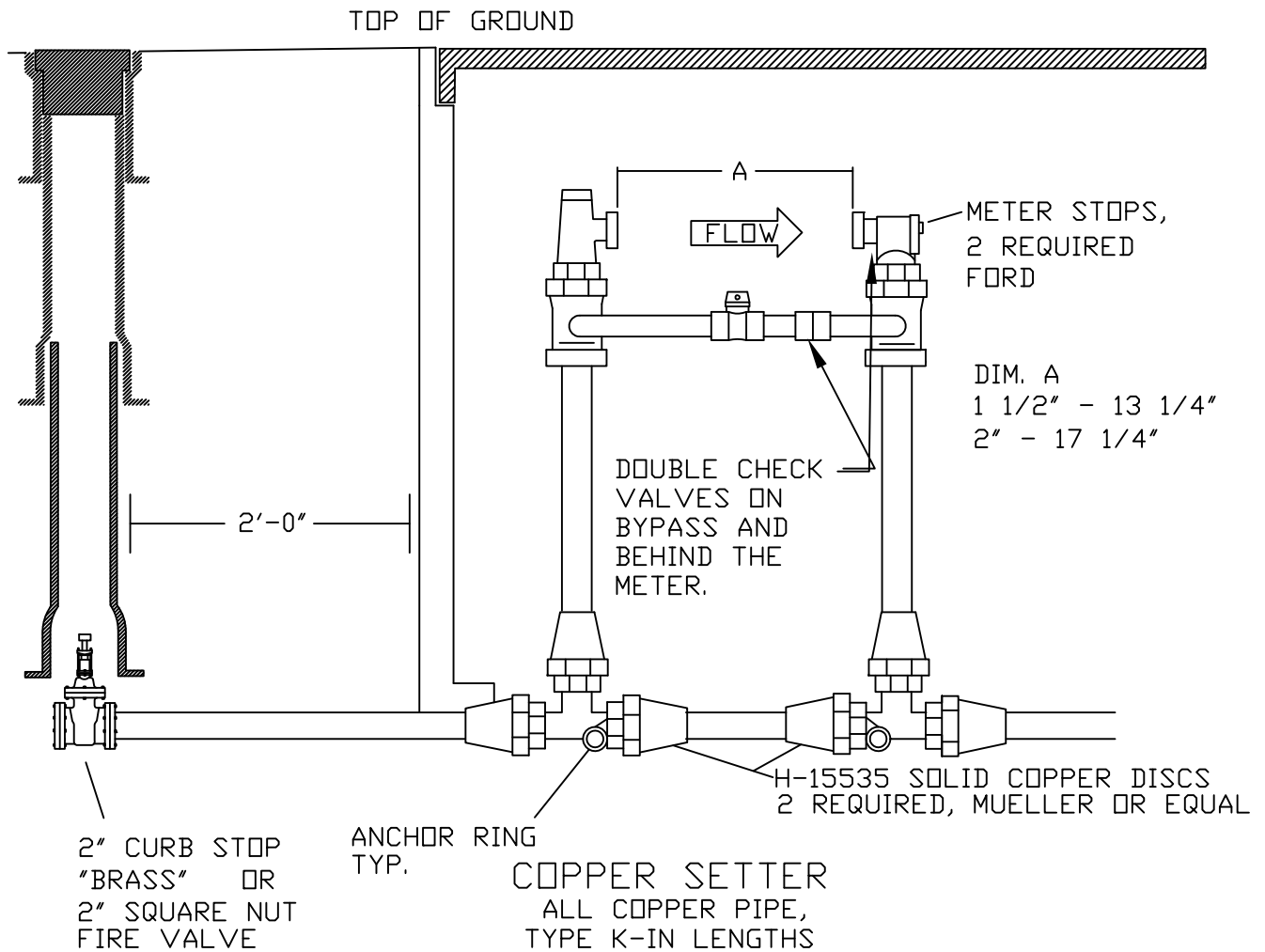
NOTES:

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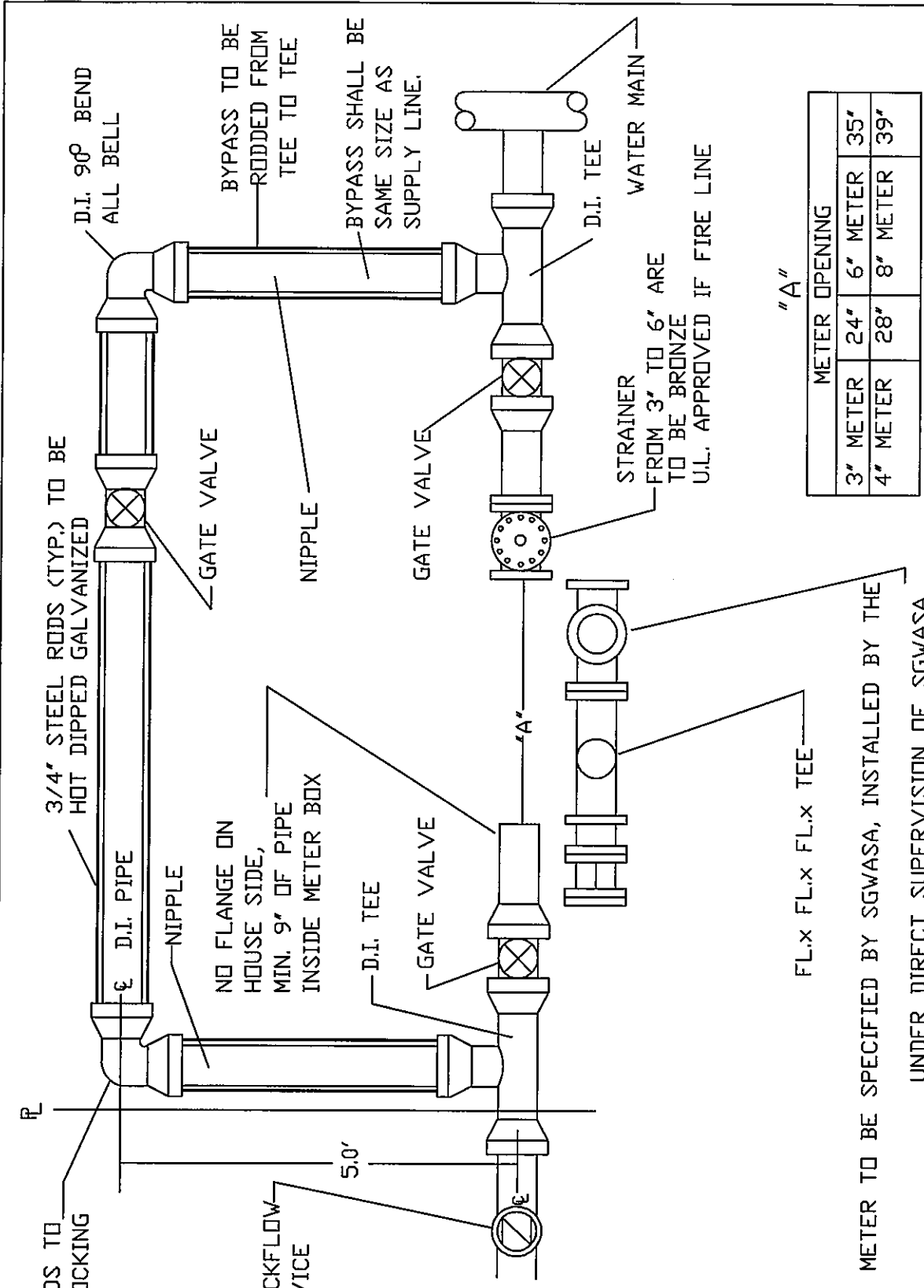
SGWASA				
UTILITY DEPARTMENT				
GANG METER ADDRESSING MULTI-STORY BUILDING				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-26				

NOTES:

1. METER AS PROVIDED OR APPROVED BY SGWASA.
2. METER SETTERS SHALL HAVE COMPRESSION OR DUAL PURPOSE FITTINGS ON BOTH THE INLET AND OUTLET SIDES.
3. BACKFILL TAMPED IN 6" LIFTS.
4. 4" MIN. AND 12" MAX. VERTICAL CLEARANCE FROM TOP OF METER TO BOTTOM OF METER BOX COVER 4" OF 67 STONE IN BOTTOM OF METER BOX.
5. FOR 1 1/2" AND 2" WATER METER BOX INSTALLATIONS, USE CB-SO-4 FRAME AND COVER.
6. OPENING SIZES: 1 1/2" TO HAVE 13 1/4" FLANGE, 2" SERVICE TO HAVE 17 1/4" FLANGE.
7. COMPARABLE YOKES WITH HIGH RISE BYPASS AS MANUFACTURED BY FORD, MUELLER, AND A.Y. MCDONALD MUST BE USED.
8. METER BOX FOR 1 1/2" AND 2" METER TO BE CBS05 FRAME AND LID.



