BROWARD COUNTY
Public Works and Environmental Services Department
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL

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7/7/2021

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BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
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STANDARD DETAIL



1. PRIOR TO BEGINNING ANY WORK, CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES THAT HAVE FACILITIES WITHIN THE PROJECT AREA.

2. THE ABOVE NOTICE SHALL APPEAR ON THE COVER SHEET OF ALL CONSTRUCTION PLANS SUBMITTED TO THE COUNTY.

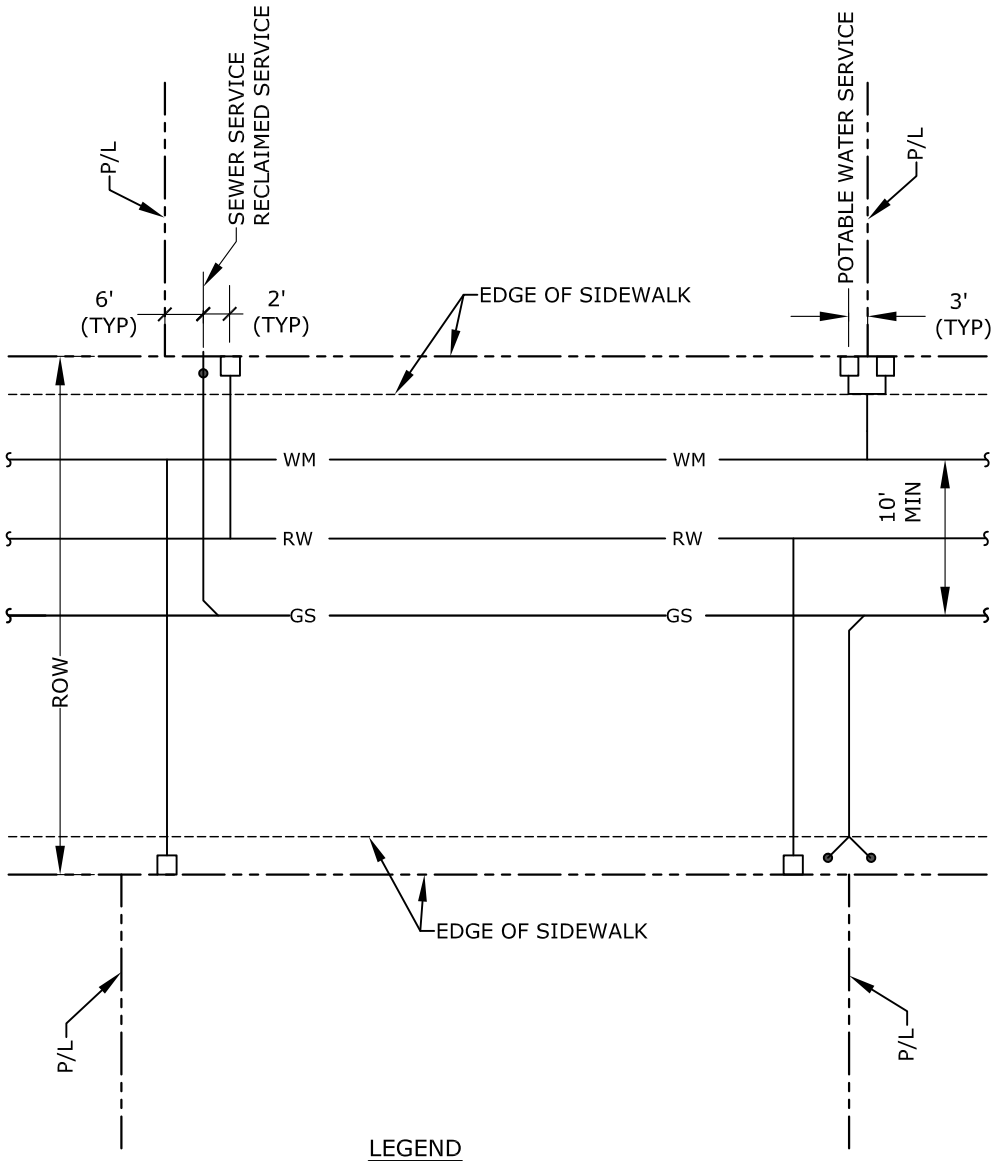
REVISED	UTILITY LOCATES	FIGURE
7/7/2021		101

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

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STANDARD DETAIL



LEGEND
GS - GRAVITY SEWER
RW - RECLAIMED WATER
WM - POTABLE WATER MAIN

NOTE: LOCATION OF SERVICES CAN BE MODIFIED WITH WWS APPROVAL.

REVISED	UTILITY LOCATIONS	FIGURE
7/7/2021		104

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
REVISED 7/7/2021

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
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STANDARD DETAIL

WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (1) (4)	JOINT SPACING @ CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (2)	Water Main — 3 ft. minimum	Water Main — 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 3 ft. minimum — Water Main
VACUUM SANITARY SEWER	Water Main — 10 ft. preferred, 3 ft. minimum	Water Main — 12 inches preferred, 6 inches min	Alternate 3 ft. minimum — Water Main
GRAVITY SANITARY SEWER,(3) SANITARY SEWER FORCE MAIN, RECLAIMED WATER	Water Main — 10 ft. preferred, 6 ft. minimum	Water Main — 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is preferred	Alternate 6 ft. minimum — Water Main
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 12 INCHES.
(2) RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
(3) 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
(4) 18" VERTICAL MINIMUM SEPARATION REQUIRED BY WWS, UNLESS OTHERWISE APPROVED.

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7/7/2021

WATER MAIN SEPARATION

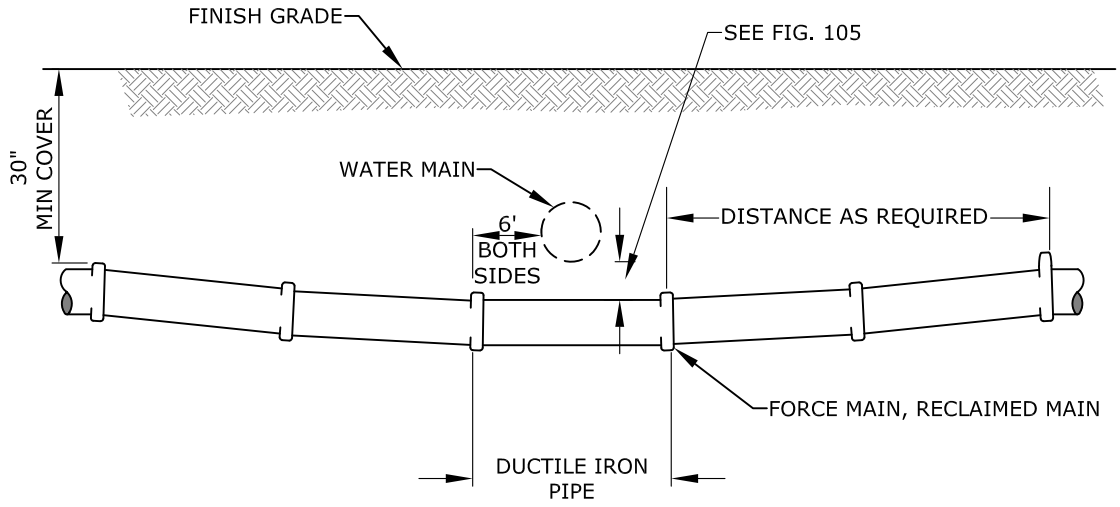
FIGURE
105

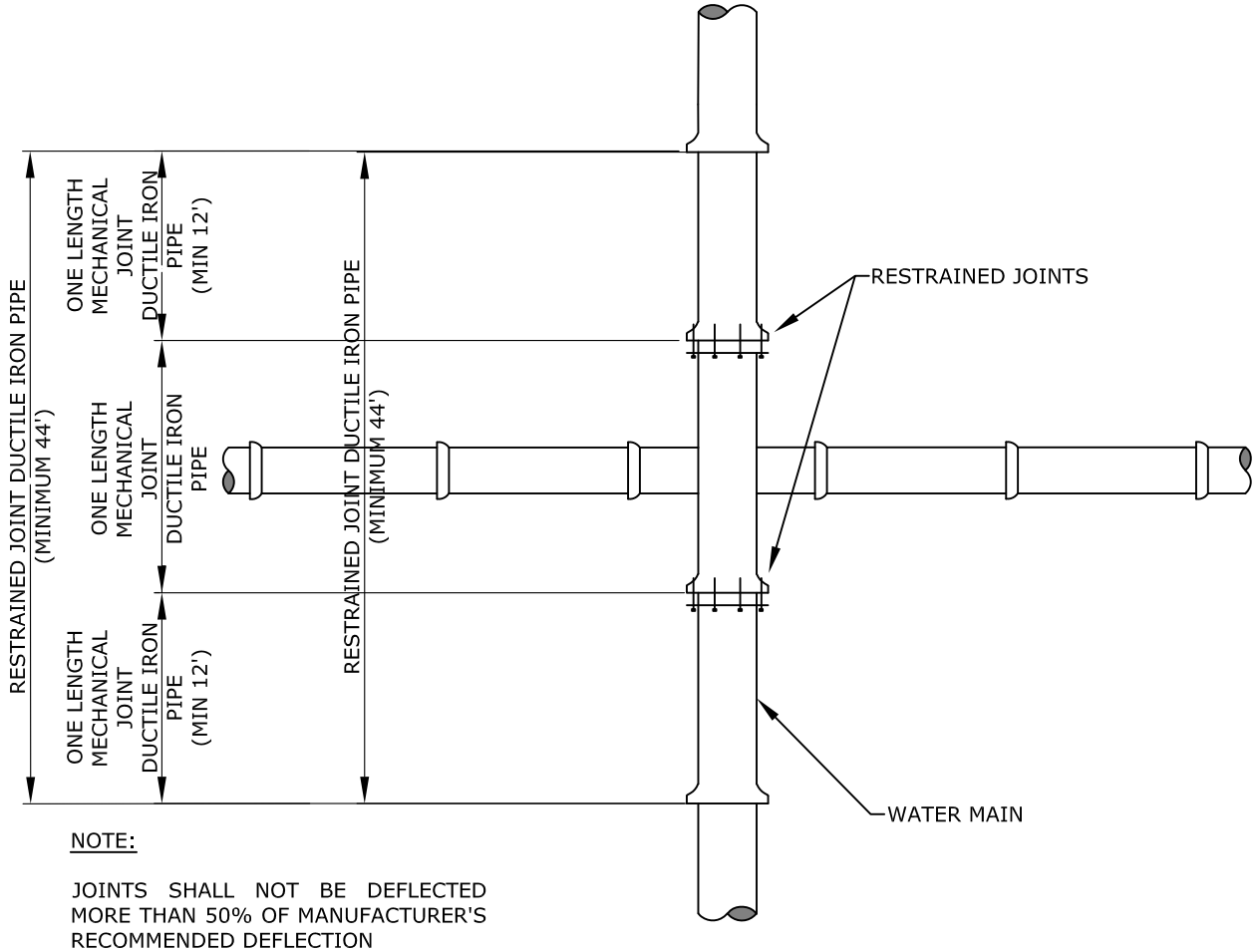
BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

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STANDARD DETAIL





NOTE:

JOINTS SHALL NOT BE DEFLECTED MORE THAN 50% OF MANUFACTURER'S RECOMMENDED DEFLECTION

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7/7/2021

STANDARD UTILITY CROSSING

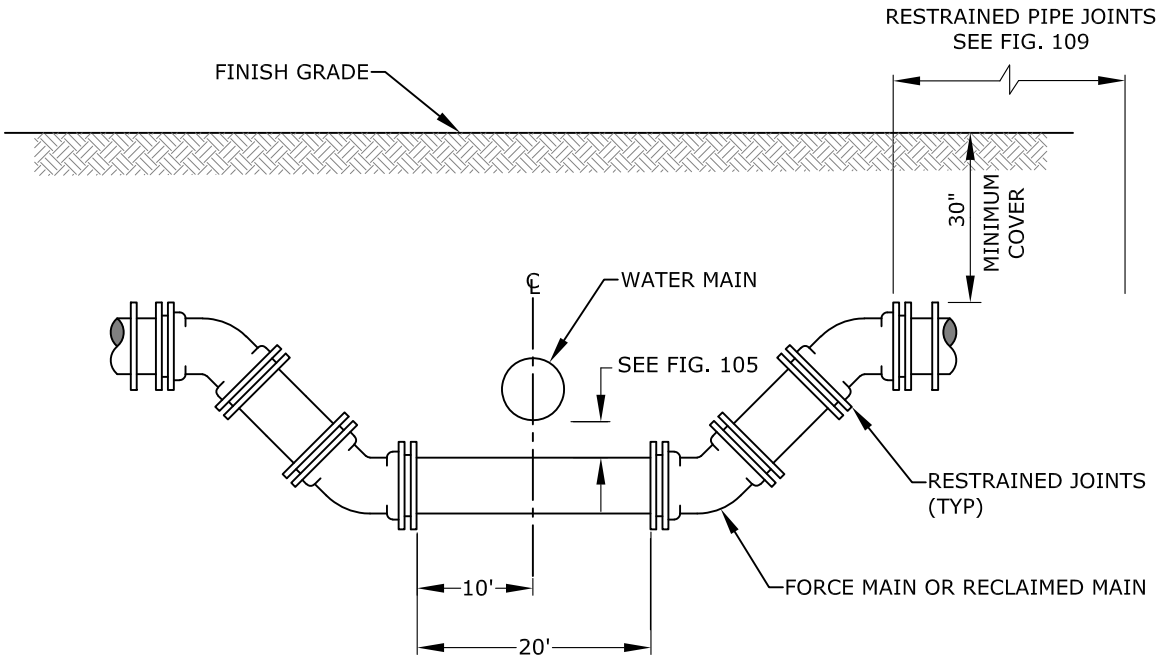
FIGURE
106

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
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STANDARD DETAIL



WHEREVER POSSIBLE DEFLECTION OF THE PIPE WILL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS CROSSING SHALL BE USED ONLY WHEN APPROVED BY WWS.

REVISED
7/7/2021

SPECIAL UTILITY CROSSING

FIGURE
107

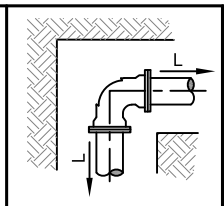
BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

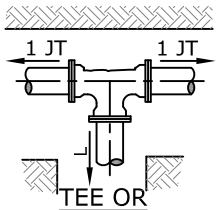
PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL

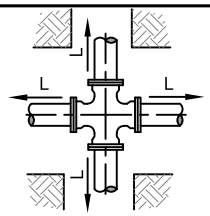
HORIZONTAL



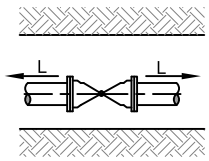
11 ¼"-90° BEND



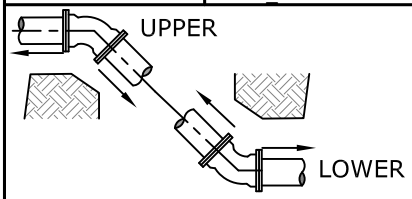
TEE OR
TAPPING SLEEVE



CROSS



VALVE
OR DEAD END



45° VERT OFFSET

- CROSSES SHALL BE RESTRAINED IN ALL DIRECTIONS.
- FITTINGS AND VALVES NEED TO BE RESTRAINED PER STANDARD DETAILS 109-112, EVEN WHEN THE FITTINGS OR VALVES ARE CUT IN AFTER THE INITIAL PIPE INSTALLATION. ASBESTOS CEMENT PIPE WILL BE REPLACED WITH DUCTILE IRON PIPE AT LEAST THROUGH THE RESTRAINING LENGTH.

DUCTILE IRON PIPE

HORIZONTAL, L (FEET)							45° VERTICAL OFFSET (FEET)	
Diameter	11 ¼°	22 ½°	45°	90°	Tee or Cross	Valves and Dead End	UPPER	LOWER
4	1	2	4	10	7	20	9	4
6	2	3	6	14	15	28	12	5
8	2	4	8	17	23	37	16	7
10	2	5	9	21	30	44	19	8
12	3	5	10	24	38	52	22	9

PVC PIPE

HORIZONTAL, L (FEET)							45° VERTICAL OFFSET (FEET)	
Diameter	11 ¼°	22 ½°	45°	90°	Tee or Cross	Valves and Dead End	UPPER	LOWER
4	2	3	5	12	11	32	14	5
6	2	4	7	16	23	45	19	6
8	3	5	9	21	37	59	25	8
10	3	5	11	25	48	71	30	9
12	3	6	12	29	61	83	35	11

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V7.2 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SW OR GW; NOMINAL SIZE EQUALS BRANCH SIZE; LENGTH ALONG RUN EQUALS 4 FEET
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%; VERTICAL LOW SIDE DEPTH EQUALS 3.5 FEET
MINIMUM COVER: 3.0 FT SAFETY FACTOR: 1.5 BARE PIPE (NO POLY WRAP)
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

SINGLE FITTING RESTRAINED JOINT
150 PSI TEST PRESSURE

REVISED
7/7/2021

RESTRAINED JOINT REQUIREMENTS SINGLE FITTING

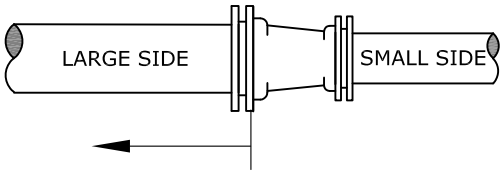
FIGURE
109

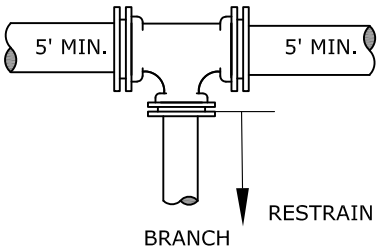
BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL





STRAIGHT REDUCER

SMALL SIDE

DUCTILE IRON PIPE				
DIAMETER	6"	8"	10"	12"
4"	15'	27'	36'	45'
6"		16'	27'	38'
8"			15'	28'
10"				16'
PVC PIPE				
	6"	8"	10"	12"
4"	24'	43'	58'	72'
6"		25'	44'	61'
8"			24'	44'
10"				25'

TEE REDUCER

BRANCH SIZE

DUCTILE IRON PIPE				
DIAMETER	6"	8"	10"	12"
4"	1'	1'	1'	1'
6"		6'	1'	1'
8"			15'	10'
10"				23'
PVC PIPE				
	6"	8"	10"	12"
4"	1'	1'	1'	1'
6"		16'	8'	1'
8"			31'	25'
10"				44'

THE NOTED REQUIREMENTS WERE CALCULATED IN ACCORDANCE WITH THRUST RESTRAINT CALCULATOR V7.2 BY EBAA IRON WITH THE FOLLOWING ASSUMPTIONS:
SOIL CONDITIONS: SW OR GW; LENGTH ALONG RUN EQUALS 4 FEET
LAYING CONDITION: 4, SAND BEDDING, BACKFILL COMPACTED > 80%
MINIMUM COVER: 3.0 FT;SAFETY FACTOR: 1.5;BARE PIPE (NO POLY WRAP)
IF FIELD CONDITIONS DIFFER FROM THE ABOVE, CONTRACTOR SHALL NOTIFY WWS.
FOR PIPE LARGER THAN INCLUDED IN THE ABOVE TABLES, ENGINEER OF RECORD SHALL SUBMIT CALCULATIONS FOR EACH JOINT REQUIRING RESTRAINT.

RESTRAINED REDUCING FITTING
150 PSI TEST PRESSURE

REVISED
7/7/2021

RESTRAINED JOINT REQUIREMENTS REDUCING FITTINGS

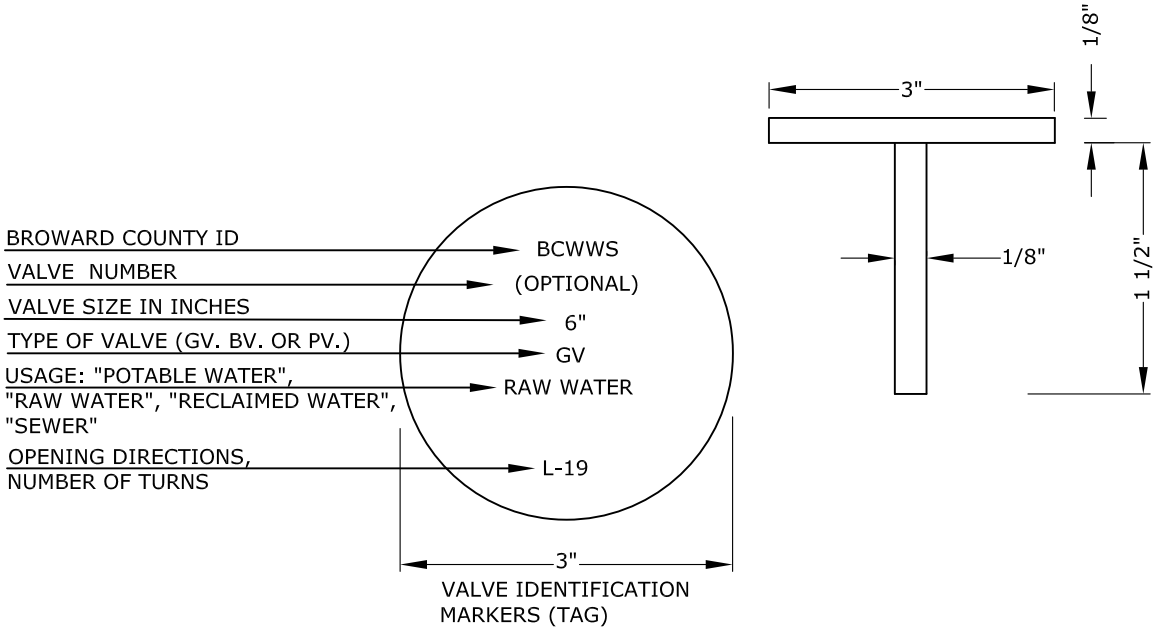
FIGURE
112

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

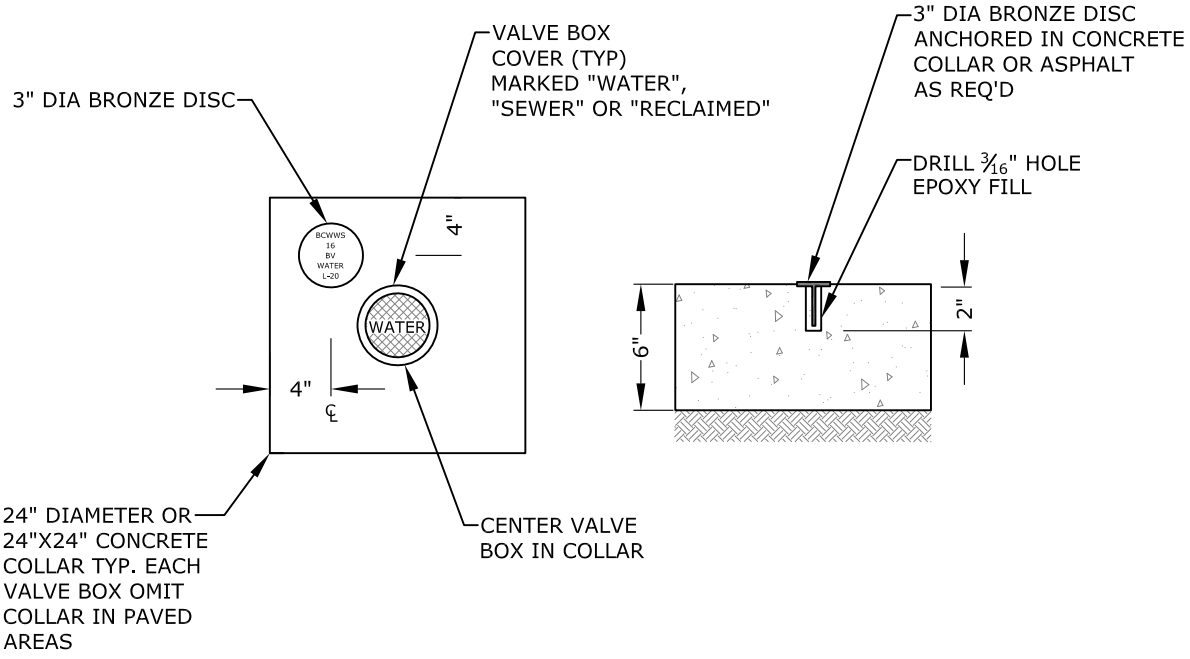
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

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STANDARD DETAIL



VALVE IDENTIFICATION MARKERS (TAG)



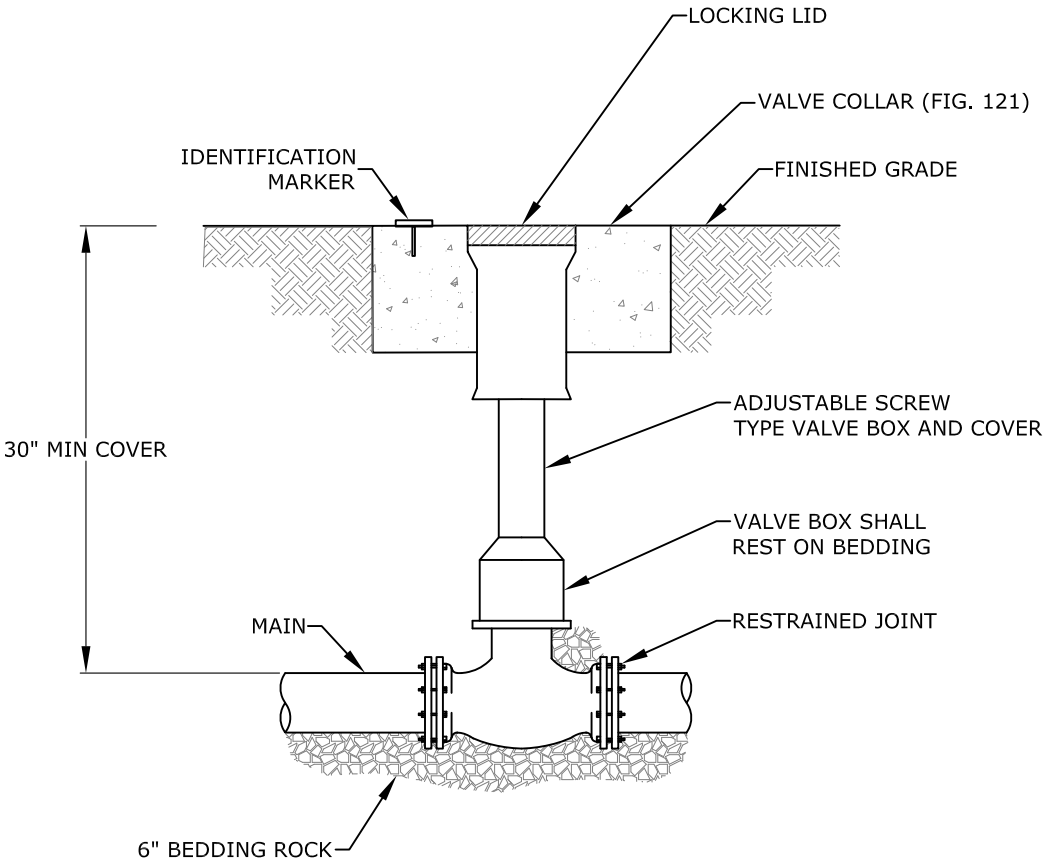
REVISED	VALVE COLLAR AND IDENTIFICATION MARKER	FIGURE
7/7/2021		121

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
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STANDARD DETAIL



1. WHEN VALVE IS NOT LOCATED IN PAVEMENT, PLACE A WHITE REFLECTIVE RAISED PAVEMENT MARKER IN THE DRIVE LANE, ADJACENT TO THE VALVE.

2. OPERATOR EXTENSION SHAFT SHALL BE PROVIDED WHEN OPERATING NUT IS MORE THAN 24" BELOW TOP OF VALVE BOX.

3. PVC PIPE OR DUCTILE IRON PIPE IS NOT ACCEPTABLE FOR VALVE BOX RISER.

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7/7/2021

VALVE BOX DETAIL

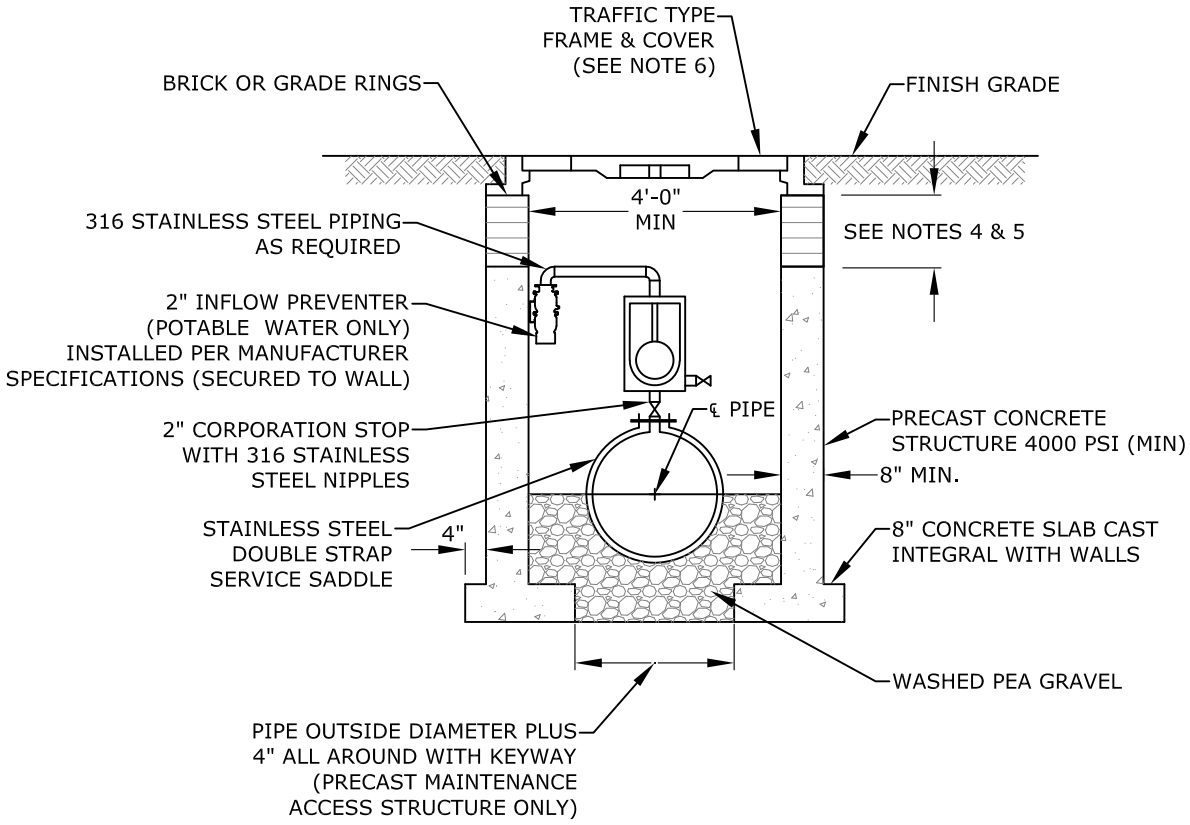
FIGURE
123

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
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STANDARD DETAIL



1. LIFT HOLES ARE TO BE SEALED WITH MORTAR INSIDE AND OUTSIDE AFTER INSTALLATION.
2. MAINTENANCE ACCESS STRUCTURE WALLS TO BE COATED INSIDE AND OUTSIDE WITH 16 MIL. THICKNESS COAL TAR EPOXY. SEE NOTES 9. AND 10., DETAIL NO. 312.
3. ALL OPENINGS SHALL BE SEALED WITH A WATERPROOF, EXPANDING GROUT. ACTUAL LOCATION AND MAINTENANCE ACCESS STRUCTURE FRAME ELEVATION SHALL BE DETERMINED BY ENGINEER BASED ON AS-BUILT SURVEY DATA.
4. THE CHIMNEY AREA SHALL BE MINIMUM OF 4" AND A MAXIMUM OF 12" IN HEIGHT. A MINIMUM OF 3 COURSES OF BRICK SHALL BE INSTALLED.
5. GRADE RINGS ARE AN ACCEPTABLE ALTERNATIVE TO BRICK. A MINIMUM OF 3 GRADE RINGS SHALL BE INSTALLED. SET IN TWO STRIPS OF SEALANT/ADHESIVE COMPOUND ON EACH SEALING FACE.
6. SET MAINTENANCE ACCESS STRUCTURE FRAME ON A BED OF PORTLAND CEMENT AND SILICA SAND. BRING MORTAR UP OVER FRAME.

