APPENDIX "B"

CITY OF COCONUT CREEK

UTILITIES & ENGINEERING DEPARTMENT

STANDARD DRAWING DETAILS
APRIL 2025

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STANDARD DETAILS

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STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **007**

GENERAL DETAILS

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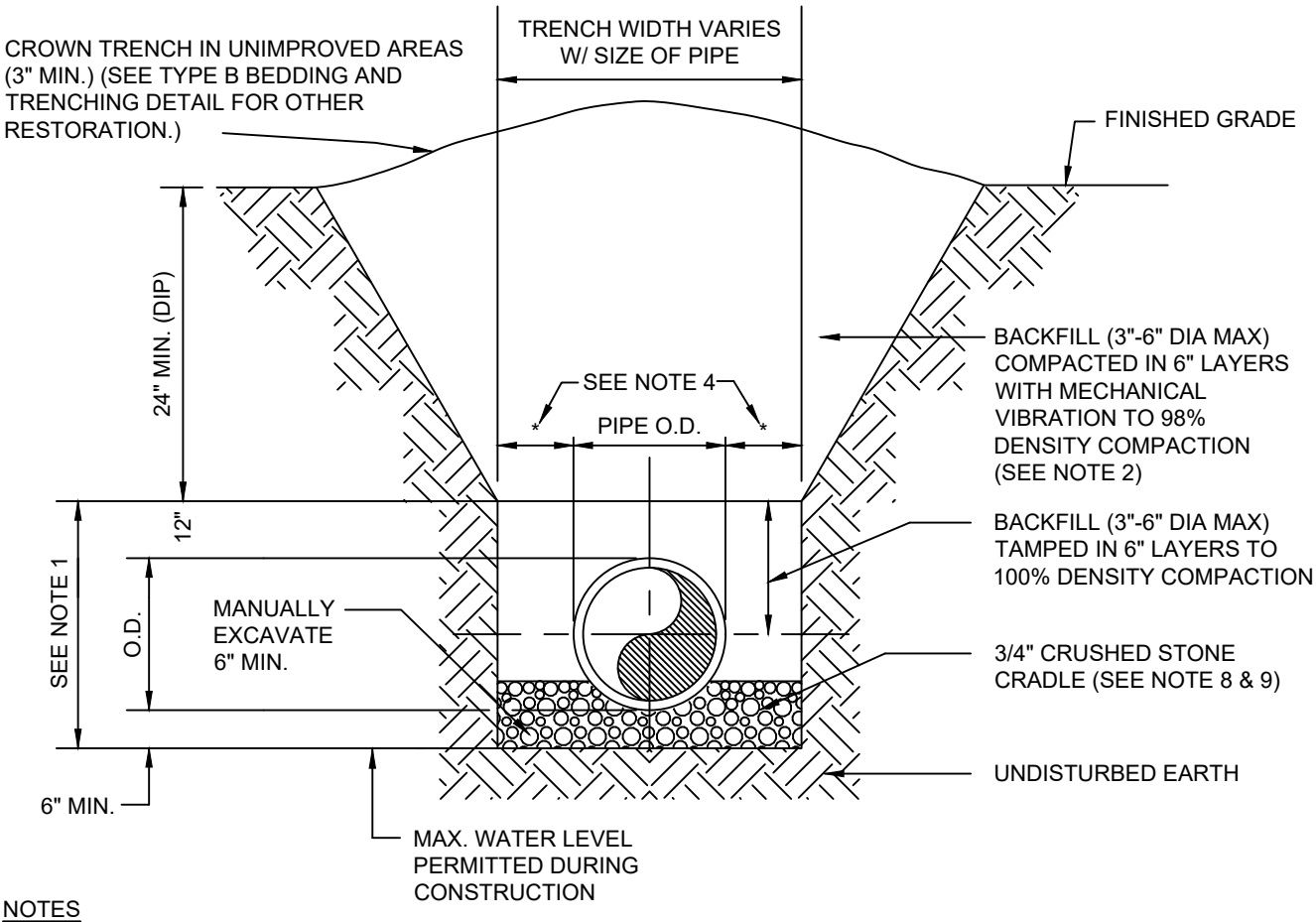
GENERAL DETAILS

STANDARD DETAILS	DWG. NO. **100**
DATE: **APRIL 2025**	



NOTES

1. PIPE BEDDING: SELECT COMMON FILL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-99-C.
2. TRENCH BACKFILL: COMMON FILL COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-99-C.
3. BEDDING TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY OF COCONUT CREEK.
4. (*): 15" MAX. FOR PIPE DIAMETER LESS THAN 24", AND 24" MAX. FOR PIPE DIAMETER 24" AND LARGER.
5. WATER SHALL NOT BE PERMITTED IN THE TRENCH DURING CONSTRUCTION.
6. ALL PIPE TO BE INSTALLED WITH BELL FACING UPSTREAM TO THE DIRECTION OF THE FLOW.
7. REFER TO SECTION 2.18-E OF THE MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.
8. GRAVITY SEWERS SHALL UTILIZE BEDDING, IF REQUIRED BY THE CITY. BEDDING DEPTH SHALL BE 6" MINIMUM FOR ANY DIAMETER PIPE.
9. DEPTH FOR REMOVAL OF UNSUITABLE MATERIAL SHALL GOVERN DEPTH OF BEDDING ROCK BELOW THE PIPE. ENGINEER OF RECORD SHALL DETERMINE, AND CERTIFY IN THE FIELD, REQUIRED REMOVAL OF UNSUITABLE MATERIAL TO REACH SUITABLE FOUNDATION.

N.T.S

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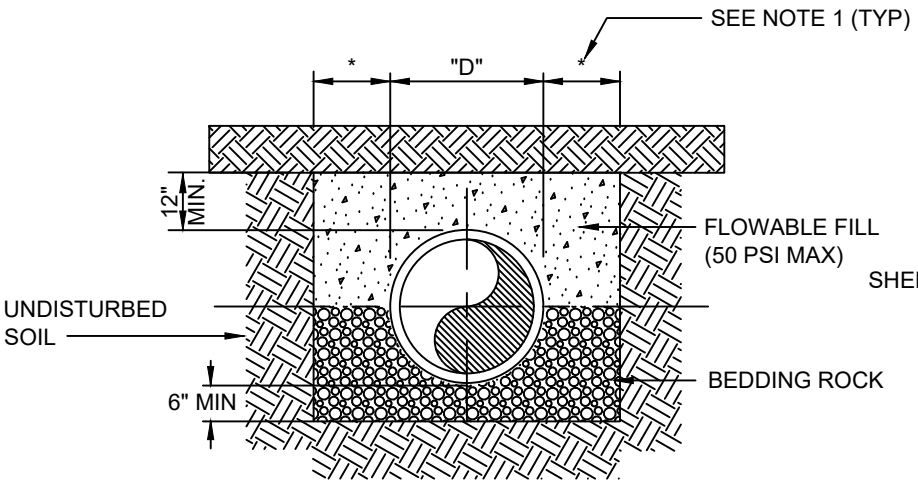
PIPE BEDDING

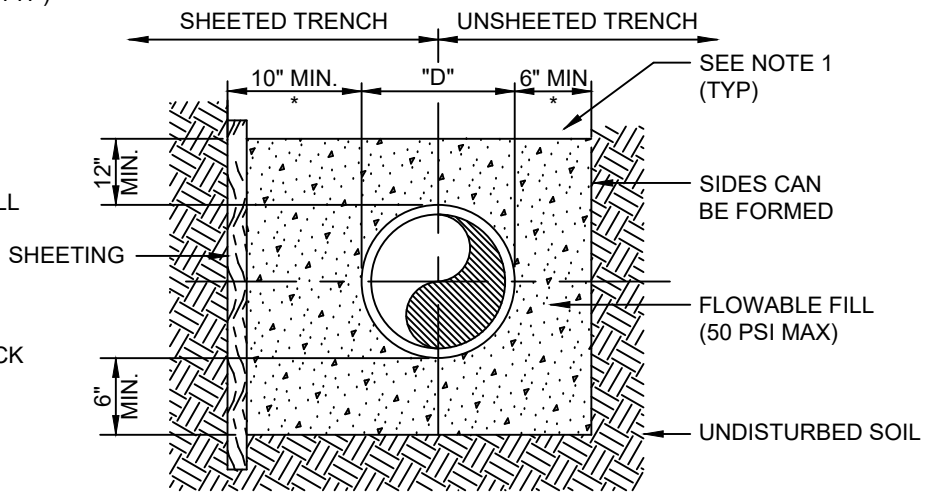
STANDARD DETAILS

DWG. NO. **101**

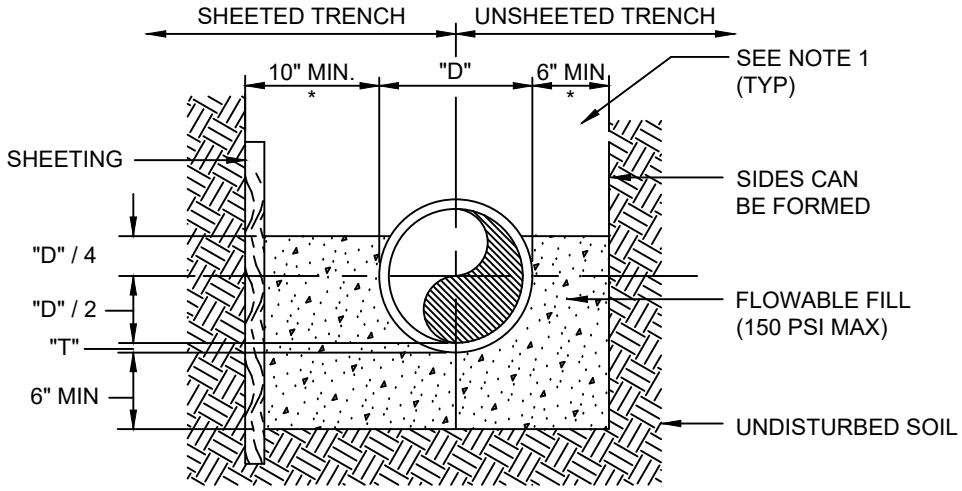
DATE: APRIL 2025



CONCRETE ARCH



FULL ENCASEMENT



CRADLE OR HALF ENCASEMENT

NOTES:

1. (*): 15" MAX. AND 9" MIN FOR PIPE DIAMETER LESS THAN 24"
2. "D" REFERS TO THE DIAMETER OF THE PIPE.
3. "T" REFERS TO THE THICKNESS OF THE PIPE.
4. USE OF CONCRETE ARCH, HALF ENCASEMENT OR FULL ENCASEMENT, TO BE DETERMINED IN THE FIELD AS DIRECTED BY THE CITY ENGINEER.
5. REFER TO SECTION 2.18-E OF THE UTILITY AND ENGINEERING STANDARDS MANUAL FOR SHEETING AND BRACING IN EXCAVATIONS.

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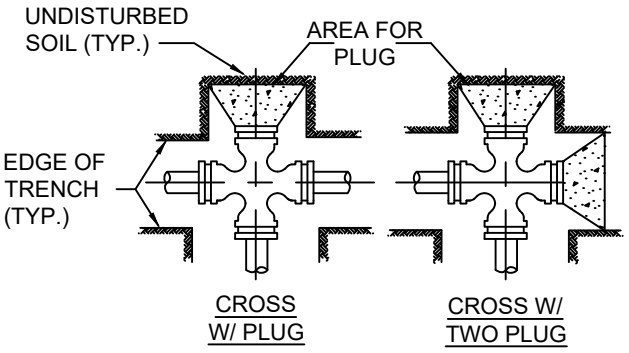
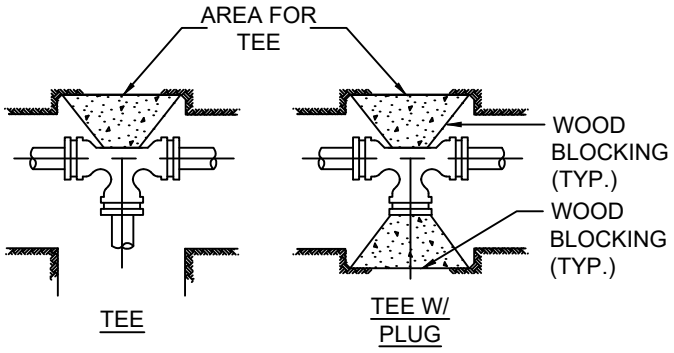
CONCRETE ARCH & ENCASEMENT

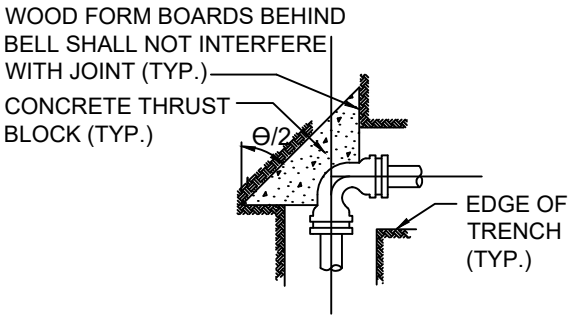
STANDARD DETAILS

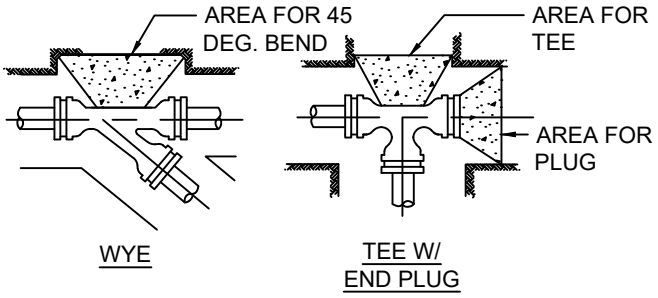
DWG. NO. **102**

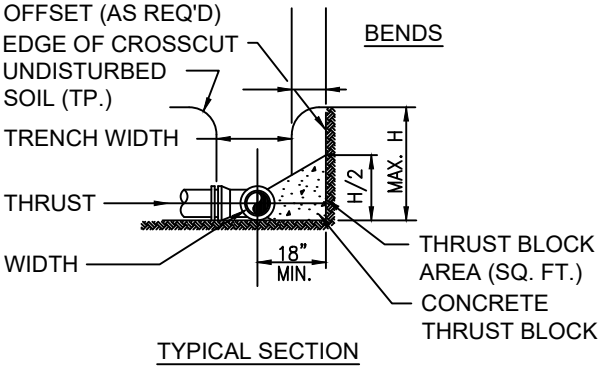
DATE: APRIL 2025











BENDS

TYPICAL SECTION

NOTES

1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL, WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.
2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. JOINTS SHALL NOT BE COVERED BY THRUST BLOCKS. FITTINGS SHALL BE PROTECTED BY POLYETHYLENE FILM (8 MIL.) PRIOR TO PLACING CONCRETE THRUST BLOCK.
3. ROUGH BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS, AS REQUIRED.
4. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED, TO SUIT THE SPECIFIC FITTING ARRANGEMENT.
5. ALTERNATE DESIGNED RESTRAINING SYSTEMS SHALL BE PROVIDED WHERE STANDARD THRUST BLOCKING IS NOT PROVIDED, WHERE STANDARD THRUST BLOCKING IS NOT SUITABLE AND/OR SOIL RESISTANCE BEARING IS LESS THAN 1500 PSF.
6. ALL WOOD BLOCKING SHALL BE PRESSURE TREATED WITH PRESERVATIVE.
7. RESTRAINT: ALL FITTINGS AND PIPE JOINTS 8" OR SMALLER MAY BE RESTRAINED USING THRUST BLOCKS. ALL OTHERS MUST BE RESTRAINED AS FOLLOWS:

JOINT	RESTRAINT
PUSH-ON PVC	EBBA IRON SERIES 2800 HARNESS
PUSH-ON DIP	TR-FLEX BY U.S. PIPE OR FLEX RING BY AMERICAN
FITTINGS WITH DIP	EBBA IRON SERIES 1100 MEGALUG
FITTINGS WITH PVC	EBBA IRON SERIES 2000 MEGALUG

8. SOIL TYPE: GOOD SAND
9. LAYING CONDITIONS: TYPE 2, STANDARD ANSI/AWWA C150/A21.50
10. HYDROSTATIC TEST PRESSURE: 150 PSI
11. DEPTH OF COVER: 2.5 FT.
12. LENGTHS LISTED HERE ARE BASED ON CLASS 150 D.I.P.

N.T.S

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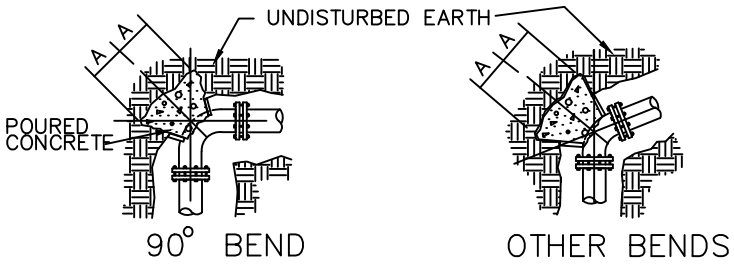
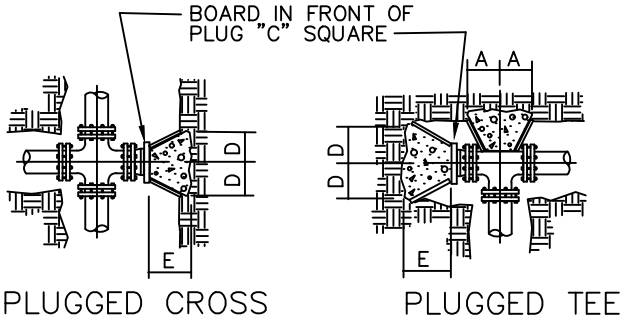
THRUST BLOCK

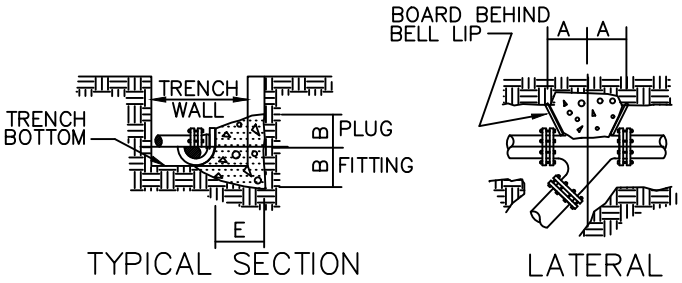
STANDARD DETAILS

DWG. NO. **103**

DATE: APRIL 2025







PIPE SIZE	HOLD DIMENSIONS		150 P.S.I. TEST PRESSURE								
			90°	45°	22 1/2 °	11 1/4 °	LAT.	TEE	PLUG		
INCHES	E MIN.	B	A	A	A	A	A	A	C	D	E
4	10"	7"	10"	6"	3"	3"	7"	7"	10"	7"	8"
6	16"	10"	15"	8"	4"	4"	10"	10"	12"	10"	8"
8	20"	14"	18"	10"	5"	5"	14"	14"	14"	14"	12"
10	28"	16"	24"	14"	7"	7"	16"	16"	16"	16"	14"
12	30"	20"	26"	16"	8"	8"	20"	20"	18"	20"	20"

ALL PIPES 16" DIA. AND ABOVE SHALL HAVE RESTRAINED JOINTS OR HAVE SUITABLE THRUST RESTRAINT PROVIDED OF A DESIGN APPROVED BY THE ENGINEER.

CONCRETE SHALL HAVE 2500 PSI MIN. STRENGTH AT 28 DAYS. FOR OTHER PRESSURE CONDITIONS OR SOIL CONDITIONS WITH OTHER THAN A SAFE BEARING LOAD OF 2000 PSF THE REQUIRED THRUST BLOCK AREA MAY VARY.

ALL WOOD BLOCKING SHALL BE CREOSOTED 12 LB. EMPTY CELL PER LATEST REVISION UNITED STATES FEDERAL SPEC. TTW–556.

CONCRETE THRUST BLOCKS

N.T.S

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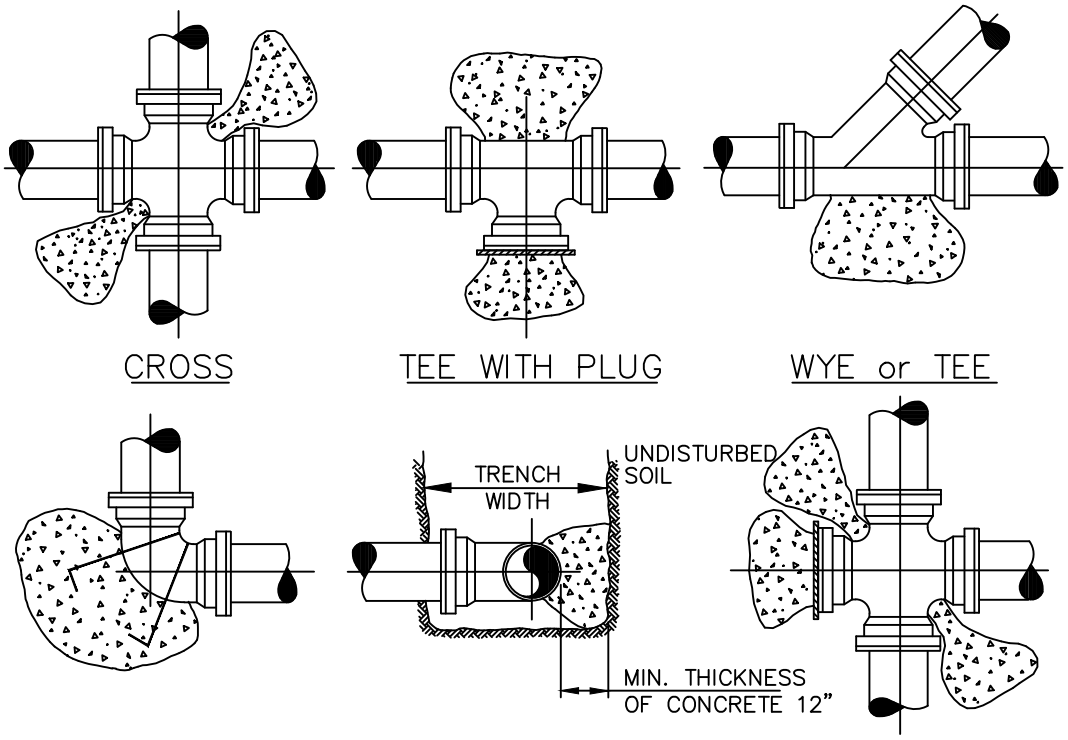
CONCRETE THRUST BLOCK

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **103A**



PIPE DIA. (INS)	90° ELBOW	45° ELBOW	22½° ELBOW	11¼° ELBOW	WYES TEES	PLUGS
	CONC.(cu.ft.)	CONC.(cu.ft.)	CONC.(cu.ft.)	CONC.(cu.ft.)	CONC.(cu.ft.)	CONC.(cu.ft.)
2"	0.5	0.5	0.5	0.5	0.5	0.5
3"	1.0	1.0	1.0	1.0	1.0	1.0
4"	1.2	1.0	1.0	1.0	1.0	1.0
6"	2.6	1.4	1.0	1.0	1.0	1.0
8"	4.6	2.5	1.3	1.0	3.3	3.3
10"	7.3	3.9	2.0	1.0	5.9	5.9
12"	10.0	5.7	2.9	1.5	7.7	7.7
14"	14.2	7.7	3.9	2.0	10.0	10.0
16"	18.5	10.0	5.6	2.6	13.4	13.4
18"	23.4	12.7	6.5	3.3	16.6	16.6
20"	28.8	15.6	8.0	4.7	20.0	20.0
24"	41.7	22.3	10.2	5.9	29.0	29.0

1. THRUST BLOCKS SHALL BE FORMED AND POURED AGAINST UNDISTURBED SOIL. KEEP "T" BOLTS CLEAR OF CONCRETE, WRAPPED IN 6 MIL VINYL PLASTIC PROTECTOR FOR FUTURE ACCESS ,WITH A MINIMUM OF 1' CONCRETE THICKNESS BETWEEN THE FITTING AND SOIL.
2. BEFORE POURING, PLUGS SHALL BE WRAPPED WITH VISQUEEN AND A BOARD PLACED IN FRONT.
3. CONCRETE SHALL BE 2500 P.S.I. MINIMUM.

CONCRETE THRUST BLOCKS

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

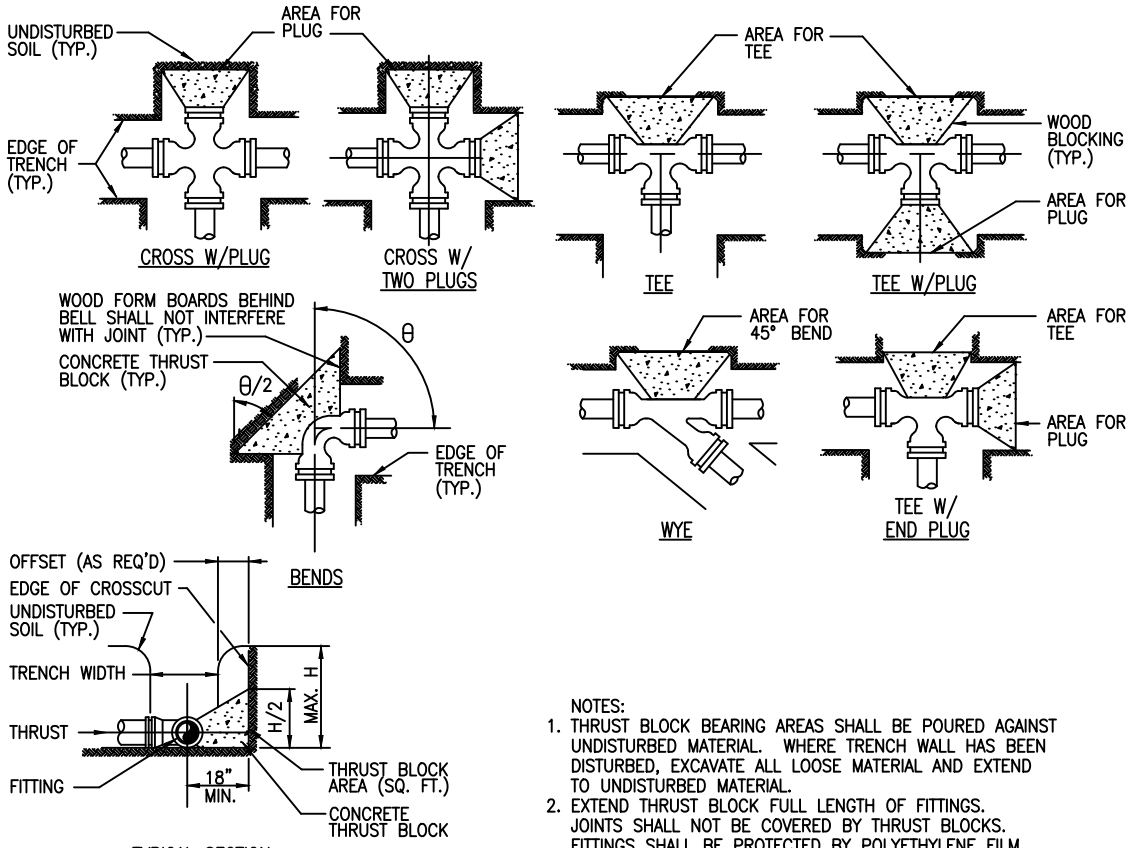
TEL NO: 954-973-6786
FAX NO: 954-571-4146
www.coconutcreek.net

CONCRETE THRUST BLOCK

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **103B**



TYPICAL SECTION

SCHEDULE FOR THRUST BLOCK AREAS *						
PIPE SIZE (INCHES)	90 BEND (SQ FT)	45 BEND (SQ FT)	22-1/2 BEND (SQ FT)	11-1/4 BEND (SQ FT)	TEE & PLUG (SQ FT)	DESIGN PRESS (PSI)
4						150
6						150
8						150
10						150
12						150
14						150
16						150
18						150
20						150
24						150

NOTE:
THRUST BLOCK AREAS TO BE COMPUTED ON BASIS OF _____ LBS. PER SQ. FT. SOIL RESTRAINT BEARING. (1,500 MIN) SEE NOTE 5

* TO BE COMPLETED BY ENGINEER.

NOTES:
1. THRUST BLOCK BEARING AREAS SHALL BE POURED AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE ALL LOOSE MATERIAL AND EXTEND TO UNDISTURBED MATERIAL.
2. EXTEND THRUST BLOCK FULL LENGTH OF FITTINGS. JOINTS SHALL NOT BE COVERED BY THRUST BLOCKS. FITTINGS SHALL BE PROTECTED BY POLYETHYLENE FILM (8 MIL.) PRIOR TO PLACING CONCRETE THRUST BLOCK.
3. ROUGH BLOCKING FORMS SHALL BE USED ALONG SIDES OF THRUST BLOCKS, AS REQUIRED.
4. THRUST BLOCKS SHALL BE USED IN COMBINATION, AS REQUIRED, TO SUIT THE SPECIFIC FITTING ARRANGEMENT.
5. ALTERNATE DESIGNED RESTRAINING SYSTEMS SHALL BE PROVIDED WHERE STANDARD THRUST BLOCKING IS NOT SUITABLE AND/OR SOIL RESISTANCE BEARING IS LESS THAN 1500 PSF.
6. ALL WOOD BLOCKING SHALL BE PRESSURE TREATED WITH PRESERVATIVE.
7. RESTRAINT: ALL FITTINGS AND PIPE JOINTS 8" OR SMALLER MAY BE RESTRAINED USING THRUST BLOCKS. ALL OTHERS MUST BE RESTRAINED AS FOLLOWS:

JOINT	RESTRAINT
PUSH-ON PVC	EBBA IRON SERIES 2800 HARNESS
PUSH-ON DIP	TR-FLEX BY U.S. PIPE OR FLEX RING BY AMERICAN
FITTINGS WITH DIP	EBBA IRON SERIES 1100 MEGALUG
FITTINGS WITH PVC	EBBA IRON SERIES 2000 MEGALUG

8. SOIL TYPE: GOOD SAND
9. LAYING CONDITIONS: TYPE 2, STANDARD ANSI/AWWA C150/A21.50
10. HYDROSTATIC TEST PRESSURE: 150 PSI
11. DEPTH OF COVER: 2.5 FT.
12. LENGTHS LISTED HERE ARE BASED ON CLASS 151 D.I.P.

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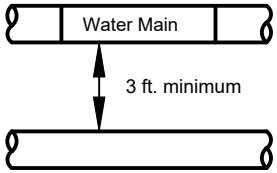
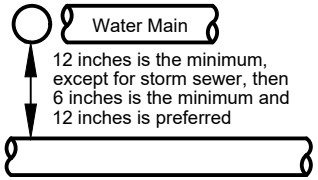
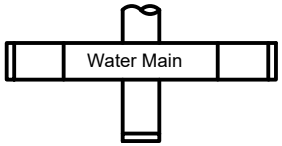
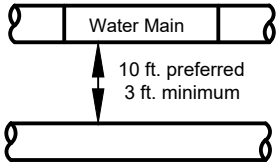
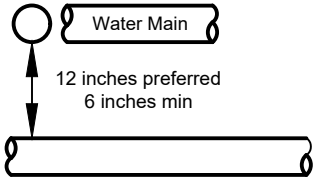
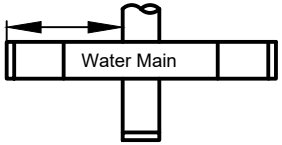
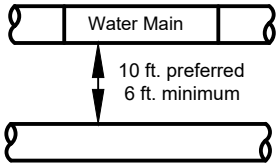
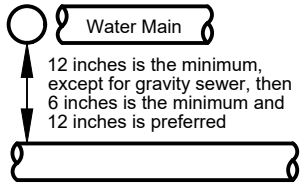
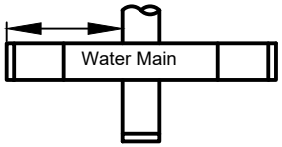
THRUST BLOCK

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **103C**

UTILITY 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)			Alternate 3 ft. minimum 
VACUUM SANITARY SEWER			Alternate 3 ft. minimum 
GRAVITY SANITARY SEWER,(3) SANITARY SEWER FORCE MAIN, RECLAIMED WATER			Alternate 6 ft. minimum 
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 CITY, UNLESS OTHERWISE APPROVED.**

UTILITIES & ENGINEERING DEPARTMENT

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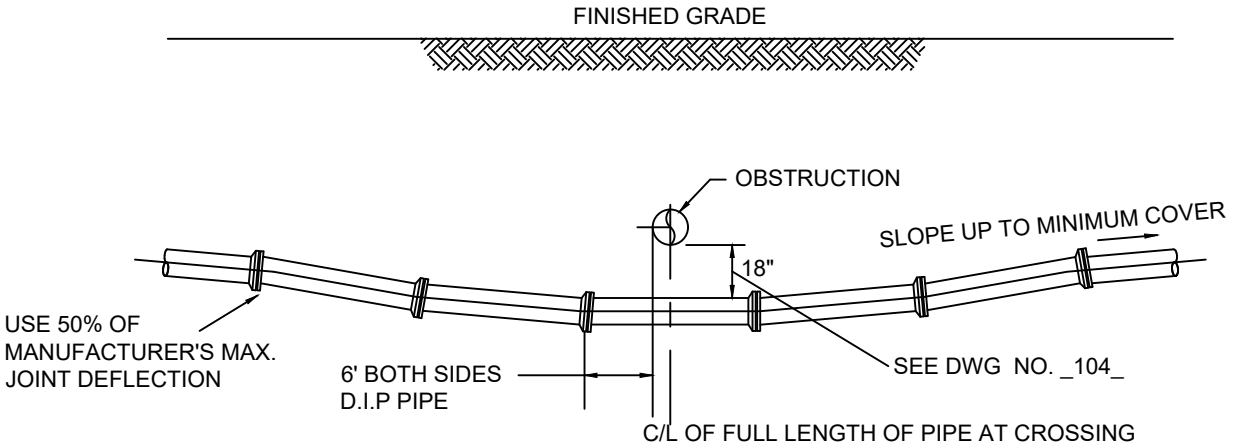
UTILITY SEPARATION

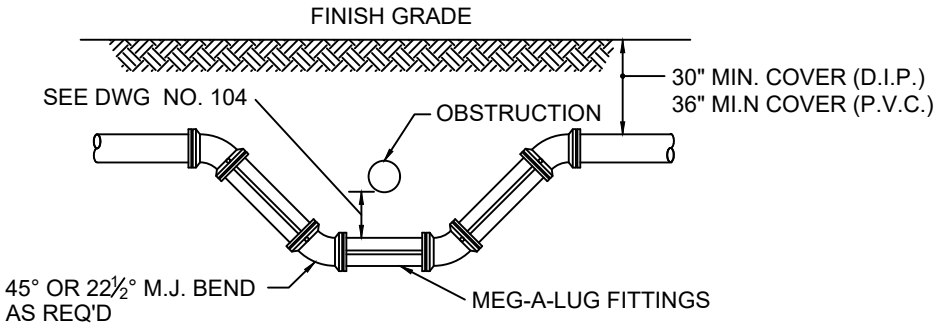
STANDARD DETAILS

DWG. NO. **104**

DATE: APRIL 2025



UTILITY CROSSING DEFLECTION TYPE



UTILITY CROSSING FITTING TYPE

NOTE: USE DEFLECTION TYPE PIPE

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UTILITY CROSSING DEFLECTION INSTALLATION

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	105

FOR FUTURE USE

N.T.S

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FOR FUTURE USE

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	106

LAYING CONDITION : TYPE 4 (PIPE BEDDED IN SAND, GRAVEL, OR CRUSHED STONE TO THE DEPTH PF ⅛" PIPE DIAMETER, 4" MINIMUM. BACKFILL COMPACTED TO TOP OF PIPE).

DEPTH OF COVER : 2.5 FEET MINIMUM

WORKING PRESSURE : 150 PSI

SOIL BEARING : 2,000 PSF AGAINST UNDISTURBED SOIL

PIPE DIA. (IN.)	11.25 DEG. (FT.)	22.5 DEG. (FT.)	45 DEG. (FT.)	90 DEG. (FT.)	DEAD END (FT.)	TEE (FT.)	45 DEG. VERT. (FT.)	22.5 DEG. VERT. (FT.)
6	5	9	16	31	60	35	20	12
8	6	11	20	42	80	50	25	14
10	7	14	24	52	100	60	26	18
12	8	16	28	63	120	65	30	20
14	10	18	32	73	130	80	35	23
16	11	20	35	84	140	90	40	26
18	12	22	39	94	150	100	45	28
20	13	24	42	105	180	120	55	32
24	14	27	49	126	220	150	65	35

NOTE THAT IN ACTUAL INSTALLATIONS, THE RESTRAINED LENGTH WILL BE IN MULTIPLES OF LENGTH OF ONE PIECE OF PIPE (NORMALLY 18 TO 20 FT.) THUS, FOR EXAMPLE, IF THE RESTRAINED LENGTH FOR 6" PIPE LEADING UP TO 90 DEG. BEND IS 30 FT, TWO FULL LENGTHS OF RESTRAINED PIPE WILL RESULT IN 36 TO 40 FT OF RESTRAINT, PROVIDING AN ADDITIONAL SAFETY FACTOR. WHERE SHORT CONNECTING OR CLOSURE PIECES ARE NEEDED TO POSITION FITTINGS, THEY SHOULD, WHEN POSSIBLE, BE PLACED OUTSIDE THE RESTRAINED SECTION FOR A MAXIMUM ECONOMY.

THE ABOVE SCHEDULE IS ONLY A GUIDELINE. CONTRACTOR SHALL REPORT TO THE ENGINEER OF RECORD E.O.R. TO THEN VERIFY AND REVISE CALCULATIONS TO MEET INSTALLATION REQUIREMENTS WHEN UNFORESEEN CONDITIONS EXIST.

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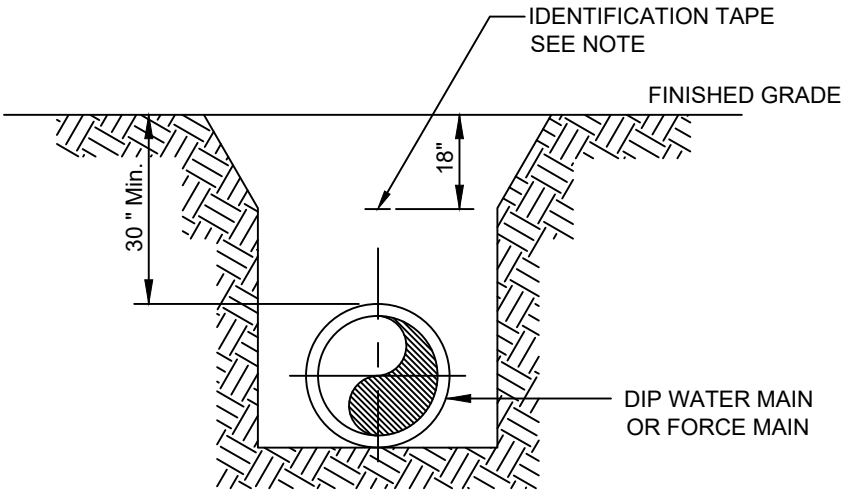
RESTRAINED PIPE JOINT SCHEDULE

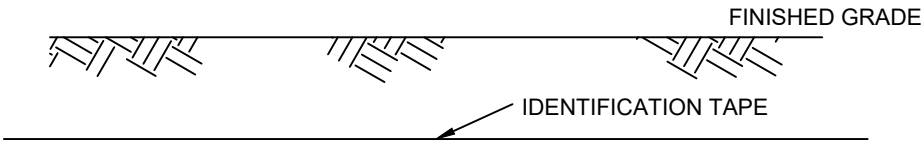
STANDARD DETAILS

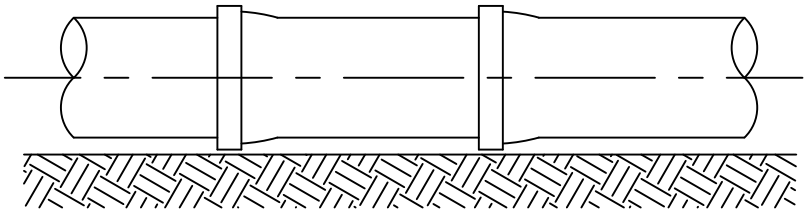
DWG. NO. **107**

DATE: APRIL 2025



SECTION





PROFILE

NOTE:

1. DETECTABLE IDENTIFICATION TAPE SHALL BE INSTALLED DIRECTLY OVER CENTERLINE OF THE PIPE AT 18-INCHES BELOW FINISHED GRADE FOR OPEN CUT EXCAVATIONS ONLY.

2. FOR DIRECTIONAL BORE INSTALLATION USE TRACER WIRE BY COPPERHEAD INDUSTRIES SOLO SHOTXTREME PBX-50 $\frac{3}{16}$ O.D. OR APPROVED EQUAL. INSTALL 12" MAX. FROM THE MAIN

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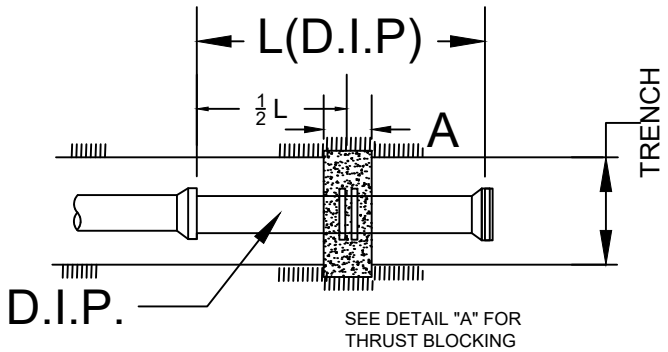
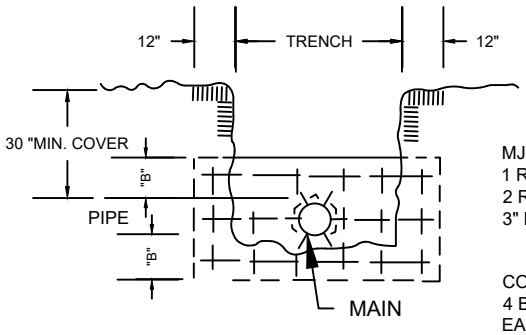
LOCATING TAPE / TRACER WIRE

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	108



PIPE DIA.	"A"	"B"
20"	2' -0"	2' -0"
16"	1' -6"	1' -6"
14"	1' -6"	1' -6"
12"	1' -6"	1' -0"
10"	1' -0"	1' -0"
8"	1' -0"	1' -0"
6"	1' -0"	1' -0"
4"	1' -0"	1' -0"

NOTE THE ABOVE FIGURES
ARE BASED ON SOIL BEARING
CAPACITY OF 2000"PSI



MJ RETAINER GLAND
1 REQUIRED 10" AND UNDER
2 REQUIRED 12" AND OVER
3" MIN SPACING

CONCRETE THRUST BLOCK
4 BARS - 6" O.CC
EACH WAY - EACH FACE

DETAIL "A"

NOTES :
1. PIPE JOINT COMPOUND SHALL BE APPLIED TO MALE THREADS ONLY
2. COAT ALL EXPOSED THREADS WITH BITUMASTIC BEFORE BACKFILL
3. TAP 2" DIAMETER IN BOTTOM OF PLUG

2" TERMINAL END DETAILS

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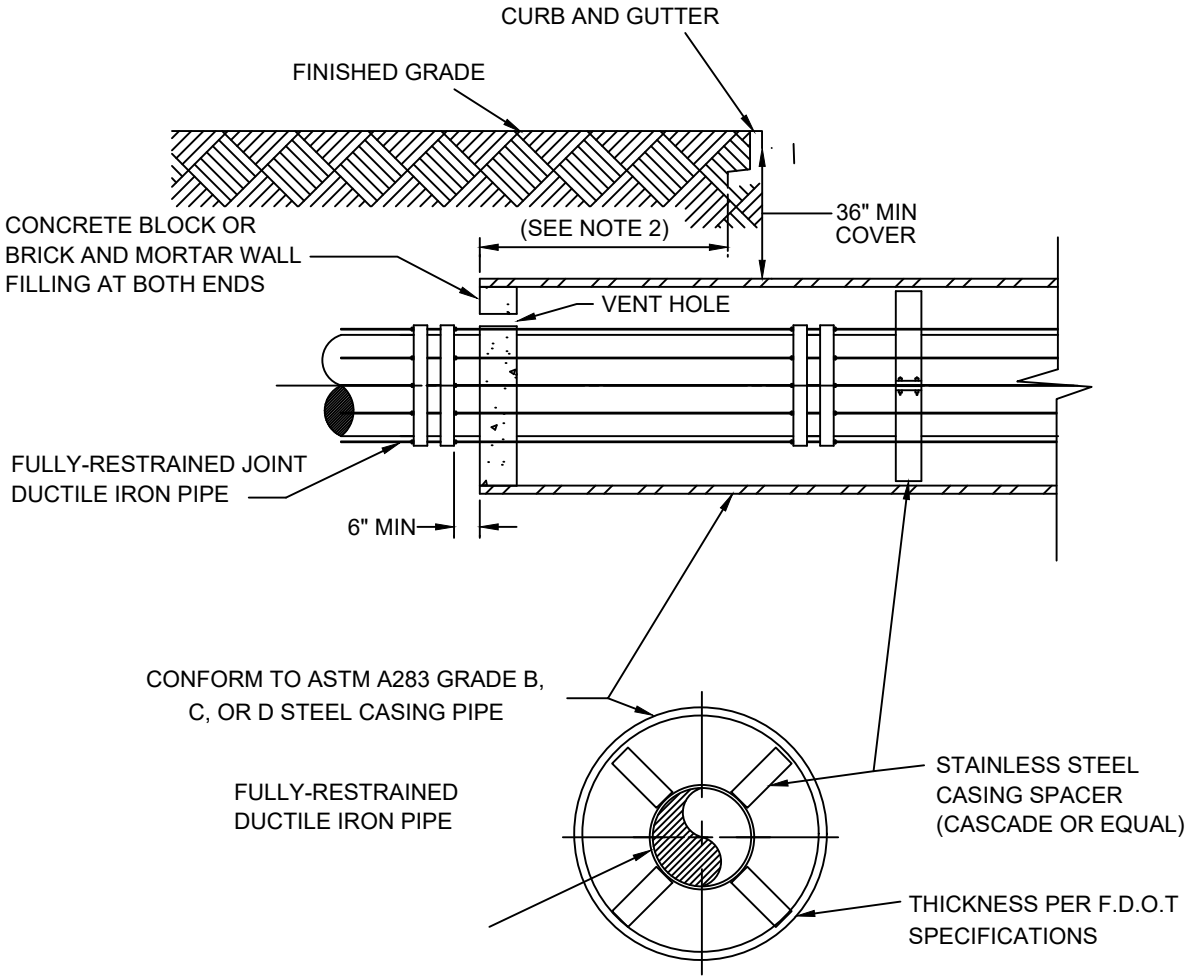
2" TERMINAL END DETAIL

STANDARD DETAILS

DWG. NO. **109**

DATE: APRIL 2025



UTILITY CROSSING, BORE AND JACK

NOTES

1. WHEN CONSTRUCTION IS WITHIN F.D.O.T. JURISDICTION, ADDITIONAL REQUIREMENTS OF THE UTILITY ACCOMMODATION MANUAL SHALL BE MET.
2. CASING SHALL BE OF SUFFICIENT LENGTH TO EXTEND UNDER ALL PAVEMENTS AND IN NO CASE SHALL THE END OF THE CASING BE CLOSER THAN EIGHT (8) FEET FROM THE PAVEMENT EDGE INCLUDING PAVED SHOULDERS PLUS ADDITIONAL LENGTH AS NECESSARY TO EXTEND TO THE EXCAVATED SLOPES OF THE JACKING AND RECEIVING PITS.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM OF A 2:1 SLOPE (ANY STEEPER AND PIT MUST BE SHEETED AND SHORED) BEGINNING EIGHT (8) FEET FROM EDGE OF PAVEMENT.
4. THE CONTRACTOR SHALL PROVIDE A 4-INCH DIP CASING VENT AS SHOWN ON THE DRAWINGS FOR RAILWAY CROSSINGS, IN LIEU OF VENT HOLE AS SHOWN ABOVE.

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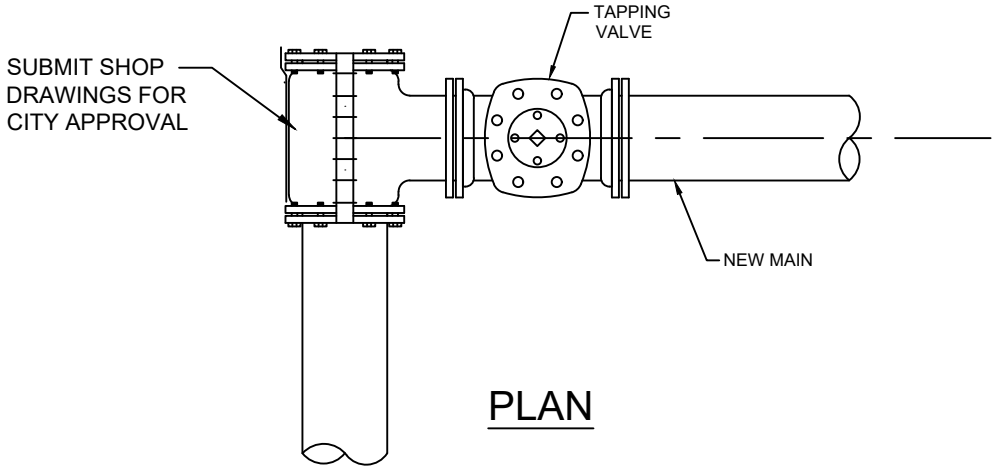
BORE & JACK

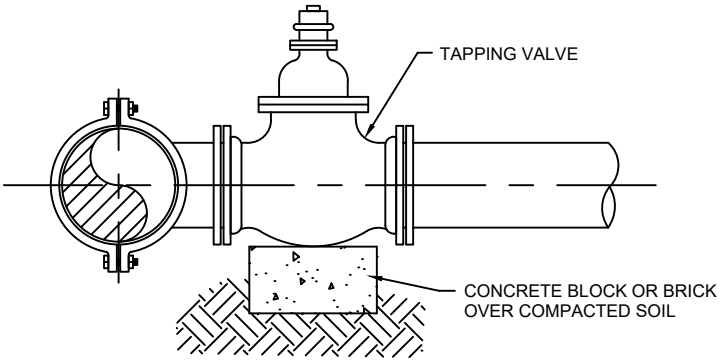
STANDARD DETAILS

DWG. NO. **110**

DATE: APRIL 2025



PLAN



ELEVATION

NOTES:

1. NOTIFY THE CITY OF COCONUT CREEK 48 HOURS IN ADVANCE OF PROPOSED TAP.
2. TAPPING MUST BE DONE IN THE PRESENCE OF AN AUTHORIZED CITY REPRESENTATIVE.
3. USE OF MEG-A-LUGS RESTRAINTS IS REQUIRED.

N.T.S

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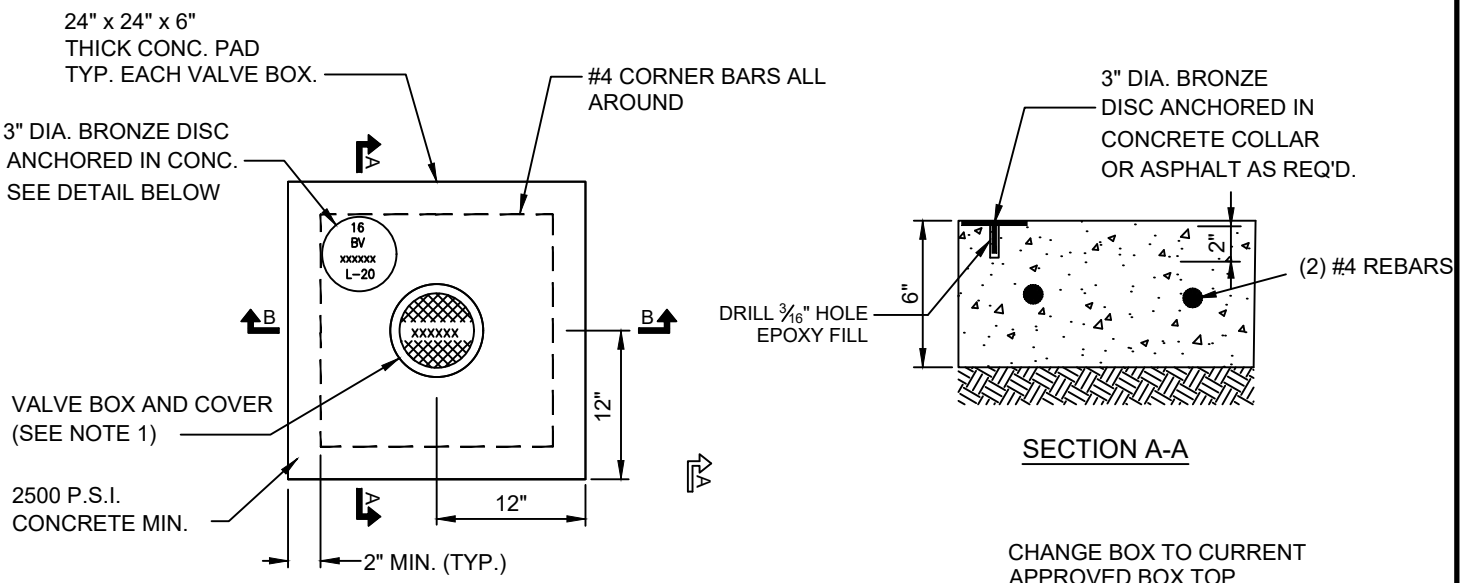
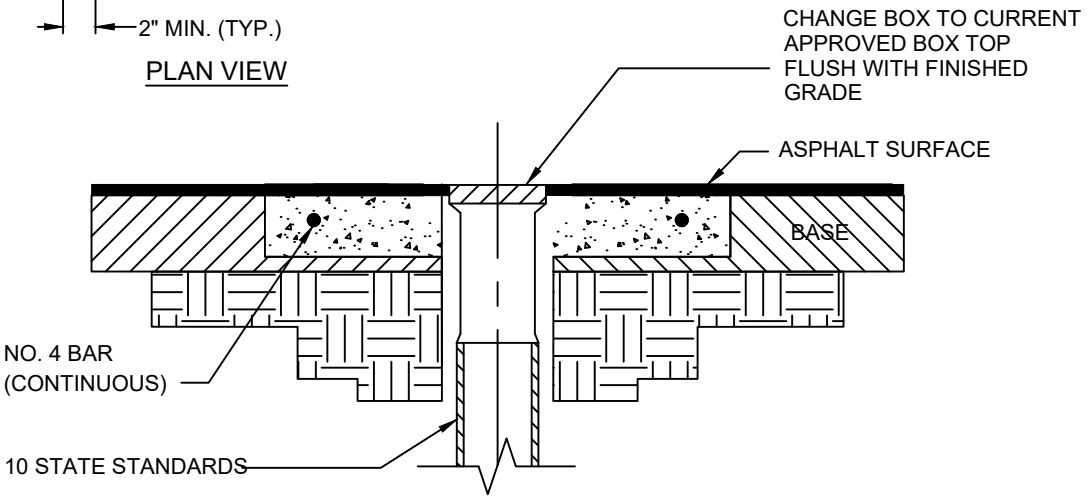
TAPPING SLEEVE AND VALVE

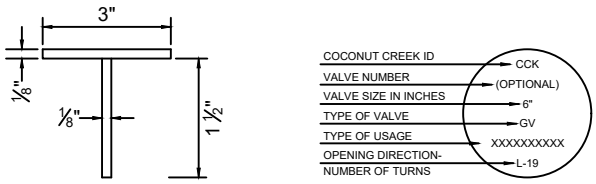
STANDARD DETAILS

DWG. NO. **111**

DATE: APRIL 2025







VALVE IDENTIFICATION MARKER (TAG)

NOTES

1. VALVE BOXES SHALL BE USF 10 STATE STANDARD WITH APPLICABLE MARKING(EITHER WATER OR SEWER). SUPPLIED WITH 5 $\frac{1}{4}$ " LOCKING LID. SUPPLY ONE (1) KEY PER LID TO THE CITY.