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1 1/2" THRU 2" WATER SERVICE INSTALLATION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-27				



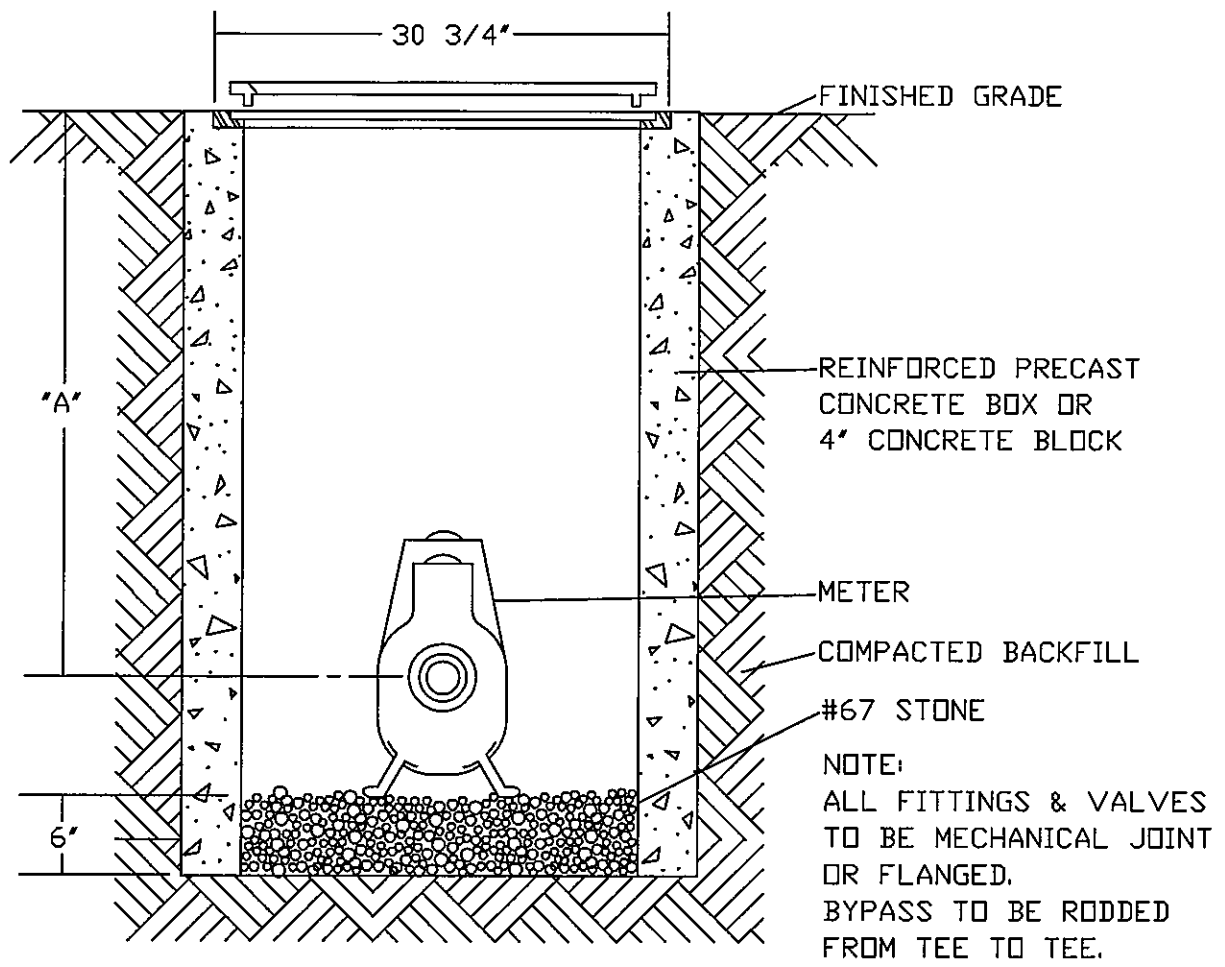
METER TO BE SPECIFIED BY SGWASA, INSTALLED BY THE UNDER DIRECT SUPERVISION OF SGWASA

CONTACT METERS DIVISION PRIOR TO INSTALLING FIRELINE AND DOMESTIC COMBINATION!

PLAN VIEW

SGWASA				
UTILITY DEPARTMENT				
TYPICAL 3"- 8" WATER METER BYPASS INSTALLATION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-28				



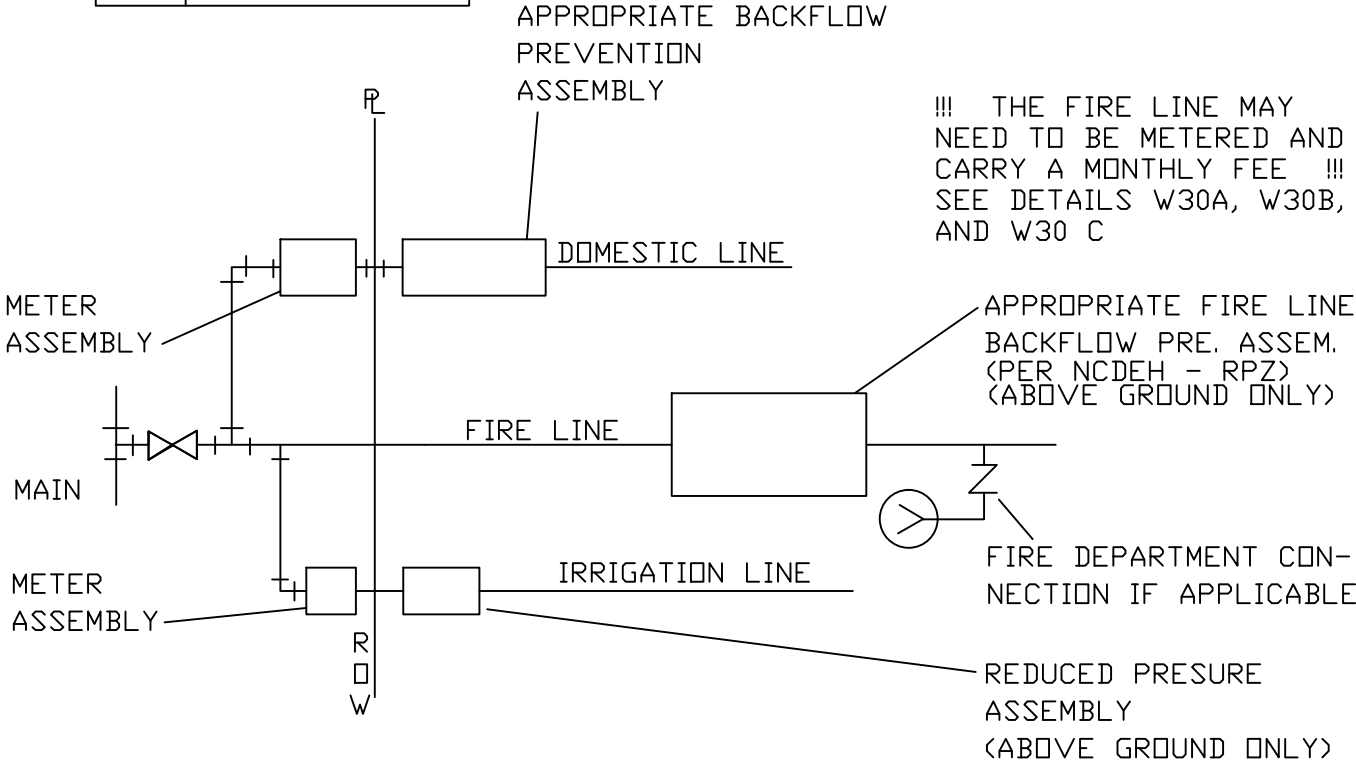


METER BOX DIMENSIONS & INFORMATION			
TYPE	OPENING	"A"	METER BOX FRAME AND COVER
1 1/2"-2"	30 3/4" x 40 1/4"	42"	C.B.-SD-5
3"-4" W/AWWA STRAINER	30 3/4" x 40 1/4"	42"	C.B.-SD-5
4" HP W/ UL STRAINER	30 3/4" x 40 1/4"	42"	C.B.-SD-5
6" & LARGER W/AWWA STRAINER	30 3/4" x 59 5/8"	49"	I-C.B.-SD-6/6"
6" & LARGER W/UL STRAINER	30 3/4" x 70"	49"	I-C.B.-SD-6/6"
6" & LARGER COMPOUND	30 3/4" x 59 5/8"	49"	I-C.B.-SD-6/6"

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UTILITY DEPARTMENT				
TYPICAL 1 1/2"- 8" WATER METER BOX INSTALLATION				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-29				

MINIMUM VAULT SIZE (INSIDE DIMENSIONS)	
4"	4' 9" x 7' 2"
6"	5' 0" x 8' 2"
8"	5' 2" x 9' 7"
10"	5' 5" x 11' 6"