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7/7/2021

AIR RELEASE VALVE WITH MAINTENANCE ACCESS STRUCTURE

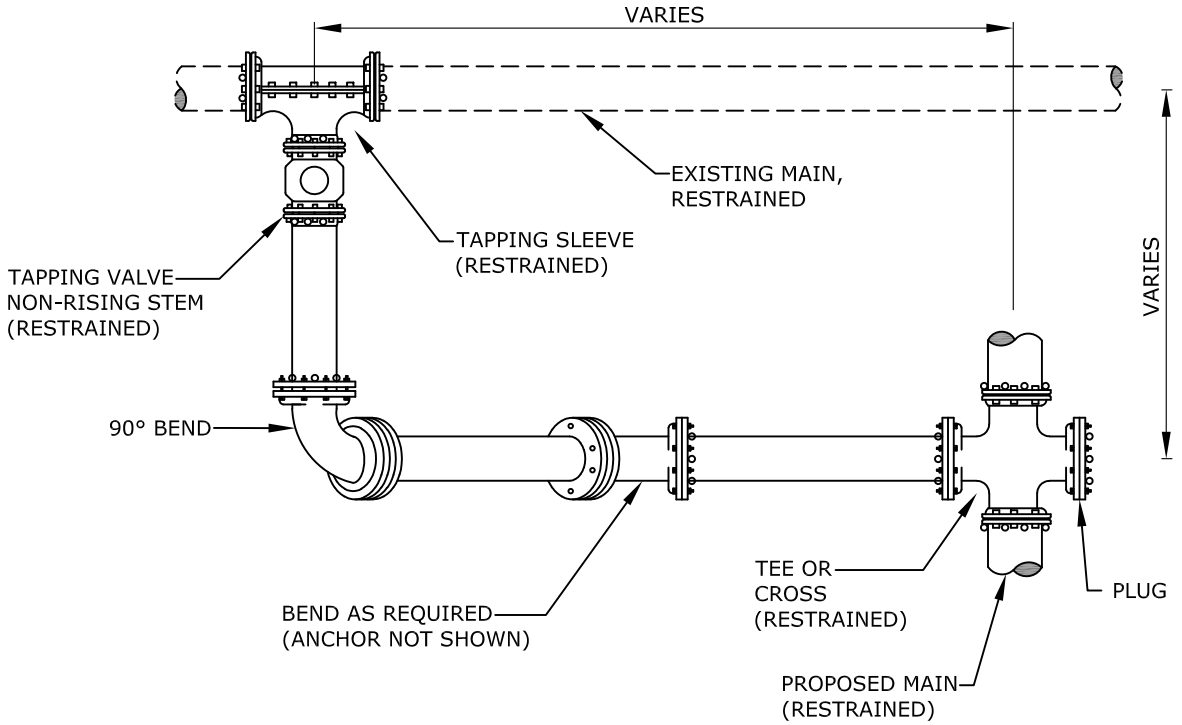
FIGURE
127

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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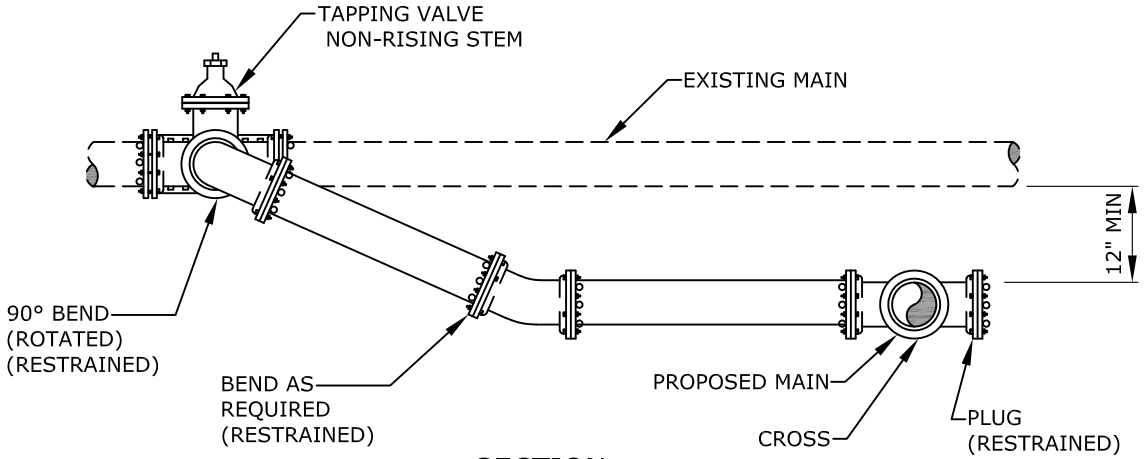
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

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FAX: 954-831-0925

STANDARD DETAIL



PLAN



SECTION

NOTES:

1. ALL JOINTS TO BE RESTRAINED BY APPROVED METHODS.
2. IF CONNECTION IS PRIOR TO FDEP CLEARANCE THEN A SECOND VALVE WITH VENT IS REQUIRED.

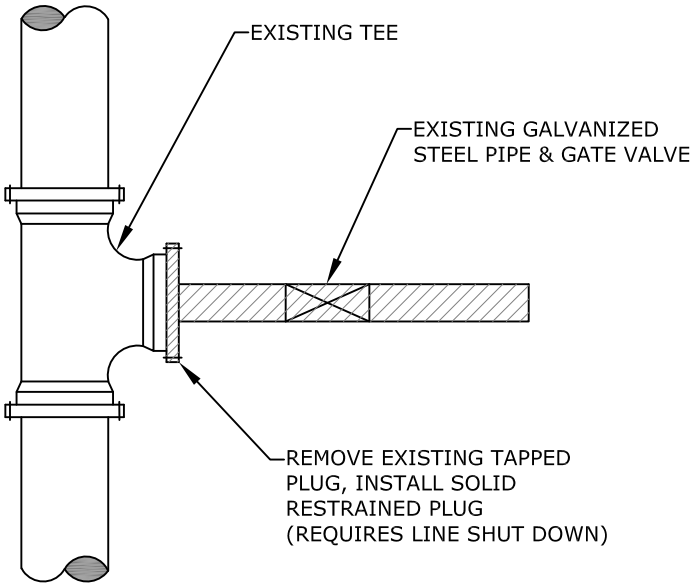
REVISED	TYPICAL CONNECTION TO EXISTING MAIN	FIGURE 131
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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WATER & WASTEWATER SERVICES
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POMPANO BEACH, FL 33069

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STANDARD DETAIL



LIVE LINE SEALING
2" AND 3" GALVANIZED STEEL PIPE

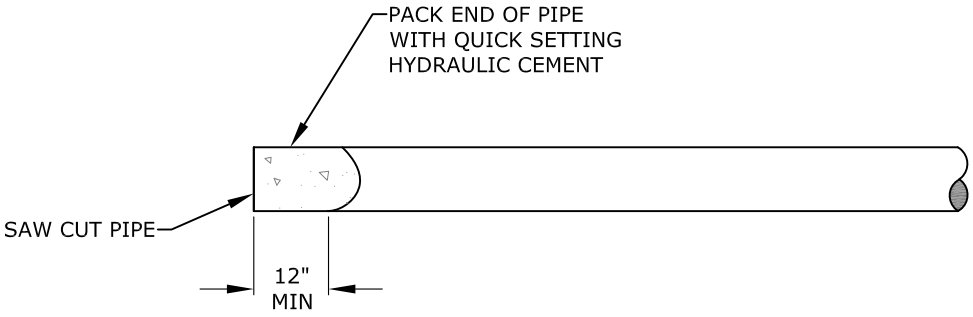
REVISED	PIPE TO BE ABANDONED (LIVE LINE LESS THAN 4" DIAMETER)	FIGURE 141
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

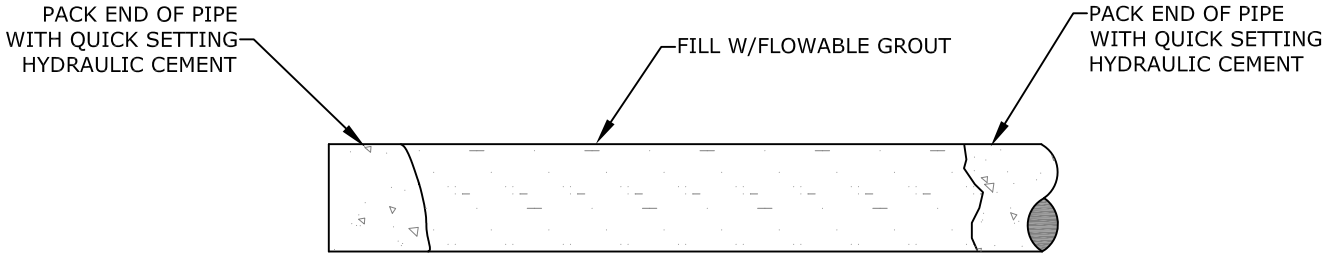
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

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FAX: 954-831-0925

STANDARD DETAIL



2" AND 3" PIPE



4" AND LARGER PIPE

NOTES:

1. GROUT IN PLACE WITH QUICK SETTING HYDRAULIC CEMENT.
2. PUMP FLOWABLE GROUT FROM ONE END, OR INTERMEDIATE POINTS ALONG THE PIPELINE, UNTIL PIPE IS FILLED AS WITNESSED BY THE DISCHARGE.
3. 600 FEET MAX LENGTH FOR EACH ABANDONMENT.

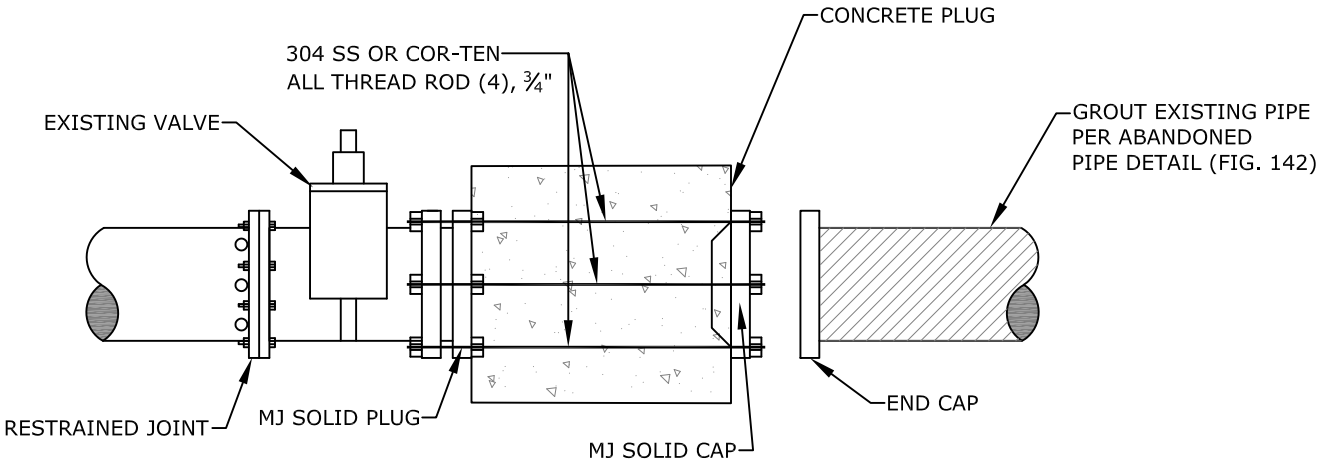
REVISED	PIPE TO BE ABANDONED	FIGURE
7/7/2021		142

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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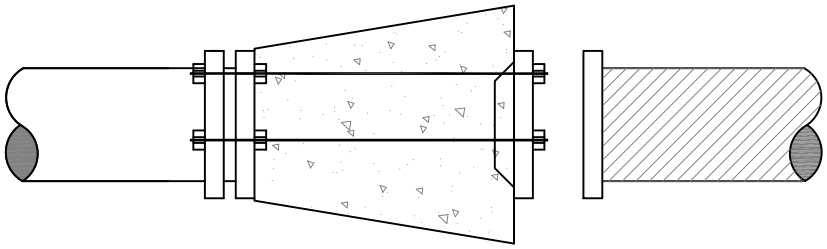
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



PROFILE



PLAN

AT EXISTING VALVE OR FITTING

SEQUENCE OF CONSTRUCTION

1. RESTRAIN VALVE OR FITTING. CONTRACTOR TO PROVIDE TEMPORARY RESTRAINT AS REQUIRED. (REQUIRES LINE SHUT DOWN)
2. REMOVE EXISTING PIPE FOR NEW CONCRETE PLUG.
3. INSTALL PLUG INTO BELL OF VALVE OR FITTING AND CAP ON END OF EXISTING PIPE TO BE ABANDONED.
4. INSTALL ALL THREAD RODS (3/4" DIA., MIN) AND POUR CONCRETE PLUG.

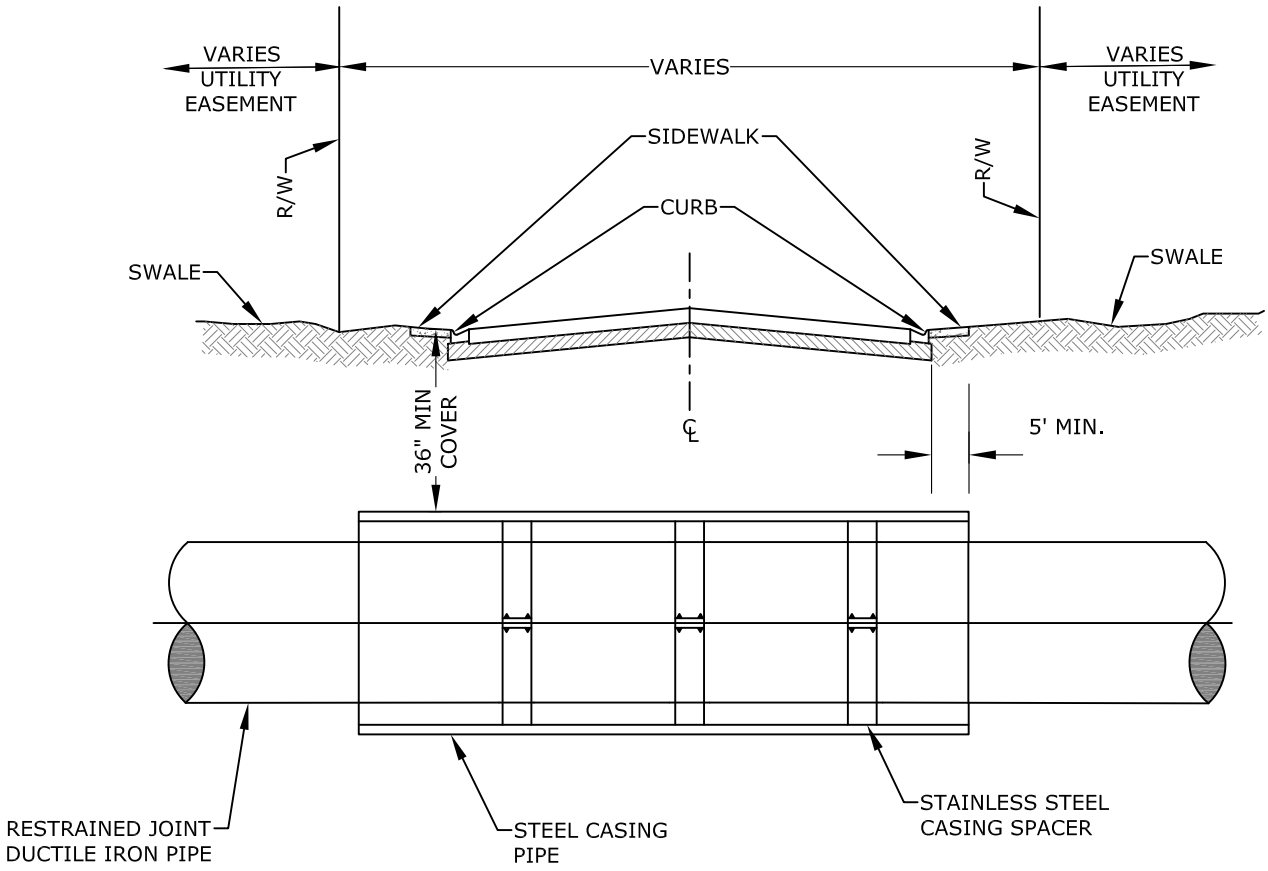
REVISED	PIPE TO BE ABANDONED (LIVE LINE 4" AND LARGER)	FIGURE 143
7/7/2021		

BROWARD COUNTY
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PLOTTED: 10/2024

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FAX: 954-831-0925

STANDARD DETAIL



NOTES:

1. THE END OF THE CASING PIPE SHALL EXTEND BEYOND THE EDGE OF PAVEMENT A MINIMUM OF 5'.

2. WHEN CONSTRUCTION IS WITHIN FDOT OR RAILROAD JURISDICTION, ADDITIONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION MANUAL SHALL BE MET.

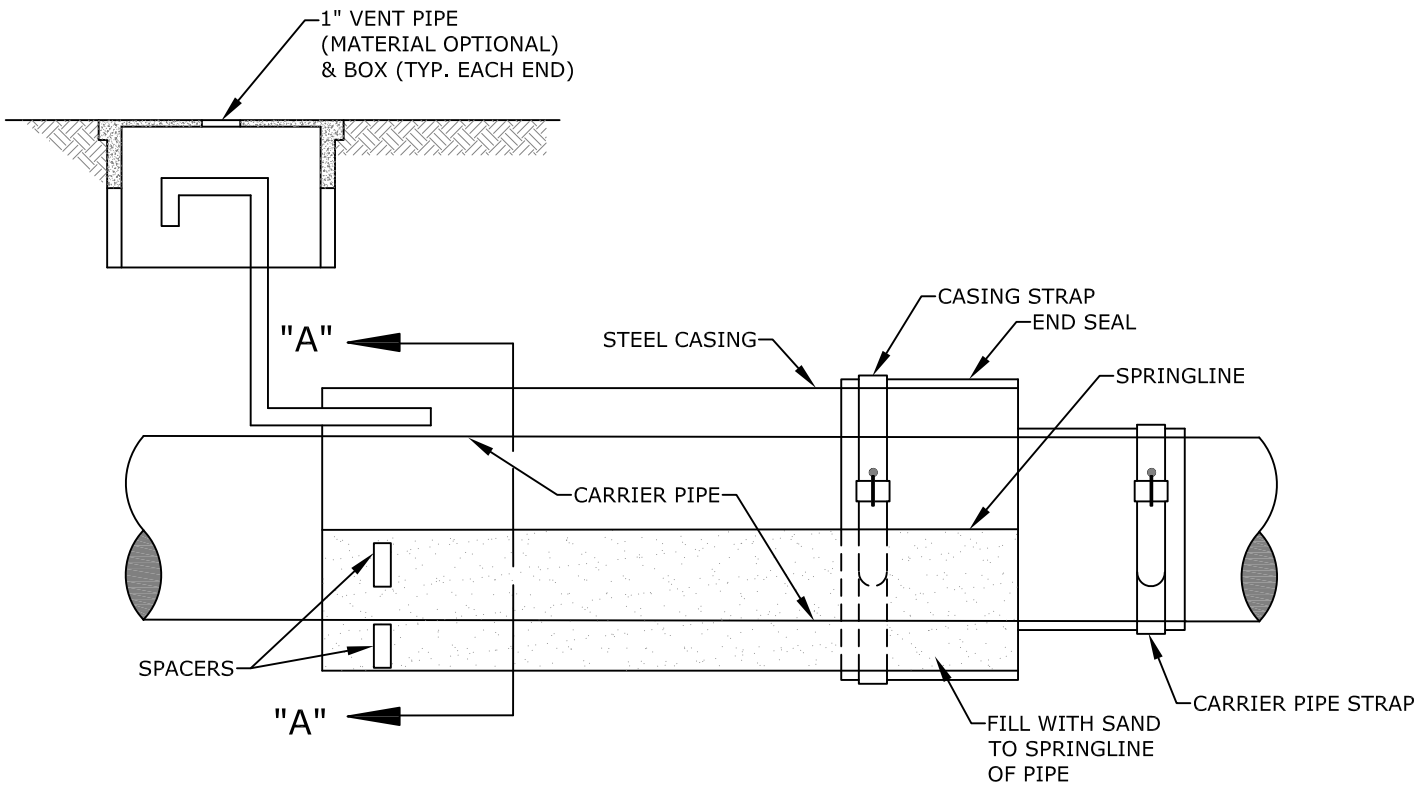
REVISED	JACK AND BORE PROFILE	FIGURE 153
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

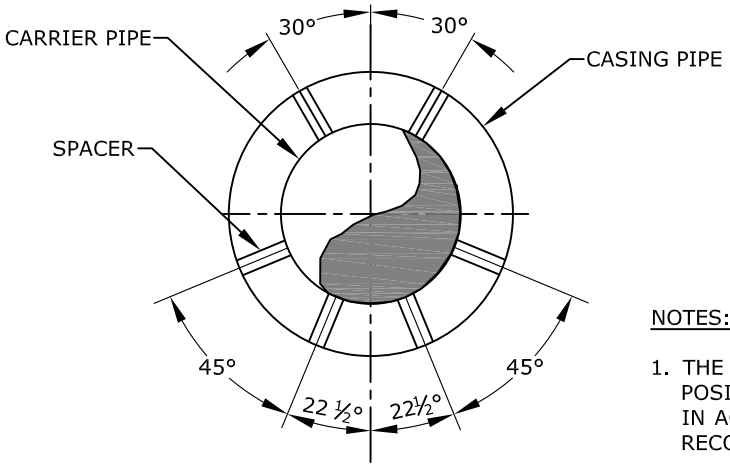
WATER & WASTEWATER SERVICES
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2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

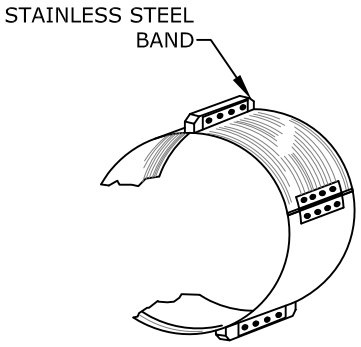
STANDARD DETAIL



CASING SEAL



SECTION "A-A"



CASING SPACERS

NOTES:

1. THE DISTANCE BETWEEN SPACERS & THEIR POSITIONING ON THE CARRIER PIPE IS TO BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. THE CARRIER PIPE SHALL BE CENTERED IN THE CASING PIPE. THE SKIDS ON THE SPACER SHALL RESTRAIN CARRIER PIPE MOVEMENT.

REVISED	CASING PIPE DETAIL JACK AND BORE	FIGURE 154
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
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STANDARD DETAIL

SPECIFICATIONS FOR CARRIER AND CASING PIPES

	CARRIER PIPE	CASING PIPE
CONTENTS TO BE HANDLED	WATER/WASTEWATER	NONE
OUTSIDE DIAMETER	DETERMINED BY PROJECT	SEE TABLE
PIPE MATERIAL	DIP	STEEL
SPECIFICATION AND GRADE	ANSI/AWWA C151/A21.51	ASTM A139, GRADE"B"
PRESSURE CLASS/WALL THICKNESS	350	0.500"
ACTUAL WORKING PRESSURE	150 PSI	NONE
TYPE OF JOINT	RESTRAINED	WELDED
COATING	BLACK BITUMINOUS	BLACK BITUMINOUS
METHOD OF INSTALLATION	CASING SPACERS	JACK AND BORE
PROTECTION AT ENDS OF CASING	N/A	CASING END SEAL

NOTES:

1. CASING PIPE TO BE INSTALLED UNDER ROAD BY JACKING AND BORING.
2. ALL WORK DONE WITHIN FDOT OR RAILROAD RIGHT OF WAY IS SUBJECT TO INSPECTION AND DIRECTION OF THEIR ENGINEER.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT AWWA STANDARDS FOR PIPE LINES CONVEYING NONFLAMMABLE SUBSTANCES AND FDOT REQUIREMENTS AS PER UTILITY ACCOMMODATION GUIDE, LATEST VERSION.
4. FIELD AND SHOP WELDS OF THE CASING PIPES SHALL CONFORM WITH AWS STANDARD SPECIFICATIONS. FIELD WELDS SHALL BE COMPLETE PENETRATIONS, SINGLE-BEVEL GROOVE TYPE JOINTS.
5. STEEL CASING SHALL CONFORM TO THE REQUIREMENTS OF ASTM DESIGNATION A139. THE CASING PIPES SHALL HAVE THE MINIMUM NOMINAL DIAMETER AND MINIMUM WALL THICKNESS AS SHOWN.
6. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO STARTING JACKING AND BORING.
7. MINIMUM VERTICAL CLEARANCE BETWEEN PROPOSED CASING PIPE AND OTHER EXISTING UTILITIES SHALL BE 12" MINIMUM.
8. STAINLESS STEEL CASING SPACERS WITH POLYMER RUNNERS SUBJECT TO APPROVAL OF WWS.

CARRIER PIPE SIZE	NOMINAL DIA OF STEEL CASING PIPE
6"	14"
8"	16"
10"	20"
12"	24"
14"	24"
16"	30"
18"	34"
20"	36"
24"	42"
30"	42"
36"	48"
42"	54"
48"	72"

REVISED
7/7/2021

JACK AND BORE PIPE DETAILS

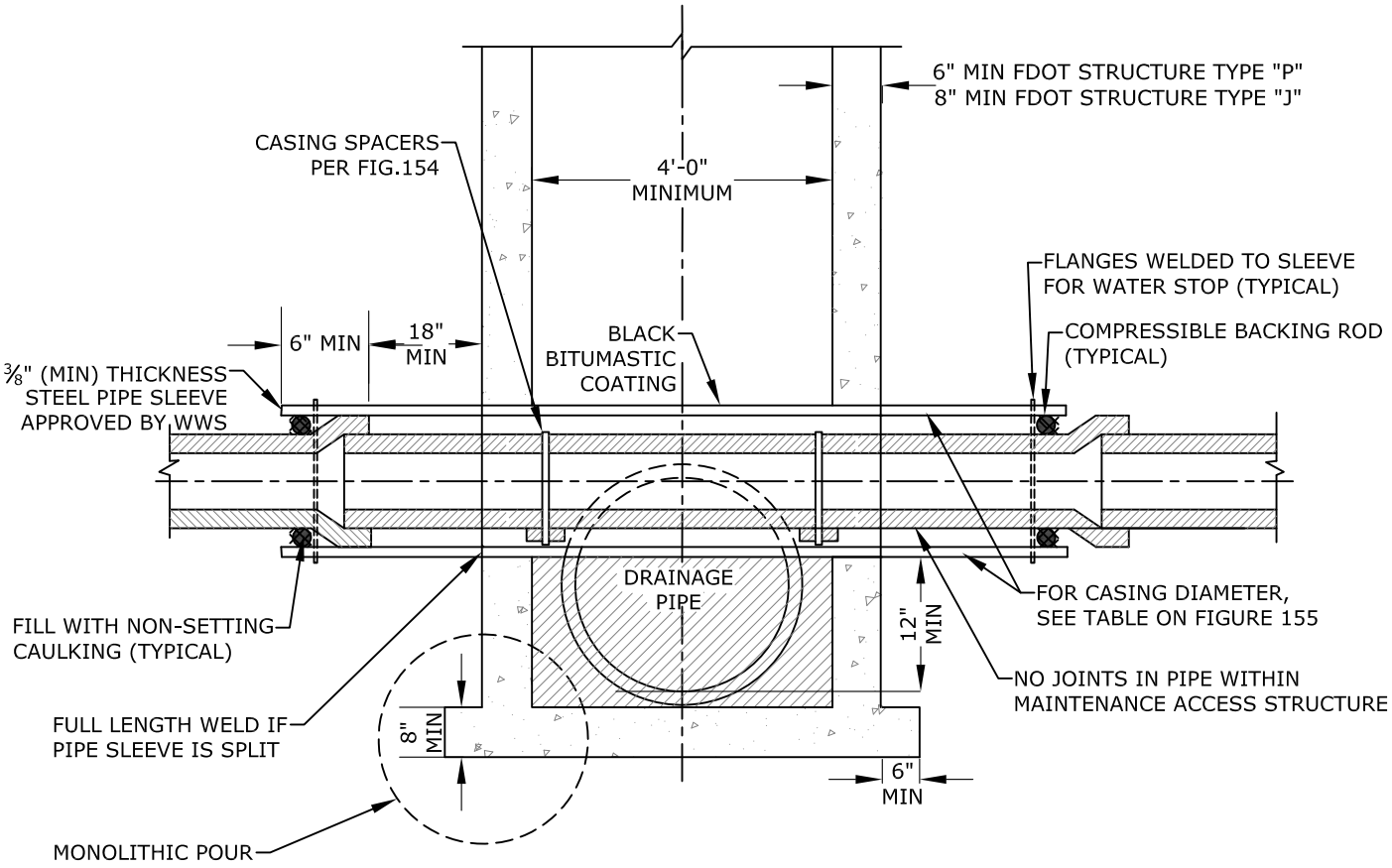
FIGURE
155

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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WATER & WASTEWATER SERVICES
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POMPANO BEACH, FL 33069

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FAX: 954-831-0925

STANDARD DETAIL



NOTES:

1. ALL CONFLICT MAINTENANCE ACCESS STRUCTURES SHALL CONFORM TO THE DETAILS SHOWN ON THIS DRAWING, AND TO THE REQUIREMENTS OF ASTM C-478 AND BROWARD COUNTY HIGHWAY CONSTRUCTION AND ENGINEERING DIVISION'S "MINIMUM STANDARDS", LATEST EDITION.

2. POTABLE WATER PIPE SHALL NOT PASS THROUGH OR CONTACT STORM DRAINAGE MAINTENANCE ACCESS STRUCTURE WITHOUT WRITTEN PERMISSION OF WWS TECHNICAL STANDARDS COMMITTEE.

3. POTABLE WATER PIPE SHALL NOT PASS THROUGH OR CONTACT SANITARY SEWER MAINTENANCE ACCESS STRUCTURE.

4. MINIMUM TWO (2) FOOT CLEARANCE REQUIRED BETWEEN OUTSIDE OF SLEEVE AND PARALLEL WALL.

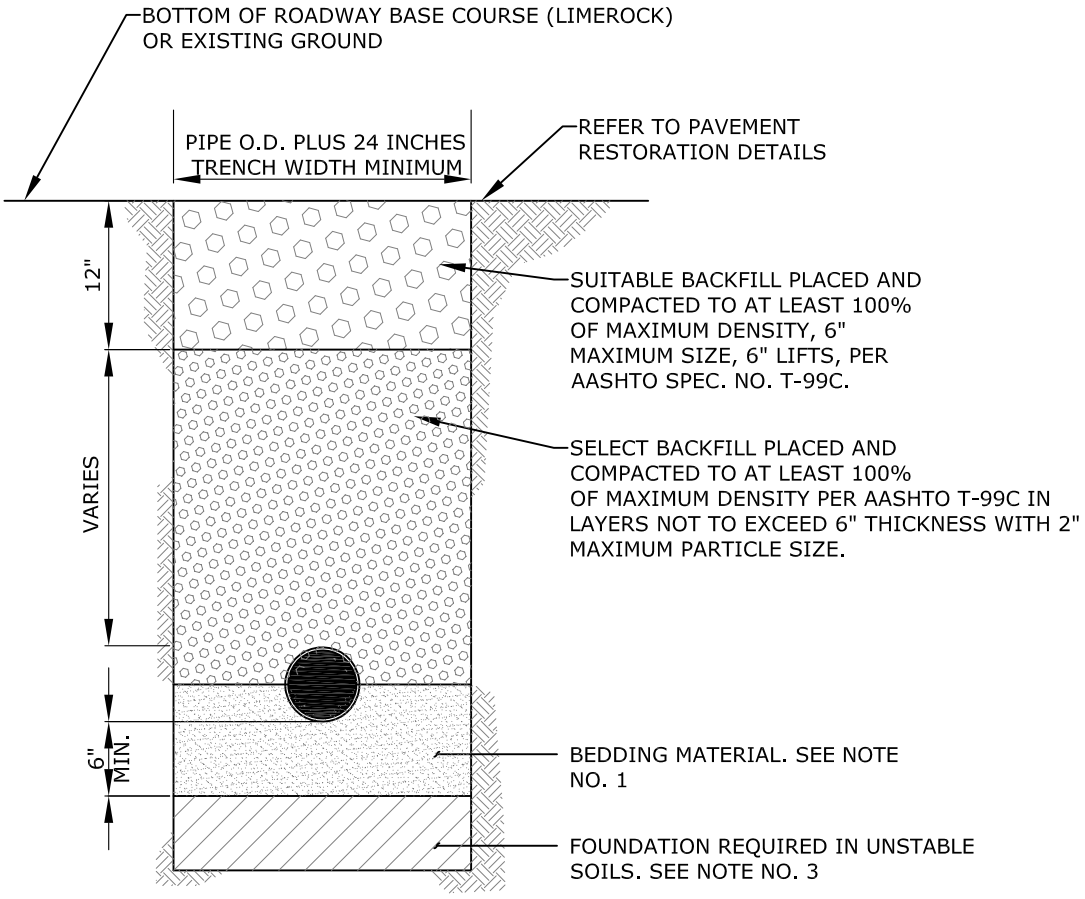
REVISED	CONFLICT MAINTENANCE ACCESS STRUCTURE	FIGURE 167
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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WATER & WASTEWATER SERVICES
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STANDARD DETAIL



NOTES:

1. UNLESS OTHERWISE SPECIFIED, BEDDING MATERIAL SHALL CONSIST OF SELECT BACKFILL MATERIAL 2" MAXIMUM PARTICLE SIZE, COMPACTED TO AT LEAST 100% OF MAX. DENSITY, 6" LIFTS, PER AASHTO SPEC. NO. T-99C.

2. WHERE REQUIRED, SHEETING AND SHORING SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.

3. WHERE UNSTABLE SOILS ARE ENCOUNTERED, INCLUDING PEAT, MUCK OR OTHER ORGANIC SOILS, ELASTIC SILT AND CLAYS, A FOUNDATION IS REQUIRED AS DETERMINED BY THE ENGINEER OF RECORD.

