

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

1. THE CITY'S PUBLIC WORKS DEPARTMENT SHALL BE NOTIFIED PRIOR TO BEGINNING ANY WATER SYSTEM CONSTRUCTION.
2. DEWATERING SHALL BE PROVIDED TO KEEP GROUNDWATER ELEVATION A MINIMUM OF 6 INCHES BELOW WATER MAIN BEING LAID.
3. ALL WATER MAINS SHALL BE LAID ON A FIRM FOUNDATION WITH ALL UNSUITABLE MATERIAL (MUCK, ROCK, COQUINA, ETC.) REMOVED AND REPLACED WITH CLEAN GRANULAR MATERIAL.
4. TRENCHES SHALL BE BACKFILLED WITH CLEAN GRANULAR MATERIAL IN MAX. 1' LIFTS WITH A MINIMUM COMPACTION OF 98 PERCENT (AASHTO-T180) IN PAVED AREAS AND 90 PERCENT IN UNPAVED AREAS.
5. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT TRENCH COMPACTION TESTS BE PROVIDED AT POINTS 1 FOOT ABOVE THE PIPE AND AT 1 FOOT VERTICAL INTERVALS TO FINISH GRADE, AT A MINIMUM SPACING OF EVERY 300 FEET, AND TO FURNISH COPIES OF TEST REPORTS PROMPTLY TO THE CITY INSPECTOR.
6. METALLIZED PIPE LOCATION TAPE SHALL BE LOCATED 15 INCHES BELOW FINISHED GRADE OR AS SPECIFIED BY MANUFACTURER FOR ALL PVC LINES. MARKER TAPE SHALL BE USED ON ALL DUCTILE IRON PIPE.
7. WATER SERVICES (SINGLE 1") SHALL BE POLYETHYLENE TUBING (BLUE IN COLOR) ; POLYBUTYLENE SHALL NOT BE ALLOWED.
8. ALL WATER SERVICE ENDINGS SHALL BE MARKED WITH 4" X 4" LUMBER (PRESSURE TREATED) EXTENDING 4 FEET ABOVE GRADE, WITH WATER SERVICES SECURED 24" ABOVE THE GROUND. WIRE TIES SHALL BE USED TO SECURE THE CURB STOPS TO SUPPORT POSTS.
9. WATER VALVES SHALL BE PLACED AT ALL STREET INTERSECTIONS AND AT MAXIMUM SPACING OF 500 FEET.
10. AT ALL WATER MAIN TEES AND CROSSES, VALVES SHALL BE INSTALLED ON ALL LEGS EXCEPT ONE.
11. APPROVED WATER VALVE TYPES ARE THE FOLLOWING:
 - A. STANDARD GATE VALVES LESS THAN 48" DIAMETER
RESILIENT SEAT GATE VALVES (AWWA C-509 OR C-515).
 - B. MECHANICAL TAPPING SLEEVE SHALL BE STAINLESS
STEEL. (AWWA C - 509)
 - C. EPOXY COATED (AWWA C - 550)



STANDARD CONSTRUCTION DETAIL

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

INDEX

W-1A

JAN - 2024

GENERAL NOTES WATER SYSTEM CONSTRUCTION

23. WATER SYSTEMS SHALL BE PRESSURE TESTED AT 150 PSI STATIC PRESSURE FOR A PERIOD OF 2 HOURS PER AWWA STANDARDS. TESTS SHALL BE CONDUCTED BEFORE FINAL PAVING AND IN THE PRESENCE OF THE CITY'S INSPECTOR.
24. ALL WATER SERVICES SHALL BE MARKED WITH A "▲" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT.
25. ALL WATER VALVES AND BLOW-OFFS SHALL BE MARKED WITH AN "X" SAW CUT INTO THE CURB OR BY METAL TABS SET INTO THE PAVEMENT. LOCATION OF METAL TABS IN INCHES FROM EDGE OF PAVEMENT SHALL EQUAL DISTANCE IN FEET FROM EDGE OF PAVEMENT TO VALVE.
26. UNIFLANGE 1300 SERIES PIPE RESTRAINTS AS MANUFACTURED BY FORD OR APPROVED EQUAL MAY BE USED AS APPROPRIATE FOR RESTRAINING IN-LINE PRESSURE PIPE EACH SIDE OF PIPE JOINT. AS REQUIRED BY RESTRAINT TABLE.
27. TRACING WIRE SHALL BE INSTALLED IN ACCORDANCE WITH UTILITY PIPE LOCATION MATERIALS DETAIL.
28. NO GALVANIZED PIPE, FITTINGS, ETC. ARE ACCEPTED.
29. ALL WATER METERS SHALL BE INSTALLED AT THE RIGHT OF WAY LINE ONLY REGARDLESS OF SIZE.
30. SUBMIT ASSEMBLY CERTIFICATION FOR ALL BACKFLOW PREVENTERS TO THE CITY'S ENGINEERING & PLANNING DEPARTMENT BEFORE FINAL INSPECTION AT COMDEV@ORMONDBEACH.ORG.
31. PIPING FOR RAW WATER SHALL BE WHITE FOR ABOVE GROUND PIPING, BURIED PVC PIPING SHALL BE WHITE WITH LOCATOR TAPE PLACED DIRECTLY ON TOP OF THE PIPE AND AT 12" TO 18" ABOVE THE PIPE. THE TAPE SHALL CONTINUOUSLY READ "CAUTION – RAW WATER MAIN BURIED BELOW" OR WHITE WITH LOCATOR TAPE PLACED 12" TO 18" ABOVE THE TOP OF THE PIPE.
32. SEE CHART BELOW FOR WATER MAIN SIZE AND MATERIALS.

M A T E R I A L S		
DIAMETER	MATERIAL	STANDARD
2" – 4"	PVC 1120 / SDR 21	ASTM D 2241
> 4" – 12"	PVC DR-18	AWWA C 900
> 4" – 12" DEDICATED FIRE LINE	PVC DR-14	AWWA C 900
14" – 36" (16" – 24" → DR - 18) (30" – 36" → DR - 21)	PVC 1120	AWWA C 905
ALL SIZES	HDPE DIPS DR 11	ASTM F 714

NOTE: PVC PIPE COLOR SHALL BE BLUE FOR POTABLE WATER MAINS, BLUE WITH WHITE LOCATOR TAPE OR WHITE WHITE LOCATOR TAPE FOR RAW WATER MAIN.



STANDARD CONSTRUCTION DETAIL GENERAL NOTES WATER SYSTEM CONSTRUCTION

INDEX

W-1C

JAN - 2024

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

12. ALL WATER VALVE BOXES SHALL BE ADJUSTED TO FINISH GRADE AND THE LIDS PAINTED BLUE TO MAKE THEM PLAINLY VISIBLE.
13. WATER VALVES SHALL BE COMPLETELY OPENED BY THE CONTRACTOR UPON FINAL ACCEPTANCE OF NEW WATER SYSTEMS IN THE PRESENCE OF PUBLIC WORKS DEPARTMENT PERSONNEL.
14. HYDRANTS SHALL BE PLACED AT 500 FEET MAXIMUM SPACING IN RESIDENTIAL DEVELOPMENTS AND AT 300 FEET MAXIMUM SPACING IN BUSINESS AND INDUSTRIAL DEVELOPMENTS. ALL WATER MAINS TO WHICH HYDRANTS ARE CONNECTED SHALL BE 8 INCHES MINIMUM.
15. ALL FIRE HYDRANTS SHALL BE CONSTRUCTED TO MAKE THEM EASILY ACCESSIBLE TO FIRE PERSONNEL IN CASE OF FIRE. THE MAIN NOZZLE CONNECTION SHOULD ALWAYS FACE THE STREET AND BE 18-24" ABOVE GRADE.
16. AS STANDARD PRACTICE, WATER MAINS SHALL BE INSTALLED 4 FEET OFF THE BACK OF CURB OR AS APPROVED BY THE CITY.
17. ALL WATER MAINS SHALL BE NSF-APPROVED FOR POTABLE WATER USE, AND SHALL HAVE A MINIMUM COVER OF 36 INCHES. IN SPECIAL CASES WHERE IT IS IMPOSSIBLE OR INAPPROPRIATE TO PROVIDE ADEQUATE COVER, DUCTILE IRON CLASS 350 MAY BE USED AS APPROVED BY THE CITY.
18. ALL NEWLY CONSTRUCTED WATER MAINS SHALL BE FLUSHED, CLEANED WITH A POLY PIG, PRESSURE TESTED, DISINFECTED AND BACTERIOLOGICALLY CLEARED FOR SERVICE IN ACCORDANCE WITH LATEST AWWA STANDARDS AND THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.
19. WATER MAINS SHALL BE AWWA C-900 CL 150, OR D.I.P. CLASS 350 STANDARD CEMENT LINED AWWA C-104.
20. UPON CONSTRUCTION COMPLETION AND ACCEPTANCE OF THE SYSTEM, IT SHALL BE THE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THAT THE SYSTEM IS PROPERLY CERTIFIED AND ACCEPTED BY THE HEALTH DEPARTMENT, AND THAT CERTIFIED AS-BUILT DRAWINGS (24"x36") ARE PROVIDED TO THE CITY PRIOR TO PAVING AND ANY USE OF THE SYSTEM. SEE M-1A & M-1B FOR AS-BUILT REQUIREMENTS
21. MEGALUG OR EQUIVALENT, RESTRAINED JOINT SYSTEM MAY BE USED ON ALL RESTRAINED FITTINGS, VALVES, ETC. MINIMUM DEPTH OF BURY ON PIPES NOT MEETING REQUIRED COVER REQUIREMENTS SHALL FOLLOW THE MOST RECENT DIPRA THRUST RESTRAINT DESIGN GUIDELINES.
22. ALL DI BENDS, TEES, VALVES, WYE FITTINGS TO BE EPOXY COATED IN ACCORDING WITH AWWA C-550



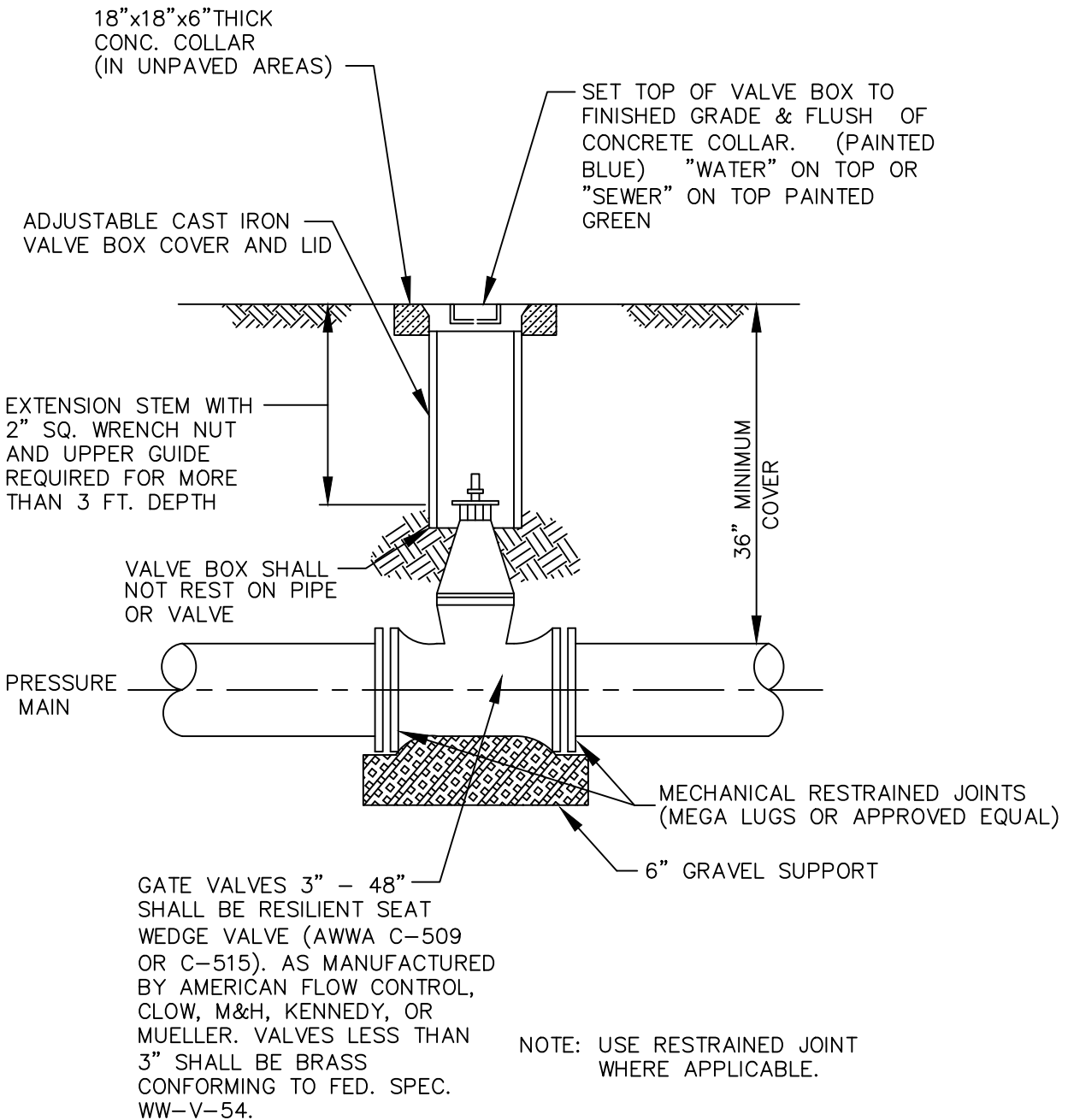
STANDARD CONSTRUCTION DETAIL

GENERAL NOTES
WATER SYSTEM CONSTRUCTION

INDEX

W-1B

JAN - 2024



QUATER TURN GATE VALVE - FORD #B11-777-NL BALL VALVE FXF



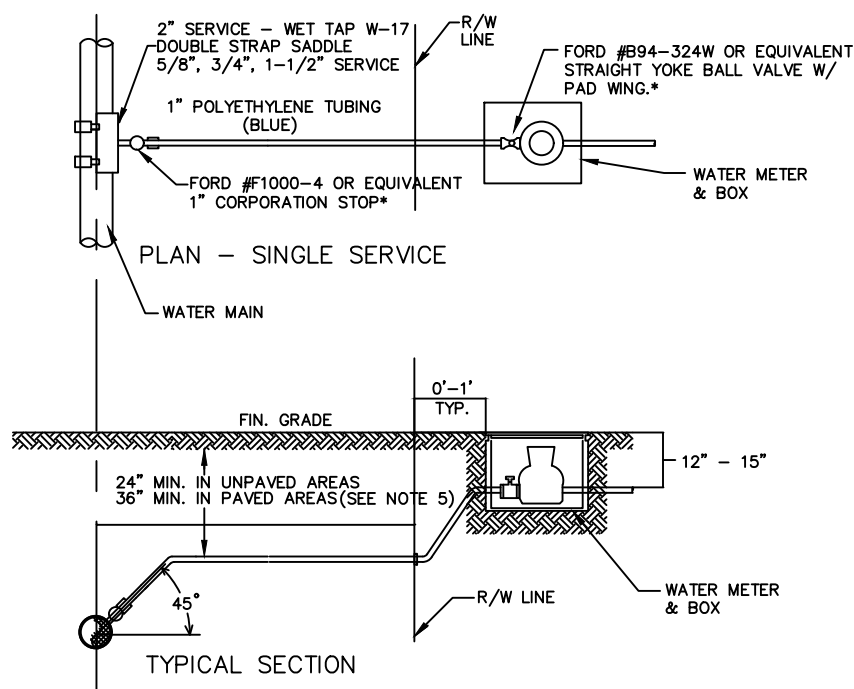
STANDARD CONSTRUCTION DETAIL GATE VALVE AND VALVE BOX NTS.