**ALL BACK FLOW/CROSS CONNECTION DEVICES WILL BE AT THE P/L OR ROW TO PROTECT THE PUBLIC WATER SYSTEM**

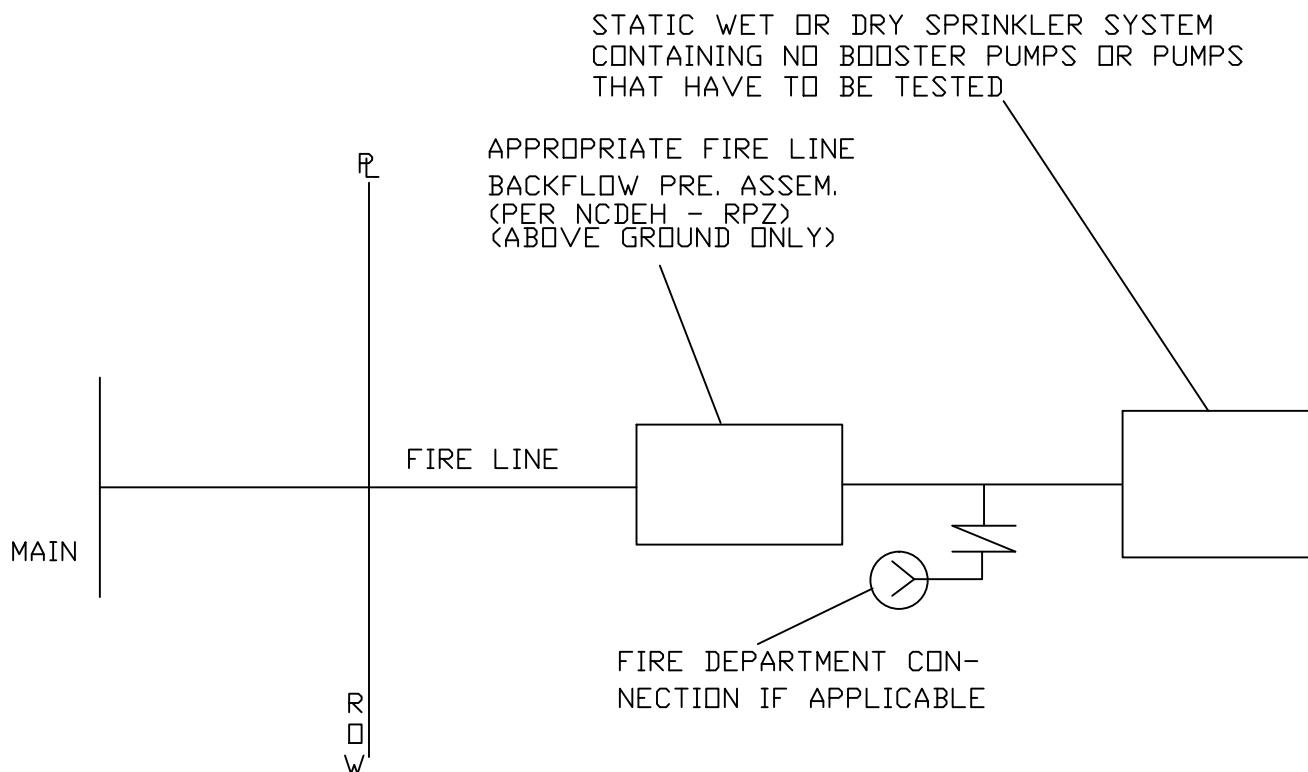


!!! THE FIRE LINE MAY NEED TO BE METERED AND CARRY A MONTHLY FEE !!!  
SEE DETAILS W30A, W30B, AND W30 C

- SERVICE TAPS FOR 2" AND SMALLER DOMESTIC SERVICES MAY BE BY CORPORATION COCKS. LARGER SERVICES WILL REQUIRE A TEE AND GATE VALVE OR TAPPING SLEEVE AND VALVE ASSEMBLY AND 90° BEND.
- DOMESTIC SERVICE TAPS SHALL BE ALLOWED ONLY ON 6" OR LARGER FIRE LINES BEFORE THE BACKFLOW ASSEMBLY.
- ONE DOMESTIC TAP PER FIRE LINE ON STREET SIDE OF BACKFLOW.
- FIRE LINE SHALL HAVE A FIRE HYDRANT OR BLOW OFF ASSEMBLY AT ITS END TO FACILITATE FLUSHING WHEN NEEDED.
- PER NC DEH, NO DDCVA CAN BE USED WHEN FDCs ARE INSTALLED. RPZs MUST BE USED.

SGWASA				
UTILITY DEPARTMENT				
FIRE, DOMESTIC & IRRIGATION OPTIONS SCHEMATIC				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-30				

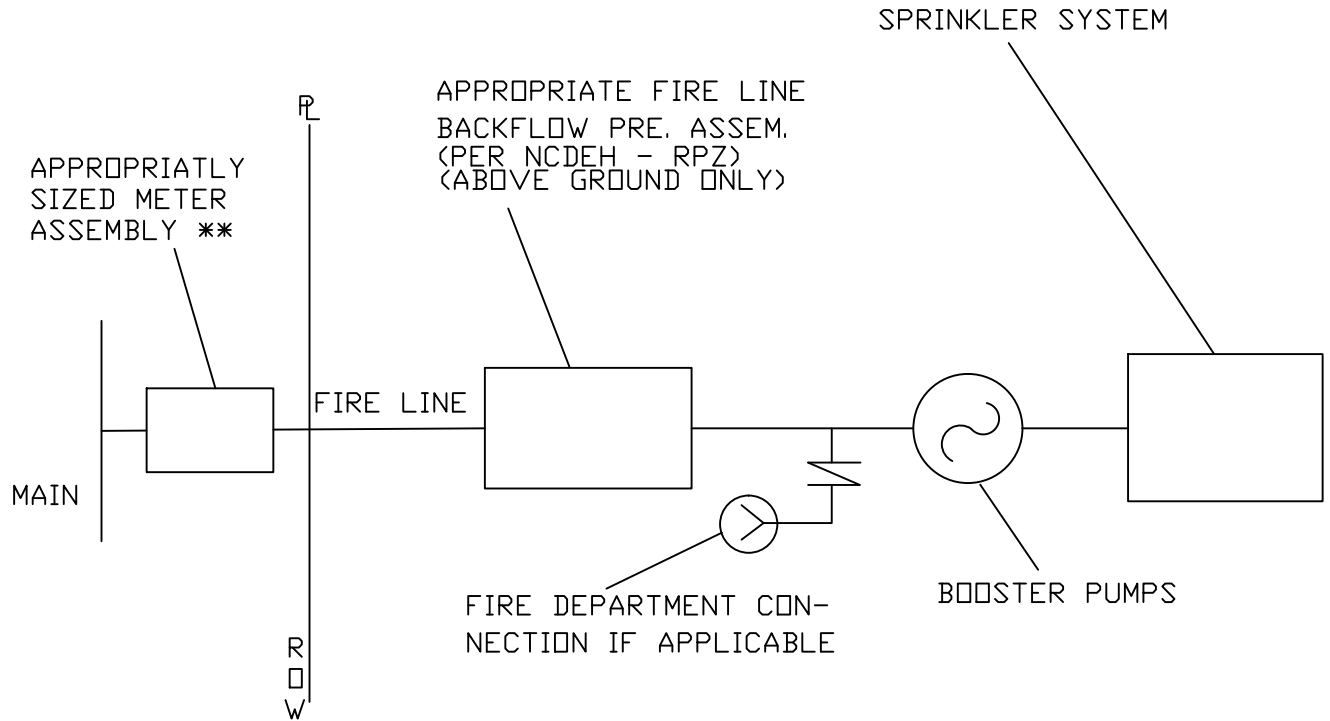
**ALL BACK FLOW/CROSS  
CONNECTION DEVICES WILL BE  
AT THE P/L OR ROW TO  
PROTECT THE PUBLIC WATER  
SYSTEM**



1. IF A FIRE SYSTEM CONNECTION HAS NO PUMPS TO BE TESTED AND THEREBY USES NO WATER UNLESS THERE IS A FIRE EMERGENCY - THERE IS NO MONTHLY FEE
2. FIRE LINE SHALL HAVE A FIRE HYDRANT OR BLOW OFF ASSEMBLY AT ITS END TO FACILITATE FLUSHING WHEN NEEDED.
3. PER NC DEH, NO DDCVA CAN BE USED WHEN FDCs ARE INSTALLED. RPZs MUST BE USED.