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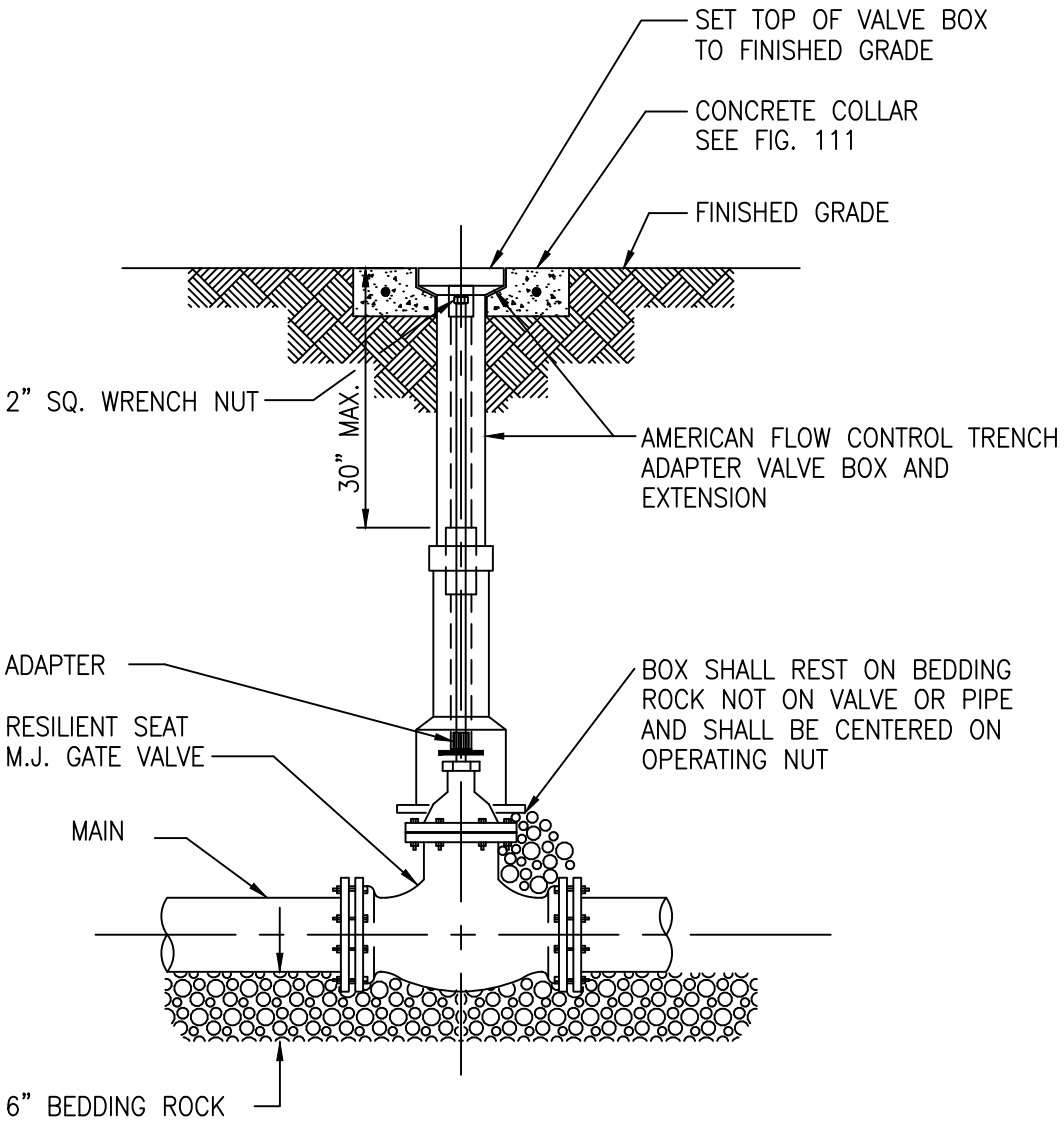
CONCRETE VALVE BOX COLLAR

STANDARD DETAILS

DWG. NO. **112**

DATE: APRIL 2025



NOTES:

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

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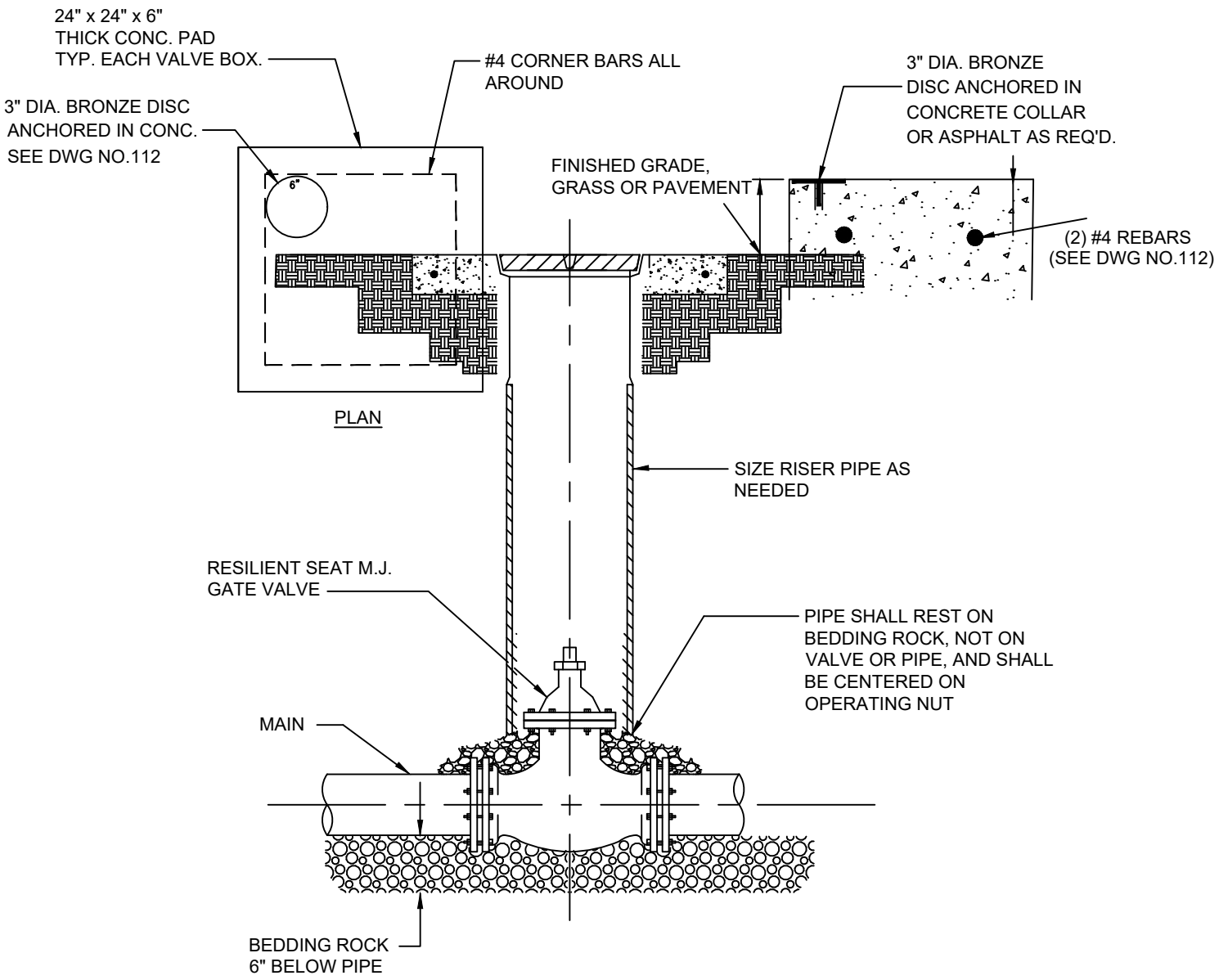
GATE VALVE & BOX

STANDARD DETAILS

DWG. NO. **113**

DATE: APRIL 2025



NOTES

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

2. 10 STATE STANDARD APPLICABLE MARKING EITHER WATER OR SEWER.

N.T.S

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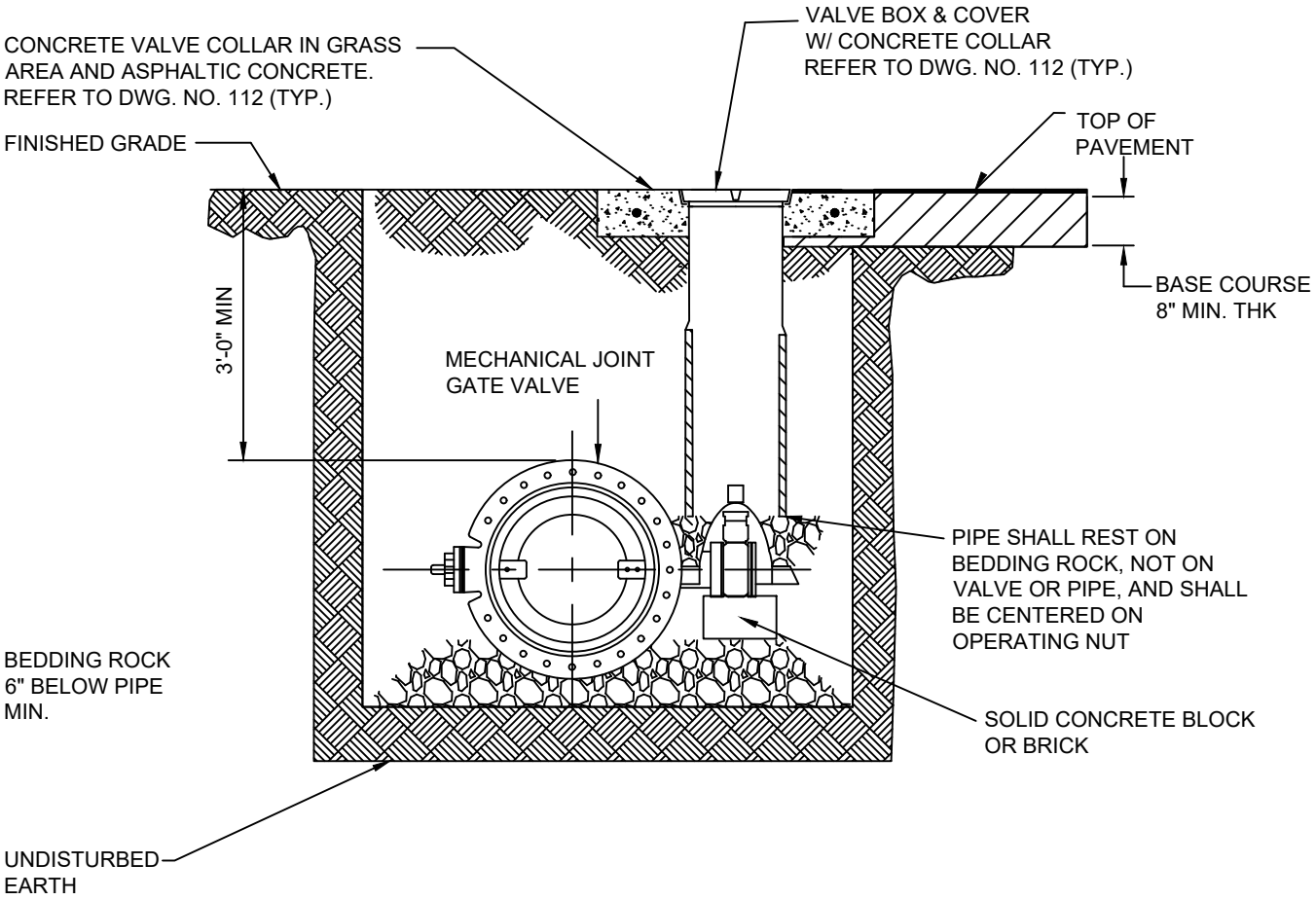
GATE VALVE & BOX (GREEN AREAS)

STANDARD DETAILS

DWG. NO. **113A**

DATE: APRIL 2025



NOTES

1. ONLY TO BE USED WITH PRE-APPROVAL BY THE CITY IN WARRANTED LOCATIONS.
2. WHEN VALVE IS NOT LOCATED IN PAVEMENT, PLACE A WHITE PAVEMENT REFLECTOR MARKER IN THE DRIVE LANE, ADJACENT TO THE VALVE.
3. 10 STATE STANDARDS WITH APPLICABLE MARKING EITHER WATER OR SEWER.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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COCONUT CREEK, FL 33073

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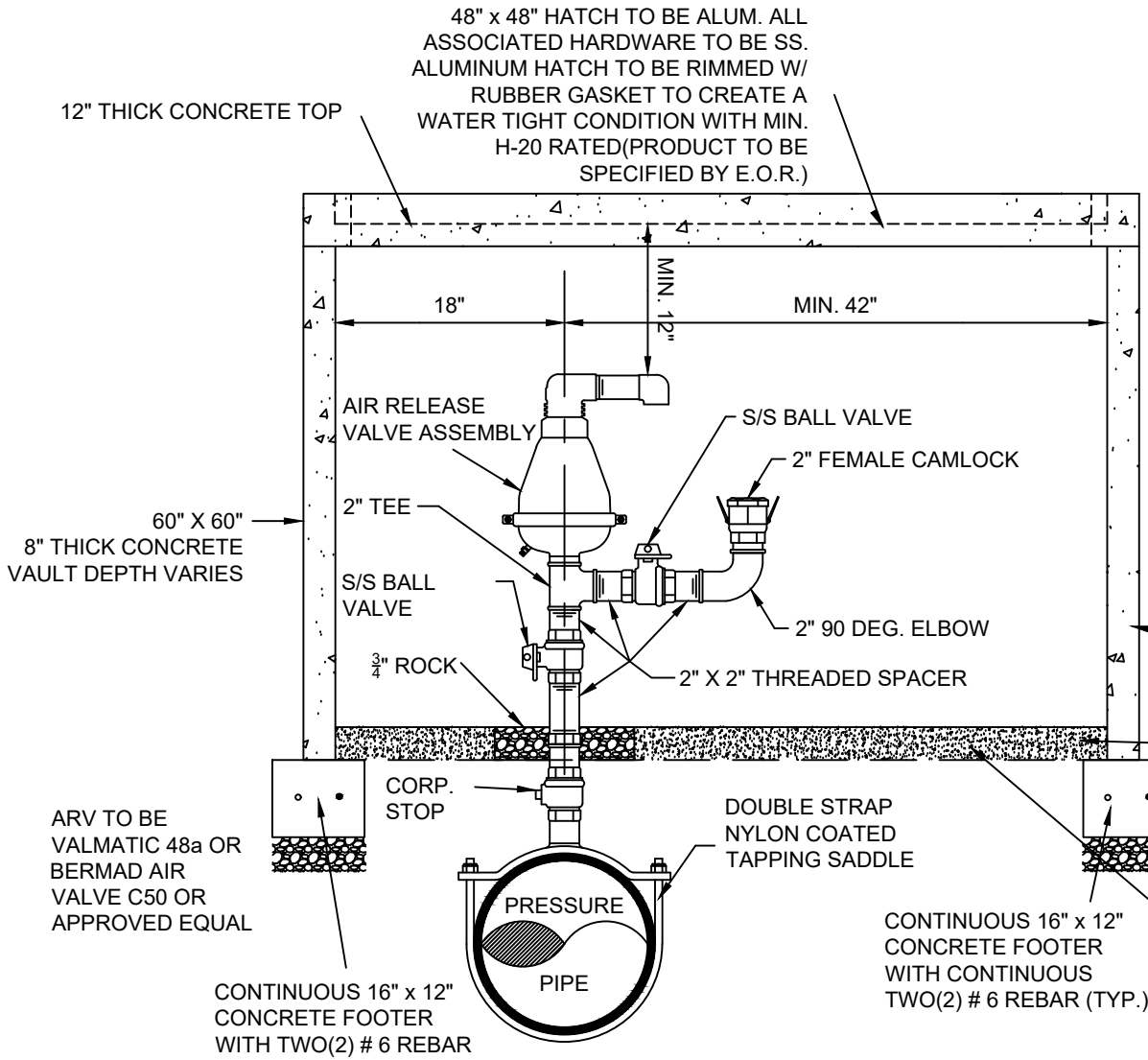
BUTTERFLY VALVE AND BOX

STANDARD DETAILS

DWG. NO. **114**

DATE: APRIL 2025



NOTES

1. ABOVE DETAIL IS BASED ON 2" AIR RELEASE VALVE, CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZES TO BE DETERMINED BY THE ENGINEER OF RECORD AND APPROVED BY THE CITY PRIOR TO INSTALLATION.
2. ALL FITTINGS SHALL BE 316 STAINLESS STEEL OR APPROVED EQUAL.
3. ARV VAULT WALLS TO BE COATED INSIDE WITH 16 MIL. THK. MAINSTAY COATING.
4. LIFT HOLES ARE TO BE SEALED WITH MORTAR INSIDE AND OUTSIDE AFTER INSTALLATION. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF, EXPANDING GROUT.
5. VAULT SHALL NOT REST ON PIPE. ALLOW 9" MIN. SEPARATION.
6. OUTSIDE OF STRUCTURE TO BE COATED WITH 16 MIL OF COAL TAR EPOXY BLACK.

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AIR RELEASE VALVE (WATER AND WASTEWATER)

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	115

ARV PRE-CAST CONCRETE VAULT SPECIFICATIONS:

1- PRECAST CONCRETE MANHOLES AND CATCH BASINS SHALL MEET THE REQUIREMENTS OF A.S.T.M. SPECIFICATIONS C-478 AND 64T, AND BROWARD COUNTY ENGINEERING DEPARTMENT "MINIMUM STANDARD"•

2-CONCRETE FOR PRECAST MANHOLE AND CATCH BASINS SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS.

3-REINFORCING STEEL FOR MANHOLES AND CATCH BASINS SHALL CONFORM TO A.S.T.M. SPECIFICATIONS A-615 AND A-305 1 LATEST REVISION.

4-ALL RE-BAR SPLICES IN CONCRETE STRUCTURES SHALL HAVE A MINIMUM LAP OF 24 BAR DIAMETERS.

5-ALL JOINTS IN CONCRETE STRUCTURES SHALL BE FINISHED WATERTIGHT.

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AIR RELEASE VALVE (GRADING AND DRAINAGE SPECIFICATIONS)

STANDARD DETAILS

DWG. NO. **115A**

DATE: APRIL 2025

FOR FUTURE USE

UTILITIES & ENGINEERING DEPARTMENT

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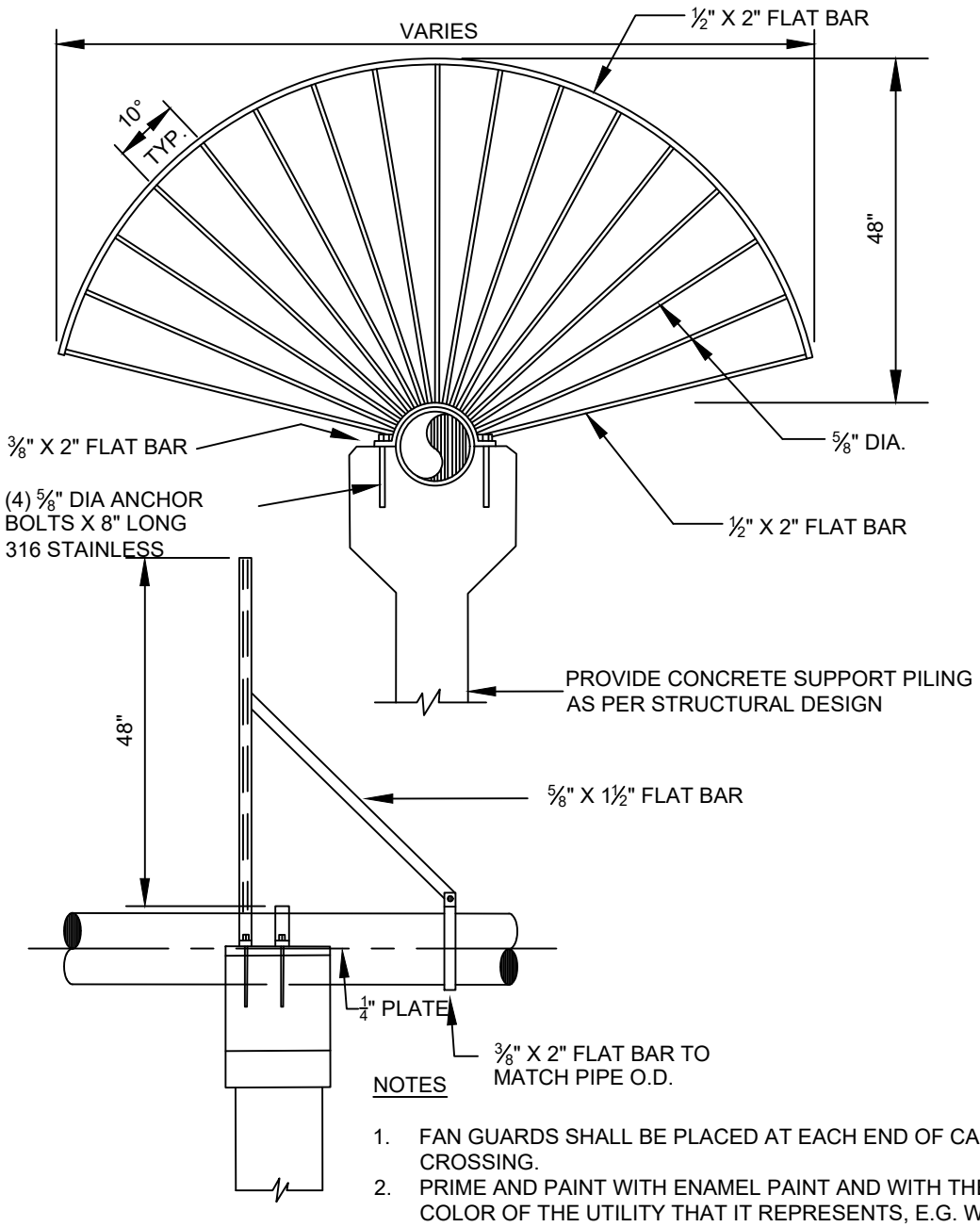
STANDARD DETAILS

DWG. NO. **116**

DATE: **APRIL 2025**



NOTES

1. FAN GUARDS SHALL BE PLACED AT EACH END OF CANAL CROSSING.
2. PRIME AND PAINT WITH ENAMEL PAINT AND WITH THE COLOR OF THE UTILITY THAT IT REPRESENTS, E.G. WATER, WASTE WATER, OR RECLAIMED WATER.

FAN GUARD - TYPICAL

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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FAN GUARD

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	117

Flowable Fill

Applications

a1. Backfill (sewer trenches, utility trenches, bridge abutments, conduit trenches, pile excavations, and retaining walls

a.2. Structural fill (foundation subbase, sub-footing, floor slab base, and pipe bedding)

a.3. Other Uses(abandoned underground Storage tanks, wells, abandoned utility company vaults, voids under pavement, sewers and manholes, and to contend with muddy conditions)

a. Flowable Fill Materials

Materials shall comply with the recommendations within chapter 3 of ACI 229, which include cement, aggregates, fly ash, water, admixtures, slag and other non-standard materials.

b. Quality Control

Compressive strength shall be the preferred method of testing for acceptance and quality control. Compressive strength testing shall be governed by the guidelines set forth in ACI Committee Report 229. Strength values can be correlated to LBR values, bearing capacity, subgrade modulus and other parameters.

Mixture Design Requirements

b.1. The mixture shall be proportioned to achieve the strength requirements set forth by the architect, engineer or other authorized representative of the owner and be sufficiently fluid to meet the intended placement application.

b.2. Flowable Fill shall have a minimum 28 day compressive strength of 300 psi (2.1 Mpa) unless otherwise specified.

b.3. The strength requirements for flowable fill which is intended to be excavated using hand tools {and shall not exceed 150 psi.

b.4. The strength requirements for flowable fill which is intended to be excavated using machine equipment shall not exceed 150 Psi.

c. Construction

c.1. It is strongly recommended that a pre-installation conference be held prior to commencement of field operations. Items to be discussed will include, but will not be limited to, working conditions, reviewing mix designs, excavatable vs. non -excavatable applications and movements of trucks to points of discharge.

c.2. When Flowable Fill is to be used around objects subject to floating; i.e. pipes, tanks, pools etc., the contractor shall take appropriate measures, such as, straps, soil anchors or other approved methods to prevent flotation or misalignment.

c.3. Flowable fill is a fluid material, which prior to setting, will exert a high fluid pressure on formwork, wall/embankments, or other containment structures. The Contractor shall design all formwork or other containment structures accordingly.

N.T.S

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FLOWABLE FILL

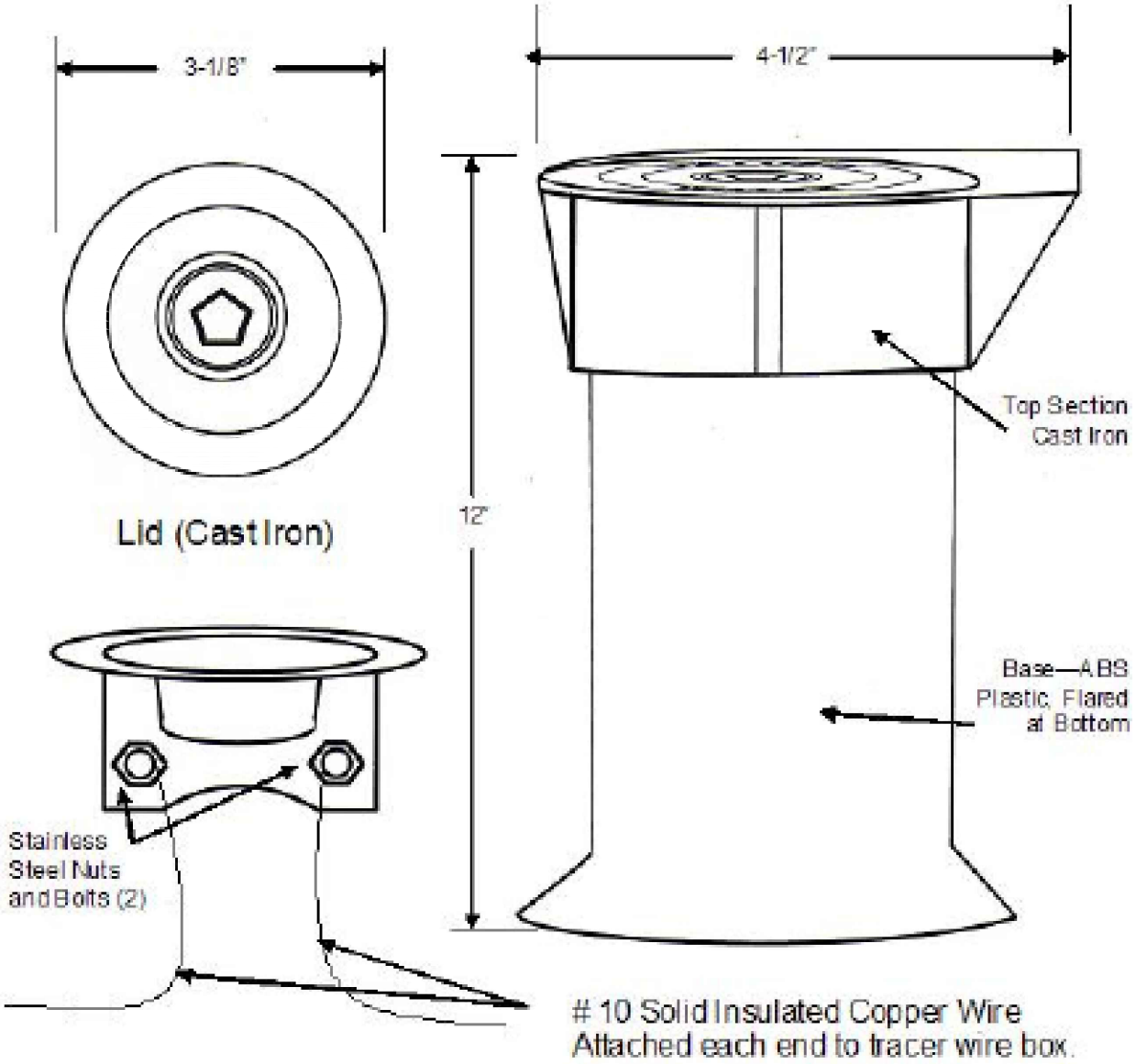
STANDARD DETAILS

DWG. NO. **118**

DATE: APRIL 2025

Tracer Wire Access Box

Tracer wire shall be terminated at each end in a flush mount access box. Access Box shall have a cast iron lid that can be locked and opened with a standard pentagon head key wrench. Tracer wires shall be stripped and attached to stainless steel screws mounted to the underside of the lid. Sufficient slack shall be left in wire length so cover can be lifted with wire intact. Tracer wire access box shall be located where indicated on drawings and be set to grade. Tracer wire access box shall be of domestic manufacture and be equal to Valvco TWAB.



N.T.S

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TRACER WIRE ACCESS BOX

STANDARD DETAILS	DWG. NO. 119
DATE: APRIL 2025	

POTABLE WATER

N.T.S

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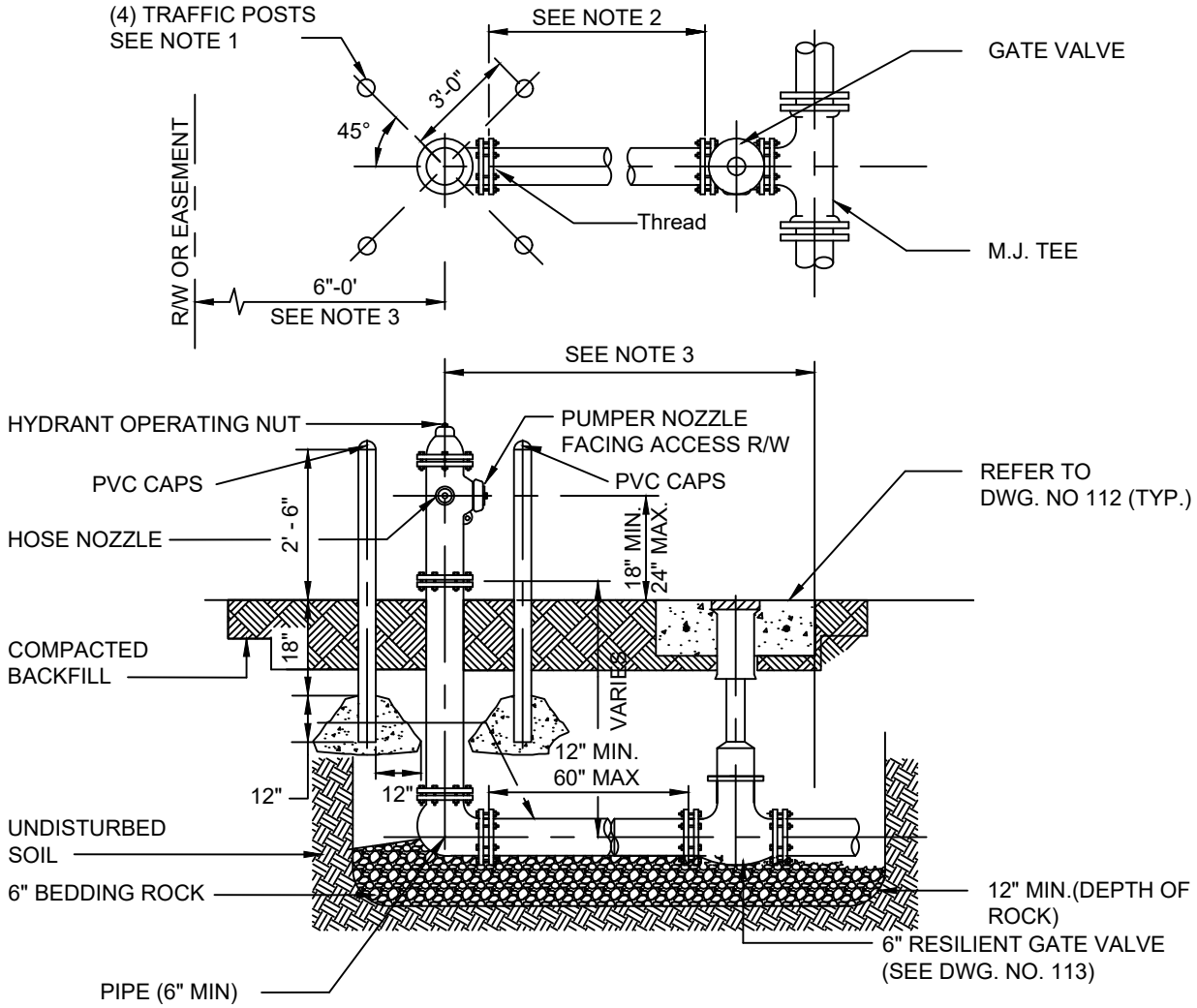
POTABLE WATER

STANDARD DETAILS

DWG. NO. **200**

DATE: APRIL 2025



NOTES:

1. TRAFFIC POST TO BE 4" DIAMETER SCHEDULE 40 GALVANIZED STEEL PIPE FILLED WITH CONCRETE ADD A PVC CAP AND TO BE PLACED AT LOCATION AS DIRECTED BY THE CITY ENGINEER OR E.O.R..
2. USE RESTRAINED JOINTS / MEG-A-LUGS FOR THE ENTIRE ASSEMBLY AS SHOWN
3. HYDRANT SETBACK SHALL BE SET TO A DISTANCE OF 7-FT MAXIMUM AND 4-FT MINIMUM FROM THE EDGE OF PAVEMENT OR CONFORM TO F.D.O.T. AND F.D.E.P. REQUIREMENTS, WHERE APPLICABLE.
4. SUPPLY LINES FOR FIRE HYDRANTS TO BE SIZED TO ALLOW A MINIMUM OF 20 PSI RESIDUAL PRESSURE AT THE HYDRANT UNDER FIRE FLOW CONDITIONS.
5. ONE BLUE AND ONE WHITE REFLECTIVE PAVEMENT MARKER FOR IDENTIFICATION OF THE HYDRANT AND ITS VALVE LOCATION SHALL BE INSTALLED ON THE CENTER OF THE ADJACENT PAVED DRIVE LANE TO THE HYDRANT; MARKERS SHALL BE SPACED 1-FT APART, PERPENDICULAR TO THE ROAD CENTERLINE.
6. FIRE HYDRANT TO BE AMERICAN FLOW CONTROL- AMERICAN DARLING B-848 OR APPROVED EQUAL

N.T.S

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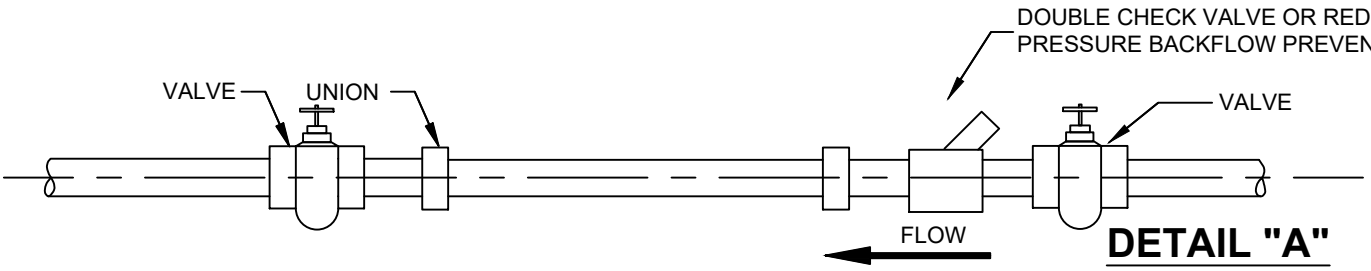
FIRE HYDRANT ASSEMBLY

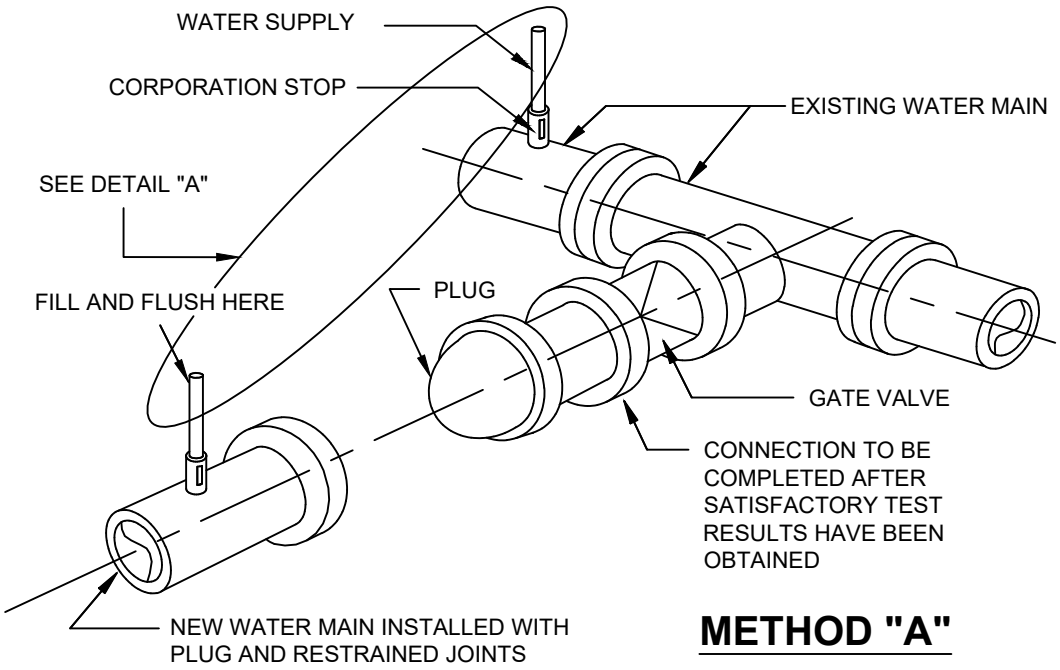
STANDARD DETAILS

DWG. NO. **201**

DATE: APRIL 2025



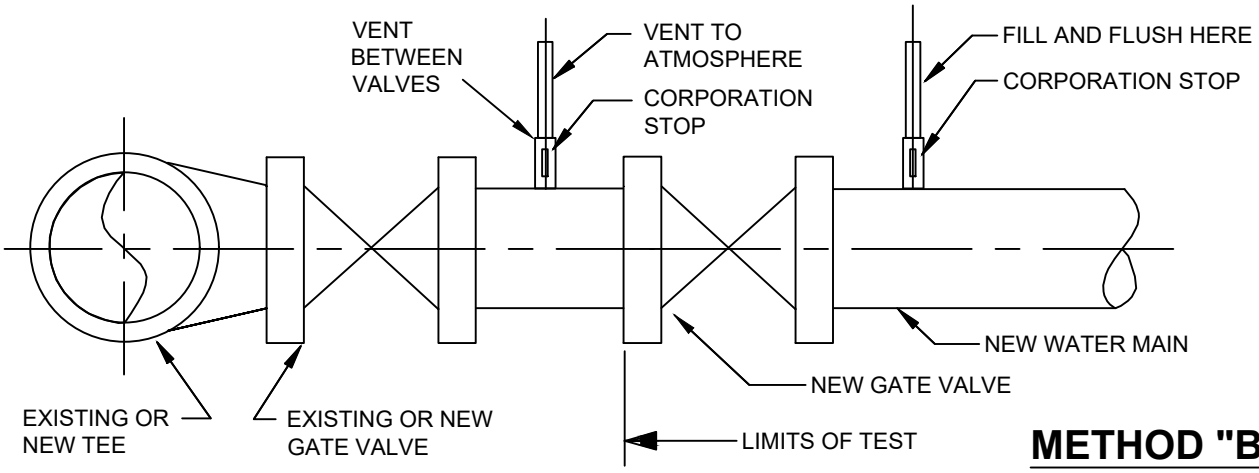
DETAIL "A"



NOTES:

1. REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON EXISTING MAIN AFTER FILLING AND FLUSHING OF NEW LINE.
2. DO NOT REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON NEW MAIN UNTIL ALL TESTING HAS BEEN COMPLETED

METHOD "A"



METHOD "B"

N.T.S

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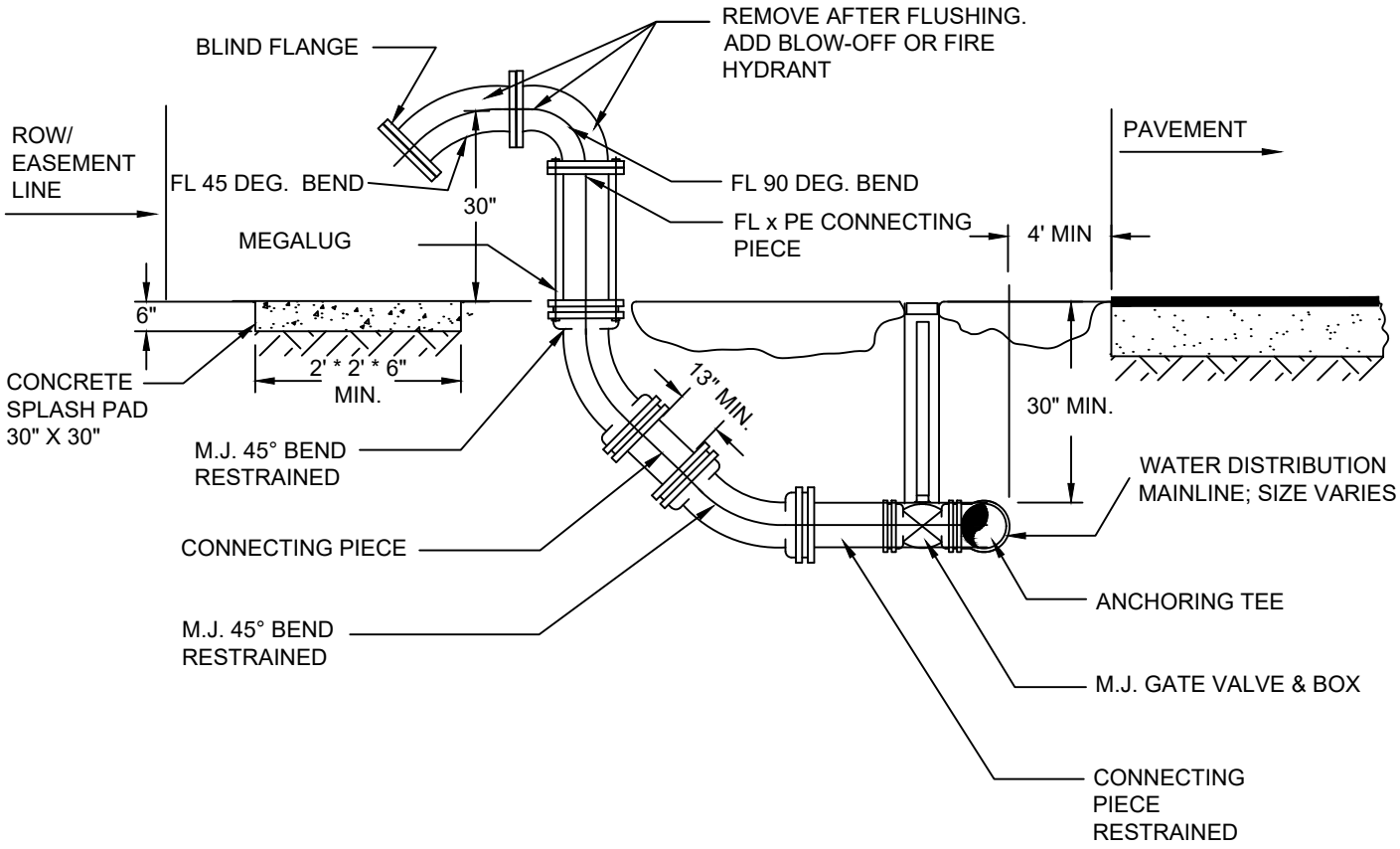
FILLING & FLUSHING

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	202



NOTES:

1. THIS DETAIL GRAPHICALLY REPRESENTS THE LAYOUT AND CONFIGURATION REQUIRED. THE DESIGN ENGINEER SHALL SIZE THE PIPING TO ENSURE THAT A MINIMUM VELOCITY OF 2.5 FPS IS OBTAINED IN THE PRIMARY WATER DISTRIBUTION SYSTEM MAINLINE.
2. FULL JOINT RESTRAINT IS REQUIRED; THRUST CALCULATIONS ARE NECESSARY.
3. EROSION AND SEDIMENT CONTROL IS ESSENTIAL FOR SATISFACTORY PERFORMANCE AND SHALL BE CONSIDERED IN THE DESIGN.
4. FL 90 DEG. BEND AND FL 45 DEG. BEND ARE SHOWN ROTATED 90 DEG. FOR CLARITY. CONSTRUCT DISCHARGE PARALLEL TO RIGHT OF WAY/EASEMENT.

N.T.S

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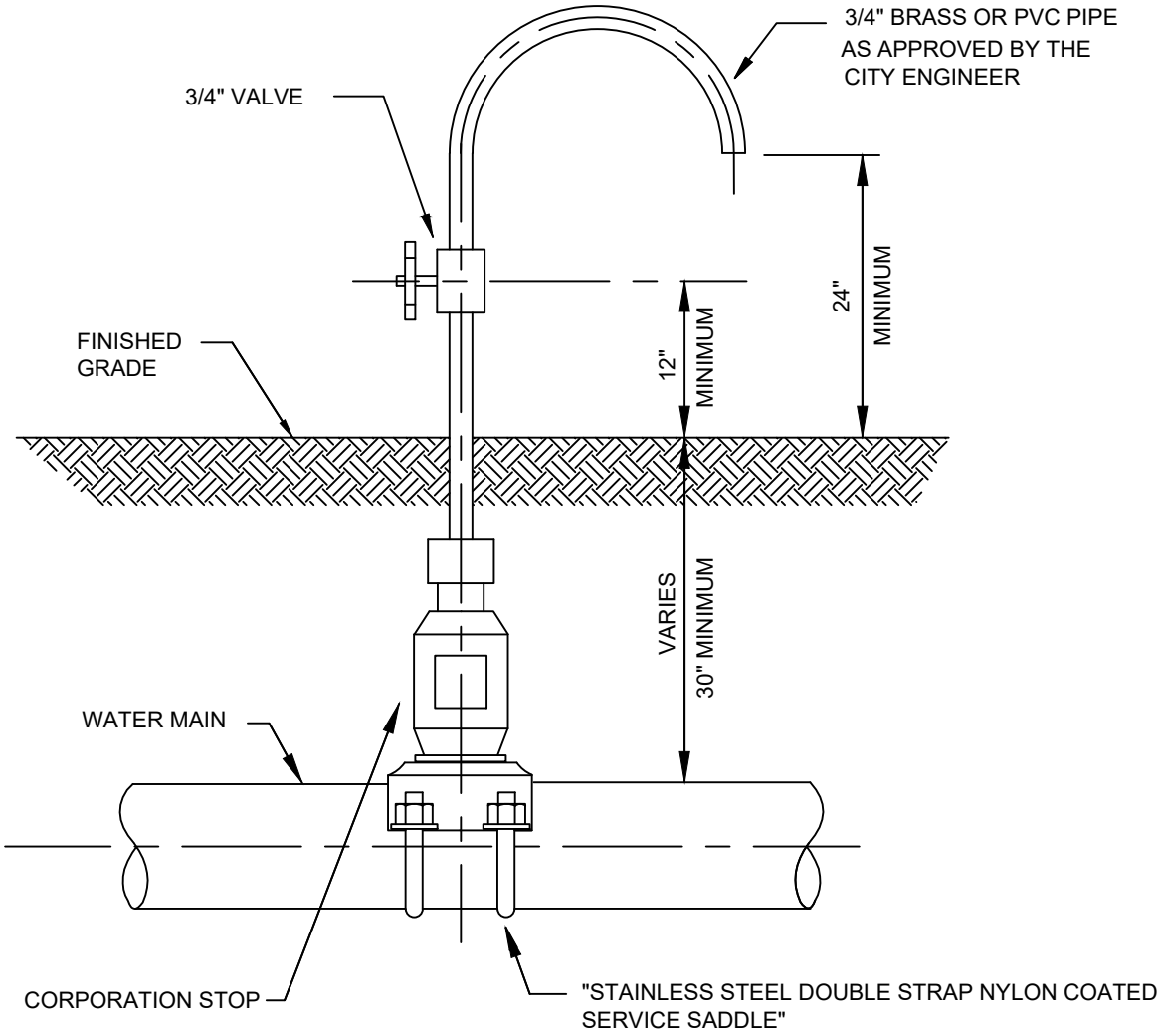
CANON FLUSH

STANDARD DETAILS

DWG. NO. **203**

DATE: APRIL 2025



NOTES

1. SAMPLING POINTS SHALL BE LOCATED AND LATER REMOVED AS REQUIRED BY THE FLORIDA DEPARTMENT OF HEALTH. PLACE ON PERMANENT SERVICE LINES WHENEVER POSSIBLE.

2. A CORPORATION STOP SHALL BE INSTALLED WITH A LENGTH OF POLYETHYLENE EXTENDING ABOVE THE GROUND. THE TUBING SHALL BE INSTALLED WITH A 180 DEG. BEND AND A VALVE.

3. CORPORATION STOP SHALL BE REMOVED AND SADDLE PLUGGED WITH A BRASS FITTING AFTER THE FINAL CERTIFICATION CLEARANCE HAS BEEN PROVIDED BY FLORIDA DEPARTMENT OF HEALTH.