REVISED
7/7/2021

TYPICAL TRENCH BACKFILL

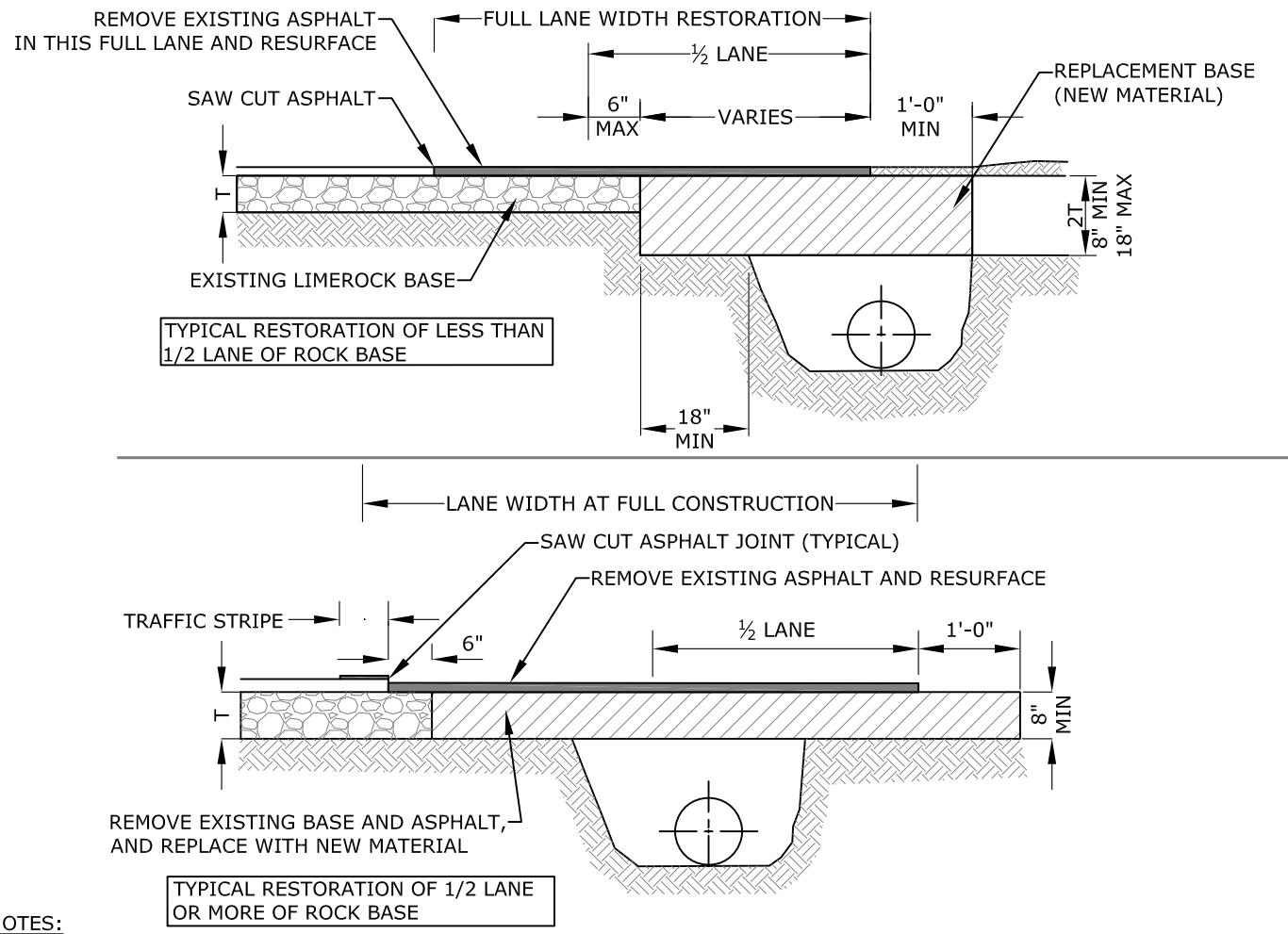
FIGURE
180

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



NOTES:

1. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%.
2. BASE SHALL BE PLACED IN 6" MAXIMUM THICKNESS LAYERS WITH EACH LAYER COMPACTED AS REQUIRED AND TESTED PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.
3. SUBGRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE A MINIMUM LBR OF 40.
4. BACKFILL SHALL BE PLACED AND COMPACTED IN 6" LAYERS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED UTILITY.
5. ALL EDGES OF EXISTING ASPHALT PAVEMENT THAT ABUT RESURFACING SHALL BE SAW CUT IN STRAIGHT LINES PARALLEL TO OR PERPENDICULAR TO THE ROADWAY, PRIOR TO RESURFACING.
6. RESURFACING MATERIAL SHALL BE CONSISTENT WITH SURROUNDING SURFACE, AND SHALL BE APPLIED IN 2 LIFTS, A MINIMUM OF ¾ INCH.
7. TRAFFIC STRIPES SHALL NOT BE PLACED DIRECTLY ON TOP OF THE JOINT
8. FOR STATE ROADS REFER TO FDOT SPECIFICATIONS AND REQUIREMENTS.

T = EXISTING LIMEROCK BASE THICKNESS.

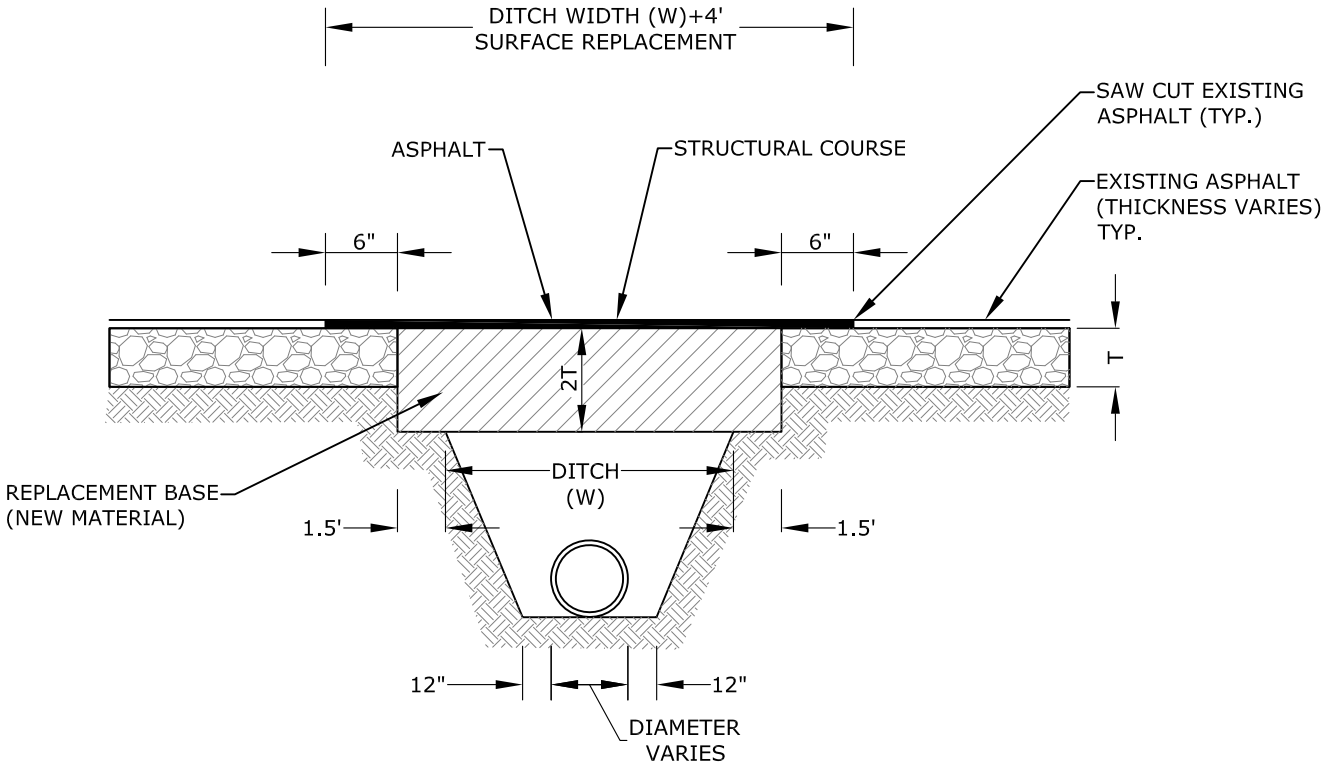
REVISED	RESTORATION OF ROADWAY CUT FOR PARALLEL UTILITY INSTALLATION	FIGURE 182
7/7/2021		

BROWARD COUNTY
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PLOTTED: 10/2024

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ENGINEERING DIVISION
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STANDARD DETAIL



NOTES:

1. BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL.
2. BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM LAYERS (LOOSE MEASUREMENT) AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180.
3. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAW CUT.
4. SURFACE MATERIAL SHALL BE CONSISTENT WITH THE SURROUNDING SURFACE MATERIAL.
5. BASE MATERIAL SHALL HAVE A MINIMUM CARBONATE OF 70%.
6. SUB GRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE A MINIMUM LBR OF 40.
7. IF THE DITCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" THICK ASPHALT CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING, UNTIL REPLACED WITH A PERMANENT PATCH.
8. FOR STATE ROADS REFER TO FDOT SPECIFICATIONS AND REQUIREMENTS.

T = EXISTING LIMEROCK BASE THICKNESS.

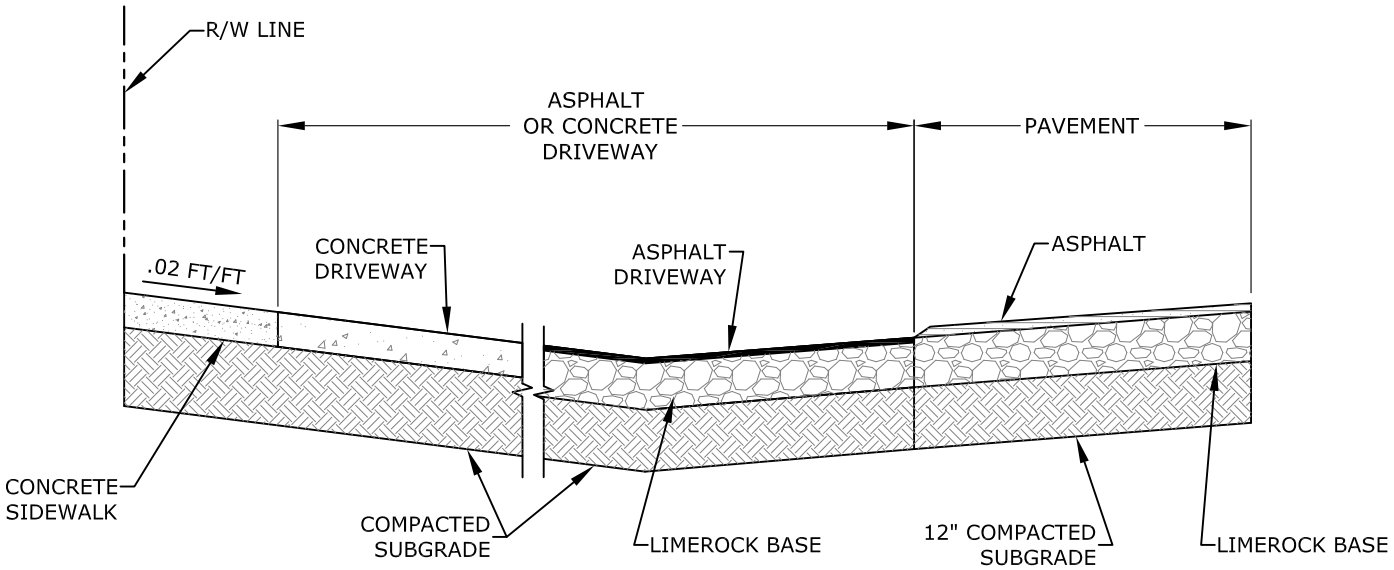
REVISED	RESTORATION OF ROADWAY CUT FOR PERPENDICULAR UTILITY INSTALLATION	FIGURE 183
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



RESTORATION SPECIFICATION
SUMMARY TABLE

TYPE	MATERIAL	SPECIFICATION
TYPE I	SOD, SEED OR MULCH	COMPACTED SUBGRADE (100% PER AASHTO T-99C) BAHIA OR ST. AUGUSTINE SOD TO MATCH EXISTING
TYPE II-A	ASPHALT DRIVEWAY	1-1/2" ASPHALT, 6" LIMEROCK (98% PER AASHTO T-180), COMPACTED SUBGRADE (100% PER AASHTO T-99C)
TYPE III	CONCRETE DRIVEWAY	6" CONCRETE (NO WIRE MESH) COMPACTED SUBGRADE (100% PER AASHTO T-99C)

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7/7/2021

TYPICAL SECTION THROUGH SWALE

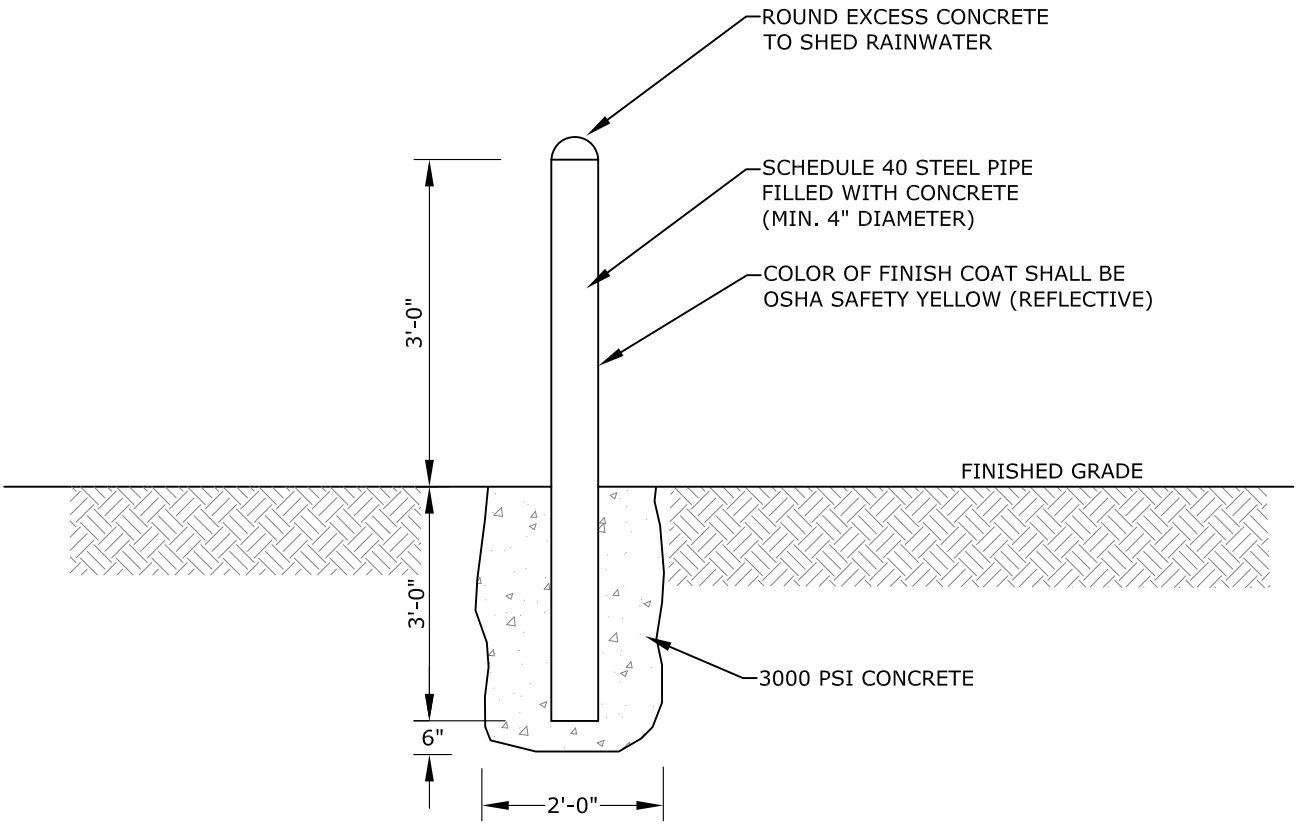
FIGURE
192

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
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BOLLARD

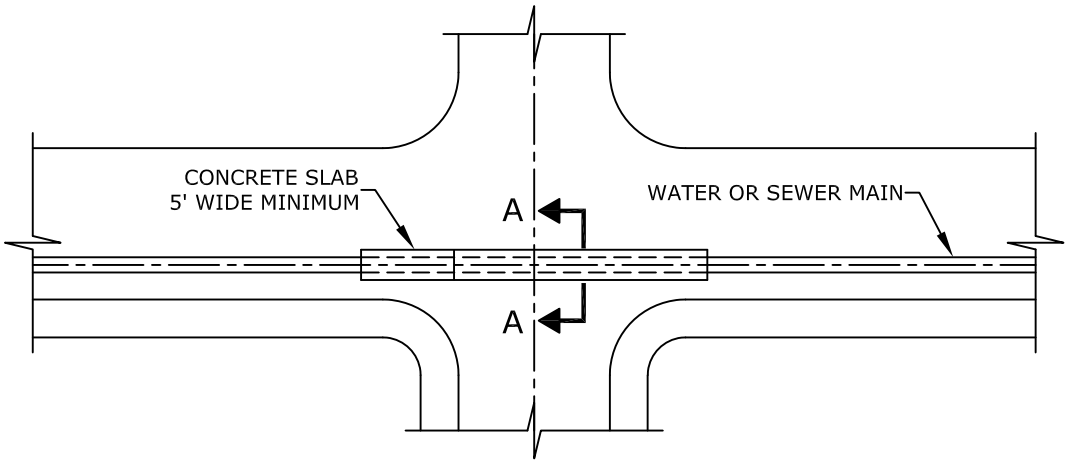
FIGURE
194

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

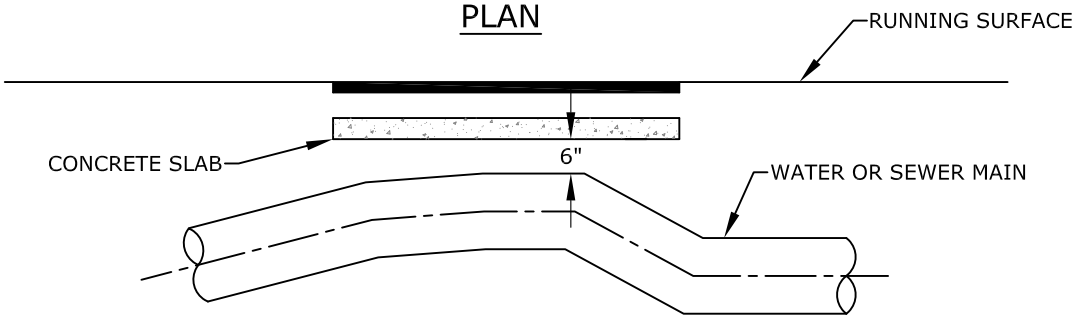
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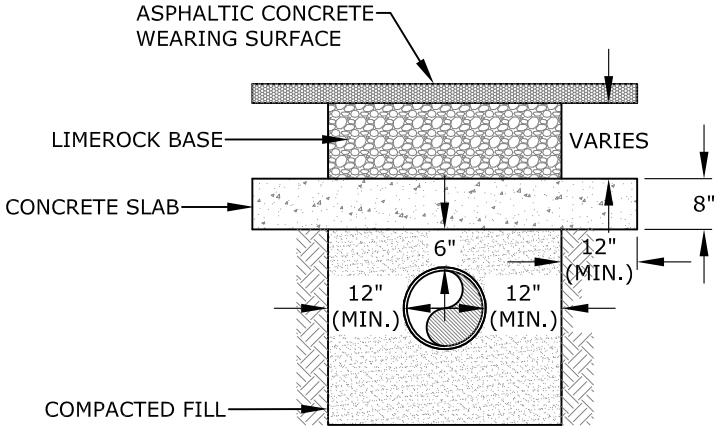
STANDARD DETAIL



PLAN



PROFILE



SECTION A-A

NOTES:

1. CONCRETE SLAB TO BE DESIGNED BY ENGINEER OF RECORD.
2. EXTEND CONCRETE SLAB UNTIL COVER EXCEEDS 30 INCHES FOR DIP OR 36 INCHES FOR PVC.
3. CONCRETE TO BE 3,000 PSI MINIMUM.
4. THIS DETAIL TO BE USED ONLY UPON WRITTEN APPROVAL FROM WWS TECHNICAL STANDARDS COMMITTEE.

REVISED
7/7/2021

CONCRETE SLAB OVER SHALLOW PIPELINES

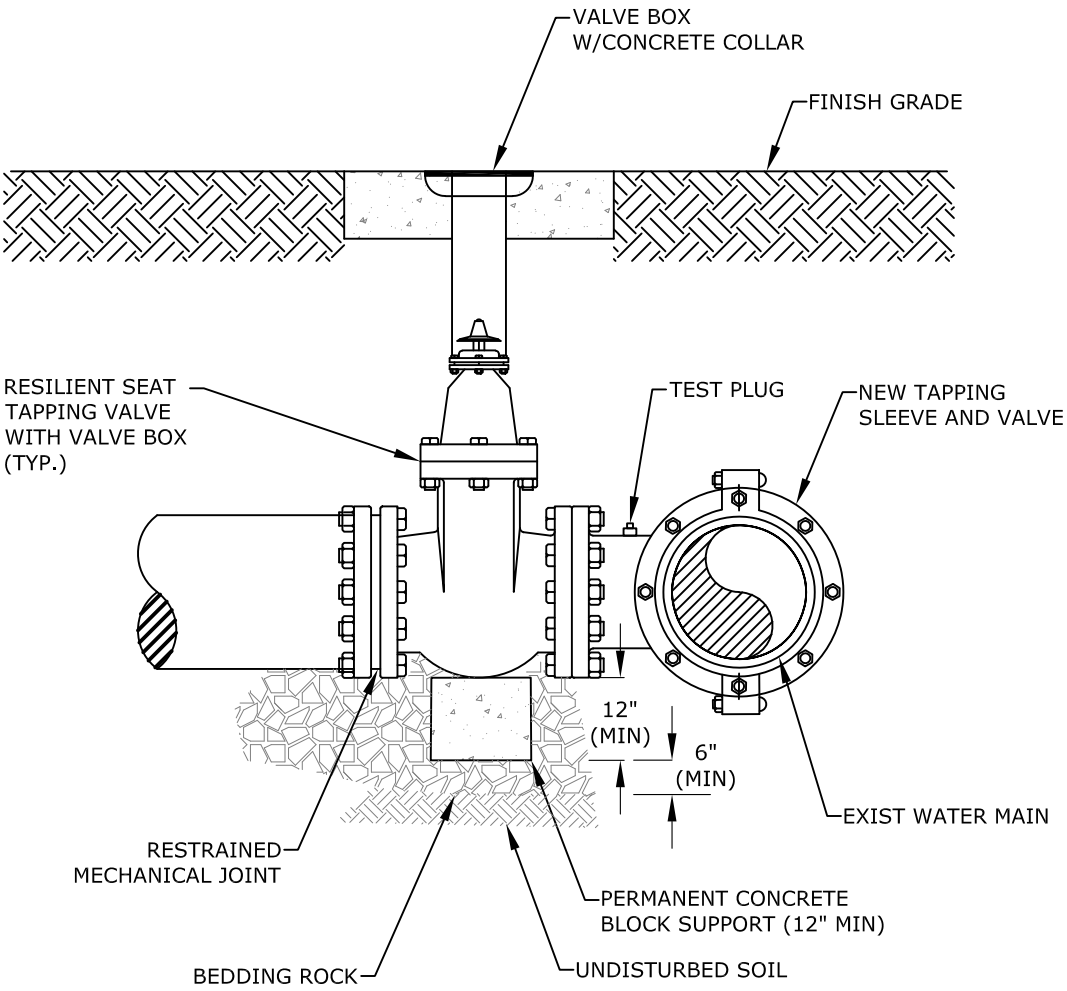
FIGURE
195

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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POMPANO BEACH, FL 33069

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STANDARD DETAIL



NOTES:

1. REFER TO WWS MINIMUM DESIGN AND CONSTRUCTION STANDARDS FOR MINIMUM REQUIREMENTS AND PRE-APPROVED MANUFACTURERS.
2. MAIN SHALL BE CLEANED BEFORE ATTACHING SLEEVE
3. SLEEVE AND VALVE SHALL BE PRESSURE TESTED BEFORE MAKING TAP. PRESSURE TEST AND TAP SHALL BE MADE IN PRESENCE OF AN AUTHORIZED COUNTY REPRESENTATIVE.
4. TAP SHALL BE MADE NO CLOSER THAN 18" FROM THE NEAREST JOINT.
5. CONCRETE BLOCK SHALL COMPLETELY SUPPORT TAPPING VALVE.
6. RESTRAINT JOINT REQUIREMENTS SHALL BE IN ACCORDANCE WITH WWS MINIMUM DESIGN AND CONSTRUCTION STANDARDS.

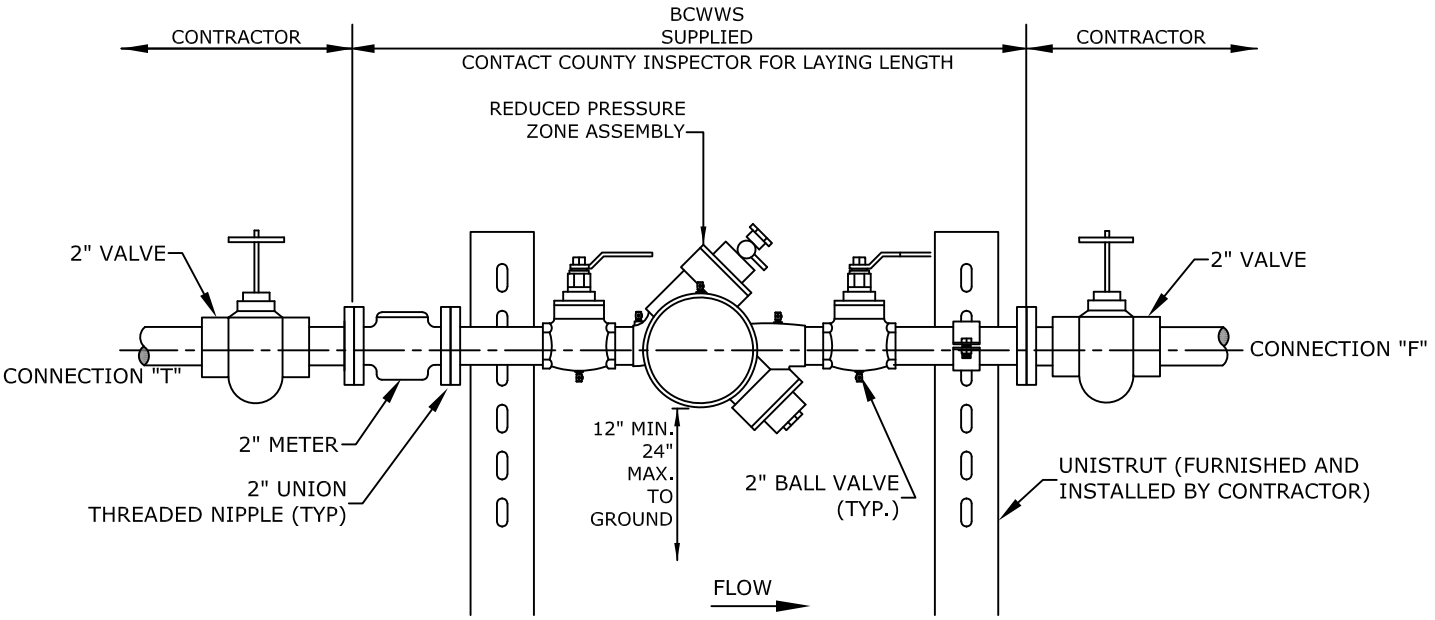
REVISED	TAPPING SLEEVE AND VALVE INSTALLATION	FIGURE 196
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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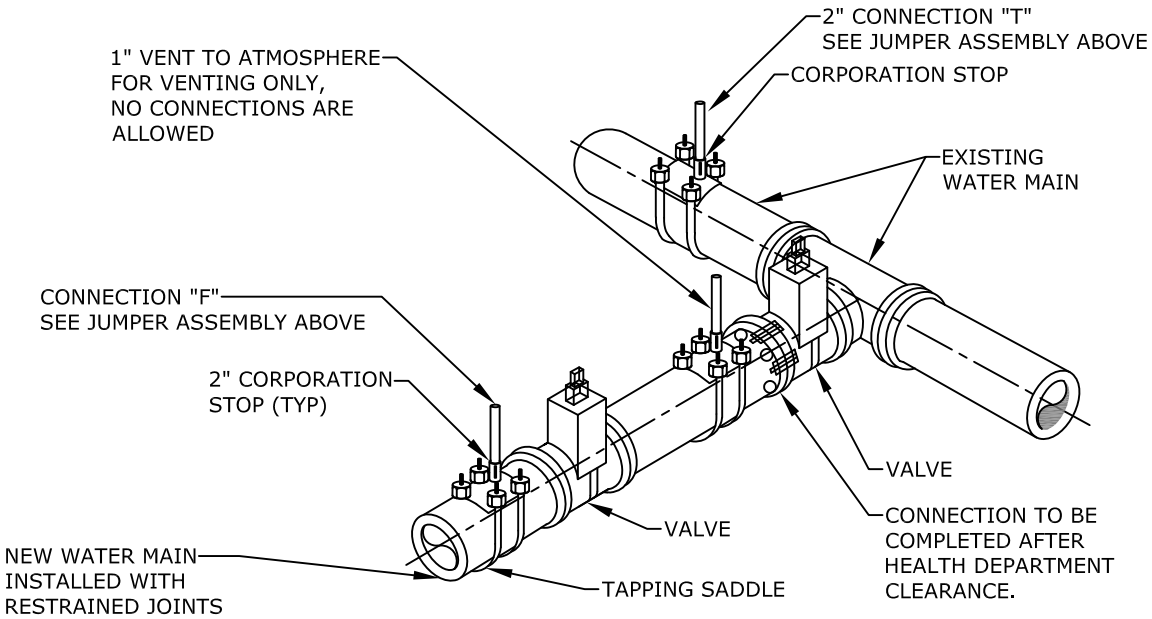
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FAX: 954-831-0925

STANDARD DETAIL



JUMPER ASSEMBLY



NOTES:

1. A BCWWS SUPPLIED FIRE HYDRANT BACKFLOW METER WITH RPZ MAY BE USED IN LIEU OF THE JUMPER ASSEMBLY.
2. SEE DETAIL 205B FOR ADDITIONAL REQUIREMENTS.

REVISED
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FILLING AND FLUSHING JUMPER CONNECTION

FIGURE
205A

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
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STANDARD DETAIL

1. A FILLING AND FLUSHING JUMPER ASSEMBLY CONNECTION IS REQUIRED AT ALL CONNECTIONS BETWEEN EXISTING ACTIVE BCWWS WATER MAINS AND NEW WATER MAINS. THE PROCEDURES ARE APPLICABLE WHEN CONNECTING TO AN EXISTING BCWWS WATER MAIN, WHETHER BY TAPPING TEE AND VALVE OR BY CONTINUATION OF A PLUGGED STUB OUT WITH AN EXISTING GATE VALVE.

2. THE CONTRACTOR SHALL CONTACT BCWWS REGARDING SCHEDULING OF REQUIRED INSPECTIONS RELATING TO THE CONNECTION. BCWWS INSPECTIONS ARE SPECIFICALLY REQUIRED FOR TIE-INS OR WET TAPS TO EXISTING WATER MAINS, JUMPER ASSEMBLY CONNECTION INSTALLATION, FLUSHING, PRESSURE TESTING, DISINFECTION, SAMPLING, PLUGGING OF SAMPLING POINTS AND PERMANENT CONNECTION OF THE NEW WATER MAIN. THE CONTRACTOR SHALL FOLLOW ALL PROCEDURES STRICTLY IN ACCORDANCE WITH BCWWS STANDARDS.

3. THE JUMPER ASSEMBLY (2" DIAMETER FLANGE TO FLANGE) WILL BE SUPPLIED BY BCWWS AND INSTALLED AND TESTED BY THE CONTRACTOR, IN COORDINATION WITH THE ENGINEER OF RECORD (EOR) AND BCWWS. OTHER MATERIALS AND INSTALLATION REQUIRED FOR THE CONNECTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE UNDERGROUND FITTINGS SHALL BE RESTRAINED MECHANICAL JOINT TYPE. ALL MATERIALS SHALL BE PER THE BCWWS APPROVED PRODUCT SPECIFICATION SHEETS. THE JUMPER SHALL BE MAINTAINED BY THE CONTRACTOR UNTIL IT IS REMOVED. JUMPER ASSEMBLIES 3" AND LARGER SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR IN COORDINATION WITH BCWWS.

4. ALL NEW WATER MAINS SHALL BE FLUSHED, PRESSURE TESTED AND DISINFECTED. NEW MAINS SHALL NOT BE PLACED INTO SERVICE UNTIL THE BACTERIOLOGICAL TEST RESULTS ARE SATISFACTORY AND A WRITTEN APPROVAL HAS BEEN OBTAINED FROM BCWWS, AS WELL AS CERTIFICATION FROM THE FLORIDA DEPARTMENT OF HEALTH.