INDEX

W-2

JAN - 2024

VALVE SCHEDULE	
FORD OR EQUIVALENT	
WATER SERVICES	
VALVES AT MAIN	
1"	F1000-4
1 1/2"	B81-666-NL (REQ. C84-66 PACK JOINT COUPLING)
2"	B81-777-NL (REQ. C84-77 PACK JOINT COUPLING)
VALVES AT METER	
1"	B94-324W-NL
1 1/2"-2"	BF43-777W-NL



NOTES:

1. CUSTOMER POINT OF SERVICE IS TYPICALLY AT THE LOCATION WHERE CUSTOMER PLUMBING IS ATTACHED TO THE YOKE NUT.
2. HDPE SHALL BE 200 PSI, NSF APPROVED, SDR 9, MEETING ASTM D1248. TUBING SHALL BE ENDOT ENDOTRACE (OR APPROVED EQUAL).
3. REDUCED PRESSURE BACKFLOW PREVENTERS ARE REQUIRED FOR ALL COMMERCIAL SERVICES AND SHALL BE INSTALLED BY A CERTIFIED TECHNICIAN AT OWNERS EXPENSE
4. ALL SERVICE TAPS SHALL BE NO CLOSER THAN 2'-0" STAGGERED INTERVAL OR WITHIN 2'-0" OF BELL OR SPIGOT ENDS.
5. IN AREAS TO BE PAVED PROVIDE A 2" MIN. PVC SCHEDULE 40 CASING FOR PE-TUBING. CASING SHALL EXTEND A MIN. OF 2' BEHIND BACK OF CURB AT EACH SIDE OF ROAD. 2" CASING FOR 1". 4" CASING FOR 2".
6. ALL IRRIGATION SERVICES (WATER) MUST HAVE AN APPROVED BACKFLOW PREVENTION DEVICE INSTALLED ON CUSTOMERS SIDE OF WATER METER. SEE W-6D FOR COMMERCIAL PROPERTIES OR SEE W-6F FOR RESIDENTIAL PROPERTIES. THE CITY WILL INSTALL ALL CITY-OWNED IRRIGATION BACKFLOW PREVENTERS. THE CUSTOMER IS RESPONSIBLE FOR INSTALLATION AND CERTIFICATION COST. A COPY OF THE CERTIFICATION MUST BE SENT TO THE CITY OF SOUTH DAYTONA PUBLIC WORKS DEPARTMENT, PRIOR TO FINAL INSPECTION.
7. WATER METERS INSTALLED IN AREAS SERVED BY RECLAIMED WATER SHALL BE EQUIPPED WITH A DUAL CHECK BACKFLOW PREVENTER.
8. WATER METERS IN AREA SERVED WITH AN ALTERNATE IRRIGATION SUPPLY SHALL BE EQUIPPED WITH BACKFLOW PREVENTION TO BE APPROVED FOR USE BY FDEP.



STANDARD CONSTRUCTION DETAIL

WATER LATERAL SERVICE
5/8", 3/4", 1", 1-1/2", 2" METERS

NTS

INDEX

W-3

JAN - 2024

TABLE APPLIES TO PVC PIPE
FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 3

SCHEDULE OF LENGTHS OF RESTRAINED PVC PIPE (FT.)					
FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
PIPE SIZE (IN.) :					
4"	20	18	18	18	45
6"	28	18	18	18	63
8"	36	18	18	18	82
10"	44	28	18	18	98
12"	51	21	18	18	116
14"	57	24	18	18	132
16"	63	26	18	18	148
18"	69	29	18	18	163
20"	75	31	18	18	179
24"	87	36	18	18	208
30"	102	42	20	18	248

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

TABLE APPLIES TO D.I.P.
FOR THE FOLLOWING CONDITIONS:
TEST PRESSURE: 150 PSIG
SOIL TYPE: SP
COVER DEPTH: 2.5 FEET
SAFETY FACTOR: 1.5
TRENCH TYPE: 2

SCHEDULE OF LENGTHS OF RESTRAINED DIP (FT.)					
FITTING	1/4 BEND	1/8 BEND	1/16 BEND	1/32 BEND	TEE OR DEAD END
PIPE SIZE (IN.) :					
4"	21 (26)	18 (18)	18 (18)	18 (18)	37 (55)
6"	30 (36)	18 (18)	18 (18)	18 (18)	52 (78)
8"	38 (45)	18 (18)	18 (18)	18 (18)	67 (100)
10"	45 (54)	18 (22)	18 (18)	18 (18)	81 (122)
12"	52 (63)	22 (26)	18 (18)	18 (18)	94 (141)
14"	60 (72)	25 (30)	18 (18)	18 (18)	107 (160)
16"	66 (80)	27 (33)	18 (18)	18 (18)	120 (180)
18"	74 (87)	31 (36)	18 (18)	18 (18)	132 (198)
20"	80 (94)	33 (39)	18 (18)	18 (18)	144 (216)
24"	92 (108)	38 (45)	18 (22)	18 (18)	167 (250)
30"	106 (128)	44 (53)	21 (25)	18 (18)	199 (298)
36" *	69 (82)	28 (34)	18 (18)	18 (18)	170 (204)
42" *	76 (92)	31 (37)	18 (18)	18 (18)	191 (229)
48" *	90 (106)	40 (46)	18 (18)	18 (18)	212 (254)

LENGTHS BETWEEN HEAVY LINES INDICATE ONE FULL LENGTH (18' MIN.) OF PIPE TO BE RESTRAINED.

TABLE SHOWS MINIMUM LENGTH OF PIPE EACH WAY FROM FITTING FOR WHICH RESTRAINT IS REQUIRED.

VALUES IN PARENTHESIS ARE FOR PIPE ENCASED IN POLYETHYLENE.



STANDARD CONSTRUCTION DETAIL

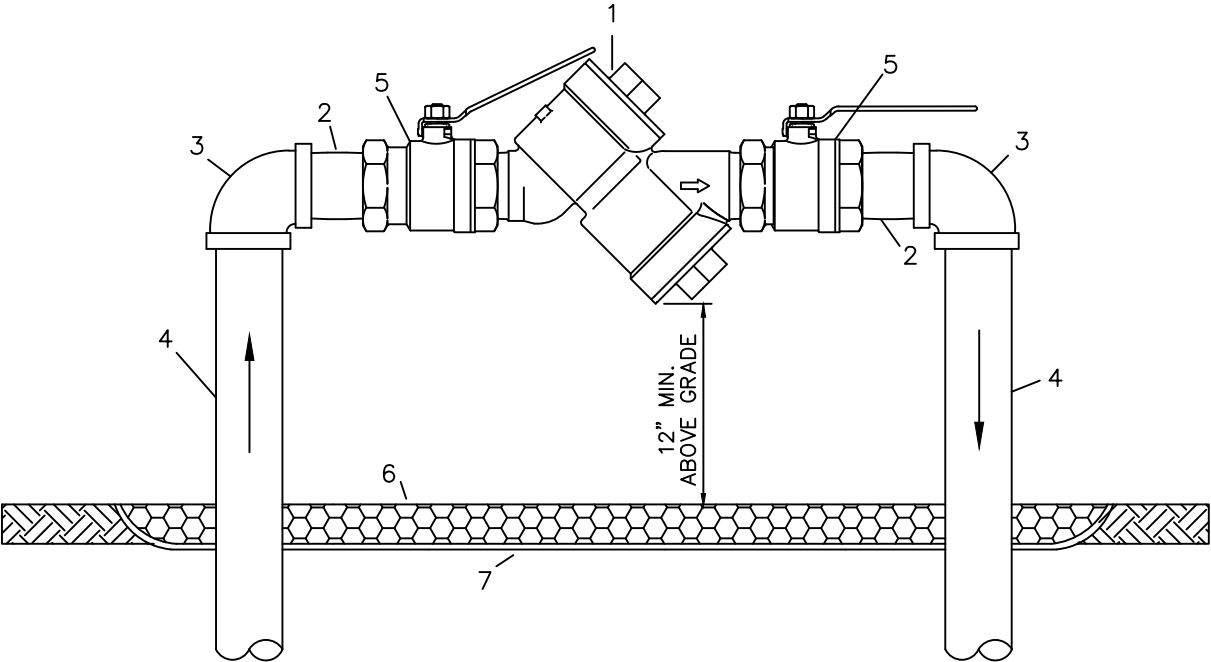
PVC AND D.I.P. RESTRAINED JOINT TABLE

INDEX

W-4

JAN - 2024

ACCEPTABLE MANUFACTURERS: HERSEY MODEL FRP II, WILKINS MODEL 950XL, WATTS MODEL 007M1 DCDA, APOLLO MODEL DCLF4A



M A T E R I A L S		
ITEM	QUANT.	D E S C R I P T I O N
1	1	3/4", 1", 1-1/2" OR 2" BACKFLOW PREVENTER ASSEMBLY
2	2	3/4", 1", 1-1/2" OR 2" x NOM. NIPPLES – BRASS
3	2	3/4", 1", 1-1/2" OR 2" x 90° ELBOWS – PVC, BRASS OR COPPER
4	2	3/4", 1", 1-1/2" OR 2" x VARIES RISER – PVC, BRASS OR COPPER
5	2	3/4", 1", 1-1/2" OR 2" BALL VALVE
6	*	PEA GRAVEL
7	*	PLASTIC LINER

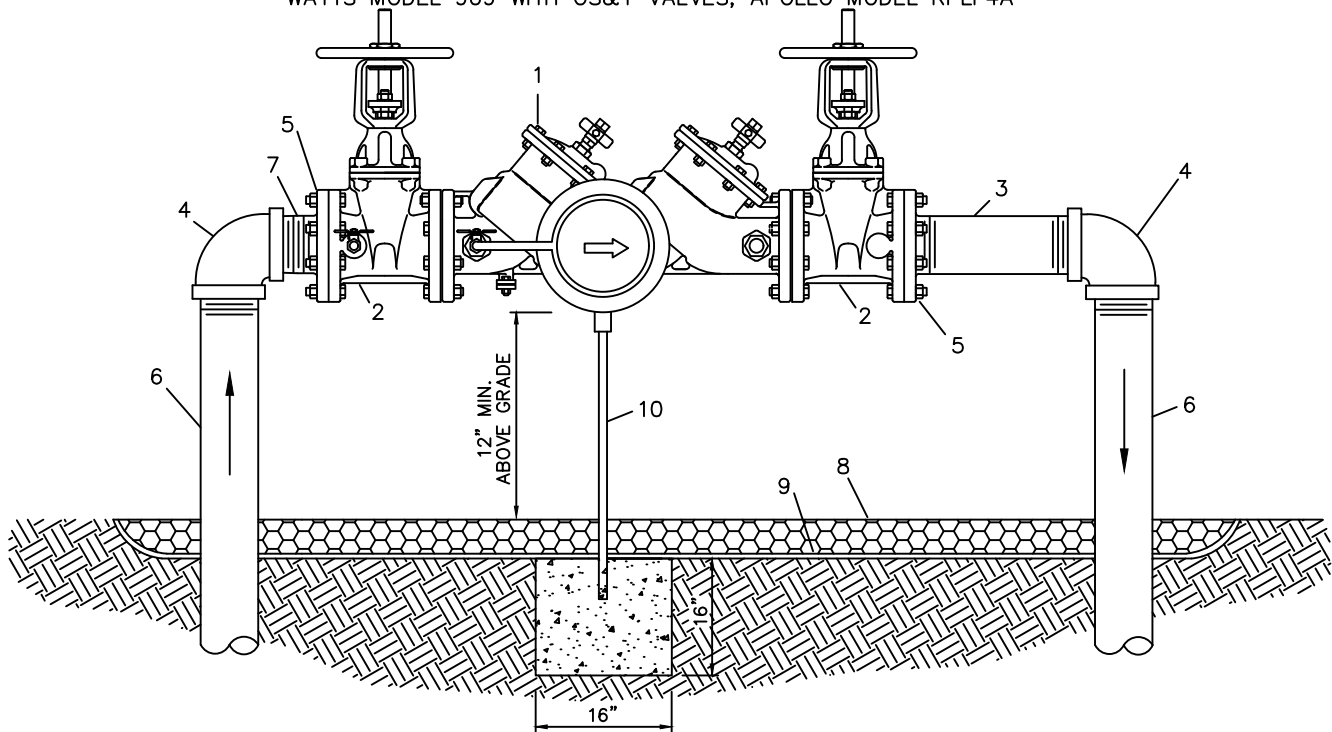
- NOTE:
- FIELD ADJUST AND CUT ITEM 4 TO THE PROPER LENGTH.
 - NO GALVANIZED PIPE OR FITTINGS ALLOWED.
 - A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT/BUILDING DEPARTMENT BEFORE FINAL INSPECTION.
 - ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
 - ASSEMBLY SHALL BE PAINTED FOREST GREEN
 - WILKINS ASSEMBLIES ARE REQUIRED FOR CITY OWNED FACILITIES



STANDARD CONSTRUCTION DETAIL
DOUBLE CHECK BACKFLOW PREVENTER
(FIRE LINE)
3/4", 1", 1-1/2", OR 2"
NTS.