SGWASA				
UTILITY DEPARTMENT				
FIRE CONNECTION TO STATIC SPRINKLER SYSTEM - WITH OUT BOOSTER PUMPS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-30A				

**ALL BACK FLOW/CROSS CONNECTION DEVICES WILL BE AT THE P/L OR ROW TO PROTECT THE PUBLIC WATER SYSTEM**

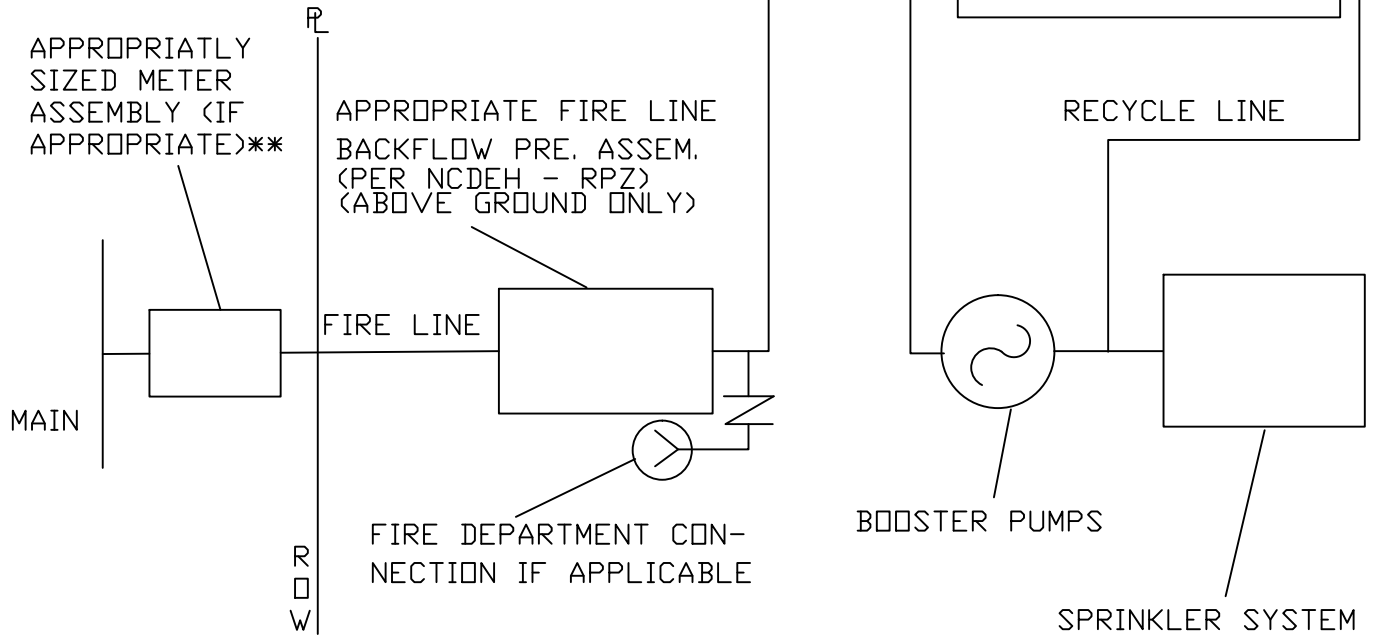


1. IF A FIRE SYSTEM CONNECTION HAS PUMPS TO BE TESTED THERE IS MONTHLY FEE BASED ON THE METER SIZE AND THE APPROVED SGWASA RATE SCHEDULE
2. FIRE LINE SHALL HAVE A FIRE HYDRANT OR BLOW OFF ASSEMBLY AT ITS END TO FACILITATE FLUSHING WHEN NEEDED.
3. PER NC DEH, NO DDCVA CAN BE USED WHEN FDCs ARE INSTALLED. RPZs MUST BE USED.

\*\* UPON APPROVAL BY THE SGWASA UTILITIES DIRECTOR, THE APPROPRIATE SIZED METER MAY BE PLACED ON THE DISCHARGE OF THE FIRE PUMPS. METER PLACEMENT AND LOCATION WILL BE APPROVED BY THE SGWASA UTILITY DIRECTOR, AND WILL BE ACCESSABLE TO SGWASA PERSONNEL AT ALL TIMES. THE METER WILL BECOME THE PROPERTY OF SGWASA EVEN IF PLACED WITHIN A PRIVATE SYSTEM. \*\*

SGWASA				
UTILITY DEPARTMENT				
FIRE CONNECTION WITH BOOSTER PUMPS BUT NO FIRE TANKS				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-30B				

**ALL BACK FLOW/CROSS CONNECTION DEVICES WILL BE AT THE P/L OR ROW TO PROTECT THE PUBLIC WATER SYSTEM**



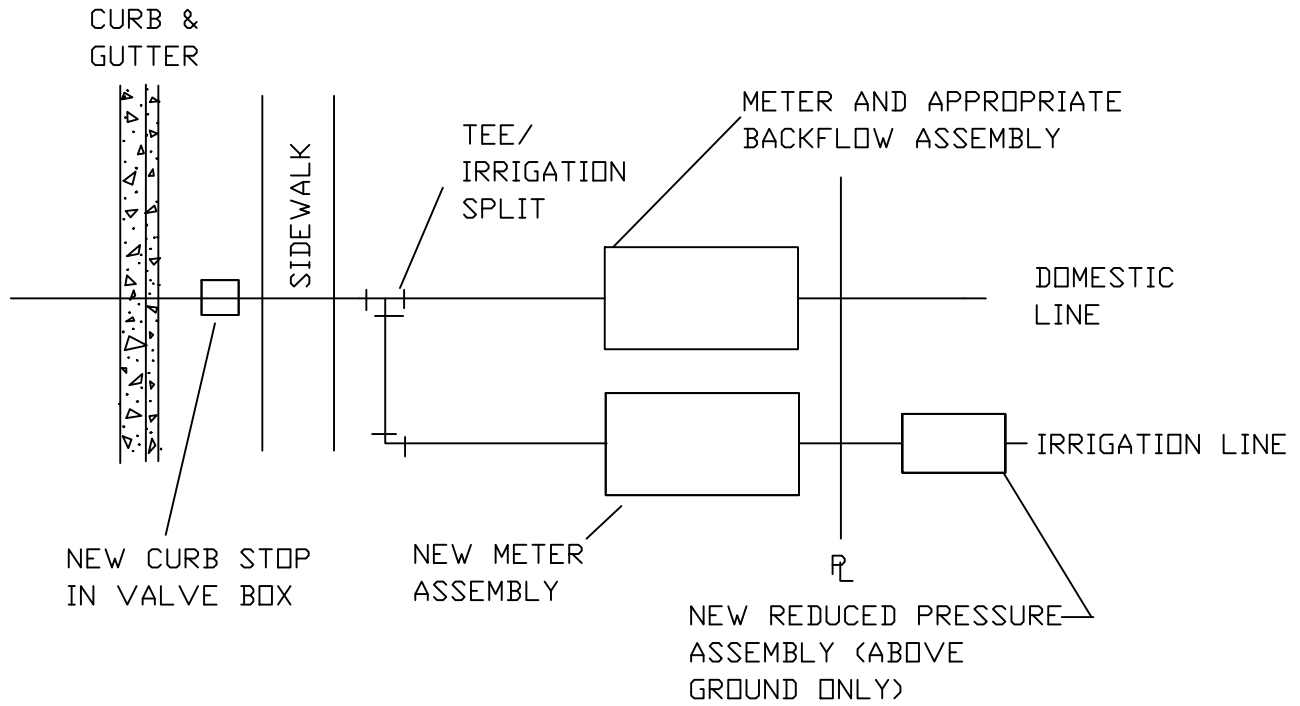
1. IF A FIRE SYSTEM CONNECTION HAS PUMPS TO BE TESTED THAT ARE FED FROM A FIRE TANK OR LAGOON AND THE TESTING IS DONE BY RECYCLING THE WATER IN THE TANK THEN THERE IS NO MONTHLY CHARGE.
2. IF A FIRE SYSTEM CONNECTION HAS PUMPS TO BE TESTED THAT ARE FED FROM A FIRE TANK OR LAGOON AND THE TESTING IS NOT DONE BY RECYCLING THE WATER IN THE TANK THEN THERE IS A MONTHLY CHARGE BASED ON THE METER SIZE IN ACCORDANCE WITH THE APPROVED RATE SCHEDULE.
3. FIRE LINE SHALL HAVE A FIRE HYDRANT OR BLOW OFF ASSEMBLY AT ITS END TO FACILITATE FLUSHING WHEN NEEDED.
4. PER NC DEH, NO DDCVA CAN BE USED WHEN FDCs ARE INSTALLED. RPZs MUST BE USED.