5. THE WATER MAINS SHALL BE PRESSURE TESTED AFTER FLUSHING AND PRIOR TO DISINFECTION. ALL VALVES SHALL REMAIN CLOSED DURING THE PRESSURE TEST AND WILL NOT BE OPENED UNTIL THE RESULTS OF PRESSURE TESTING AND BACTERIOLOGICAL TESTING ARE SATISFACTORY AND THE SYSTEM HAS BEEN ACCEPTED FOR OPERATION BY BCWWS, AND HAS RECEIVED CERTIFICATION FROM THE FLORIDA DEPARTMENT OF HEALTH.

6. DISINFECTION SHALL BE CONDUCTED IN ACCORDANCE WITH AWWA C651. A MINIMUM PRESSURE OF 25 PSI SHALL BE MAINTAINED IN THE NEW MAIN AFTER DISINFECTION AT ALL TIMES.

7. PERMANENT CONNECTION TO EXISTING MAINS BY OPENING OF MAIN VALVES SHALL NOT BE MADE PRIOR TO BACTERIOLOGICAL CLEARANCE AND UNTIL APPROVED BY BCWWS AND CERTIFIED BY THE FLORIDA DEPARTMENT OF HEALTH.

8. UPON BACTERIOLOGICAL CLEARANCE, THE SAMPLING POINTS SHALL BE REMOVED AND PLUGGED BY THE CONTRACTOR. THE CONTRACTOR SHALL MAKE THE PERMANENT CONNECTION IN THE PRESENCE OF A BCWWS INSPECTOR. THE PIPE AND FITTINGS FOR CONNECTION SHALL BE DISINFECTED BY SPRAYING AND SWABBING WITH CHLORINE. THE JUMPER ASSEMBLY (FLANGE TO FLANGE) WILL BE REMOVED BY THE CONTRACTOR IN COORDINATION WITH BCWWS. THE CONTRACTOR SHALL REMOVE THE REMAINDER OF THE JUMPER CONNECTION PIPING AND PLUG THE CORPORATION STOP VALVES.

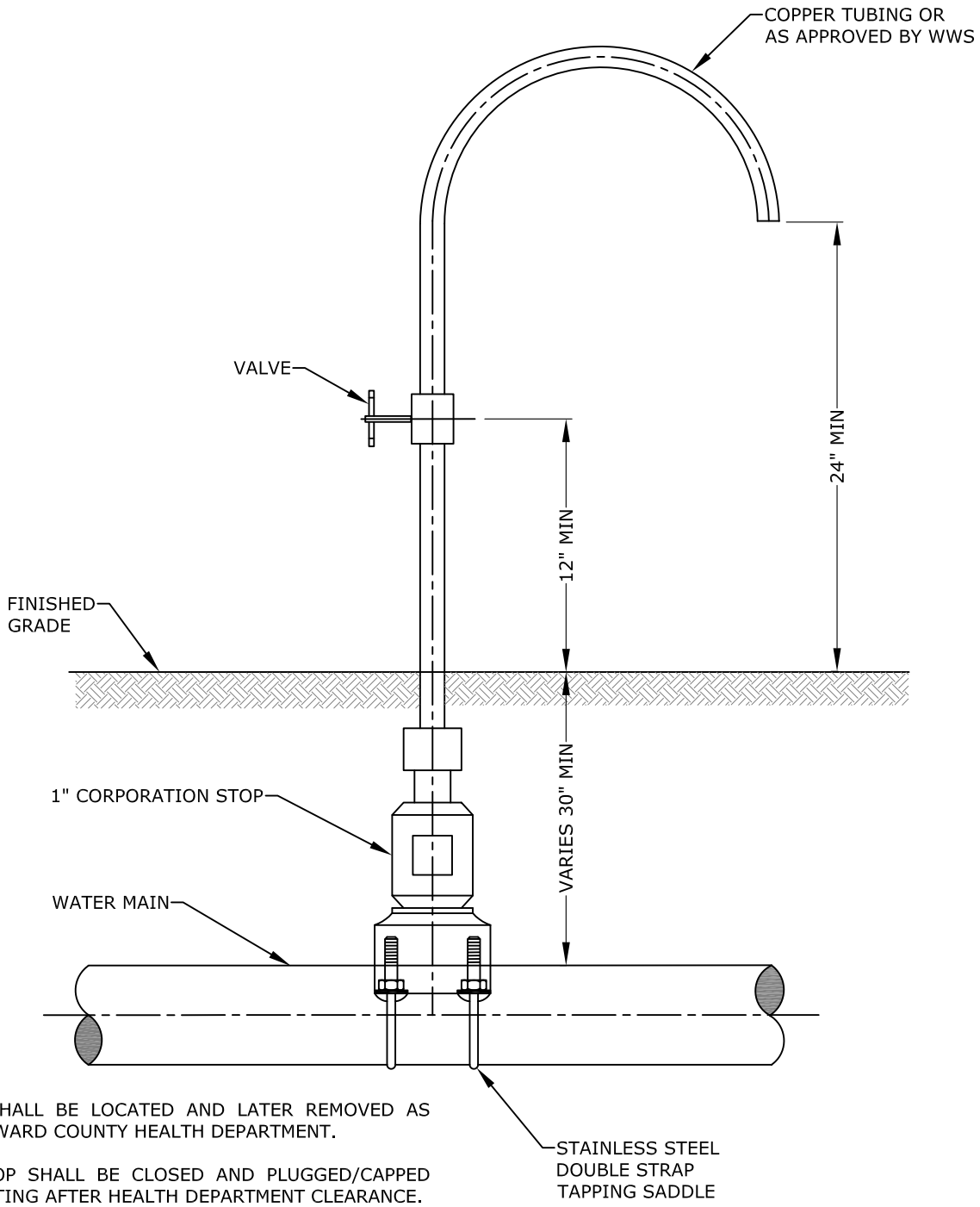
REVISED	FILLING AND FLUSHING JUMPER CONNECTION	FIGURE 205B
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
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STANDARD DETAIL



NOTES:

1. SAMPLE POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY BROWARD COUNTY HEALTH DEPARTMENT.
2. CORPORATION STOP SHALL BE CLOSED AND PLUGGED/CAPPED WITH A BRASS FITTING AFTER HEALTH DEPARTMENT CLEARANCE.
3. SAMPLING POINTS MAY BE PLACED AT THE ENDS OF WATER SERVICES BEFORE THE METERS AND ON BLOW OFFS FOR TERMINAL WATER MAINS, WHERE SERVICES AND BLOW OFFS ARE REQUIRED BY THE PLANS.

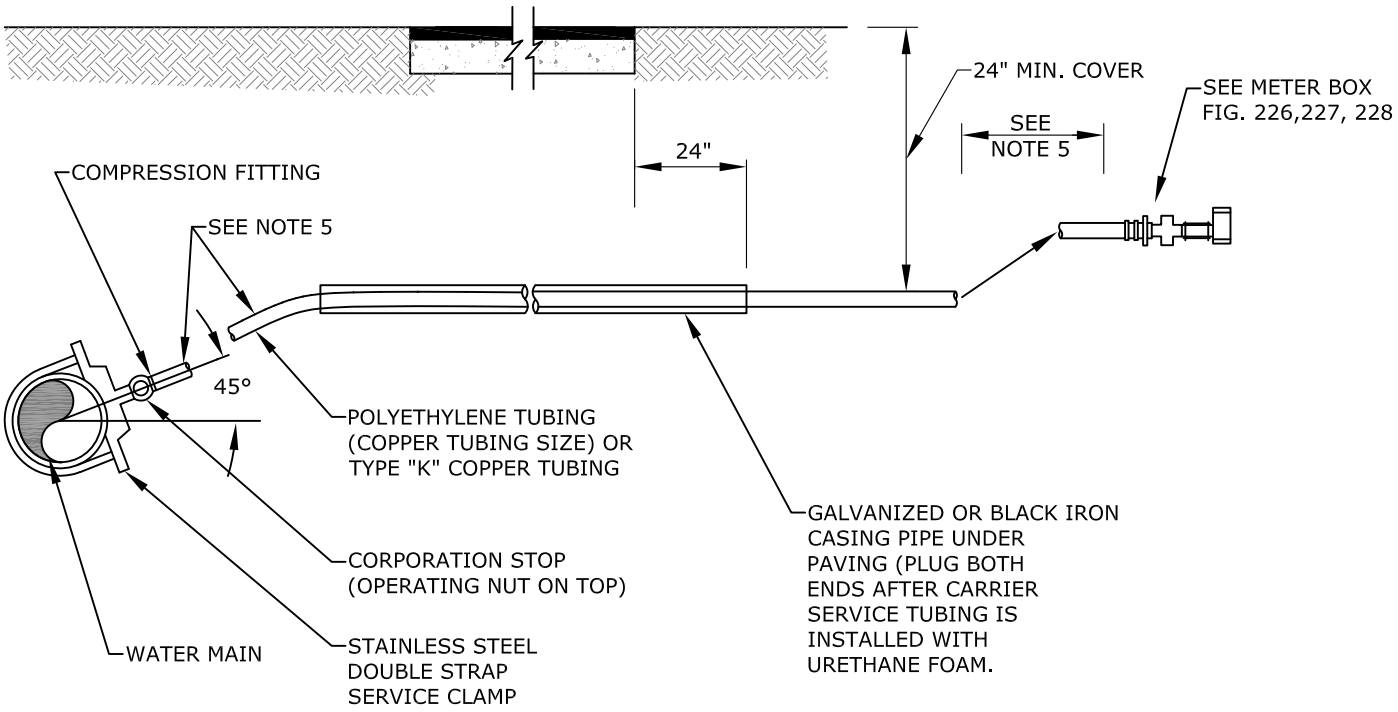
REVISED	SAMPLING POINT	FIGURE
7/7/2021		206

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



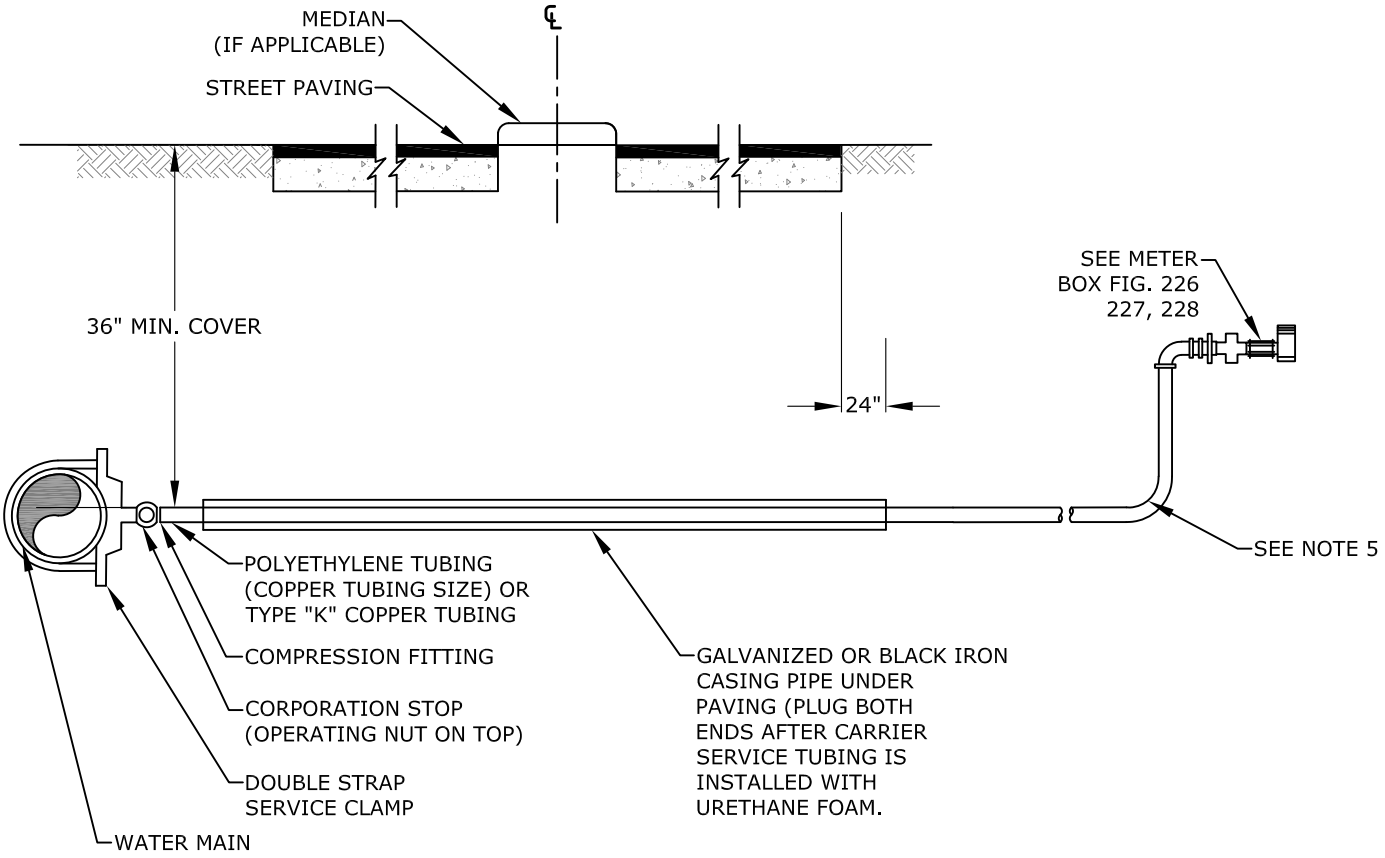
NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTER. NO TAPS SHALL BE CLOSER THAN 18" TO A JOINT.
2. 1" SERVICE REQUIRE A 2" MINIMUM INSIDE DIAMETER CASING PIPE.
3. 2" SERVICE REQUIRE A 3" MINIMUM INSIDE DIAMETER CASING PIPE.
4. ALL CASING PIPE SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVED STREETS.
5. FOR 1" SERVICE LINES THE MINIMUM RADIUS SHALL BE 14".
   FOR 2" SERVICE LINES THE MINIMUM RADIUS SHALL BE 21".
6. ALL CASING PIPE ENDS SHALL BE FILED SMOOTH WITH NO BURRS AND SEALED WITH URETHANE FOAM.
7. THE POLYETHYLENE OR COPPER TUBING SHALL BE ONE CONTINUOUS PIECE FROM THE CORPORATION STOP TO THE CHECK VALVE. NO JOINTS WILL BE PERMITTED BETWEEN THESE POINTS.

THIS DETAIL APPLIES ONLY TO RESIDENTIAL ROADS WITH LESS THAN 70' R.O.W. (NO MEDIAN) OR WITHIN EASEMENTS

REVISED	TYPE 1 WATER SERVICE CONNECTION	FIGURE 221
7/7/2021		

BROWARD COUNTY **PUBLIC WORKS DEPARTMENT** PLOTTED: 10/2024	WATER & WASTEWATER SERVICES ENGINEERING DIVISION 2555 WEST COPANS ROAD POMPANO BEACH, FL 33069 PHONE NO. 954-831-0745 FAX: 954-831-0925	# STANDARD DETAIL



NOTES:

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTER. NO TAPS SHALL BE CLOSER THAN 18" TO A JOINT.
2. 1" SERVICES REQUIRE A 2" MINIMUM INSIDE DIAMETER CASING PIPE.
3. 2" SERVICES REQUIRE A 3" MINIMUM INSIDE DIAMETER CASING PIPE.
4. ALL CASING PIPE SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVED STREETS.
5. FOR 1" SERVICE LINES THE MINIMUM RADIUS SHALL BE 14". FOR 2" SERVICE LINES THE MINIMUM RADIUS SHALL BE 21".
6. ALL CASING PIPE ENDS SHALL BE FILED SMOOTH WITH NO BURRS AND SEALED WITH URETHANE FOAM.
7. THE POLYETHYLENE OR COPPER TUBING SHALL BE ONE CONTINUOUS PIECE FROM THE CORPORATION STOP TO THE CHECK VALVE. NO JOINTS WILL BE PERMITTED BETWEEN THESE POINTS.

THIS DETAIL APPLIES ONLY TO COUNTY ARTERIAL AND COLLECTOR ROADS (70' TO 120' R/W) AND ALL STATE ROAD R/W

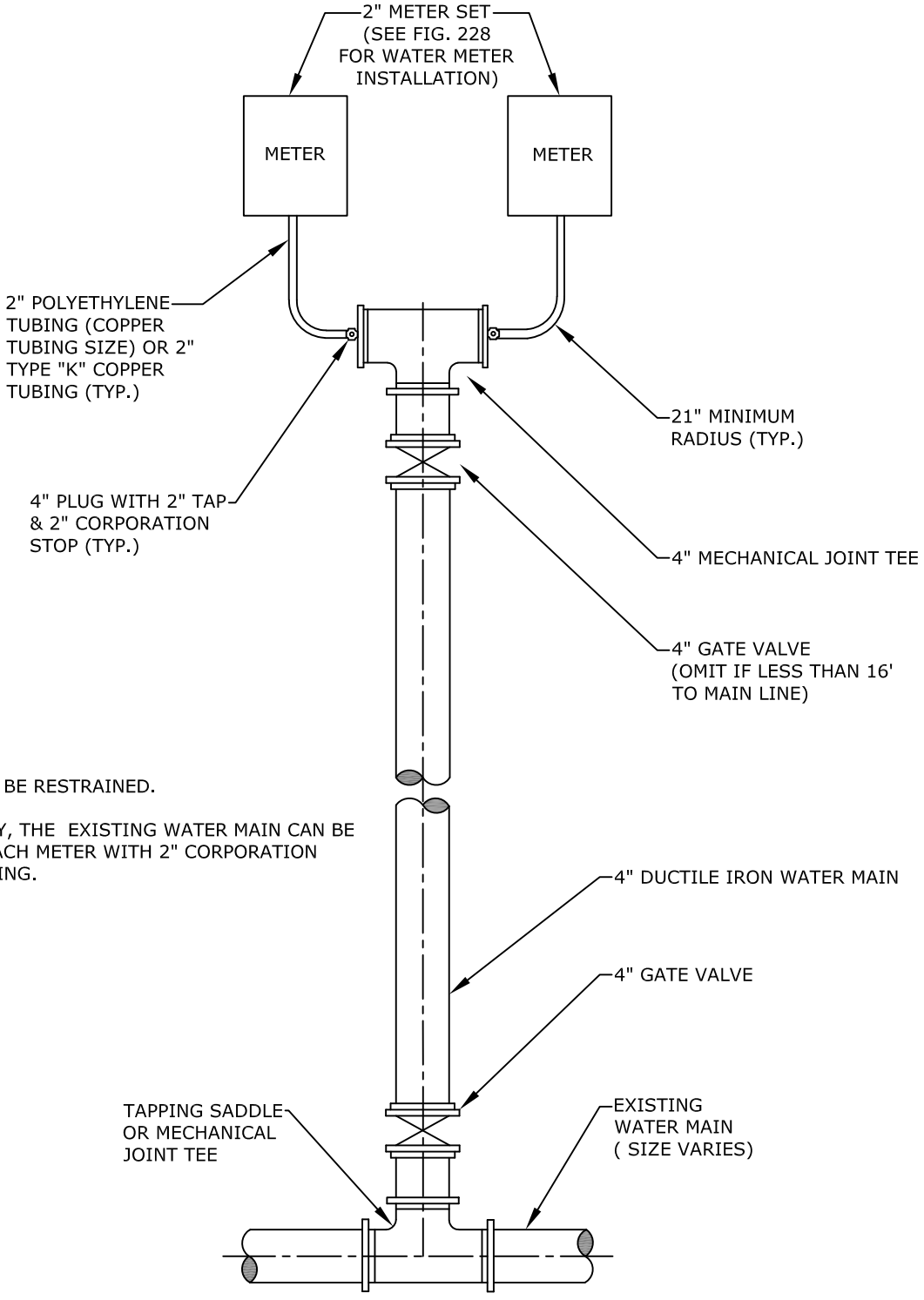
REVISED 7/7/2021	TYPE 2 WATER SERVICE CONNECTION	FIGURE 222

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



NOTES:

1. ALL JOINTS TO BE RESTRAINED.
2. ALTERNATIVELY, THE EXISTING WATER MAIN CAN BE TAPPED FOR EACH METER WITH 2" CORPORATION STOP AND TUBING.

REVISED
7/7/2021

METER INSTALLATION FOR TWO 2" METERS

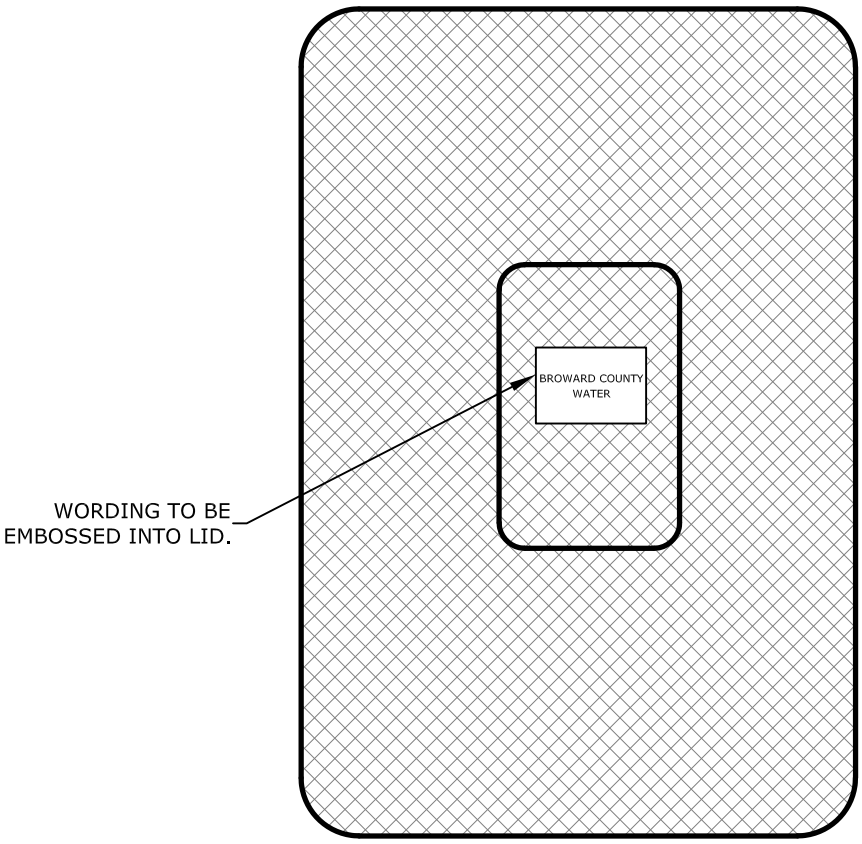
FIGURE
224

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



REVISED
7/7/2021

POTABLE WATER METER BOX COVER

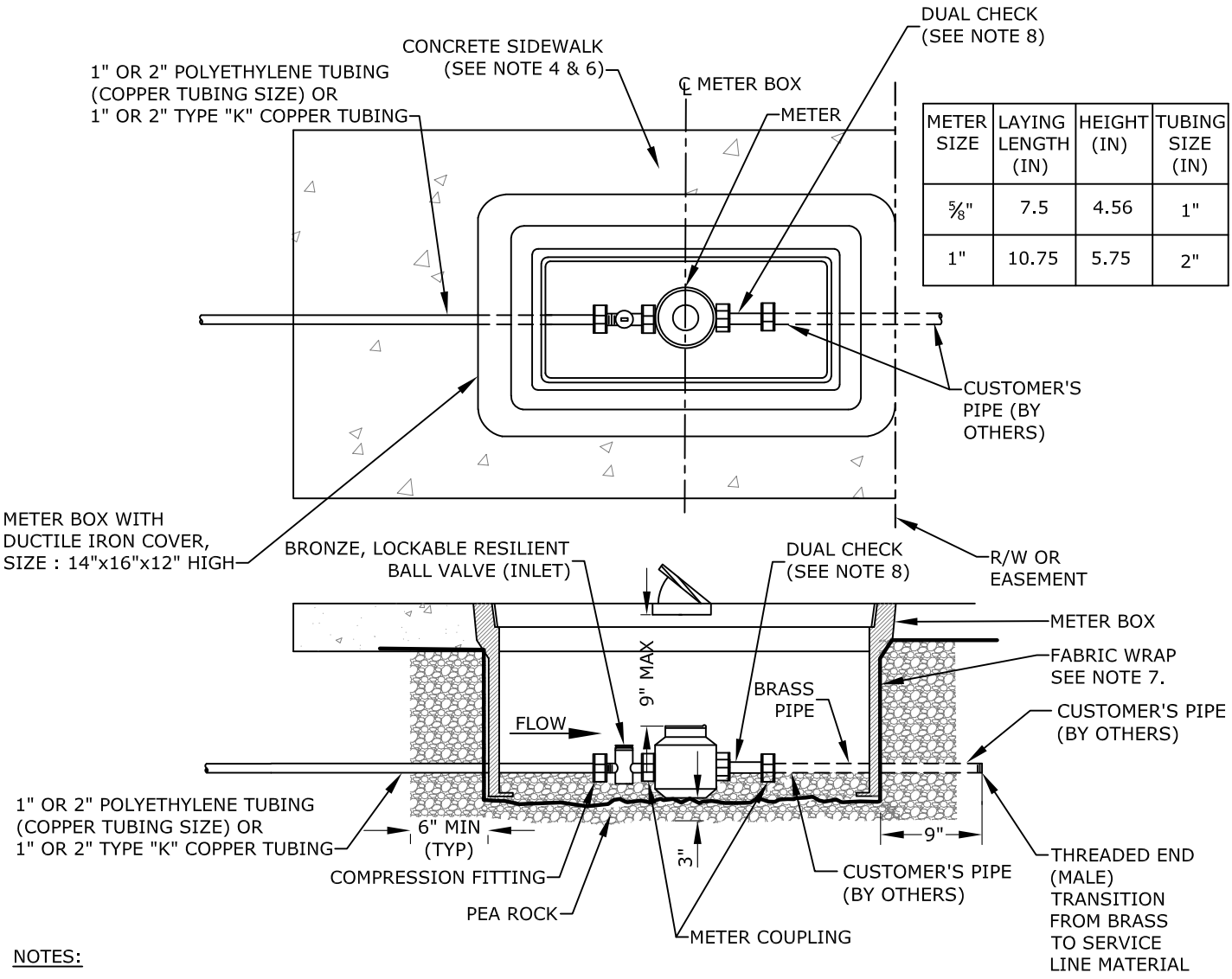
FIGURE
225

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



METER SIZE	LAYING LENGTH (IN)	HEIGHT (IN)	TUBING SIZE (IN)
5/8"	7.5	4.56	1"
1"	10.75	5.75	2"

NOTES:

1. ALL STRUCTURES TO BE TRAFFIC BEARING TYPE.
2. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL, WITH A MINIMUM RADIUS OF 14" FOR 1" TUBING AND 21" FOR 2" TUBING. 5/8" METERS SHALL HAVE A 1" SERVICE LINE, AND 1" METERS SHALL HAVE A 2" SERVICE LINE.
3. ALL METERS WILL BE SUPPLIED AND INSTALLED BY WWS. METER HAS IRON PIPE THREAD MALE CONNECTION ON EACH END.
4. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL LINE UP WITH THE BACK EDGE OF THE SIDEWALK.
5. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID. BALL VALVE AND BOTH METER COUPLINGS SHALL BE VISIBLE IN THE METER BOX.
6. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE x 6" THICK CONCRETE COLLAR AT GRADE.
7. AT BOTH PIPE PENETRATIONS THROUGH THE FABRIC WRAP, THE FABRIC SHALL BE PULLED TIGHT AROUND THE PIPE AND SECURED WITH TWO GRADE 316 STAINLESS STEEL HOSE CLAMPS TO PROVIDE A TIGHT SEAL AROUND PIPE.
8. DUAL CHECK ON SINGLE FAMILY HOUSE METERS ONLY. ALL OTHER METERS TO HAVE DOWNSTREAM ABOVE-GROUND BACK FLOW PREVENTER.

REVISED
7/7/2021

WATER METER INSTALLATION FOR 5/8" AND 1" METERS

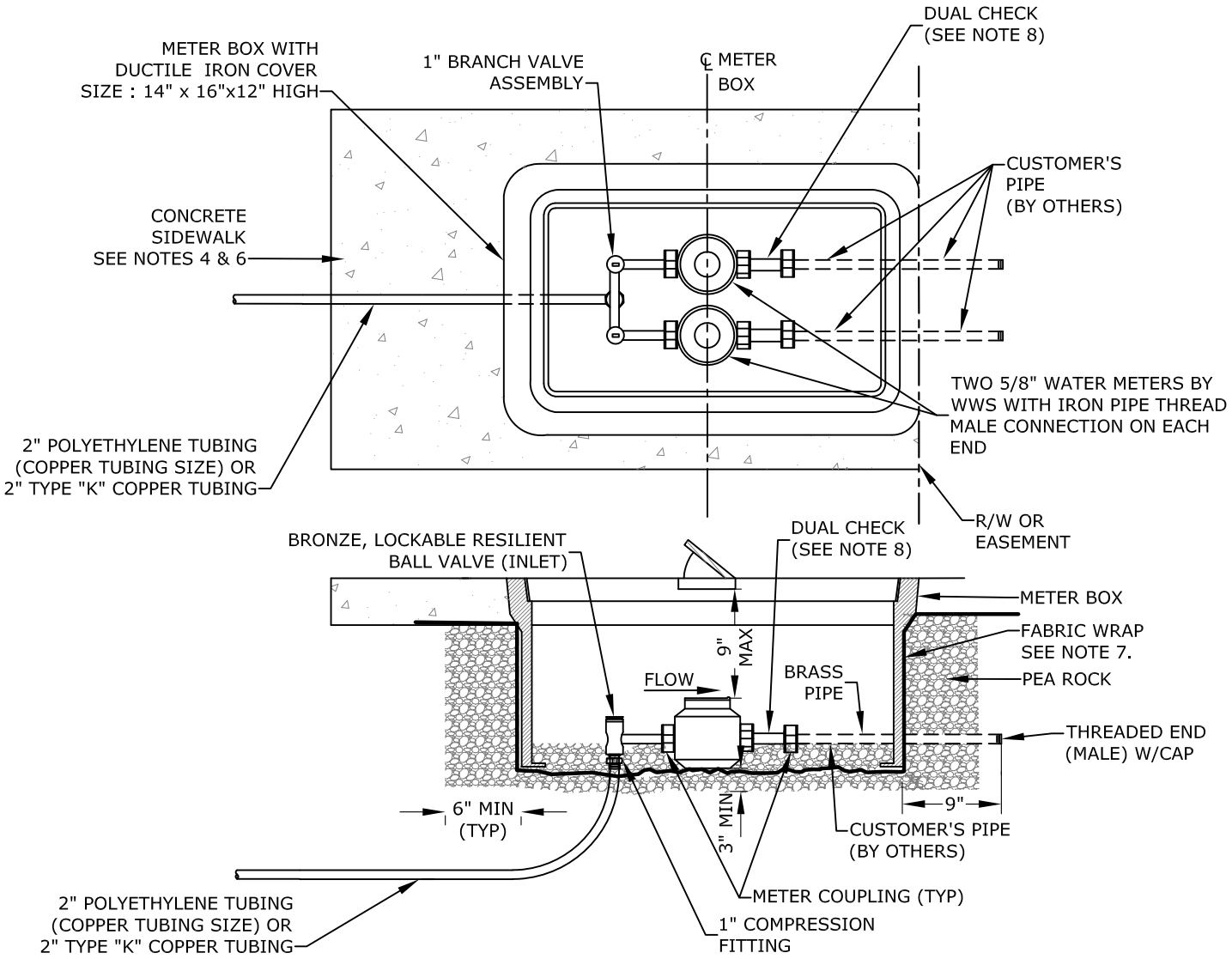
FIGURE
226

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. ALL STRUCTURES TO BE TRAFFIC BEARING TYPE.
2. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL, WITH A MINIMUM RADIUS SHALL BE 21" FOR 2" TUBING.
3. ALL METERS WILL BE SUPPLIED AND INSTALLED BY WWS. METER HAS IRON PIPE THREAD MALE CONNECTION ON EACH END.
4. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL LINE UP WITH THE BACK EDGE OF THE SIDEWALK.
5. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID. BALL VALVE AND METER COUPLINGS SHALL BE VISIBLE INSIDE THE METER BOX.
6. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE x 6" THICK CONCRETE COLLAR AT GRADE.
7. AT BOTH PIPE PENETRATIONS THROUGH THE FABRIC WRAP, THE FABRIC SHALL BE PULLED TIGHT AROUND THE PIPE AND SECURED WITH TWO GRADE 316 STAINLESS STEEL HOSE CLAMPS TO PROVIDE A TIGHT SEAL AROUND PIPE.
8. DUAL CHECK ON SINGLE FAMILY HOUSE METERS ONLY. ALL OTHER METERS TO HAVE DOWNSTREAM ABOVEGROUND BACK FLOW PREVENTER.