INDEX
W-5A
JAN - 2024

ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM, WILKINS MODEL 375,
WATTS MODEL 909 WITH OS&Y VALVES, APOLLO MODEL RPLF4A



M A T E R I A L S		
ITEM	QUANT.	D E S C R I P T I O N
1	1	3", 4" VALVE, REDUCED PRESSURE BACKFLOW PREVENTER
2	2	3", 4" VALVE, GATE, C.I., F-F
3	1	3", 4" NIPPLE, PVC., D.I., BRASS, OR COPPER (12" LONG) (OPT.)
4	2	3", 4" ELBOW, PVC., D.I., BRASS, OR COPPER - 90°
5	2	3", 4" FLANGE
6	2	3", 4" PIPE, PVC, D.I., BRASS OR COPPER (42" LONG)
7	1	3", 4" NIPPLE, PVC., D.I., BRASS OR COPPER (6" LONG)
8	*	PEA GRAVEL
9	*	PLASTIC LINER
10	1	PIPE SUPPORT / CONCRETE FOUNDATION

NOTE: -FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
 -ASSEMBLY SHALL BE PAINTED FOREST GREEN.
 -A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT/BUILDING DEPARTMENT BEFORE FINAL INSPECTION.
 -ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
 -WILKINS ASSEMBLIES ARE REQUIRED FOR CITY OWNED FACILITIES
 C-900 OR D.I. PIPE AND FITTINGS SHALL BE RESTRAINED. COPPER PIPE AND FITTINGS SHALL BE SWEATED. BRASS PIPE AND FITTINGS SHALL BE THREADED. NO GALVANIZED PIPE OR FITTINGS ALLOWED.



STANDARD CONSTRUCTION DETAIL REDUCED PRESSURE BACKFLOW PREVENTER (POTABLE WATER) 3" OR 4"

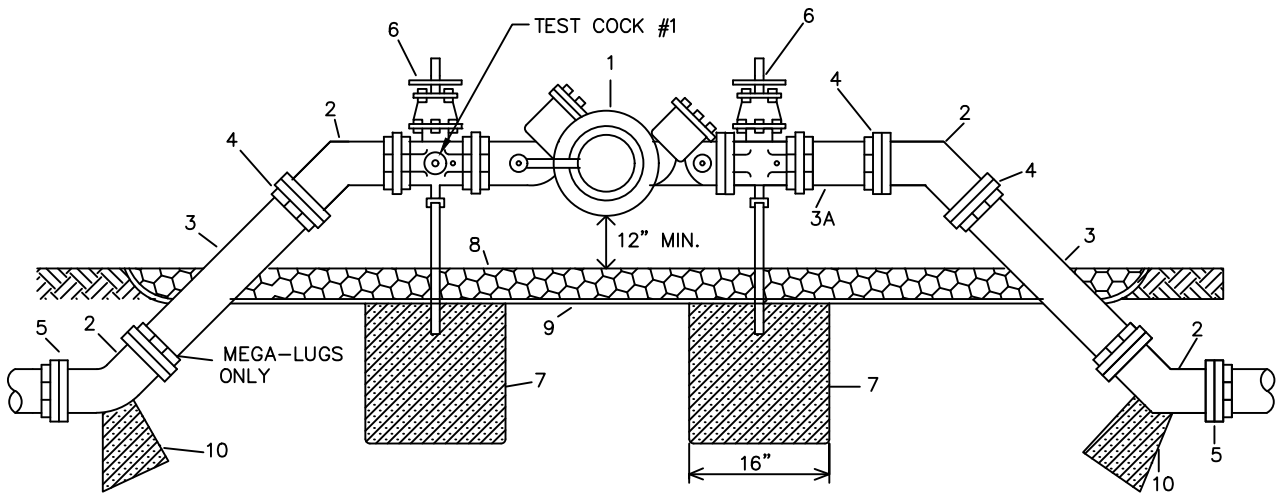
NTS

INDEX

W-5B

JAN - 2024

ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM, WILKINS MODEL 375,
APOLLO MODEL RPLF4A, WATTS MODEL 909 WITH OS&Y VALVES (6" ONLY)



M A T E R I A L S		
ITEM	QUANT.	D E S C R I P T I O N
1	1	6", 8" VALVE, REDUCED PRESSURE BACKFLOW PREVENTER.
2	4	6", 8" BEND -45°
3	2	6", 8" ADAPTER, C.I. F - PE
3A	1	6", 8" ADAPTER, C.I. F - PE (OPT.)
4	3	6", 8" ADAPTER FLANGE D.I.P.
5	2	6", 8" ADAPTER FLANGE P.V.C. (DR - 18)
6	2	6", 8" VALVE, GATE, C.I., F-F (OS&Y STYLE ONLY)
7	1 or 2	2" IRON PIPE/CONCRETE FOUNDATION
8	*	PEA GRAVEL
9	*	PLASTIC LINER
10	2	REACTION BLOCK

- NOTE:
- FIELD ADJUST AND CUT ITEM 3 TO THE PROPER LENGTH.
 - DO NOT INTERCHANGE ITEMS 4 AND 5.
 - ASSEMBLY SHALL BE PAINTED FOREST GREEN.
 - NO GALVANIZED PIPE OR FITTINGS ALLOWED.
 - A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT/ BUILDING DEPARTMENT BEFORE FINAL INSPECTION
 - ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
 - WILKINS ASSEMBLIES ARE REQUIRED FOR CITY OWNED FACILITIES



STANDARD CONSTRUCTION DETAIL
REDUCED PRESSURE BACKFLOW PREVENTER
(POTABLE WATER) 6" OR 8"

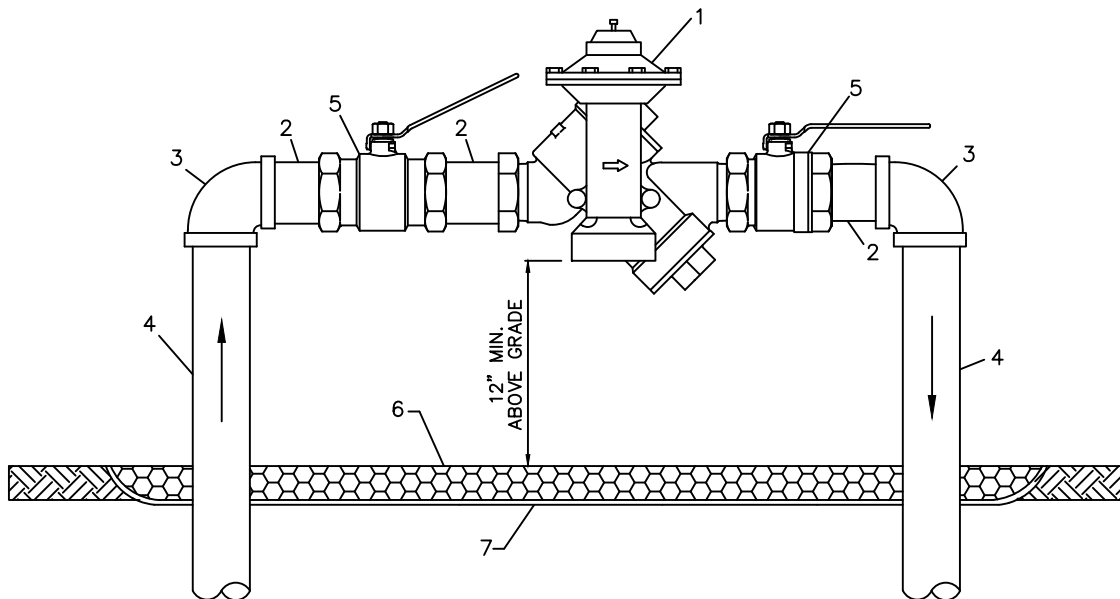
NTS

INDEX

W-5C

JAN - 2024

ACCEPTABLE MANUFACTURERS:
WILKINS MODEL 975XL, WATTS MODEL 009 QTS, APOLLO MODEL RPLF4A



M A T E R I A L S		
ITEM	QUANT.	D E S C R I P T I O N
1	1	3/4", 1", 1-1/2" OR 2" BACKFLOW PREVENTER ASSEMBLY
2	3	3/4", 1", 1-1/2" OR 2" x NOM. NIPPLES – BRASS
3	2	3/4", 1", 1-1/2" OR 2" x 90° ELBOWS – PVC., BRASS, OR COPPER
4	2	3/4", 1", 1-1/2" OR 2" x VARIES RISER – PVC., BRASS, OR COPPER
5	2	3/4", 1", 1-1/2" OR 2" BALL VALVE
6	*	PEA GRAVEL
7	*	PLASTIC LINER

NOTE: –FIELD ADJUST AND CUT ITEM 4 TO THE PROPER LENGTH.
–NO GALVANIZED FITTINGS OR PIPE ALLOWED.
–A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT/BUILDING DEPARTMENT BEFORE FINAL INSPECTION.
–ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
–ASSEMBLY SHALL BE PAINTED FOREST GREEN
–WILKINS ASSEMBLIES ARE REQUIRED FOR CITY OWNED FACILITIES



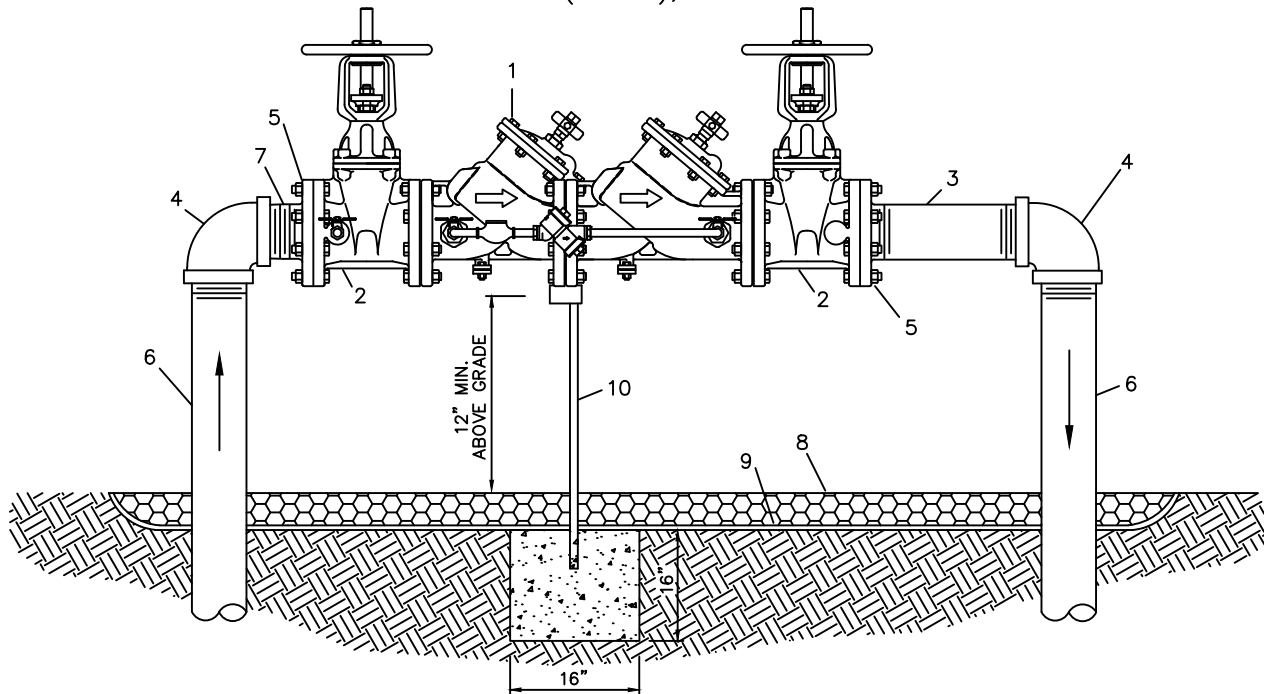
STANDARD CONSTRUCTION DETAIL
REDUCED PRESSURE BACKFLOW PREVENTER
(POTABLE WATER & COMMERCIAL PROPERTY
IRRIGATION) – 3/4", 1", 1 1/2", OR 2"
NTS

INDEX

W-5D

JAN - 2024

ACCEPTABLE MANUFACTURERS: HERSEY MODEL 6CM,
WILKINS MODEL 350ADA, WATTS MODEL 757 DCDA OS&Y,
AME'S COLT 300 (OS&Y), WATTS MODEL 709 DCDA



M A T E R I A L S		
ITEM	QUANT.	D E S C R I P T I O N
1	1	4", 6", 8", 10" VALVE, DOUBLE CHECK BACKFLOW PREVENTER
2	2	4", 6", 8", 10" VALVE, GATE, C.I., F-F
3	1	4", 6", 8", 10" NIPPLE, PVC., BRASS, OR D.I., (12" LONG) (OPT.)
4	2	4", 6", 8", 10" ELBOW, PVC., BRASS, OR D.I., - 90°
5	2	4", 6", 8", 10" FLANGE, STEEL PIPE, SCREW-TYPE
6	2	4", 6", 8", 10" PIPE, PVC., BRASS, OR D.I. (42" LONG)
7	1	4", 6", 8", 10" NIPPLE, PVC., BRASS, OR D.I. (6" LONG)
8	*	PEA GRAVEL
9	*	PLASTIC LINER
10	1	PIPE SUPPORT / CONCRETE FOUNDATION

NOTE: -FIELD ADJUST AND CUT ITEM 6 TO THE PROPER LENGTH.
-NO GALVANIZED FITTINGS OR PIPE ALLOWED.
-A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT/BUILDING DEPARTMENT BEFORE FINAL INSPECTION.
-ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
-ASSEMBLY SHALL BE PAINTED FOREST GREEN.