N.T.S

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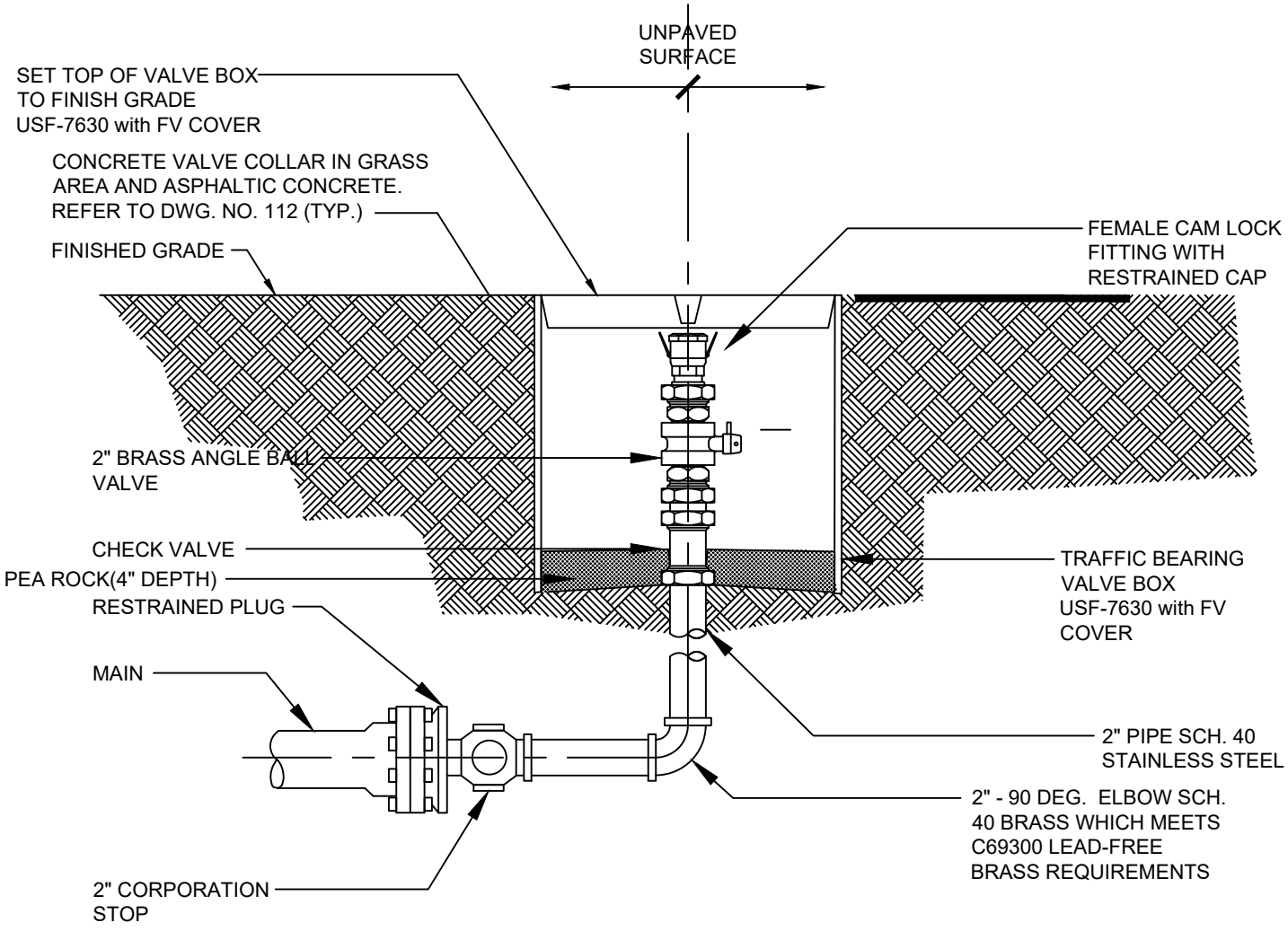
BACTERIOLOGICAL SAMPLING POINT

STANDARD DETAILS

DWG. NO. **204**

DATE: APRIL 2025



NOTES

1. PIPE JOINT COMPOUND SHALL BE APPLIED TO MALE THREADS ONLY.
2. COAT ALL EXPOSED THREADS WITH BITUMASTIC BEFORE BACKFILLING.
3. 2" TAP IN BOTTOM OF PLUG.
4. BLOWOFF VALVE BOX SHALL BE USF 7630 RING & FV COVER STAMPED "WATER" MUST BE UTILIZED IN NON-TRAFFIC BEARING AREAS ONLY

N.T.S

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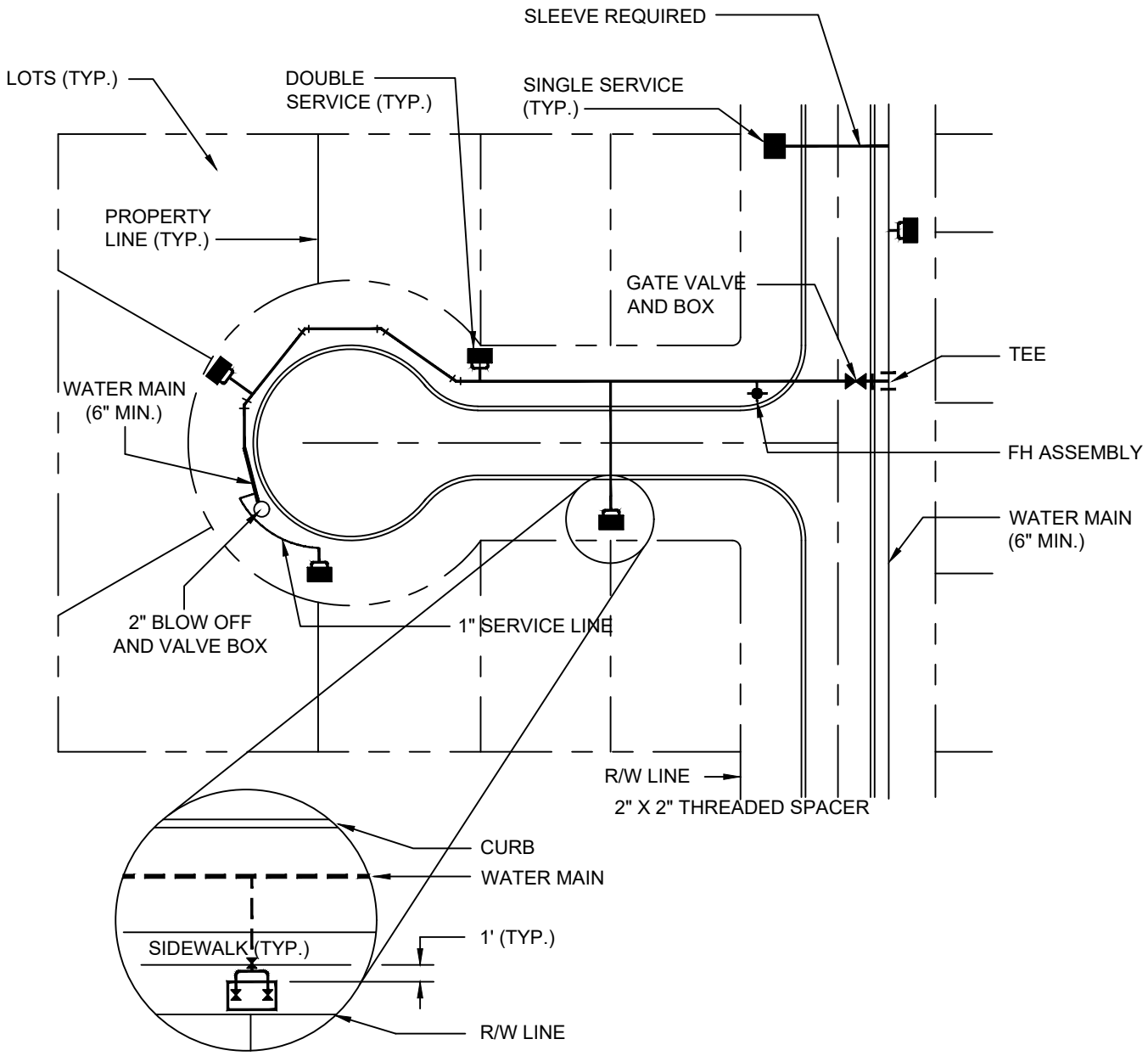
BLOW OFF VALVE

STANDARD DETAILS

DWG. NO. **205**

DATE: APRIL 2025



NOTES

1. ANCHORING TYPE 90 DEG. BEND SHALL ONLY BE USED WHERE ROW CONSTRICTIONS WILL NOT ALLOW INSTALLATION OF A STRAIGHT ASSEMBLY.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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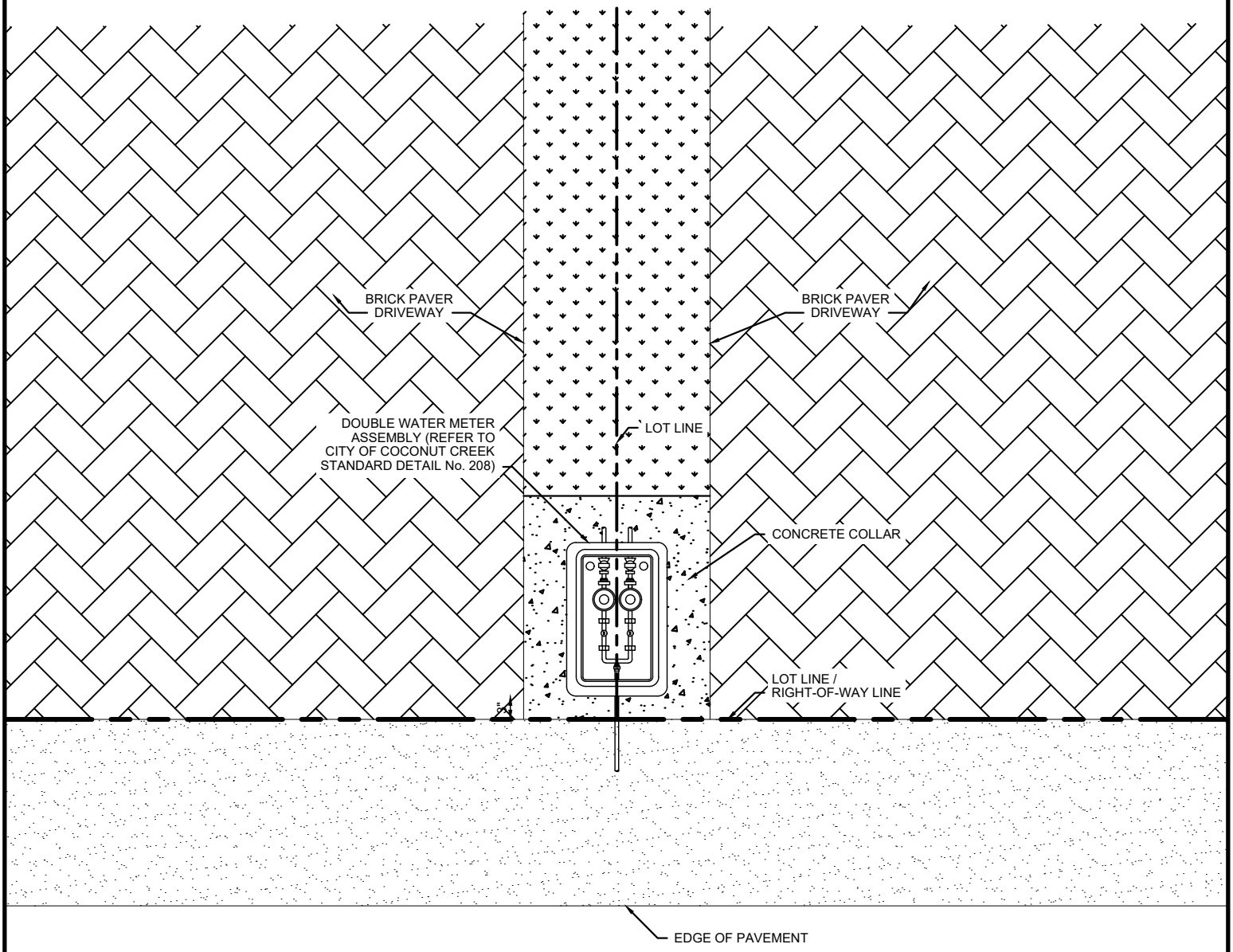
LOCATION - WATER SERVICE

STANDARD DETAILS

DWG. NO. **206**

DATE: APRIL 2025



N.T.S

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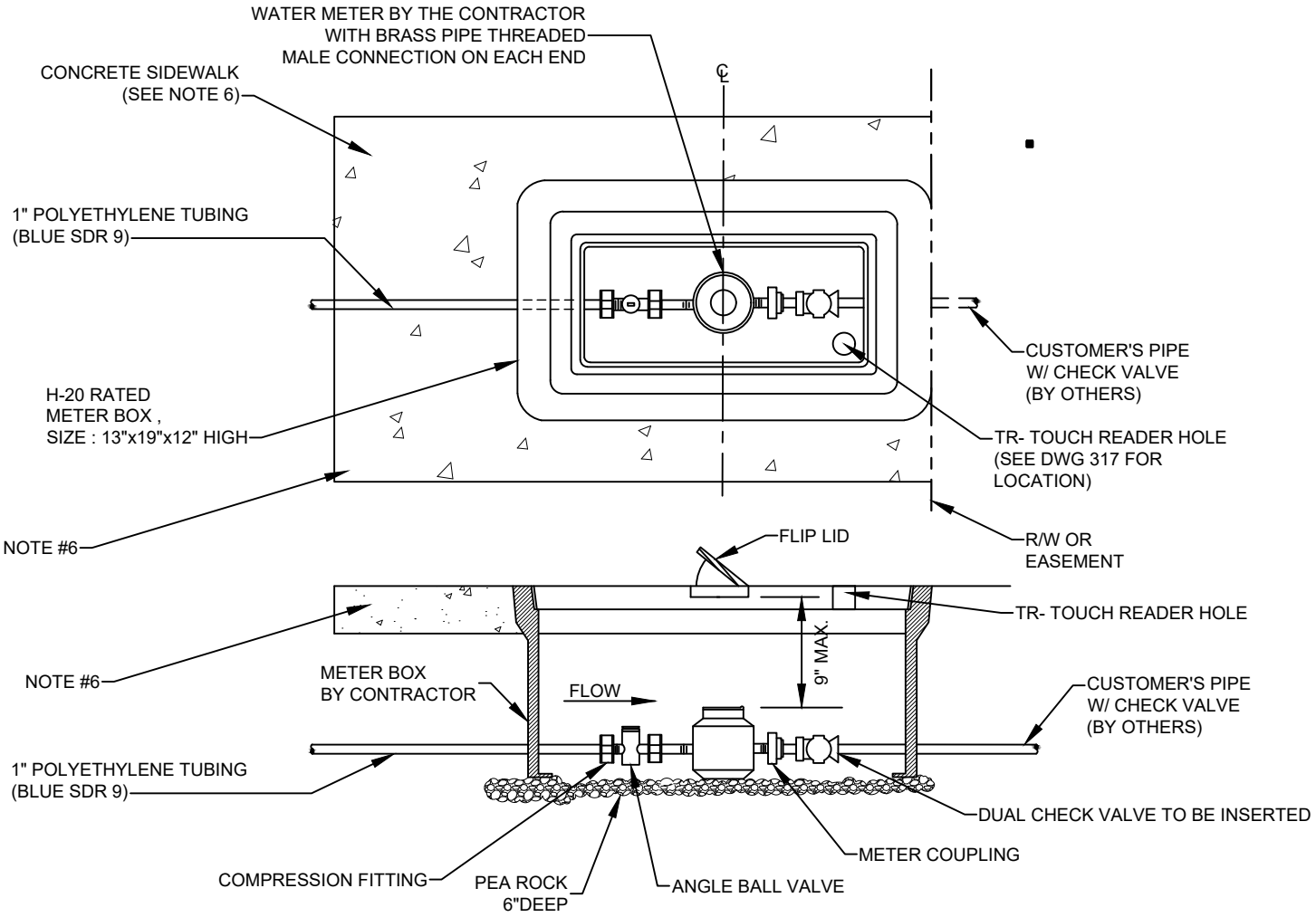
LOCATION - DOUBLE WATER METER

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	206A



NOTES:

1. ALL METER BOXES TO BE TRAFFIC BEARING TYPE, FURNISHED AND INSTALLED BY THE CONTRACTOR.
2. R/W LINE OR EASEMENT LINE IS THE CUSTOMER'S SIDE OF METER BOX.
3. THE CITY RESPONSIBILITY ENDS AT THE CUSTOMER'S SIDE OF METER.
4. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO THE METER BOX AS PRACTICAL,WITH A MINIMUM RADIUS OF 14" FOR 1" TUBING.
5. METER HAS IRON PIPE THREAD MALE CONNECTION ON EACH END.
6. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL BE PARALLEL WITH THE BACK EDGE OF THE SIDEWALK.
7. METER SHALL BE CENTERED IN THE BOX DIRECTLY UNDER THE ACCESS LID.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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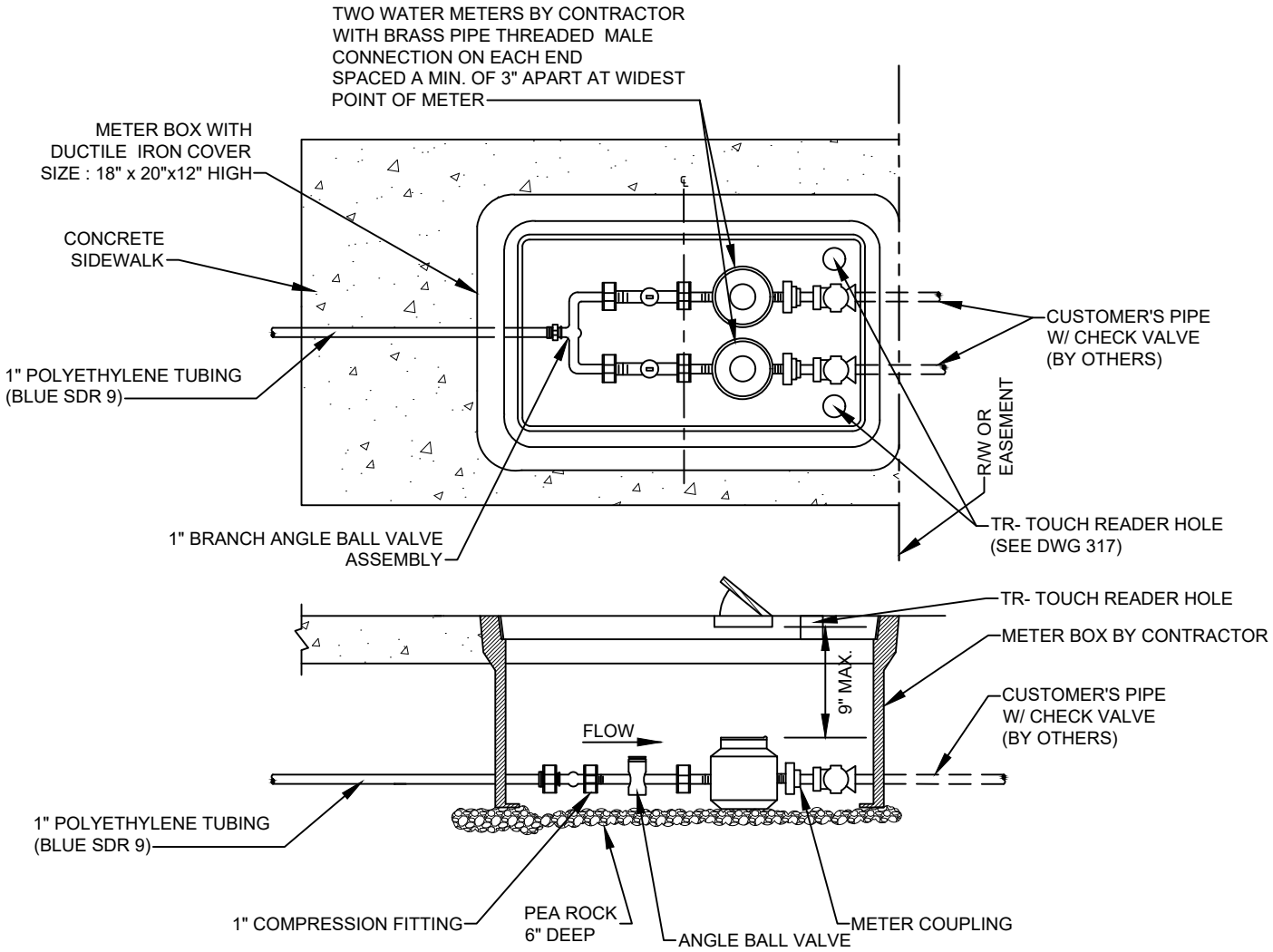
INSTALLATION FOR 5/8" X 3/4" & 1" WATER METER

STANDARD DETAILS

DWG. NO. **207**

DATE: APRIL 2025



NOTES:

1. ALL METER BOXES TO BE TRAFFIC BEARING H-20 TYPE, FURNISHED AND INSTALLED BY THE CONTRACTOR.
2. R/W LINE OR EASEMENT LINE IS THE CUSTOMER'S SIDE OF METER BOX.
3. THE CITY RESPONSIBILITY ENDS AT THE CUSTOMER'S SIDE OF METER.
4. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL,WITH A MINIMUM RADIUS OF 14" FOR 1" TUBING.
5. METER HAS CONNECTION ON EACH END.
6. WHEN SIDEWALKS ARE PRESENT, OR PLANNED FOR IN THE R/W, THE BACK EDGE OF THE METER BOX SHALL BE PARALLEL WITH THE BACK EDGE OF THE SIDEWALK.
7. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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TEL NO: 954-973-6786
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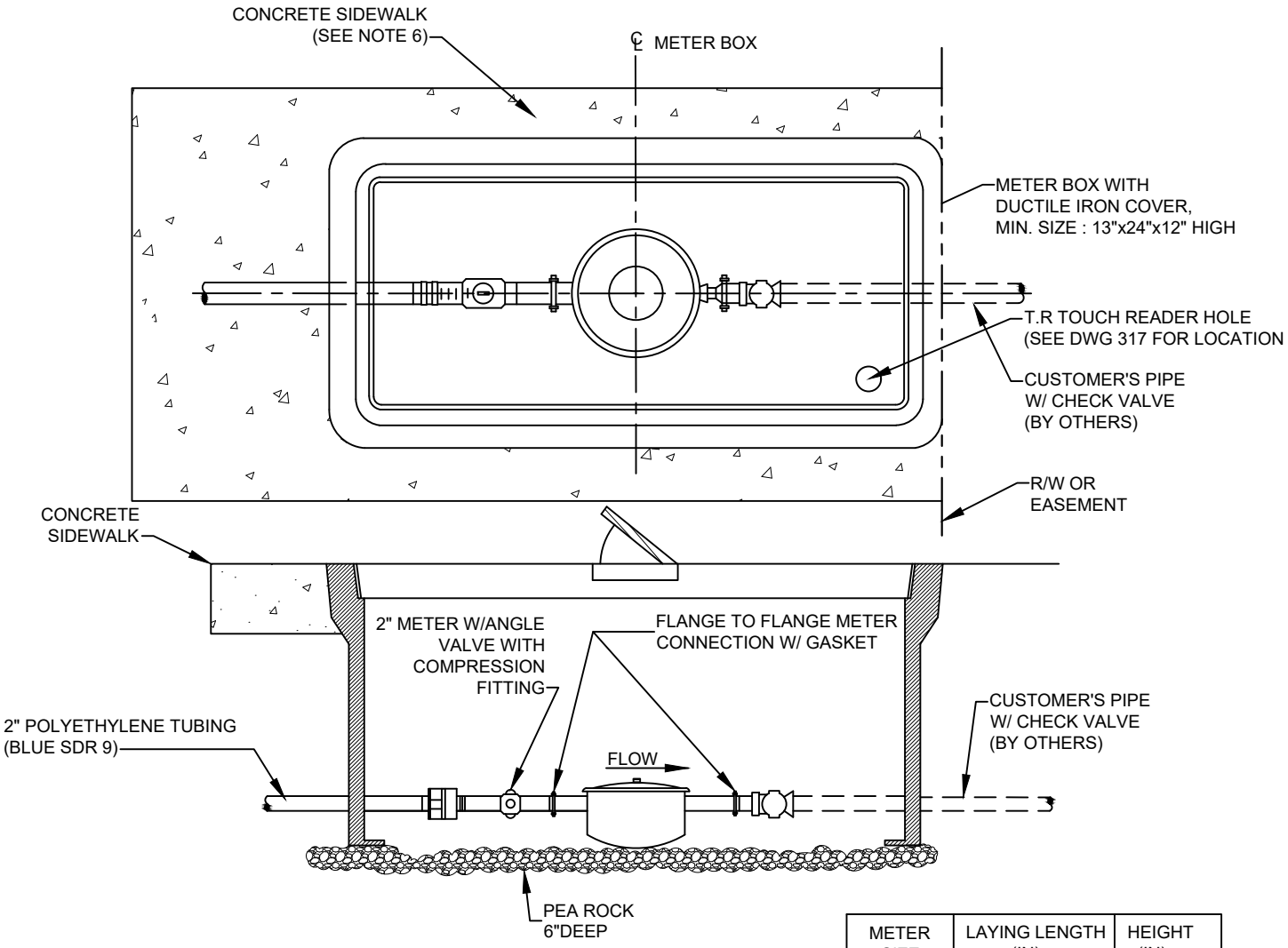
INSTALLATION FOR 5/8" X 3/4" & 1" DOUBLE WATER METERS ASSEMBLY

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	208



METER SIZE	LAYING LENGTH (IN)	HEIGHT (IN)
1 ½"	13.5	6 7/8"
2"	17.5	7 17/32"

NOTES:

1. ALL METER BOXES TO BE TRAFFIC BEARING TYPE.
2. R/W LINE OR EASEMENT LINE IS THE CUSTOMER'S SIDE OF METER BOX.
3. THE CITY RESPONSIBILITY ENDS AT THE CUSTOMER'S SIDE OF METER.
4. CURVE IN SERVICE LINE SHALL BE AS CLOSE TO METER BOX AS PRACTICAL,WITH A MINIMUM RADIUS WHICH SHALL BE 21" FOR 2" TUBING.
5. ALL METERS WILL BE SUPPLIED AND INSTALLED BY THE CITY WATER DIVISION. METER HAS BRASS PIPE GASKET CONNECTION ON EACH END.
6. 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.
7. METER SHALL BE CENTERED IN BOX DIRECTLY UNDER THE ACCESS LID.
8. WHEN THERE ARE NO SIDEWALKS, CONSTRUCT 6" WIDE x 6" THICK CONCRETE COLLAR AT GRADE.

N.T.S

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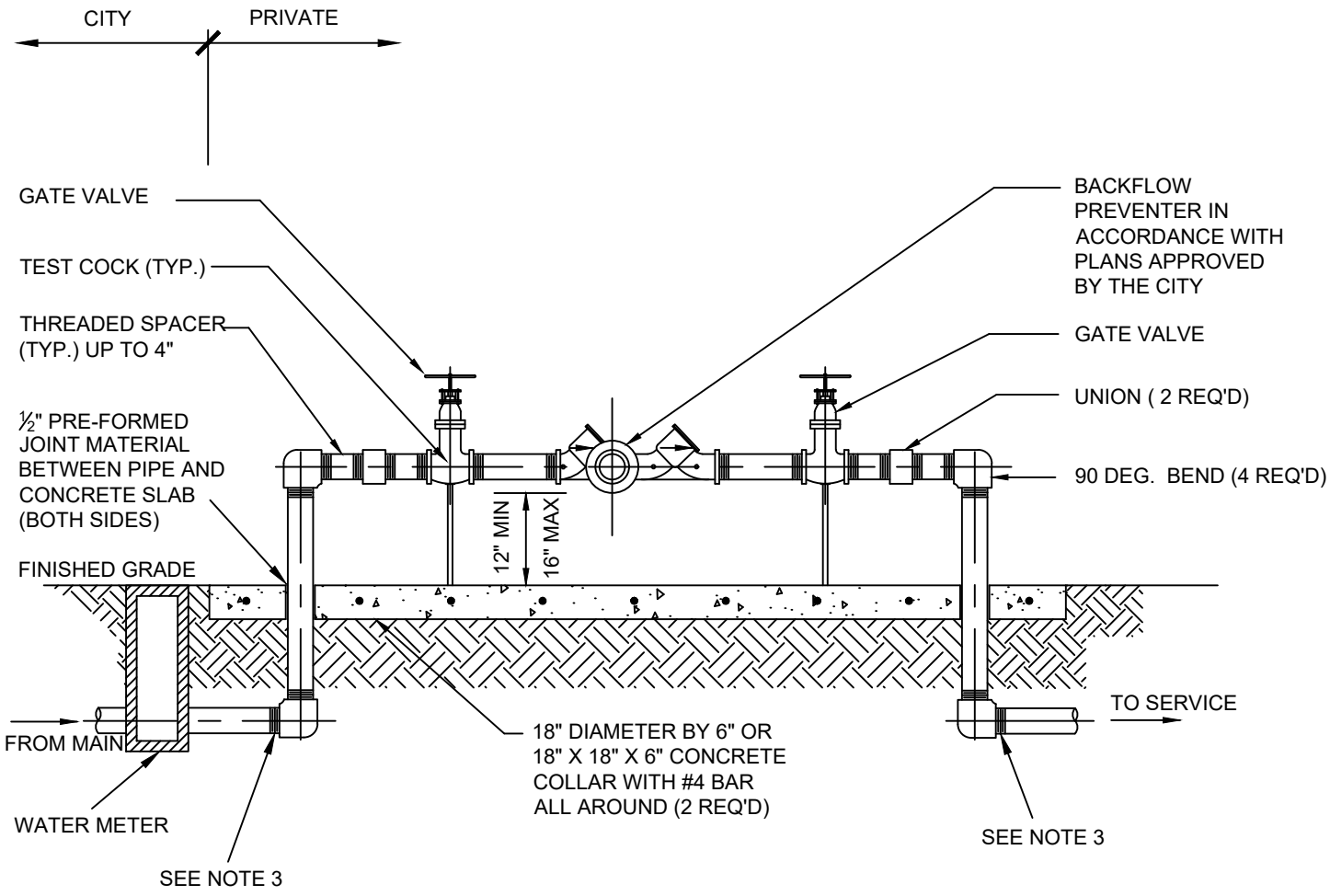
INSTALLATION FOR 1½" & 2" WATER METERS

STANDARD DETAILS

DWG. NO. **209**

DATE: APRIL 2025



NOTES

1. ALL PIPE AND FITTINGS 4" AND SMALLER SHALL BE THREADED BRASS, AS SHOWN.
2. ALL PIPE FITTINGS LARGER THAN 4" SHALL BE CEMENT-LINED DUCTILE IRON WITH FLANGED FITTINGS FOR ABOVE GROUND USE. MECHANICAL JOINT FITTINGS SHALL BE USED UNDERGROUND WITH RESTRAINED JOINTS AND THRUST COLLARS.
3. M.J. RESTRAINT ON ALL UNDERGROUND DUCTILE IRON PIPING (4" AND LARGER) SHALL BE USED.
4. PAINT ALL ABOVEGROUND DUCTILE PIPING, FITTINGS AND VALVES WITH TRUE BLUE/SAFETY (11SF) BY TNEMEC CORP.

N.T.S

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REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	210

GENERAL BACKFLOW NOTES

1. THE TYPE OF BACKFLOW PREVENTION ASSEMBLY TO BE INSTALLED AT ANY GIVEN LOCATION WILL BE DETERMINED AT THE BUILDING PLAN REVIEW, IN ACCORDANCE WITH THE GUIDELINES OF AMERICAN WATER WORKS ASSOCIATION. INSTALLATION OF BACKFLOW PREVENTION ASSEMBLIES ON THE NEW CONSTRUCTION SHALL BE ACCOMPLISHED AT TIME OF METER INSTALLATION.

2. ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED ON THE HOUSE SIDE OF AND IMMEDIATELY AFTER THE WATER METER, VARIANCES TO THIS RULE WILL BE GRANTED ONLY BY THE CITY ENGINEER OR THEIR DESIGNATED REPRESENTATIVE.

3. ON THE SERVICE LINE THERE SHALL BE NO OUTLET, TEE, TAP, OR CONNECTION OF ANY SORT TO OR FROM THE SUPPLY PIPE LINE BETWEEN THE METER AND THE PROTECTIVE ASSEMBLY.

4. ALL REDUCED PRESSURE ASSEMBLIES SHALL CONFORM TO AWWA STANDARD C511, LATEST REVISION.

5. DETECTOR REDUCED PRESSURE ZONE (RPZ) ASSEMBLIES SHALL CONFORM TO AWWA STANDARD 1048, LATEST REVISION.

6. PRESSURE VACUUM BREAKER ASSEMBLIES SHALL CONFORM TO ASSE STANDARD 1020, LATEST REVISION.

7. DUAL CHECK VALVE ASSEMBLIES SHALL CONFORM TO ASSE STANDARD 1024, LATEST REVISION.

8. DUAL CHECK VALVE ASSEMBLIES SHALL BE INSTALLED IN THE METER BOX ON THE DOWNSTREAM SIDE OF ALL ⅝" X ¾" AND 1" METERS FOR NEW SINGLE FAMILY SERVICES. ALL BACKFLOW PREVENTER ASSEMBLIES SHALL BE INSTALLED BY OWNER'S PLUMBER WHO MUST HAVE A CITY OF COCONUT CREEK BUILDING DEPARTMENT PERMIT AND CERTIFICATION.

9. ALL PERMANENT INSTALLATIONS, OTHER THAN THE DUAL CHECK VALVE SHALL HAVE A MINIMUM OF 12" VERTICAL CLEARANCE ON THE TESTING SIDE OF THE ASSEMBLY, AND 12" ON THE OPPOSITE SIDE, FROM ANY WALL OR STRUCTURE, TO FACILITATE TESTING, MAINTENANCE, OR REMOVAL.

10. NO TREES, SHRUBS, BUSHES, ETC., SHALL BE PLANTED WITHIN 3' OF ANY BACKFLOW PREVENTION ASSEMBLY. BRANCHES OR LIMBS OF NEARBY PLANTINGS WILL NOT BE ALLOWED TO GROW WITHIN THREE (3) FEET OF ANY BACKFLOW PREVENTION ASSEMBLY.

11. DIMENSIONS AND WEIGHTS OF VARIOUS ASSEMBLIES CAN BE OBTAINED FROM MANUFACTURE'S SPECIFICATIONS.

12. WHERE MORE THAN ONE METER IS REQUIRED FOR SERVICE, A BACKFLOW PREVENTION ASSEMBLY SHALL BE REQUIRED FOR EACH METER.

13. INSTALLATION SHALL BE IN ACCORDANCE WITH FLORIDA BUILDING CODE'S LATEST EDITION, MANUFACTURER'S RECOMMENDED INSTALLATION INSTRUCTIONS AND/OR CITY OF COCONUT CREEK MINIMUM STANDARDS

14. ALL REDUCED PRESSURE AND DOUBLE CHECK VALVE BACKFLOW PREVENTION ASSEMBLIES SHALL BE SUPPORTED AND SECURED PROPERLY ACCORDING TO FLORIDA BUILDING CODE AND MANUFACTURES STANDARDS.

15. 4" STEEL GUARD POSTS FILLED WITH CONCRETE ARE REQUIRED WHEN AN ASSEMBLY IS WITHIN 5' OF ANY PAVED SURFACE. MULTIPLE POSTS ARE TO BE SPACED NO MORE THAN 5' APART.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

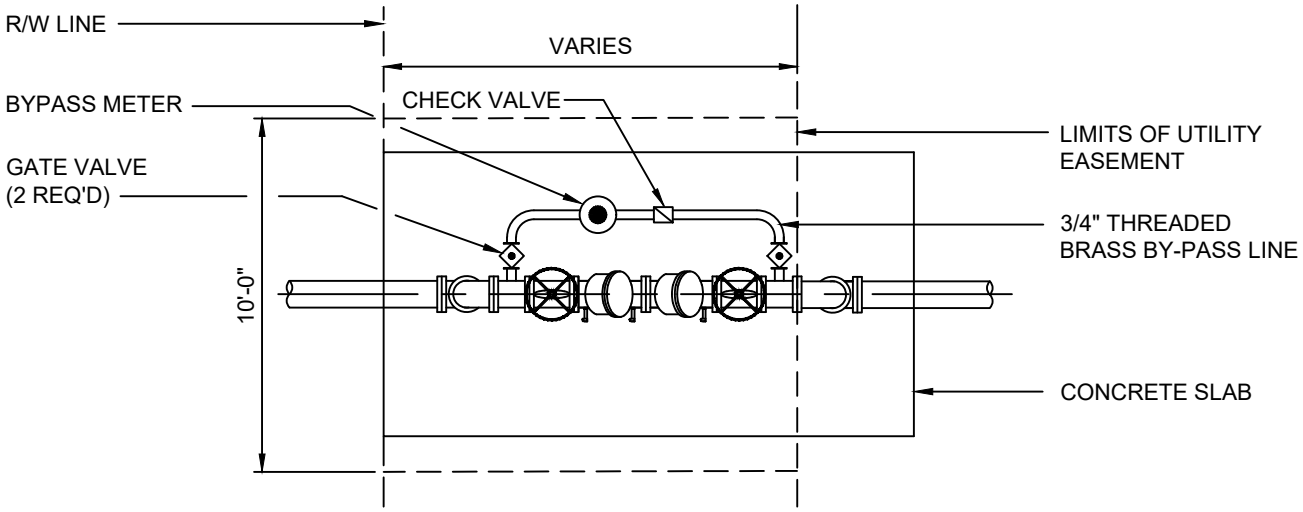
TEL NO: 954-973-6786
FAX NO: 954-571-4146
www.coconutcreek.net

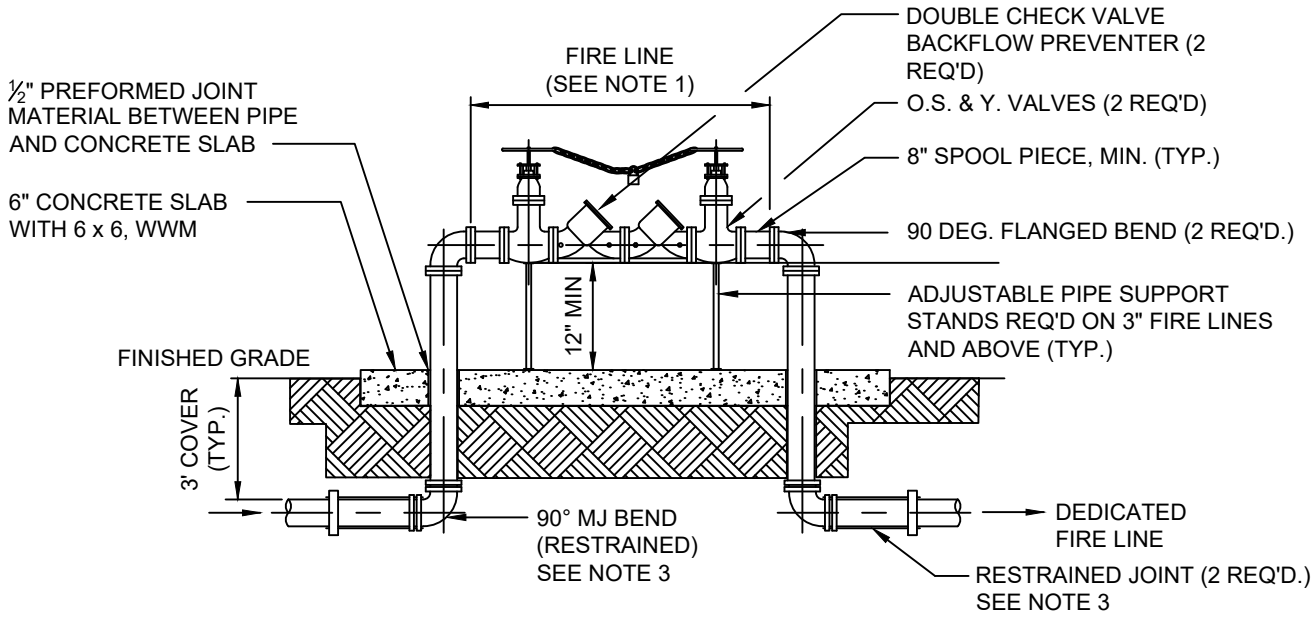
GENERAL BACKFLOW NOTES

STANDARD DETAILS

DWG. NO. **211**

DATE: APRIL 2025





NOTES

1. ALL PIPE AND FITTINGS 2" AND SMALLER SHALL BE THREADED BRASS.
2. ALL PIPE FITTINGS 3" DIA. AND LARGER SHALL BE CEMENT-LINED DUCTILE IRON WITH FLANGED FITTINGS. FOR ABOVEGROUND USE. MECHANICAL JOINT FITTINGS SHALL BE USED UNDERGROUND.
3. MEG-A-LUGS, OR EQUAL, CAN BE USED IN PLACE OF RESTRAINED JOINTS ON ALL UNDERGROUND PIPING.
4. PRIME AND PAINT ALL ABOVEGROUND DUCTILE PIPING, FITTINGS AND VALVES RED.
5. BY-PASS METER SHALL BE ⅝" X ¾"

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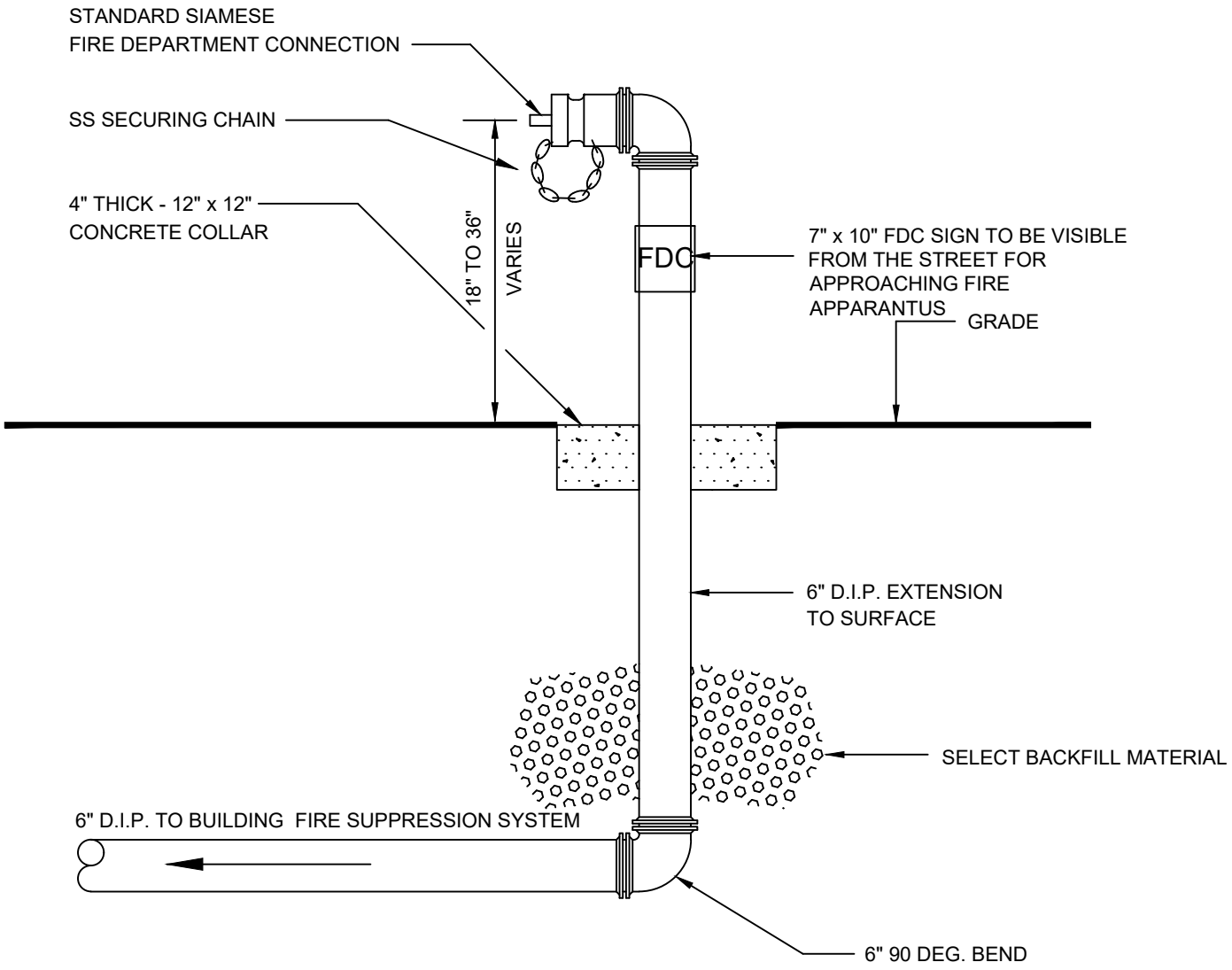
FIRE LINE DOUBLE DETECTOR CHECK VALVE ASSEMBLY

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	212



SIAMESE CONNECTION

NOTES:

1. ALL PIPE JOINTS IN THIS VIEW SHALL BE RESTRAINED OR THREADED FITTINGS
2. A SIGN READING "FDC" IN 4" HIGH LETTERS IS TO BE INSTALLED FACING THE APPROACH OF FIRE DEPARTMENT APPARATUS. (SEE ABOVE). SIGNS SHALL HAVE A REFLECTIVE RED BACKGROUND WITH REFLECTIVE WHITE LETTERING

N.T.S

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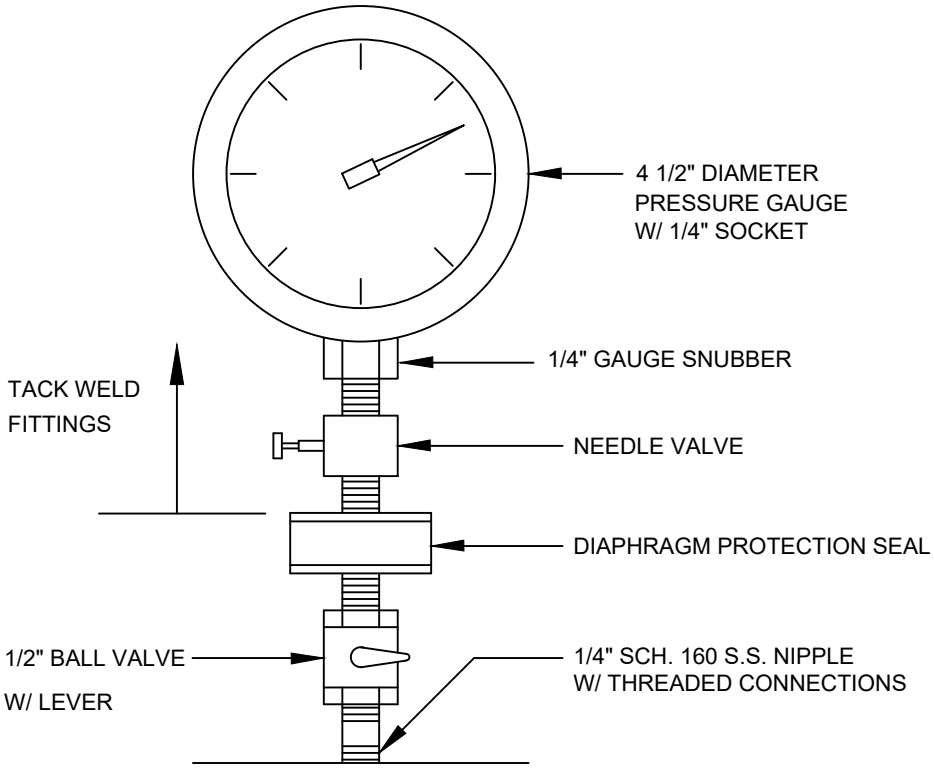
SIAMESE CONNECTION

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **213**



NOTE: USE AT THE JUMPER ASSEMBLY AND/OR THE END OF THE RUN BEING TESTED

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TYPICAL GAUGE

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **214**

ALLOWABLE LEAKAGE (GAL/HR) FOR 1000FT. OF GASKETED PVC OR DIP PIPE AT 150 PSI

PIPE DIA. (INCHES)	2	3	4	6	8	10	12	14	16	18	20	24
ALLOWABLE LEAKAGE (GAL/HR)	0.17	0.25	0.33	0.50	0.66	0.83	0.99	1.16	1.32	1.49	1.66	1.99

NOTES:

TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9.

THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS,AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.

MAXIMUM TEST LENGTH = 2,000 FEET PER SECTION.

THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600. HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED THE RECOMMENDED LIMIT PER APPLICABLE AWWA C-600 STANDARD.

STANDARD TEST PRESSURE = 150 P.S.I.

$$L = \frac{(S) \times (D) \times (P)^{1/2}}{148{,}000}$$

L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
S = LENGTH OF PIPE TESTED (FEET)
D = DIAMETER OF PIPE (INCHES)
P = TEST PRESSURE (P.S.I.)

PRESSURE TEST DURATION TO BE MIN. 2 HOURS.

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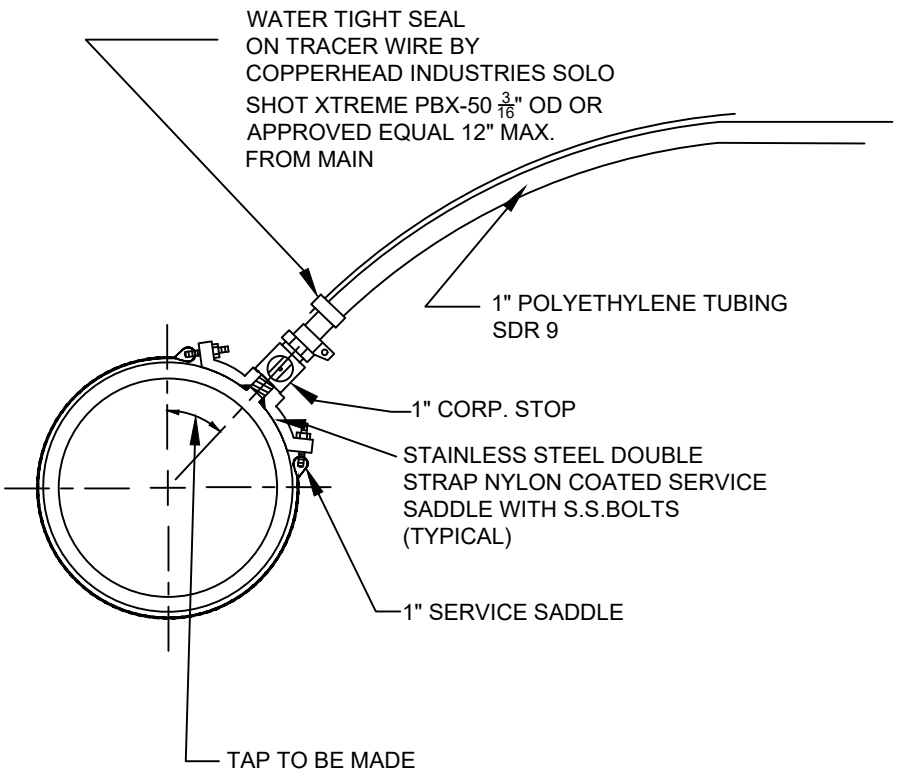
POTABLE WATER PRESSURE TEST CRITERIA

STANDARD DETAILS

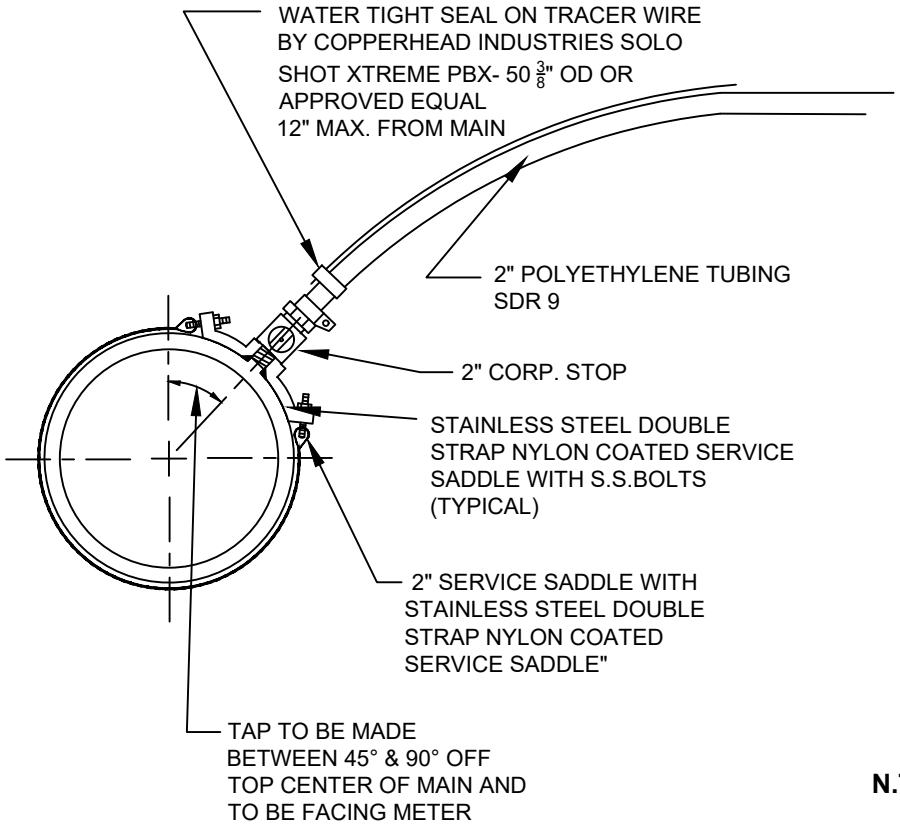
DWG. NO. **215**

DATE: APRIL 2025



NOTES:

1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED MATERIAL SPECIFICATION OF THE CITY OF COCONUT CREEK.
2. CORPORATION STOPS SHALL BE COMPATIBLE WITH POLYETHYLENE TUBING SDR 9 (C.T.S.) H.D.P.E. TUBING.



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1" & 2" SADDLE TAP

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	216

RECLAIMED WATER DETAILS

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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COCONUT CREEK, FL 33073

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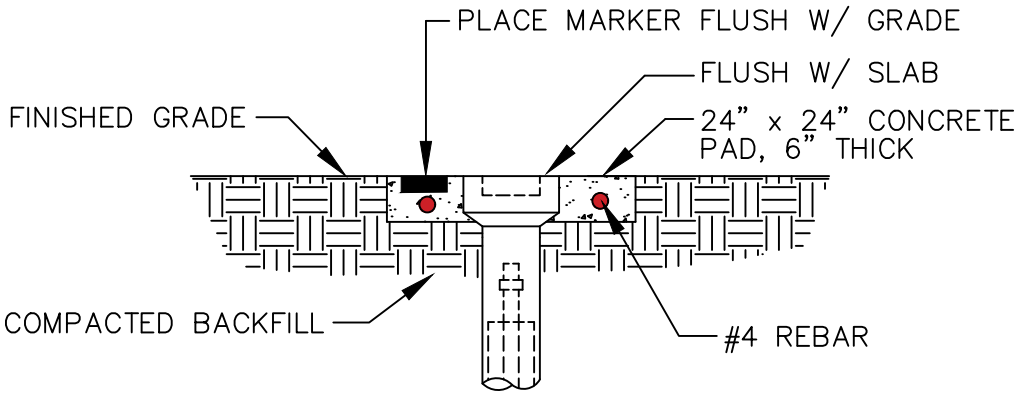
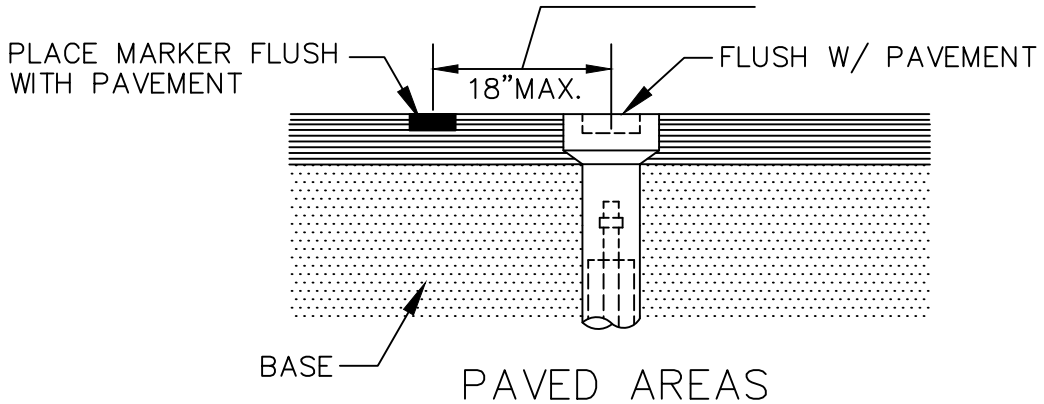
RECLAIMED WATER

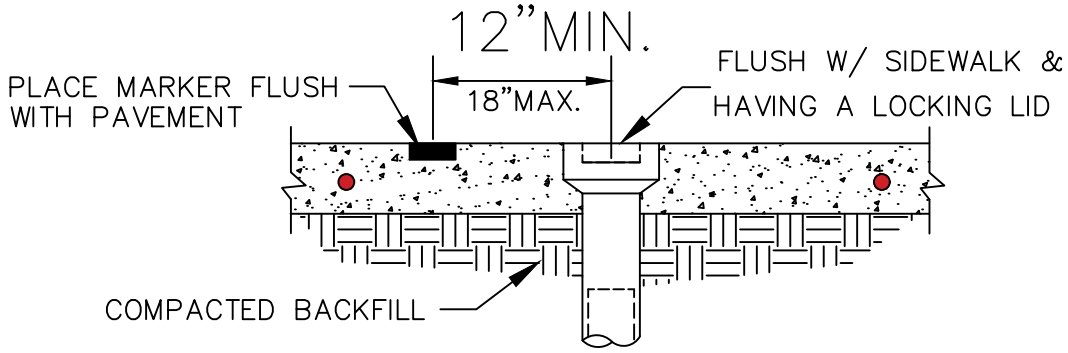
STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	300



UNPAVED AREAS



PAVED AREAS



ON SIDEWALKS

NOTE: ALL LIDS MUST SAY "REUSE WATER" AND BE PAINTED IN PANTONE PURPLE

VALVE BOX SETTINGS

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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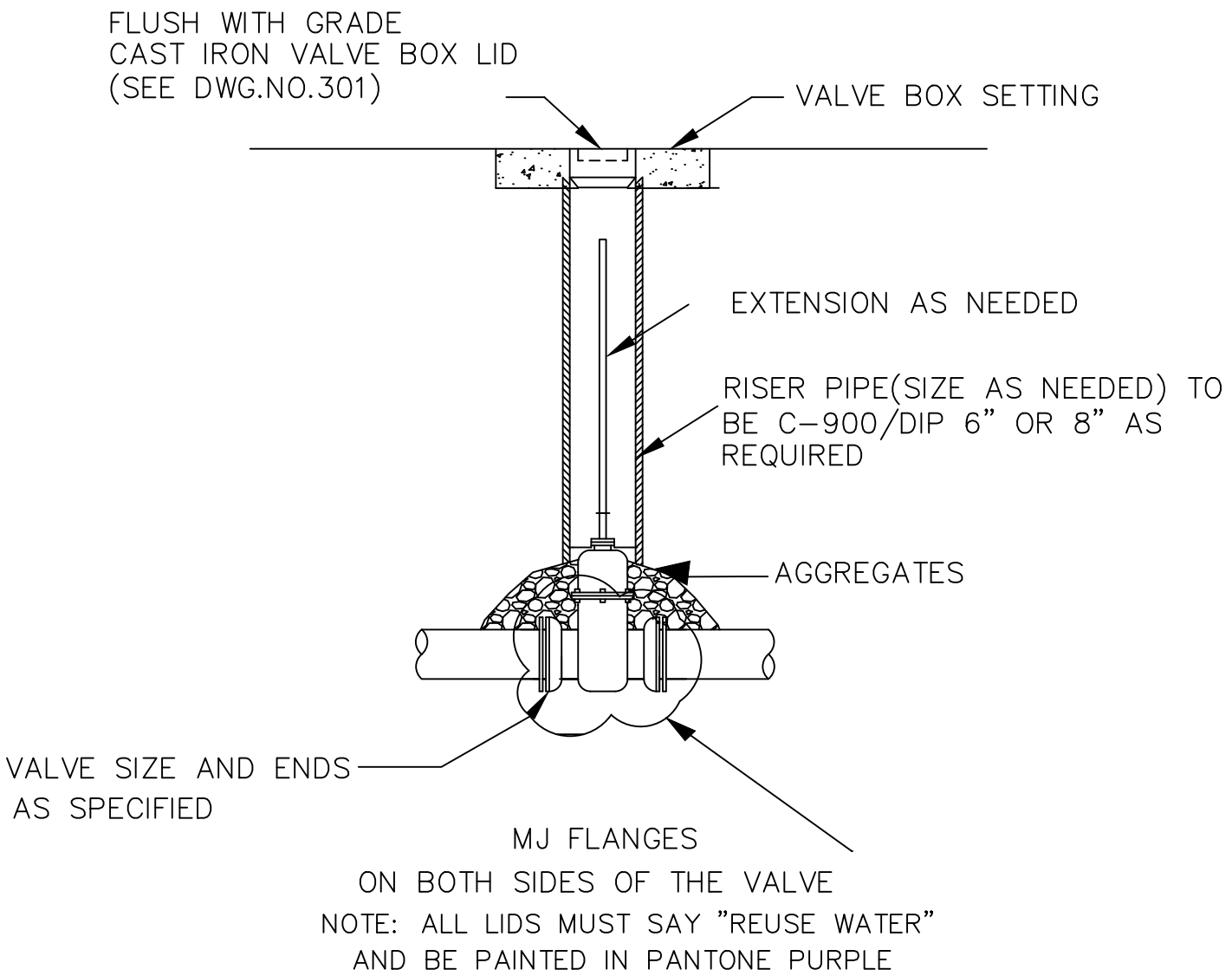
VALVE BOX SETTINGS

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	301



VALVE BOX SETTING FOR GATE

(WITHOUT GEAR OPERATION)

USE MEGALUGS AT ALL PIPE JOINTS

N.T.S

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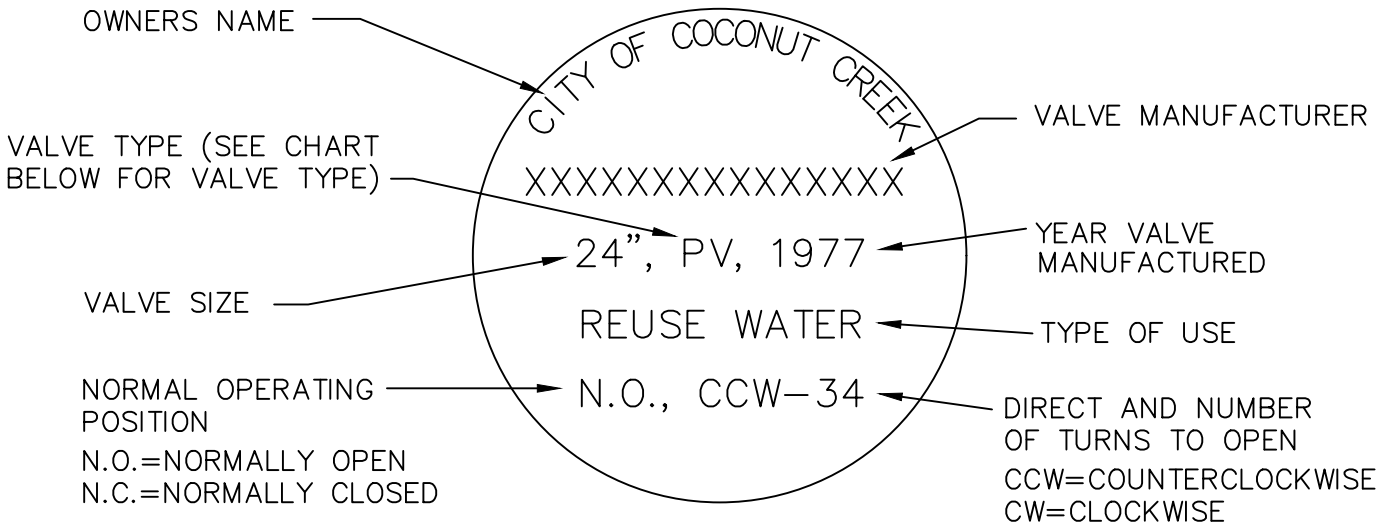
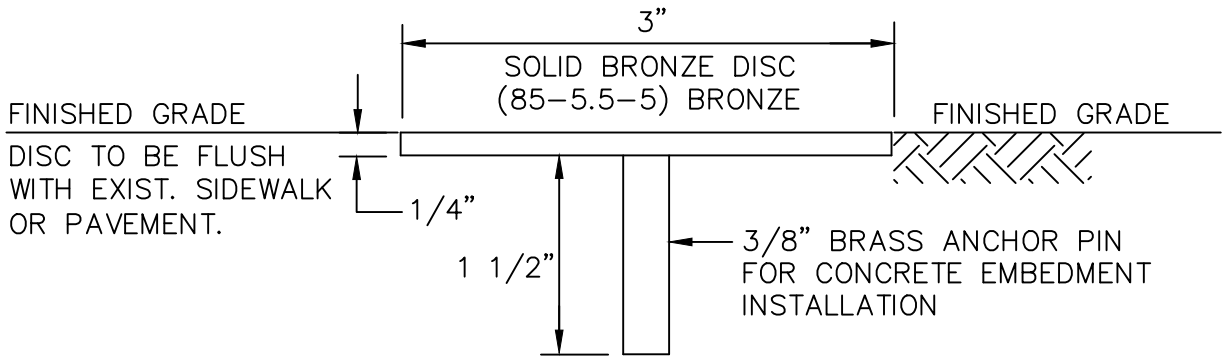
VALVE BOX SETTING FOR GATE (WITHOUT GEAR OPERATION)

STANDARD DETAILS	DWG. NO. **302**
DATE: APRIL 2025	





VALVE TYPES

BALL VALVE--BALLV
RESILIENT SEAT GATE VALVE--RSGV
RESILIENT WEDGE GATE VALVE--RWGV
BUTTERFLY VALVE--BV
PLUG VALVE--PV

NOTES:

1. VALVE INFORMATION TO BE ENGRAVED INTO TOP SURFACE WITH 1/4" CAPITAL LETTERS DOUBLE STAMPED.
2. ENTIRE MARKER TO BE COATED WITH CLEAR EPOXY TO PREVENT TARNISHING,
3. VALVE INFORMATION TO BE APPROVED BY CITY OF COCONUT CREEK UTILITIES DEPARTMENT.
4. MARKERS SHALL BE MANUFACTURED BY RG WRENCH OR APPROVED EQUAL.