REVISED
7/7/2021

DOUBLE METER INSTALLATION FOR TWO ⅝" METERS

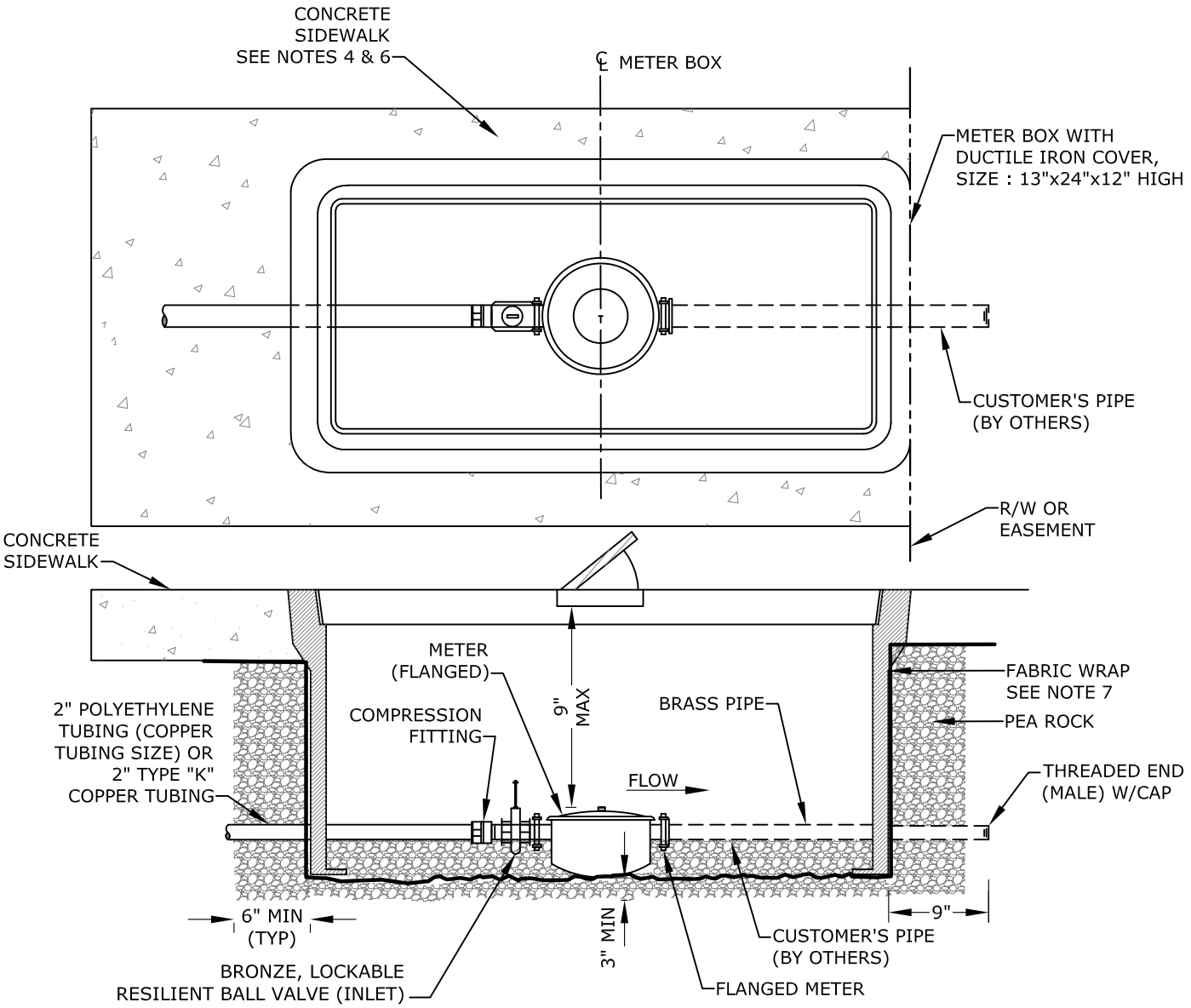
FIGURE
227

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



METER SIZE	LAYING LENGTH (IN)	HEIGHT (IN)
1 ½"	13	6 ⅞"
2"	17	7 17/32"

1. ALL STRUCTURES TO BE TRAFFIC BEARING TYPE.
2. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL, WITH A MINIMUM RADIUS SHALL BE 21" FOR 2" TUBING.
3. ALL METERS WILL BE SUPPLIED AND INSTALLED BY WWS. METERS ARE FLANGED.
4. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL LINE UP WITH THE BACK EDGE OF THE SIDEWALK.
5. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID.
6. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE x 6" THICK CONCRETE COLLAR AT GRADE.
7. AT BOTH PIPE PENETRATIONS THROUGH THE FABRIC WRAP, THE FABRIC SHALL BE PULLED TIGHT AROUND THE PIPE AND SECURED WITH TWO GRADE 316 STAINLESS STEEL HOSE CLAMPS TO PROVIDE A TIGHT SEAL AROUND PIPE.

REVISED
7/7/2021

WATER METER INSTALLATION FOR 1 ½" OR 2" METERS

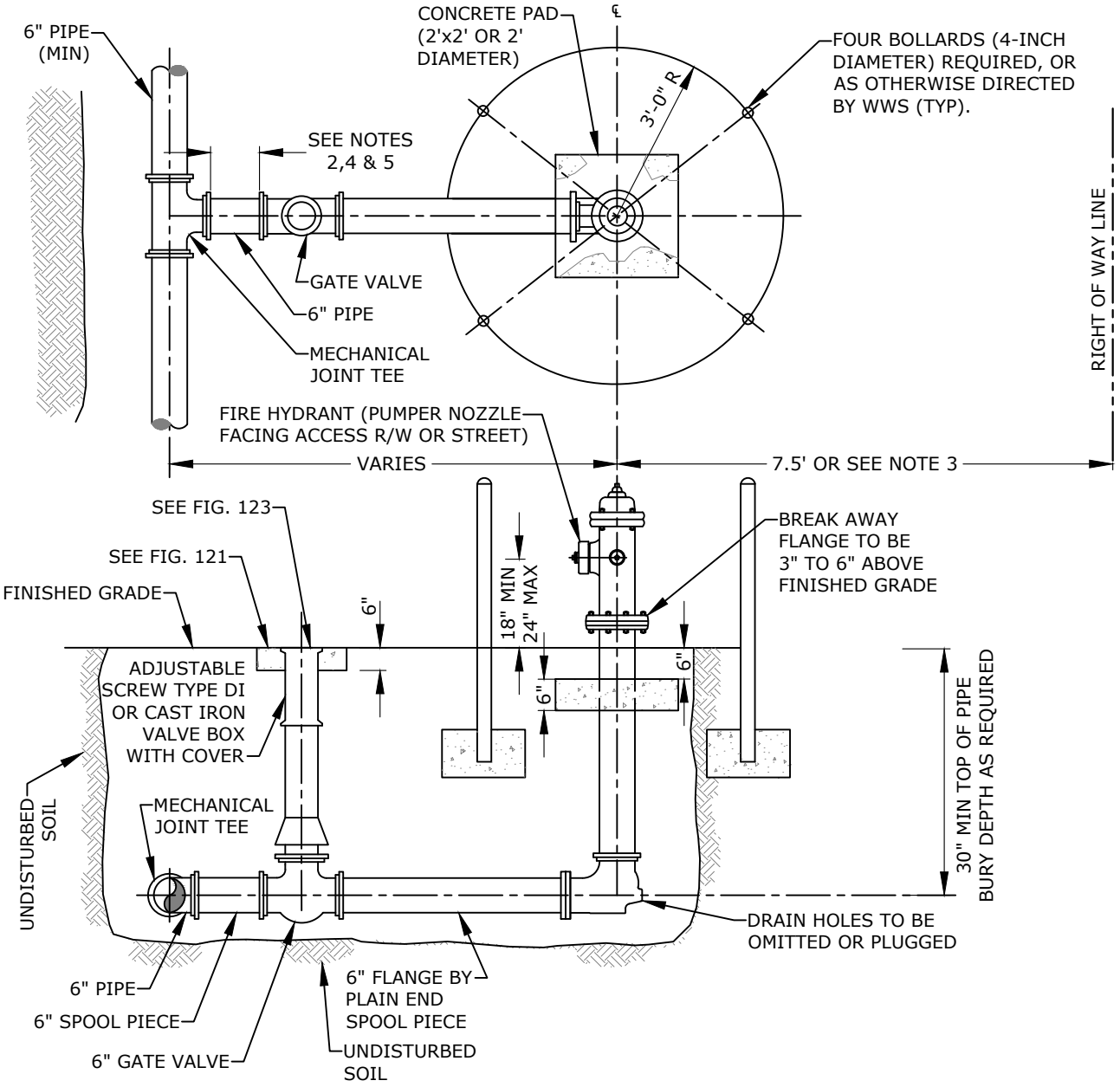
FIGURE
228

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. HYDRANT COATED WITH OSHA SAFETY YELLOW REFLECTIVE PAINT.
2. USE RESTRAINED JOINTS FOR THE ENTIRE ASSEMBLY SHOWN.
3. HYDRANT SET BACK SHALL CONFORM TO FDOT AND BCHCED REQUIREMENTS, WHERE APPLICABLE.
4. GATE VALVE IS NORMALLY LOCATED NEXT TO TEE.
5. IF DISTANCE FROM MAIN LINE TO FIRE HYDRANT IS GREATER THAN 20 FEET ANOTHER GATE VALVE WILL BE PROVIDED CLOSE TO THE HYDRANT. THIS SECOND VALVE SHALL BE INSTALLED WITHIN 5' OF THE FIRE HYDRANT.
6. HYDRANT FEED PIPE MAY BE TAPPED FOR A SERVICE LINE UPSTREAM OF THE ISOLATION GATE VALVE.
7. A BLUE RAISED REFLECTIVE PAVEMENT MARKER SHALL BE PLACED AT THE CENTER LINE OF THE OUTSIDE ROADWAY LANE TO IDENTIFY THE FIRE HYDRANT LOCATION.

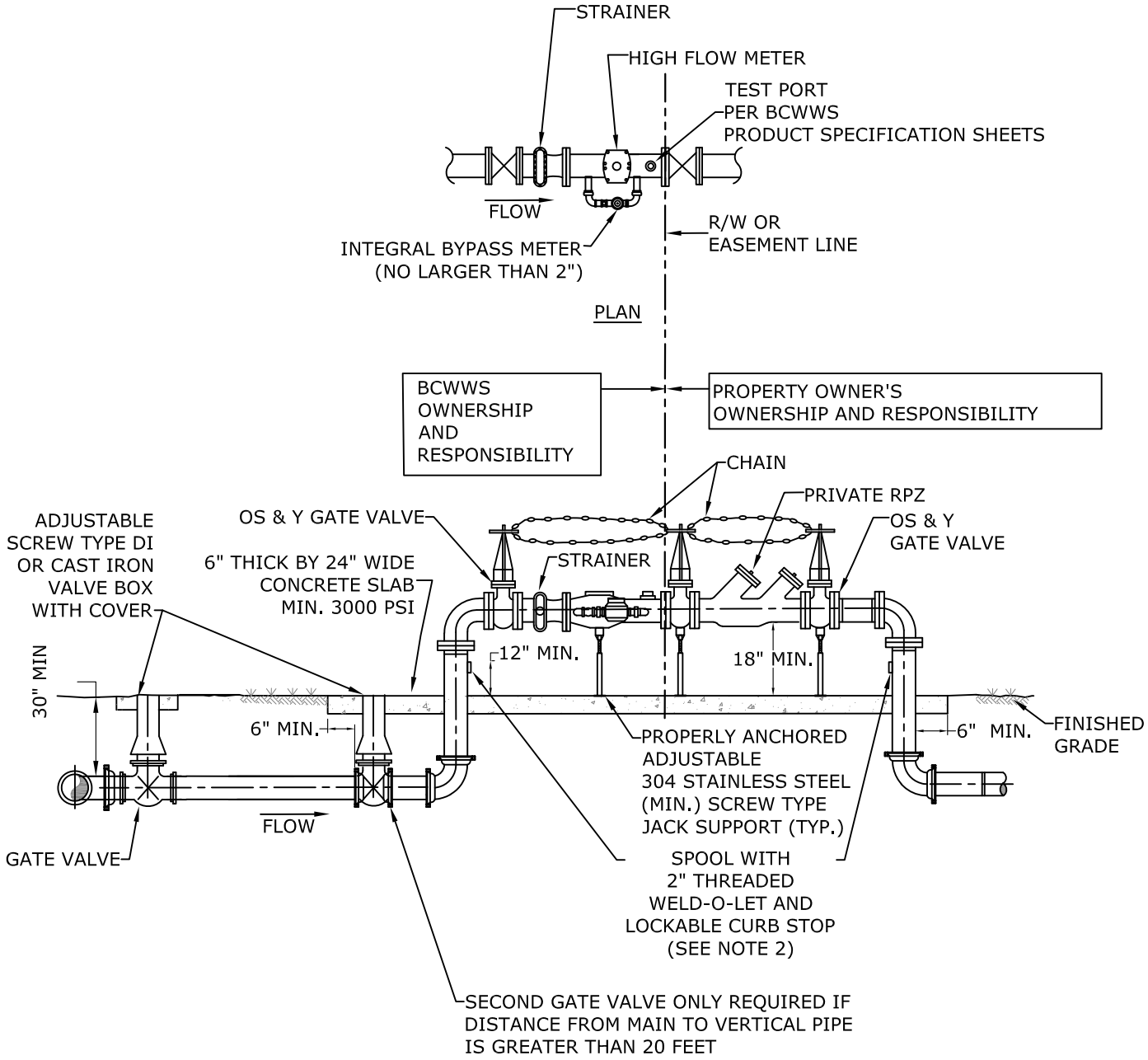
REVISED	FIRE HYDRANT INSTALLATION	FIGURE 231
10/17/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. ALL ABOVE-GROUND PIPING, FITTINGS, GATE VALVES AND CHECK VALVES AND THE METER ASSEMBLY SHALL BE PAINTED WITH POLYURETHANE COATING (BLUE).
2. CURB STOPS TO FACE EACH OTHER.

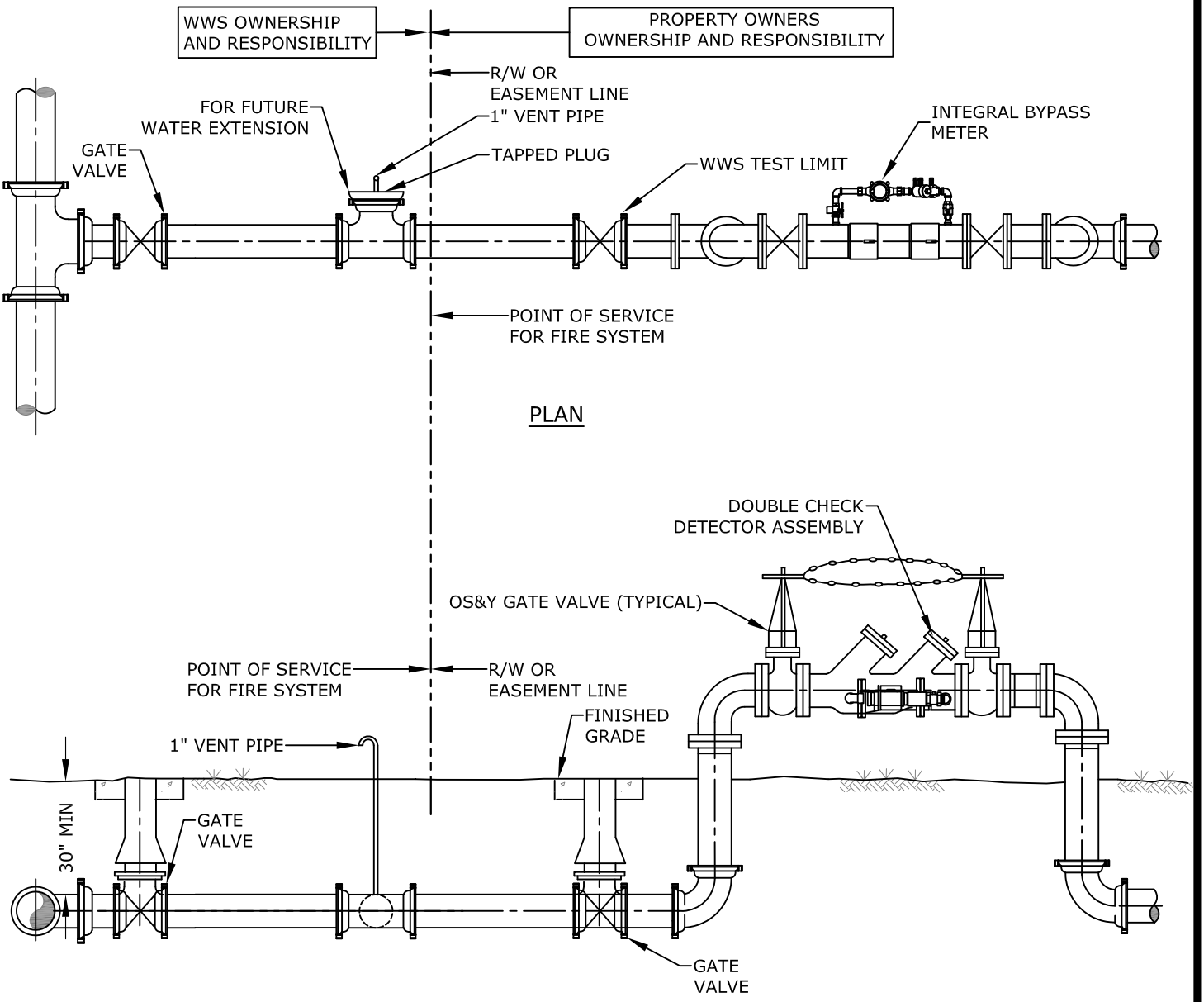
REVISED	3" OR 4" DOMESTIC WATER SERVICE	FIGURE
7/7/2021		234

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. THE DOUBLE CHECK DETECTOR ASSEMBLY SHALL BE PRIVATELY OWNED BY PROPERTY OWNER. WWS WILL ONLY MAINTAIN THE BYPASS METER.
2. FIRE SYSTEM TO BE CONSTRUCTED/TESTED IN ACCORDANCE WITH NFPA STDS. & ALL APPLICABLE CODES.
3. 1" VENT PIPE TO BE REMOVED AFTER WWS APPROVAL.
4. INTEGRAL BYPASS METER MUST COME WITH A RED REGISTER CAP METER.
5. PROVIDE RED POLYURETHANE COATING.

DEDICATED FIRE SYSTEM

REVISED
7/7/2021

TYPE 1
PRIVATE FIRE PROTECTION
4", 6" AND 8" DIAMETER CONNECTION

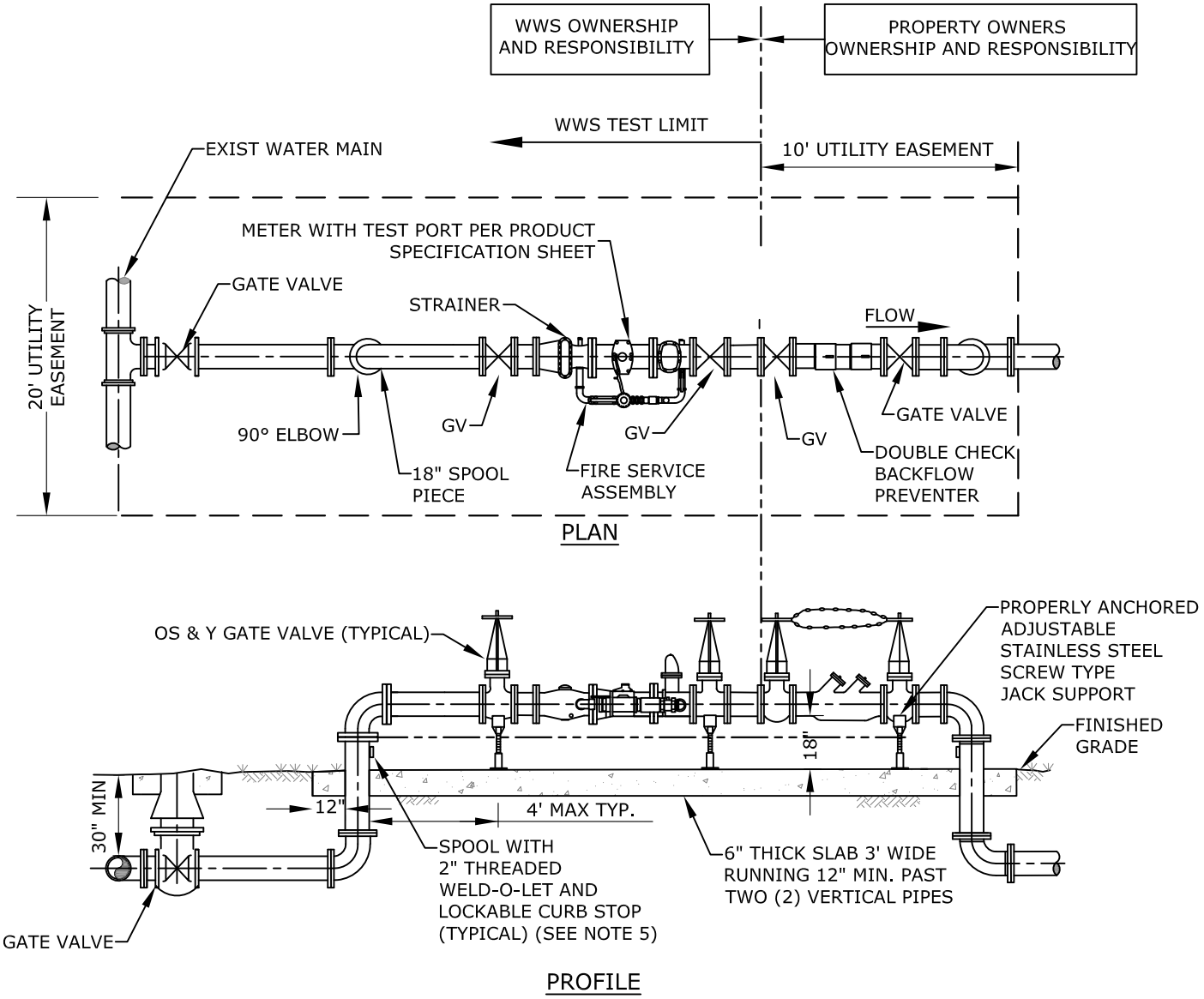
FIGURE
235

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. THE DOUBLE CHECK VALVE SHALL BE PRIVATELY OWNED BY THE PROPERTY OWNER.
2. EASEMENT SHALL BE PROVIDED IN ACCORDANCE WITH WWS MINIMUM REQUIREMENTS.
3. ALL ABOVE-GROUND PIPE SHALL BE FLANGED, DI (DUCTILE IRON) TYPE.
4. ALL PIPE LEADING FROM WATER MAIN TO FLANGED PIPING SHALL BE D.I. PIPE, RESTRAINED JOINTS.
5. ALL ABOVE-GROUND PIPING, FITTINGS, GATE VALVES AND CHECK VALVES AND THE METER ASSEMBLY SHALL BE PAINTED WITH POLYURETHANE COATING (BLUE).

COMBINED DOMESTIC WATER SERVICE AND FIRE PROTECTION

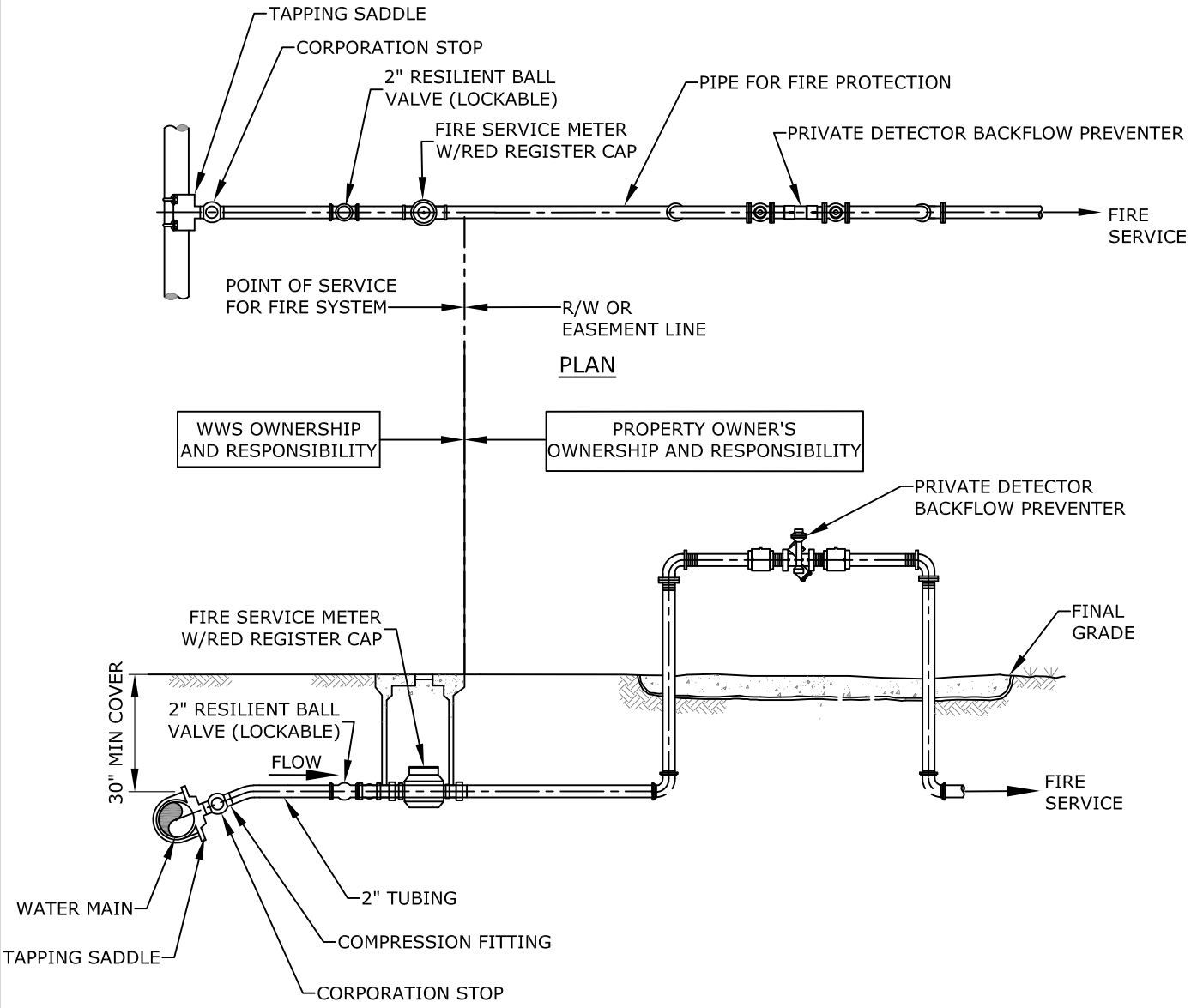
REVISED	TYPE 2 PRIVATE FIRE PROTECTION 4", 6" AND 8" DIAMETER CONNECTION	FIGURE 236
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



PROFILE

1. THE DOUBLE CHECK VALVE SHALL BE PRIVATELY OWNED BY PROPERTY OWNER.
2. FIRE SYSTEM TO BE CONSTRUCTED/TESTED IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION STANDARDS AND ALL APPLICABLE CODES.
3. METER BOX AND SERVICE LINE SHALL BE IN ACCORDANCE WITH WWS STANDARD DETAIL FOR WATER METER INSTALLATION AND NATIONAL FIRE PROTECTION STANDARDS AND CODES. USE TYPE "K" COPPER TUBING AND BRASS OR COPPER FITTINGS.
4. METER AND BACKFLOW DEVICE SHALL BE THE SAME SIZE.

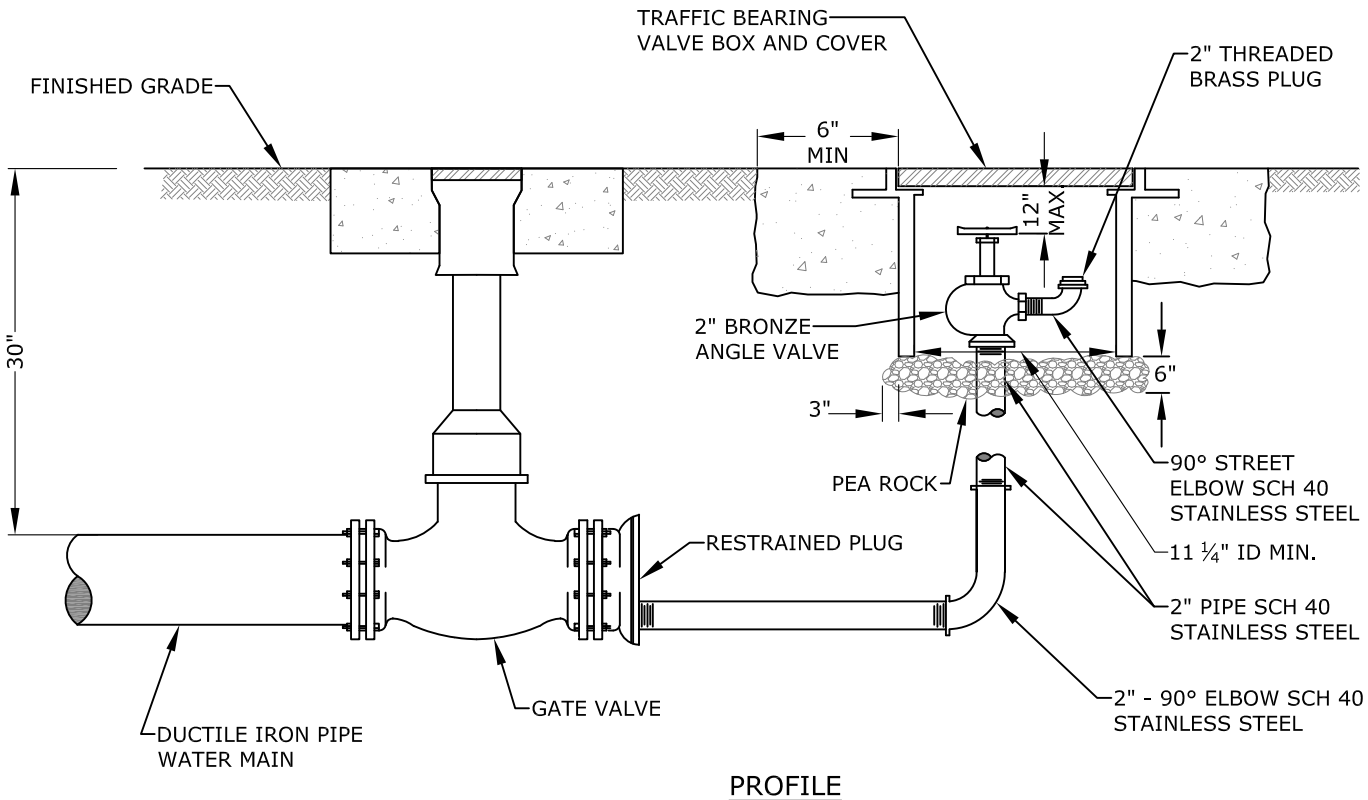
REVISED	TYPE 3 PRIVATE FIRE PROTECTION 2" DIAMETER CONNECTION	FIGURE 237
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
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WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



PROFILE

1. 2" TAP IN BOTTOM OF PLUG.
2. USE RESTRAINED JOINT PIPE.
3. IN GRASS AREA USE CONCRETE COLLARS, 6" THICK.