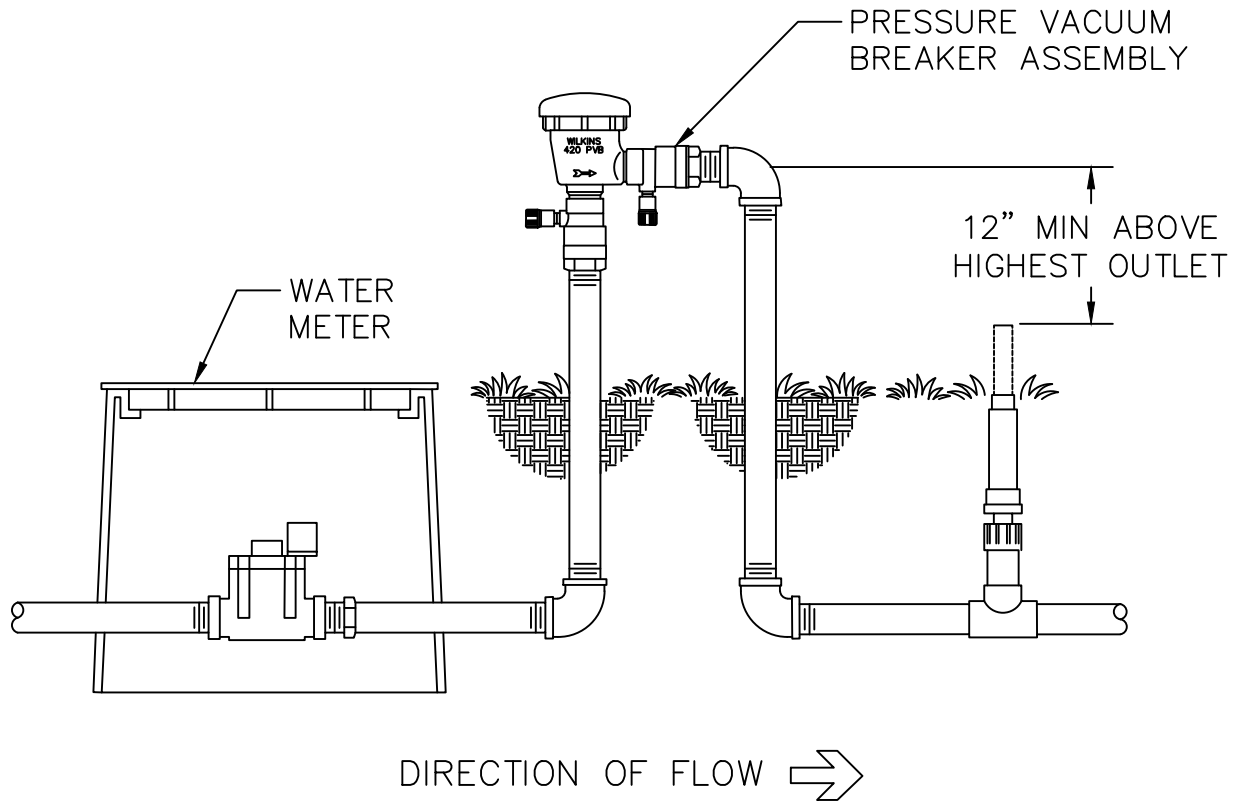
STANDARD CONSTRUCTION DETAIL
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER
(DEDICATED FIRE LINE) 2 1/2" - 10"
NTS

INDEX

W-5E

JAN - 2024

ACCEPTABLE MANUFACTURERS:
WILKINS MODEL 420XL OR APPROVED EQUAL



- NOTE:
- FIELD ADJUST AND CUT ITEM 4 TO THE PROPER LENGTH.
 - NO GALVANIZED FITTINGS OR PIPE ALLOWED.
 - A COPY OF THE ASSEMBLY CERTIFICATION SHALL BE SUBMITTED TO THE COMMUNITY DEVELOPMENT/ BUILDING DEPARTMENT BEFORE FINAL INSPECTION.
 - ASSEMBLY SHOULD HAVE ADEQUATE LANDSCAPING AROUND IT TO OBSCURE VIEW.
 - ASSEMBLY SHALL BE PAINTED FOREST GREEN

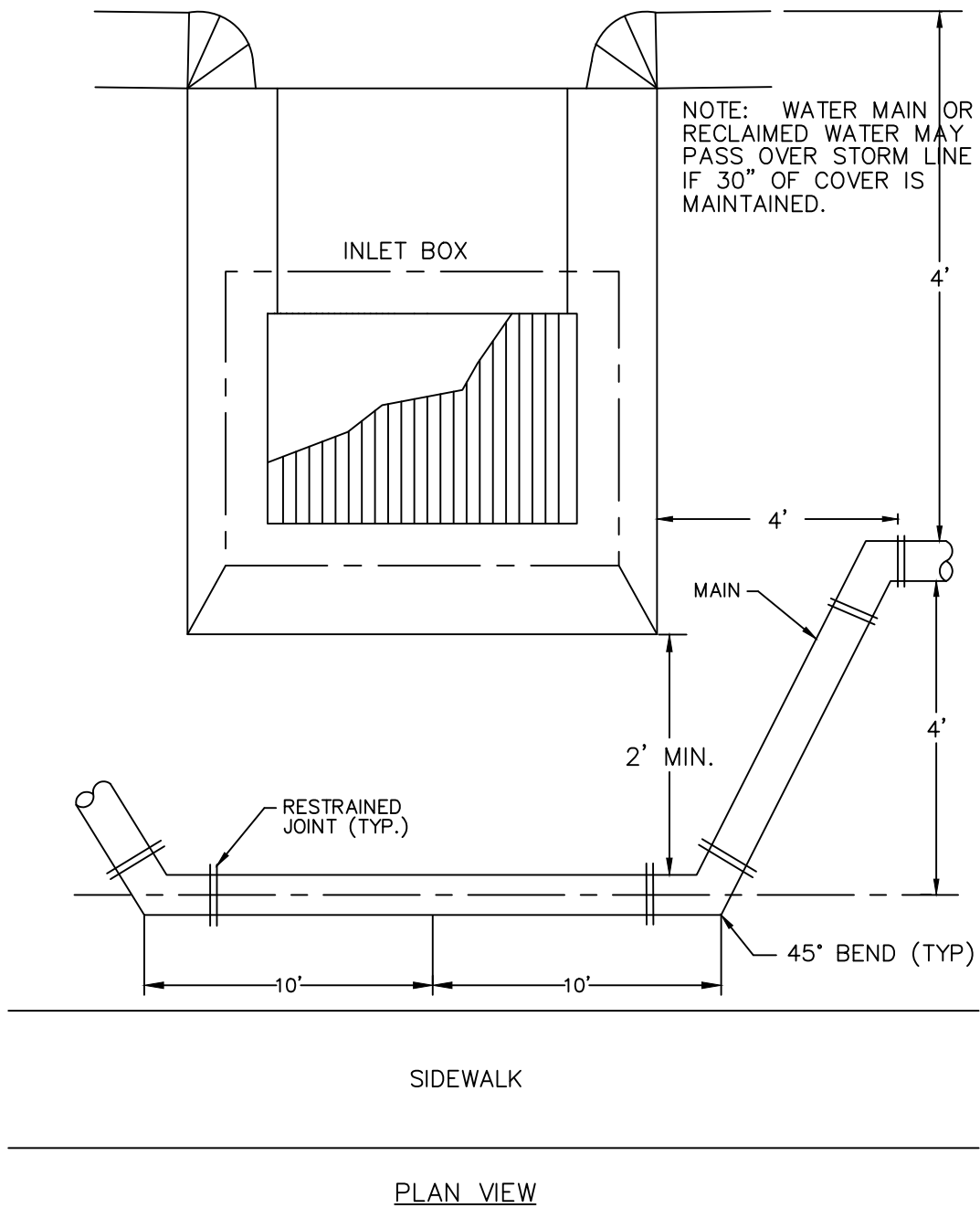


STANDARD CONSTRUCTION DETAIL
PRESSURE VACUUM BREAKER ASSEMBLY
BACKFLOW PREVENTER (RESIDENTIAL
IRRIGATION ONLY) — 3/4" OR 1"
NTS

INDEX

W-5F

JAN - 2024



STANDARD CONSTRUCTION DETAIL

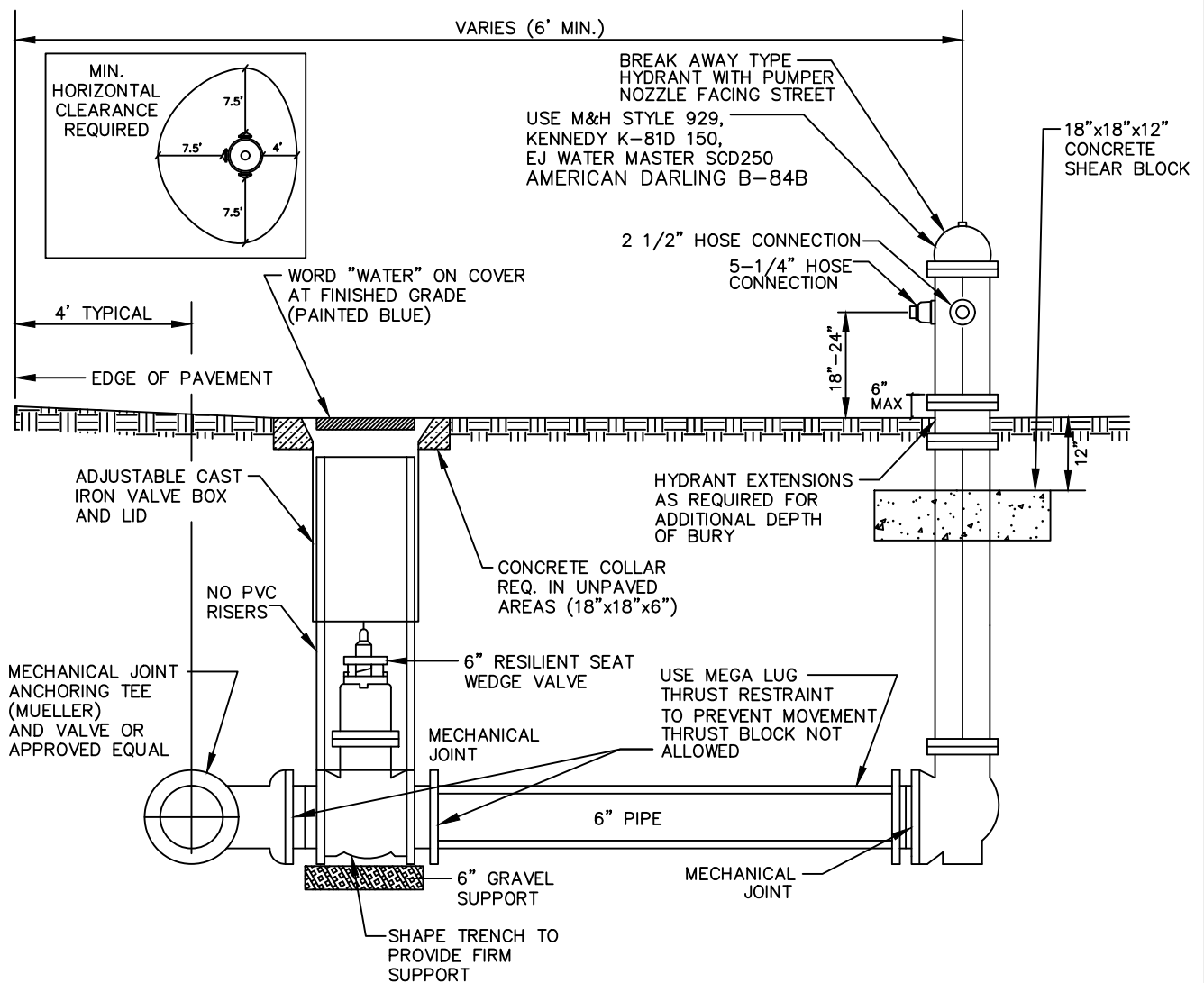
WATER MAIN INSTALLATION BETWEEN
DRAINAGE INLET AND SIDEWALK

NTS

INDEX

W-6

JAN - 2024



NOTES:

1. ALL JOINTS SHALL BE RESTRAINED
2. HYDRANTS TO BE PAINTED SAFETY YELLOW (PUBLIC) OR RED (PRIVATE).
3. HYDRANT BONNET AND CAP TO BE PAINTED ACCORDING TO THE FOLLOWING SCHEME:
 CLASS AA - 1500 GPM AND GREATER - LIGHT BLUE
 CLASS A - 1000 GPM TO 1499 GPM - GREEN
 CLASS B - 500 GPM TO 999 GPM - ORANGE
 CLASS C - LESS THAN 500 GPM - RED
 *GMP SHOWN IS AT 20 PSI
4. HYDRANTS SHALL BE PRIMED WITH A CATALYZED TWO PART PRIMER (DURAPLATE #235), ELECTRICALLY CHARGED AND A CATALYZED URETHANE TOP COAT (ACROLON 218), TWO COMPONENT POLYURETHANE PAINT.
5. HOSE CONNECTIONS TO BE AMERICAN STANDARD THREADS.
6. THE HYDRANT SHOE WILL BE COATED INSIDE WITH FUSION BONDED EPOXY. 6 MIL MINIMUM
7. ADJUSTMENTS OR REPAIRS TO THE HYDRANT AFTER INSTALLATION SHALL BE DONE BY AN UNDERGROUND UTILITY CONTRACTOR OR THE CITY AND ALL COST SHALL BE CHARGED TO THE DEVELOPER. PAYMENT SHALL BE MADE PRIOR TO CERTIFICATE OF OCCUPANCY OF PROPERTY.
8. RESTRAINED JOINTS REQUIRED. THRUST BLOCKS NOT PERMITTED.
9. BOLTS SHALL BE 316 STAINLESS STEEL.
10. INSTALL BLUE REFLECTIVE MARKER IN SUCH A MANNER THAT THE REFLECTIVE FACE OF THE MARKER IS PERPENDICULAR TO A LINE PARALLEL TO THE ROADWAY CENTERLINE. THE BLUE REFLECTIVE MARKERS SHALL BE PLACED IN THE CENTER OF THE TRAVEL LANE, DIRECTLY ACROSS FROM AND ADJACENT TO EACH FIRE HYDRANT.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR FLOW TEST OF HYDRANT BY A FIRE SUPPRESSION CONTRACTOR / DESIGN FIRM IN ACCORDANCE WITH AWWA M-17.