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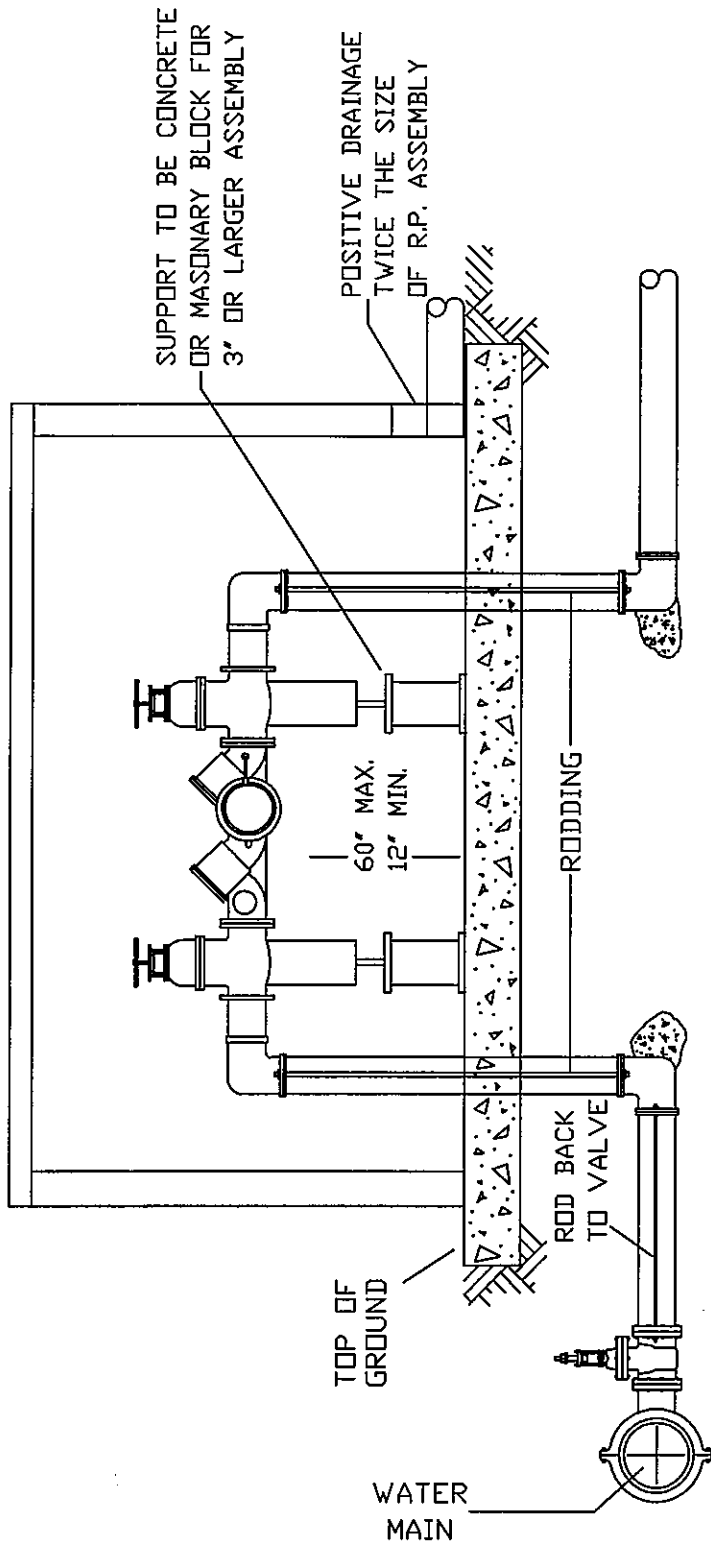
SGWASA	
UTILITY DEPARTMENT	
FIRE CONNECTION WITH BOOSTER PUMPS AND FIRE TANKS	

DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-30C				

**ALL BACK FLOW/CROSS CONNECTION DEVICES WILL BE AT THE P/L OR ROW TO PROTECT THE PUBLIC WATER SYSTEM**

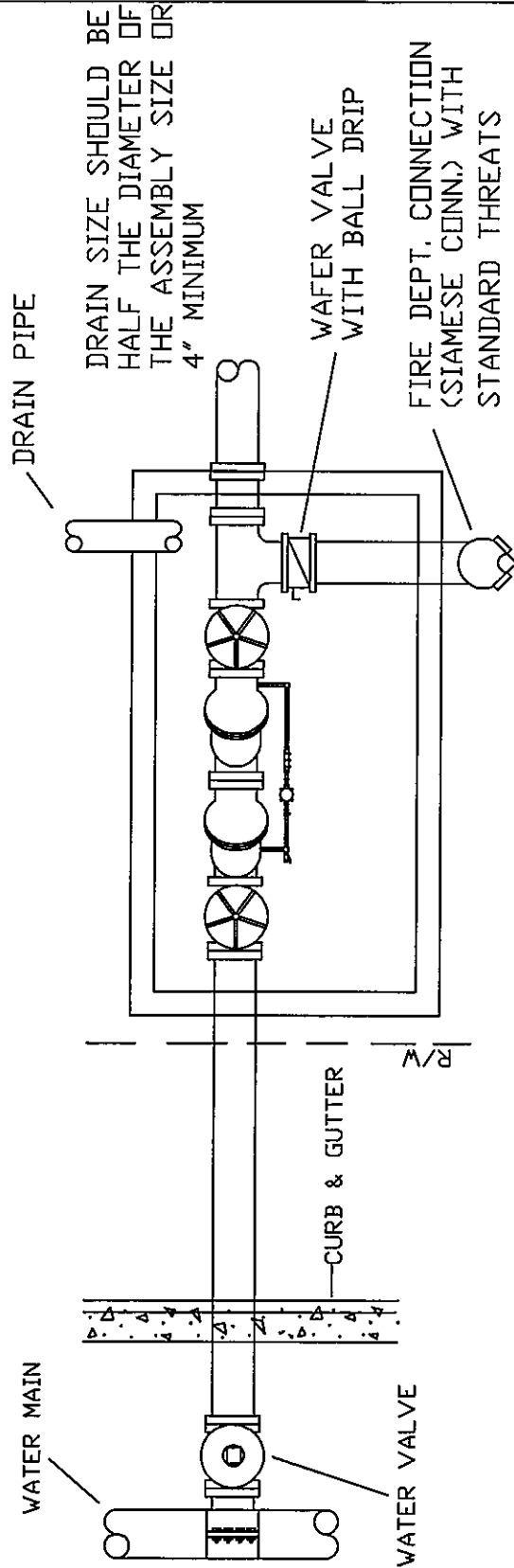


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UTILITY DEPARTMENT				
IRRIGATION TAP ON EXISTING SERVICE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-31				



1. ALL ABOVE GROUND VAULTS MUST HAVE ADEQUATE DRAINAGE (TWICE THE DIAMETER OF THE R.P. ASSEMBLY OR EQUIVALENT).
2. ABOVE GROUND INSULATED VAULTS MUST BE ASSE. 106 APPROVED ABOVE GROUND ENCLOSURES.
3. IRRIGATION R.P. ASSEMBLIES THAT ARE REMOVED TO PREVENT FREEZING IN THE WINTER MONTHS MUST BE CAPPED OFF.
4. ALL STANDPIPES FOR IRRIGATION R.P. ASSEMBLIES ARE TO BE COPPER OR BRASS.
5. FOR VAULT DIMENSIONS SEE DETAIL W-30
6. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED OR STAINLESS STEEL.

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REDUCED PRESSURE BACKFLOW PREVENTER				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-32				



TOP VIEW BACK FLOW

NOTE: FIRE MAINS ARE TO BE PRESSURE TESTED AT 200 PSI

NOTE - PER NC DEH, NO DDCVA CAN BE USED WHEN FDCS ARE INSTALLED. RPZs MUST BE USED.

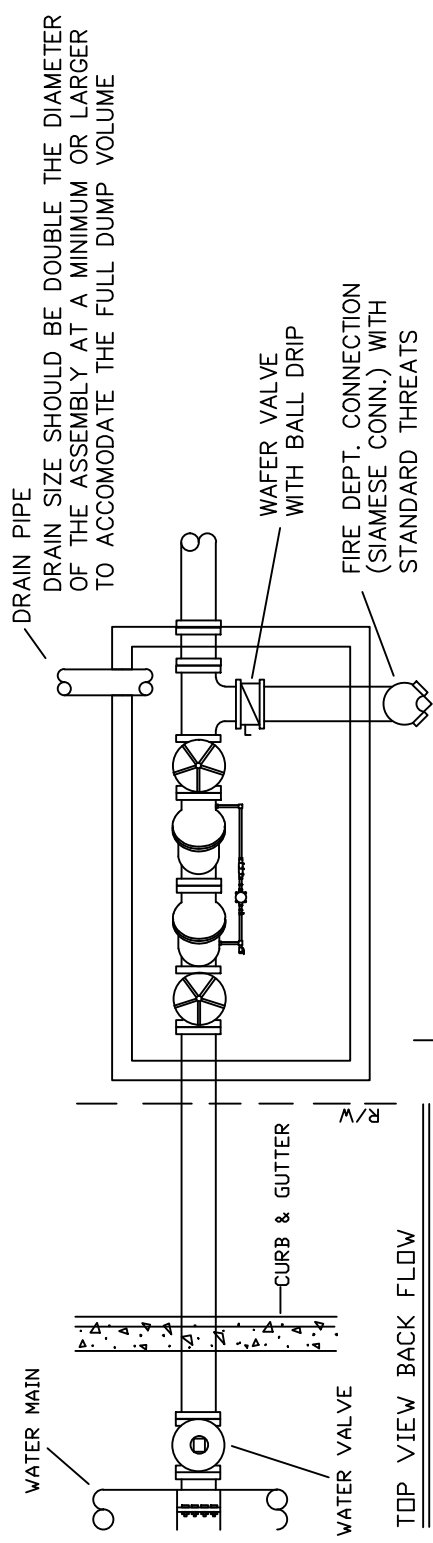
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TYPICAL FIRE MAIN WITH BACK FLOW ASSEMBLY