REVISED
7/7/2021

MANUAL BLOW OFF

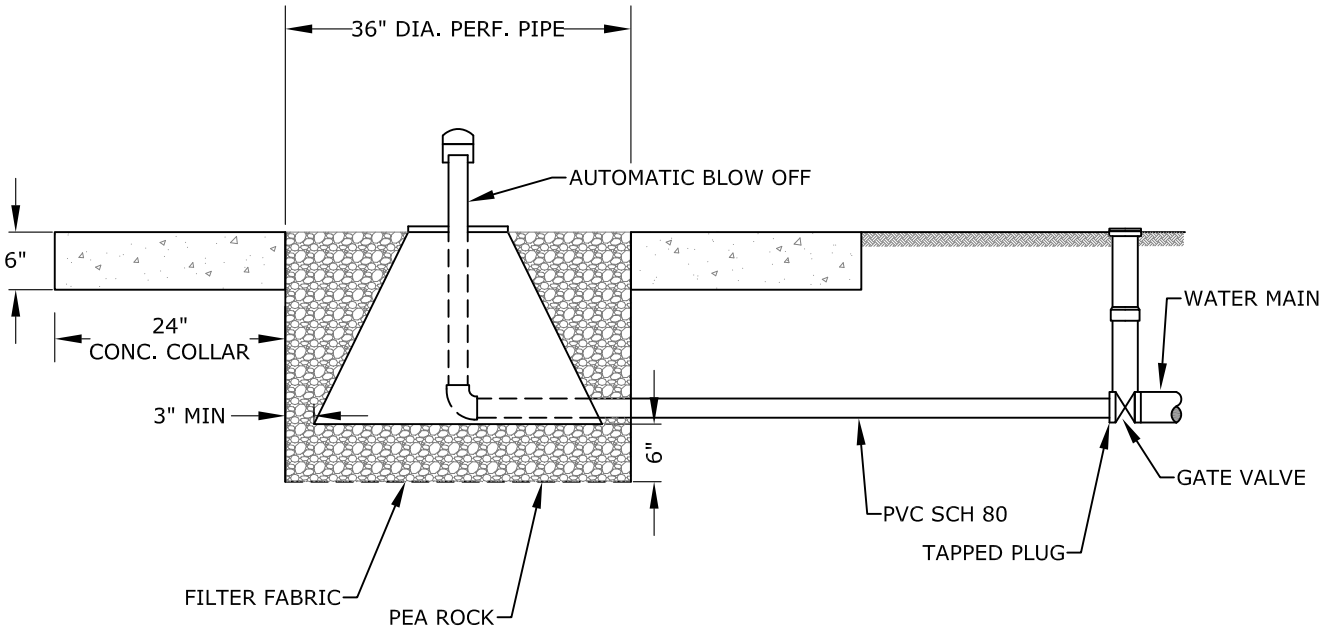
FIGURE
252

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



REVISED
7/7/2021

AUTOMATIC BLOW OFF PROFILE

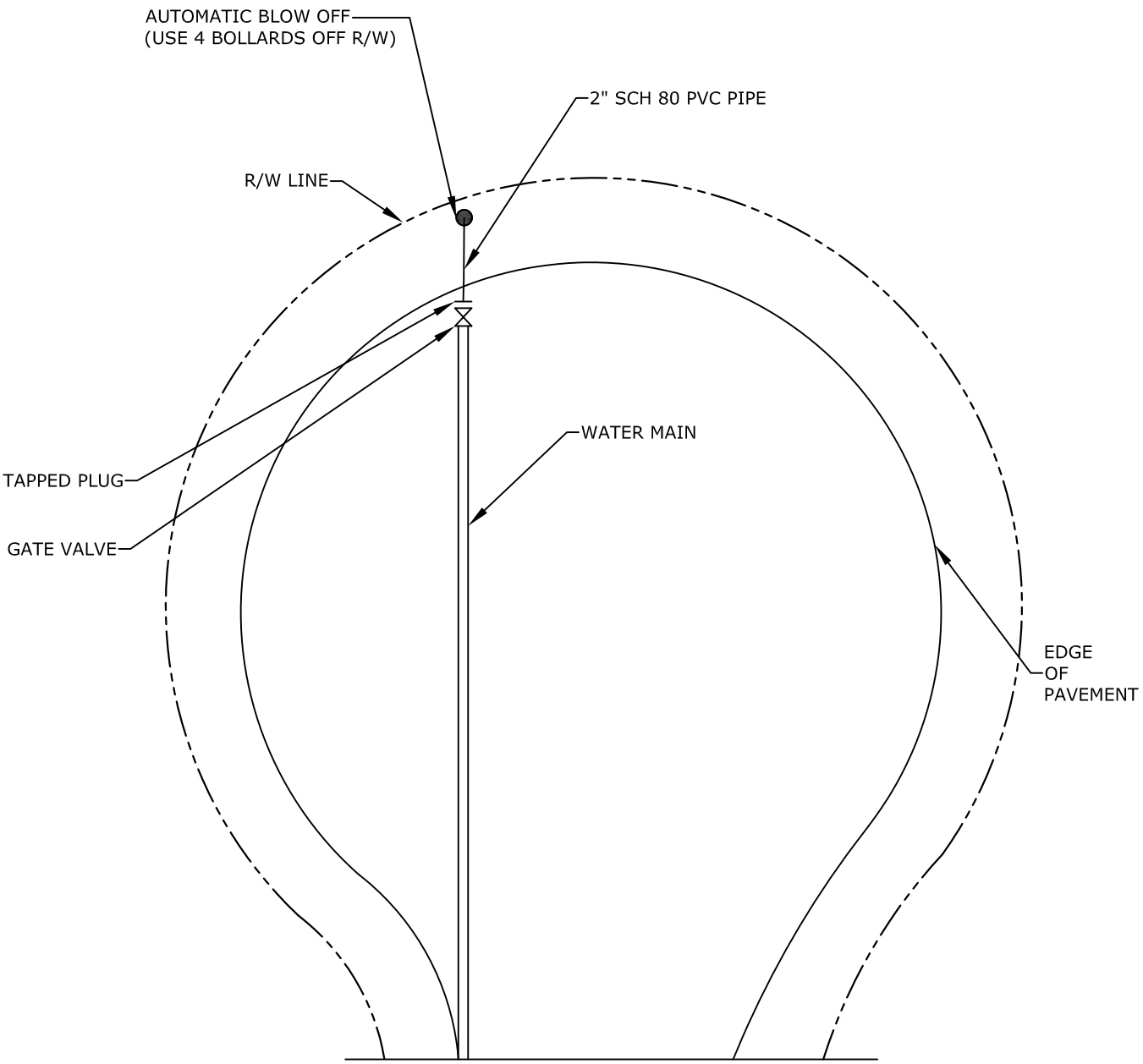
FIGURE
253

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



REVISED
7/7/2021

AUTOMATIC BLOW OFF PLAN

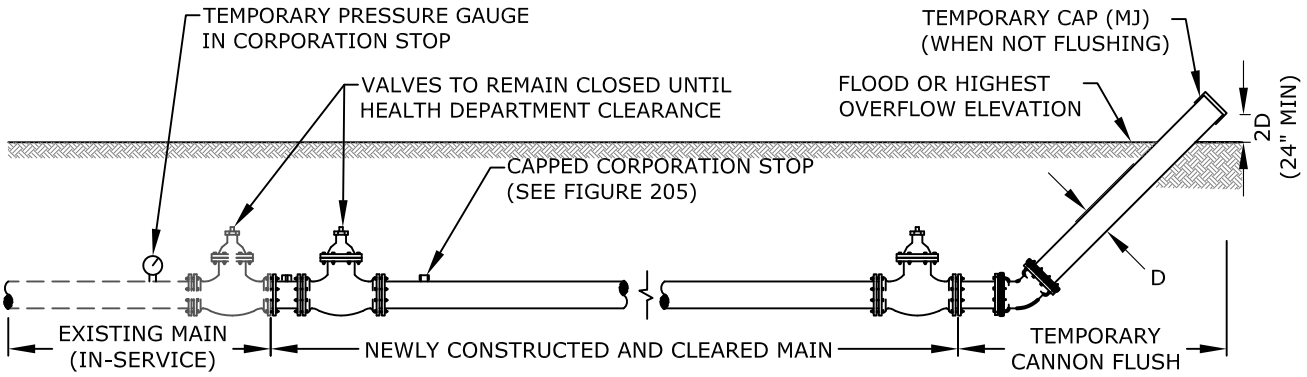
FIGURE
254

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



NOTES:

1. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, ALL NEW WATER MAINS SHALL BE CANNON FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER.
2. CANNON FLUSHING OF NEW WATER MAINS SHALL PROCEED ONLY AFTER HEALTH DEPARTMENT CLEARANCE IS RECEIVED.
3. CONTRACTOR IS CAUTIONED THAT GOVERNING AGENCIES OR UTILITIES MAY HAVE REGULATIONS LIMITING OR PROHIBITING DISCHARGE INTO SEWERS, SURFACE WATERS, CANALS, DITCHES AND OTHER CONVEYANCES/RETENTION AREAS. ALL COMPLIANCE WITH GOVERNING AGENCY REQUIREMENTS (INCLUDING PERMITTING, IF REQUIRED) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
4. INSTALL A TEMPORARY 45° BEND AND ASSOCIATED TEMPORARY PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFLICT PROPERTY DAMAGE.
5. CONTRACTOR SHALL INSTALL A TEMPORARY PRESSURE GAUGE AT OR NEAR THE FILL AND FLUSH LOCATION. CONTRACTOR SHALL MONITOR AND MAINTAIN A MINIMUM PRESSURE OF 40 PSI AT ALL TIMES. THE FILL VALVE SHALL BE OPENED AND CLOSED SLOWLY TO AVOID RAPID PRESSURE CHANGES IN THE WATER SYSTEM.
6. BENDS AND PIPING SHALL BE THE SAME SIZE OR LARGER AS THE LINE BEING FLUSHED.
7. ALL PIPING SHALL BE MECHANICALLY RESTRAINED IN ACCORDANCE WITH WWS STANDARDS.
8. FLUSHING LOCATIONS ARE TO BE PROPOSED BY CONTRACTOR AND APPROVED BY ENGINEER OF RECORD.
9. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION THE CONTRACTOR SHALL SCHEDULE INTENDED WATER USE WITH WWS.
10. NO EXISTING VALVES SHALL BE OPERATED, EXCEPT BY AUTHORIZED WWS PERSONNEL.
11. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE WWS INSPECTOR.
12. AFTER THE WATER MAIN UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED, THE CONTRACTOR SHALL REMOVE ALL TEMPORARY FACILITIES AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED. CLOSE CORPORATION STOPS AND PLUG/CAP WITH BRASS FITTINGS.

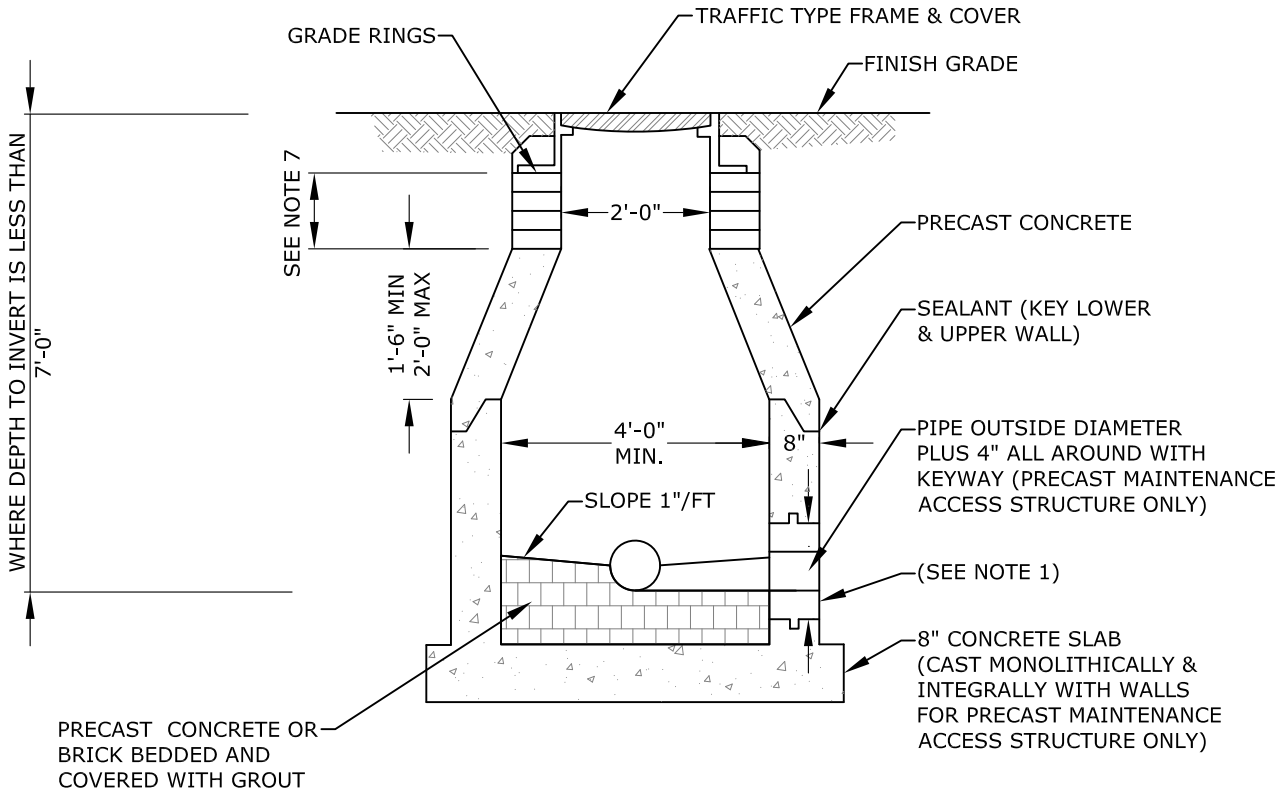
REVISED	CANNON FLUSHING FOR NEWLY CONSTRUCTED WATER MAINS	FIGURE 255
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. MAINTENANCE ACCESS STRUCTURE ADAPTOR COUPLING NEOPRENE BOOT OR APPROVED EQUAL ARE REQUIRED FOR ALL PIPE MATERIAL OR AS APPROVED BY WWS.
2. MAINTENANCE ACCESS STRUCTURE WALLS TO BE SEAL COATED INSIDE AND OUTSIDE WITH 16 MIL. THICKNESS OF COAL TAR EPOXY. THE 1st COAT IS RED AND THE 2nd COAT IS BLACK.
3. LIFT HOLES ARE NOT ALLOWED.
4. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF EXPANDING GROUT. SEE FIG. 322
5. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MAINTENANCE ACCESS STRUCTURE TO DIRECT INFLUENT INTO FLOW STREAM.
6. ALL CONCRETE SHALL BE TYPE II CEMENT, MEETING LATEST ASTM REQUIREMENTS AND PROVIDED WITH LABORATORY CERTIFICATION ON PRECAST STRUCTURES.
7. THE CHIMNEY AREA SHALL BE MINIMUM OF 4" AND A MAXIMUM OF 12" IN HEIGHT. A MINIMUM OF 3 GRADE RINGS SHALL BE INSTALLED. SET IN 2 STRIPS OF BUTYL JOINT SEALANT STRIPS ON EACH SEALING FACE.
8. SET MAINTENANCE ACCESS STRUCTURE FRAME ON 2 STRIPS OF BUTYL JOINT SEALANT STRIPS PLUS A BED OF PORTLAND CEMENT AND SILICA SAND. APPLY MORTAR ON INSIDE AND OUTSIDE BUTYL JOINT SEALANT.
9. APPLY MORTAR COATING TO INSIDE AND OUTSIDE OF CHIMNEY. BRING MORTAR UP AND OVER FRAME. (SEE NOTE 10. BELOW.)
10. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE OR MORTAR MIX, INTERIOR COATINGS MAY BE ELIMINATED.

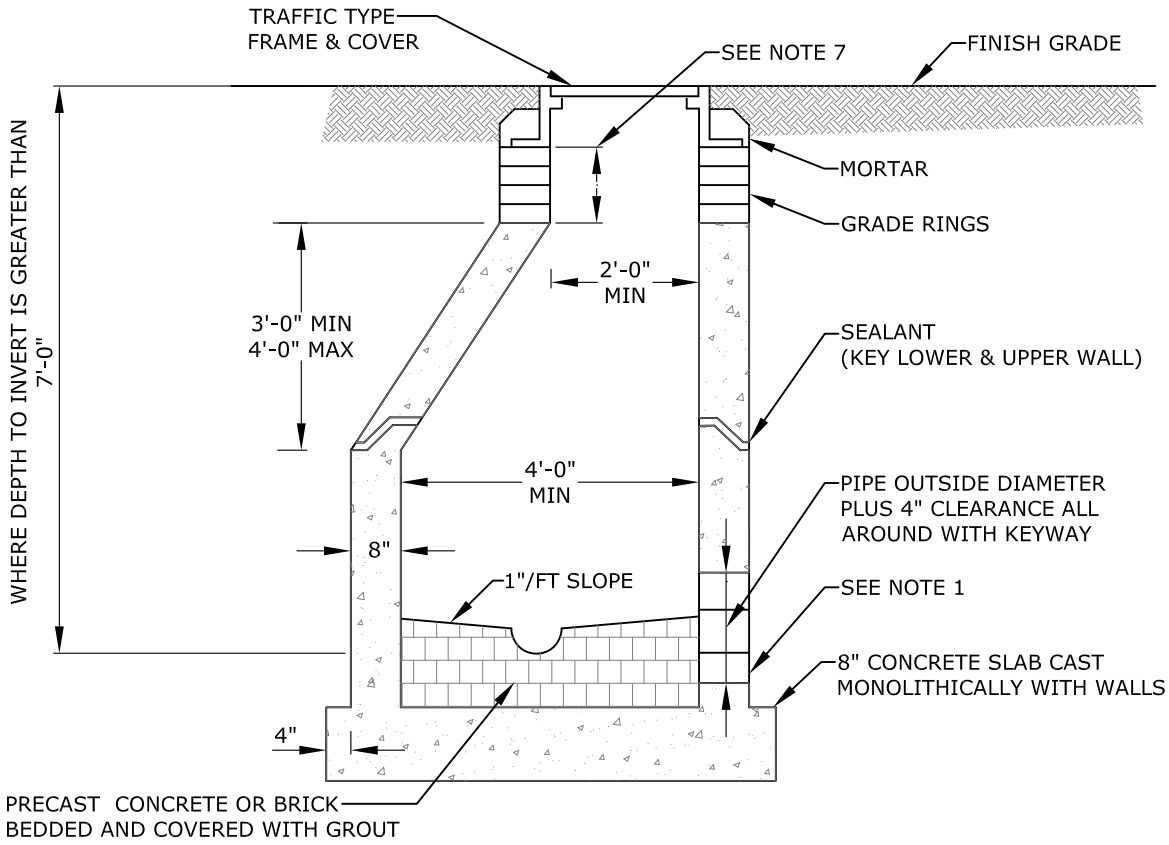
REVISED	SHALLOW MAINTENANCE ACCESS STRUCTURE	FIGURE 311
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. MAINTENANCE ACCESS STRUCTURE ADAPTOR COUPLING NEOPRENE BOOT OR APPROVED EQUAL ARE REQUIRED FOR ALL PIPE MATERIAL OR AS APPROVED BY WWS.
2. MAINTENANCE ACCESS STRUCTURE WALLS TO BE SEAL COATED INSIDE AND OUTSIDE WITH 16 MIL. THICKNESS OF COAL TAR EPOXY. THE 1st COAT IS RED AND THE 2nd COAT IS BLACK.
3. LIFT HOLES ARE NOT ALLOWED.
4. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF EXPANDING GROUT. SEE FIG. 322.
5. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MAINTENANCE ACCESS STRUCTURE TO DIRECT INFLUENT INTO FLOW STREAM.
6. ALL CONCRETE SHALL BE TYPE II CEMENT, MEETING LATEST ASTM REQUIREMENTS AND PROVIDED WITH LABORATORY CERTIFICATION ON PRECAST STRUCTURES.
7. THE CHIMNEY AREA SHALL BE MINIMUM OF 4" AND A MAXIMUM OF 12" IN HEIGHT. A MINIMUM OF 3 GRADE RINGS SHALL BE INSTALLED. SET IN 2 STRIPS OF BUTYL JOINT SEALANT STRIPS ON EACH SEALING FACE.
8. SET MAINTENANCE ACCESS STRUCTURE FRAME ON 2 STRIPS OF BUTYL JOINT SEALANT STRIPS PLUS A BED OF PORTLAND CEMENT AND SILICA SAND. APPLY MORTAR ON INSIDE AND OUTSIDE BUTYL JOINT SEALANT.
9. APPLY MORTAR COATING TO INSIDE AND OUTSIDE OF CHIMNEY. BRING MORTAR UP AND OVER FRAME. (SEE NOTE 10 BELOW.)
10. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE OR MORTAR MIX, INTERIOR COATINGS MAY BE ELIMINATED.

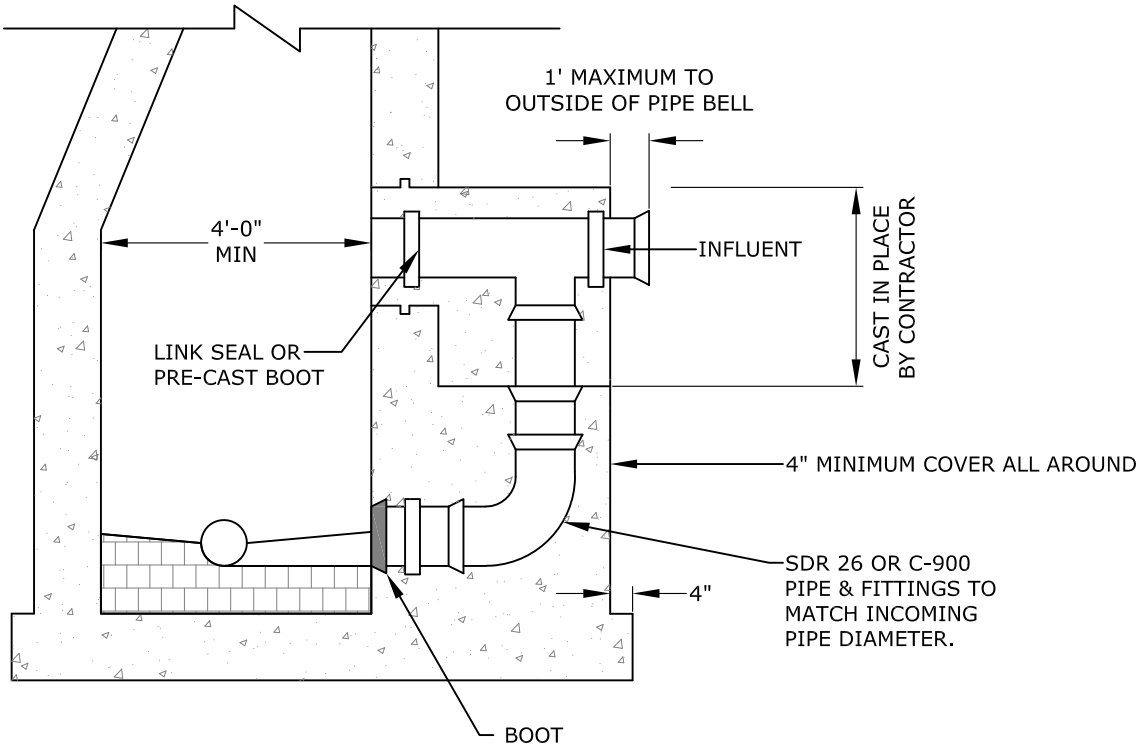
REVISED	PRECAST MAINTENANCE ACCESS STRUCTURE	312
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. THE MANUFACTURER'S PORTION OF THE CONCRETE ENCASEMENT FOR THE DROP CONNECTION SHALL BE POURED INTEGRALLY WITH BOTH THE MAINTENANCE ACCESS STRUCTURE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO (2) FEET OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. ALL REQUIREMENTS FOR PRECAST MAINTENANCE ACCESS STRUCTURE WITHOUT DROP CONNECTIONS WILL ALSO APPLY TO PRECAST MAINTENANCE ACCESS STRUCTURE WITH DROP CONNECTIONS. SEE PRECAST MAINTENANCE ACCESS STRUCTURE STANDARD DETAIL FOR OTHER REQUIREMENTS.
4. ALL PIPE TO BE SAME DIAMETER AS INFLUENT SEWER MAIN.
5. APPLY MORTAR COATING TO INSIDE AND OUTSIDE OF CHIMNEY. BRING MORTAR UP AND OVER FRAME. (SEE NOTE 10. BELOW.)
6. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE OR MORTAR MIX, INTERIOR COATINGS MAY BE ELIMINATED.

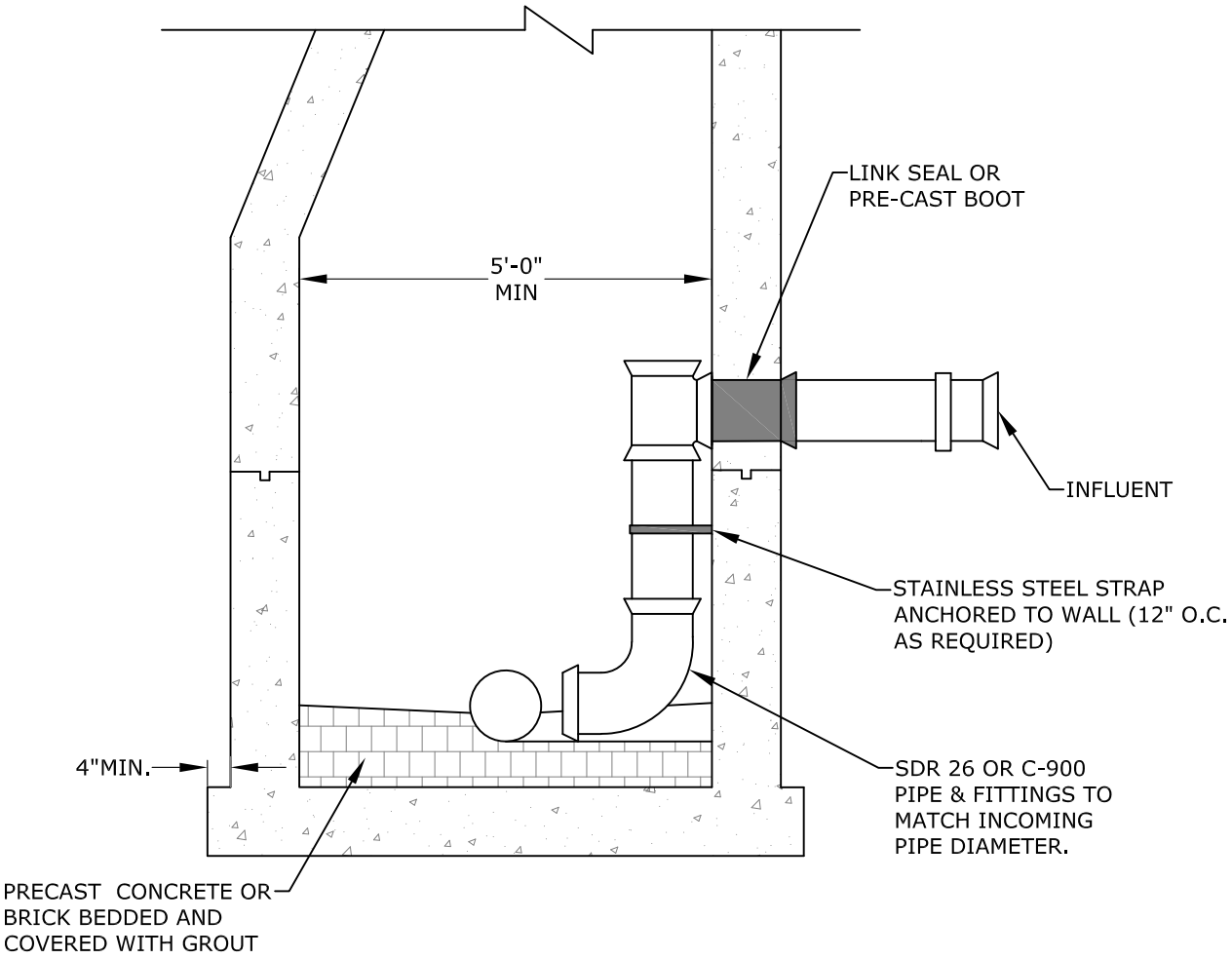
REVISED	PRECAST MAINTENANCE ACCESS STRUCTURE DROP CONNECTION TYPE 1	FIGURE 313
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. THE MANUFACTURER'S PORTION OF THE CONCRETE ENCASEMENT FOR THE DROP CONNECTION SHALL BE POURED INTEGRALLY WITH BOTH THE MAINTENANCE ACCESS STRUCTURE SLAB AND WALL.
2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO (2) FEET OR MORE ABOVE THE MAIN INVERT CHANNEL.
3. ALL REQUIREMENTS FOR PRECAST MAINTENANCE ACCESS STRUCTURE WITHOUT DROP CONNECTIONS WILL ALSO APPLY TO PRECAST MAINTENANCE ACCESS STRUCTURE WITH DROP CONNECTIONS. SEE PRECAST MAINTENANCE ACCESS STRUCTURE STANDARD DETAIL FOR OTHER REQUIREMENTS.
4. ALL PIPE TO BE SAME DIAMETER AS INFLUENT SEWER MAIN.
5. APPLY MORTAR COATING TO INSIDE AND OUTSIDE OF CHIMNEY. BRING MORTAR UP AND OVER FRAME. (SEE NOTE 10. BELOW.)
6. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE OR MORTAR MIX, INTERIOR COATINGS MAY BE ELIMINATED.

REVISED
7/7/2021

PRECAST MAINTENANCE ACCESS STRUCTURE INSIDE DROP CONNECTION TYPE 2

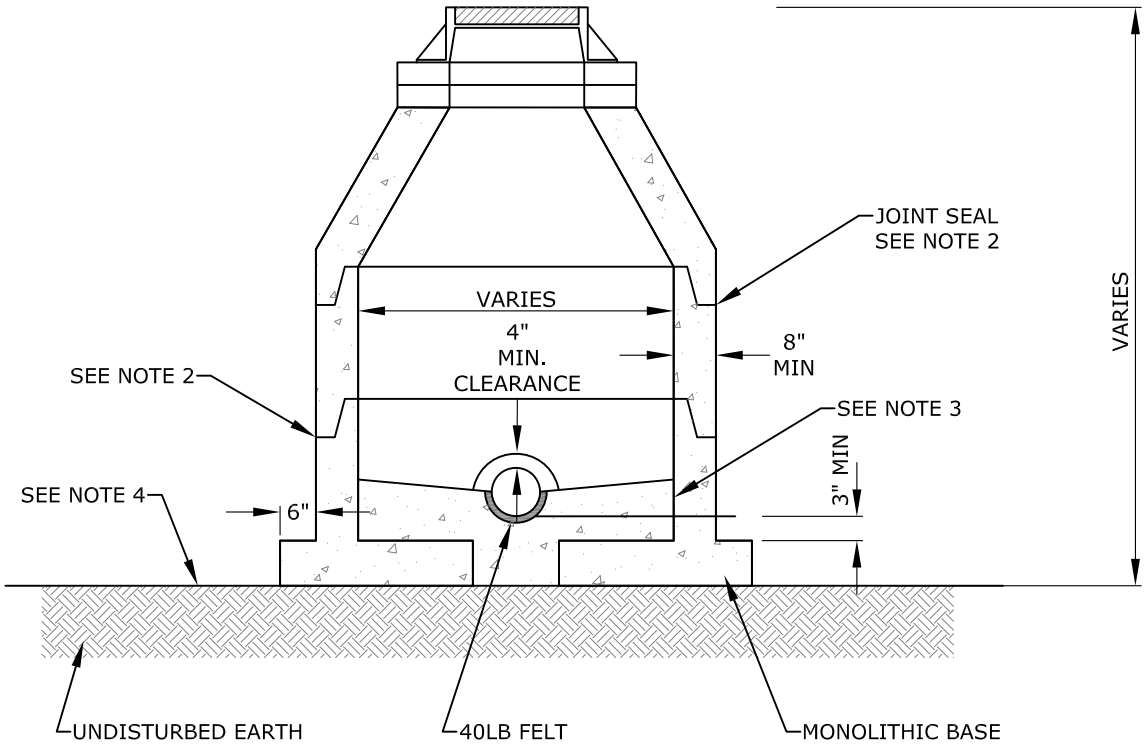
FIGURE
313A

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. SEE FIGURE 315 FOR COVER REQUIREMENTS.
2. "O" RING OR RAM NECK SEAL (KEY LOWER & UPPER WALL).
3. ENTIRE BOTTOM SHALL BE POURED IN PLACE AFTER INSTALLATION OF STRUCTURE. CONCRETE SHALL BE 4,000 PSI, TYPE II. COMPACT BOTTOM OF TRENCH 3' AROUND STRUCTURE TO 100% OF THE MAX DENSITY AS PER AASHTO-T-99.
4. MAINTENANCE ACCESS STRUCTURE WALLS TO BE SEAL COATED INSIDE AND OUTSIDE WITH 16 MIL. THICKNESS OF COAL TAR EPOXY. THE 1ST COAT IS RED AND THE 2ND COAT IS BLACK.
5. APPLY MORTAR COATING TO INSIDE AND OUTSIDE OF CHIMNEY. BRING MORTAR UP AND OVER FRAME. (SEE NOTE 7 BELOW.)
6. IF CONSHIELD ANTI-MICROBIAL AGENT IS USED IN THE CONCRETE OR MORTAR MIX, INTERIOR COATINGS MAY BE ELIMINATED.