STANDARD CONSTRUCTION DETAIL

FIRE HYDRANT ASSEMBLY

NTS

INDEX

W-7

JAN - 2024

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, FORCE MAIN, RECLAIMED WATER (2)			
VACUUM SANITARY SEWER			
GRAVITY OR PRESSURE SANITARY SEWER, SANITARY FORCE MAIN, RECLAIMED WATER (4)			
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	_____	_____

- (1) WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 18 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SEWER WHERE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.

DISCLAIMER – THIS DOCUMENT WAS PROVIDED FOR YOUR CONVENIENCE ONLY. PLEASE REFER TO F.A.C. RULE 62-555.314 FOR ADDITIONAL CONSTRUCTION REQUIREMENTS

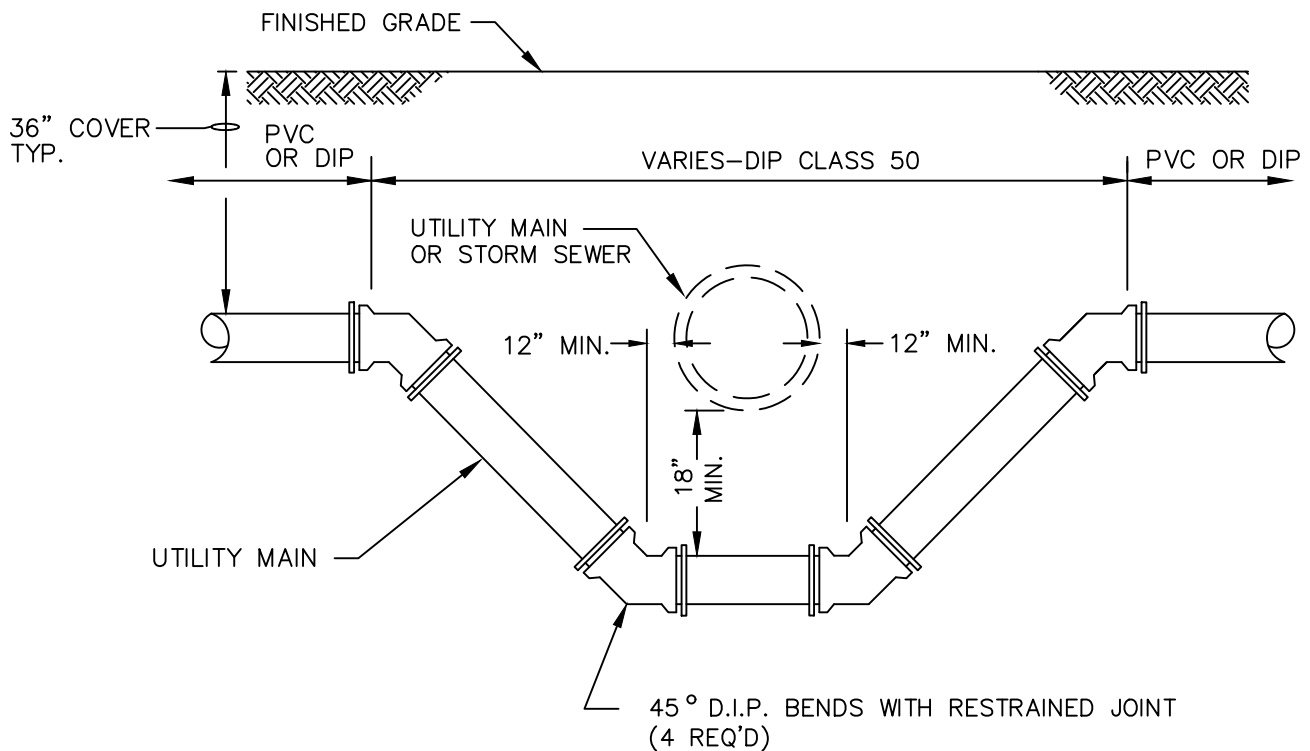


STANDARD CONSTRUCTION DETAIL WATER MAIN SEPARATION NTS

INDEX

W-8A

JAN - 2024



NOTE: ABOVE DETAIL TO BE UTILIZED IF CONTRACTOR CANNOT MAINTAIN 18" CLEAR BETWEEN MAINS BY DEFLECTING PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



STANDARD CONSTRUCTION DETAIL

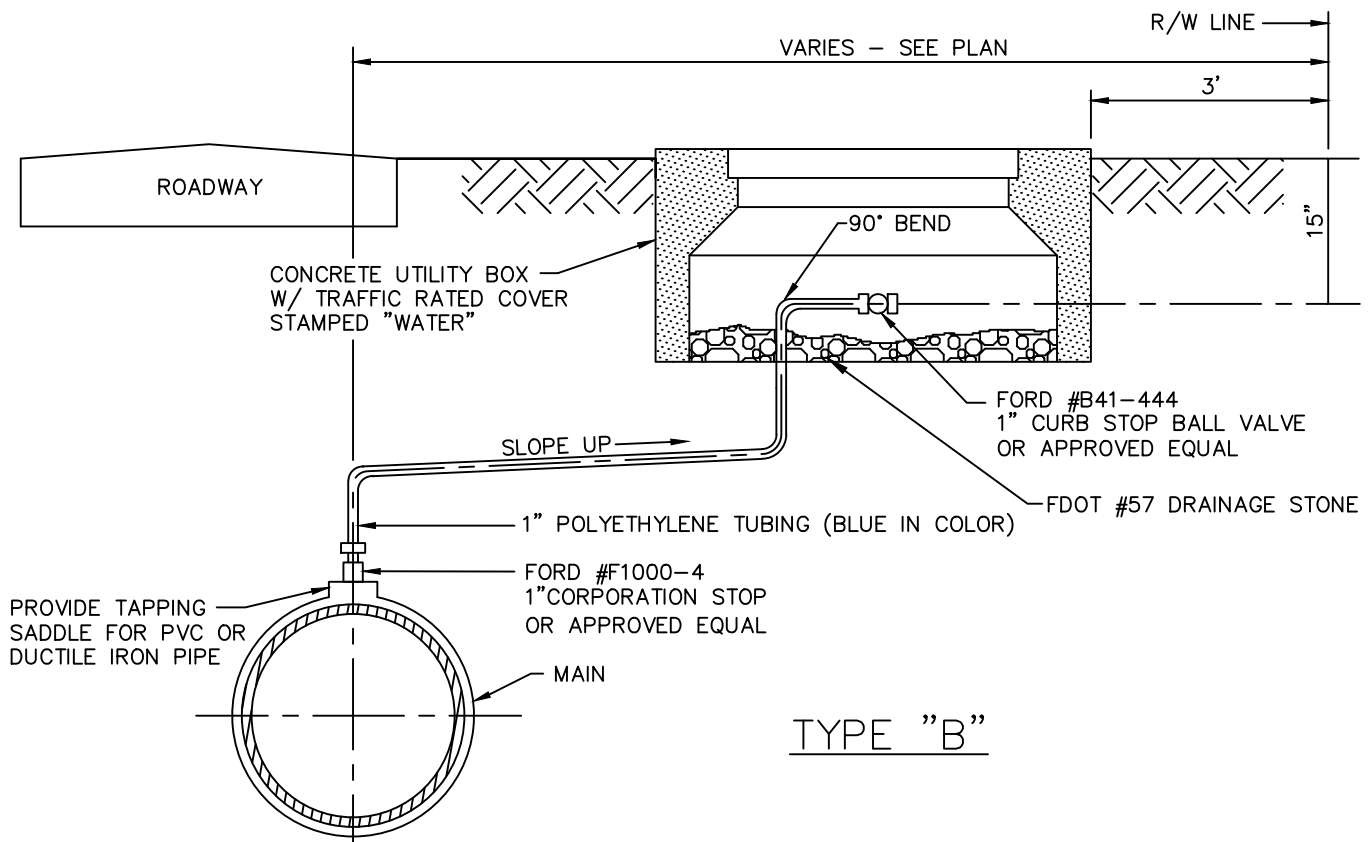
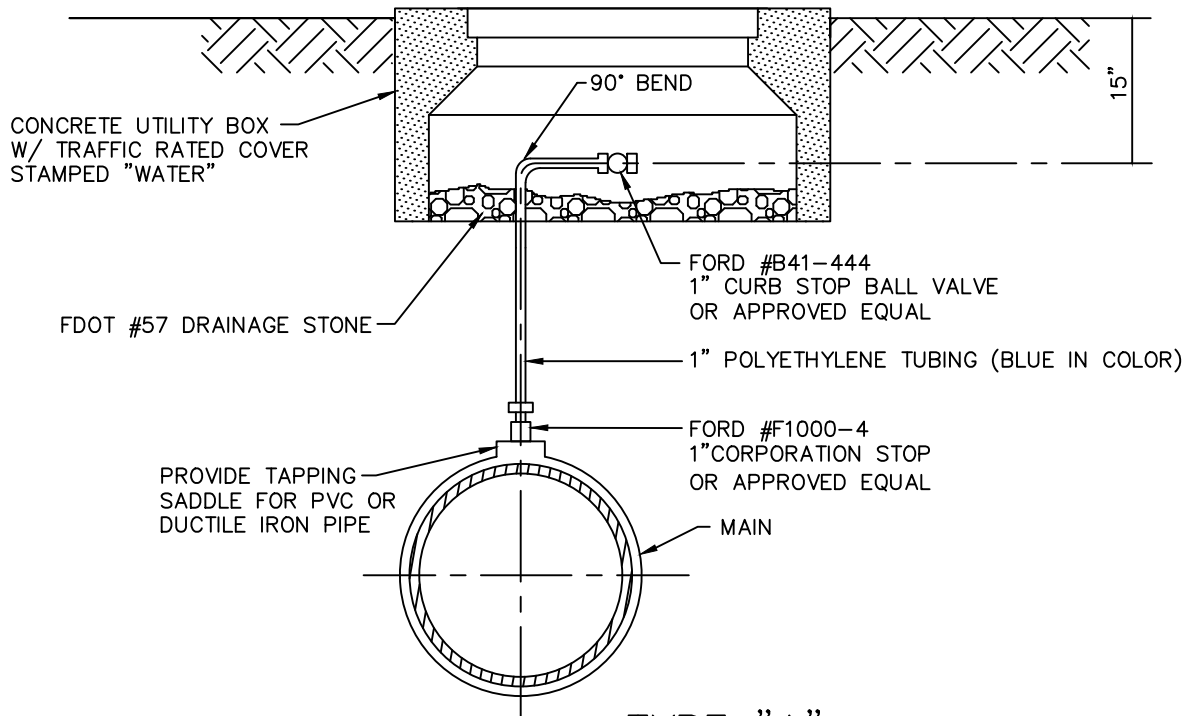
PIPE CROSSING

NTS.

INDEX

W-8B

JAN - 2024



NOTE- NO GALVANIZED PIPE OR FITTINGS ALLOWED.