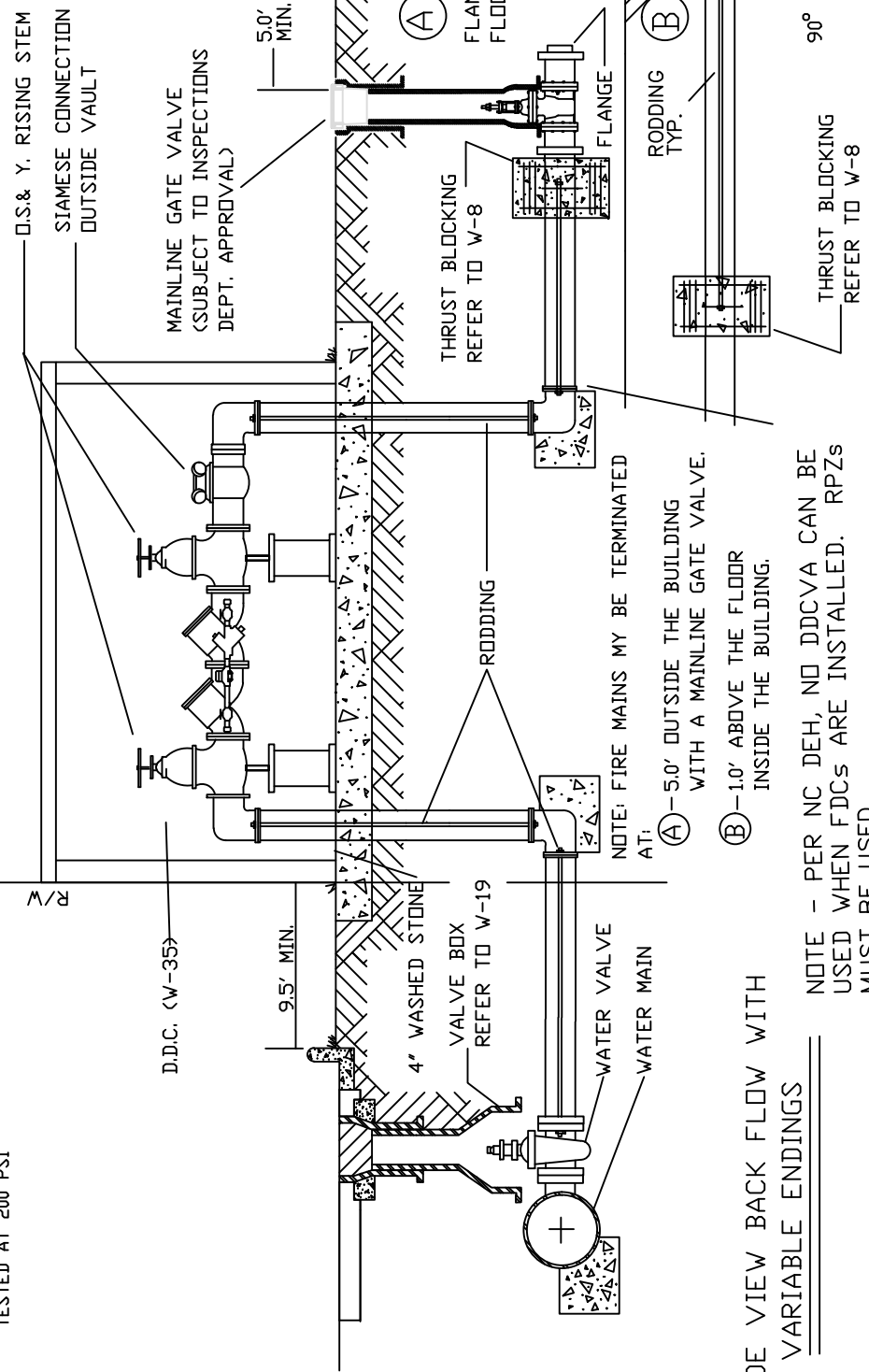
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-33				





**TOP VIEW BACK FLOW**

NOTE: FIRE MAINS ARE TO BE PRESSURE TESTED AT 200 PSI



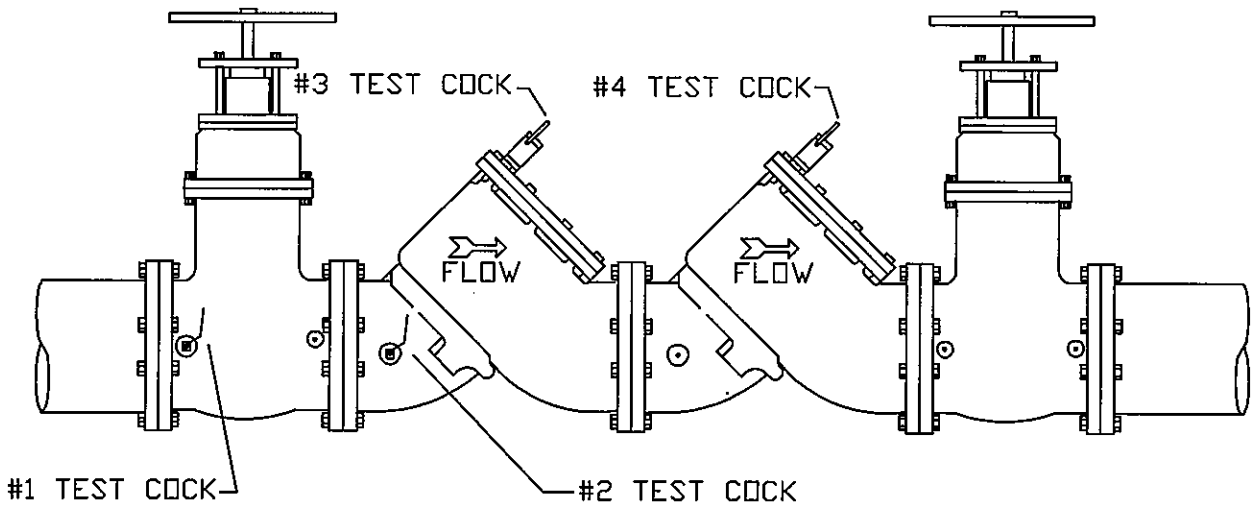
NOTE: FIRE MAINS MY BE TERMINATED AT:  
 (A) - 5.0' OUTSIDE THE BUILDING WITH A MAINLINE GATE VALVE.  
 (B) - 1.0' ABOVE THE FLOOR INSIDE THE BUILDING.

**SIDE VIEW BACK FLOW WITH VARIABLE ENDINGS**

NOTE - PER NC DEH, NO DDCVA CAN BE USED WHEN FDCs ARE INSTALLED. RPZs MUST BE USED

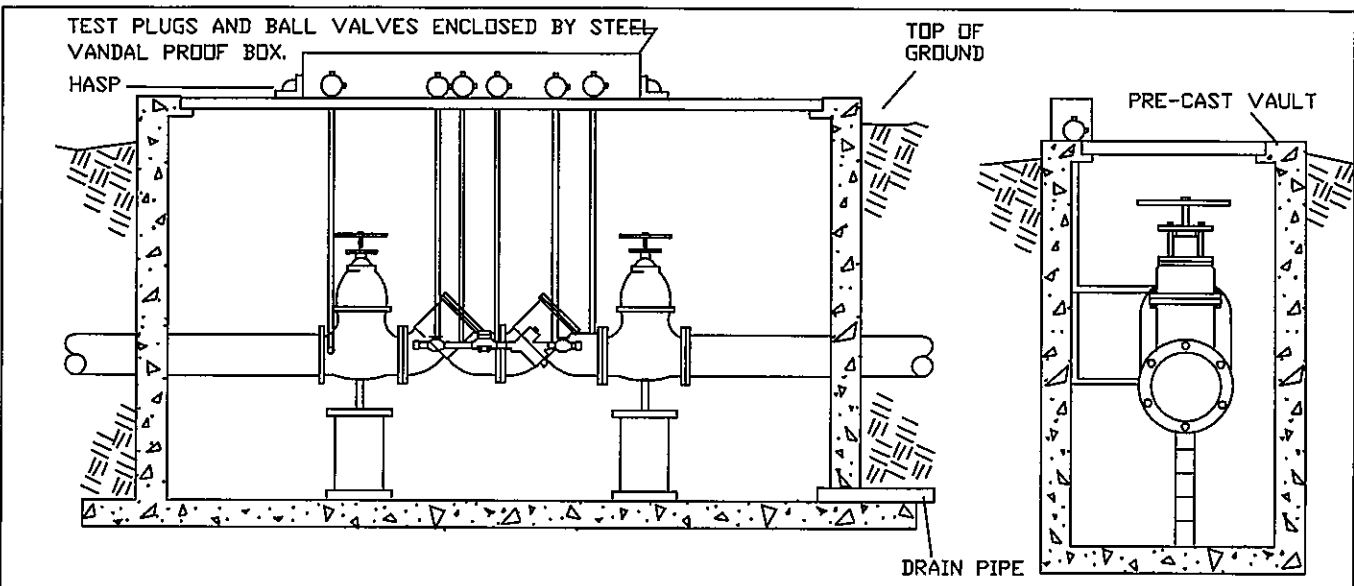
SGWASA  
 UTILITY DEPARTMENT  
 TYPICAL FIRE MAIN DOUBLE  
 BACK FLOW ASSEMBLY

DWG. NO.				
W-33A				



1. SHUT-OFF VALVES, CHECK VALVES, AND TEST COCKS SHALL BE STANDARD TO THE APPROVED BACKFLOW ASSEMBLY.
2. ALL ASSEMBLIES TO BE SUPPORTED BY A CRADLE.
3. VAULTS FOR SHUT-OFF AND CHECK VALVE ASSEMBLY SHALL PROVIDE ADEQUATE INSIDE CLEARANCE TO FACILITATE INSTALLATION AND MAINTENANCE AND SHALL HAVE ADEQUATE DRAINAGE.
4. VAULTS SHALL HAVE CONCRETE SLAB BOTTOM OR A MINIMUM OF 6" OF STONE.
5. DEVICES MUST BE ON CURRENT APPROVAL LIST.
6. 2 1/2" AND LARGER ASSEMBLIES SHALL BE FUSION BONDED EPOXY COATED INCLUDING SHUTOFF VALVES.