UNDERGROUND VALVE IDENTIFICATION MARKER

N.T.S

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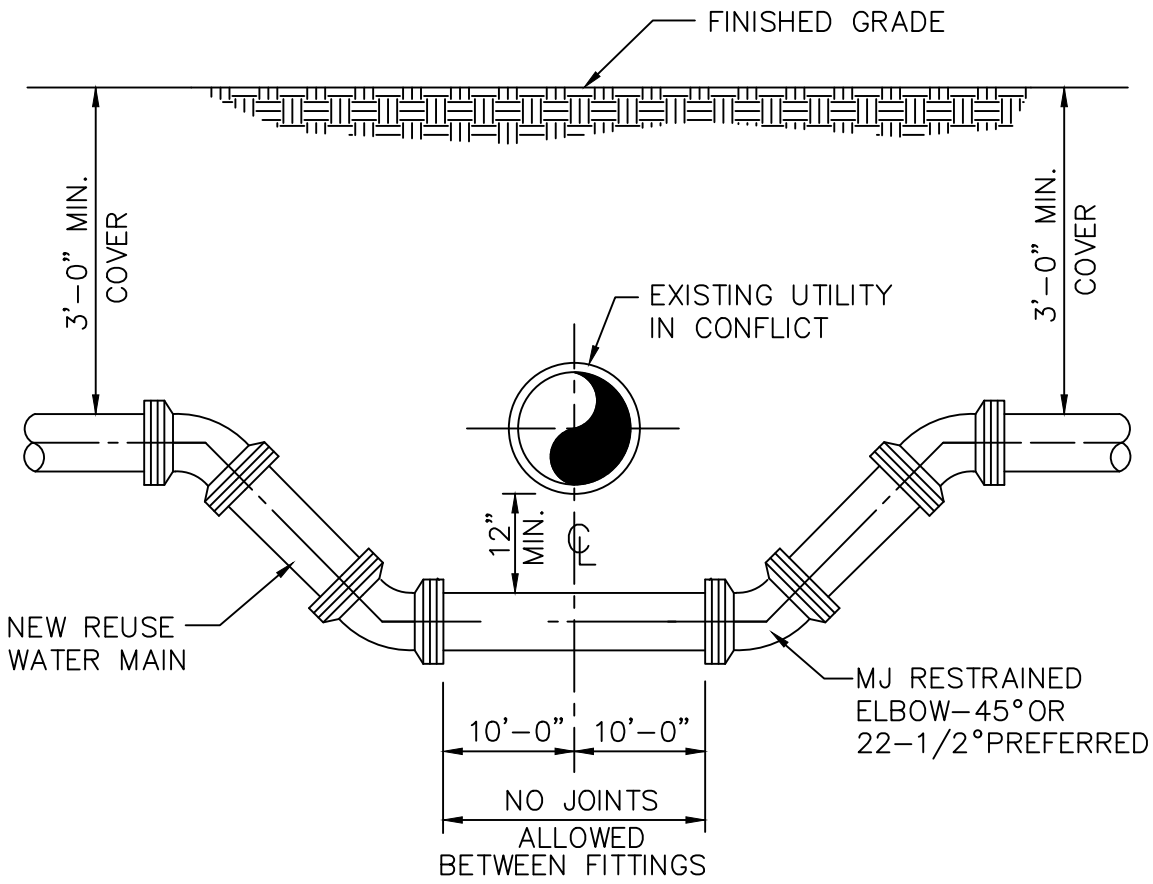
UNDERGROUND VALVE IDENTIFICATION MARKER

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	303



NOTES:

WHERE CONDITIONS PERMIT, PIPE DEFLECTION MAY BE USED INSTEAD OF BENDS TO OBTAIN THE MINIMUM CLEARANCE. FACTORY OFFSETS MAY BE USED ON 6" OR SMALLER MAINS AND LARGER MAINS ALSO.

TYPICAL UTILITY CONFLICT

REFERENCE: DWG No.'S 104 AND 105

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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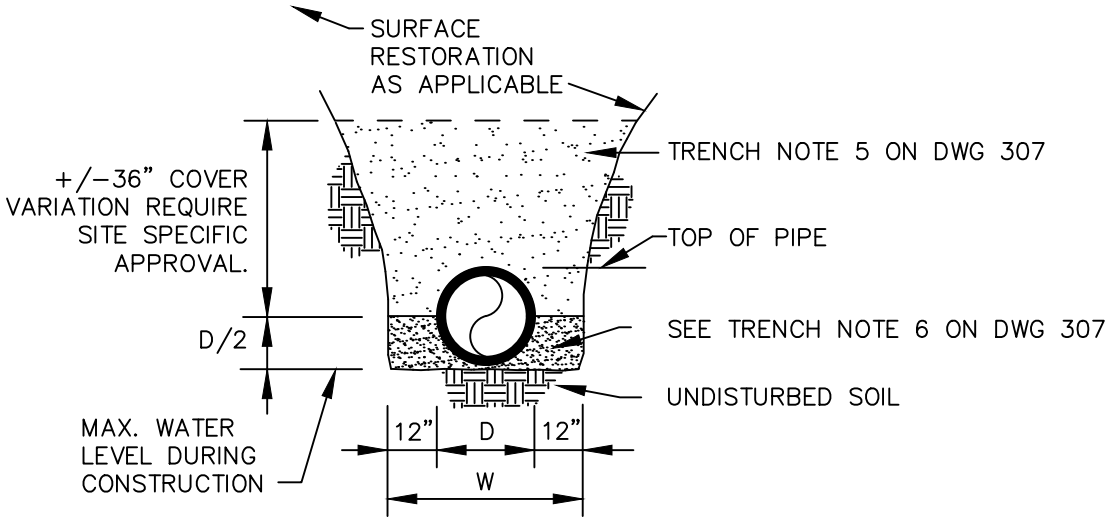
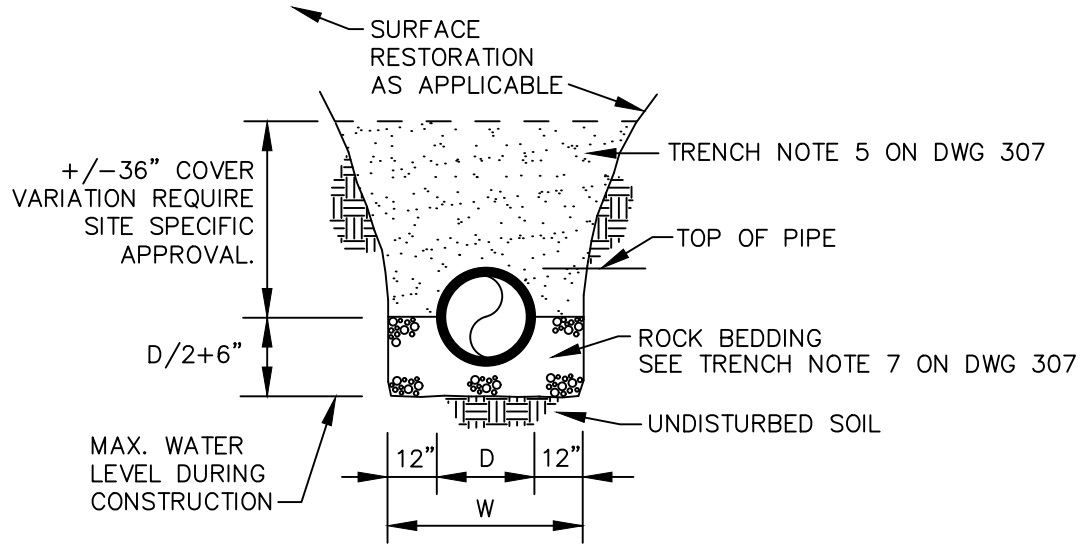
TYPICAL UTILITY CONFLICT

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	304



TRENCH BACKFILL / BEDDING
CLASS "A"



TRENCH BACKFILL / BEDDING
CLASS "B"

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

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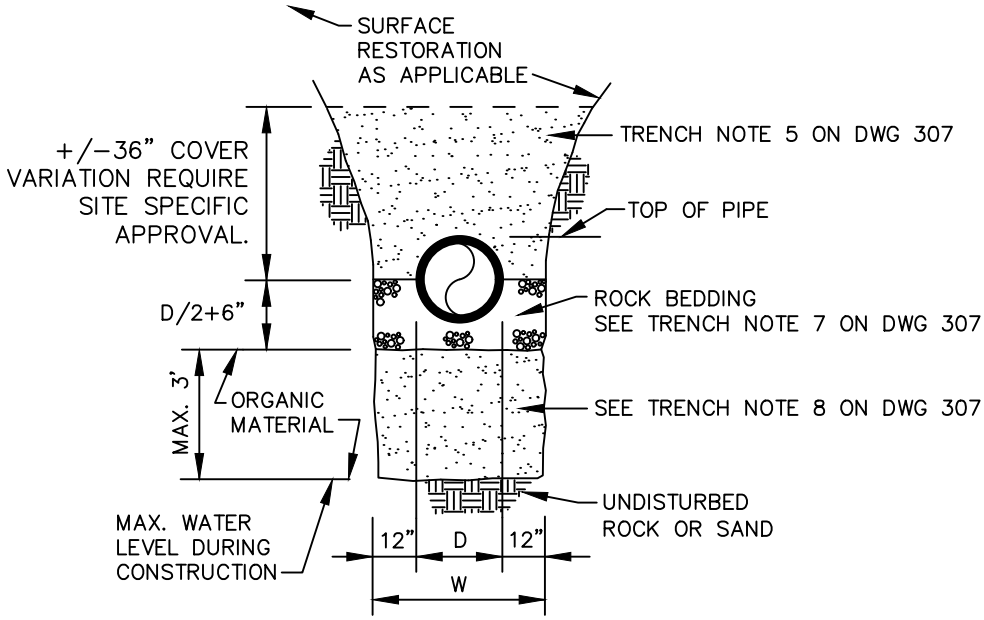
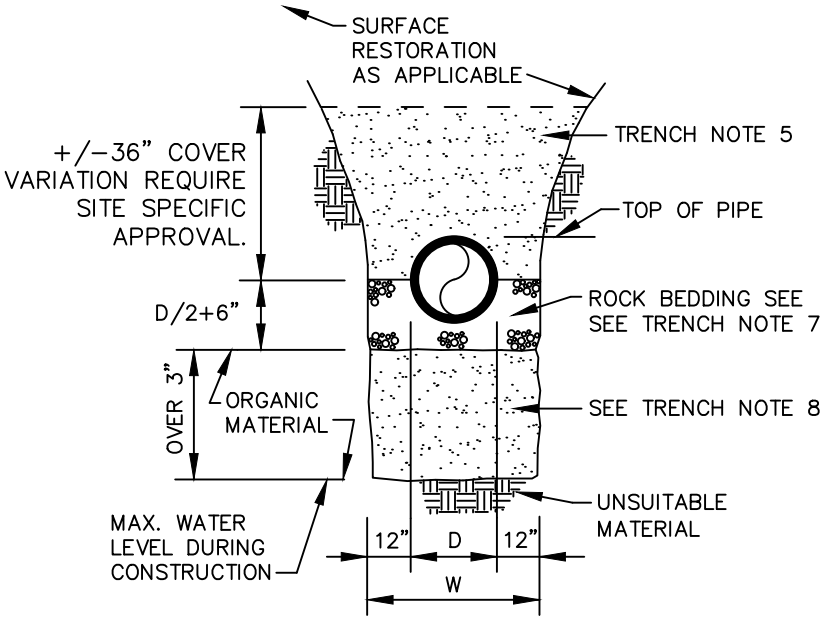
TRENCH BACKFILL / BEDDING

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	305



TRENCH BACKFILL / BEDDING CLASS "C"



TRENCH BACKFILL / BEDDING CLASS "D"

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TRENCH BACKFILL / BEDDING CLASS C,D

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	306

TRENCH BACKFILL / BEDDING NOTES

1. OUTLINE OF TRENCH EXCAVATION IS FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL TRENCH WIDTH AND SHAPE WILL VARY WITH SOIL CONDITIONS. TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH THE "FLORIDA TRENCH SAFETY ACT" AND OSHA TRENCH SAFETY STANDARDS.

2. TYPICAL TRENCH BACKFILL/BEDDING FOR REUSE WATER MAIN AND FORCE MAIN INSTALLATIONS SHALL BE CLASS "A" AS SHOWN IN DETAIL.

3. TYPICAL TRENCH BACKFILL/BEDDING FOR REUSE WATER MAIN AND GRAVITY SEWER INSTALLATION SHALL BE CLASS "B" AS SHOWN IN DETAIL.

4. TRENCH BACKFILL/BEDDING CLASS "C" AND CLASS "D" SHALL BE USED FOR PIPE INSTALLATIONS WHERE UNSUITABLE TRENCH MATERIALS ARE ENCOUNTERED.

5. TRENCH ZONE BACKFILL SHALL BE MATERIAL TYPE 1 OR TYPES A THRU H, OR ANY MIXTURE THEREOF, WHERE SURFACE RESTORATION TYPE "1" IS APPLICABLE, TRENCH ZONE BACKFILL SHALL BE PLACED IN 12" LIFTS, COMPACTED TO 90% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-697 (AASHTO T-99). WHERE SURFACE RESTORATION TYPES "2", "3" AND "4" ARE APPLICABLE, TRENCH BACKFILL SHALL BE PLACED IN 8" LIFTS COMPACTED TO 98% OF THE MATERIAL'S DENSITY AS DETERMINED BY ASTM D-698 (AASHTO T-99).

6. BEDDING MATERIAL FOR TYPICAL REUSE WATER MAIN INSTALLATION SHALL BE TYPE C. BEDDING SHALL BE COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 (AASHTO T-180).

7. BEDDING MATERIAL FOR TYPICAL REUSE WATER MAIN AND GRAVITY SEWER INSTALLATION AND ANY INSTALLATION WHERE UNSUITABLE TRENCH BOTTOM CONDITIONS ARE FOUND SHALL BE TYPE E. BEDDING SHALL BE PLACED IN LIFTS NOT TO EXCEED 6" AND COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 (AASHTO T-180).

8. UNSUITABLE MATERIAL SHALL BE REMOVED AND REPLACED WITH UNDISTURBED ROCK OR SAND OR TO DEPTH AS SPECIFIED BY ENGINEER. BACKFILL MATERIAL SHALL BE TYPE C. BACKFILL SHALL BE PLACED IN 8" LIFTS COMPACTED TO 95% OF THE MATERIAL'S MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557 AASHTO T-180).

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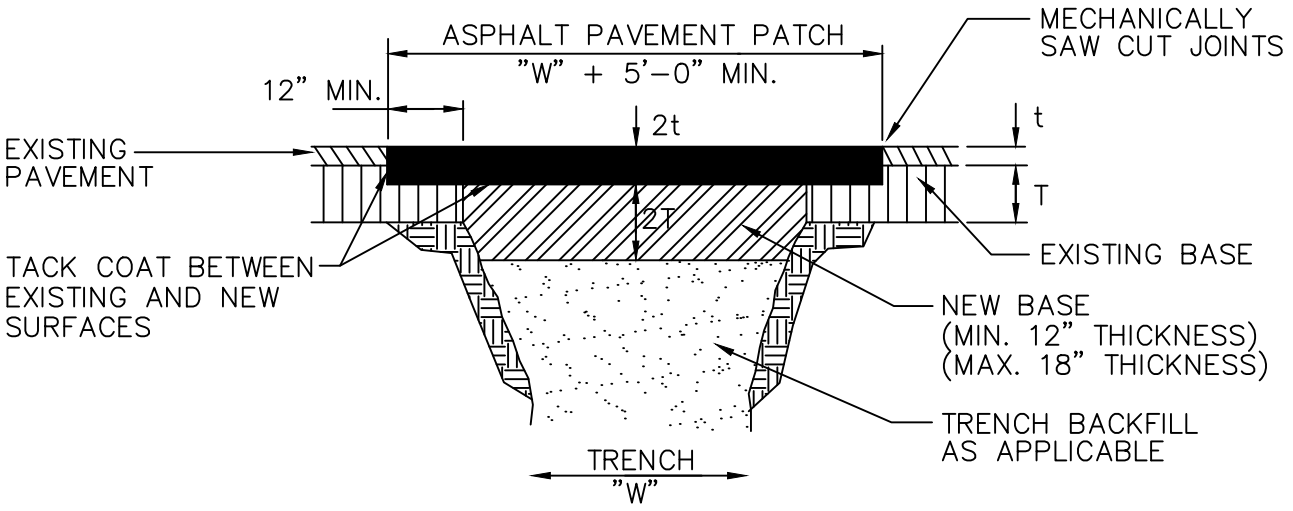
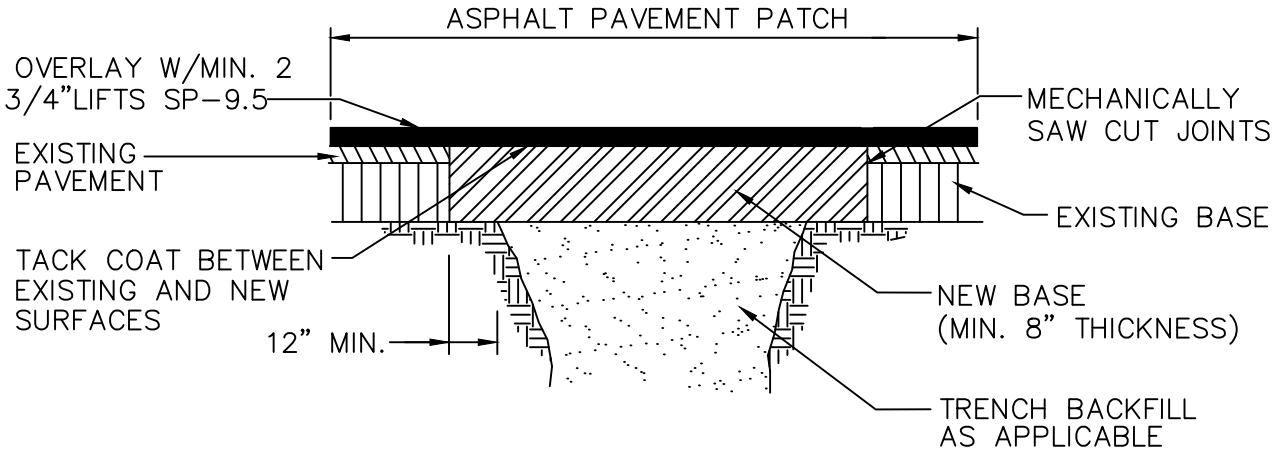
TRENCH BACKFILL / BEDDING NOTES

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	307



PERPENDICULAR ROAD CROSSINGS



STANDARD PARALLEL ROAD RESTORATION

SURFACE RESTORATION

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

TEL NO: 954-973-6786
FAX NO: 954-571-4146
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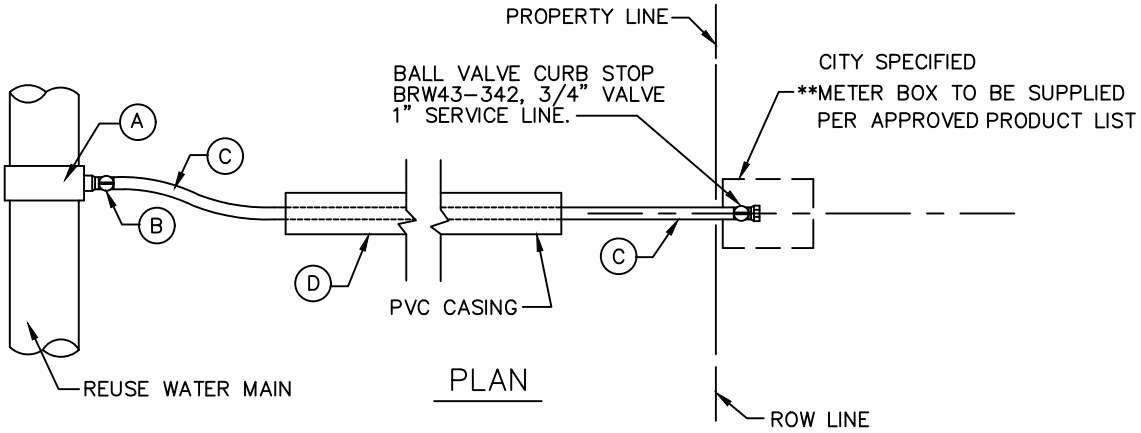
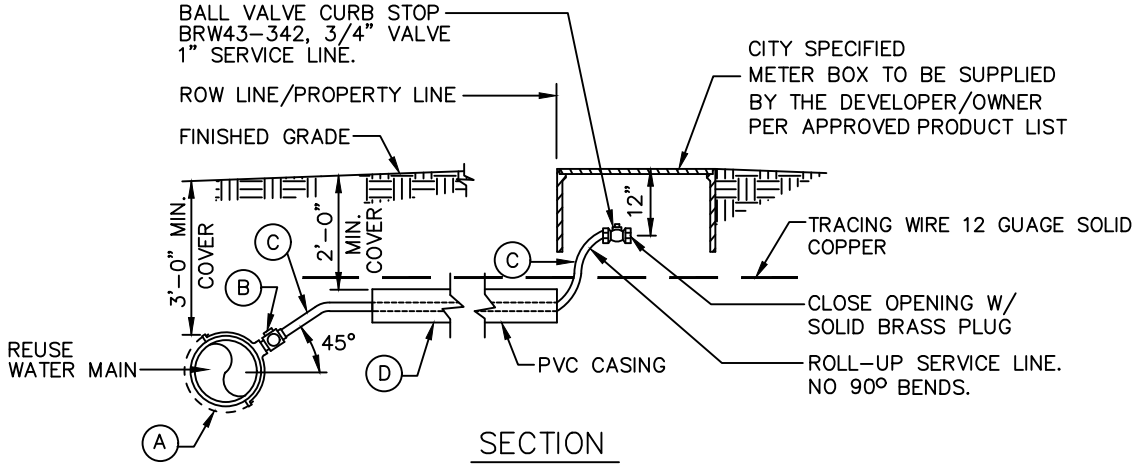
SURFACE RESTORATION

STANDARD DETAILS	DWG. NO. **308**
DATE: APRIL 2025	



PLAN



SECTION

REUSE WATER SERVICE LINES

OR APPROVED EQUAL

A 1" TAPPING SADDLE
FORD FC202-690-CC4 (6"X1")
FC202-905-CC4 (8"X1")

B 1" CORPORATION STOP
FORD TYPE F1002-4

C 1" POLYETHYLENE PURPLE PIPE.

D 1 1/2" SCH. 40, PURPLE CASING MATERIAL.

TYPICAL 1" REUSE WATER SERVICE

N.T.S

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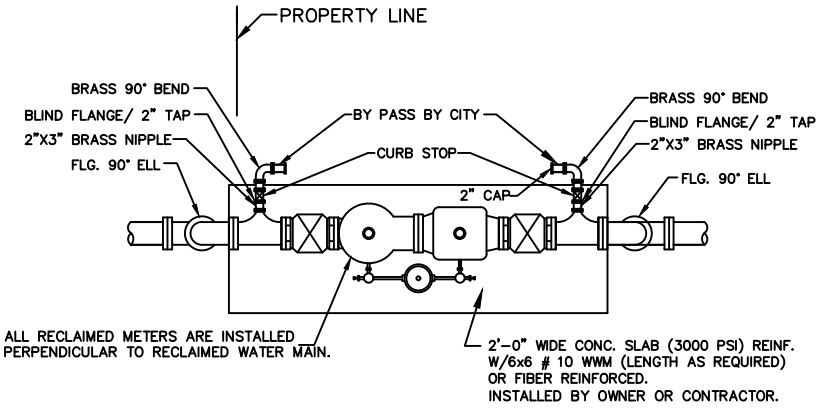
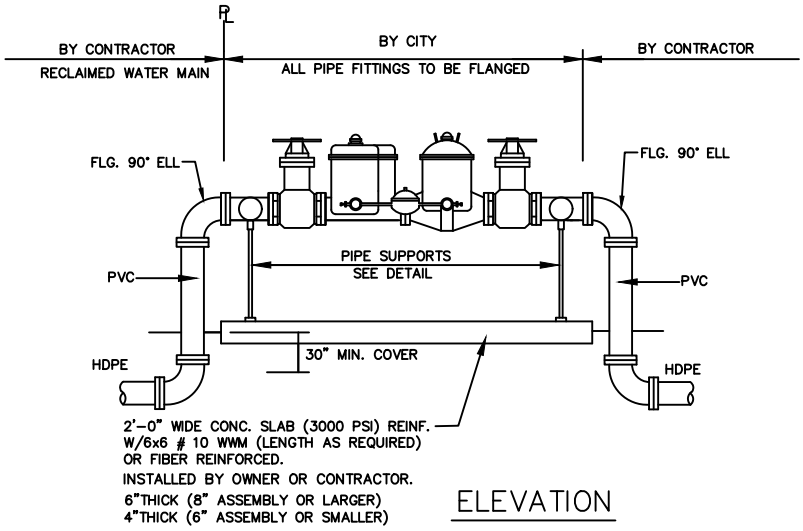
TYPICAL 1" REUSE WATER SERVICE

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	309



PLAN



ELEVATION

MASTER METER DETAIL

NOTES:

1. METERS MUST BE PAID, IN ADVANCE, TO THE CITY OF COCONUT CREEK'S UTILITIES AND ENGINEERING DEPARTMENT. PLEASE CALL 954-973-6786 TO ARRANGE FOR INSTALLATION.
2. USE MEGALUGS AT AND/OR SPACER BAR ALL PIPE JOINTS UNDERGROUND.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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COCONUT CREEK, FL 33073

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MASTER METER DETAILS

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **310**

FOR FUTURE USE

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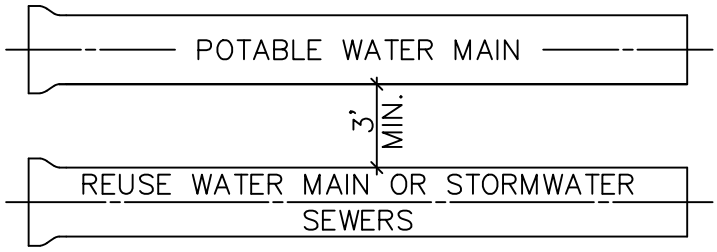
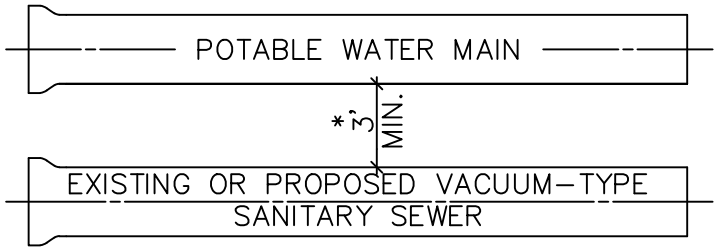
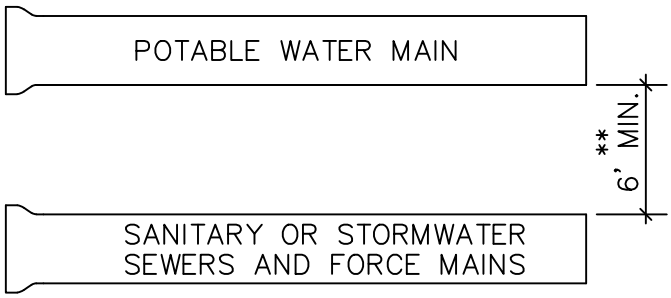


A MINIMUM HORIZONTAL SEPARATION 3' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND STORMWATER SEWERS, STORMWATER FORCE MAINS AND REGULATED REUSE WATER MAINS.



A MINIMUM HORIZONTAL SEPARATION 3' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER. *SEE NOTE D(1)(B) ON DWG 318.



A MINIMUM HORIZONTAL SEPARATION OF 6' (OUTSIDE TO OUTSIDE), SHALL BE MAINTAINED BETWEEN POTABLE WATER MAINS AND EXISTING OR PROPOSED GRAVITY-OR PRESSURE TYPE SANITARY SEWER, WASTEWATER FORCE MAIN OR NOT REGULATED REUSE WATER MAIN. ** SEE NOTE D(1)(C) ON DWG 318.

MINIMUM HORIZONTAL SEPERATION REQUIREMENTS FOR POTABLE WATER REUSE, STORMWATER AND SEWER LINES

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MINIMUM HORIZONTAL SEPARATION REQUIREMENTS FOR POTABLE WATER, REUSE, STORMWATER AND SEWER LINES

STANDARD DETAILS	DWG. NO.
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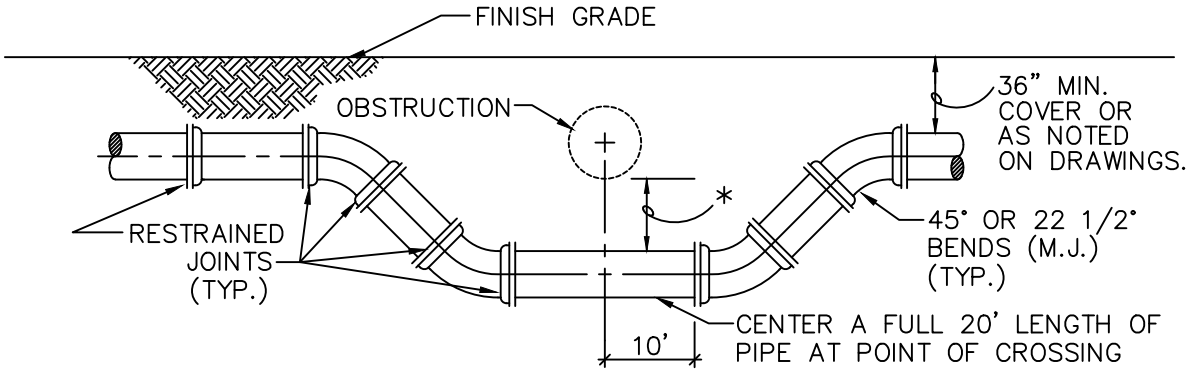
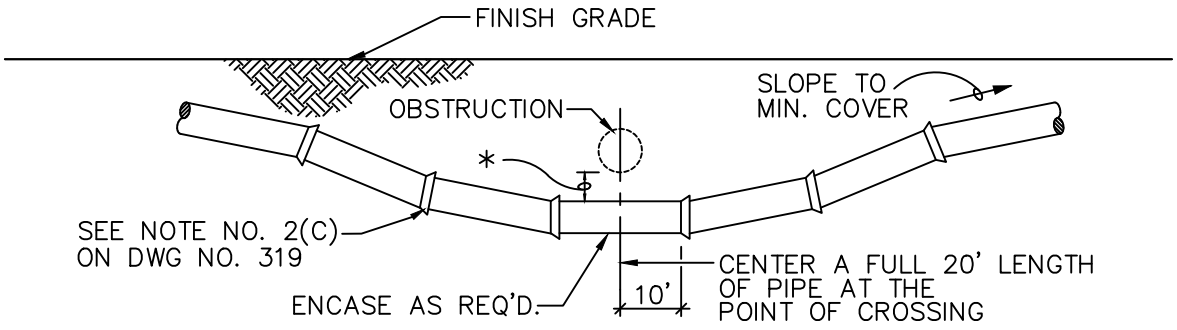


SPECIAL UTILITY CROSSING – FITTING TYPE

* 12" MINIMUM CLEARANCE REQUIRED FOR PRESSURE TYPE SANITARY SEWER, WASTEWATER OR REUSE WATER MAIN CROSSINGS. IF MINIMUM CLEARANCE CANNOT BE OBTAINED. REFER TO "PROTECTION OF POTABLE WATER SUPPLY" FOR WATER MAIN CROSSINGS.
SEE NOTE 2(B), ON DWG NO. 319

6" MINIMUM CLEARANCE REQUIRED FOR WATER AND STORMWATER, GRAVITY SEWER MAIN CROSSINGS. SEE NOTE 2(A), ON DWG NO. 319



STANDARD UTILITY CROSSING – DEFLECTION TYPE

NOTES:

1. THE DEFLECTION TYPE CROSSING SHALL BE USED WHEREVER POSSIBLE. ONLY UNDER SPECIFIC ORDERS BY THE ENGINEER SHALL THE FITTING TYPE CROSSIING BE ALLOWED.
2. CONSTRUCT STANDARD CROSSING USING NO MORE THAN 50% OF MANUFACTURERS' MAXIMUM JOINT DEFLECTION.
3. FOR POTABLE WATER MAINS, REFER TO "PROTECTION OF POTABLE WATER SUPPLY".

UTILITY CROSSINGS

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UTILITY CROSSINGS

STANDARD DETAILS	DWG. NO.
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PROTECTION OF POTABLE WATER SUPPLY NOTES

A. GENERAL

IN ADDITION TO THESE REQUIREMENTS, ALL POTABLE WATER MAINS CONSTRUCTED IN THE VICINITY OF STORM SEWERS, SANITARY SEWERS OR FORCE MAINS SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF FLORIDA ADMINISTRATIVE CODE CHAPTER 62-555, GREAT LAKES-UPPER MISSISSIPPI RIVER BOARD OF STATE SANITARY ENGINEERS (GLUMRB) "RECOMMENDED STANDARDS FOR WATER WORKS", AND GLUMRB "RECOMMENDED STANDARDS FOR WASTEWATER FACILITIES".

B. DEFINITIONS

FOR THE PURPOSES OF THIS SPECIFICATION, THE WORDS "OTHER PIPE" OR "OTHER PIPES" SHALL MEAN SANITARY SEWER MAIN, SEWAGE FORCE MAIN, STORMWATER MAIN OR ANY COMBINATION THEREOF.

C. CROSS CONNECTIONS PROHIBITED

THERE SHALL BE NO PHYSICAL CONNECTIONS BETWEEN A PUBLIC OR PRIVATE POTABLE WATER SUPPLY SYSTEM AND ANY OTHER PIPE OR APPURTENANCE THERETO WHICH WOULD PERMIT THE PASSAGE OF ANY WASTEWATER, POLLUTED WATER, OR ANY OTHER WATER INTO THE POTABLE SUPPLY. NO WATER PIPE SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SANITARY SEWER M.A.S.(Maintenance Access Structure) OR STORMWATER MAS.

D. RELATION OF OTHER PIPES TO POTABLE WATER M.A.S.

1. HORIZONTAL SEPARATION

A. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED STORM WATER, OR PIPELINE CONVEYING REUSE WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610,F.A.C.

B. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST THREE FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED VACUUM-TYPE SANITARY SEWER.

C. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST SIX FEET, AND PREFERABLY TEN FEET, BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE OUTSIDE OF ANY EXISTING OR PROPOSED GRAVITY-OR PRESSURE-TYPE SANITARY SEWER, WASTEWATER FORCE MAIN, OR PIPELINE CONVEYING REUSE WATER NOT REGULATED UNDER CHAPTER 62-610, F.A.C. THE MINIMUM HORIZONTAL SEPARATION DISTANCE BETWEEN WATER MAINS AND GRAVITY TYPE SEWERS SHALL BE REDUCED TO THREE FEET WHERE THE BOTTOM OF THE WATER IS LAID AT LEAST SIX INCHES ABOVE THE TOP OF THE SEWER.

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PROTECTION OF POTABLE WATER SUPPLY NOTES

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D. NEW OR RELOCATED, UNDERGROUND WATER MAINS SHALL BE LAID TO PROVIDE A HORIZONTAL DISTANCE OF AT LEAST TEN FEET BETWEEN THE OUTSIDE OF THE WATER MAIN AND ALL PARTS OF ANY EXISTING OR PROPOSED "ON-SITE SEWAGE TREATMENT AND DISPOSAL SYSTEM".

2. VERTICAL SEPARATION

A. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED GRAVITY-OR VACUUM-TYPE SANITARY SEWER OR STORM SEWER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST SIX INCHES, PREFERABLY 12 INCHES, ABOVE OR AT LEAST 12 INCHES BELOW THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

B. NEW OR RELOCATED, UNDERGROUND WATER MAINS CROSSING ANY EXISTING OR PROPOSED PRESSURE-TYPE SANITARY SEWER, WASTEWATER, OR PIPELINE CONVEYING REUSE WATER SHALL BE LAID SO THE OUTSIDE OF THE WATER MAIN IS AT LEAST 12 INCHES, ABOVE OR BELOW, THE OUTSIDE OF THE OTHER PIPELINE. HOWEVER, IT IS PREFERABLE TO LAY THE WATER MAIN ABOVE THE OTHER PIPELINE.

C. AT THE UTILITY CROSSINGS DESCRIBED IN PARAGRAPHS (A) AND (B) ABOVE, ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, OR PIPELINES CONVEYING REUSE WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C. AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE- TYPE SANITARY SEWERS, WASTEWATER FORCE MAINS, OR PIPELINES CONVEYING REUSE WATER NOT REGULATED UNDER PART III OR CHAPTER 62-610, F.A.C.

WHERE THE HORIZONTAL CAN BEING LOCATED LESS THAT THE REQUIRED MINIMUM DISTANCES FROM JOINTS IN THE OTHER PIPELINE OR THE HORIZONTAL IS LESS THAN THREE FEET FROM ANOTHER PIPELINE OR THE UNDER GROUND WATER MAIN IS CROSSING ANOTHER PIPELINE AND IS LESS THAN THE REQUIRED MINIMUM VERTICAL DISTANCE FROM THE OTHER PIPELINE, THE CONTRACTOR SHALL CONTACT THE ENGINEER IMMEDIATELY FOR RECOMMENDED SOLUTIONS TO MEET THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS PER CHAPTER 62-555, F.A.C.

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PROTECTION OF POTABLE WATER SUPPLY NOTES

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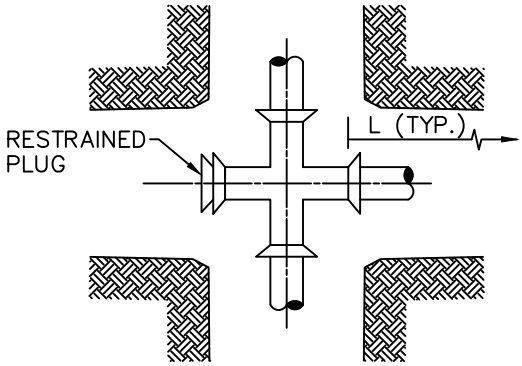
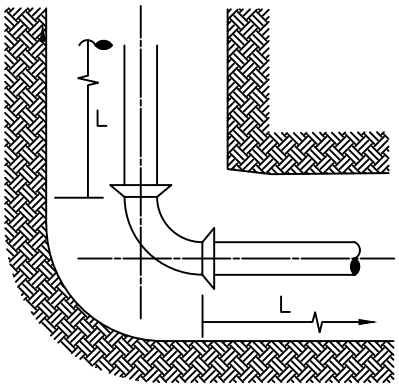
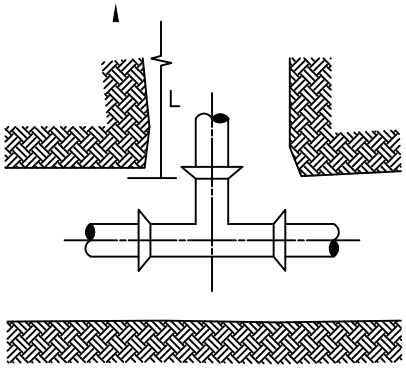


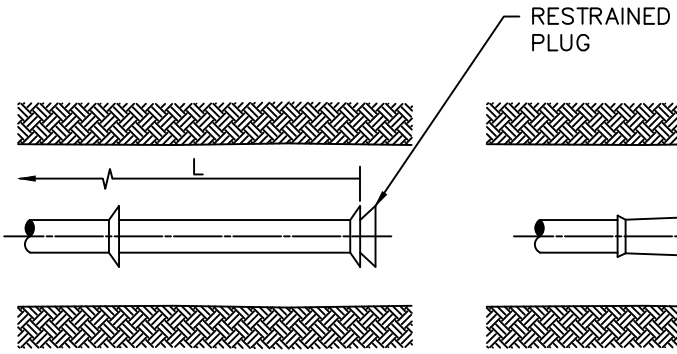
CROSS WITH PLUG



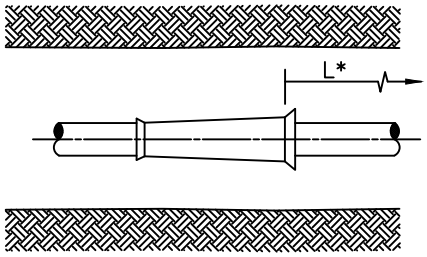
90° BEND



TEE/WYE

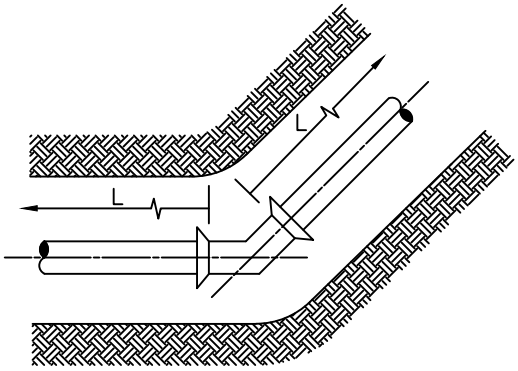


DEAD END



REDUCER

* SEE NOTE 2



45° BEND
& SMALLER

GENERAL NOTES:

1. VALUES IN TABLE ARE BASED ON 3' OF COVER, 150 PSI INTERNAL REUSE WATER LINES, ANSI/AWWA C605 & C150/A21.50 LAYING CONDITION 3, ASTM D2487 SAND–SILT SP SOIL TYPE, AND SAFETY FACTOR OF 2.0. RESTRAINED LENGTHS WERE COMPUTED PER DIPRA "THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE" AND "PVC PIPE THRUST RESTRAINT DESIGN HANDBOOK," EBAA IRON, INC.

2. CONFIRM THE EXACT LENGTH OF RESTRAINING REQUIRED FOR REDUCERS, PIPE ENCASED IN POLYETHYLENE AND ENCROACHING RESTRAINED LENGTHS WITH THE DESIGN ENGINEER.

3. THE CONTRACTOR IS RESPONSIBLE FOR PROPER INSTALLATION OF THE RESTRAINED JOINTS TO PREVENT MOVEMENT OF THE PIPE & FITTINGS.

4. IN THE EVENT OF A CONFLICT BETWEEN RESTRAINED LENGTHS SHOWN ON THE TABLE AND RESTRAINED LENGTHS SHOWN ON THE DRAWINGS, THE LONGEST RESTRAINED LENGTH SHALL BE USED.

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RESTRAINED JOINT INFORMATION

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PVC HORIZONTAL BENDS AND VERTICAL UP BENDS

PIPE SIZE (IN.)	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING – EACH WAY)				
	BENDS				CROSS WITH PLUG / DEAD END / TEE/WYE
	90°	45°	22.5°	11.25°	
6	26	11	6	3	53
8	33	14	7	4	68
12	46	19	10	5	96

PVC VERTICAL DOWN BEND

PIPE SIZE (IN.)	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING – EACH WAY)				
	BENDS				
	90°	45°	22.5°	11.25°	
6	26	11	6	3	
8	33	14	7	4	
12	46	19	10	5	

DIP HORIZONTAL BENDS AND VERTICAL UP BENDS

PIPE SIZE (IN.)	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING – EACH WAY)				
	BENDS				CROSS WITH PLUG / DEAD END / TEE/WYE
	90°	45°	22.5°	11.25°	
12"	68	28	14	7	144
24"	119	49	24	12	258

DIP VERTICAL DOWN BEND

PIPE SIZE (IN.)	RESTRAINED JOINT LENGTH L (MINIMUM DISTANCE IN FEET FROM FITTING – EACH WAY)				
	BENDS				
	90°	45°	22.5°	11.25°	
12"	144	60	29	14	
24"	258	107	51	25	

RESTRAINED JOINT INFORMATION

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RESTRAINED JOINT INFORMATION

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MIN. LENGTH OF PIPE (FEET) TO BE RESTRAINED

(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1. AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE								200psi			
		4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	48"
90° HORIZ. BEND		14	20	25	30	35	45	54	62	98	112	124	135
45° HORIZ. BEND		6	8	11	13	15	19	22	26	41	46	51	56
22.5° HORIZ. BEND		3	4	5	6	7	9	11	12	19	22	25	27
11.25° HORIZ. BEND		1	2	3	3	4	4	5	6	10	11	12	13
90° VERT. OFFSET	UPPER BEND	29	41	53	64	74	95	115	134	214	246	276	304
	LOWER BEND	7	10	13	16	19	25	30	35	57	66	74	83
45° VERT. OFFSET	UPPER BEND	12	19	24	29	34	39	48	56	89	102	114	126
	LOWER BEND	3	4	6	7	8	10	12	15	23	27	31	34
22.5° VERT. OFFSET	UPPER BEND	6	9	12	14	17	19	23	27	43	49	55	60
	LOWER BEND	1	2	4	4	4	5	6	7	11	13	15	16
11.25° VERT. OFFSET	UPPER BEND	3	4	6	7	8	9	11	13	21	24	27	30
	LOWER BEND	1	1	1	2	2	2	3	3	6	6	7	8
PLUG (DEAD END)		32	45	59	70	83	107	129	151	214	246	276	304
IN-LINE VALVE		32	45	45	45	45	56	65	80	110	125	140	155
TEE (BRANCH RESTRAINT)	4"x Ø	23	–	–	–	–	–	–	–	–	–	–	–
	6"x Ø	21	35	–	–	–	–	–	–	–	–	–	–
	8"x Ø	18	34	47	–	–	–	–	–	–	–	–	–
	10"x Ø	16	32	46	58	–	–	–	–	–	–	–	–
	12"x Ø	13	30	44	57	69	–	–	–	–	–	–	–
	16"x Ø	7	26	41	55	67	90	–	–	–	–	–	–
	20"x Ø	1	21	38	52	65	88	109	–	–	–	–	–
	24"x Ø	1	16	34	49	62	86	108	129	–	–	–	–
	30"x Ø	1	8	28	44	58	83	106	127	208	–	–	–
	36"x Ø	1	1	22	39	54	80	103	124	206	240	–	–
	42"x Ø	1	1	15	33	49	77	100	122	205	239	270	–
	48"x Ø	1	1	7	27	44	73	97	120	203	238	269	298
REDUCER (LARGER PIPE RESTRAINT)	6"x Ø	23	–	–	–	–	–	–	–	–	–	–	–
	8"x Ø	38	25	–	–	–	–	–	–	–	–	–	–
	10"x Ø	57	43	24	–	–	–	–	–	–	–	–	–
	12"x Ø	72	60	44	41	–	–	–	–	–	–	–	–
	16"x Ø	99	90	78	75	45	–	–	–	–	–	–	–
	20"x Ø	123	116	107	105	81	45	–	–	–	–	–	–
	24"x Ø	146	140	132	131	111	82	45	–	–	–	–	–
200psi	30"x Ø	209	204	197	188	177	153	116	75	–	–	–	–
	36"x Ø	243	236	233	226	217	196	168	135	74	–	–	–
	42"x Ø	273	270	265	259	252	234	211	183	133	72	–	–
	48"x Ø	301	298	294	289	283	268	249	226	183	131	71	–

NOTES:

1. THE DATA IN THE ABOVE TABLE ARE BASED UPON THE FOLLOWING INSTALLATION CONDITIONS:
   SOIL TYPE–SAND TEST PRESSURE–150 PSI/200 PSI DEPTH OF BURY–3'
   TRENCH TYPE–3 SAFETY FACTOR–1.5 VERTICAL OFFSET–3'
   MINIMUM PIPE LENGTH ALONG TEE RUN–5'
2. THE RESTRAINED PIPE LENGTHS APPLY TO DUCTILE IRON AND PVC PIPE AND HDPE.
3. ALL JOINTS BETWEEN UPPER AND LOWER BENDS SHALL BE RESTRAINED.
4. RESTRAINED PIPE LENGTHS APPLY TO PIPE ON BOTH SIDES OF VALVES AND FITTINGS.

RESTRAINED JOINT INFORMATION

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COCONUT CREEK
BUTTERFLY CAPITAL OF THE WORLD

CITY OF COCONUT CREEK 1967 FLORIDA

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STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. 322

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STANDARD DETAILS	DWG. NO. **323**
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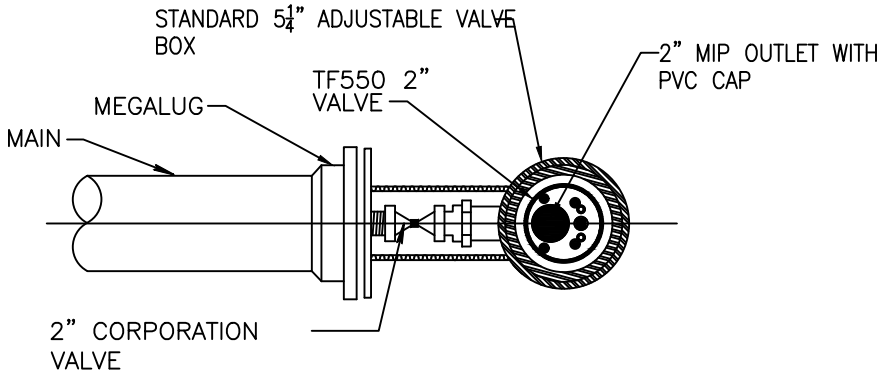
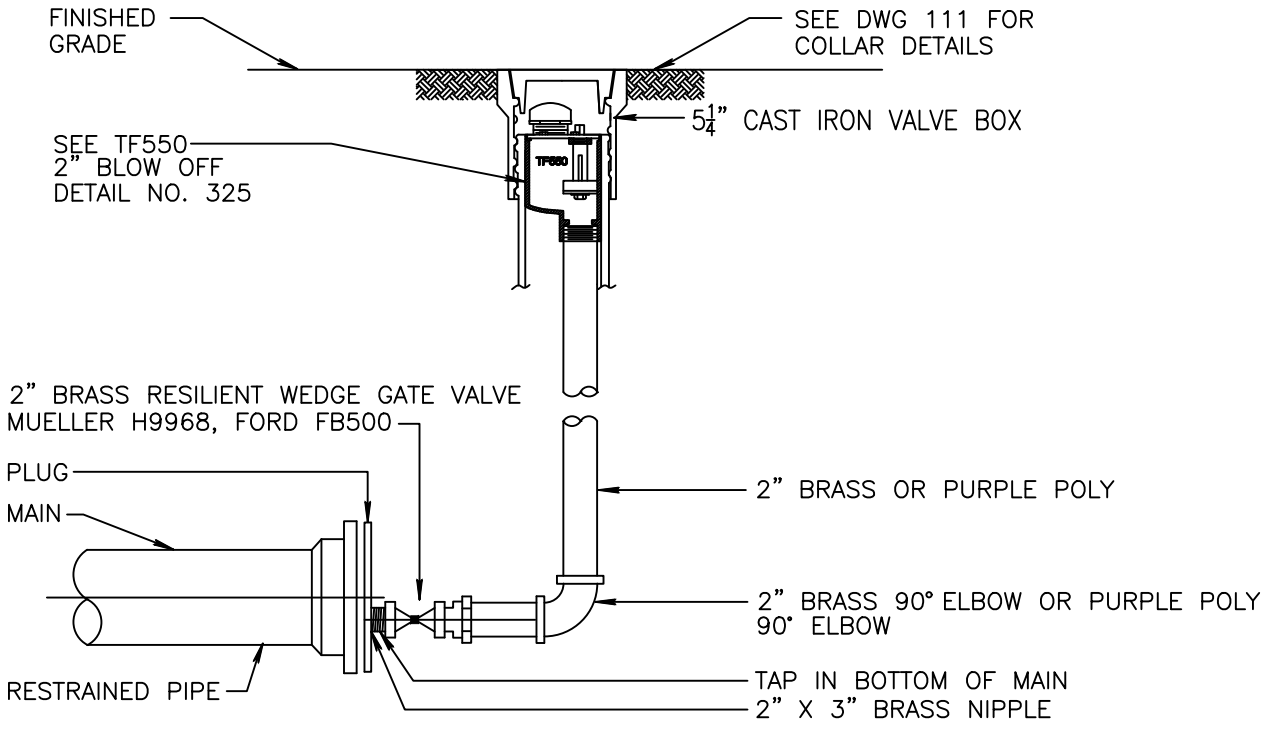


PLAN



ELEVATION

NOTES:

1. ONLY BRASS OR PURPLE POLY PIPING AND FITTINGS SHALL BE USED.
2. JOINT RESTRAINTS TO BE INSTALLED MIN. TWO JOINTS BEFORE DEAD END.