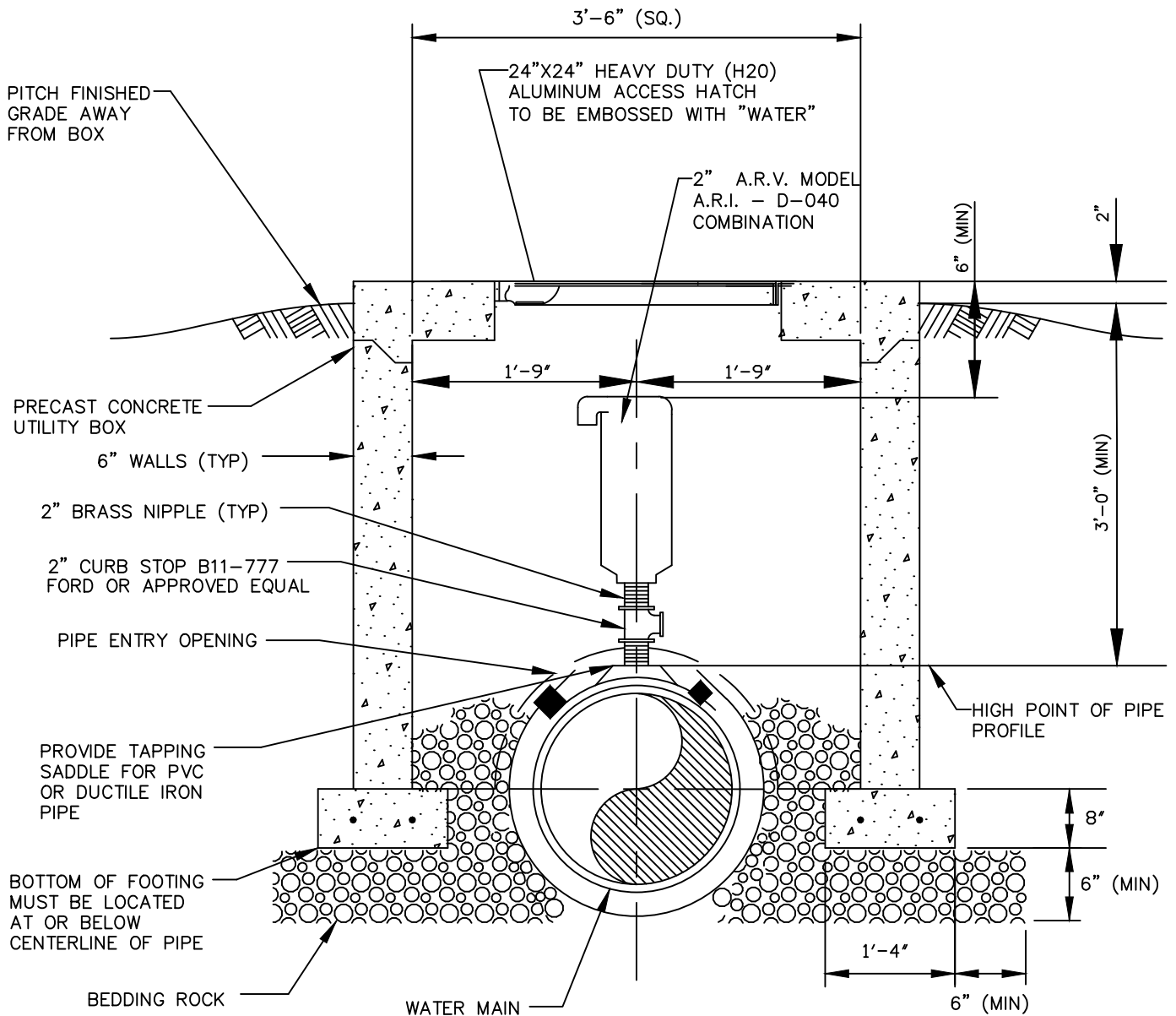
STANDARD CONSTRUCTION DETAIL MANUAL AIR RELEASE VALVE

NTS

INDEX

W-9A

JAN - 2024



NOTE:

1. GALVANIZED PIPE AND FITTINGS NOT ACCEPTABLE FOR THIS INSTALLATION
2. STRUCTURE TO BE ADEQUATE FOR AASHTO H2O LOADING
3. DESIGNER IS RESPONSIBLE FOR PROVIDING CONSTRUCTION MATERIAL AND STEEL REINFORCING REQUIREMENTS
4. NO SURFACE COATING REQUIRED ON VAULT
5. ALUMINUM HATCH TO INCLUDE S.S. HINGE AND S.S. SLAM LOCKS WITH REMOVABLE KEYS
6. FITTINGS AND PIPE FOR A.R.V. SHALL BE BRASS



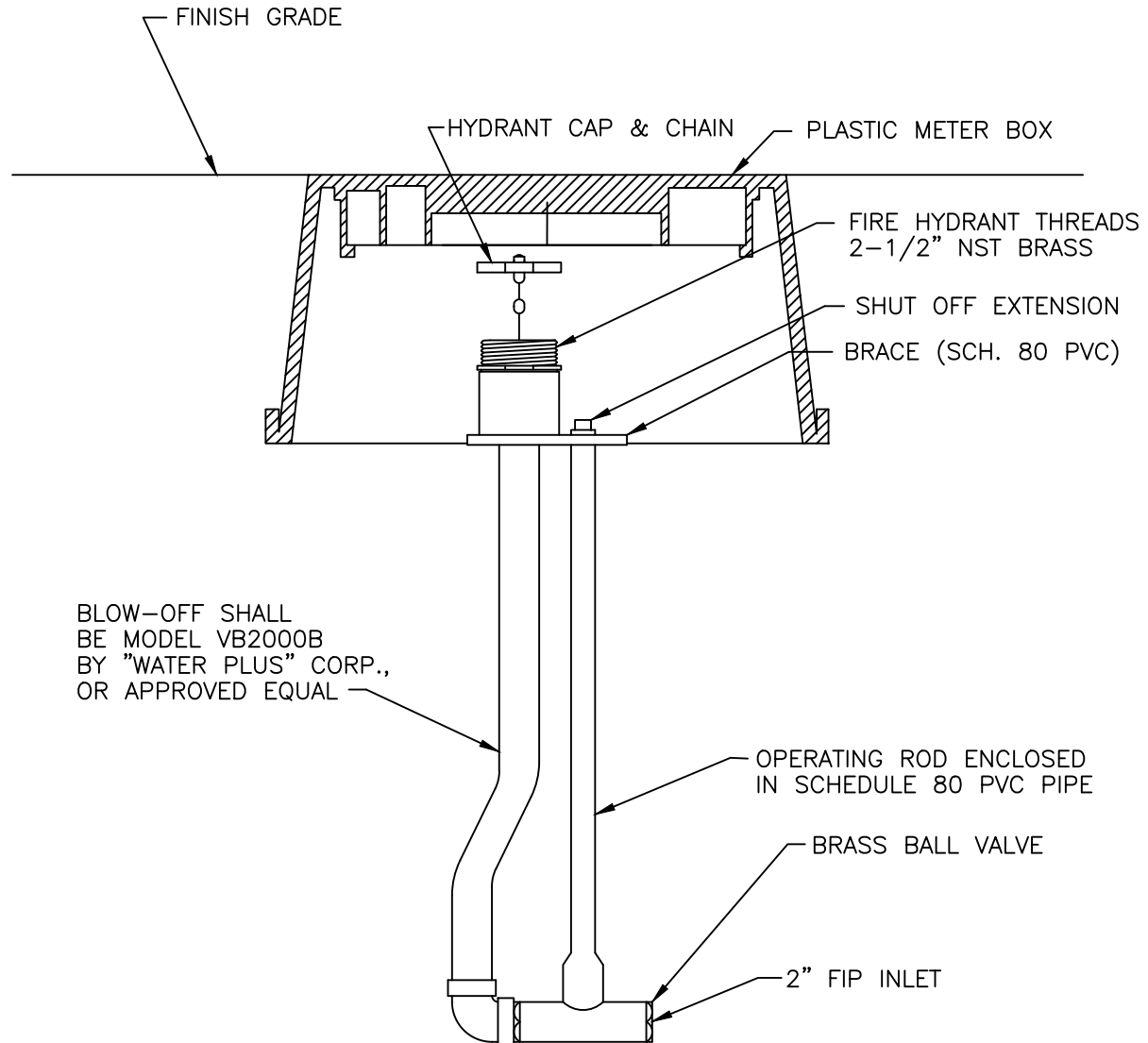
STANDARD CONSTRUCTION DETAIL
AUTOMATIC AIR RELEASE VALVE
(WATER MAIN)

NTS

INDEX

W-9B

JAN - 2024



1. WRENCH AND DISCHARGE SPOUT AS SUPPLIED BY MANUFACTURER SHALL BE TURNED OVER TO THE CITY DURING FINAL INSPECTION.



STANDARD CONSTRUCTION DETAIL

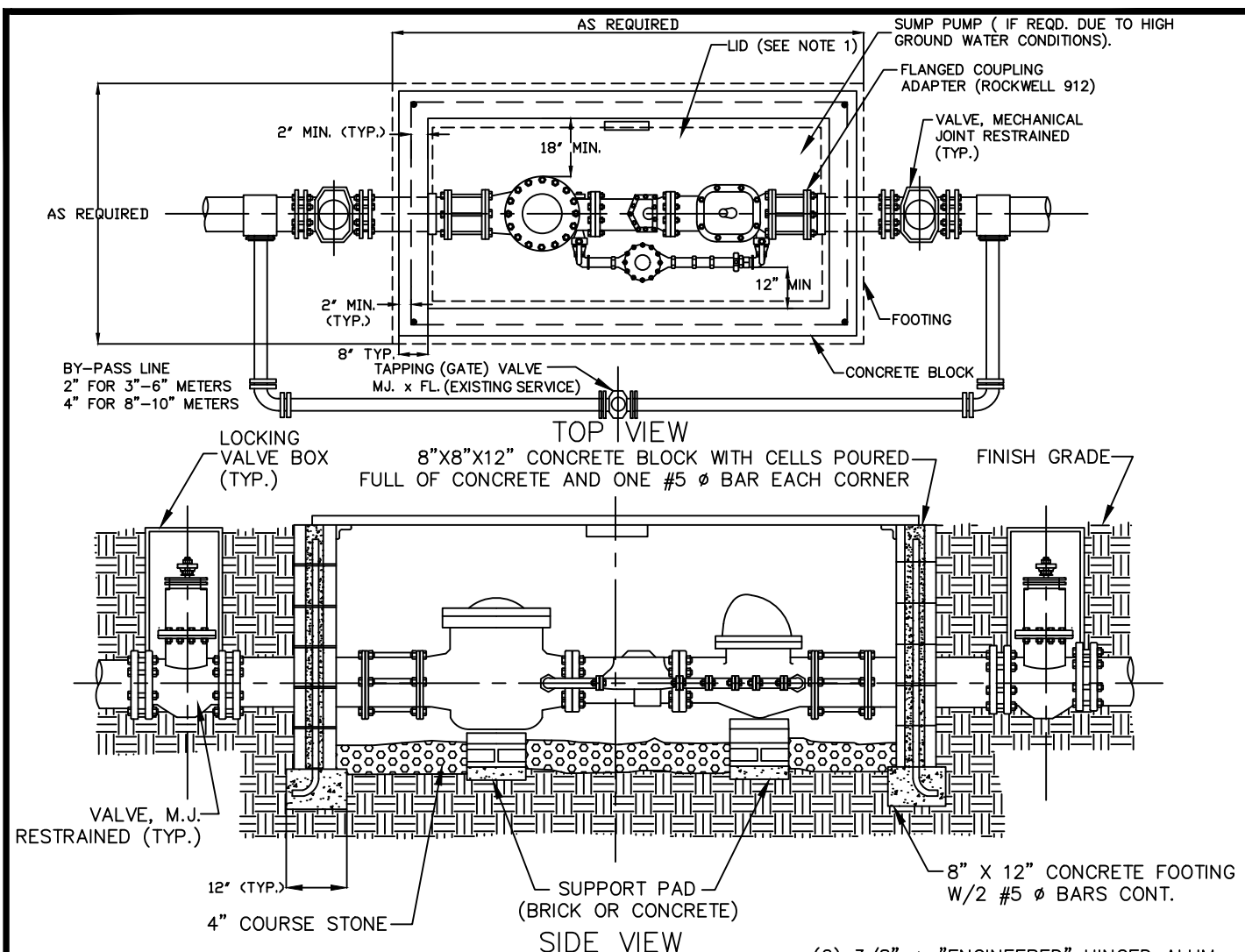
BLOW-OFF ASSEMBLY WITH METER BOX

NTS.

INDEX

W-10

JAN - 2024



WATER METER ASSEMBLY NOTES

1. LID SHALL BE ALUMINUM DIAMOND PATTERN PLATE AS MANUFACTURED BY HALLIDAY PRODUCTS.
2. AS AN ALTERNATIVE TO CONSTRUCTING THE VAULT ON SITE, A PRECAST VAULT AS MANUFACTURED BY BROOKS PRODUCTS OR AN APPROVED EQUAL IS AN OPTION.
3. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, GATE VALVES SHALL BE INSTALLED ON MAINS.
4. THE WATER SERVICE METER SHALL BE A NEPTUNE COMPOUND WATER METER. METERS SHALL REGISTER IN GALLONS, BE STRAIGHT READING AND CONFORM TO AWWA C-700 LATEST. METER TYPE SHALL BE APPROVED BY THE UTILITIES MANAGER.
5. WATER SERVICE METERS SERVICING A FIRE PROTECTION SYSTEM SHALL BE NEPTUNE HIGH PERFORMANCE PROTECTUS III FIRE SERVICE METER.
6. USE DIP OR PVC PIPE IN ACCORDANCE WITH LDC. NO GIP ALLOWED.
7. METER TO BE SUPPLIED AND INSTALLED BY THE CITY.
8. ALL ITEMS EXCEPT METER TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.