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STANDARD DOUBLE CHECK VALVE ASSEMBLY				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-34				

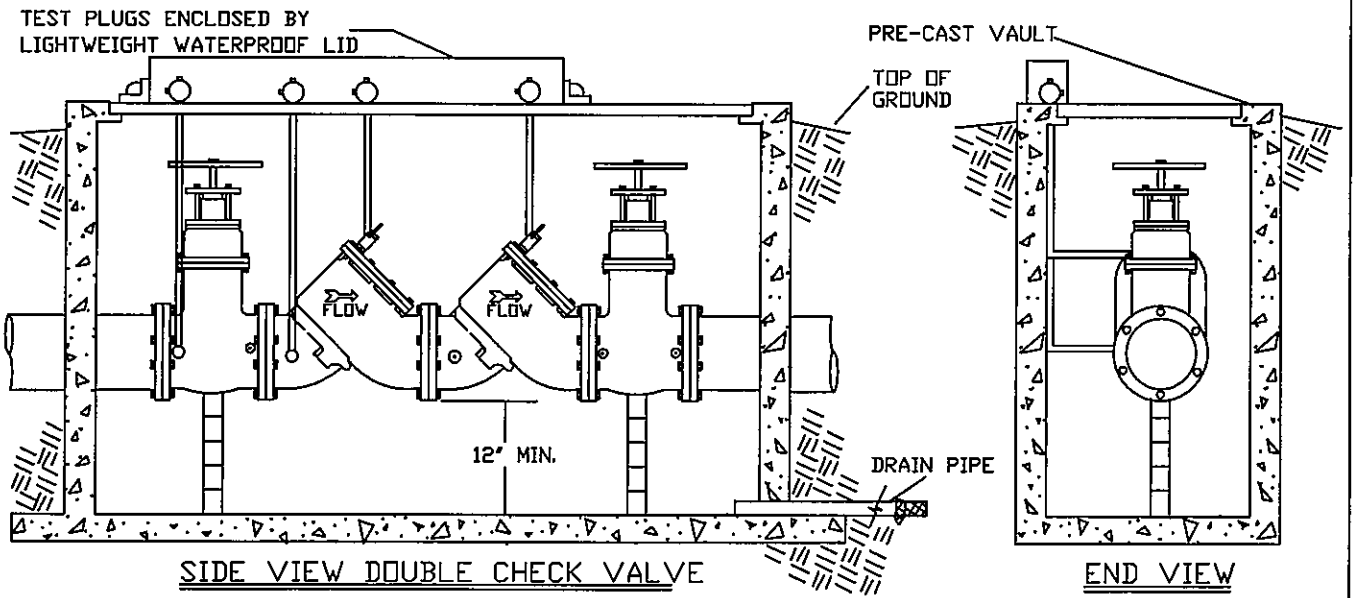


SIDE VIEW DOUBLE DETECTOR CHECK VALVE

END VIEW

NOTES:

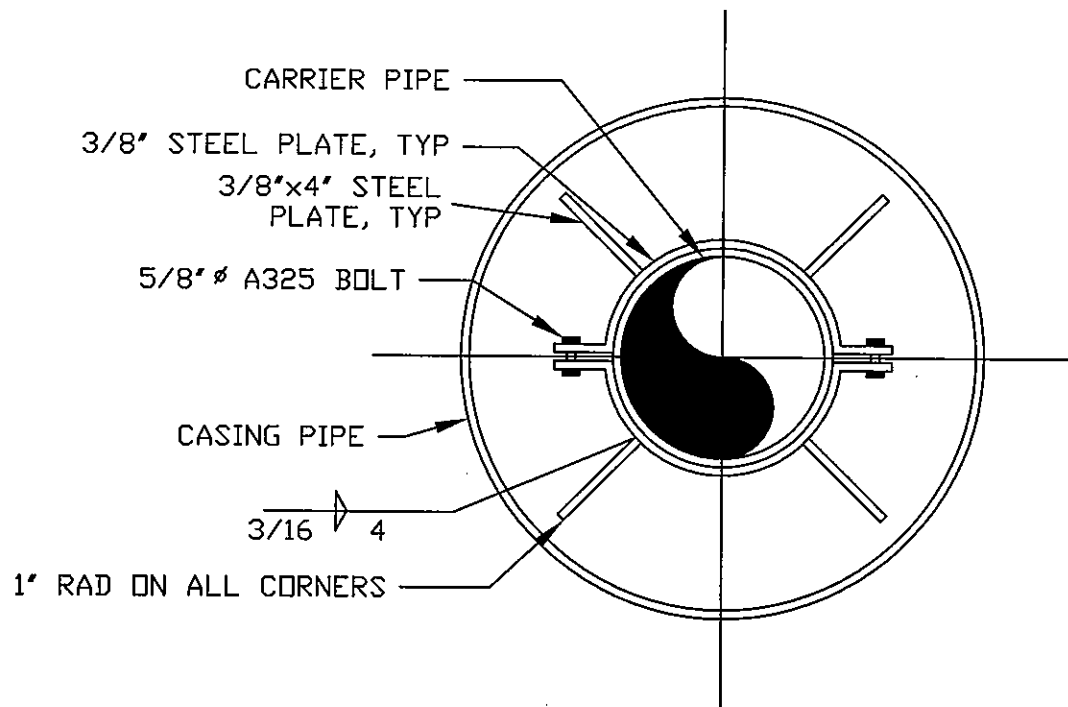
1. PIPING FROM DCV OR DDCV TO TEST COCKS SHALL BE COPPER OR BRASS, AND SECURED TO VAULT WALL, SMALL TEST COCKS WILL BE 3/8" COPPER.
2. STEEL VANDAL PROOF BOX ENCLOSING TEST COCKS SHALL BE A MIN. OF 18" LONG, 8" WIDE AND 4" HIGH (BOX SHALL BE INSULATED).
3. DRAIN PIPE SHALL BE ANIMAL PROOF AND SHALL DRAIN TO OPEN AREA.(IE- DITCH, GRASS, STREET OR STREAM BED.
4. DRAIN PIPE SHALL BE 4" CORRUGATED PVC PIPE.
5. ANIMAL PROOFING SHALL BE 1/2" HARDWARE CLOTH OVER END OF DRAIN, HELD IN PLACE WITH STAINLESS CLAMP.
6. LID TO VAULT SHALL BE LIGHTWEIGHT AND WATERPROOF.
7. STEPS SHALL BE INSTALLED IN THE VAULT WALL FOR EASY ACCESS TO VAULT.
8. THE LID AND TEST COCK COVER SHALL BE LOCKED WITH MATCHING LOCKS
9. PUBLIC UTILITIES CROSS CONNECTION CONTROL COORDINATOR WILL BE PROVIDED WITH A KEY TO LOCKS.
10. TEST COCKS WILL BE NUMBERED ON THE VAULT OR THE FRAME OF TEST COCK COVER.
11. VAULT SHALL DRAIN TO DAYLIGHT.