TYPICAL 2" TERMINAL BLOW OFF

USE MEGALUGS AT ALL PIPE JOINTS

ALL D.I.P. TO BE PAINTED **N.T.S**

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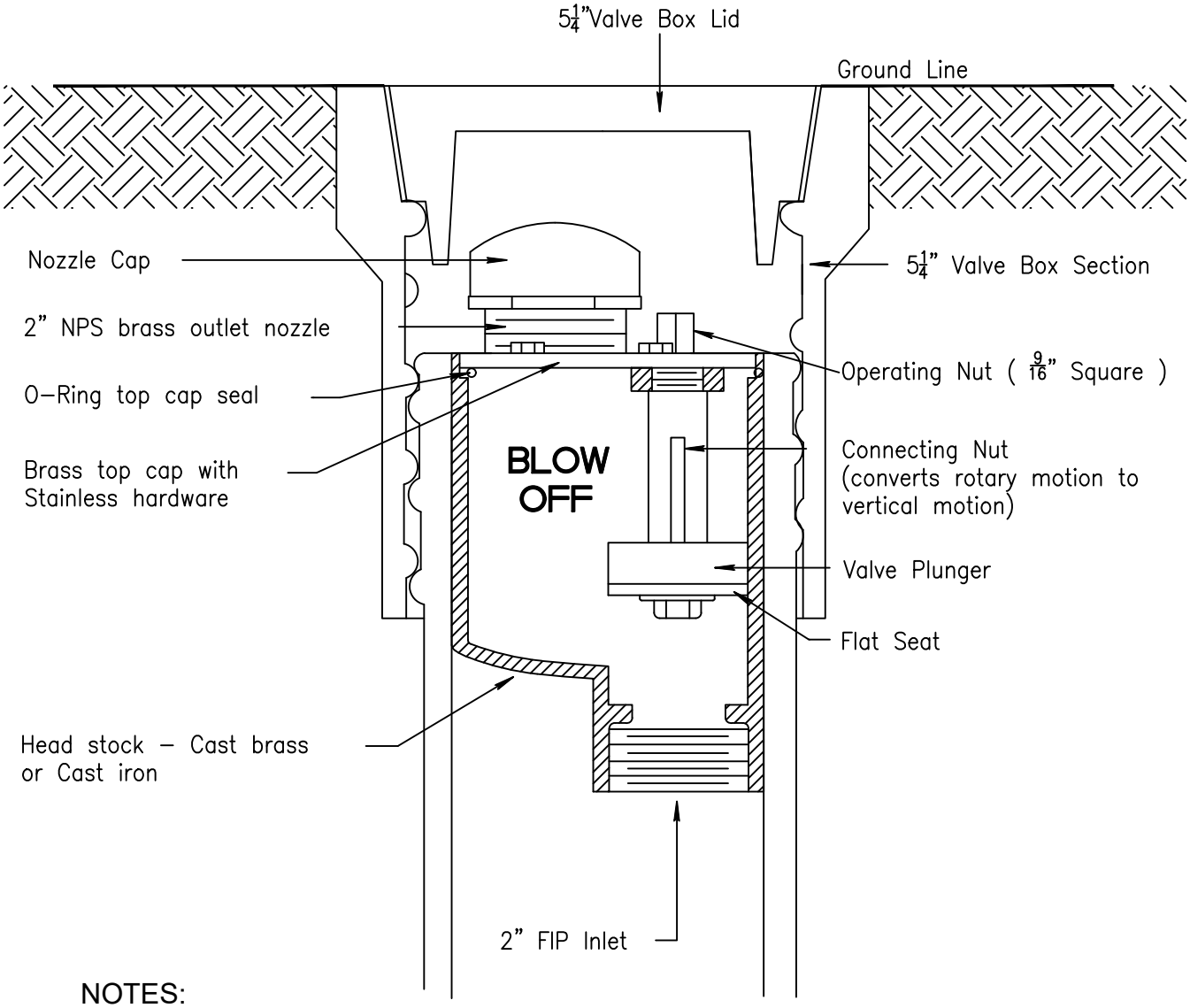
TYPICAL 2" TERMINAL BLOW OFF

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	324



NOTES:

1. THE BLOW OFF IS SHOWN HERE IN A TYPICAL 5–1/4" ID VALVE BOX.

2" BLOW OFF

N.T.S

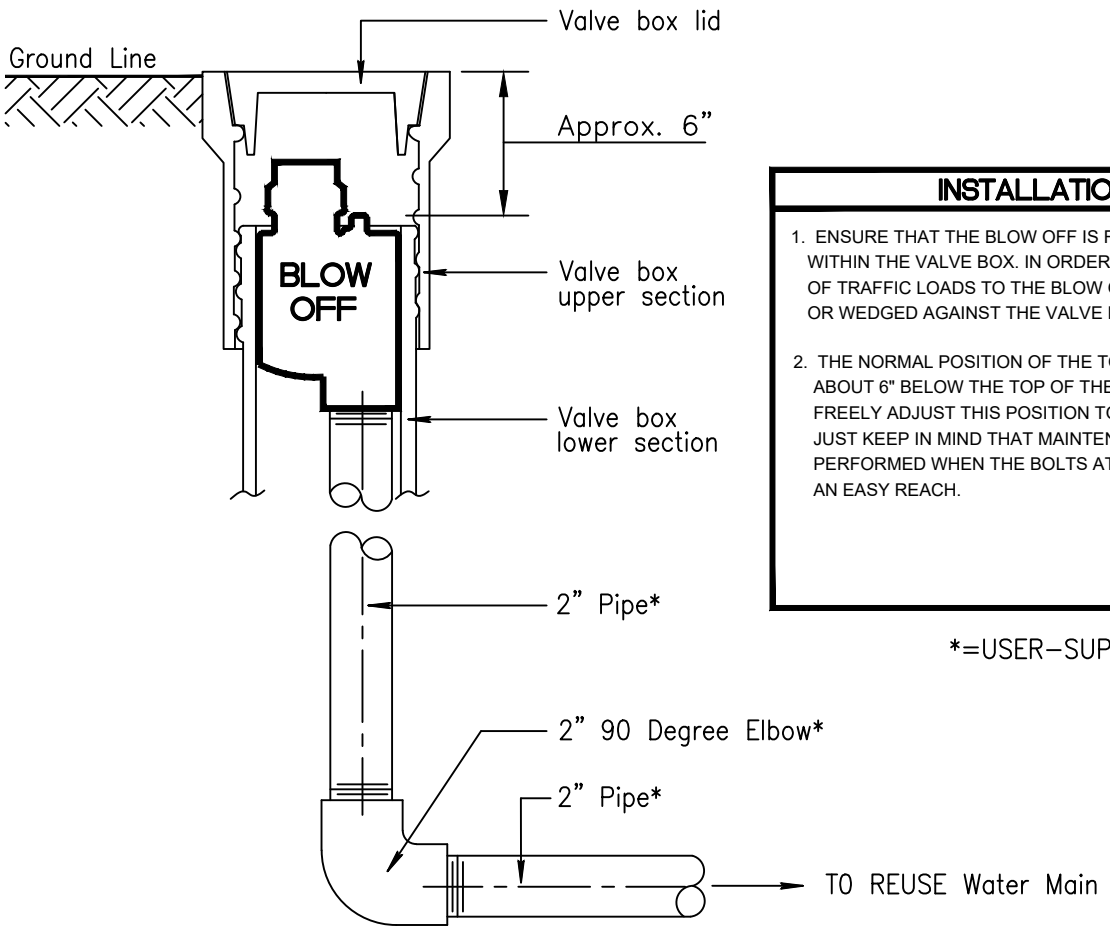
UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

TEL NO: 954-973-6786
FAX NO: 954-571-4146
www.coconutcreek.net

2" BLOW OFF

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	325



INSTALLATION NOTES

1. ENSURE THAT THE BLOW OFF IS FREE TO MOVE VERTICALLY WITHIN THE VALVE BOX. IN ORDER TO PREVENT THE TRANSMISSION OF TRAFFIC LOADS TO THE BLOW OFF, IT SHOULD NOT BE JAMMED OR WEDGED AGAINST THE VALVE BOX LID.

2. THE NORMAL POSITION OF THE TOP OF THE OPERATING NUT IS ABOUT 6" BELOW THE TOP OF THE VALVE BOX, BUT YOU CAN FREELY ADJUST THIS POSITION TO SUIT YOUR CIRCUMSTANCES. JUST KEEP IN MIND THAT MAINTENANCE PROCEDURES ARE BEST PERFORMED WHEN THE BOLTS ATTACHING THE CAP ARE WITHIN AN EASY REACH.

*=USER–SUPPLIED

SPECIFICATION NOTES

BLOW OFF SHALL HAVE A 2" VERTICAL FIP INLET AND 2" NPT NOZZLE OUTLET. BLOW OFF SHALL BE OPERATED BY TURNING A TOP-MOUNTED 9/16" SQUARE OPERATING NUT COUNTER CLOCKWISE TO OPEN, CLOCKWISE TO CLOSE. ALL INTERNAL WORKING PARTS, THE INLET AND THE OUTLET SHALL BE LOW-LEAD BRASS. ALL WORKING PARTS SHALL BE SERVICEABLE FROM ABOVE WITH NO DIGGING REQUIRED. ALL WEAR PARTS (O-RINGS AND VALVE SEAT) SHALL BE OF COMMONLY AVAILABLE DIMENSIONS AND MATERIALS, AND NONE MAY BE OF VENDOR UNIQUE DESIGN.

BLOW OFF INSTALLATION AND SPECIFICATION

N.T.S

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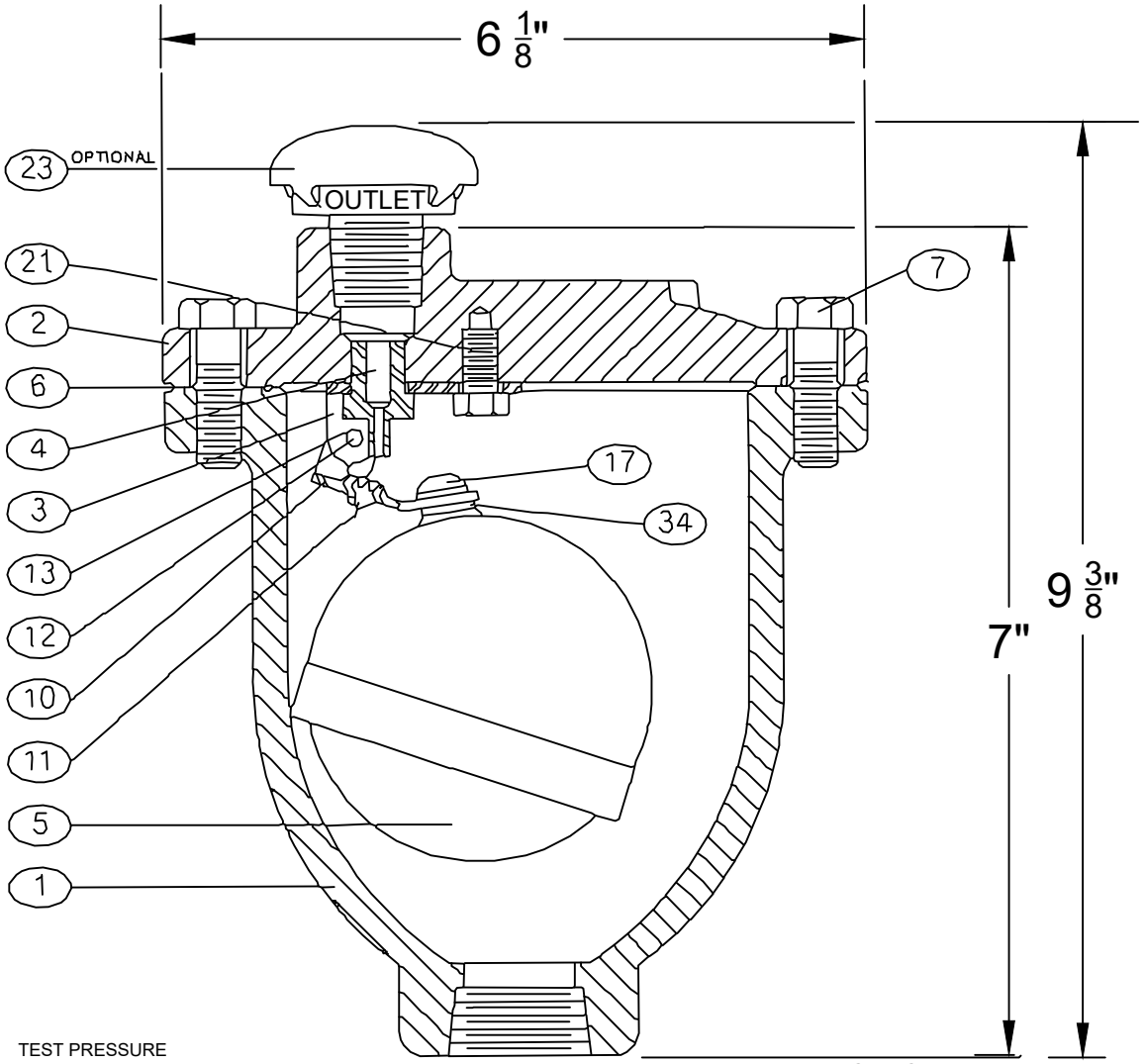
BLOW OFF INSTALLATION AND SPECIFICATION

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	326



TEST PRESSURE
1.5 TIMES COLD WORKING PRESSURE-CWP

PAINT BODY OF THE ARV PURPLE USING AN EXPOXY PAINT.

SEE DRAWING NO. 328 FOR STANDARD MATERIAL OF CONSTRUCTION.

VALVE SIZE *	MODEL NO. **	INLET SIZE	OUTLET SIZE	CWP P.S.I	ORIFICE SIZE
3/4"-1"	25.5	1" N.P.T.	1/2" N.P.T.	150	1/8"
3/4"-1"	25.6	1" N.P.T.	1/2" N.P.T	300	3/32"

*When multiple size inlets are indicated for a specific model number, the valve is threaded for the largest size indicated and a reducer bushing is provided for the smaller sizes.
** Add "H" to Model No. for optional screened hood SPK-5H.

1 BODY
2 COVER
3 LEVER FRAME
4 SEAT
5 FLOAT
6 GASKET
7 COVERBOLT
10 FLOAT ARM
11 ORIFICE BUTTON
12 PIVOT PIN
13 PIN RETAINER (NOT SHOWN)
17 FLOAT RETAINER
21 LOCATOR
23 SCREENED HOOD
34 LOCK WASHER

N.T.S

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VM-25 AIR RELEASE VALVE OR APPROVED EQUAL

STANDARD DETAILS

DWG. NO. **327**

DATE: APRIL 2025

AIR RELEASE VALVE
SERIES NO. 25
STANDARD MATERIALS OF CONSTRUCTION

PART NO.	PART NAME	MATERIAL
1	BODY	CAST IRON ASTM A126, CLASS B
2	COVER	CAST IRON ASTM A126, CLASS B
3	LEVER FRAME	STAINLESS STEEL T316, ASTM A240
4	SEAT	STAINLESS STEEL T316, ASTM A276
5	FLOAT	STAINLESS STEEL T316, ASTM A240
6	GASKET	COMPRESSED NON-ASBESTOS FIBER
7	COVER	BOLT ALLOY STEEL SAE, GRADE 5
10	FLOAT ARM	STAINLESS STEEL T316, ASTM A240
11	ORIFICE BUTTON	VITON
12	PIVOT PIN	STAINLESS STEEL T316, ASTM A479
13	PIN RETAINER	STAINLESS STEEL PH 15-7 MO
17	FLOAT RETAINER	STAINLESS STEEL T316, ASTM F879
21	LOCATOR	STAINLESS STEEL T316, ASTM F593
34	LOCK WASHER	STAINLESS STEEL T316, ASTM A240

LOCK WASHER STAINLESS STEEL T316, ASTM A240

VM-25-M MATERIAL OF CONSTRUCTION

N.T.S

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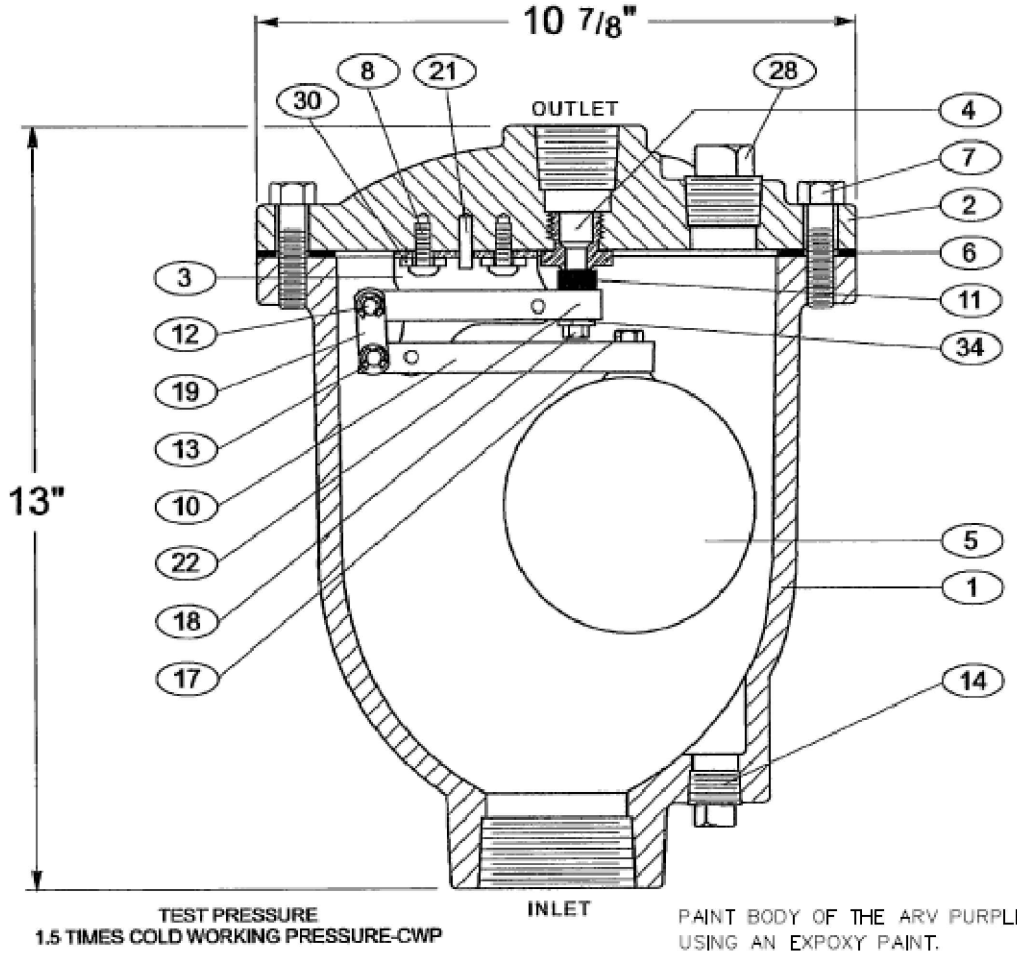
VM-25 INSTALLATION AND SPECIFICATION

STANDARD DETAILS

DWG. NO. **328**

DATE: APRIL 2025



SEE DRAWING NO. VM-50-M FOR STANDARD MATERIAL OF CONSTRUCTION.

VALVE SIZE	MODEL NO.	INLET SIZE	OUTLET SIZE	CWP P.S.I.	ORIFICE SIZE
2"	50	2" N.P.T.	1" N.P.T.	500	7/32"
2"	50HP	2" N.P.T.	1" N.P.T.	1000	1/8"

1	BODY	8	RETAINING SCREW	18	LOCK NUT
2	COVER	10	FLOAT ARM	19	LINK
3	LEVER FRAME	11	ORIFICE BUTTON	21	LOCATING PIN
4	SEAT	12	PIVOT PIN	22	ORIFICE BUTTON ARM
5	FLOAT	13	RETAINING RING	28	PIPE PLUG
6	GASKET	14	PIPE PLUG	30	WASHER
7	COVER BOLT	17	FLOAT RETAINER	34	LOCK WASHER

VM-50 AIR RELEASE VALVE

N.T.S

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VM-50 AIR RELEASE VALVE OR APPROVED EQUAL

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	329

AIR RELEASE VALVE

MODEL NOS. 50 & 50HP

STANDARD MATERIALS OF CONSTRUCTION

PART NO.	PART NAME	MATERIAL
1	BODY (MODEL 50)	CAST IRON ASTM A126, CLASS B
1	BODY (MODEL 50HP)	DUCTILE IRON ASTM A536, GRADE 65-45-12
2	COVER (MODEL 50)	CAST IRON ASTM A126, CLASS B
2	COVER (MODEL 50HP)	DUCTILE IRON ASTM A536, GRADE 65-45-12
3	LEVERAGE FRAME	STAINLESS STEEL T316, ASTM A240
4	SEAT	STAINLESS STEEL T316, ASTM A582
5	FLOAT	STAINLESS STEEL T316, ASTM A240
6	GASKET	COMPRESSED NON-ASBESTOS FIBER
7	COVER BOLT	ALLOY STEEL SAE, GRADE 5
8	RETAINING SCREW	STAINLESS STEEL T316, ASTM F879
10	FLOAT ARM	STAINLESS STEEL T316, ASTM A582
11	ORIFICE BUTTON	STAINLESS STEEL & BUNA-N
12	PIVOT PIN	STAINLESS STEEL T316, ASTM A276
13	RETAINING RING	STAINLESS STEEL PH 15-7 MO
14	PIPE PLUG	STEEL
17	FLOAT RETAINER	STAINLESS STEEL T316, ASTM F593
18	LOCK NUT	STAINLESS STEEL T316, ASTM F594
19	LINK	STAINLESS STEEL T316, ASTM A240
21	LOCATING PIN	STAINLESS STEEL T420
22	ORIFICE BUTTON ARM	STAINLESS STEEL T316, ASTM A582
28	PIPE PLUG	STEEL
30	WASHER	STAINLESS STEEL T316, ASTM A240
34	LOCK WASHER	STAINLESS STEEL T316, ASTM A240

VM-50-M MATERIAL OF CONSTRUCTION

NOTE:
ALL SPECIFICATIONS AS LAST REVISED.

N.T.S

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VM-50 AIR RELEASE VALVE OR MATERIALS OF CONSTRUCTION

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	330

APPROVED PRODUCT LIST

Valve Boxes & Risers: Valve boxes shall either be a **Tyler** or **Turnbull** riser specified or an approved equal which shall meet the following standards:

- The gap between the cover/lid and the ring that is visible when installed must be no greater than 0.11 inches.
- The wall thickness of the ring that encircles the cover/lid shall have a wall thickness of no less than 0.65 inches.
- The valve box top section shall weigh no less than 22 pounds.
- The valve box bottom section shall weigh no less than 27 pounds.
- The valve box lid shall weigh no less than 11 pounds.
- The 1" riser shall weight 6 pounds, 2" 9.5 pound, 3" 14 pounds and 4" 20 pounds.
- The valve box lid shall be a locking design with two indentations to allow for easy removal.
- The brand of valve box bid shall have an option extension kit. The weight of the extension kits shall be +/- 29 lbs for 14 inches, +/ 30 lbs for 18 inches and +/- 37 lbs for 24 inches.
- Recognizing that some manufacturers may make conforming and non-conforming boxes, or risers. Vendors bidding such a manufacturer are advised to avoid shipping the incorrect part. The City reserves the right to return ***at any time*** any box delivered that is non-conforming. If the non-conforming box was installed, the vendor will be responsible for the cost of removal and installation of the conforming box. Depending on the severity and frequency of this type of oversight bidders may be restricted from future bids.

N.T.S

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APPROVED PRODUCT LIST

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	331

DIP Fittings: Mega lugs and their accessory kits shall be as manufactured by **EBAA Iron, Inc.** or an approved equal which shall meet the following Standards:

- Each gland shall include one mechanical restraining gland as manufactured by EBAA Iron, Inc, Series 1100, or equal, sacrificial zinc anode hex head caps of one - half of the number of T- head bolts in each gland pack, one rubber gasket and the proper number of T - head bolts and nuts for the mechanical joint sizes shown on the order.

- For sizes 4 to 12 inches, package all gland materials to make one joint and mark each package to specify its weight and contents.

- Each gland shall be clearly marked with a "batch serial number". The "batch serial number" will allow the utility to identify the date of manufacture, plant and identify what ladle of metal was used to cast the gland. The vendor must be able to provide metallurgical reports for any specific gland based on the "batch serial number" that must be cast into the gland. The "batch serial number" must not be encoded and easily converted using common methods, such as the Julian Day.

- Each restraining gland shall have the following weights and have no less than the number wedges listed below. All wedges will be "auto - torquing" or designed such that the nut on the actuating bolt will separate at the manufacturers intended torque for to properly set the wedge. After being set, the actuating bolts will have a smaller remaining head that will allow for the disassembly of the joint.

Size	Minimum Weight	Number of Wedges	¾" Bolt Length
4	7	2	4
6	12	3	4
8	16	3	4.5
10	24	6	4.5
12	33	8	4.5

- The restraining gland shall be properly prepared and coated with a TGIC polyester - based coating. The gripping wedges and actuating bolts shall be properly prepared and coated with a Xylan Flourpolymer coating.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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APPROVED PRODUCT LIST

STANDARD DETAILS

DWG. NO. **332**

DATE: APRIL 2025

Offsets, Couplings etcetera shall be as manufactured by **Tyler Products** or an approved equal which shall meet the following standards:

The equivalent to the ELLS, 45, offsets, couplings, etcetra that are called for in various bids shall be the Tyler Product line. Equivalents shall have the same dimensions, bolt counts and certifications as the Tyler product line.

Flange Adapters shall be as manufactured by Uniflang or EZ Flange or an approved equal which shall meet the following standards:

- Each fitting shall be clearly marked with a "batch serial number. The "batch serial number" will allow the utility to identify the date of manufacture, plant and identify what ladle of metal was used to cast the gland. The vendor must be able to provide metallurgical reports for any specific fitting based on the "batch serial number" that must be cast into the gland. The "batch serial number" must not be encoded and easily converted using common methods, such as the Julian Day.

- Each restraining fitting shall have the weights listed below.

- Set bolts will be "auto - torquing" or designed such that the nut on the actuating bolt will separate at the manufacturers intended torque for to properly set the wedge. After being set, the actuating bolts will have a smaller remaining head that will allow for the disassembly of the joint.

Size	Minimum Weight
4	6.3
6	8.8
8	12.9
10	23.1
12	29.5

- The fitting shall be properly prepared and coated with a TGIC polyester - based coating. The gripping wedges and actuating bolts shall be properly prepared and coated with a Xylan Flourpolymer coating.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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COCONUT CREEK, FL 33073

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APPROVED PRODUCT LIST

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	333

WASTEWATER DETAILS

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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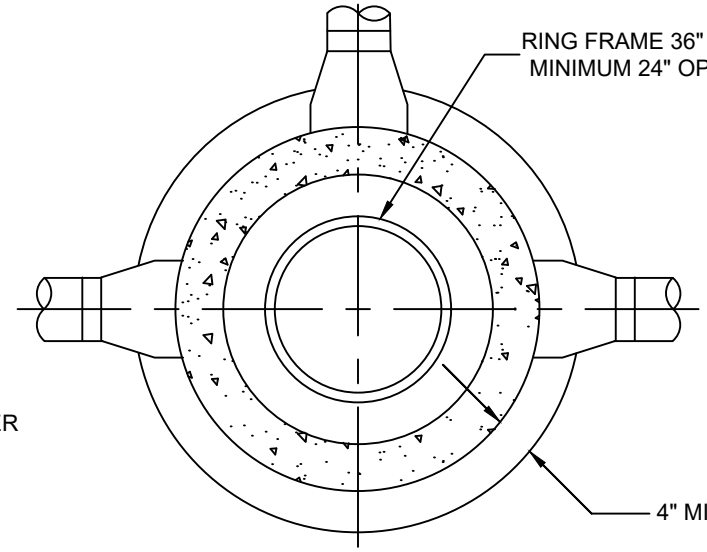
WASTEWATER

STANDARD DETAILS

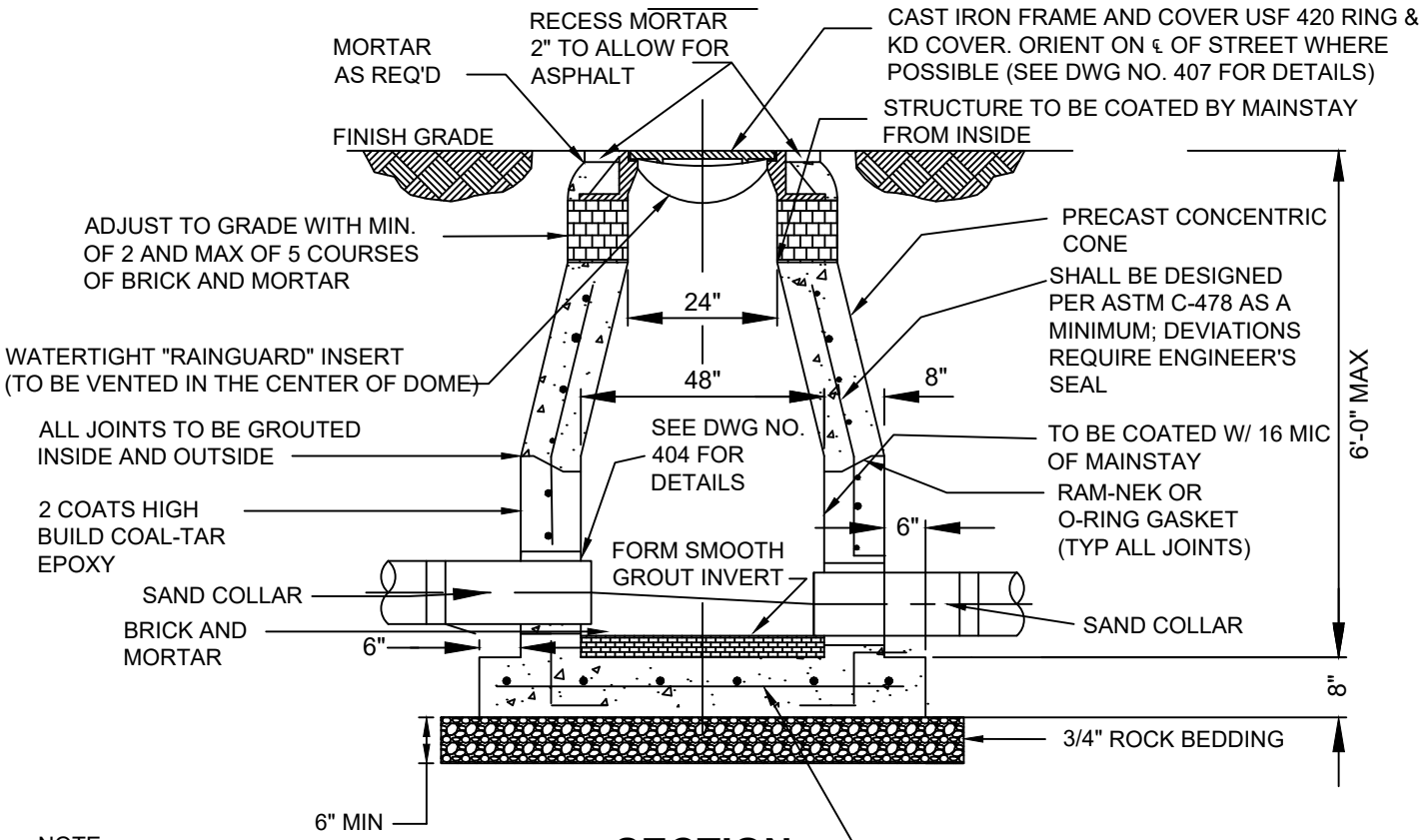
DATE: APRIL 2025

DWG. NO.
400



NOTE:
TO BE CONSTRUCTED PER
ASTM C-478 AND 64T

PLAN



SECTION

NOTE:
3' OF FIRST WALL SECTION SHALL
BE CAST MONOLITHICALLY WITH
BOTTOM SECTION

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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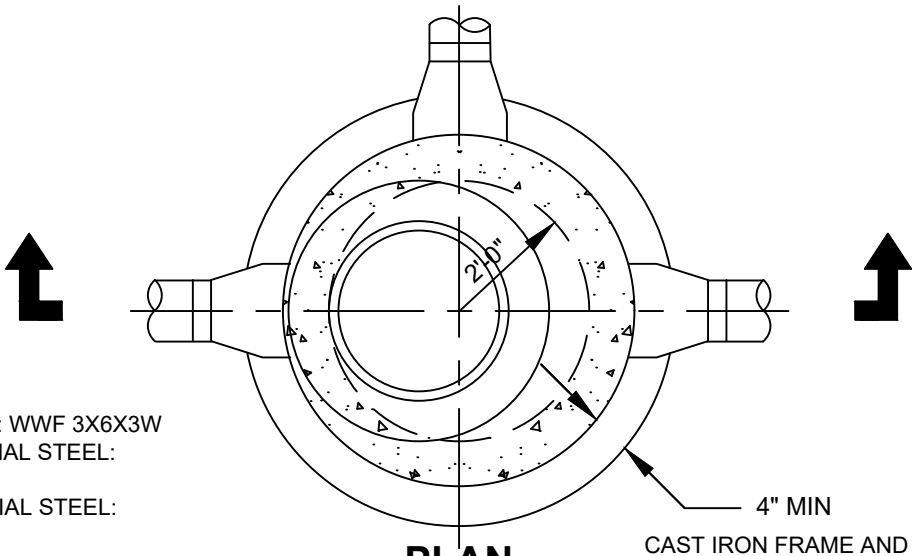
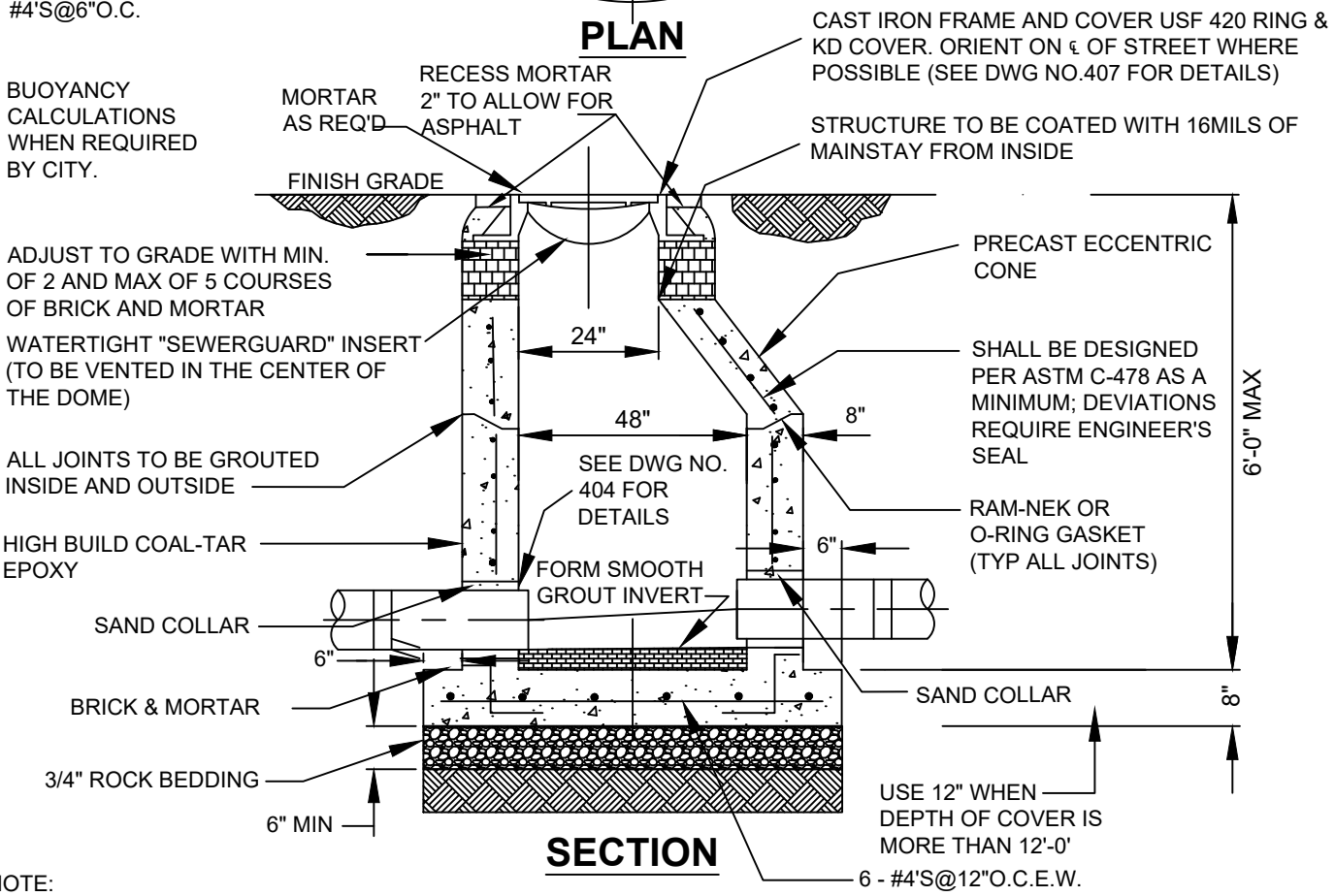
CONCENTRIC PRECAST MAINTENANCE ACCESS STRUCTURE

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	401



PLAN

NOTE:
MINIMUM STEEL: WWF 3X6X3W
OR: LONGITUDINAL STEEL:
13-#3'S@12'O.C.
CIRCUMFERENTIAL STEEL:
#4'S@6"O.C.



SECTION

NOTE:
3' OF FIRST WALL SECTION SHALL BE CAST MONOLITHICALLY WITH BOTTOM SECTION

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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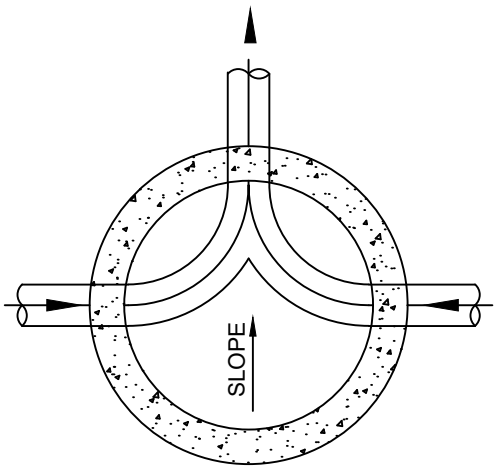
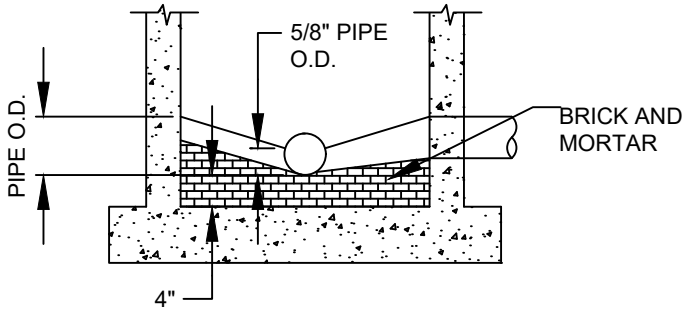
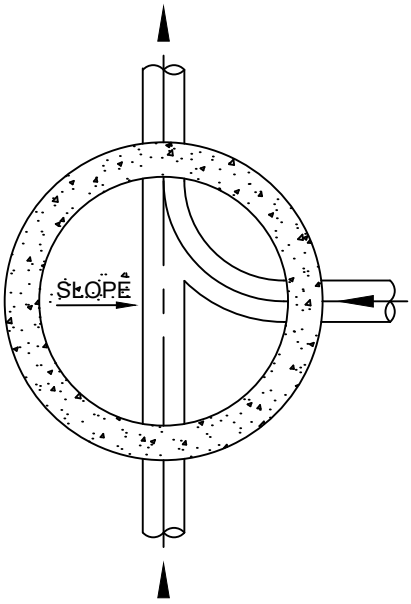
ECCENTRIC PRECAST MAINTENANCE ACCESS STRUCTURE

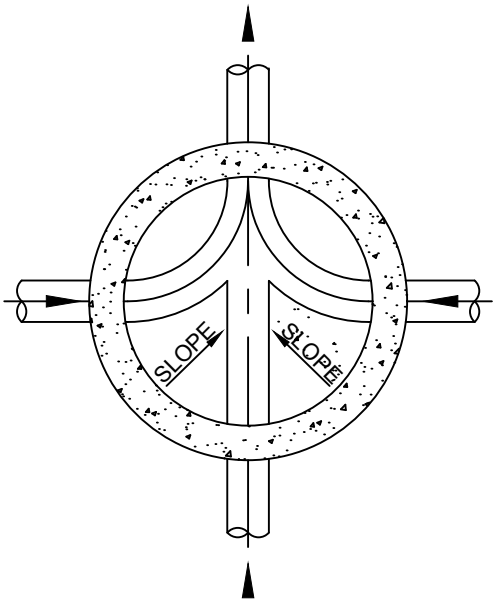
STANDARD DETAILS	DWG. NO. 402
DATE: APRIL 2025	





TYPICAL SECTION





NOTES

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS. ELEVATION DROP OF 0.1 FT. ACROSS THE M.A.S. SHALL BE PROVIDED.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS, PROVIDING FOR SMOOTH FLOWS.
3. CHANNELS TO BE FORMED IN ALL MAINTENANCE ACCESS STRUCTURES TO ACCEPT T.V. CAMERA.
4. WHEN DIRECTIONAL CHANNELS EXCEEDING 45-DEGREES OCCUR, AN EXTRA FLOW LINE ELEVATION DROP OF 0.1 FT ACROSS THE MANHOLE SHALL BE PROVIDED.

N.T.S

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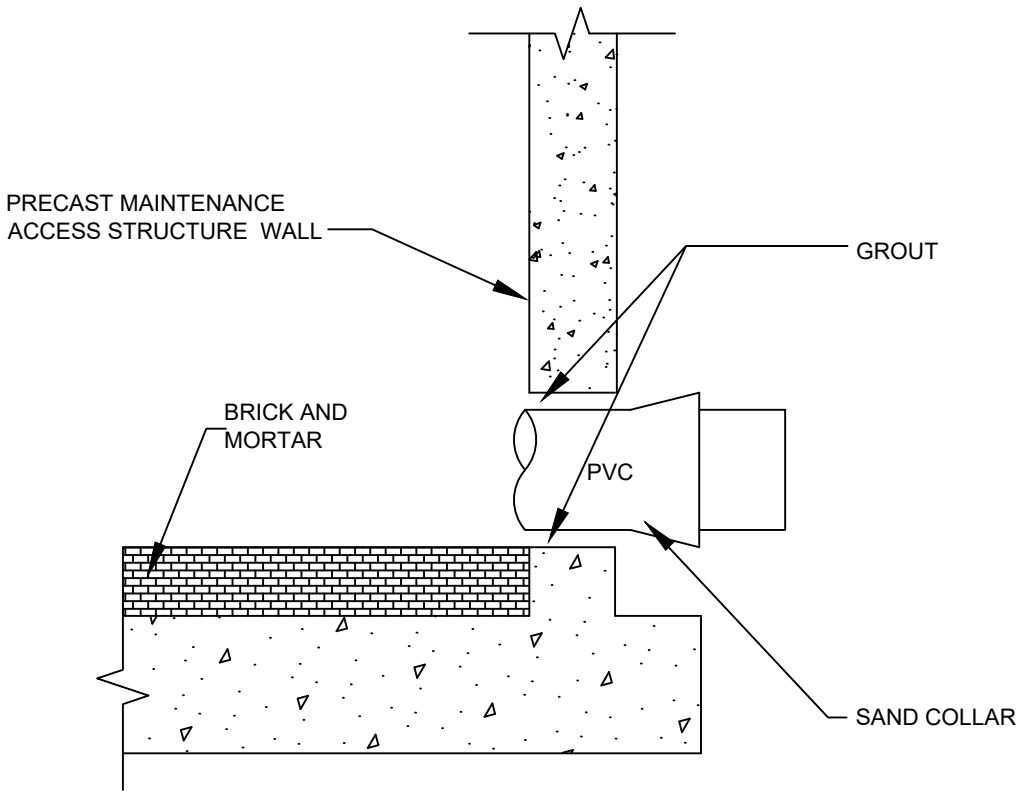
MAINTENANCE ACCESS STRUCTURE (M.A.S.) FLOW CHANNELS

STANDARD DETAILS

DWG. NO. **403**

DATE: APRIL 2025



NOTES

1. THE CITY MAY APPROVE ALTERNATE WATER TIGHT CONNECTION DETAILS FOR CONNECTION OF 24" DIAMETER PIPES AND LARGER.
2. AN OUTSIDE DROP CONNECTION SHALL BE REQUIRED FOR ALL INFLUENT PIPES WHICH HAVE AN INVERT 2' OR MORE ABOVE THE MAINTENANCE ACCESS STRUCTURE BOTTOM.

N.T.S

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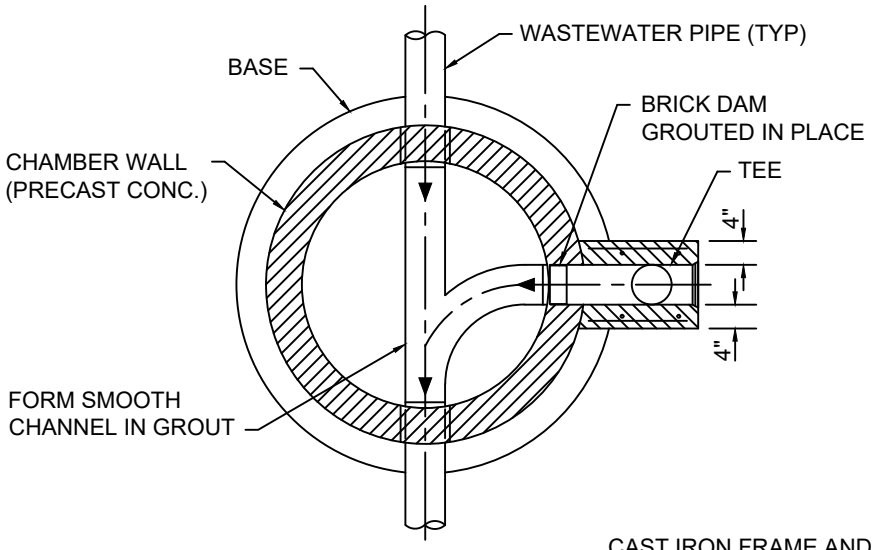
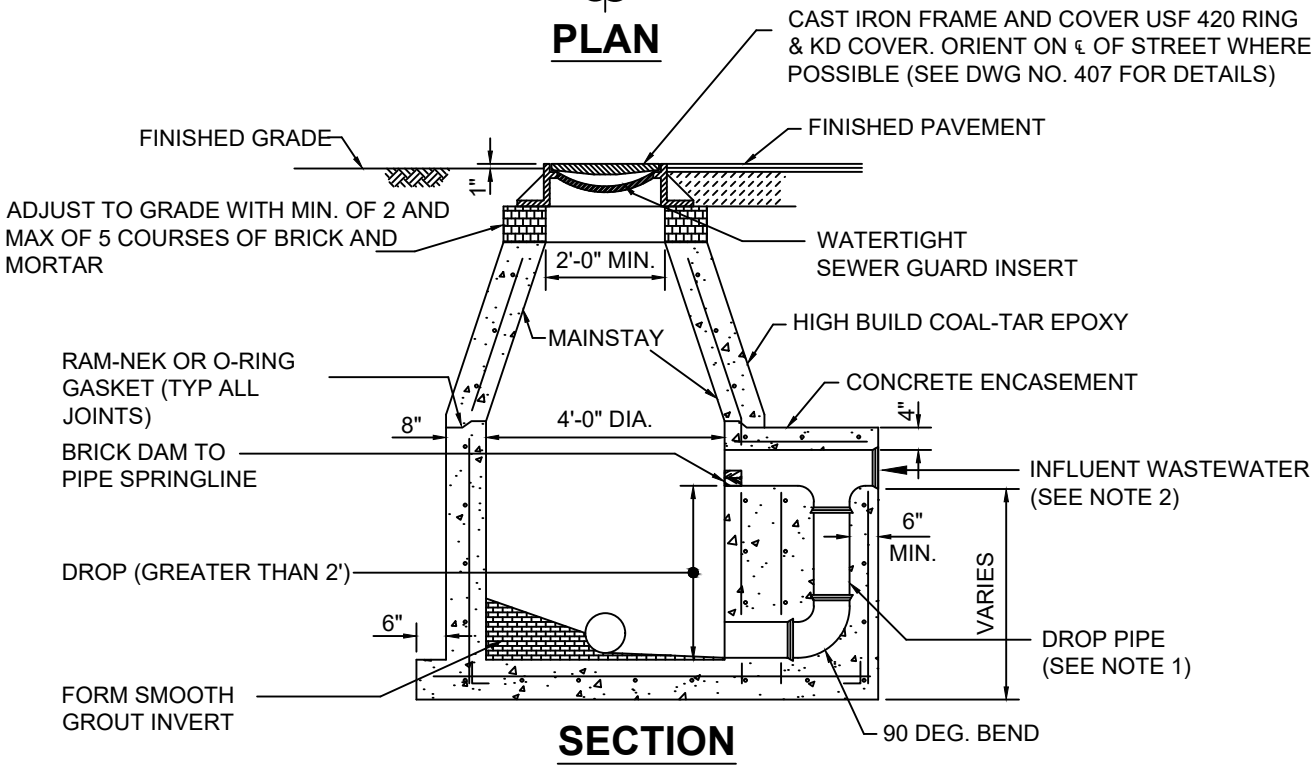
MAINTENANCE ACCESS STRUCTURE CONNECTION DETAIL

STANDARD DETAILS	DWG. NO. 404
DATE: APRIL 2025	



PLAN



SECTION

NOTES

1. DROP PIPE AND FITTINGS SHALL BE OF EQUAL SIZE AND MATERIAL AS THE INFLUENT WASTEWATER.
2. AN OUTSIDE DROP CONNECTION SHALL BE REQUIRED FOR ALL INFLUENT WHICH HAVE AN INVERT 2' OR MORE ABOVE THE M.A.S. INVERT.
3. THE BOTTOM SLAB SHALL BE CAST MONOLITHICALLY WITH THE LOWER WALL SECTION.
4. ALL PIPE WORK SHALL BE SDR-26 OR C-900.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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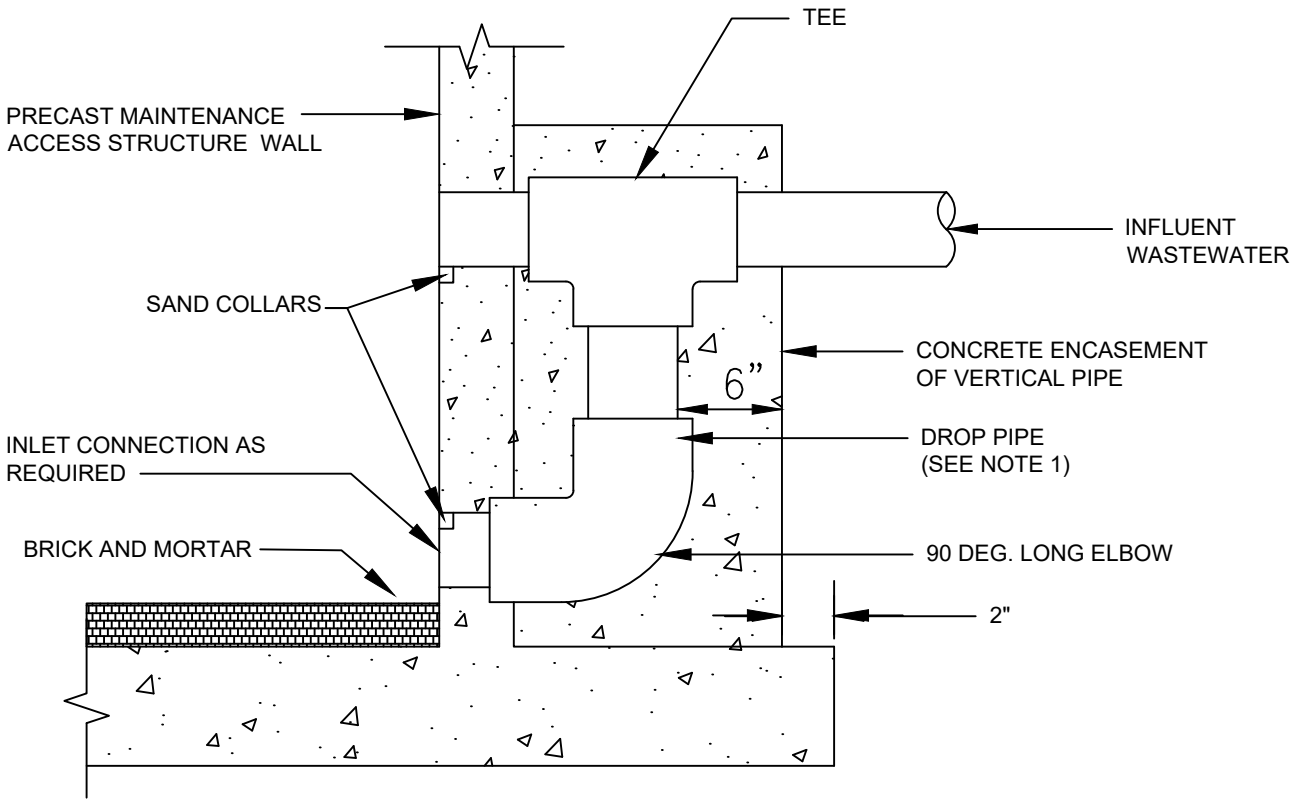
DROP MAINTENANCE ACCESS STRUCTURE

STANDARD DETAILS

DWG. NO. **405**

DATE: APRIL 2025



STANDARD DROP DETAIL

NOTES

1. DROP PIPE AND FITTINGS SHALL BE OF EQUAL SIZE AND MATERIAL AS THE INFLUENT WASTEWATER.
2. AN OUTSIDE DROP CONNECTION SHALL BE REQUIRED FOR ALL INFLUENT WHICH HAVE AN INVERT 2' OR MORE ABOVE THE M.A.S. INVERT.