REVISED
7/7/2021

DOGHOUSE MAINTENANCE ACCESS STRUCTURE DETAIL

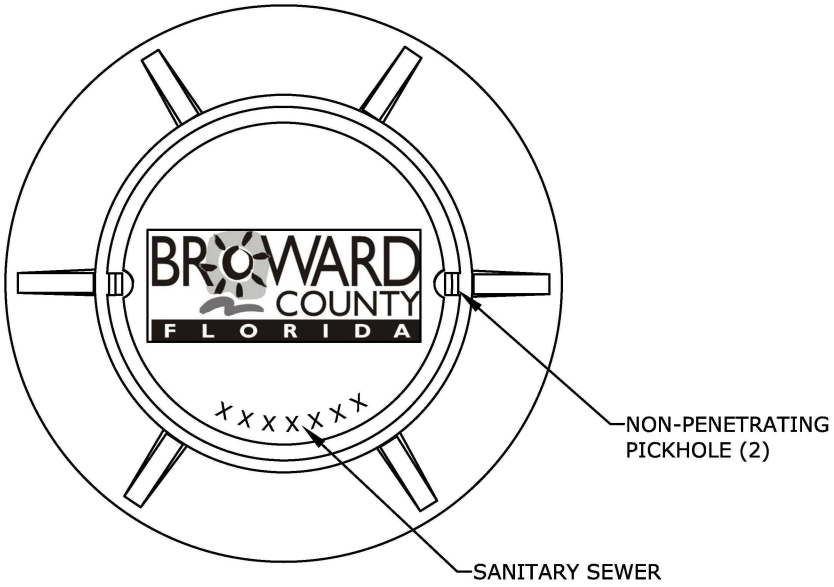
FIGURE
314

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



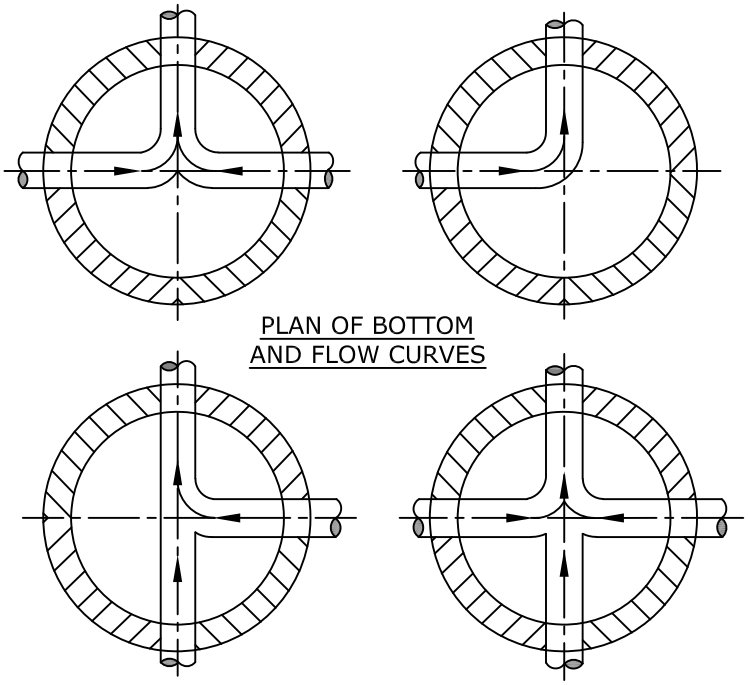
REVISED	GRAVITY SEWER MAINTENANCE ACCESS STRUCTURE COVER	FIGURE 315
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

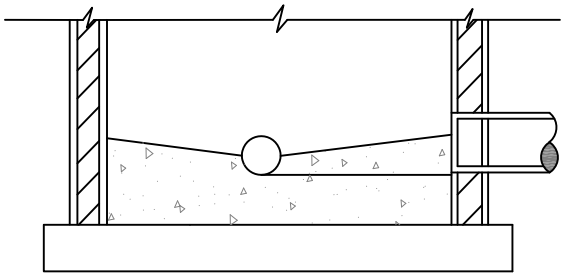
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



PLAN OF BOTTOM
AND FLOW CURVES



TYPICAL SECTION

1. PROVIDE SPILLWAY FOR SMOOTH FLOW BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS.
2. SLOPE MAINTENANCE ACCESS STRUCTURE SHELF 1"/FT FROM MAINTENANCE ACCESS STRUCTURE WALL TO CHANNEL.
3. INVERT CHANNEL TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.
4. CHANNEL SHALL BE PRECAST CONCRETE OR FILLED WITH BRICK COVERED WITH 1" OF MORTAR.

REVISED
7/7/2021

INVERT CHANNEL FLOW DIRECTIONS

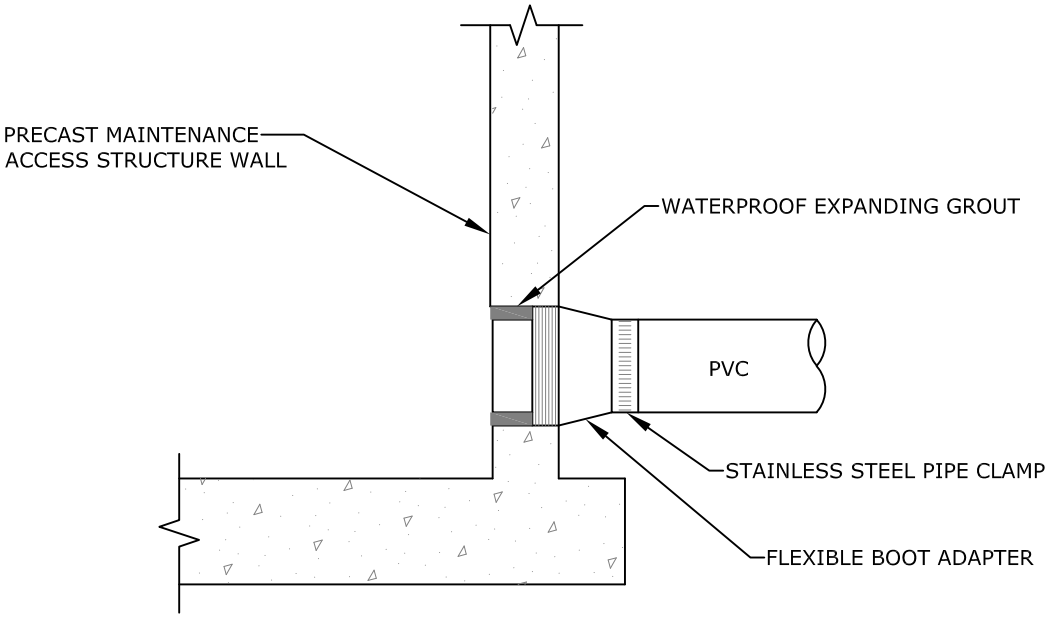
FIGURE
318

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



STANDARD PRECAST
MAINTENANCE ACCESS STRUCTURE
PIPE CONNECTION

WWS MAY APPROVE ALTERNATE WATER TIGHT CONNECTION.

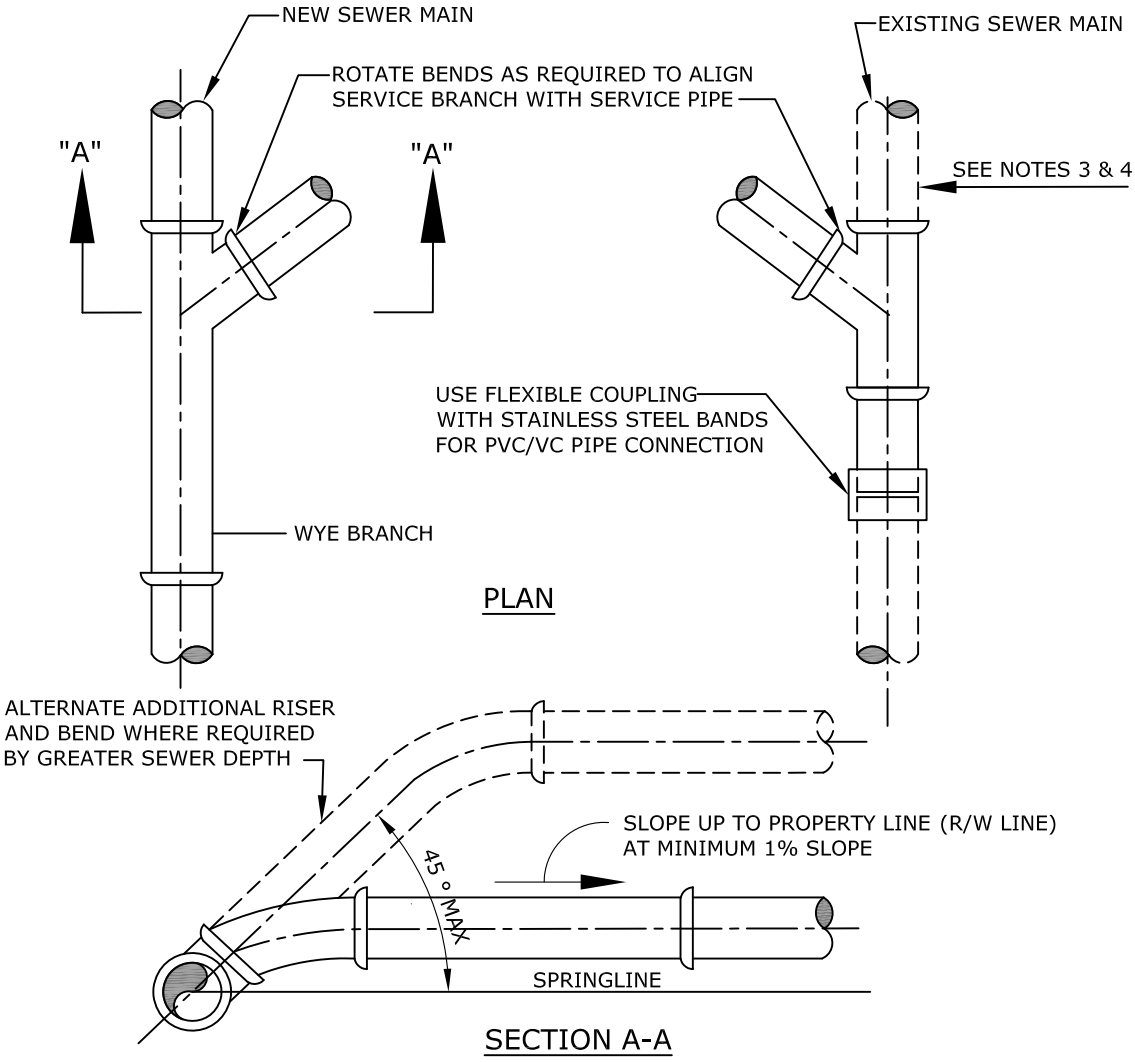
REVISED	MAINTENANCE ACCESS STRUCTURE CONNECTION DETAIL	FIGURE 322
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. SINGLE SERVICE CONNECTIONS SHALL USE 6" SDR 26 PVC PIPE AND FITTINGS.
2. SINGLE SERVICE CONNECTIONS BELOW 12' DEPTH SHALL BE C-900 PVC UNTIL LESS THAN 12 FOOT DEPTH.
2. USE RISER CONNECTIONS WHERE INVERT OF SEWER IS MORE THAN 7'-0" DEEP.
3. WHERE BELL OF WYE AND SPIGOT OF EXISTING MAIN ARE NOT COMPATIBLE, USE A SECOND FLEXIBLE COUPLING.
4. RIGID COUPLINGS MAY BE USED IN LIEU OF FLEXIBLE COUPLINGS.
5. MAINTAIN 36" MINIMUM COVER FROM TOP OF SERVICE TO FINISH GRADE; WHERE NOT TECHNICALLY FEASIBLE CONTACT WWS ENGINEERING.
6. PVC SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH MINIMUM STANDARDS OF THE UNI-BELL HANDBOOK OF PVC PIPE DESIGN AND CONSTRUCTION, LATEST EDITION.

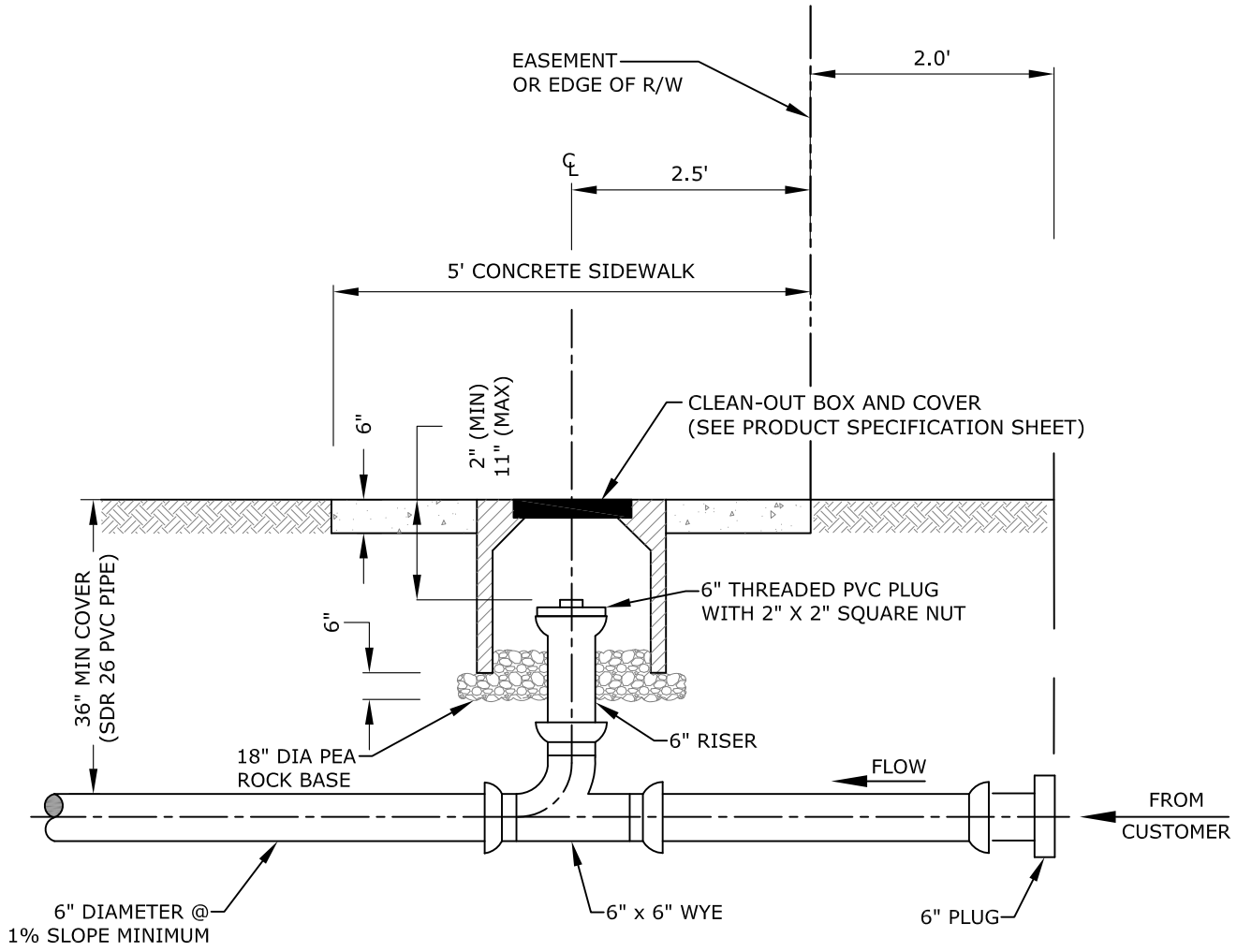
REVISED	WYE SEWER SERVICE CONNECTION	FIGURE 331
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. THE CLEAN OUT SHALL BE INSTALLED IN THE MIDDLE OF THE SIDEWALK. THIS DIMENSION WILL VARY DEPENDING UPON THE WIDTH OF THE SIDEWALK. 2.5' APPLIES TO 5' SIDEWALK WIDTH. IF SIDEWALKS DO NOT EXIST, THE CLEAN OUT SHALL BE INSTALLED 2.5' FROM THE RIGHT OF WAY LINE.
2. A NEW SECTION OF SIDEWALK SHALL BE POURED AROUND THE CLEAN-OUT BOX WHEN WORKING IN AN AREA WITH EXISTING SIDEWALKS.
3. IN GRASS AREA USE 24"x24" OR 24" DIAMETER CONCRETE COLLAR.

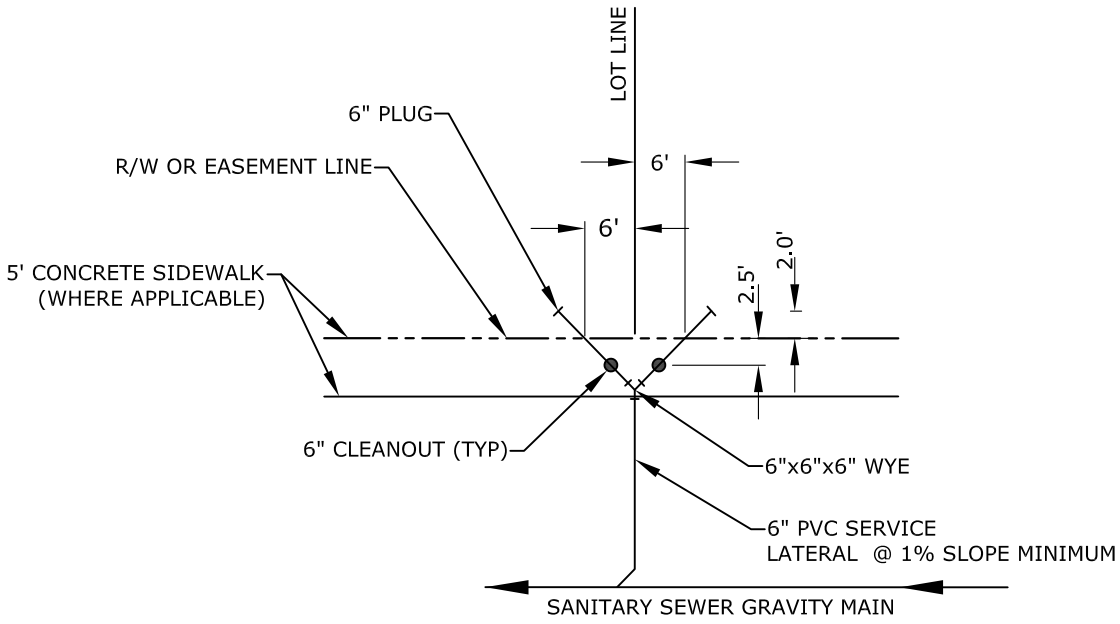
REVISED	SEWER SERVICE CONNECTION AT PROPERTY LINE OR EASEMENT LINE PROFILE	FIGURE 341
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

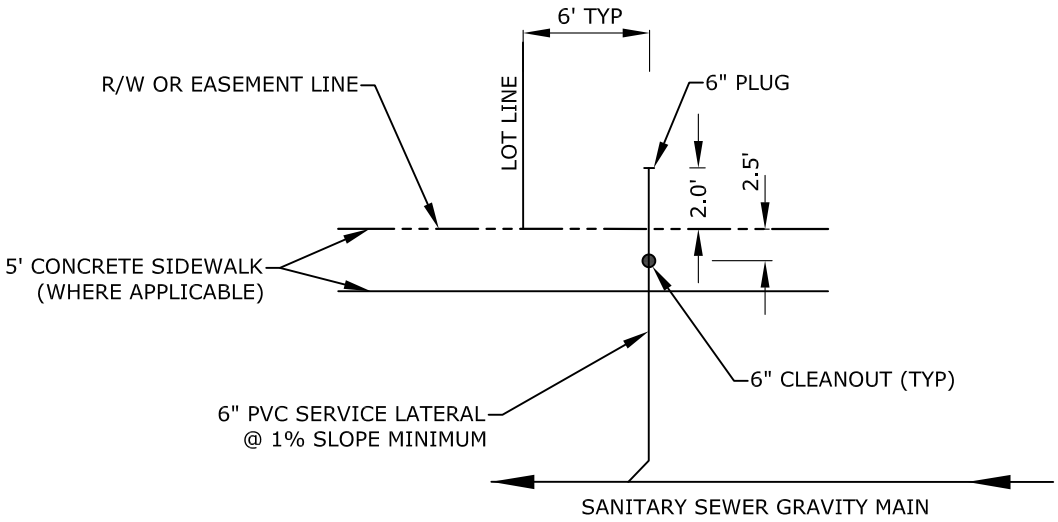
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



TYPICAL DOUBLE SERVICE LATERAL DETAIL
NTS



TYPICAL SINGLE SERVICE LATERAL DETAIL
NTS

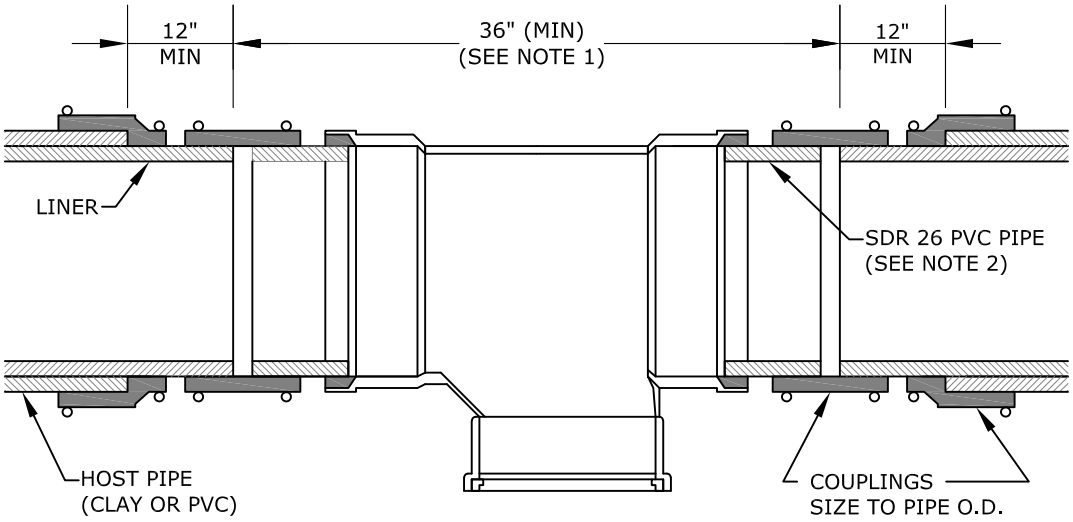
REVISED	SEWER SERVICE CONNECTION AT PROPERTY LINE OR EASEMENT LINE PLAN	FIGURE 342
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. FOR MAINS LARGER THAN 8" THIS DIMENSION SHALL BE THE FITTING DIAMETER PLUS 24"

2. FOR DEPTHS GREATER THAN 12 FEET, USE C-900 PVC PIPE

REVISED
7/7/2021

SERVICE CONNECTION ON LINED GRAVITY SEWER

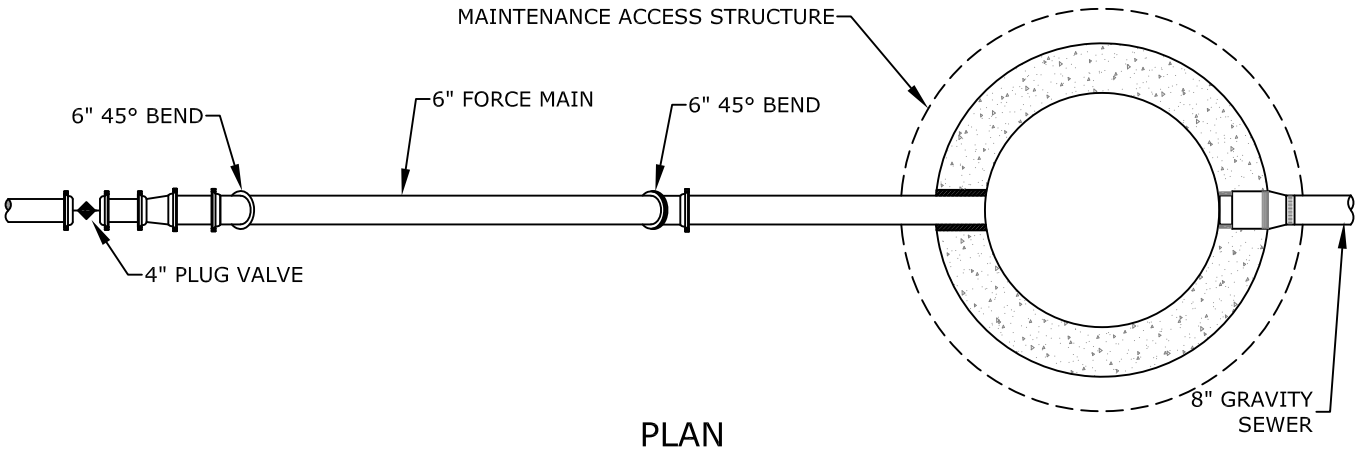
FIGURE
353

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

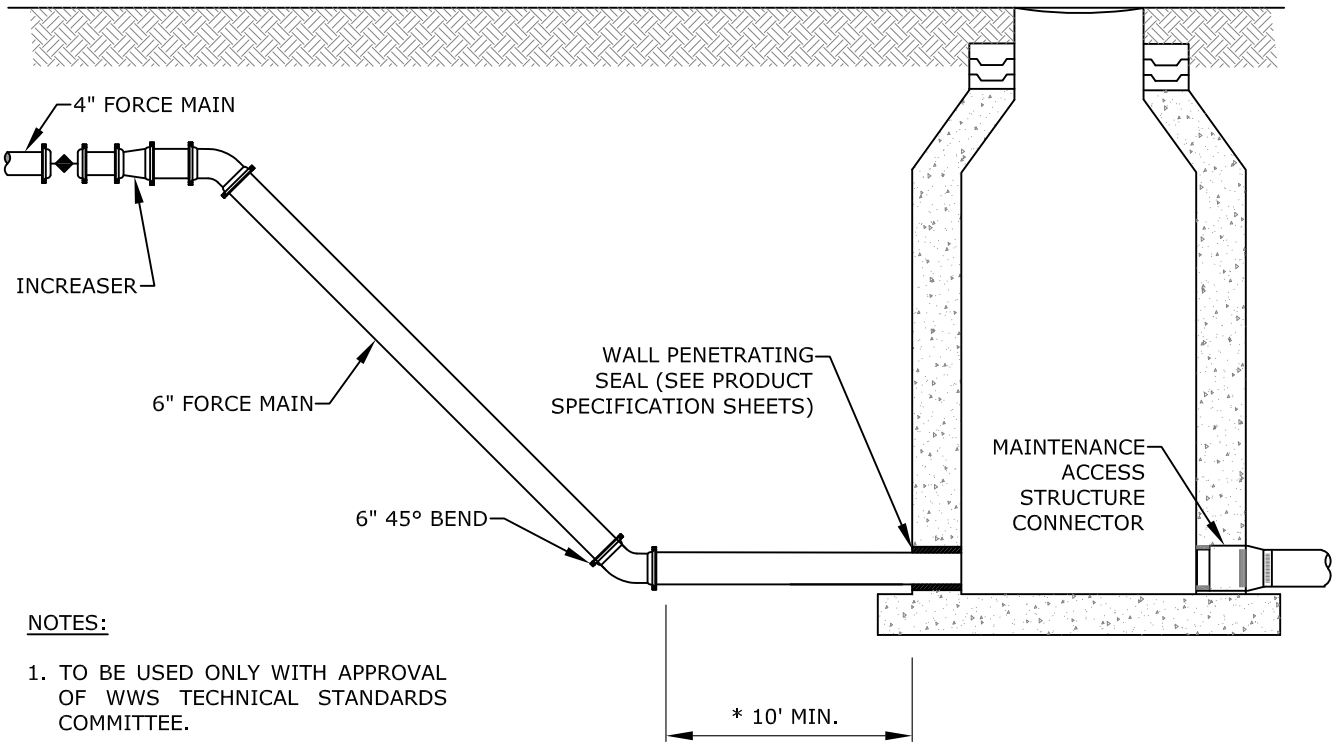
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



PLAN



NOTES:

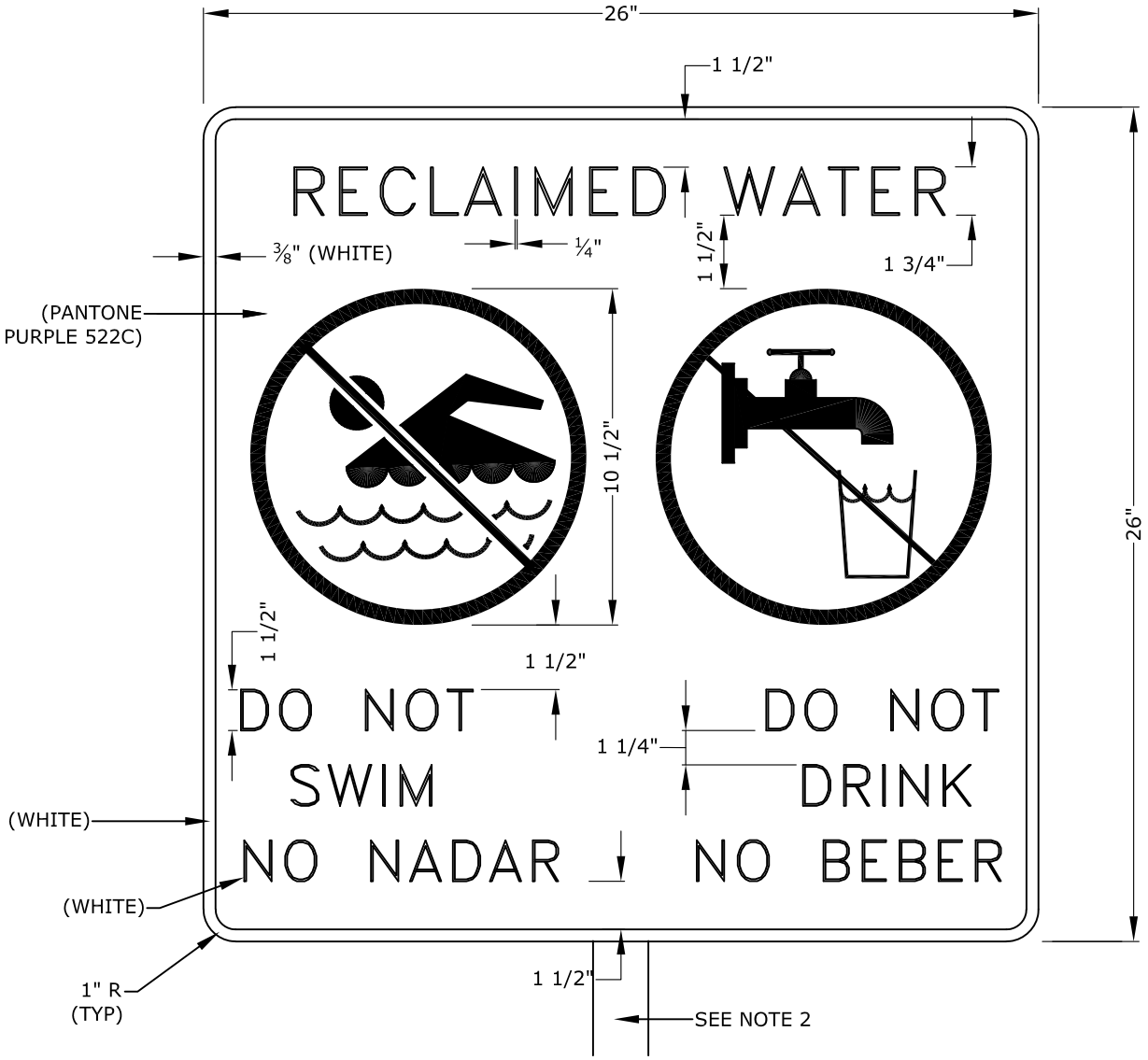
1. TO BE USED ONLY WITH APPROVAL OF WWS TECHNICAL STANDARDS COMMITTEE.
2. INTERIOR OF MAINTENANCE ACCESS STRUCTURE TO BE COATED AS DIRECTED BY WWS.

*INFLUENT SHALL BE PARALLEL WITH EFFLUENT SIDE OF MAINTENANCE ACCESS STRUCTURE FOR A MINIMUM OF 10 FEET FROM MAINTENANCE ACCESS STRUCTURE WALL

PROFILE

REVISED	FORCE MAIN CONNECTION TO GRAVITY SEWER	FIGURE 411
7/7/2021		

BROWARD COUNTY **PUBLIC WORKS DEPARTMENT** PLOTTED: 10/2024	**WATER & WASTEWATER SERVICES** **ENGINEERING DIVISION** **2555 WEST COPANS ROAD** **POMPANO BEACH, FL 33069** **PHONE NO. 954-831-0745** **FAX: 954-831-0925**	# STANDARD DETAIL



1. SIGN SHALL BE 0.080 GAUGE ALUMINUM WITH ENGINEERING GRADE REFLECTIVE PANTONE PURPLE BACK, AND WHITE TEXT AND GRAPHICS.
2. SIGN SHALL BE ANCHORED WITH A 2" SQUARE GALVANIZED POST.
3. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
4. HEIGHT OF SIGN WILL DEPEND ON LOCATION AND SURROUNDING LANDSCAPE PLANT TYPES. IN ALL CASES, THE SIGN SHALL BE VISIBLE TO THE PUBLIC.
5. SIGN SHALL BE PLACED BY CONTRACTOR IN ACCORDANCE WITH FAC CHAPTER 62-610 "ACCESS CONTROL AND ADVISORY SIGNS", THE COUNTY APPROVED ENGINEERING PLANS AND/OR AS APPROVED BY WWS.