SIDE VIEW DOUBLE CHECK VALVE

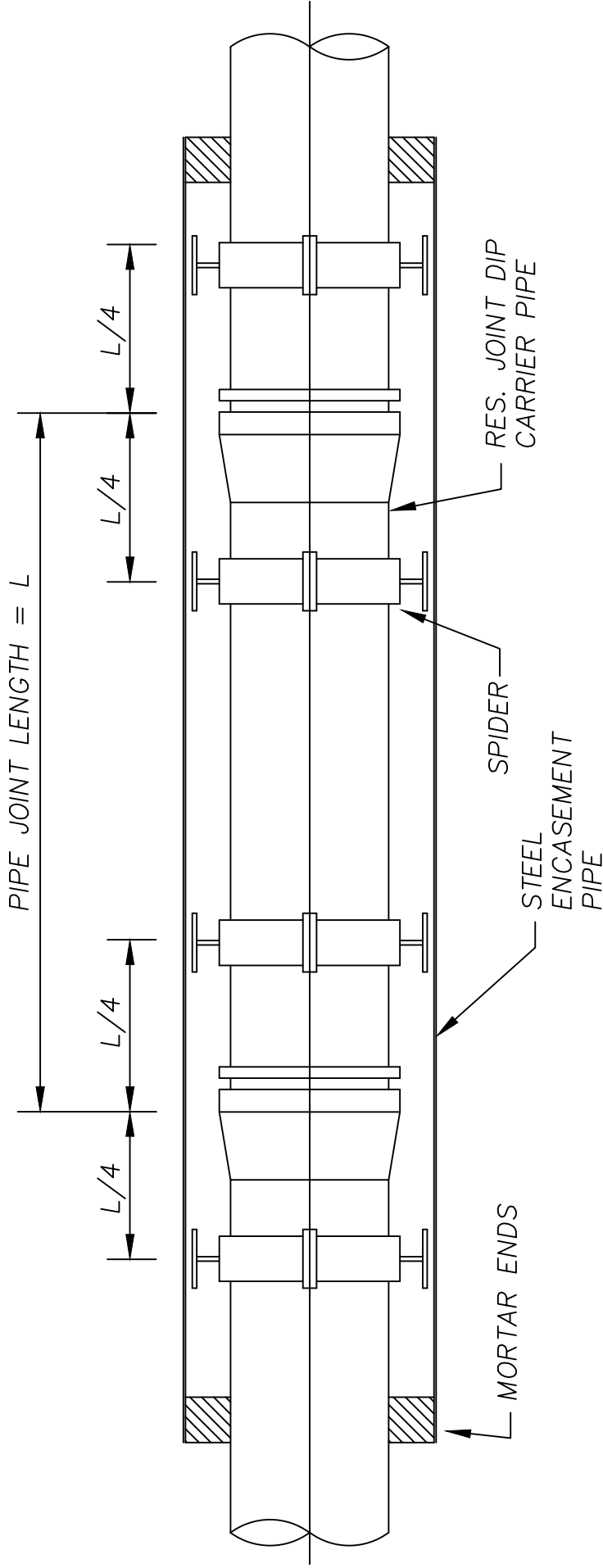
END VIEW

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BELOW GROUND DDCV & DCV				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-35				



NOTE:  
USE TWO PER JOINT IN CASING.

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UTILITY DEPARTMENT				
PIPE ALIGNMENT GUIDE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-36				



**NOTES:**

1. SEE SGWASA PIPE ALIGNMENT GUIDE DETAIL W-36 FOR SPIDER DIMENSIONS.
2. ENCASUREMENT PIPE SHALL BE HIGH STRENGTH STEEL, SPIRAL WELDED OR SMOOTH-WALL SEAMLESS PER ASTM A 139 AND ASTM A 283, GRADE "B" STEEL WITH A MIN. YIELD STRENGTH OF 35,000-PSI, MIN. WALL THICKNESS OF 0.375-IN.
3. EXTERIOR OF ENCASUREMENT PIPE SHALL BE COATED WITH TWO COATS OF A COMPATIBLE BLACK EPOXY WITH A TOTAL DRY FILM THICKNESS OF 10 MILS PER COAT. EPOXY COATING SHALL BE TNEMEC HI-BUILD TNEME-TAR SERIES 46H-413, OR APPROVED EQUAL. PIPE SHALL BE COATED INSIDE AND OUTSIDE IN ACCORDANCE WITH AWWA C203 AND ANY ADDITIONAL REQUIREMENTS OF THE NCDOT.
4. METAL "SPIDER" PIPE ALIGNMENT GUIDE DEVICES SHALL BE INSTALLED IN ALL CASINGS WITH A MINIMUM OF TWO SPIDERS PER CARRIER PIPE JOINT LOCATED  $\frac{1}{4}$  OF THE PIPE JOINT LENGTH IN FROM BOTH THE BELL AND SPIGOT ENDS.

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BORE & JACK  
DETAIL

DWG. NO.

REVISION

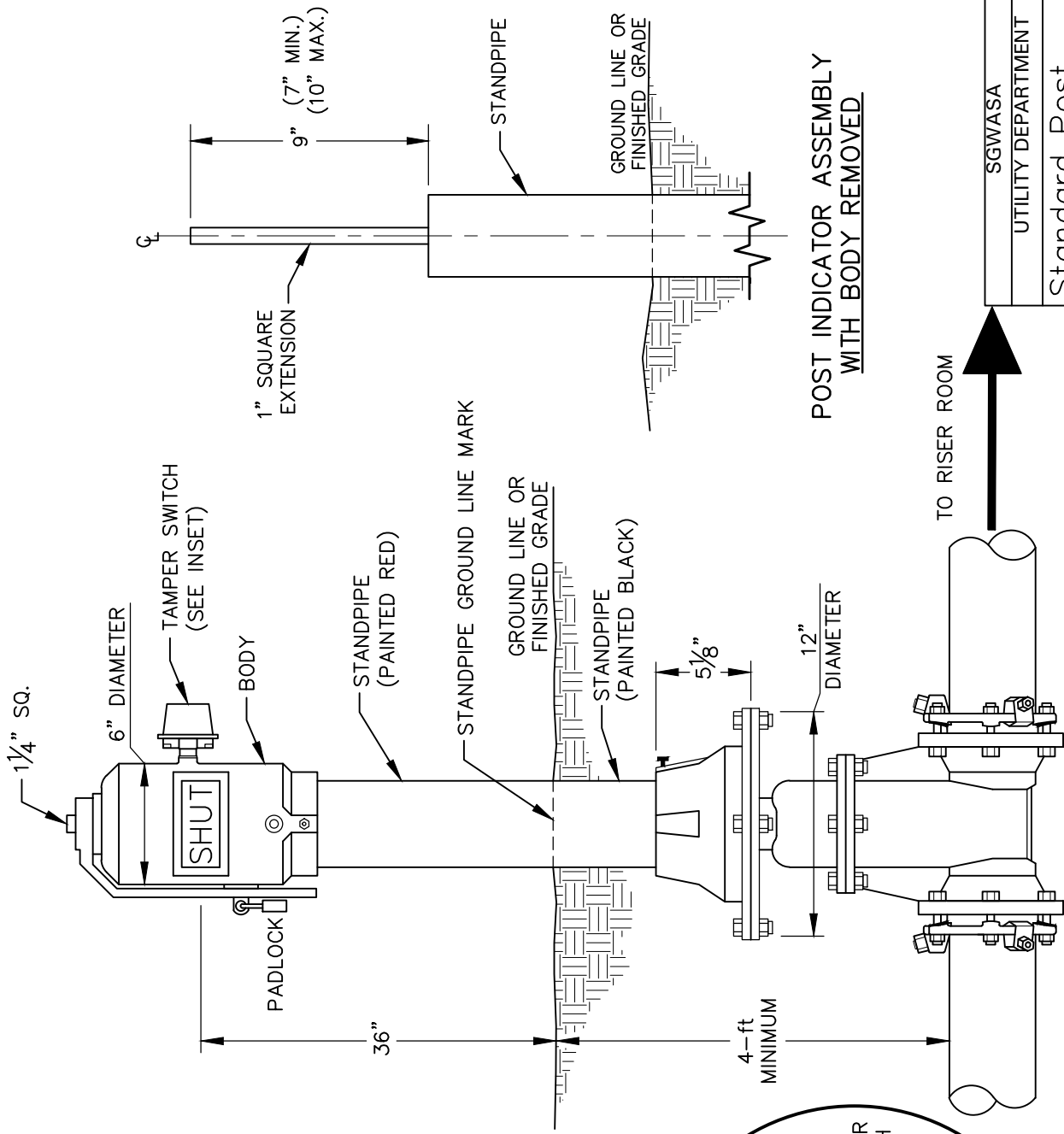
DATE

W-36A

BORE & JACK DETAIL

**FIELD ADJUSTMENT INSTRUCTIONS**

1. REMOVE THE BODY FROM THE TOP OF THE INDICATOR POST ASSEMBLY.
2. CUT THE REQUIRED LENGTH OFF THE BOTTOM OF THE STANDPIPE FOR THE GROUND LINE TO MATCH UP WITH 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. RE-ATTACH THE BODY TO THE TOP OF THE INDICATOR POST ASSEMBLY.
6. ALL POST INDICATOR VALVES SHALL BE INSTALLED WITH AN ELECTRONIC UL LISTED TAMPER SWITCH.
7. THERE SHALL BE 36" OF UNOBSTRUCTED CLEARANCE AROUND THE PERIMETER OF ALL POST INDICATOR VALVES.
8. POST INDICATOR VALVE SHALL BE LOCATED AT A MINIMUM 5-ft FROM BUILDING.



**POST INDICATOR ASSEMBLY  
WITH BODY REMOVED**

TO RISER ROOM

DWG. NO.	REVISION	DATE
W-37		
SGWASA		
UTILITY DEPARTMENT		
Standard Post Indicator Valve		