N.T.S

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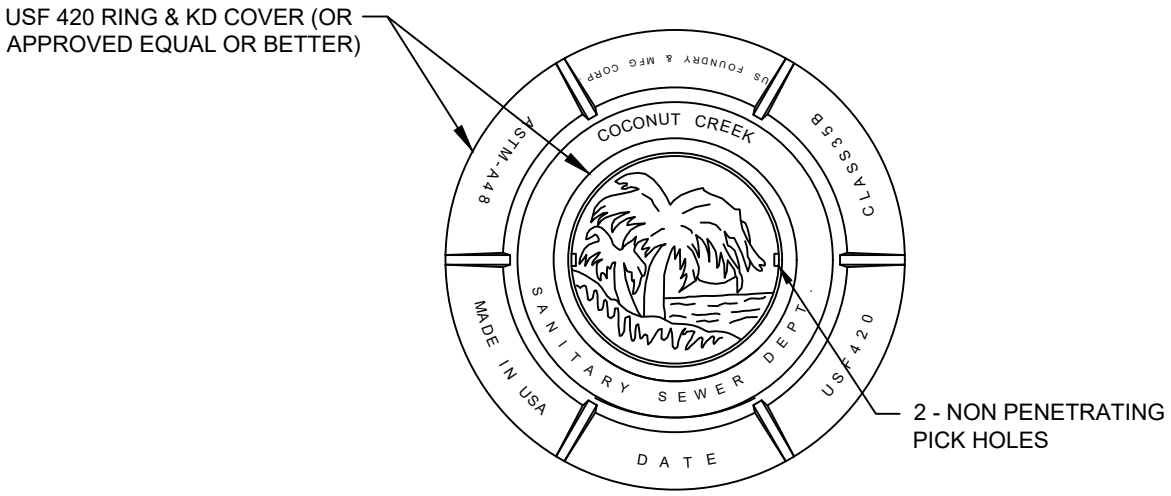
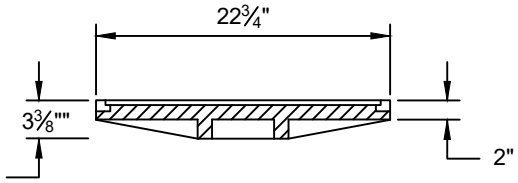
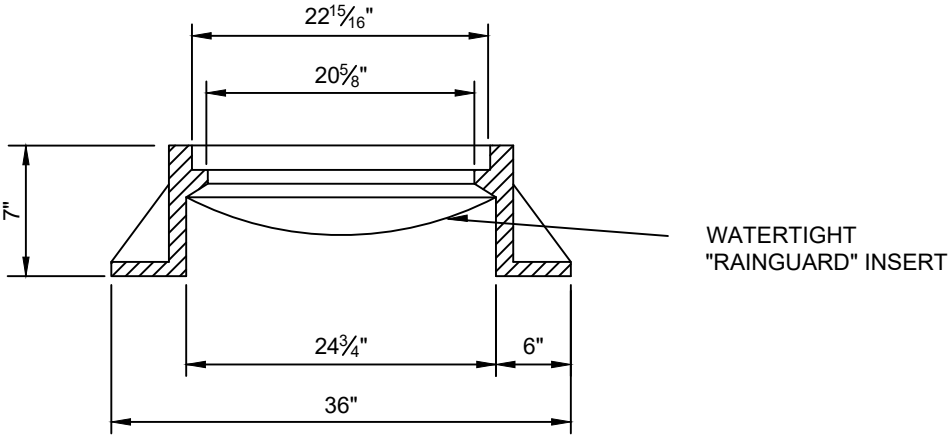
DROP MAINTENANCE ACCESS STRUCTURE CONNECTION

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	406



PLAN





SECTION

NOTES

1. MAINTENANCE ACCESS STRUCTURE FRAME COVER SHALL BE USF 420 RING & KD COVER (OR APPROVED EQUAL OR BETTER) WITH CITY OF COCONUT CREEK LOGO AND SANITARY SEWER DEPT. DESIGNATION IN 1" BOLD FACE LETTERS. SUBMIT SHOP DRAWING FOR CITY APPROVAL.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

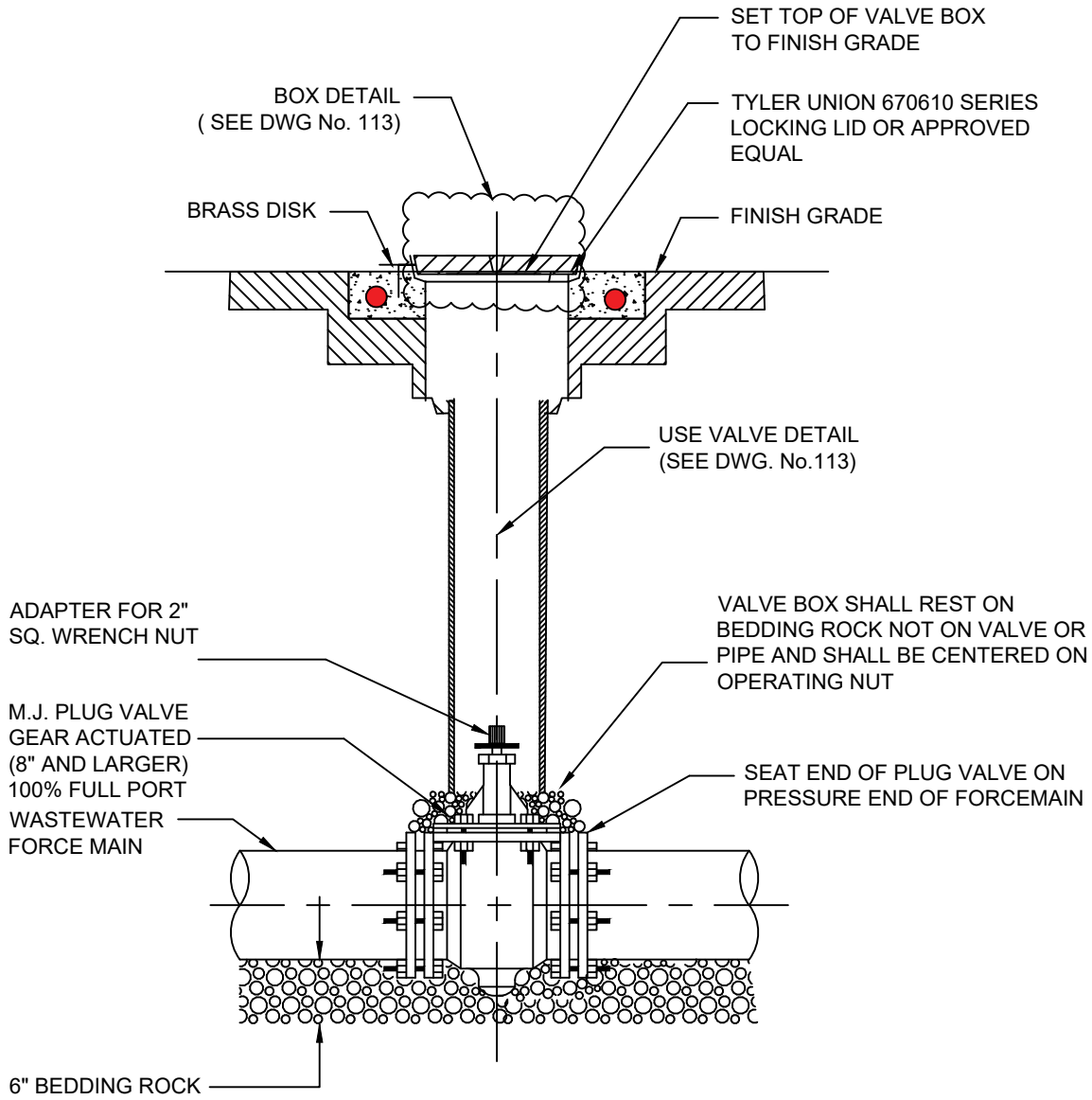
TEL NO: 954-973-6786
FAX NO: 954-571-4146
www.coconutcreek.net

WASTEWATER MAINTENANCE ACCESS STRUCTURE COVER RING & COVER

STANDARD DETAILS

DWG. NO. **407**

DATE: APRIL 2025



NOTES

1. WHEN PLUG VALVE IS NOT LOCATED IN PAVEMENT, PLACE A GREEN PAVEMENT REFLECTOR MARKER IN THE DRIVE LANE, ADJACENT TO THE VALVE AND TO BE TAGGED IN ASPHALT SHOWING SIZE OF VALVE AND DISTANCE LABELED FROM TAGGED TO VALVE BOX CENTER.
2. IN TRAFFIC LANES ALL VALVE BOX LIDS SHALL BE LOCKING LIDS BY TYLER UNION 670610 SERIES OR APPROVED EQUAL.

N.T.S

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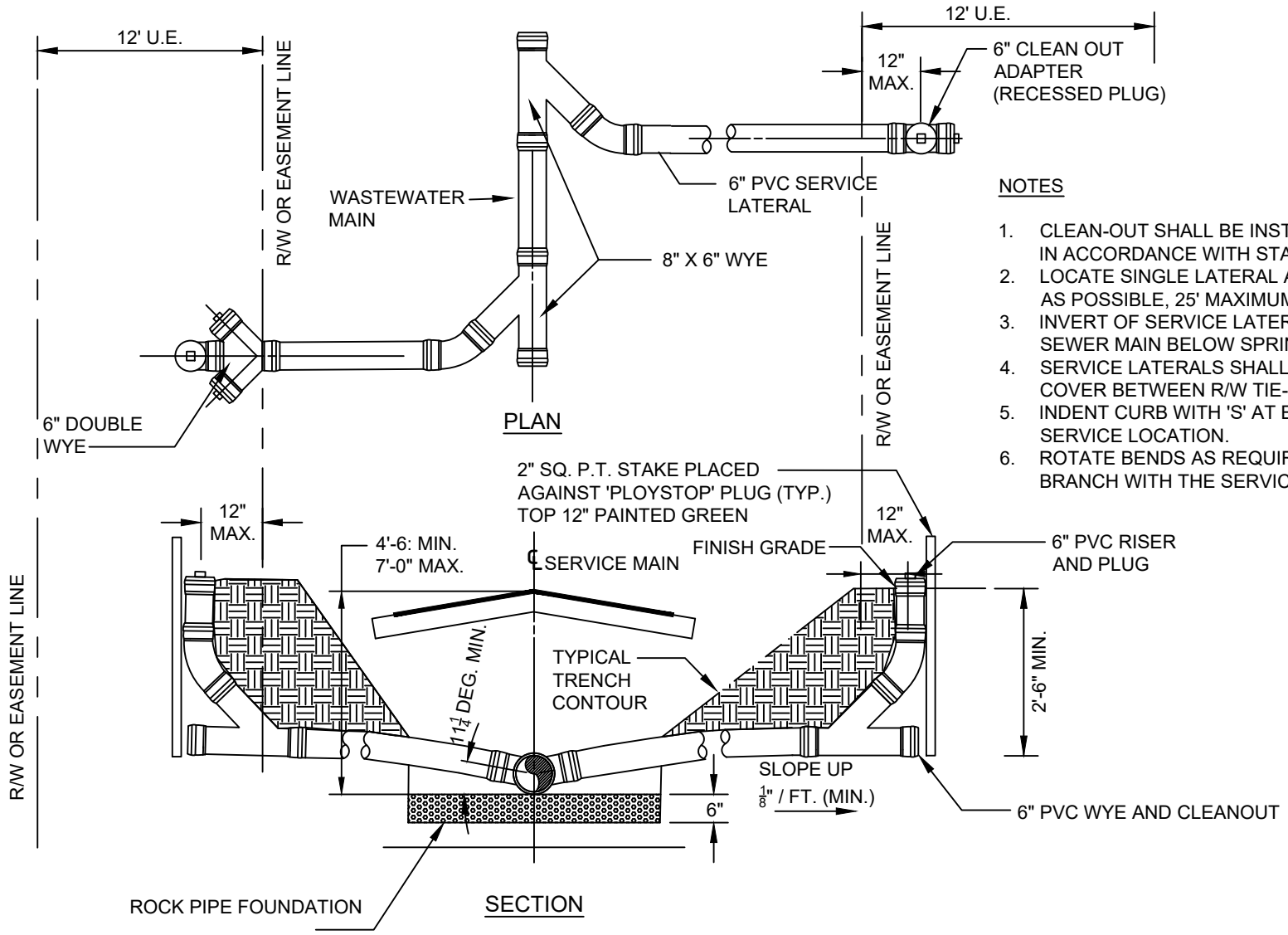
PLUG VALVE AND BOX

STANDARD DETAILS

DWG. NO. **408**

DATE: APRIL 2025



NOTES

1. CLEAN-OUT SHALL BE INSTALLED BY THE BUILDER IN ACCORDANCE WITH STANDARD PLUMBING CODE.
2. LOCATE SINGLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE, 25' MAXIMUM.
3. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
4. SERVICE LATERALS SHALL HAVE A MINIMUM 18" OF COVER BETWEEN R/W TIE-IN AND BUILDING.
5. INDENT CURB WITH 'S' AT EACH WASTEWATER SERVICE LOCATION.
6. ROTATE BENDS AS REQUIRED TO ALIGN SERVICE BRANCH WITH THE SERVICE PIPE.

UTILITIES & ENGINEERING DEPARTMENT

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FAX NO: 954-571-4146
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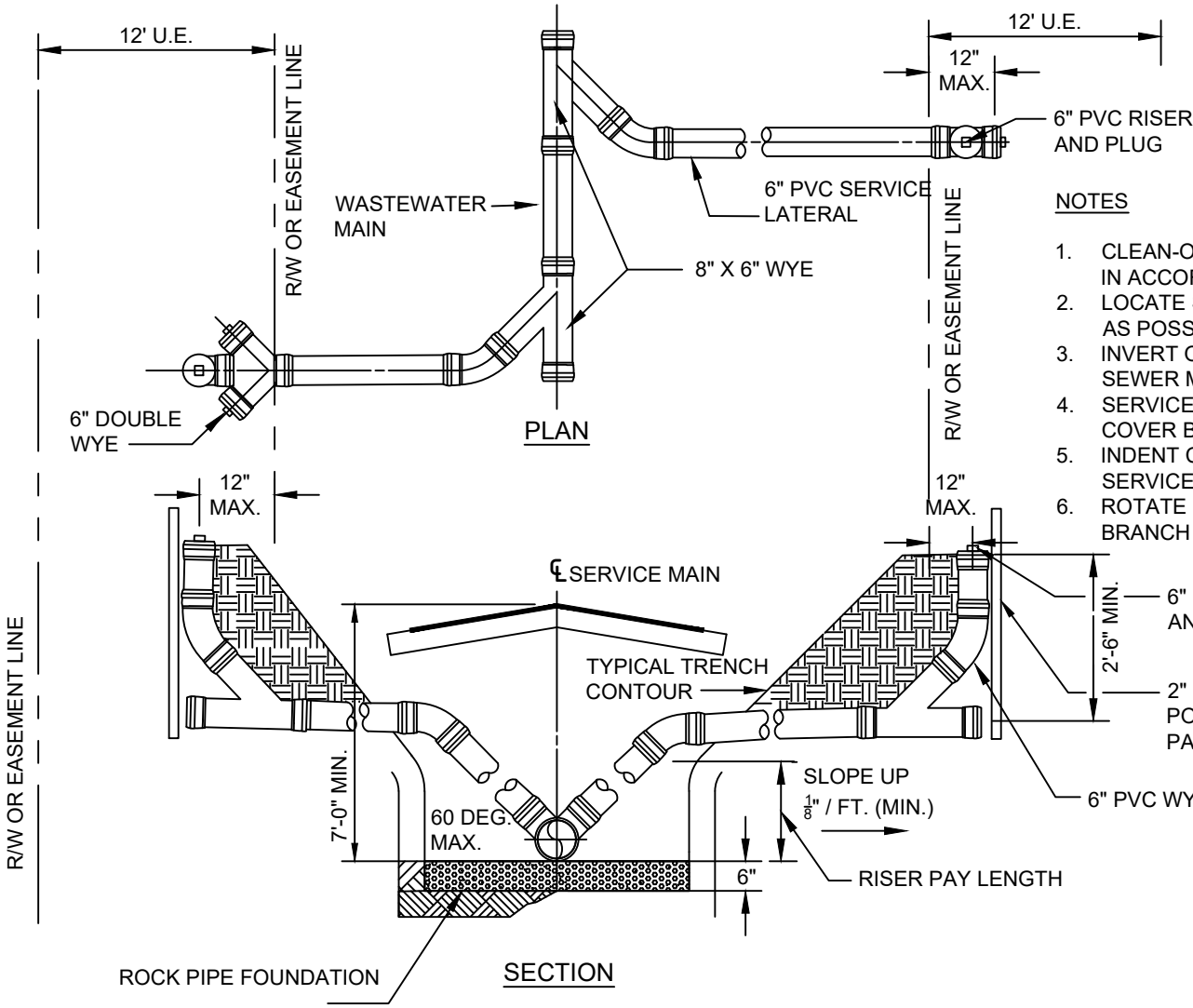
SHALLOW SERVICE LATERAL

STANDARD DETAILS

DWG. NO. **409**

DATE: APRIL 2025



NOTES

1. CLEAN-OUT SHALL BE INSTALLED BY THE BUILDER IN ACCORDANCE WITH STANDARD PLUMBING CODE.
2. LOCATE SINGLE LATERAL AS CLOSE TO LOT LINE AS POSSIBLE, 25' MAXIMUM.
3. INVERT OF SERVICE LATERAL SHALL NOT ENTER SEWER MAIN BELOW SPRING LINE.
4. SERVICE LATERALS SHALL HAVE A MINIMUM 18" OF COVER BETWEEN R/W TIE-IN AND BUILDING.
5. INDENT CURB WITH 'S' AT EACH WASTEWATER SERVICE LOCATION.
6. ROTATE BENDS AS REQUIRED TO ALIGN SERVICE BRANCH WITH THE SERVICE PIPE.

UTILITIES & ENGINEERING DEPARTMENT

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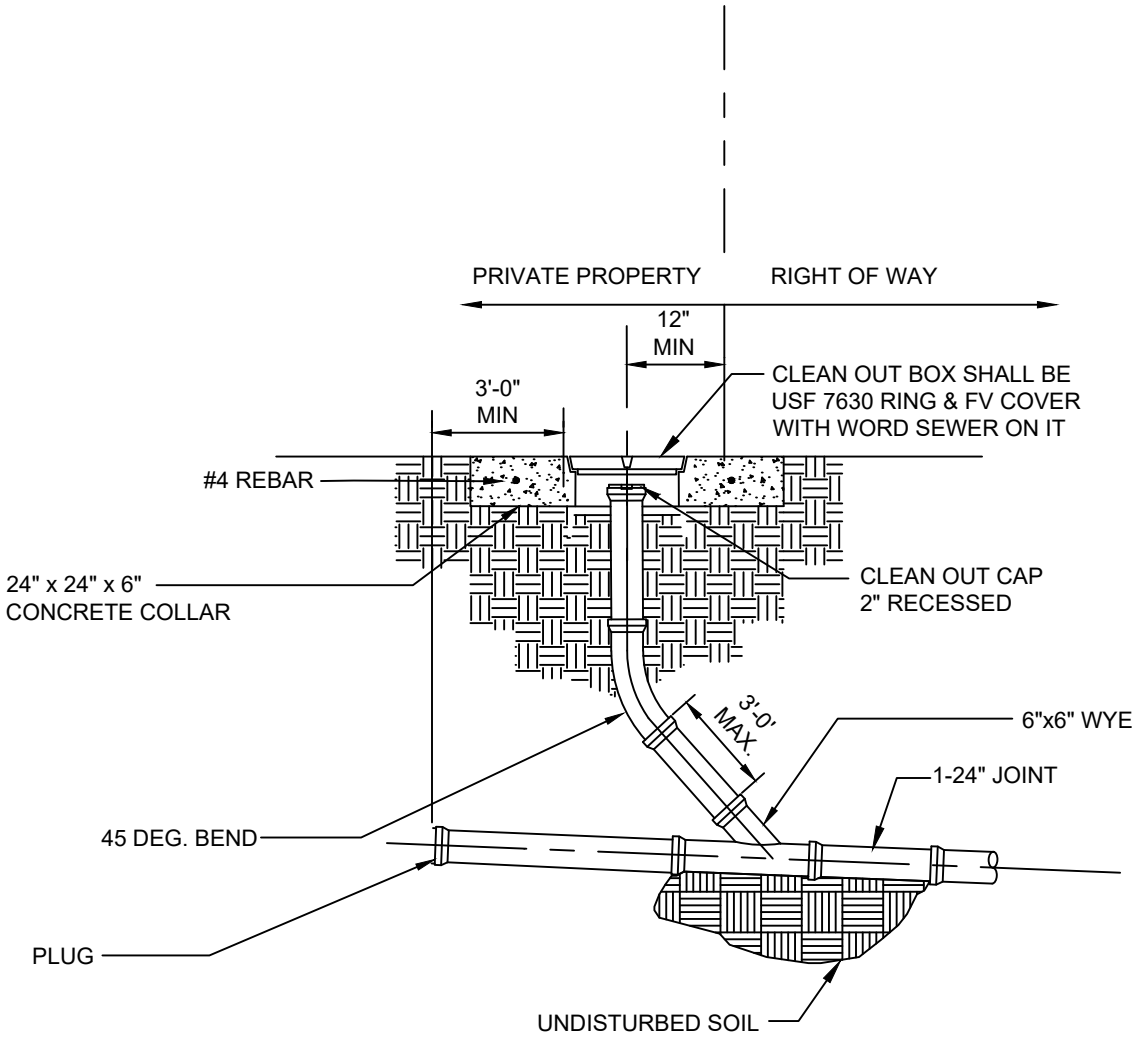
DEEP SERVICE LATERAL

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **410**



NOTES

1. ALL CLEAN OUT PLUG SHALL BE 2" RECESSED.
2. THREADS SHALL BE LUBRICATED AS NECESSARY AND UNIT FULLY OPERATIONAL PRIOR TO ACCEPTANCE AND/OR FINAL APPROVAL BY THE CITY.
3. CITY MAINTAINS WASTEWATER UP TO PROPERTY LINE / FIRST CITY CLEAN OUT.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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WASTEWATER SERVICE CLEAN-OUT

STANDARD DETAILS

DWG. NO. **411**

DATE: APRIL 2025

FOR FUTURE USE

UTILITIES & ENGINEERING DEPARTMENT

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COCONUT CREEK, FL 33073

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FAX NO: 954-571-4146
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STANDARD DETAILS

DWG. NO. **412**

DATE: APRIL 2025

FOR FUTURE USE

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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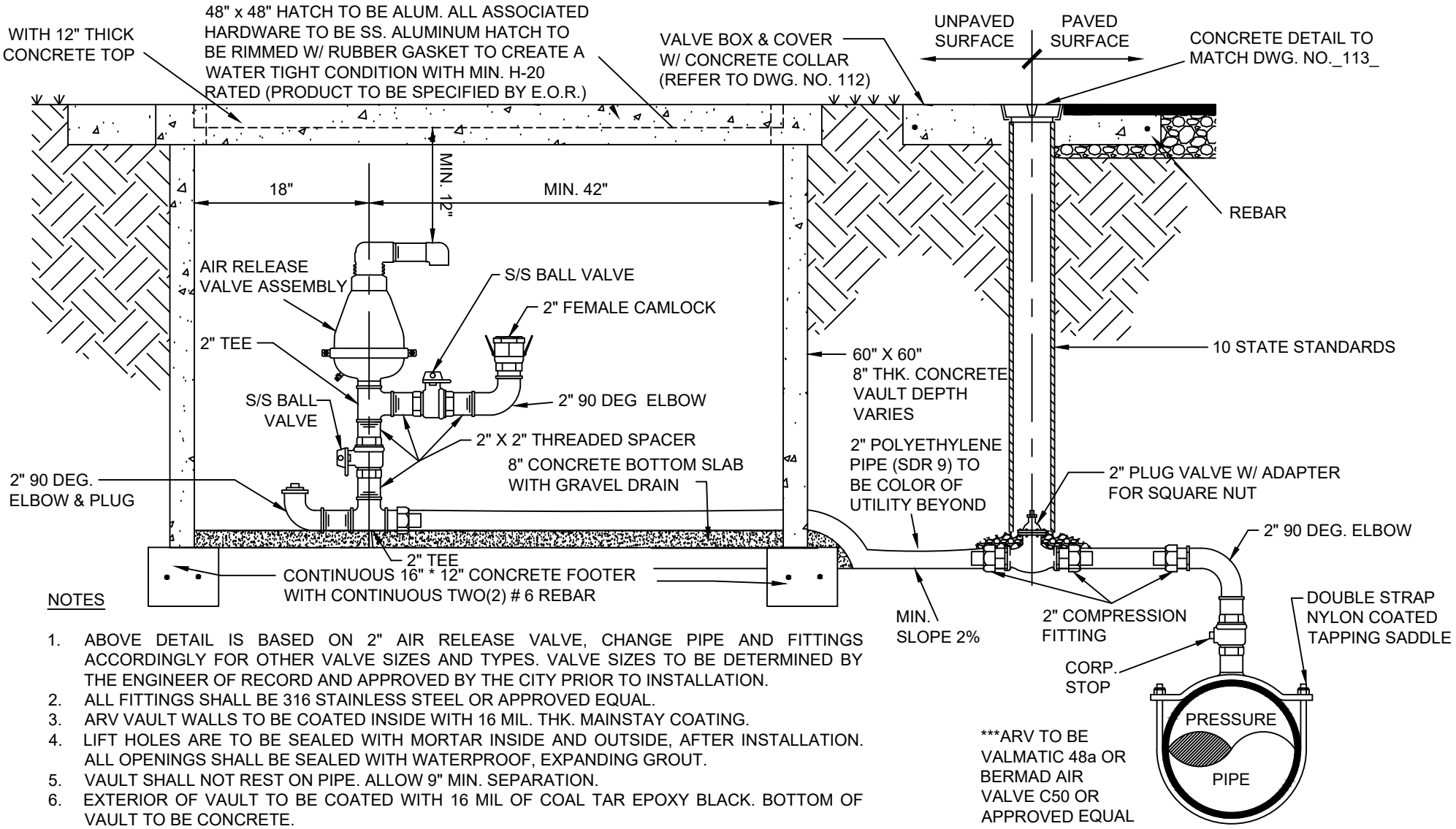
STANDARD DETAILS	DWG. NO. **413**
DATE: APRIL 2025	



NOTES

1. ABOVE DETAIL IS BASED ON 2" AIR RELEASE VALVE, CHANGE PIPE AND FITTINGS ACCORDINGLY FOR OTHER VALVE SIZES AND TYPES. VALVE SIZES TO BE DETERMINED BY THE ENGINEER OF RECORD AND APPROVED BY THE CITY PRIOR TO INSTALLATION.
2. ALL FITTINGS SHALL BE 316 STAINLESS STEEL OR APPROVED EQUAL.
3. ARV VAULT WALLS TO BE COATED INSIDE WITH 16 MIL. THK. MAINSTAY COATING.
4. LIFT HOLES ARE TO BE SEALED WITH MORTAR INSIDE AND OUTSIDE, AFTER INSTALLATION. ALL OPENINGS SHALL BE SEALED WITH WATERPROOF, EXPANDING GROUT.
5. VAULT SHALL NOT REST ON PIPE. ALLOW 9" MIN. SEPARATION.
6. EXTERIOR OF VAULT TO BE COATED WITH 16 MIL OF COAL TAR EPOXY BLACK. BOTTOM OF VAULT TO BE CONCRETE.
7. VALVE BOX TO BE USF 7630 WITH SEWER SPELLED OUT.

UTILITIES & ENGINEERING DEPARTMENT

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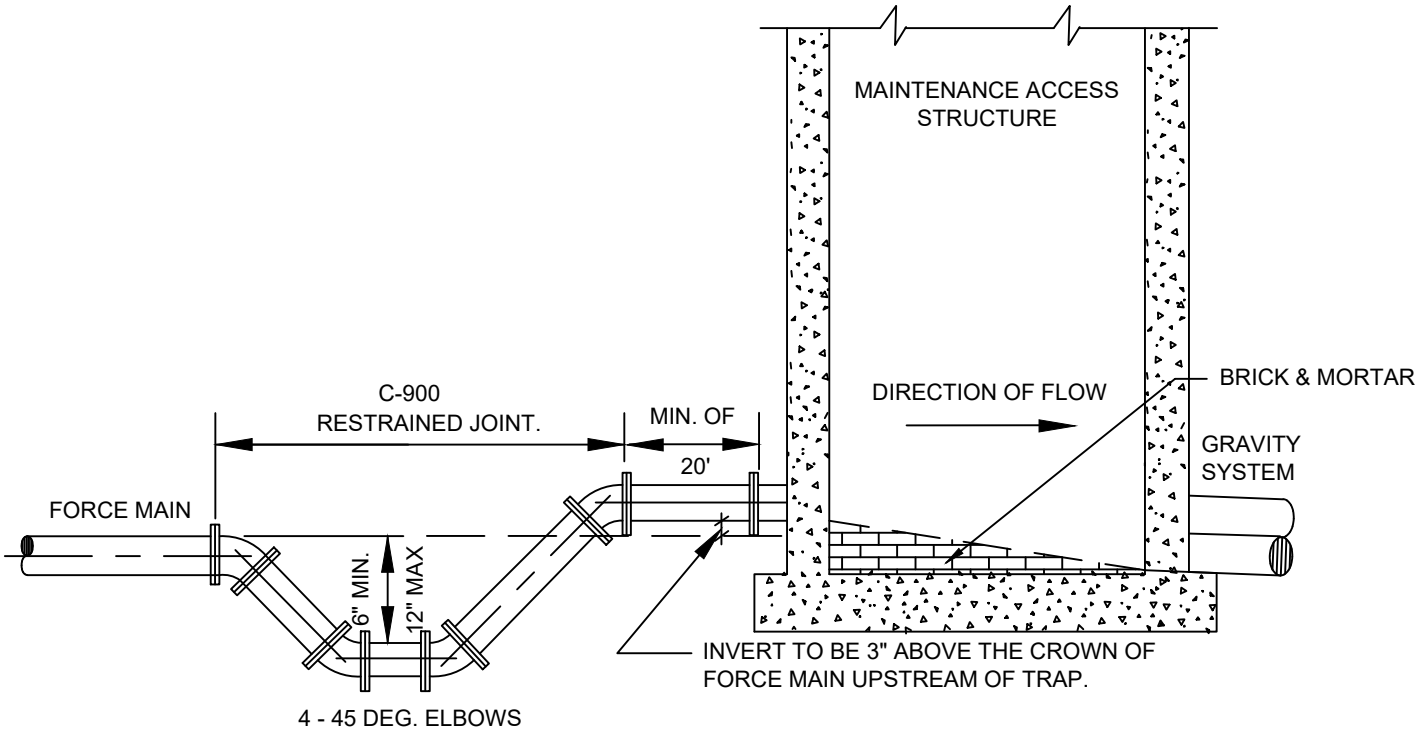
OFFSET AIR RELEASE VALVE

STANDARD DETAILS	DWG. NO. 414
DATE: APRIL 2025	



NOTES:

1. FORCE MAIN TO ENTER MAINTENANCE ACCESS STRUCTURES AS CLOSE AS POSSIBLE TO 180 DEG. TO GRAVITY OUTLET.
2. THE INVERT LEVEL OF FORCE MAIN AT POINT OF ENTRY SHALL BE 6" ABOVE INVERT OF MAINTENANCE ACCESS STRUCTURES.
3. CORE ENTRY ONLY INTO EXISTING MAINTENANCE ACCESS STRUCTURES.
4. TRAP TO BE LOCATED PRIOR TO DROP INTO MAINTENANCE ACCESS STRUCTURES AND OUTSIDE OF PAVED AREAS. FLOW CHANNEL REQUIRED
5. USE TWO 45 DEG. ELBOWS PAST TRAP IF ELEVATION DROP IS REQUIRED TO ENTER MAINTENANCE ACCESS STRUCTURES.
6. MAINTENANCE ACCESS STRUCTURES AND FLOW CHANNEL TO BE COATED WITH MAINSTAY OR EQUAL.
7. USE MEGALUGS OR EQUAL TO RESTRAIN TRAP JOINTS.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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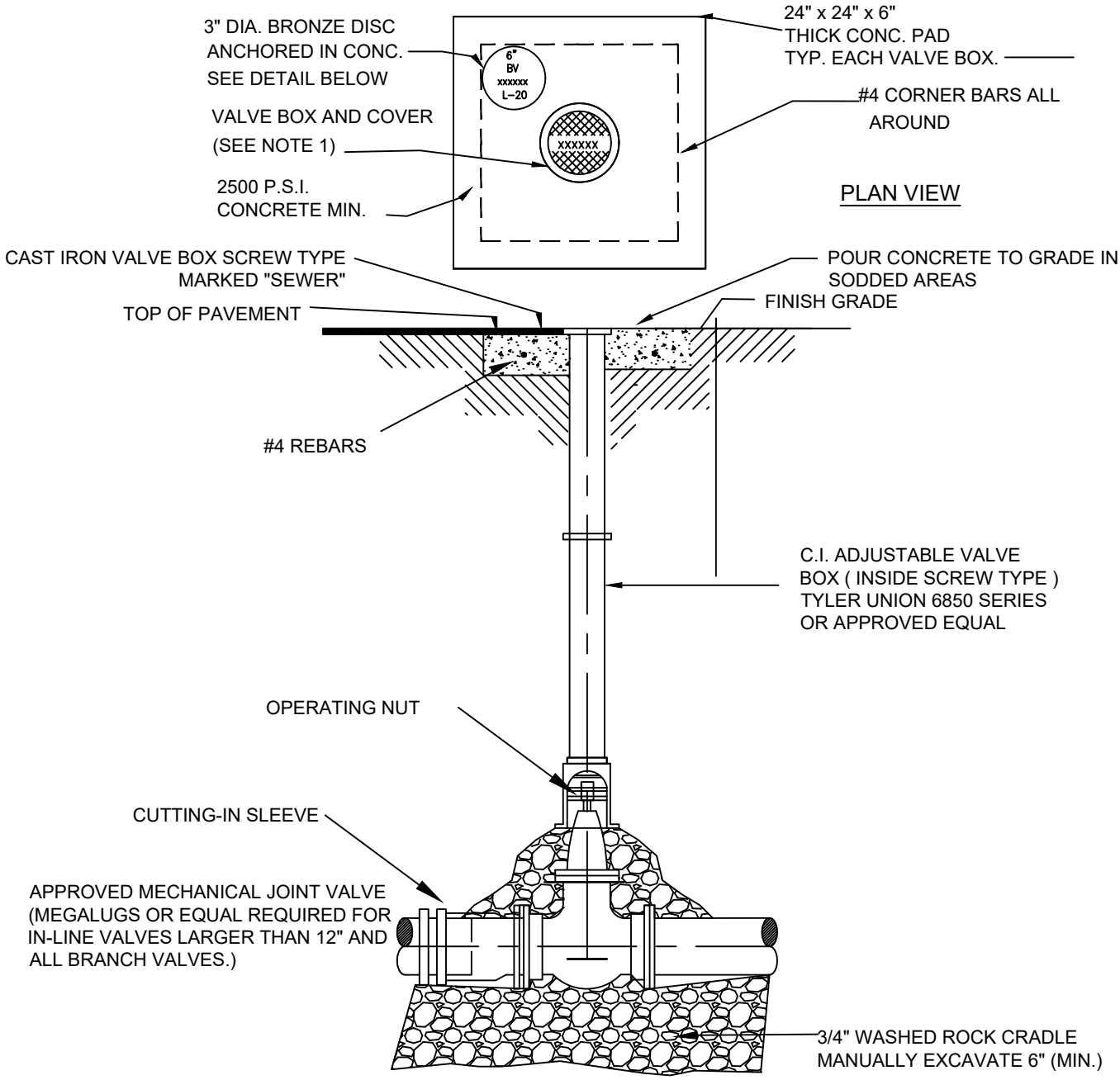
FORCE MAIN ENTERING A MAINTENANCE ACCESS STRUCTURE

STANDARD DETAILS

DWG. NO. **415**

DATE: APRIL 2025



NOTES:

1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. VALVE BOXES SHALL HAVE LOCKING COVERS MARKED "SEWER".
3. EXTENSION VALVE BOX TO BE D.I.P. (FOR VALVES UNDER PAVEMENT AND IN TRAFFIC AREAS) OR P.V.C. (FOR VALVES IN GRASS AREAS OR OUTSIDE OF TRAFFIC AREAS).
4. A CUT-IN INSTALLATION SHALL REQUIRE MEGALUGS OR EQUAL THROUGHOUT ASSEMBLY.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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FORCE MAIN PLUG VALVE SETTING AND CUT-IN DETAIL

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	416

PUMP STATION DETAILS

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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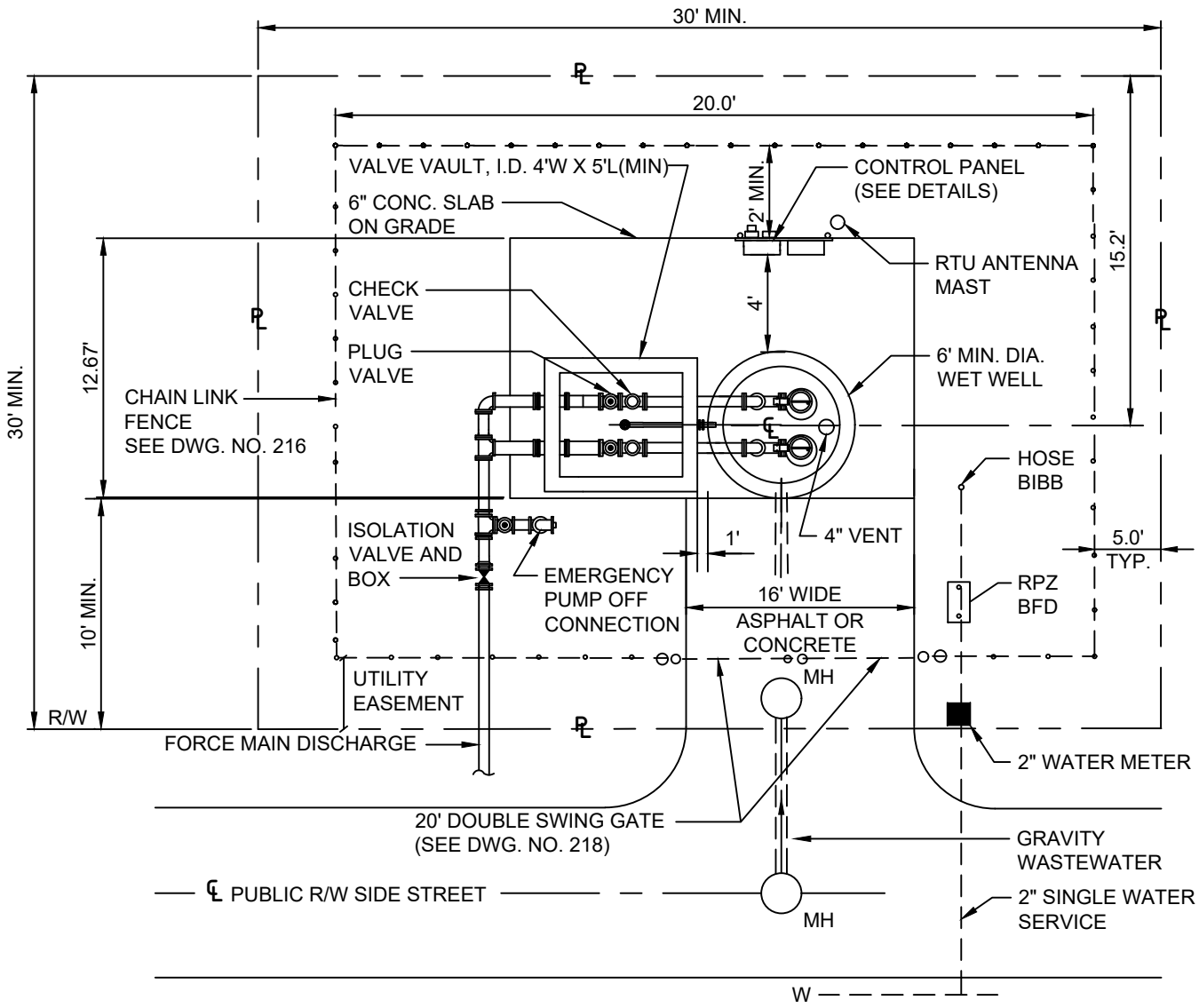
PUMP STATION DETAILS

STANDARD DETAILS	DWG. NO. **500**
DATE: APRIL 2025	



NOTES

1. DESIGN ENGINEER SHALL PROVIDE A SCALED (1" = 20' MIN.) SITE SPECIFIC DETAIL.
2. 10' WIDE CONCRETE/ASPHALT DRIVE IN ACCORDANCE WITH CITY DRIVEWAY STANDARDS.
3. LANDSCAPE THE SITE PER CITY LAND DEVELOPMENT CODE.
4. MASTER LIFT STATION TO BE SUPPLIED WITH AUXILIARY GENERATOR SET AND WITH A FUEL TANK IN ACCORDANCE WITH BROWARD COUNTY HEALTH DEPARTMENT REGULATIONS.
5. PROVIDE 5 FT. LANDSCAPE AREA AROUND SITE PERIMETER PER LDC.
6. FENCE TO START AT BACK OF UTILITY EASEMENT (MIN. 10" FROM R.O.W.)

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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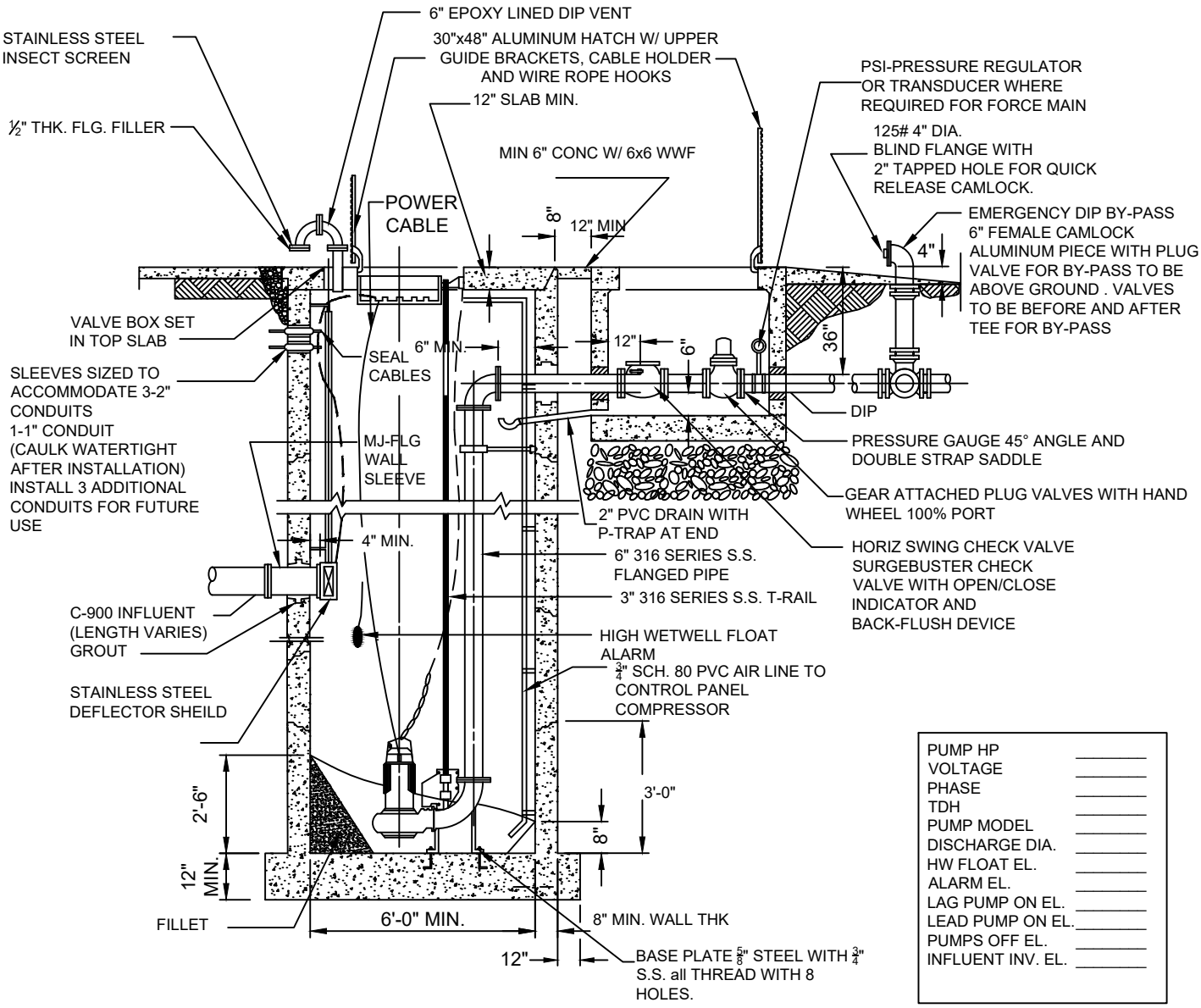
LIFT STATION SITE PLAN

STANDARD DETAILS

DWG. NO. **501**

DATE: APRIL 2025



PUMP HP	_____
VOLTAGE	_____
PHASE	_____
TDH	_____
PUMP MODEL	_____
DISCHARGE DIA.	_____
HW FLOAT EL.	_____
ALARM EL.	_____
LAG PUMP ON EL.	_____
LEAD PUMP ON EL.	_____
PUMPS OFF EL.	_____
INFLUENT INV. EL.	_____

NOTES

1. USE RAMNEK & NON-SHRINK GROUT IN ACCORDANCE W/ STD MH SPECIFICATIONS.
2. INTERIOR OF WETWELL, VALVE VAULT AND ALL PIPING TO RECEIVE MAINSTAY 10 MILS
3. TYPE II REINFORCED CONCRETE; 4,000 PSI. PER ASTM C-478 MIN.
4. SEE PLAN FOR CORRECT ORIENTATION OF PIPES, VENT AND OTHER FIXTURES.
5. ALL HARDWARE INSIDE & OUTSIDE OF WET WELL & VALVE PIT TO BE STAINLESS STEEL (TYPE 316).
6. ENGINEER SHALL SUPPLY BUOYANCY CALCULATIONS WITH A*1.5 SAFETY FACTOR.
7. PUMP AND HARDWARE SHALL BE INSTALLED PER MANUFACTURE'S RECOMMENDATIONS.
8. LIFT STATION STRUCTURES DEEPER THAN 20 FT. SHALL BE DESIGNED BY ENGINEER OF RECORD.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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TYPICAL LIFT STATION SECTION

STANDARD DETAILS

DWG. NO. **502**

DATE: APRIL 2025

FOR FUTURE USE

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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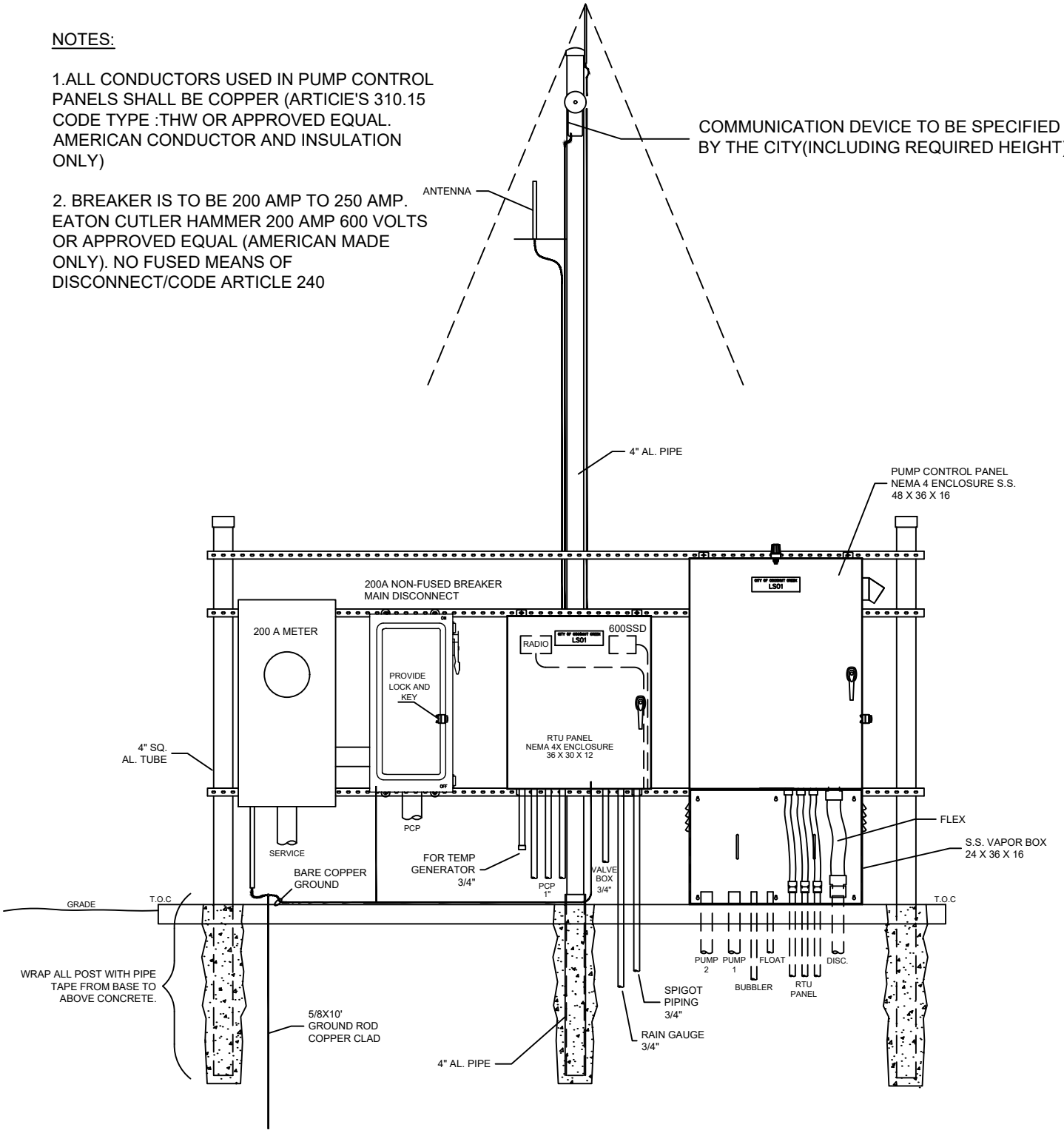
STANDARD DETAILS	DWG. NO. **503**
DATE: APRIL 2025	

NOTES:

1.ALL CONDUCTORS USED IN PUMP CONTROL PANELS SHALL BE COPPER (ARTICIE'S 310.15 CODE TYPE :THW OR APPROVED EQUAL. AMERICAN CONDUCTOR AND INSULATION ONLY)

2. BREAKER IS TO BE 200 AMP TO 250 AMP. EATON CUTLER HAMMER 200 AMP 600 VOLTS OR APPROVED EQUAL (AMERICAN MADE ONLY). NO FUSED MEANS OF DISCONNECT/CODE ARTICLE 240



ELECTRICAL SERVICE - FRONT VIEW
CONTROL PANEL AND RTU NOT SHOWN

RTU PANEL - FRONT VIEW

ELECTRICAL CONTROL PANEL - FRONT VIEW
SERVICE AND DISCONNECT ON BACK SIDE

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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PUMP STATION CONTROL PANEL INSTALLATION LAYOUT

STANDARD DETAILS

DWG. NO. **504**

DATE: APRIL 2025

INSTALLATION NOTES

1. PANEL, TELEMETRY BOX, METER, JUNCTION BOX AND TRANSFORMER ARE TO BE MOUNTED ON STAINLESS STEEL STRUTS, WITH STAINLESS STEEL FASTENING DEVICES, AND SHALL BE SUPPORTED BY TWO POSTS, MIN. FOUR (4) INCH DIAMETER PIPE OR MIN. FOUR (4) INCH SQUARE TUBE (ALUMINUM OR STAINLESS STEEL) CAPPED AT THE TOP. PAINT BELOW GRADE SUPPORTS WITH PIPE TAPE TO FOUR (4) INCHES ABOVE GRADE.

2. PANEL MUST BE NOT CLOSER THAN 36 INCHES OR FARTHER THAN 48 INCHES FROM WET WELL OPENING MEASURED FROM THE FRONT OF THE PANEL.

3. THE RADIO MONITOR SHALL BE MOUNTED IN ITS OWN CABINET ON THE RIGHT SIDE OF THE PANEL. RADIO TO BE PER CITY OF COCONUT CREEK VENDOR SPECIFICATION AT TIME OF BID INCLUDING RUN TIME TRANSMITTAL. LIVE TEST OF THE TELEMETRY SYSTEM MUST BE DONE AND APPROVED AT THE LIFT STATION START-UP. ANTENNA AND CABLE SHALL BE PART OF THE RADIO SYSTEM. ANTENNA SHALL BE SEPARATELY GROUNDED TO THE GROUND ROD OF THE STATION.

4. FABRICATE ANTENNA FROM LENGTH OF 20 FOOT 4" DIAMETER SCHEDULE 40 ALUMINUM. PAINT LOWER THREE (3) FEET WITH ASPHALTUM PAINT, CAP THE TOP OF PIPE.

5. RUN 3/4 INCH RIGID GALVANIZED CONDUIT UP THE MAST FOR THE ANTENNA CABLE TO WITHIN 16 INCHES OF THE TOP. RUN SECOND 3/4 INCH CONDUIT UP THE MAST FOR ALARM AND FLOOD LIGHTS AS SHOWN. USE STAINLESS STEEL UNISTRUT AND CLAMPS TO HOLD CONDUITS TO THE MAST.

6. MOUNT FLOOD LIGHT AND FLASHING RED LIGHT ON THE ANTENNA MAST AT TEN (10) FEET AND EIGHT (8) FEET ABOVE GRADE. LIGHTS SHIPPED LOOSE WITH PANEL. USE 400W EQUIVALENT LED LIGHT.

7. CONDUIT TO THE POWER COMPANY SERVICE POINT SHALL BE RIGID GALVANIZE WITH ASPHALTUM PAINT ON ALL FITTINGS AND ON ALL RISERS TO 12 INCHES ABOVE GRADE. WIRING FROM THE METER CAN TO THE PANEL SHALL BE RIGID GALVANIZED CONDUIT ENTERING THE BOTTOM OF THE PANEL. ALL WIRE SHALL BE COPPER. HIGH LEG ON 240 VOLT SHALL BE TAPED ORANGE AND PUT ON CENTRAL TERMINAL IN PANEL AND RIGHT TERMINAL IN METER.

8. PROVIDE TWO (2) - THREE (3) INCH CONDUITS PVC SCHEDULE 80 WITH SWEEP BENDS, FROM THE JUNCTION BOX TO THE WET WELL. PROVIDE A SPARE 1" and 2" DIRECT BURIED AND CAPPED OFF FROM BOTH SIDES OF PUMP CONTROL BOTTOM VAPOR BOX ENCASED IN CONCRETE FROM THE WET WELL CODE ARTICLE (325)A,B,C,D,G.

9. RUN PUMP MOTOR CABLES IN TWO (2) - TWO (2) INCH SCHEDULE 80 PVC CONDUITS AND FLOAT CABLES IN THIRD. SUPPORT PUMP CABLES WITH STAINLESS SPLIT BASKET KELLUM (OR EQUAL) GRIPS IN WET WELL. SUPPORT FLOAT CABLES ON S.S. THIMBLE RACK. ALL HARDWARE IN THE WET WELL AND ALL FASTENERS SHALL BE STAINLESS STEEL. CABLES SHALL BE CONTINUOUS FROM THE JUNCTION BOX TO THE MOTORS OR FLOATS. SUPPORT CABLES ENTERING THE JUNCTION BOX WITH SPLIT PVC STRAIN RELIEF BUSHINGS.

10. WHEN CONNECTIONS ARE COMPLETE IN THE JUNCTION BOX, COAT THE TERMINAL BLOCKS AND WIRE ENDS WITH PROTECTIVE COMPOUND, NON-OXIDE OR EQUAL, TO PREVENT CORROSION.