INSIDE VAULT DIMENSIONS SHALL BE AS FOLLOWS:

3" METERS	4' X 5'
4" METERS	4' X 6'
6" METERS	5' X 8'
8" METERS	6' X 8'
10" METERS	7' X 8'



STANDARD CONSTRUCTION DETAIL

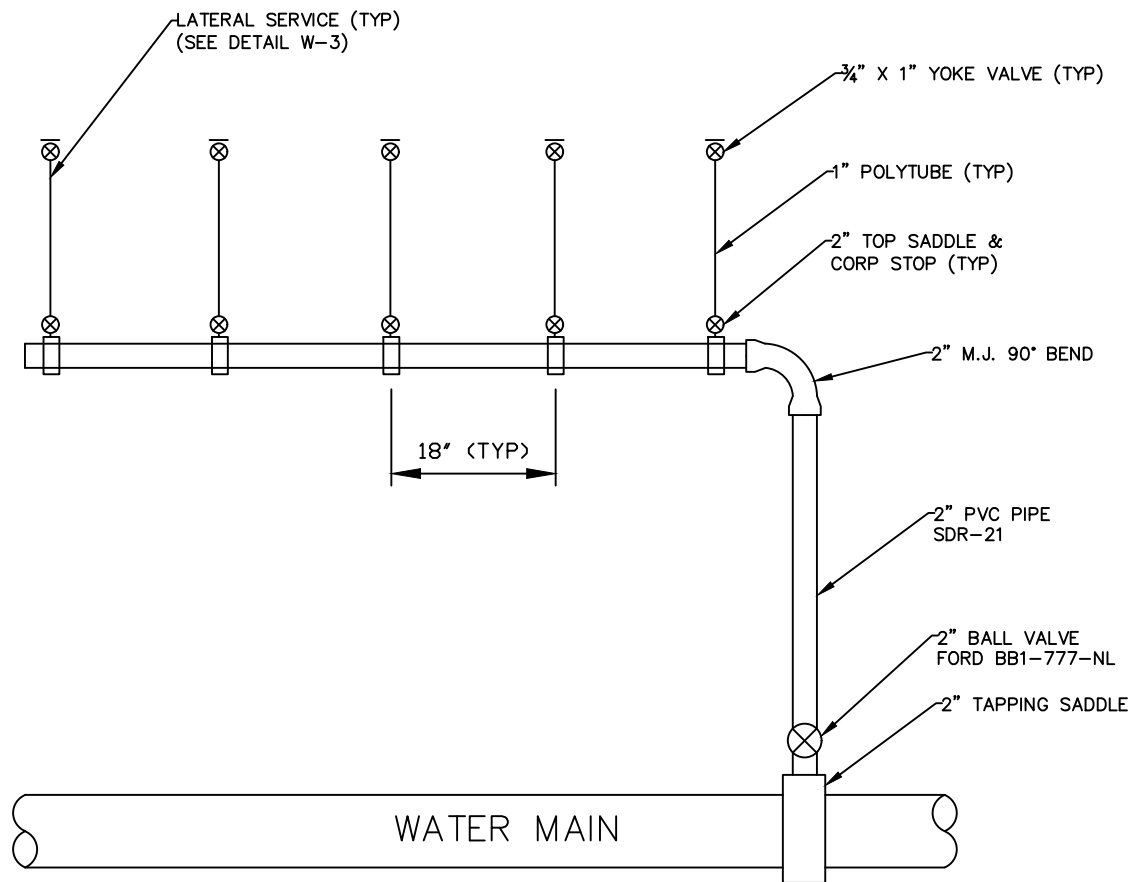
WATER METER ASSEMBLY 3" AND ABOVE

NTS

INDEX

W-11

JAN - 2024



ENGINEER SHALL PROVIDE CALCULATIONS FOR SIZE
OF MANIFOLD PIPE TO ENSURE PROPER FLOW.



STANDARD CONSTRUCTION DETAIL

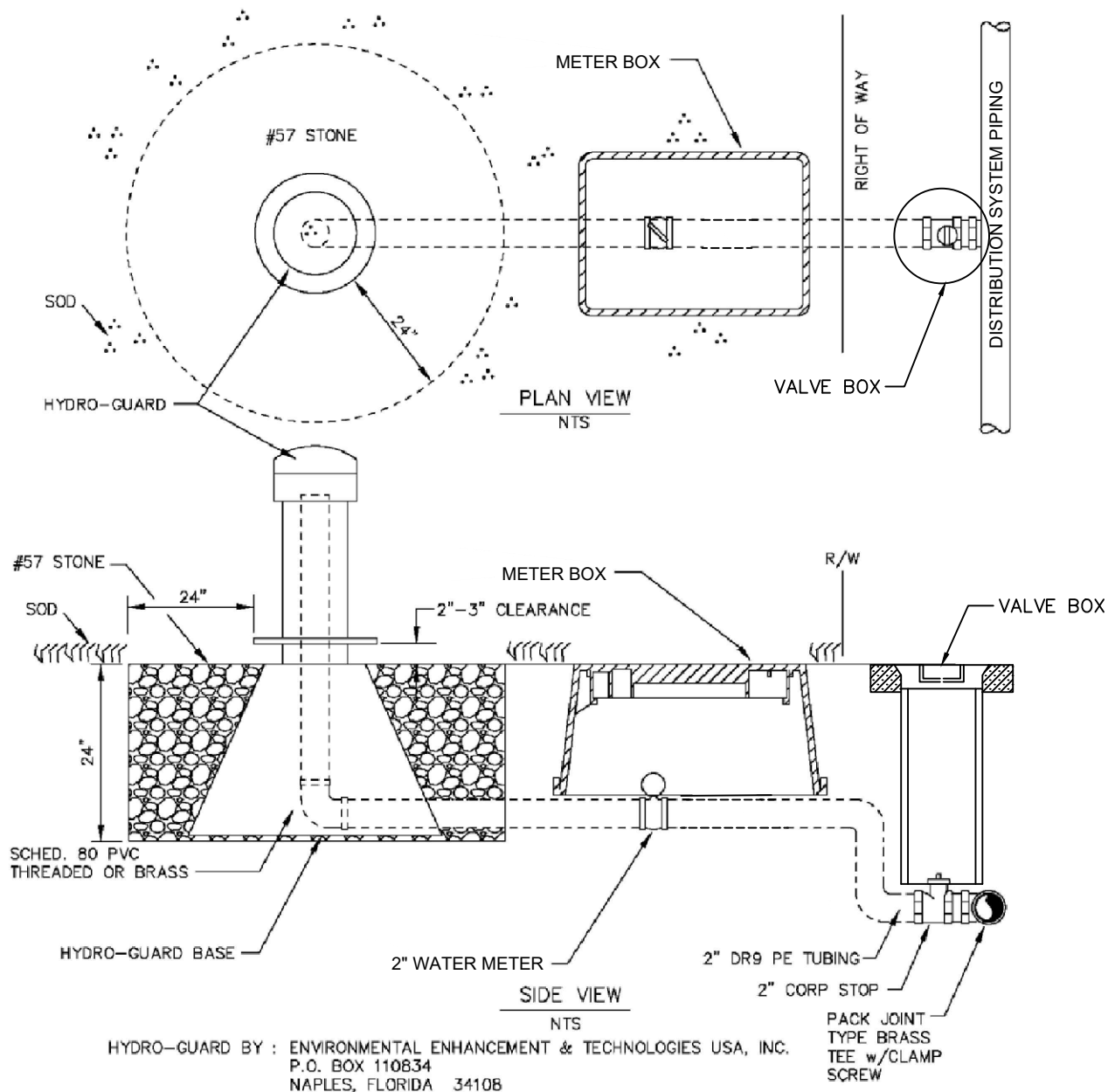
MANIFOLD SYSTEM FOR COMMERCIAL MULTI-METERS

NTS

INDEX

W-12

JAN - 2024



- NOTE:**
- ① MAINTAIN A MINIMUM OF 3' CLEARANCE FREE OF ALL PLANTINGS & STRUCTURES AROUND HYDRO-GUARD DEVICE.
 - ② BOLLARDS SHALL BE REQUIRED ON A CASE-BY-CASE BASIS PROTECTING HYDRO-GUARD DEVICE.
 - ③ AUTOMATIC FLUSHING DEVICE SHALL BE INSTALLED ON ALL "DEAD END" LINES, CONSTRUCTION LINES, PHASE LINES AND CUL-DE-SAC DEAD ENDS.
 - ④ HYDROGUARD DEVICE SHALL BE SET BEHIND RIGHT OF WAY LINE AND ON PROPERTY LINE.
 - ⑤ SODDING MUST BE INSTALLED BEFORE HYDRO-GUARD IS ACTIVATED.



STANDARD CONSTRUCTION DETAIL

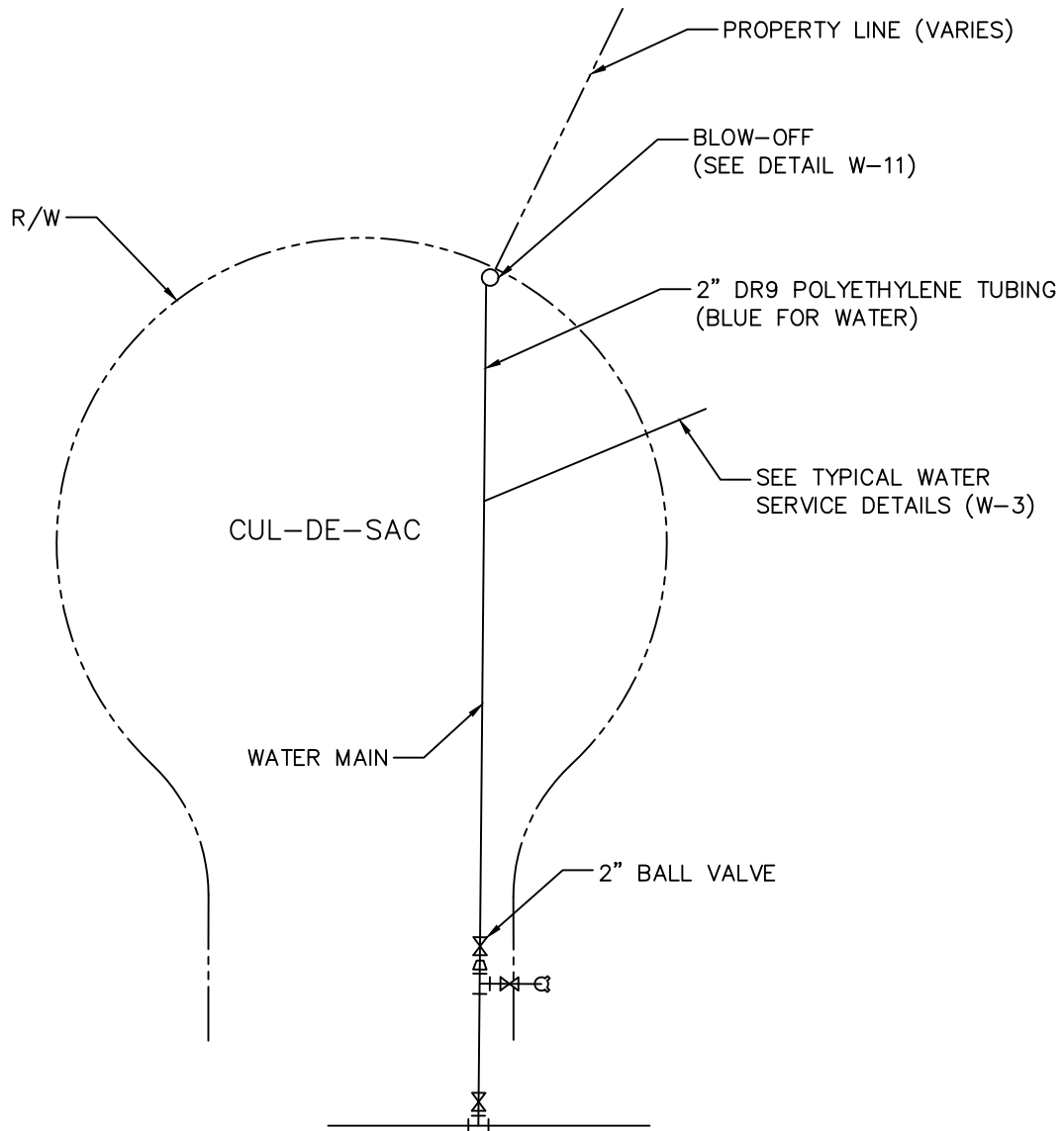
HYDRO-GUARD AUTOMATIC FLUSHING DEVICE

NTS

INDEX

W-13

JAN - 2024



NOTE:

1. THIS DETAIL APPLIES ONLY ON CUL-DE-SACS LONGER THAN 250 FT.
2. BLOW OFF SHALL BE SET 1' INSIDE RIGHT OF WAY LINE AND ON PROPERTY LINE

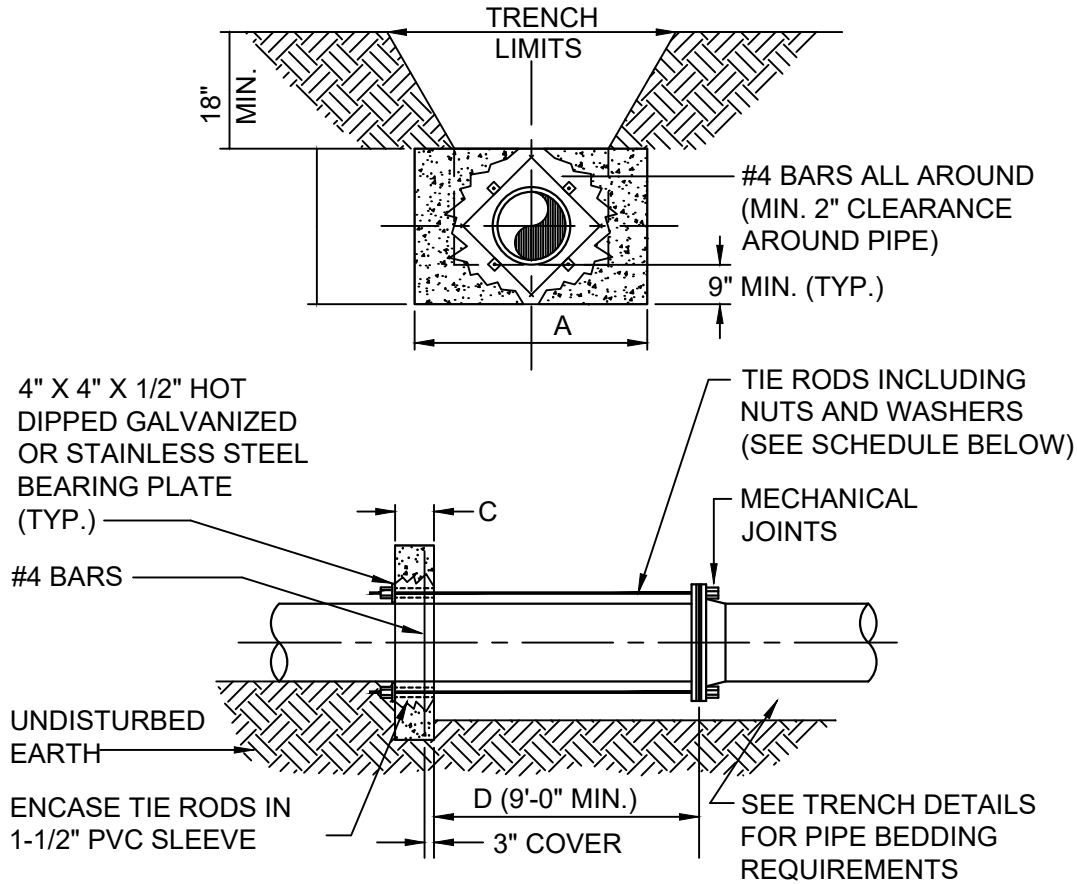


STANDARD CONSTRUCTION DETAIL
TYPICAL CUL-DE-SAC
WATER PIPING
NTS

INDEX

W-14

JAN - 2024



NOTES:

1. ADDITIONAL REINFORCEMENTS SHALL BE SPECIFIED BY THE ENGINEER.
2. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE SHALL BE 3000 PSI.
3. BEDDING, BACKFILL AND COMPACTION SHALL BE SPECIFIED IN THE STANDARD DRAWING.
4. ALL FORM BOARDS SHALL BE REMOVED PRIOR TO BACKFILLING.
5. NO ALLOWANCE SHALL BE MADE FOR FRICTION BETWEEN THE PIPE WALL.
6. DESIGN PRESSURE: 150 PSI.