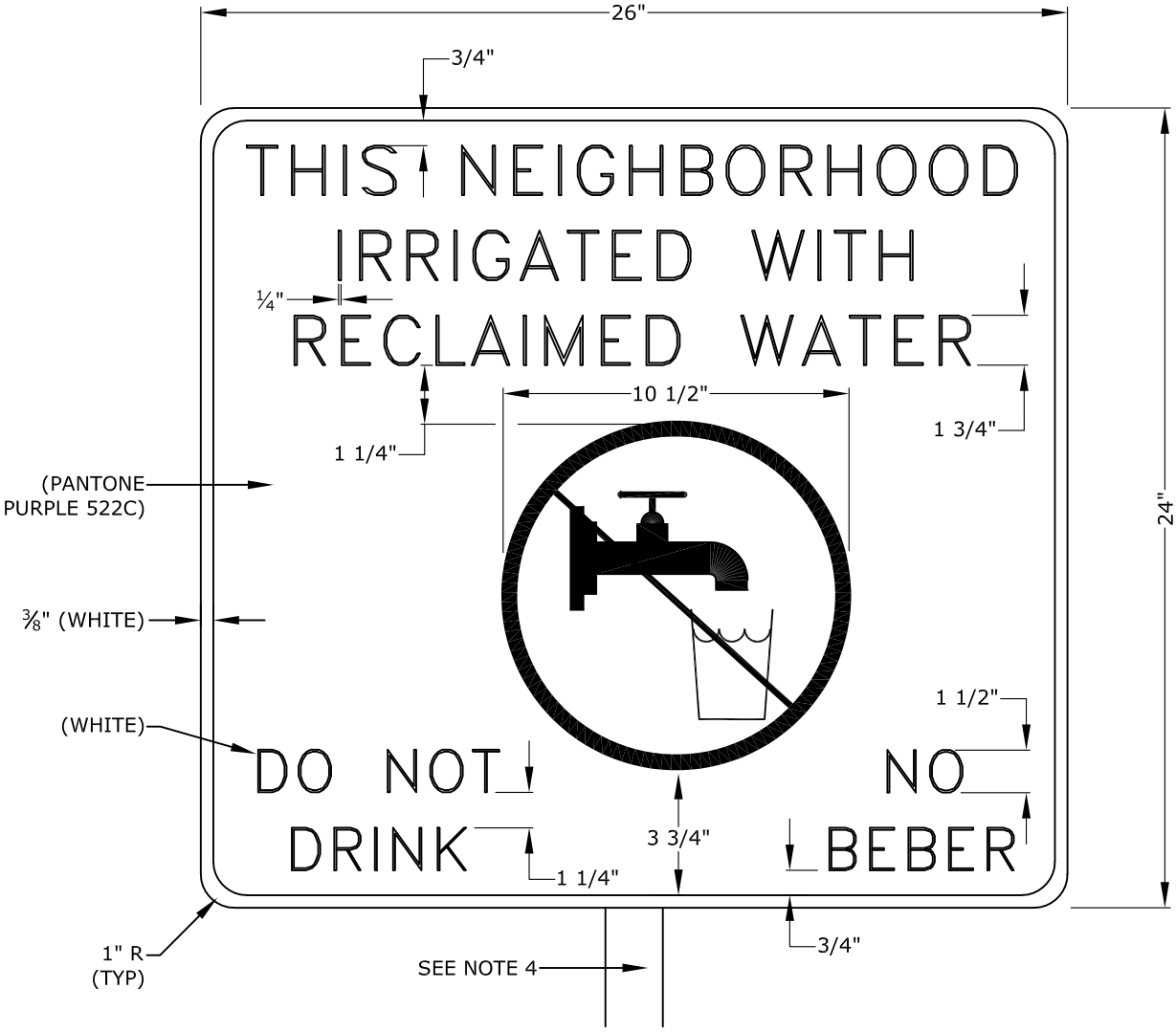
REVISED 7/7/2021	TYPE 1 RECLAIMED WATER SIGN	FIGURE 505

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. FOR COMMERCIAL PROPERTIES THE WORD "NEIGHBORHOOD" SHALL BE REPLACED WITH "AREA".
2. THIS SIGN SHALL BE POSTED AT THE ENTRANCE(S) TO SUBDIVISIONS AND COMMERCIAL PROPERTIES WHERE RECLAIMED WATER IS INSTALLED.
3. SIGN SHALL BE 0.080 GAUGE ALUMINUM WITH ENGINEERING GRADE REFLECTIVE PANTONE PURPLE BACK, AND WHITE TEXT AND GRAPHICS.
4. SIGN SHALL BE ANCHORED WITH A 2" SQUARE SHAPED GALVANIZED POST.
5. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
6. HEIGHT OF SIGN WILL DEPEND ON LOCATION AND SURROUNDING LANDSCAPE PLANT TYPES. IN ALL CASES, THE SIGN SHALL BE VISIBLE TO THE PUBLIC.
7. SIGNS SHALL BE PLACED BY THE CONTRACTOR IN ACCORDANCE WITH FAC CHAPTER 62-610 "ACCESS CONTROL AND ADVISORY SIGNS", THE COUNTY APPROVED ENGINEERING PLANS AND/OR AS APPROVED BY WWS.

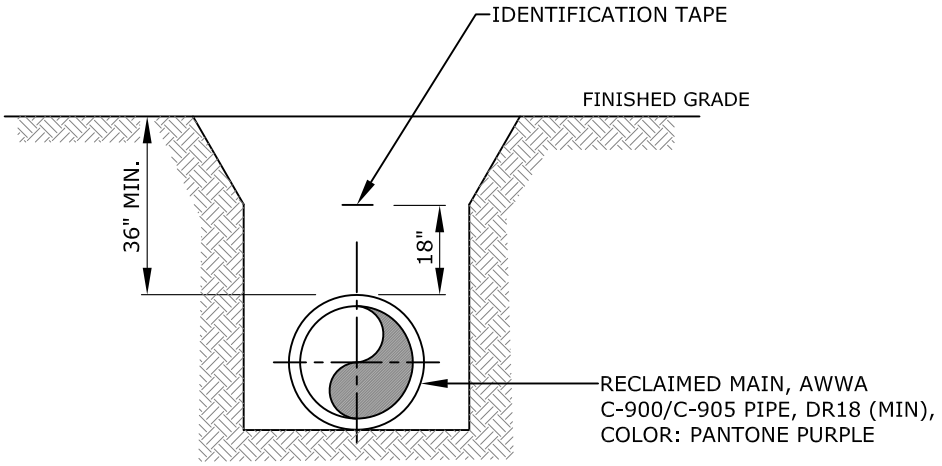
REVISED	TYPE 2 RECLAIMED WATER SIGN	FIGURE 506
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

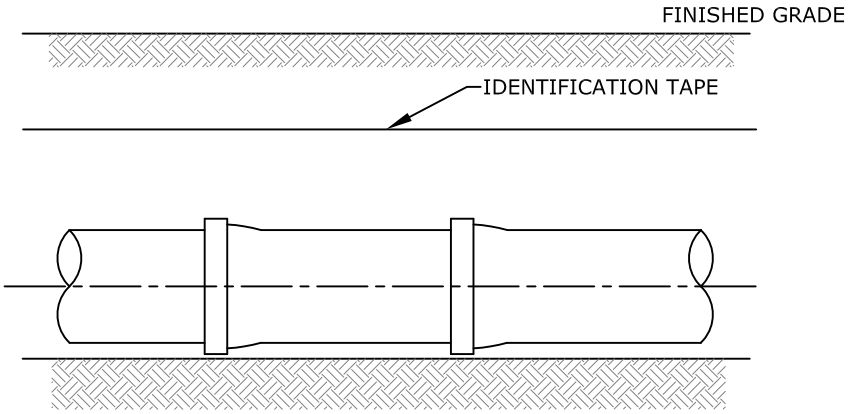
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



SECTION



PROFILE

1. DETECTABLE IDENTIFICATION TAPE SHALL BE INSTALLED DIRECTLY OVER CENTERLINE OF THE PIPE AT 18-INCHES ABOVE THE PIPE.
2. METALIZED DETECTOR TAPE SHALL BE ONE LAYER OF METALIZED FOIL LAMINATED BETWEEN TWO LAYERS OF INERT PLASTIC FILM (MINIMUM 5.5 MILS THICKNESS). TAPE SHALL BE PURPLE CONTINUOUSLY MARKED "CAUTION, RECLAIMED LINE BURIED BELOW".

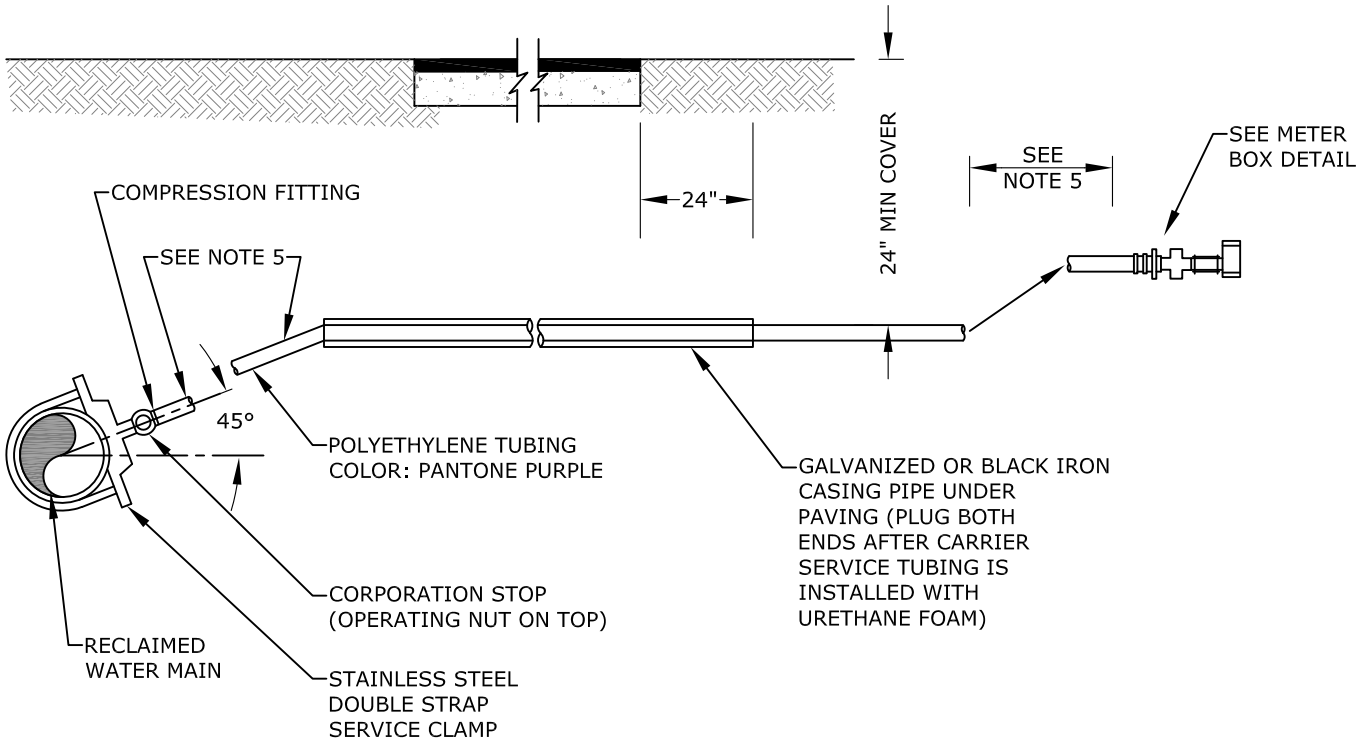
REVISED	RECLAIMED MAIN INSTALLATION	FIGURE
7/7/2021		510

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. SUCCESSIVE TAPS INTO THE RECLAIMED MAIN SHALL BE SPACED NOT LESS THAN 18" ON CENTER. NO TAPS SHALL BE CLOSER THAN 18" TO A JOINT.
2. 1" SERVICES REQUIRE A 2" MINIMUM INSIDE DIAMETER CASING PIPE.
3. 2" SERVICES REQUIRE A 3" MINIMUM INSIDE DIAMETER CASING PIPE.
4. ALL CASING PIPE SHALL EXTEND A MINIMUM OF 2' BEYOND THE EDGE OF PAVEMENT.
5. FOR 1" SERVICE LINES (DR-9)THE MINIMUM RADIUS SHALL BE 14". FOR 2" SERVICE LINES (DR-9) THE MINIMUM RADIUS SHALL BE 21".
6. ALL CASING PIPE ENDS SHALL BE FILED SMOOTH WITH NO BURRS AND SEALED WITH URETHANE FOAM.
7. THE POLYETHYLENE TUBING SHALL BE ONE CONTINUOUS PIECE FROM THE CORPORATION STOP TO THE METER VALVE. NO JOINTS WILL BE PERMITTED BETWEEN THESE POINTS.

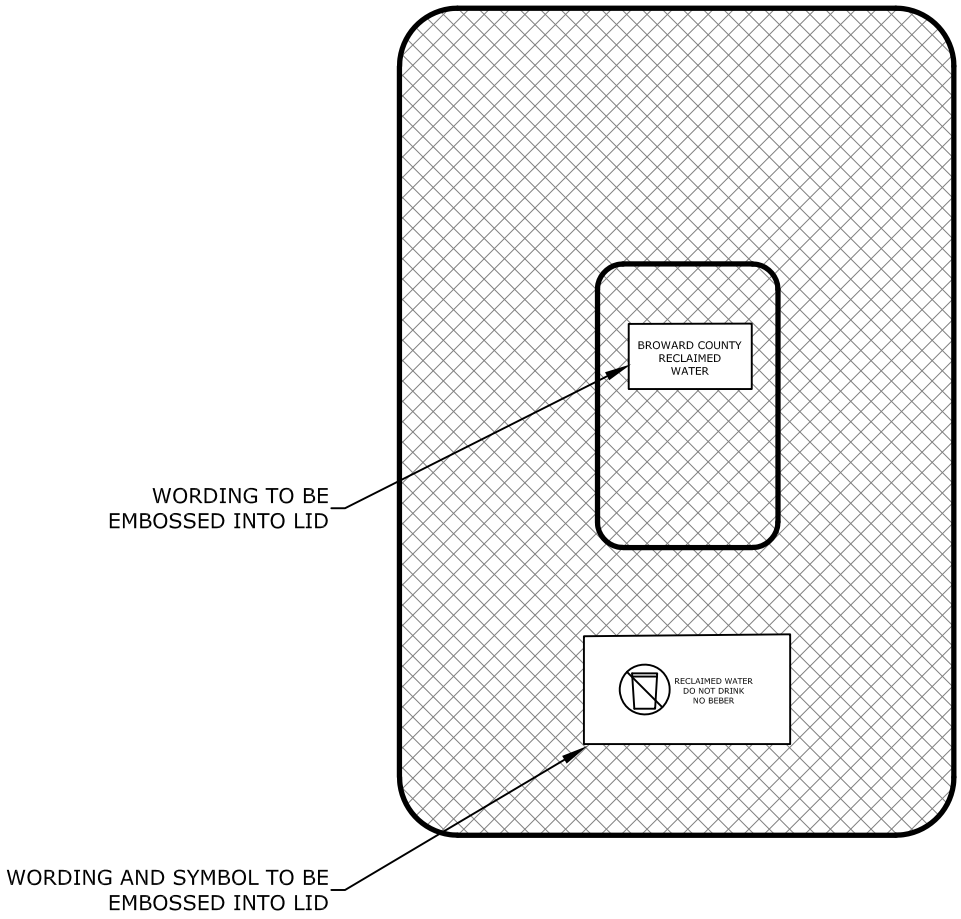
REVISED	RECLAIMED WATER SERVICE CONNECTION	FIGURE 521
7/7/2021		

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



COVER TO BE EPOXY COATED WITH INFUSED PANTONE PURPLE.

REVISED
7/7/2021

RECLAIMED METER BOX COVER

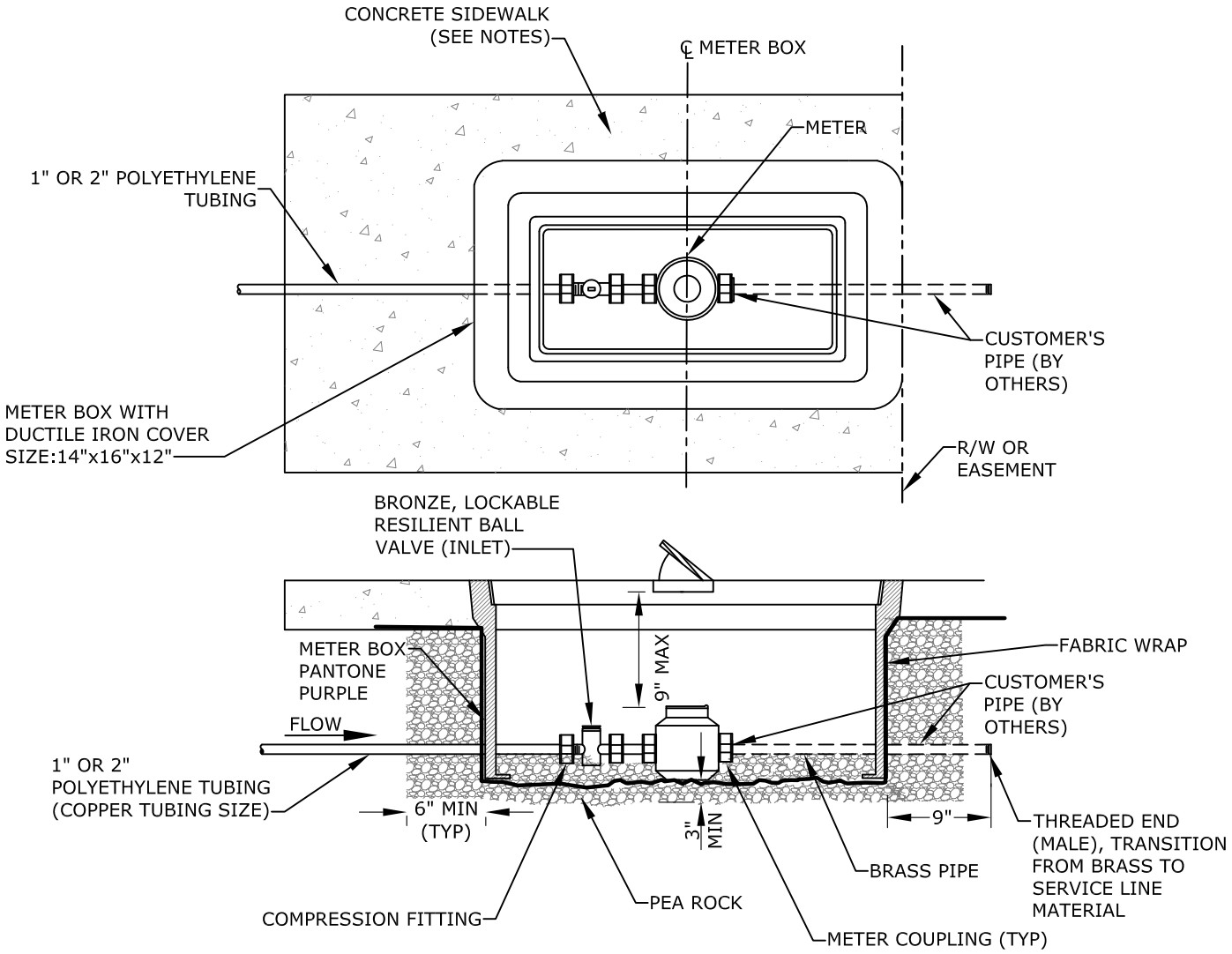
FIGURE
525

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



1. ALL STRUCTURES TO BE TRAFFIC BEARING TYPE.
2. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL, WITH A MINIMUM RADIUS OF 14" FOR 1" TUBING AND 21" FOR 2" TUBING.
3. ALL METERS WILL BE SUPPLIED AND INSTALLED BY WWS. METER HAS IRON PIPE THREAD MALE CONNECTION ON EACH END.
4. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL LINE UP WITH THE BACK EDGE OF THE SIDEWALK
5. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID.
6. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE x 6" THICK CONCRETE COLLAR AT GRADE.
7. AT BOTH PIPE PENETRATIONS THROUGH THE FABRIC WRAP, THE FABRIC SHALL BE PULLED TIGHT AROUND THE PIPE AND SECURED WITH TWO GRADE 316 STAINLESS STEEL HOSE CLAMPS TO PROVIDE A TIGHT SEAL AROUND PIPE.

METER SIZE	LAYING LENGTH (IN)	HEIGHT (IN)	TUBING SIZE (IN)
⅝"	7.5	4.56	1"
1"	10.75	5.75	2"

REVISED
7/7/2021

RECLAIMED METER BOX INSTALLATION
⅝" OR 1" METERS

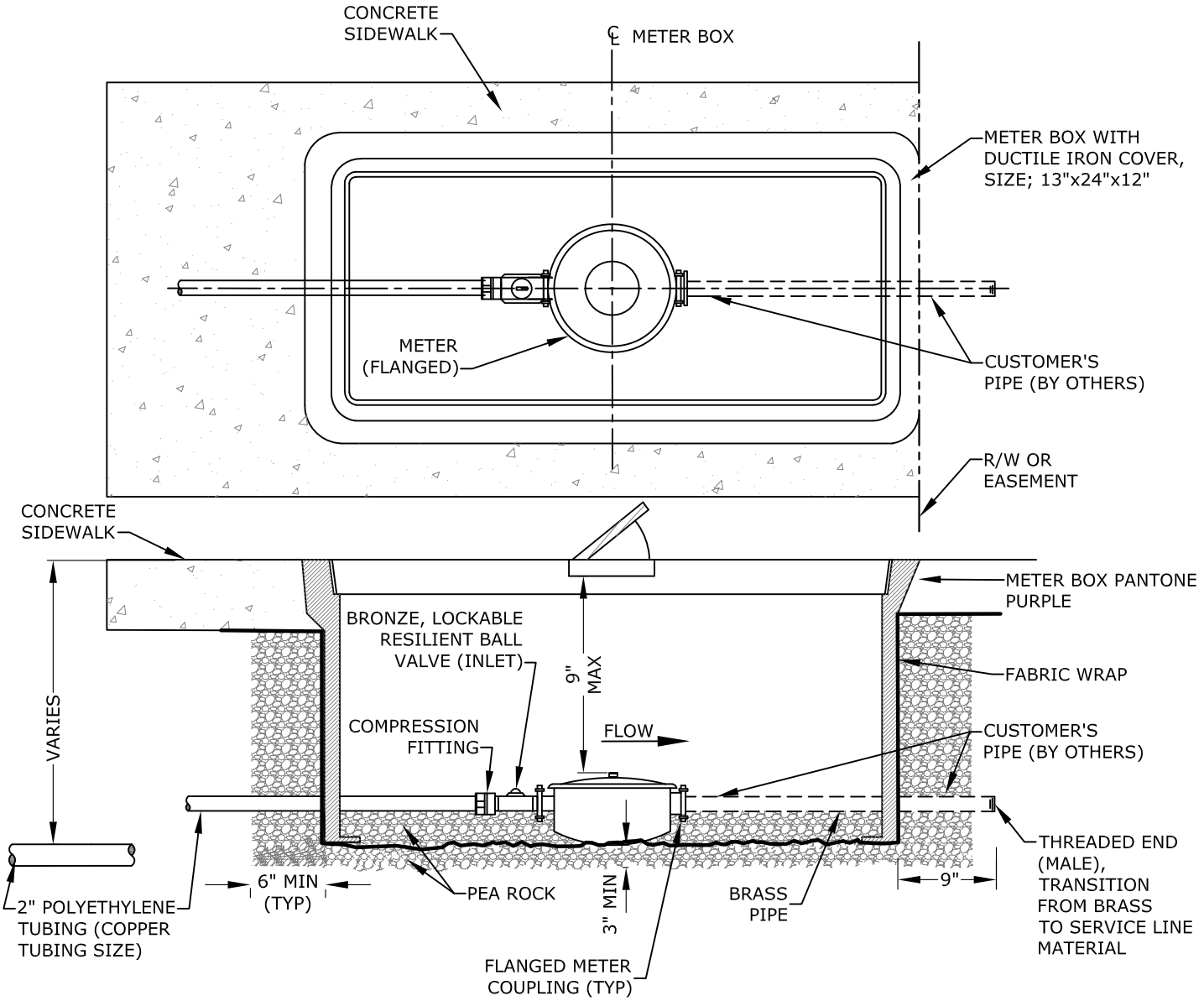
FIGURE
526

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

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STANDARD DETAIL



METER SIZE	LAYING LENGTH (IN)	HEIGHT (IN)
1 ½"	13	6 ⅞ "
2"	17	7 17/32"

1. ALL STRUCTURES TO BE TRAFFIC BEARING TYPE.
2. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL, WITH A MINIMUM RADIUS OF 21" FOR 2" TUBING.
3. ALL METERS WILL BE SUPPLIED AND INSTALLED BY WWS. METER IS FLANGED.
4. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL LINE UP WITH THE BACK EDGE OF THE SIDEWALK.
5. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID.
6. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE x 6" THICK CONCRETE COLLAR AT GRADE.
7. AT BOTH PIPE PENETRATIONS THROUGH THE FABRIC WRAP, THE FABRIC SHALL BE PULLED TIGHT AROUND THE PIPE AND SECURED WITH TWO GRADE 316 STAINLESS STEEL HOSE CLAMPS TO PROVIDE A TIGHT SEAL AROUND THE PIPE.

REVISED
7/7/2021

RECLAIMED METER BOX FOR 1 ½" OR 2" METER

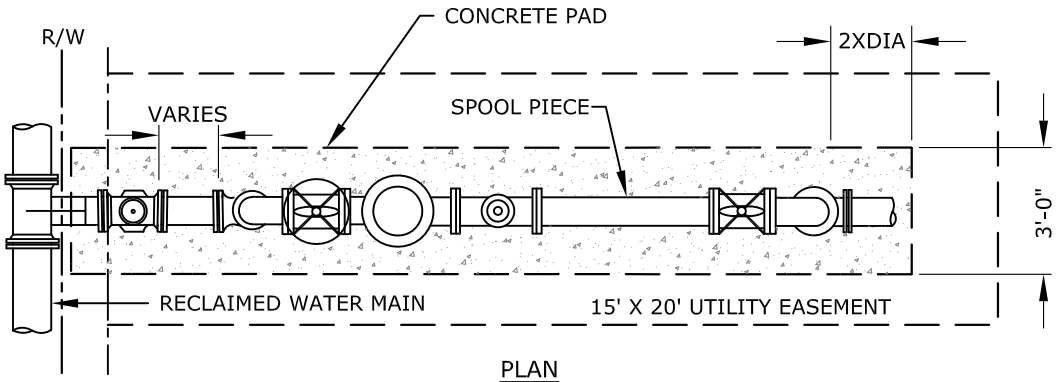
FIGURE
527

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

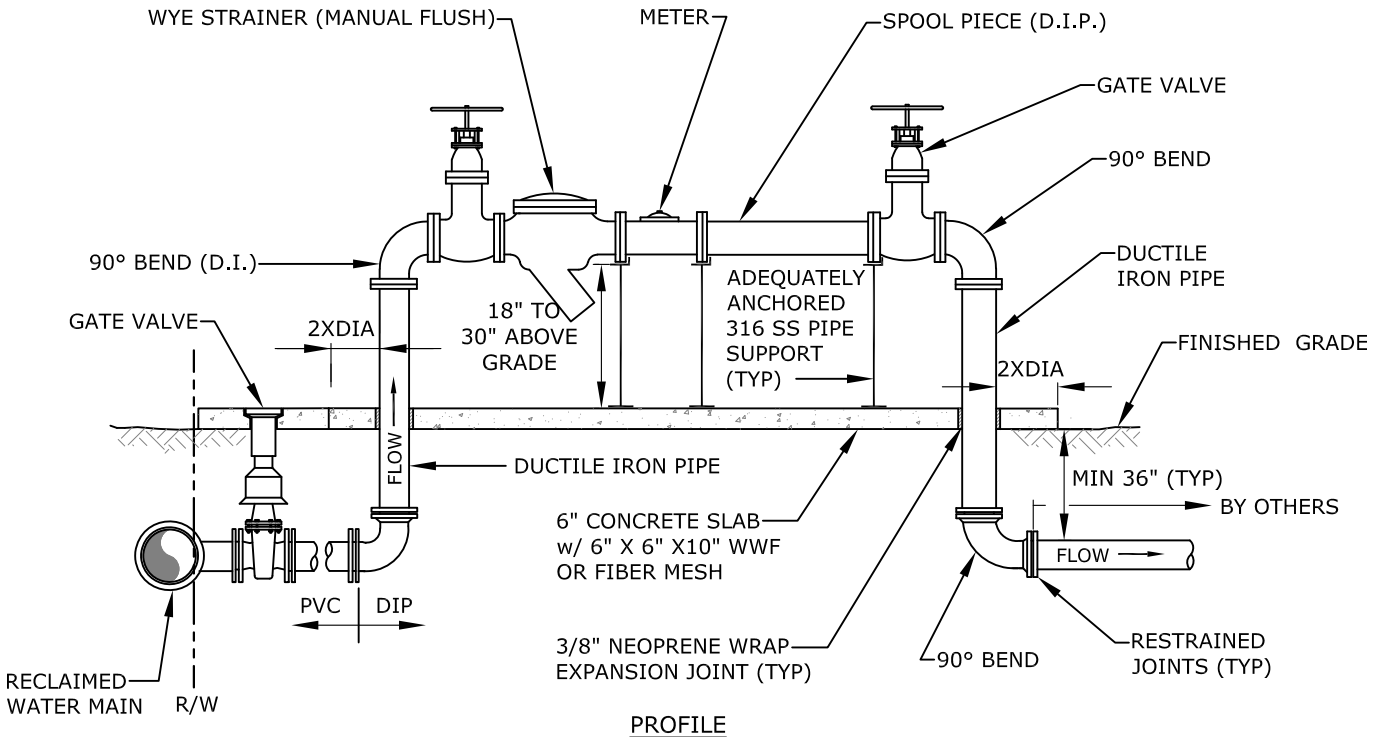
WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
FAX: 954-831-0925

STANDARD DETAIL



PLAN



PROFILE

1. ALL PIPES AND FITTINGS ABOVE GRADE SHALL HAVE FLANGED ENDS.
2. ALL PIPES AND FITTINGS BELOW GRADE SHALL BE MECHANICAL RESTRAINED JOINT ENDS.
3. INSTALLATION SHALL COMPLY WITH ALL REQUIREMENTS OF FAC CHAPTER 62-610.
4. PIPING AND APPURTENANCES SHALL BE PAINTED PANTONE PURPLE 522C. PIPE SHALL BE COLORED WITH PANTONE PURPLE 522C USING LIGHT STABLE COLORANTS.

REVISED
7/7/2021

RECLAIMED WATER MASTER METER ASSEMBLY (4" AND LARGER)

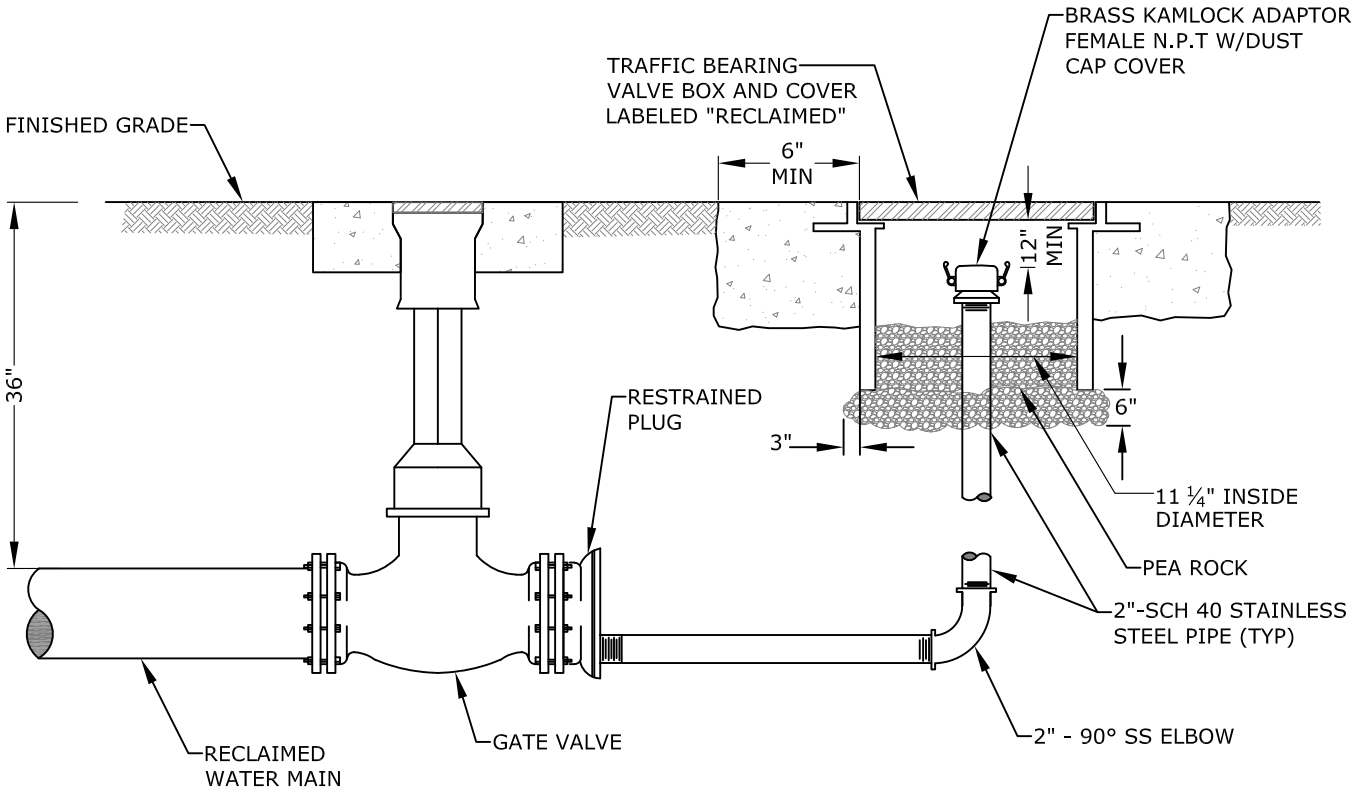
FIGURE
528

BROWARD COUNTY
PUBLIC WORKS DEPARTMENT
PLOTTED: 10/2024

WATER & WASTEWATER SERVICES
ENGINEERING DIVISION
2555 WEST COPANS ROAD
POMPANO BEACH, FL 33069

PHONE NO. 954-831-0745
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STANDARD DETAIL



PROFILE

1. 2" TAP IN BOTTOM OF PLUG.
2. USE RESTRAINED JOINT PIPE.
3. IN GRASS AREA USE CONCRETE COLLARS, 6" THICK.
4. PIPE AND VALVE BOX SHALL BE EPOXY COATED WITH PANTONE PURPLE.

REVISED
7/7/2021

RECLAIMED WATER MANUAL BLOW OFF

FIGURE
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