11. PROVIDE RIGID GALVANIZED CONDUITS FROM THE PANEL TO THE RTU, TO 120 VOLT TRANSFORMER, AND TO THE LIGHTS. ALL CONDUITS ENTER BOTTOM OF THE PANEL. SEAL ALL CONDUITS WITH DUCT SEAL TO KEEP OUT MOISTURE AND GASSES.

12. PAINT PVC PIPES, CONDUITS AND ANY PARTS NOT STAINLESS OR ALUMINUM WITH TWO (2) COATS OF ALUMINUM PAINT.

13. TEST AS FOLLOWS, PUMP SUPPLIERS FIELD TEST MAN MUST BE PRESENT TO CONDUCT TESTS.
    A. MEGGER MOTORS, MOTORS SHALL BE 20 MEGAOHMS OR MORE TO GROUND, DO NOT MEGGER LOW VOLTAGE CONTROLS
    B. CHECK VOLTAGE, CHECK PUMP ROTATION, RECORD VOLTAGE AND AMPS UNDER LOAD.
    C. DEMONSTRATE PROPER OPERATION OF ALL CONTROLS.
    D. CONDUCT DRAWDOWN TESTS AS REQUIRED.
    E. CHECK OPERATION WITH OWNER'S PORTABLE GENERATOR CHANGE WIRE CONNECTIONS IN THE PANEL TO GIVE CORRECT ROTATION.

14. TEST AND DEMONSTRATE PROPER OPERATION OF THE RADIO TELEMETRY SYSTEM. SUPPLIER'S FIELD REPRESENTATIVE SHALL MOUNT AND CONNECT THE ANTENNA AND MAKE THE FINAL CONNECTIONS TO THE SYSTEM.
15. ALL CONDUCTORS OF ALL SIZES SHALL NOT EXCEED THE PERMITTED PERCENTAGE OF FILL PVC RACEWAY.(TABLE CODE 3523)

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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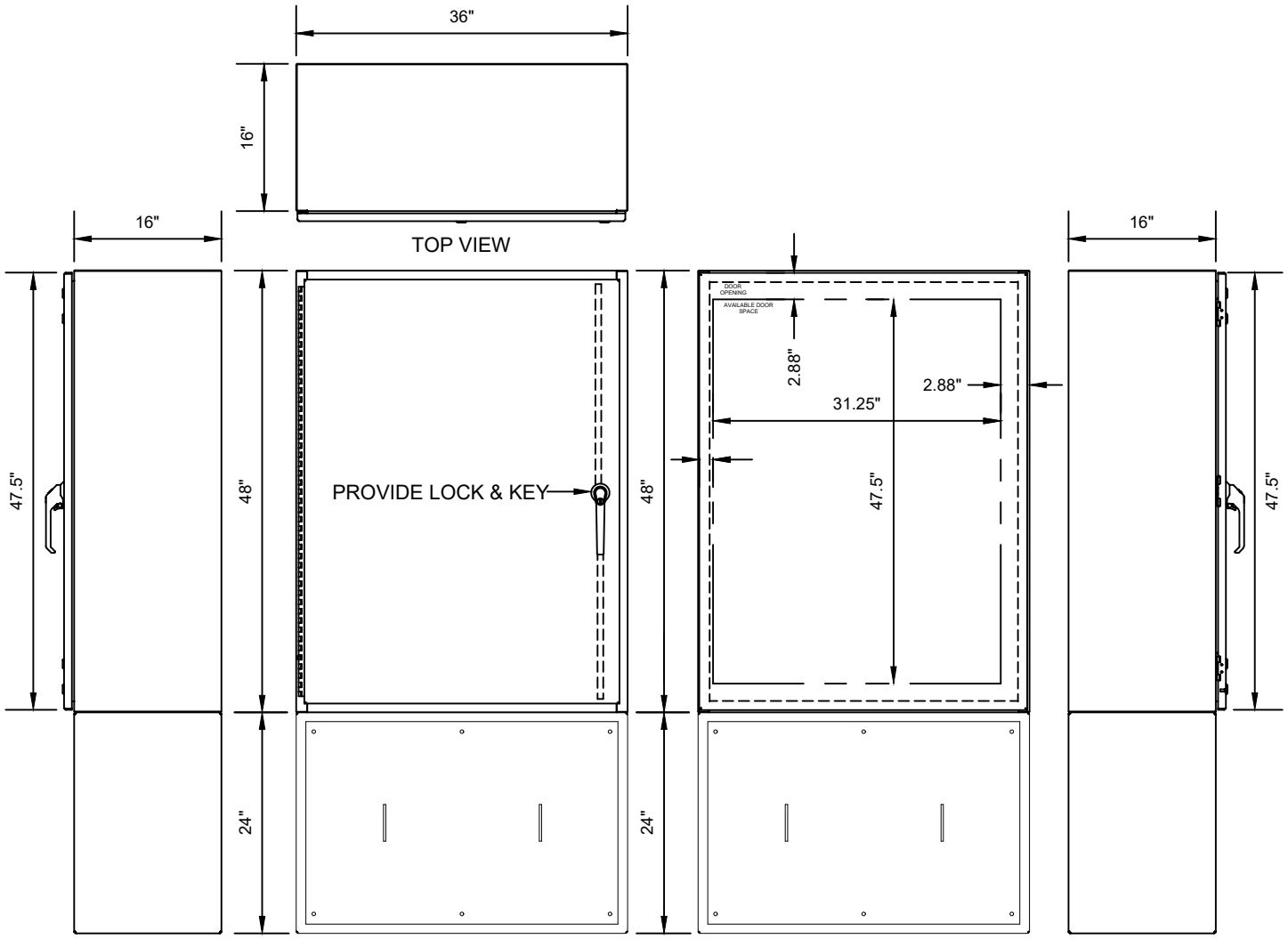
PUMP STATION CONTROL PANEL INSTALLATION NOTES

STANDARD DETAILS

DWG. NO. **505**

DATE: APRIL 2025



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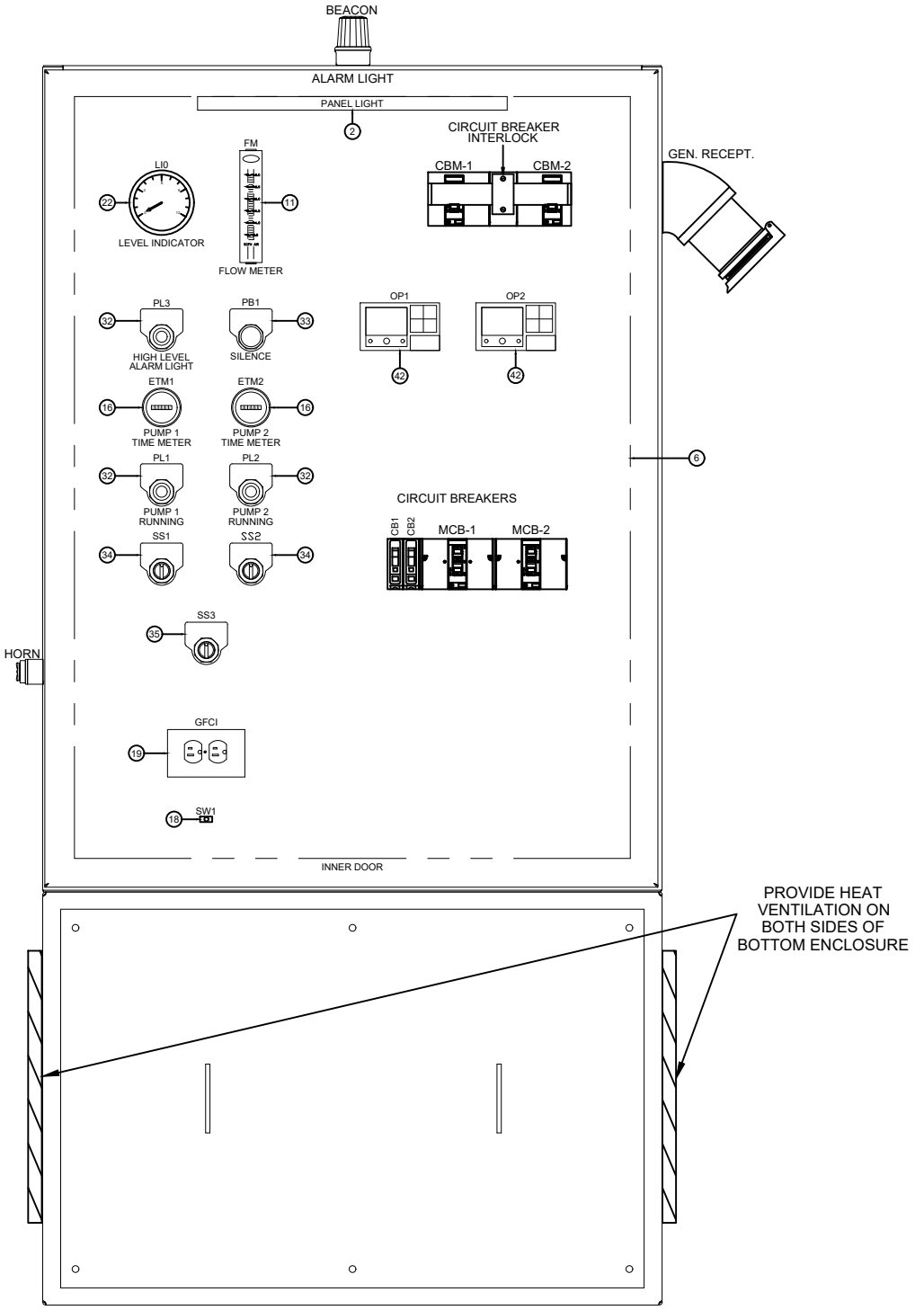
CONTROL PANEL DIMENSIONS

STANDARD DETAILS

DWG. NO. **506**

DATE: APRIL 2025



INNER DOOR VIEW

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

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COCONUT CREEK, FL 33073

TEL NO: 954-973-6786
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DUPLEX CONTROL PANEL ENCLOSURE DEAD FRONT LAYOUT

STANDARD DETAILS

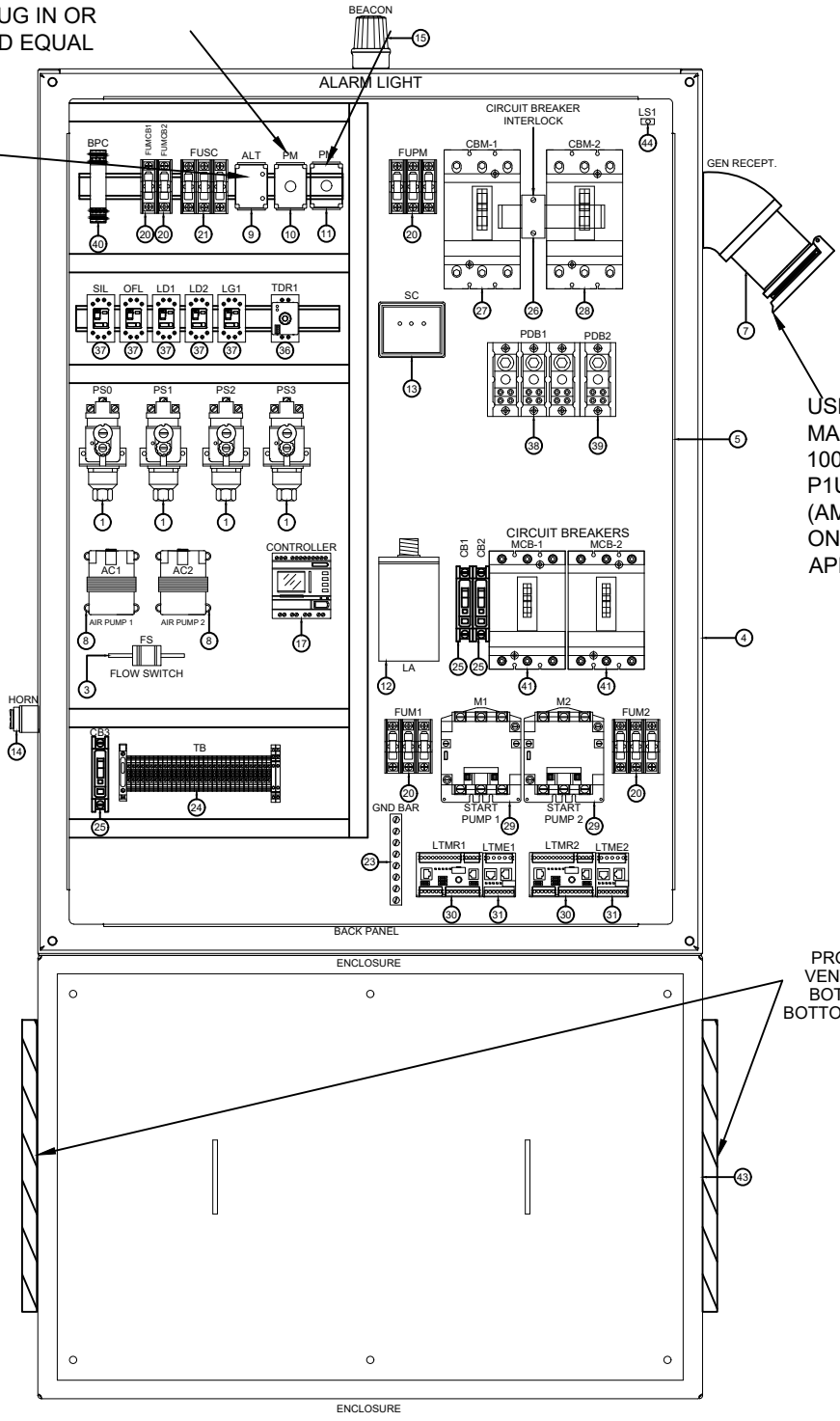
DWG. NO. **507**

DATE: APRIL 2025

USE (DIVERSIFIED)
SLA-230-ASA
PHASE MONITOR 3PHASE
OCTAL PLUG IN OR
APPROVED EQUAL

INSTALL ADDITIONAL PHASE
MONITOR INDICATING FPL ON
LINE SIDE OF METER CAN

USE (DIVERSIFIED)
ALTERNATING PUMP 120V/8
PIN DEVICE
DIVERSIFIED ELECTRONICS
(AMERICAN MADE ONLY OR
APPROVED EQUAL)



USE 100 AMP GENERATOR
MALE RECEPTACLE
100A 250V/600 VAC LISTED
P1U6 311B CAR.NO JRS/044FR
(AMERICAN MADE
ONLY)(THOMAS&BETTS OR
APPROVED EQUAL)

PROVIDE HEAT
VENTILATION ON
BOTH SIDES OF
BOTTOM ENCLOSURE

BACK PANEL VIEW

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

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DUPLEX CONTROL PANEL ENCLOSURE SUB-PANEL LAYOUT

STANDARD DETAILS

DWG. NO. **508**

DATE: APRIL 2025

BILL OF MATERIALS

ID #	Manufacturer	Part #	Description	Quantity
1	Allen Bradley	836-C2	Pressure Switch 30in Hg Vac - 900 psi	4
2			Panel Light	1
3	Chem Tech	LPH-125-1BA-NC	Flow Switch	1
4	Champion Controls	CEB4836124XSS304	Enclosure 48x36x16 NEMA 4X 304SS	1
5	Champion Controls	CC48P36	Enclosure Backpanel 48x36 304SS	1
6	Champion Controls	CC-InnerDoor	Enclosure Inner Door	1
7	Thomas&Betts	JRS2034HR	Receptacle Watertight J-line 200A 4P - Reverse Service	1
	Thomas&Betts		Receptacle 100A 30 deg. Angle - Adapter	1
8	Medo	AC0102	Air Compressor	2
9	Diversified	ARA-120-ADA	Relay Alternator, 120VAC Full Featured	1
10	Diversified	SLA-230-ASA	Phase Monitor 3P 230V Octal Plug-in	1
11	Dwyer Instruments	VFA-3-BV	Flow Glass Flowmeter/Regulator	1
12	Delta	CA603	Surge Capacitor 650V Heavy Duty	1
13	Schneider Electric	SDSA3650	Surge Protection 600Y/347V 3P 4Wire, 40kA	1
14	Ingram	PB330DXCX-X	Alarm Piezo Sound, 3 to 30VDC, 30 mA, 103dB	1
15	Ingram	SBN-120AC RED	Light Alarm SunBurst II LED	1
16	Ingram	T50A286	Meter ELAPSED TIME	2
17	Ingram	APB-12MRAL	PLC Controller	1
18	Square D	9001KA2	Operator Contact 1-NO	1
	Schneider Electric	9001SKR1BH5	Push Button Momentary 30mm 4x	1
19	Pass & Seymor	1595-I	Outlet GFCI 125V 20A	1
	Pass & Seymor	SS26	Outlet Cover Decorator Opening, Stainless	1
20	Bussman	FNQR-1	Fuse Time Delay CC 1A	3
	Bussman	CHCC3DU	Fuse Holder 600V 30A 3P Class CC	3
	Bussman	FNQR-1	Fuse Time Delay CC 1A	2
	Bussman	CHCC1DU	Fuse Holder 600V 30A 1P Class CC	2
21	Bussman	FNQR-10	Fuse Time Delay CC 10A	1
	Bussman	CHCC3DU	Fuse Holder 600V 30A 3P Class CC	1
22	Marshalltown	83KD/G26121	Level Gauge	1
23	Schneider Electric	PK15GTA	Ground Bar Kit	1

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BILL OF MATERIALS (1 OF 2)

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **509A**

BILL OF MATERIALS (CON'T)

ID #	Manufacturer	Part #	Description	Quantity
24	Phoenix Contact	3022218	Terminal Block End Clamp	2
	Phoenix Contact	3044102	Terminal Block UT4 26-10AWG, 6.2mm, Gray	1
	Phoenix Contact	3047028	Terminal Block End Cover Gray	2
25	Schneider Electric	QOU115	Circuit Breaker 120/240V 15A Mini	3
26	Square D	S29354	Circuit Breaker Mechanical Interlock, 15A-250A	1
27	Square D	JDL36225	Circuit Breaker 600V 225A 3P 25kAIC	1
28	Square D	JDL36200	Circuit Breaker 600V 200A 3P 25kAIC	1
29	Square D	8502SEO2V02S	Contactor 600VAC 90AMP (SIZE 3)	2
30	Schneider Electric	LTMR	Relay Electronic Overload, Main unit	2
31	Schneider Electric	LTME	Relay Electronic Overload, Expansion Unit	2
32	Schneider Electric	9001SKT38LRR31	Pilot Light PTT Red 30mm 120VAC LED 4x	3
33	Schneider Electric	9001SKR1BH13	Push Button Momentary 30mm 4x	1
34	Schneider Electric	9001SKS43BH13	Selector Switch 3 Position	2
	Square D	9001KA2	Operator Contact 1-NO	2
35	Schneider Electric	9001SKS63BH13	Switch Selector 3Pos Knob spring left, Return to Center 30mm	1
	Square D	9001KA2	Operator Contact 1-NO	1
36	Magnecraft	TDRSOXP-120V	Relay On Delay Timer 120VAC DPDT	1
	Custom Connector	ES8	Relay Socket 400V, 10A Fits RUMC2AB2F7	1
37	Magnecraft	750XAXM4L-120A	Relay 120VAC SPDT Full Featured	5
	Custom Connector	ES8	Relay Socket 400V, 10A Fits RUMC2AB2F7	5
38	Schneider Electric	9080LBA363104	Power Distribution Block 3P 600V In 1#6 out 4#14-#2	1
39	Schneider Electric	9080LBA163104	Power Block Distribution 1-#6 to 4-#14	1
40	Wilkerson	DR1920	Controller Pump	1
41	Square D	HJL36100M73	Circuit Breaker MCP 600VAC 100A 3P	2
42	Schneider Electric	LTMCU	Relay Electronic Overload, Operator unit	2
43	Champion Controls	CEB2436124XSS304	Enclosure 24x36x16 NEMA 4X 304SS	1
44				

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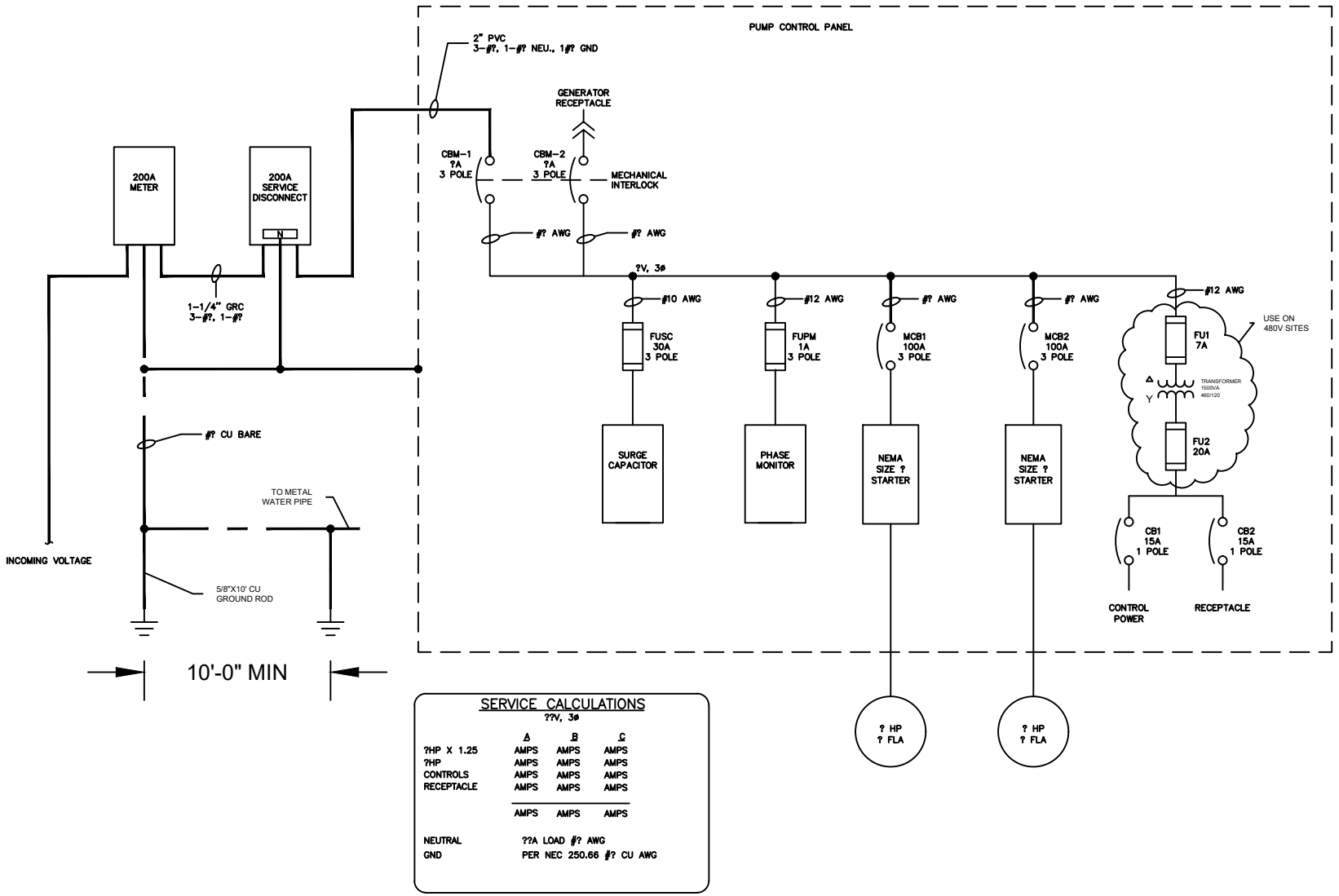
BILL OF SALE (2 OF 2)

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **509B**



SERVICE CALCULATIONS

??V, 3ø

	A	B	C
?HP X 1.25	AMPS	AMPS	AMPS
?HP	AMPS	AMPS	AMPS
CONTROLS	AMPS	AMPS	AMPS
RECEPTACLE	AMPS	AMPS	AMPS
	AMPS	AMPS	AMPS

NEUTRAL ??A LOAD #? AWG

GND PER NEC 250.66 #? CU AWG

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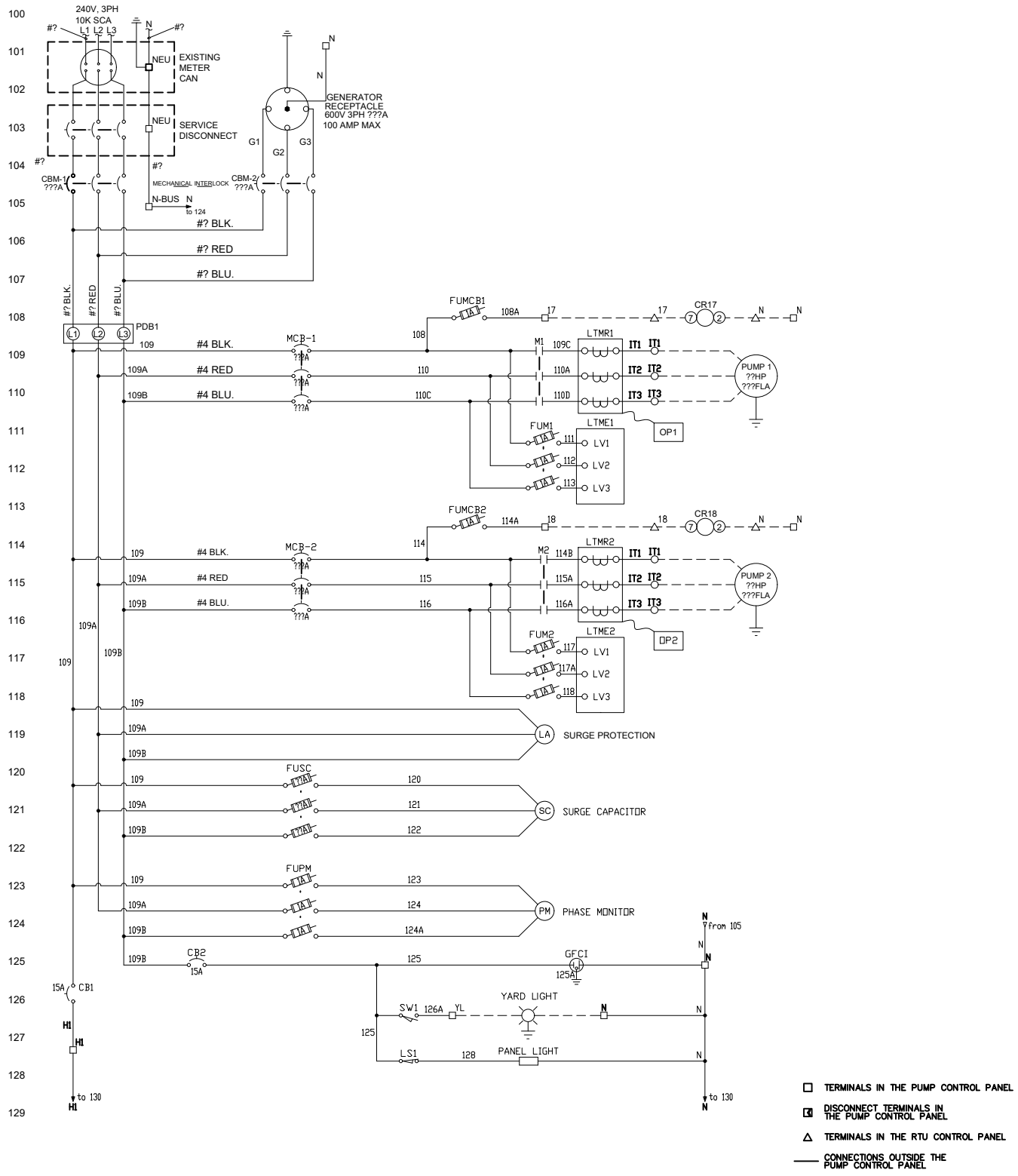
ELECTRICAL SERVICE CALCULATIONS

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **510**



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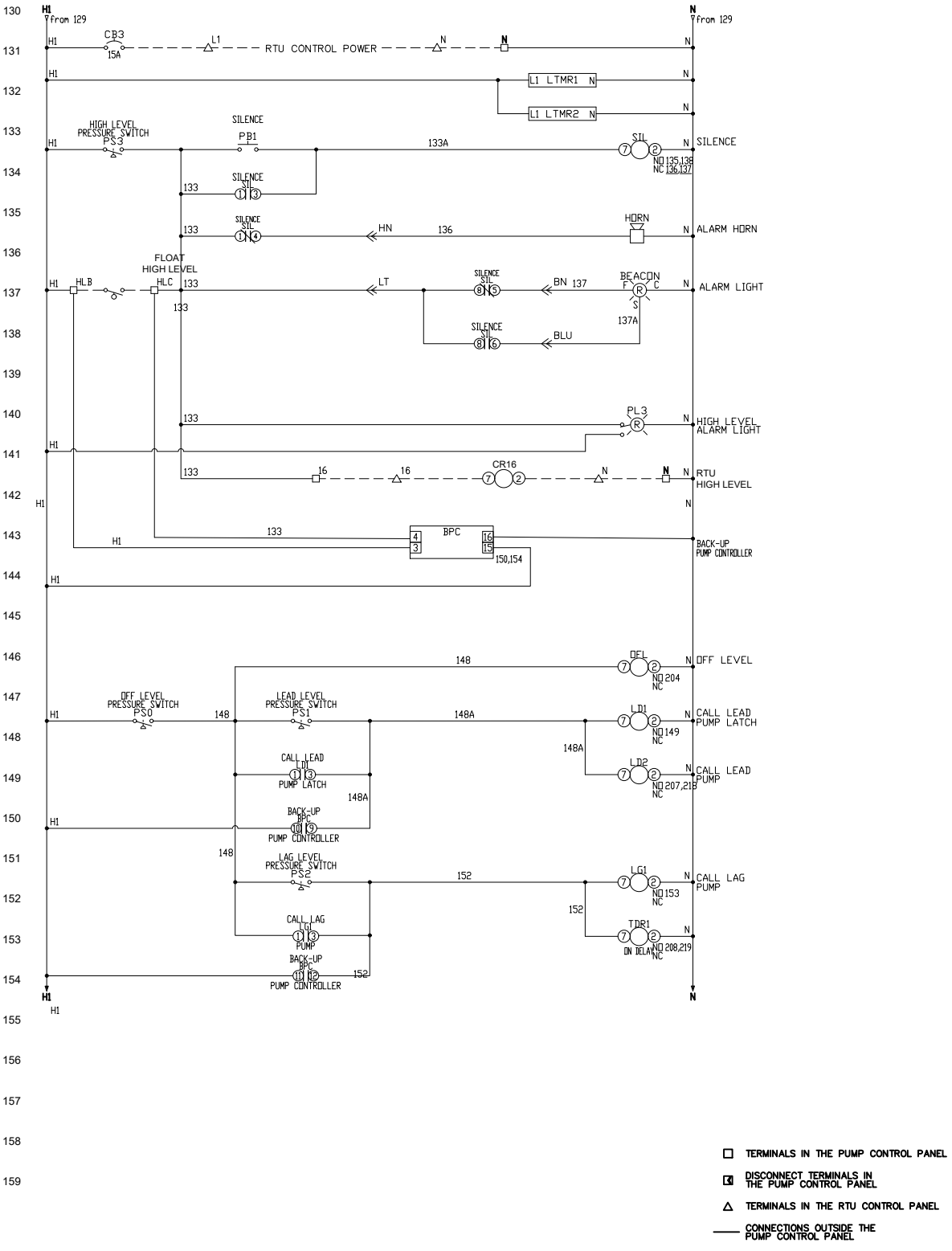
CONTROL PANEL ELECTRICAL SCHEMATIC (1 OF 5)

STANDARD DETAILS

DWG. NO. **511A**

DATE: APRIL 2025



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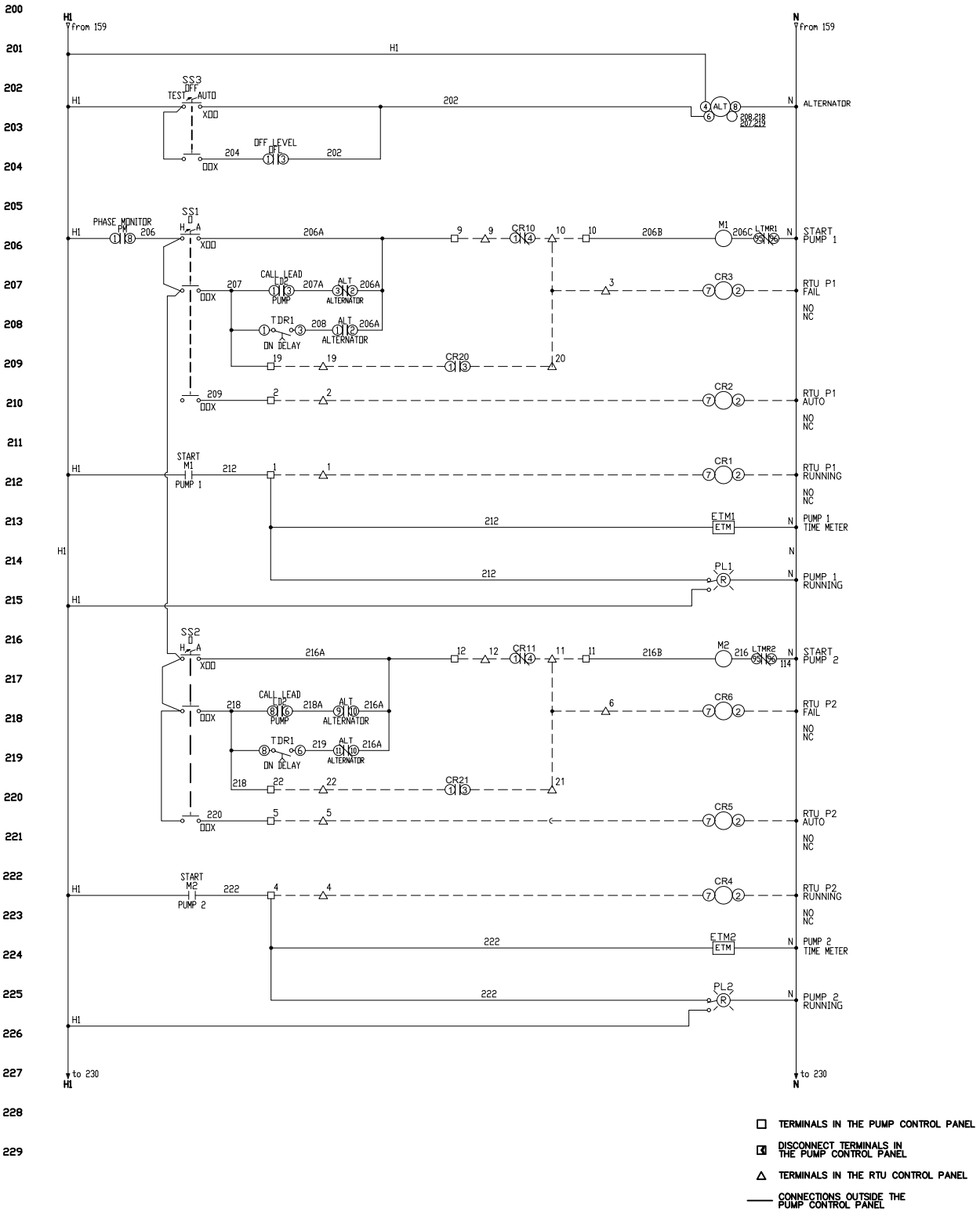
CONTROL PANEL ELECTRICAL SCHEMATIC (2 OF 5)

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	511B



TERMINALS IN THE PUMP CONTROL PANEL

DISCONNECT TERMINALS IN THE PUMP CONTROL PANEL

TERMINALS IN THE RTU CONTROL PANEL

CONNECTIONS OUTSIDE THE PUMP CONTROL PANEL

UTILITIES & ENGINEERING DEPARTMENT

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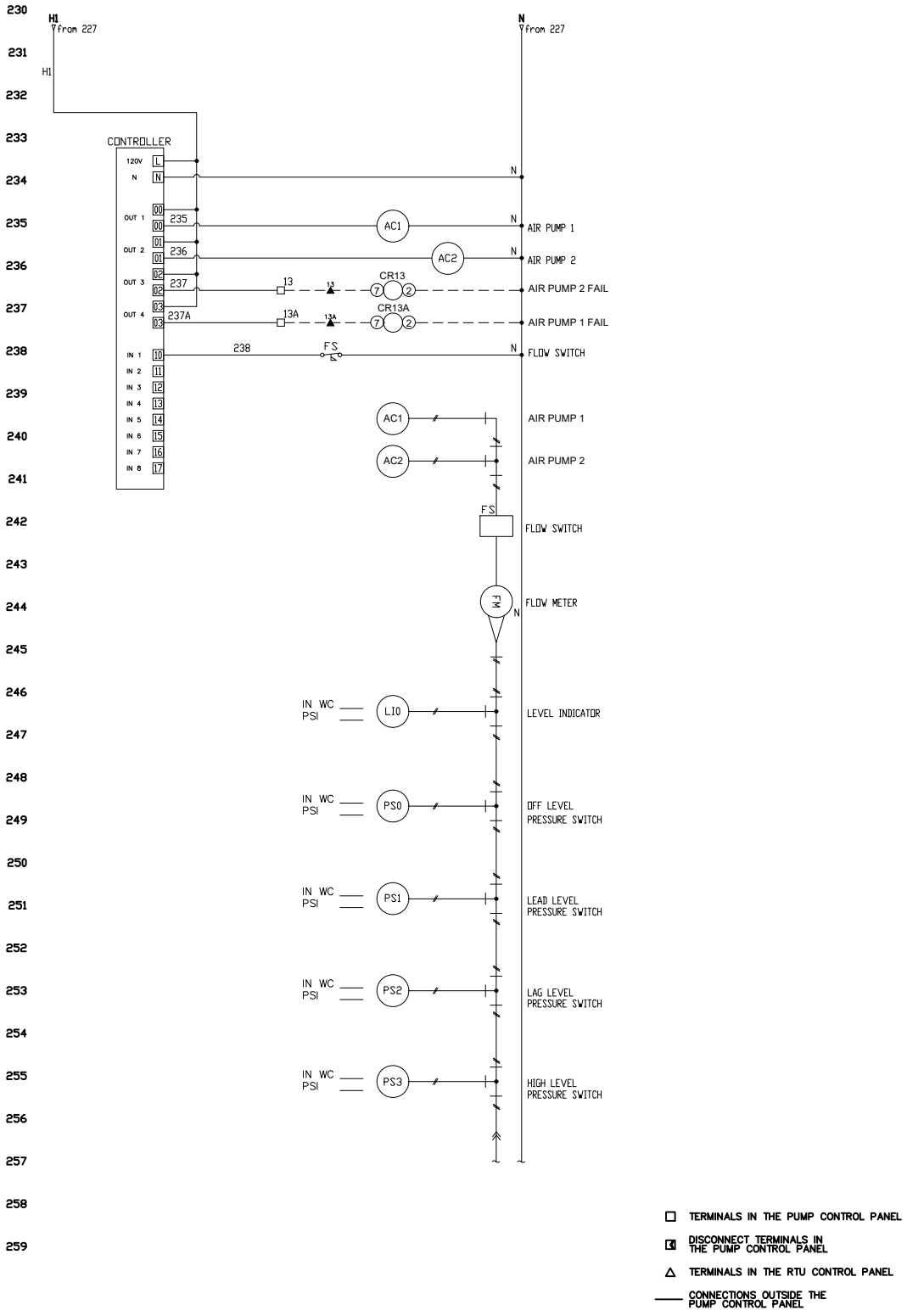
CONTROL PANEL ELECTRICAL SCHEMATIC (3 OF 5)

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **511C**



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CONTROL PANEL ELECTRICAL SCHEMATIC (4 OF 5)

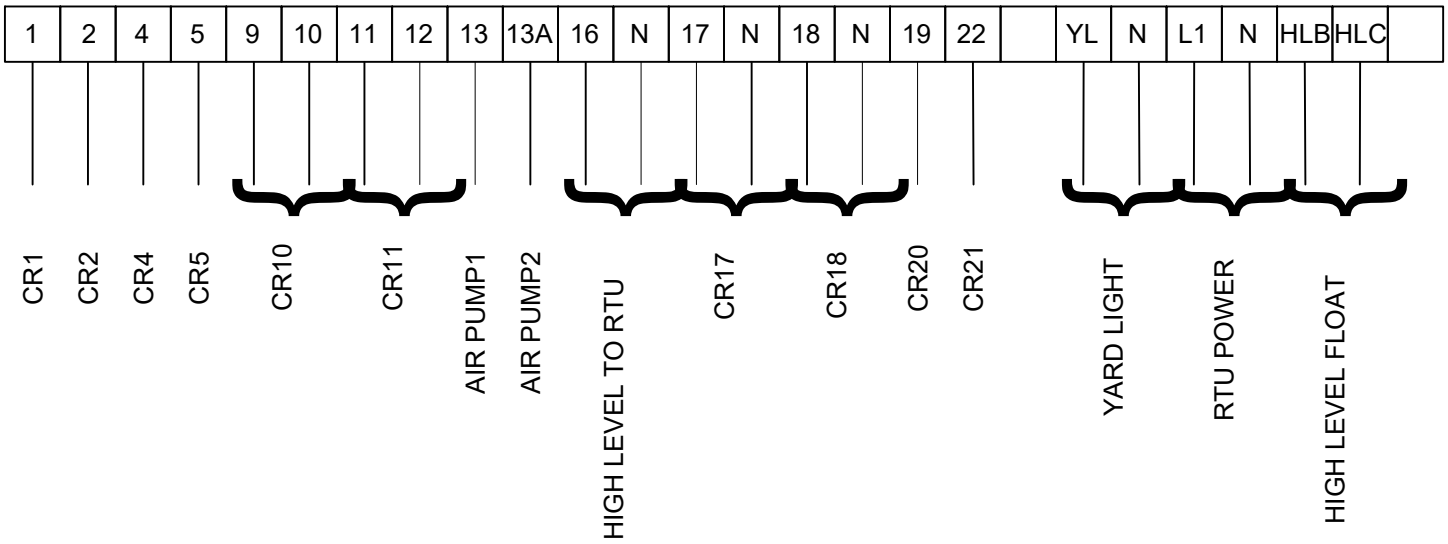
STANDARD DETAILS

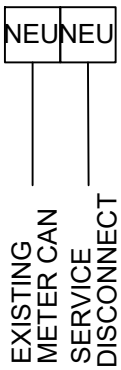
DATE: APRIL 2025

DWG. NO. **511D**

ELECTRICAL CONNECTIONS

TB1





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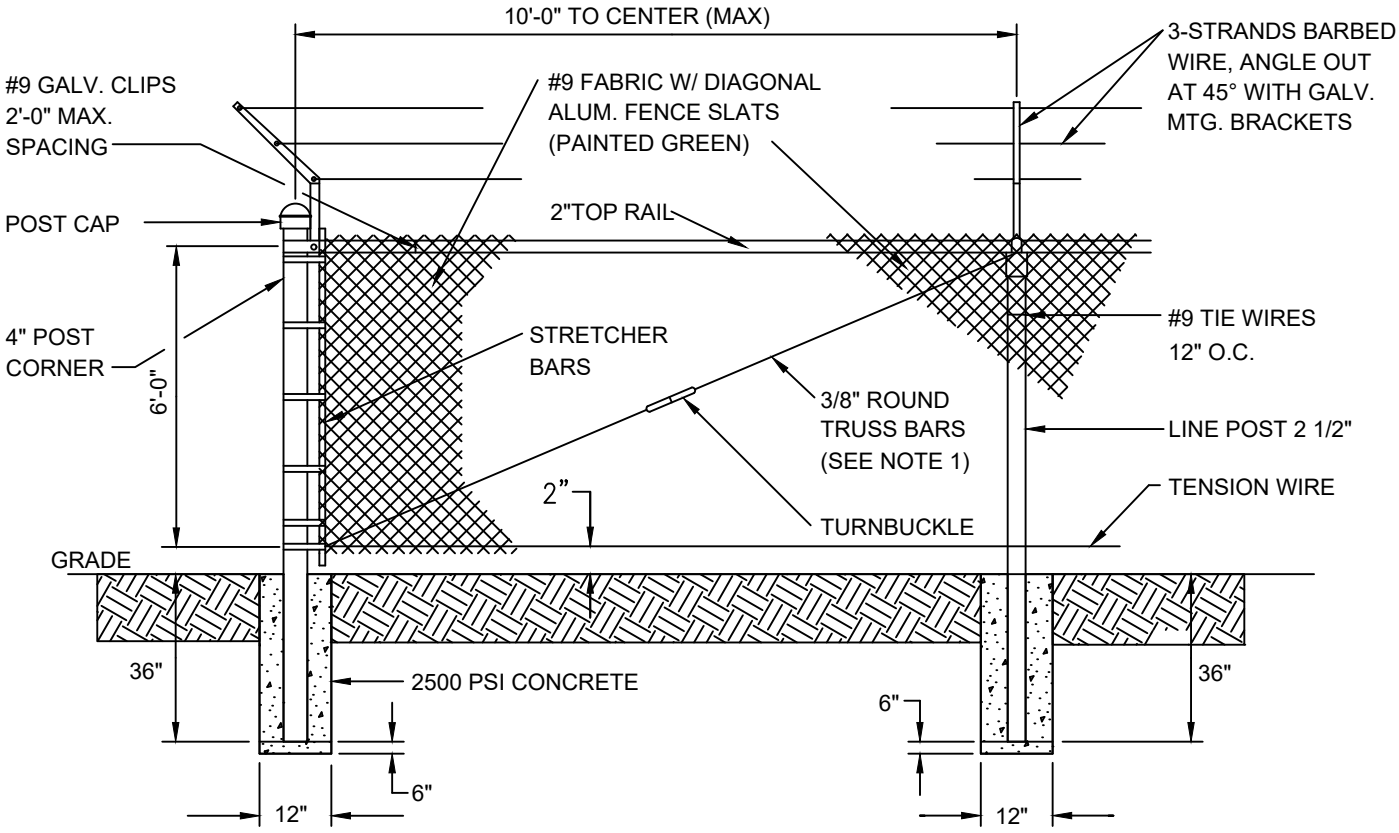
CONTROL PANEL ELECTRICAL SCHEMATIC (5 OF 5)

STANDARD DETAILS

DWG. NO. **511E**

DATE: APRIL 2025



FENCE DETAIL

NOTE:

1. TRUSS BARS ARE REQUIRED FOR THE FIRST SPAN ON EACH SIDE OF A CORNER POST.

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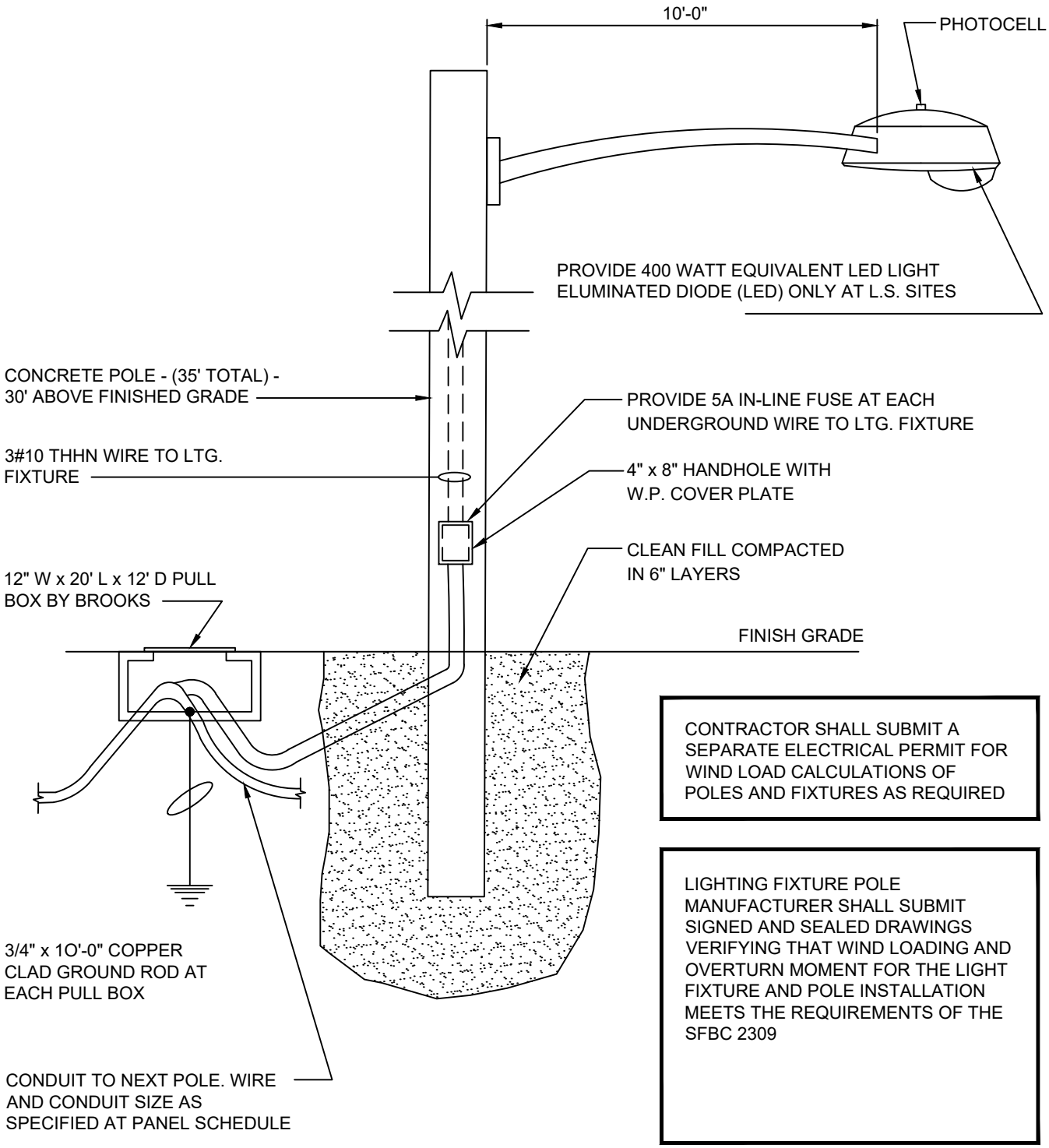
CHAIN LINK FENCE DETAIL

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **512**



CONTRACTOR SHALL SUBMIT A SEPARATE ELECTRICAL PERMIT FOR WIND LOAD CALCULATIONS OF POLES AND FIXTURES AS REQUIRED

LIGHTING FIXTURE POLE MANUFACTURER SHALL SUBMIT SIGNED AND SEALED DRAWINGS VERIFYING THAT WIND LOADING AND OVERTURN MOMENT FOR THE LIGHT FIXTURE AND POLE INSTALLATION MEETS THE REQUIREMENTS OF THE SFBC 2309

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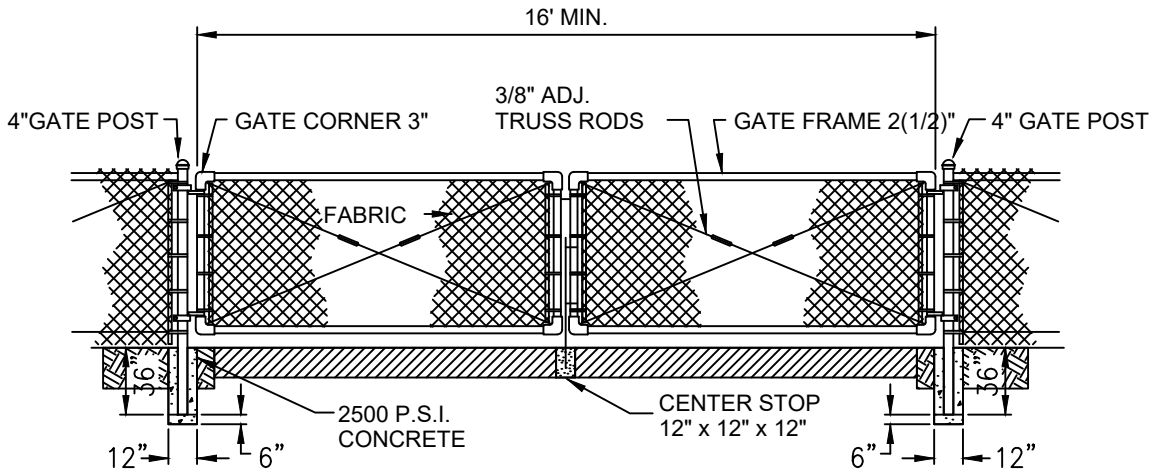
CONCRETE POLE MOUNTING DETAIL

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **513**



DOUBLE SWING GATE DETAIL

NOTES:

1. TRUSS BARS ARE REQUIRED FOR THE FIRST SPAN ON EACH SIDE OF A CORNER POST.

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DOUBLE SWING GATE DETAIL

STANDARD DETAILS

DWG. NO. **514**

DATE: APRIL 2025

STREETS AND STORMWATER DETAILS

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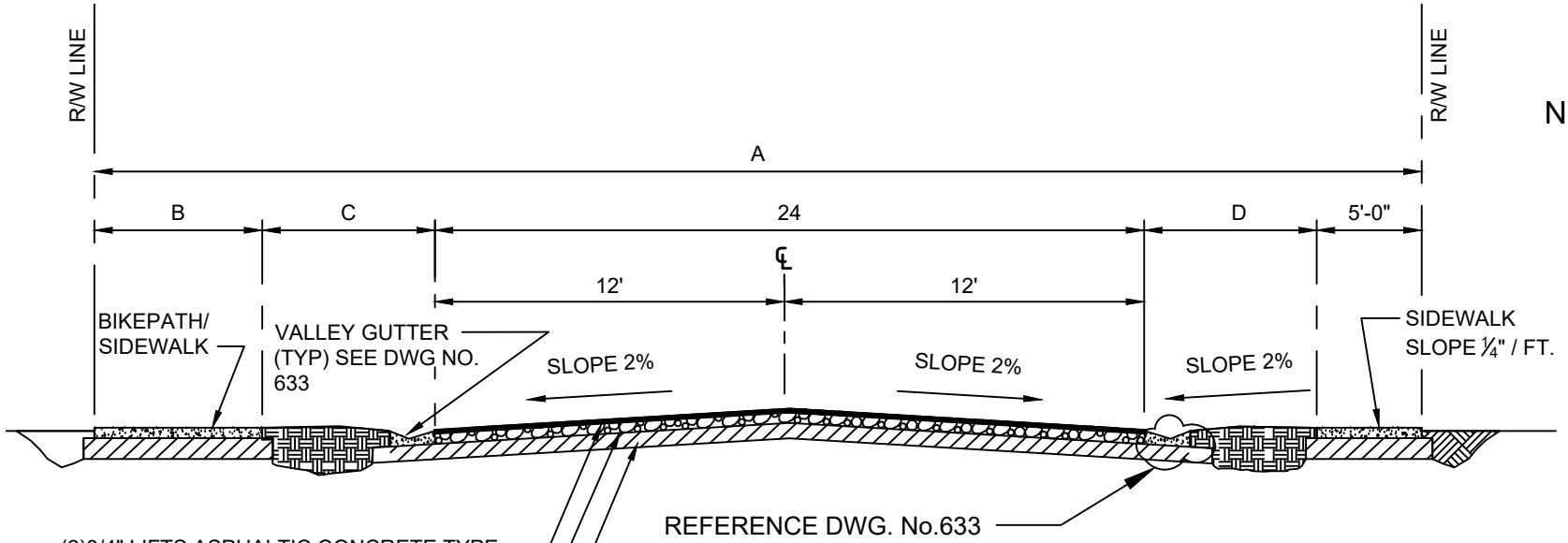
STREETS AND STORMWATER

STANDARD DETAILS	DWG. NO. **600**
DATE: APRIL 2025	



NOTE:

PAVEMENT WIDTH SHALL BE 24-FT WIDE IRRESPECTIVE OF THE INSTALLATION OF VALLEY GUTTERS OR CURB AND GUTTER FOR LOCAL STREETS.