SCHEDULE OF DIMENSIONS AND MATERIALS

PIPE SIZE (INCHES)	DIMENSIONS (FT.)				TIE RODS REQ'D	
	A	B	C	D	DIA.	NO.
6	2.0	2.0	1.0		3/4	2
8	2.5	2.5	1.0		3/4	2
10	3.5	3.0	1.0		3/4	2
12	5.0	3.0	1.0		3/4	2
16	6.0	4.0	1.5		3/4	4
20	8.0	5.0	1.5		3/4	6
24	9.0	6.0	1.5		3/4	8

NOTE: THRUST COLLAR AREAS TO BE COMPUTED ON BASIS OF 2000 LBS/SF SOIL RESTRAINT BEARING.



STANDARD CONSTRUCTION DETAIL

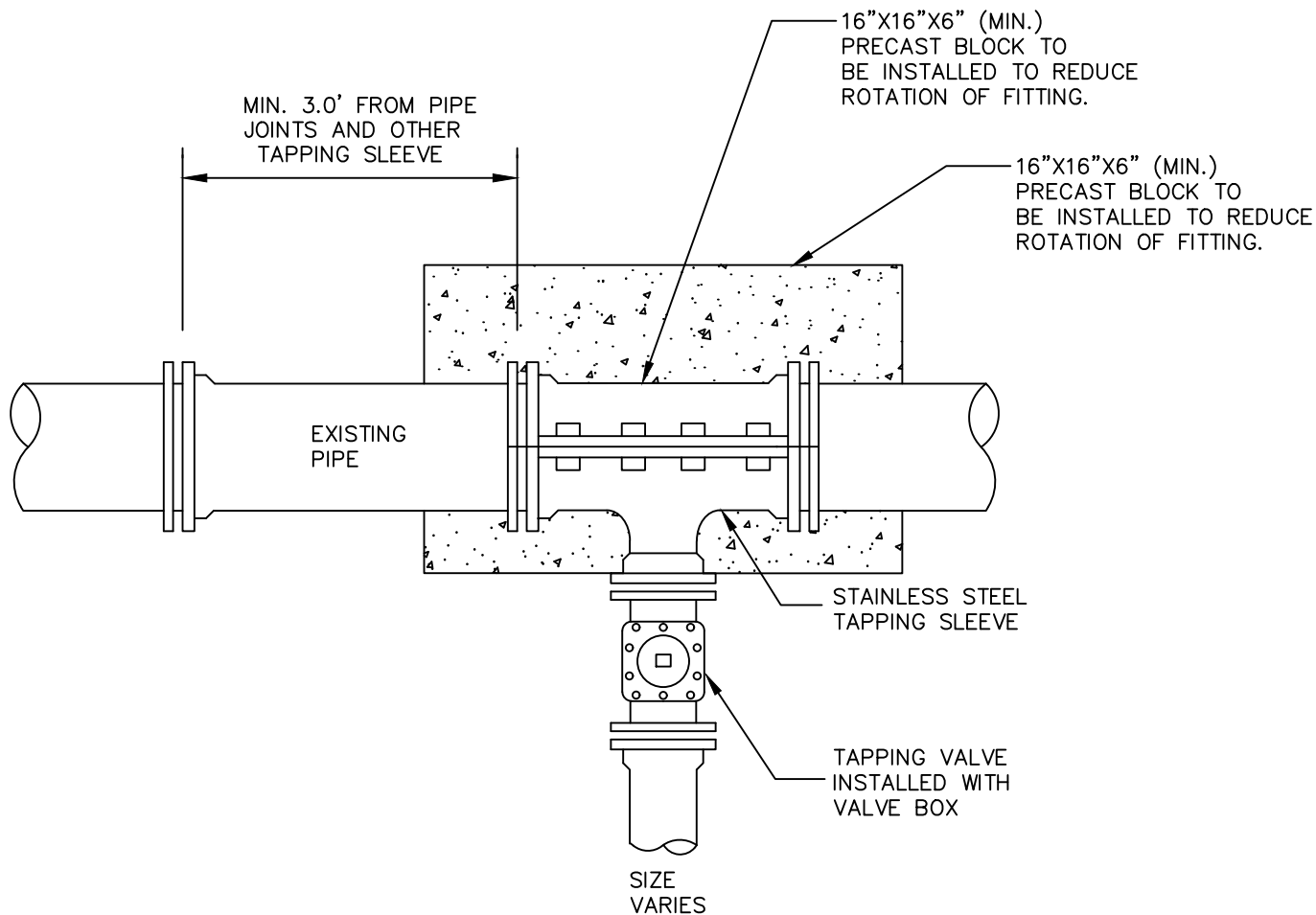
WATER MAIN THRUST COLLAR

NTS

INDEX

W-15

JAN - 2024



NOTES:

1. STAINLESS STEEL SLEEVES ONLY WITH 316 STAINLESS STEEL BOLTS ARE PERMITTED FOR ALL TYPES OF PIPE MATERIALS.
2. INSTALL REQUIRED RESTRAINED JOINTS. IN NO INSTANCE SHALL THRUST BLOCK BE PERMITTED.
3. ALL TAPPING OF MAINS SHALL BE PERFORMED BY THE CONTRACTOR UNDER SUPERVISION OF A CITY REPRESENTATIVE. ALL MATERIALS TO BE PROVIDED BY DEVELOPER / CONTRACTOR
4. ALL VALVES 2" OR GREATER SHALL BE GATE VALVES. CORPORATION STOPS ARE NOT ALLOWED ON VALVES 2" OR GREATER EXCEPT ON BLOW-OFFS.
5. PRESSURE TEST SHALL BE PERFORMED ON TAPPING VALVE AND SLEEVE.



STANDARD CONSTRUCTION DETAIL

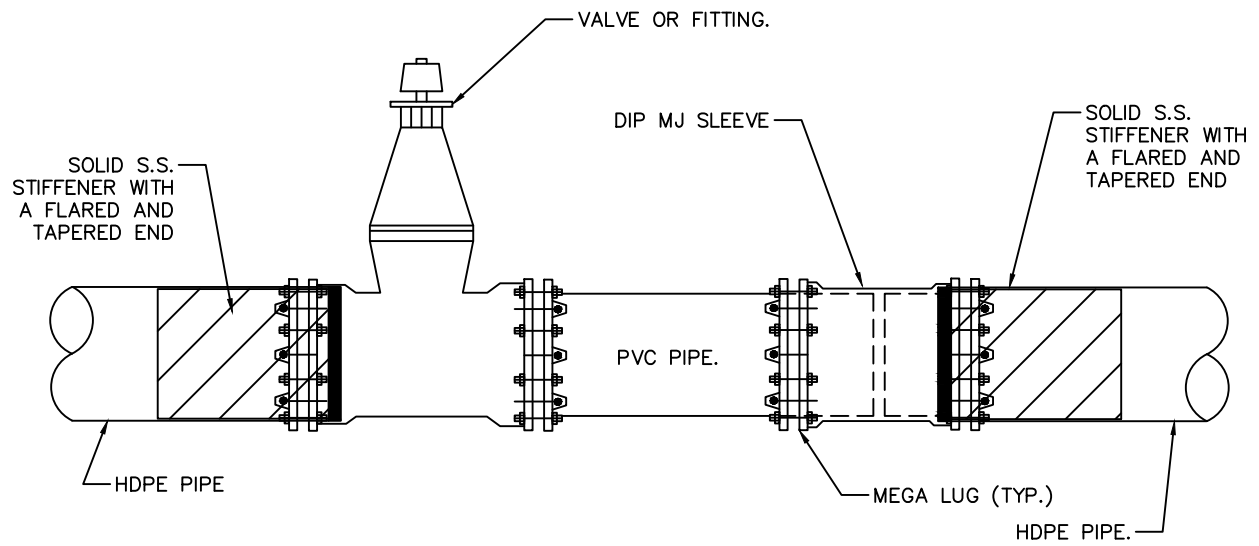
TAPPING VALVE AND SLEEVE

NTS

INDEX

W-16

JAN - 2024

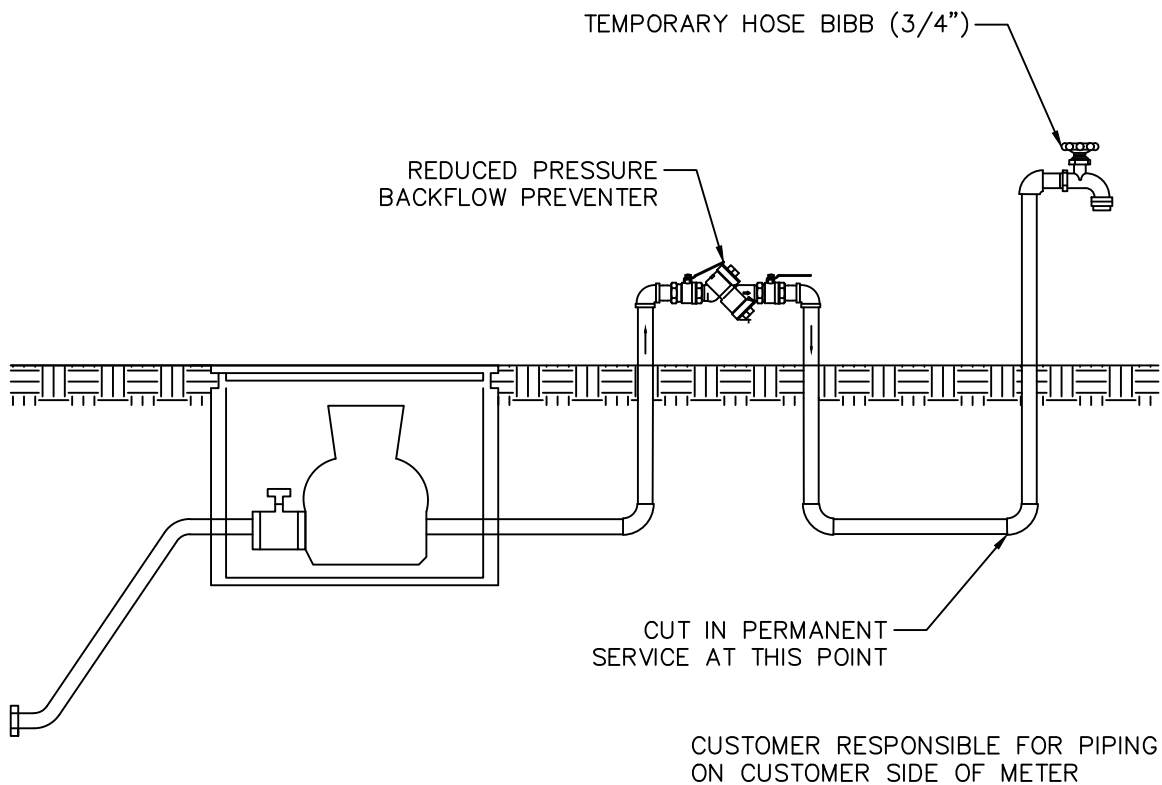


STANDARD CONSTRUCTION DETAIL
 HDPE PIPE – VALVE/FITTING CONNECTION
 NTS.

INDEX

W-17

JAN - 2024



FOR USE ON PROJECTS WITH EXISTING METER DURING CONSTRUCTION

NOTES:

1. UPON APPROVAL OF ENGINEERING PERMIT CONTRACTOR MAY INSTALL A TEMPORARY HOSE BIBB TO SUPPLY METERED WATER FOR CONSTRUCTION.
2. PRIOR TO FINAL INSPECTION, THE CONTRACTOR SHALL REMOVE THE TEMPORARY HOSE BIBB AND MAKE WATER CONNECTION TO THE BUILDING PER CURRENT CONSTRUCTION STANDARDS.
3. CONTRACTOR SHALL NOT DISTURB FITTINGS AT METER BOX.
4. CONTRACTOR SHALL REMOVE HOSE BIBB AND CONNECT PERMANENT SERVICE AT LOCATION INDICATED.



STANDARD CONSTRUCTION DETAIL

TEMPORARY HOSE BIBB
(FOR CONSTRUCTION)

NTS

INDEX

W-18

JAN - 2024