CLASSIFICTION	RIGHT OF WAY	SIDEWALK / BIKEPATH	SIDEWALK SEPARATION	
	A	B	C	D
LOCAL	50 FT.	5 FT.	8 FT.	8 FT.
MINOR COLLECTOR	50 FT. OR 70FT.	5 FT. OR 8 FT.	10 FT. OR 15 FT.	13 FT. OR 18 FT.

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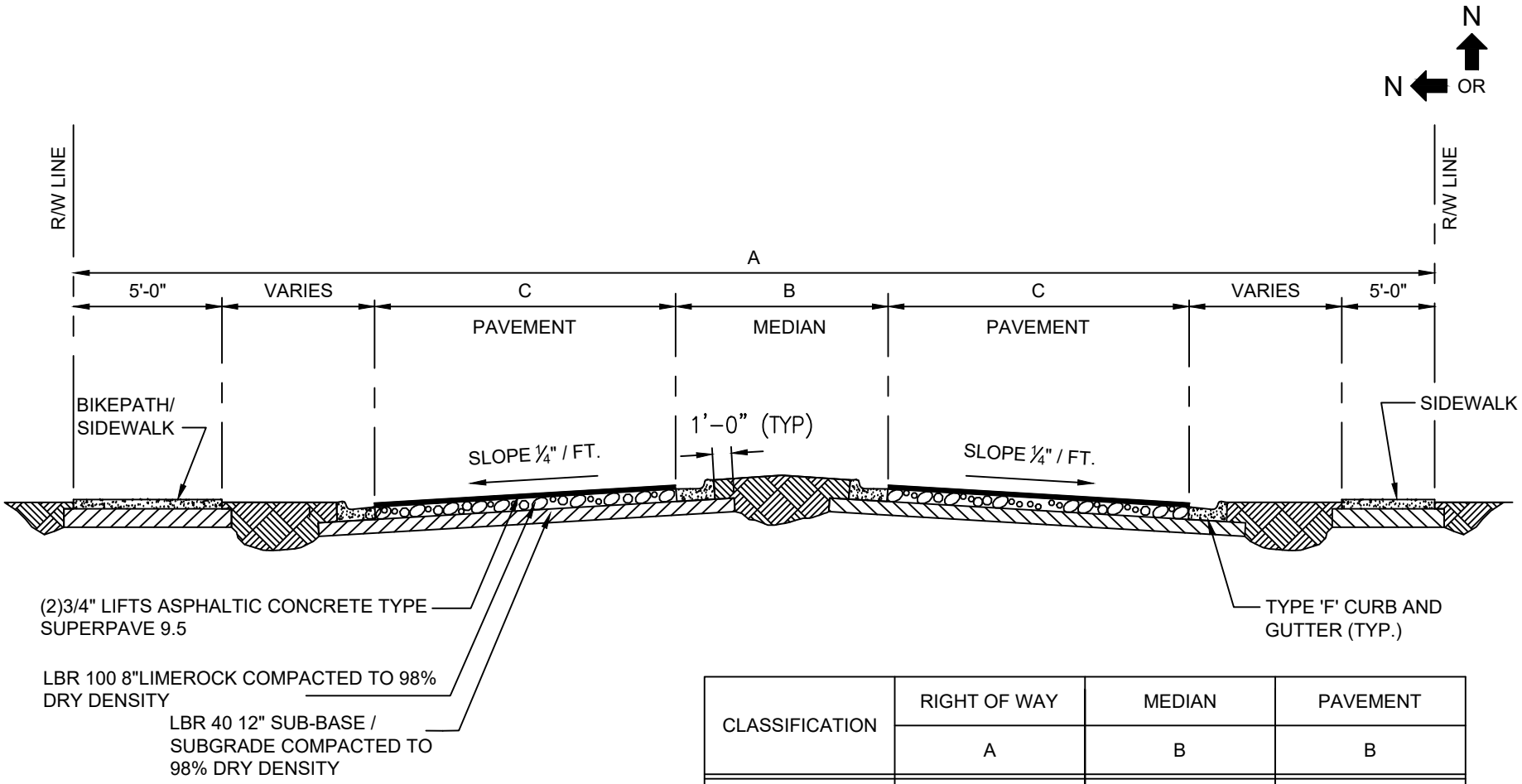
TYPICAL ROAD SECTION TWO LANE PUBLIC AND PRIVATE ROADS

STANDARD DETAILS

DWG. NO. **601**

DATE: APRIL 2025



CLASSIFICATION	RIGHT OF WAY	MEDIAN	PAVEMENT
	A	B	B
MAJOR - ARTERIAL	120 - 200 FT.	22 FT.	36 FT.
MINOR - ARTERIAL	106 - 120 FT.	16 FT.	24 FT.

UTILITIES & ENGINEERING DEPARTMENT

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TYPICAL ROAD SECTION MAJOR AND MINOR ARTERIAL

STANDARD DETAILS

DWG. NO. **602**

DATE: APRIL 2025

NOTES

1. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%.

2. BASE SHALL BE PLACED IN TWO 8" MAXIMUM THICKNESS LAYERS WITH EACH LAYER COMPACTED AS REQUIRED AND TESTED PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.

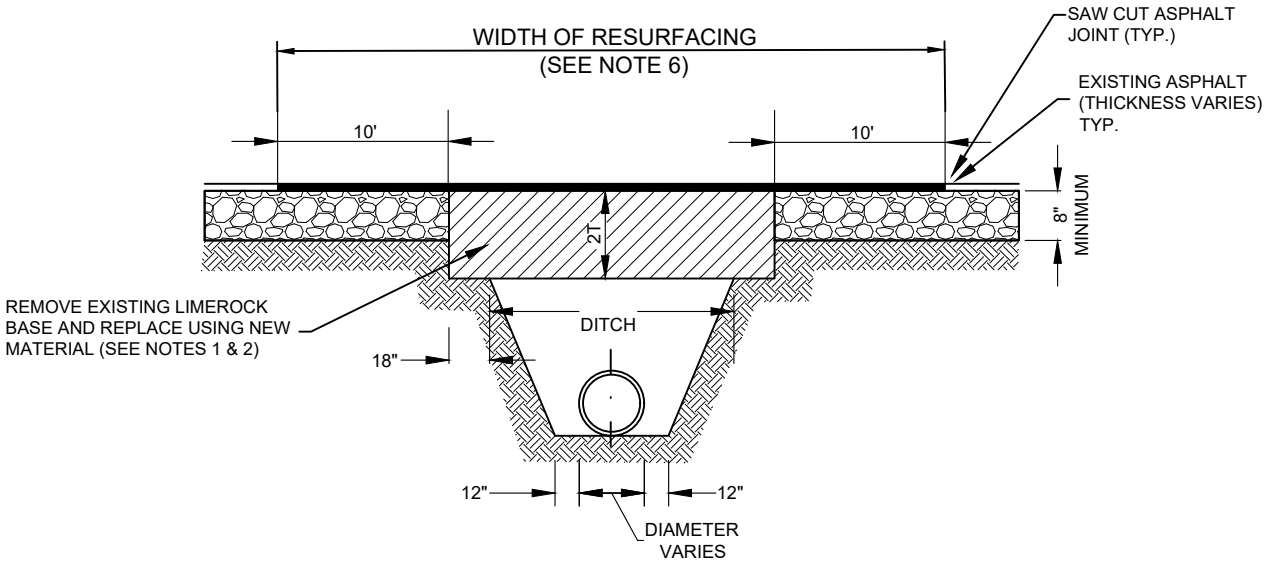
3. SUB-GRADE MATERIAL SHALL BE GRANULAR AND ANGULAR, AND SHALL HAVE A MINIMUM LBR OF VALUE 40.

4. BACKFILL SHALL BE PLACED AND MECHANICALLY COMPACTED IN 8" LAYERS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED PIPE AND INFRASTRUCTURE. PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.

5. ALL EDGES OF EXISTING ASPHALT PAVEMENT WHERE RESURFACING WILL ABUT, SHALL BE SAW CUT IN STRAIGHT LINES PARALLEL TO OR PERPENDICULAR TO ROADWAY, PRIOR TO THE RESURFACING.

6. RE-SURACING MATERIAL SHALL BE CONSISTENT WITH SURROUNDING SURFACE AND SHALL BE A MINIMUM OF 1 $\frac{1}{2}$" APPLIED IN TWO LIFTS OF SP-9.5.

7. RESURFACING IS REQUIRED FOR THE LENGTH OF THE TRENCH, EXTENDING 10' ON EACH SIDE.



T = EXISTING LIMEROCK BASE THICKNESS

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PRIVATE AND PUBLIC RESTORATION OF FLEXIBLE PAVEMENT CROSSINGS (TRANSVERSE CROSSINGS)

STANDARD DETAILS	DWG. NO. 603
DATE: APRIL 2025	

NOTES

1. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70%.

2. BASE SHALL BE PLACED IN TWO 8" MAXIMUM THICKNESS LAYERS WITH EACH LAYER COMPACTED AS REQUIRED AND TESTED PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.

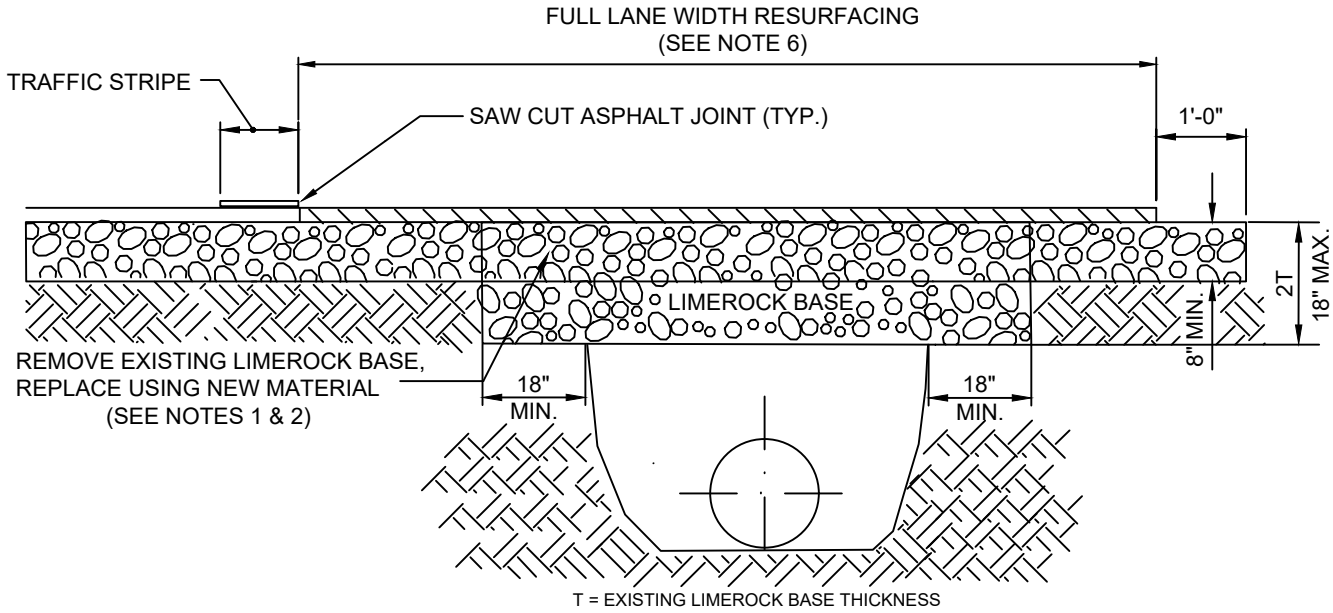
3. SUB-GRADE MATERIAL SHALL BE GRANULAR AND ANGULAR, AND SHALL HAVE A MINIMUM LBR OF VALUE 40.

4. BACKFILL SHALL BE PLACED AND MECHANICALLY COMPACTED IN 8" LAYERS, BUT TESTING WILL BEGIN 12" ABOVE THE INSTALLED PIPE AND INFRASTRUCTURE. PRIOR TO THE PLACEMENT OF THE SUCCEEDING LAYERS.

5. ALL EDGES OF EXISTING ASPHALT PAVEMENT WHERE RESURFACING WILL ABUT, SHALL BE SAW CUT IN STRAIGHT LINES PARALLEL TO OR PERPENDICULAR TO ROADWAY, PRIOR TO THE RESURFACING.

6. RE-SURACING MATERIAL SHALL BE CONSISTENT WITH SURROUNDING SURFACE AND SHALL BE A MINIMUM OF 1 $\frac{1}{2}$" APPLIED IN TWO LIFTS OF SP-9.5.

7. FULL LANE WIDTH RESURFACING IS REQUIRED FOR THE LENGTH OF THE TRENCH, EXTENDING 10' ON EACH SIDE.



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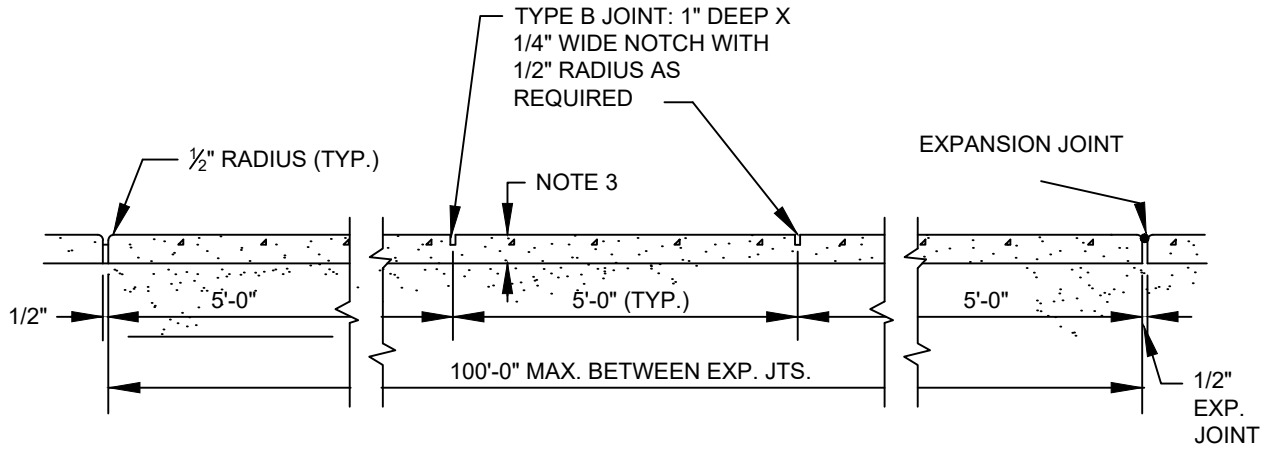
PRIVATE AND PUBLIC RESTORATION OF FLEXIBLE PAVEMENT (LONGITUDINAL INSTALLATION)

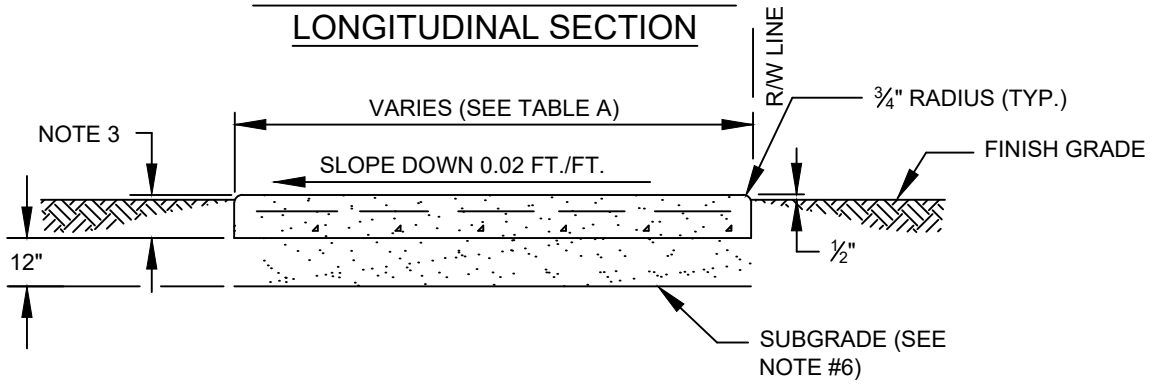
STANDARD DETAILS

DWG. NO. **604**

DATE: APRIL 2025



SIDEWALK EXPANSION JOINT LONGITUDINAL SECTION



SIDEWALK SECTION

TABLE A - SIDEWALK WIDTH	
WIDTH	ROADWAY APPLICATION
5'	LOCAL STREET ACCESSES
5'	TWO-LANE COLLECTOR
5'	FOUR-LANE COLLECTOR
5'	ARTERIAL ROADWAYS

SIDEWALK JOINTS	
TYPE	LOCATION
"A"	P.C. P.T. OF CURVES
"B"	5'-0" CENTER TO CENTER ON SIDEWALKS

NOTES

1. CONCRETE TO BE TYPE I 3000 P.S.I. MIN
2. USE OF REINFORCED CEMENT IS PROHIBITED
3. 4" THK. MIN. (TYP.); 6" THK. AT DRIVEWAYS, EXTENDED TWO-FEET BEYOND DRIVE, ON BOTH SIDES.
4. SIDEWALK SLOPES SHALL MEET THE REQUIREMENTS OF THE AMERICAN WITH DISABILITIES ACT.
5. CONSTRUCT EXPANSION JOINTS AT SPACINGS SHOWN ABOVE; AT POINT OF CURVATURE; AT ADJOINING STRUCTURES; AND, AT THE END OF DAYS WORK.
6. EXISTING SUB-GRADE TO BE MECHANICALLY COMPACTED TO 95%OF MAX. PER AASHTO T-99 PROCTOR AND DENSITY TESTED

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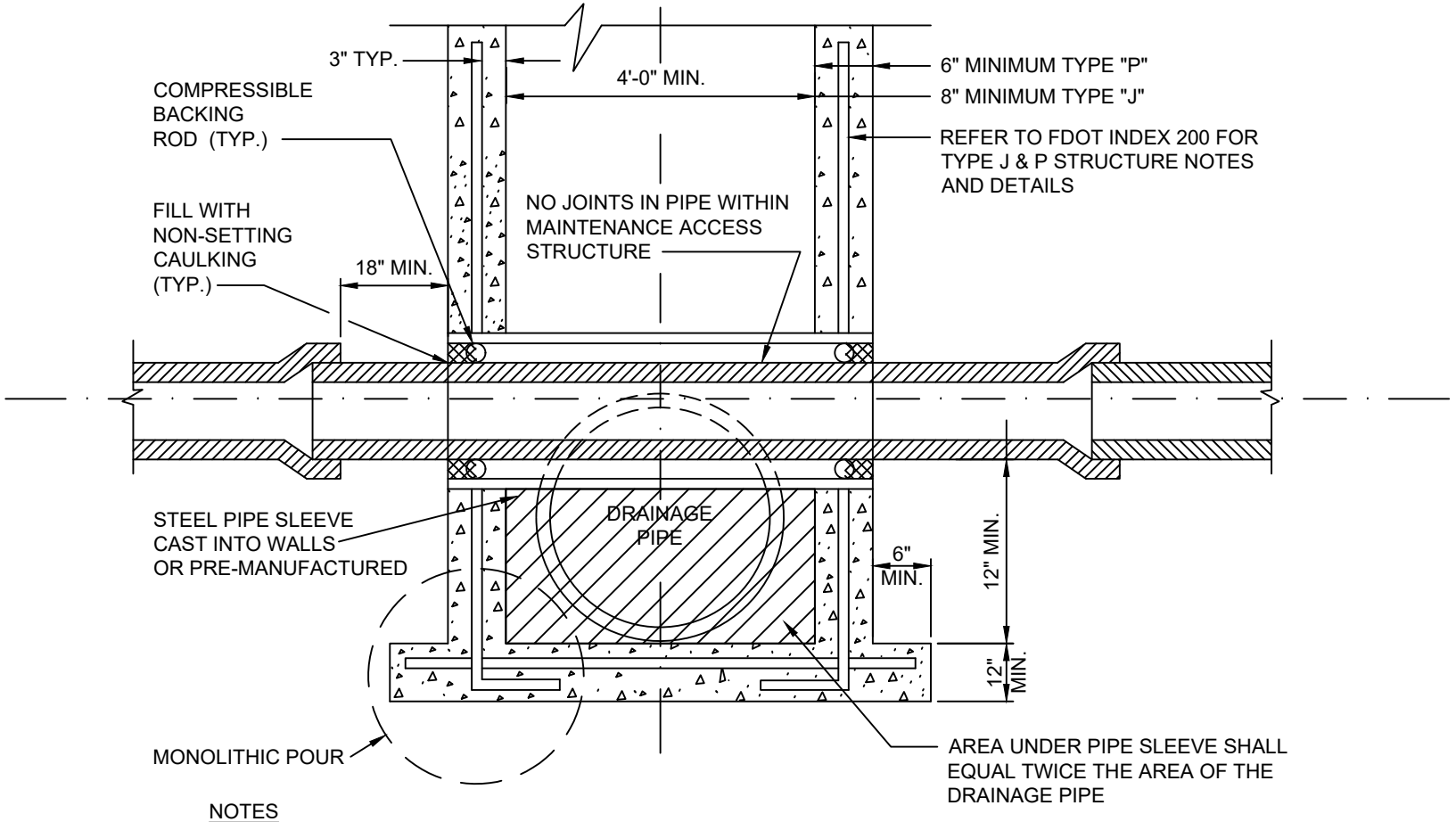
TYPICAL SIDEWALK

STANDARD DETAILS

DWG. NO. **605**

DATE: APRIL 2025



NOTES

1. ALL CONFLICT MAINTENACE ACCESS STRUCTURES SHALL CONFORM TO THE DETAILS SHOWN ON THIS DRAWING, AND TO THE REQUIREMENTS OF ASTM C-478
2. POTABLE WATER PIPE SHALL NOT PASS THROUGH OR CONTACT SANITARY SEWER MAINTENANCE ACCESS STRUCTURE.
3. UTILIZE APPLICABLE SPACERS BASED ON PIPE COMPOSITION.

UTILITIES & ENGINEERING DEPARTMENT

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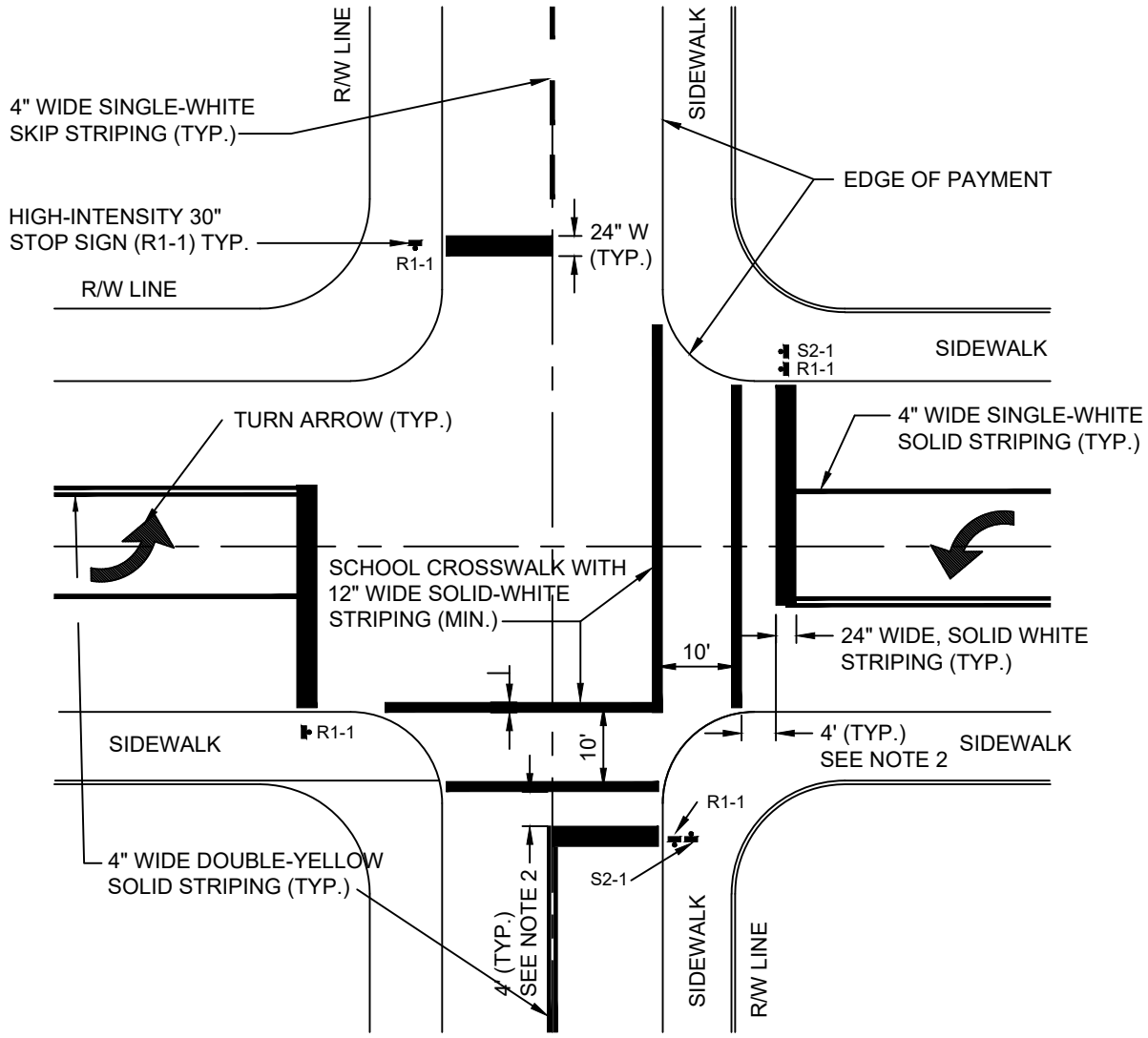
CONFLICT MAINTENANCE ACCESS STRUCTURE

STANDARD DETAILS	DWG. NO. 606
DATE: APRIL 2025	



NOTES

1. ALL PAVEMENT MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," UNLESS SPECIFIED OTHERWISE.
2. 4-FEET DISTANCE ACROSS TWO-LANE RESIDENTIAL STREETS; 4-FEET DISTANCE FOR FOUR TO SIX-LANE HIGHWAY.
3. DOUBLE-SIGNING SHALL BE INSTALLED BY WORK ORDER REQUEST.

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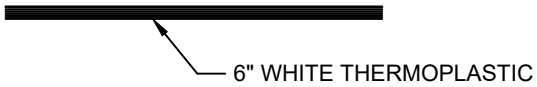
PAVEMENT MARKINGS & SIGNAGE

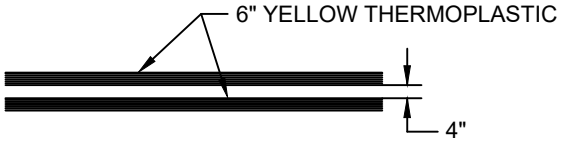
STANDARD DETAILS

DWG. NO. **607**

DATE: APRIL 2025

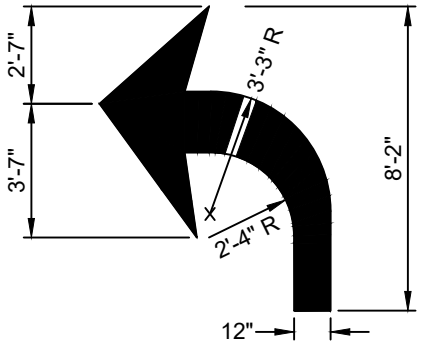


6" SINGLE WHITE



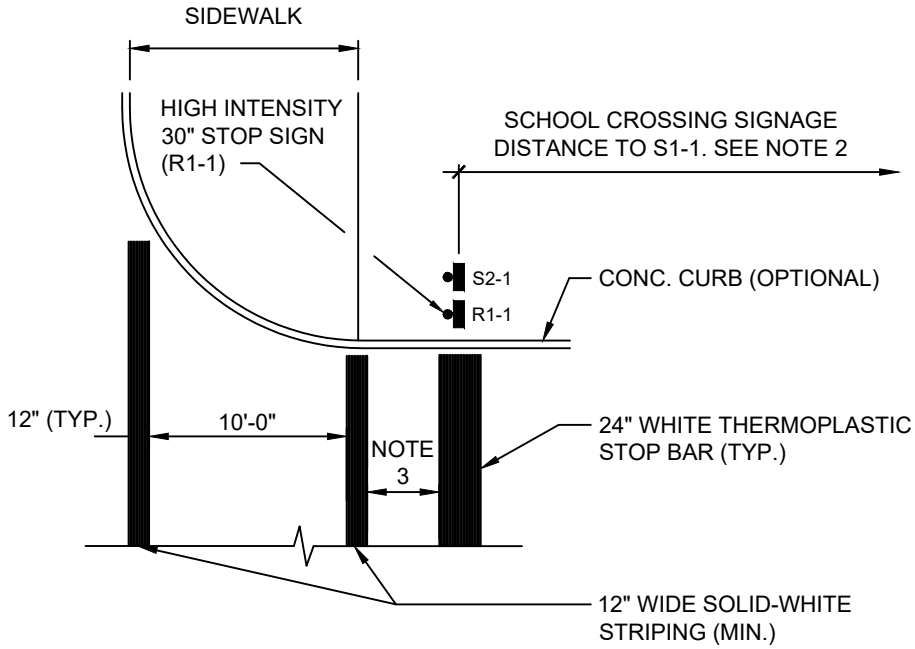
6" DOUBLE YELLOW

STRIPING DETAIL



DIMENSIONS ARE ±1"
16 s.f.

TURNING ARROW



STOP SIGN, STOP BAR, AND SCHOOL CROSSING DETAIL

NOTES

1. ALL PAVEMENT MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS," UNLESS SPECIFIED OTHERWISE.

2. SCHOOL CROSSING SIGNAGE S1-1 TO BE PLACED AT THE FOLLOWING DISTANCE FROM S2-1, ON APROACH TO THE CROSSWALK: 25-35 MPH = 200'; 35-45 MPH = 350'; 45-55 MPH = 500'.

3. 4-FEET DISTANCE ACROSS TWO-LANE RESIDENTIAL STREETS; 4-FEET DISTANCE FOR FOUR TO SIX-LANE HIGHWAYS.

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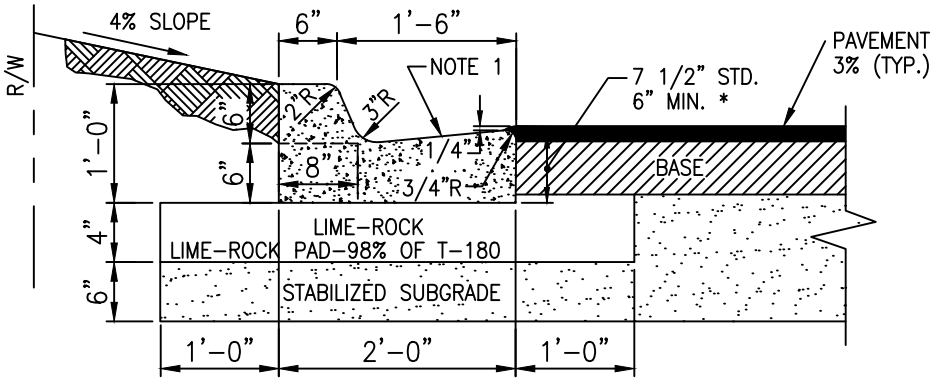
PAVEMENT MARKING DETAILS

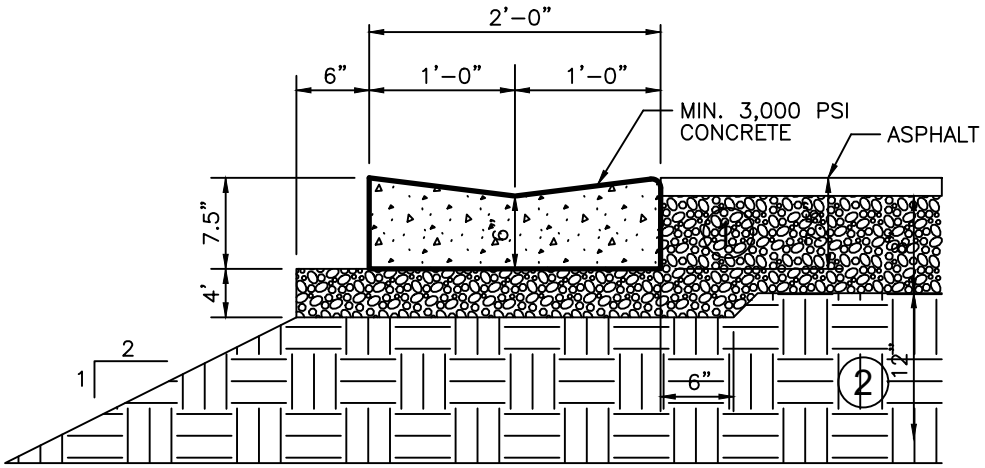
STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **608**



TYPE "F"



VALLEY GUTTER – TYPE

NOTE:

1. USE AN ALTERNATE ONLY PER ENGINEER DESIGN AND AND CITY APPROVAL; OR, AS CONTIGUOUS TO SPECIAL PAVERS.
2. FOR TYPE "D" CURB SEE DWG No. 635.

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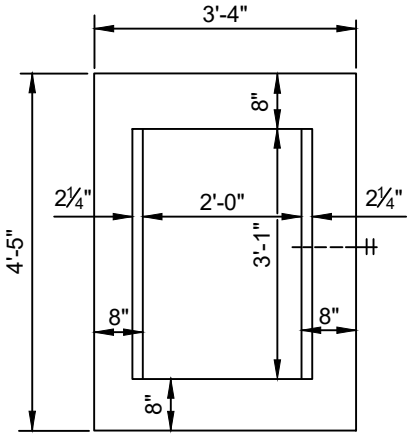
CURB & GUTTER

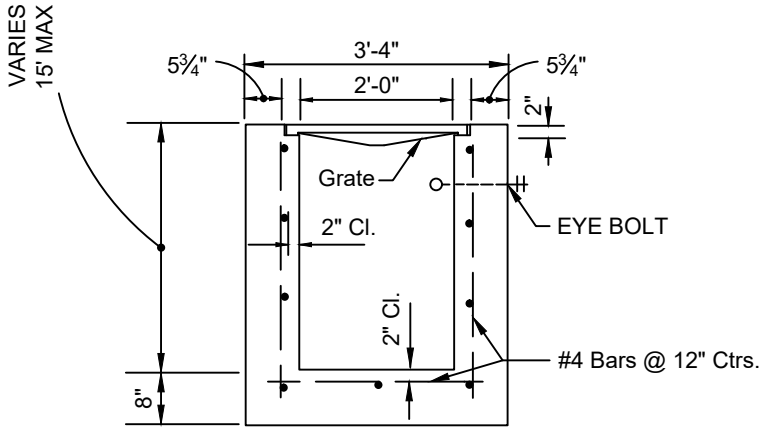
STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **609**



PLAN



SECTION

TYPE 'C'

RECOMMENDED MAXIMUM PIPE SIZE:

2'-0" Wall-18" Pipe
3'-1" Wall-24" Pipe

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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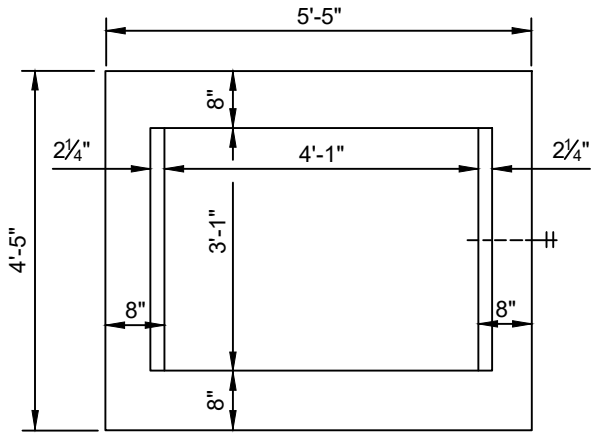
STORM INLET - TYPE C

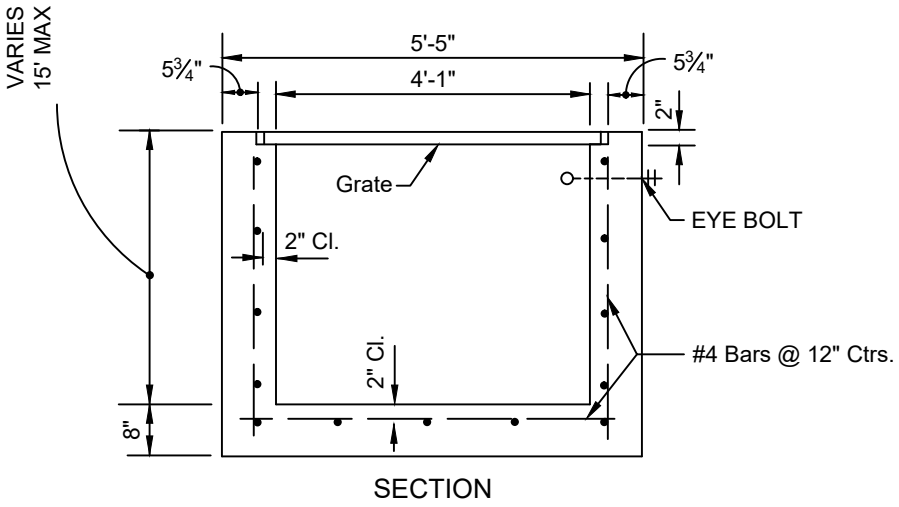
STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **610**



PLAN



SECTION

TYPE 'D'

RECOMMENDED MAXIMUM PIPE SIZE:

3'-1" Wall-24" Pipe
4'-1" Wall-36" Pipe

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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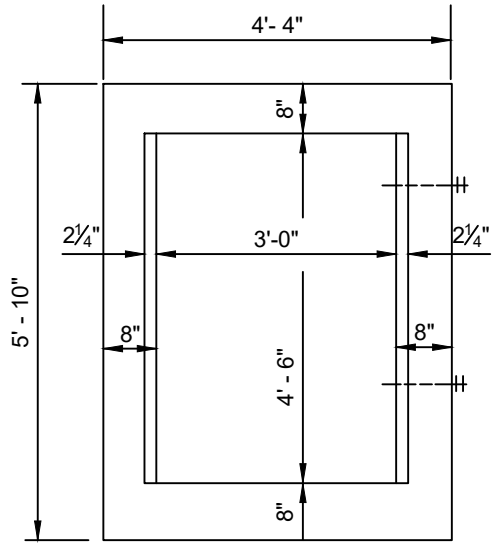
STORM INLET - TYPE D

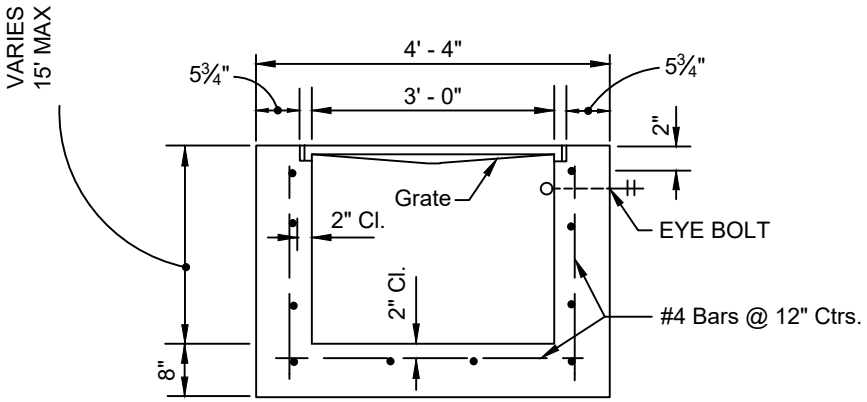
STANDARD DETAILS

DWG. NO. **611**

DATE: APRIL 2025



PLAN



SECTION

TYPE 'E'

RECOMMENDED MAXIMUM PIPE SIZE:

3'-0" Wall-24" Pipe
4'-6" Wall-42" Pipe

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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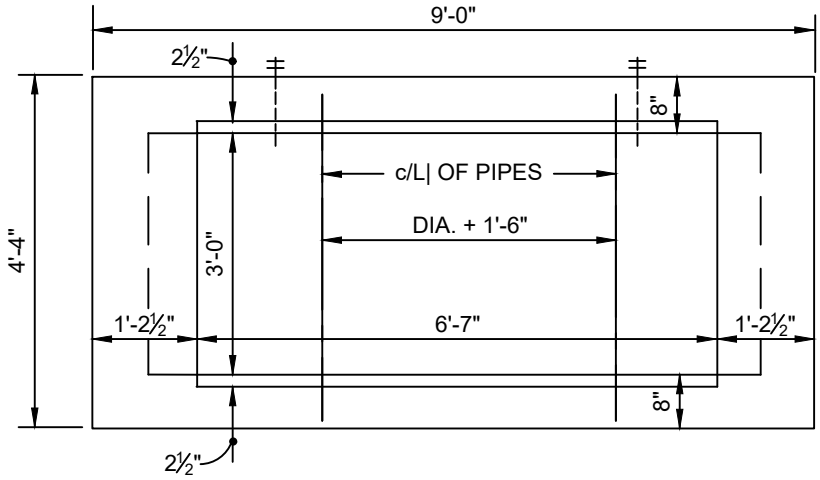
STORM INLET - TYPE E

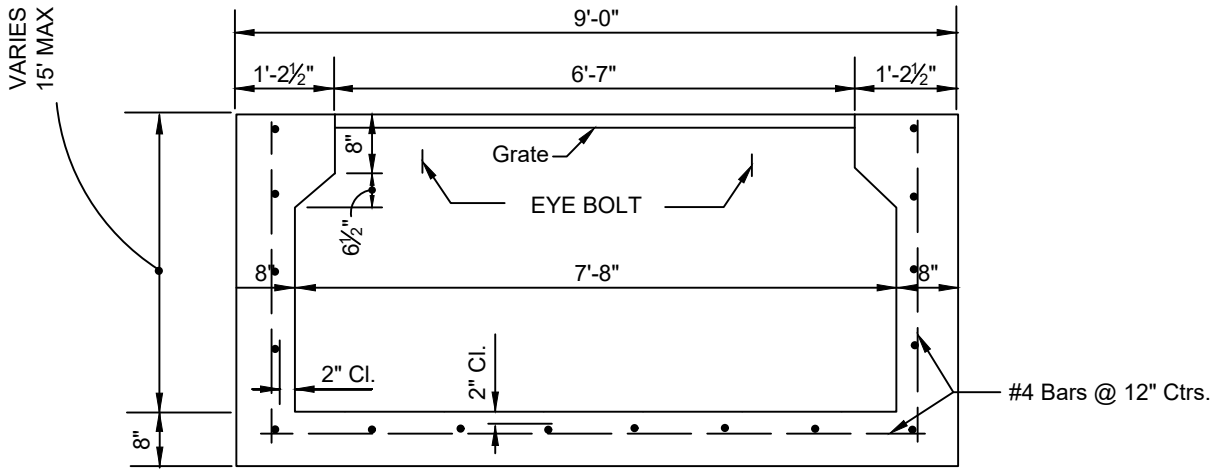
STANDARD DETAILS

DWG. NO. **612**

DATE: APRIL 2025



PLAN



SECTION

TYPE 'H'

RECOMMENDED MAXIMUM PIPE SIZE:

3'-0" Wall-24" Pipe
7'-8" Wall-1-66" Pipe
2-30" Pipe

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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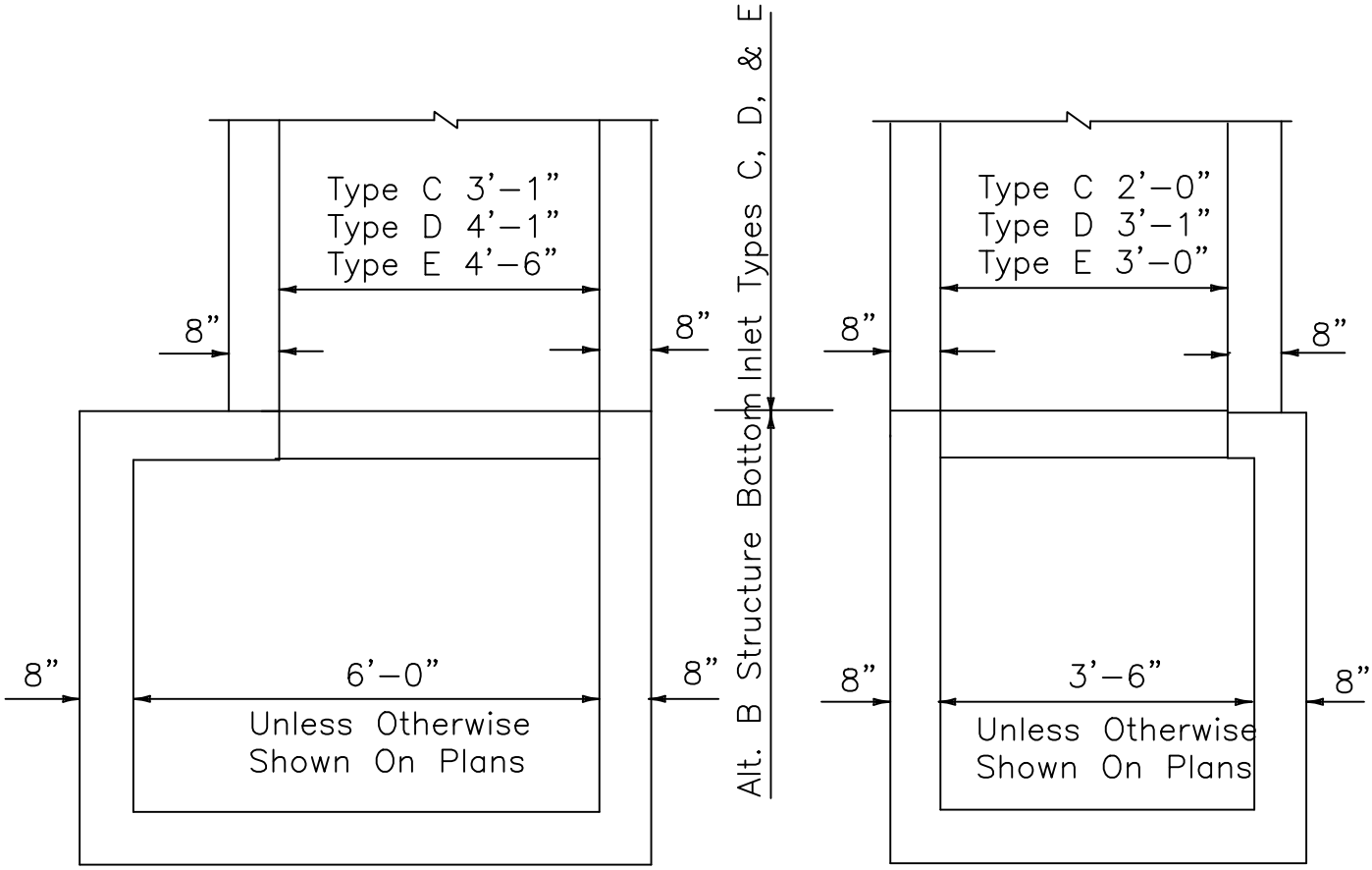
STORM INLET - TYPE H

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **613**



NOTE: Alt. B Structure Bottom Only

STRUCTURE BOTTOM FOR INLETS TYPE C, D & E

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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STORM INLET - STRUCTURE BOTTOMS (TYPE C, D & E)

STANDARD DETAILS	DWG. NO. 614
DATE: APRIL 2025	

GENERAL NOTES

1. These inlets are suitable for bicycle and pedestrian areas and are to be used in ditches, medians and other areas subject to infrequent traffic loadings but are not to be placed in areas subject to any heavy wheel loads.

2. Inlets subject to minimal debris should be constructed without slots. Where debris is a problem inlets should be constructed with slots. Slotted inlets located within roadway clear zones and in areas accessible to pedestrians shall have traversable slots. The traversable slot modification is not adaptable to inlet Type H. Slots may be constructed at either or both ends as shown on plans.

3. Steel grates are to be used on all inlets where bicycle traffic is anticipated. Steel grates are to be used on all inlets with traversable slots. Either cast iron or steel grates may be used on inlets without slots where bicycle traffic is not anticipated.Subject to the selection described above, when Alternate G grate is specified in the plans, either the steel grate, hot dipped galvanized after fabrication, or the cast iron grate may be used, unless the plans stipulate the particular type.

4. Recommended maximum pipe sizes shown are for concrete pipe. Pipe sizes larger than those recommended must be checked for fit.

5. All exposed corners and edges of concrete are to be chamfered .

6. Pavement to be used on inlets without slots and inlets with non–traversable slots only when called for in the plans; but required on all traversable slot inlets. Cost to be included in contract unit price for inlets. Quantities shown are for information only.

7. Traversable slots constructed in existing inlets shall be paid for as inlets partial, and shall include the cost for slot openings, paving and any required replacement grates.

8. Sodding to be used on all inlets not located in paved areas and paid for under contract unit price for Sodding SY.

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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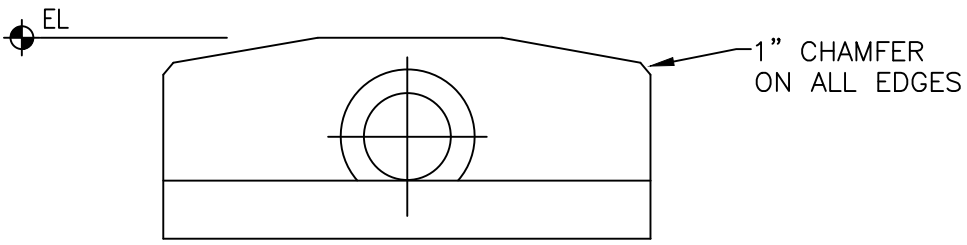
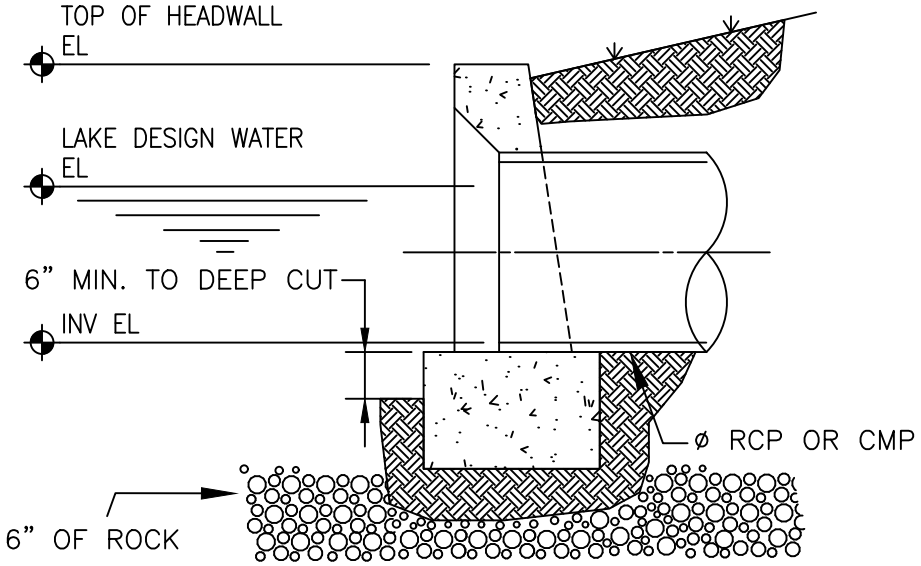
STORM INLET - GENERAL NOTES

STANDARD DETAILS	DWG. NO. 615
DATE: APRIL 2025	



ELEVATION

NOTE: REFER TO FDOT INDEX NO. 250 FOR CONCRETE ENDWALL DETAILS AND DIMENSIONS, PERTAINING TO CONCRETE PIPE, CORRUGATED METAL PIPE AND CONCRETE ELLIPTICAL PIPE, UNLESS OTHERWISE NOTED



SECTION

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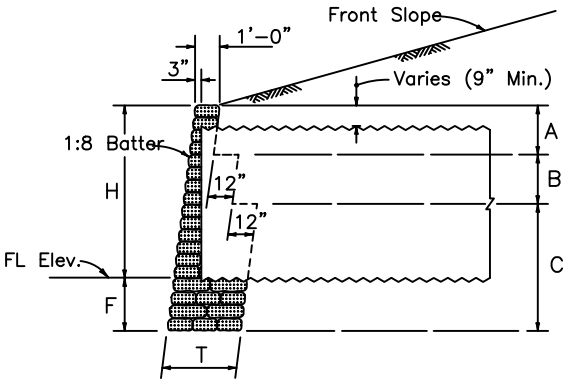
CONCRETE HEADWALL

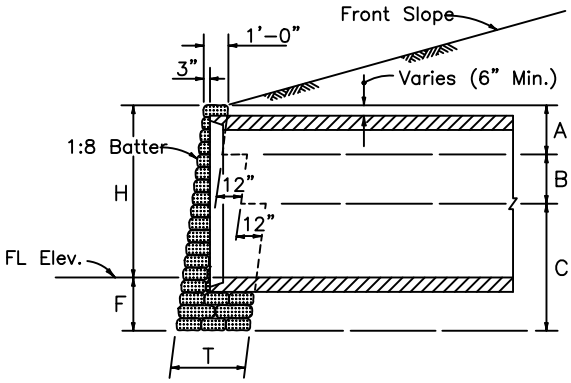
STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. 616

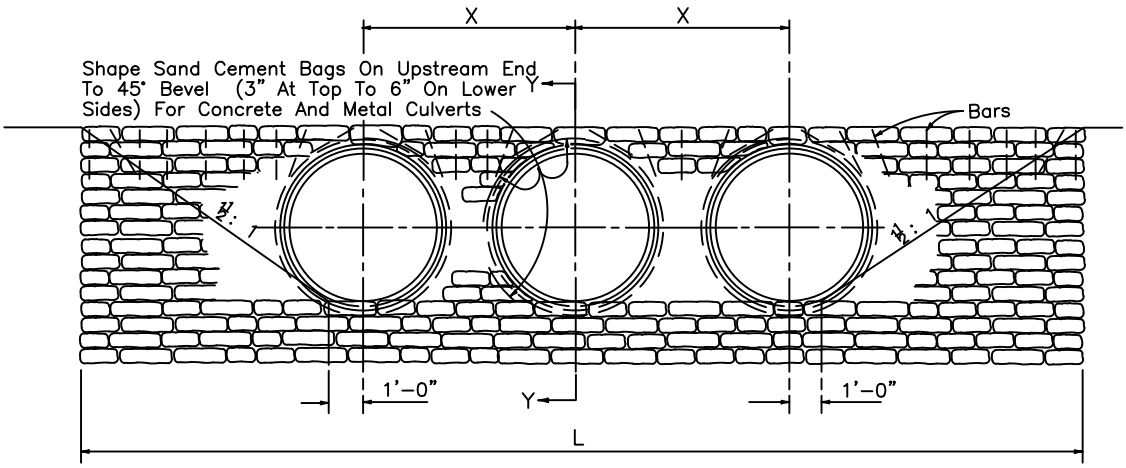


CORRUGATED METAL PIPE



CONCRETE PIPE

SECTION YY



Note: (1) For concrete and corrugated metal pipes. Concrete pipe shown.

(2) The top row of riprap bags shall be secured by pinning, using No. 4 reinforcing bars 18 inches in length, as follows:

(a) The end bags shall be secured using two bars per bag, one vertical and one diagonal as shown.

(b) The next to last bag on each end shall be secured with two bars vertically.

(c) Bags located over the pipe shall be secured by a bar which is driven diagonally except that for concrete pipe two bars shall be used for single bags above the pipe.

(d) Intermediate bags shall be secured with a single bar.
Bars shall be driven to one inch below the surface of the bag.
The cost of furnishing and installing the bars shall be included in the cost of the riprap.

FRONT ELEVATION

SEE FDOT'S STANDARD INDEXES FOR MORE DETAILS

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RIP-RAP HEADWALL

STANDARD DETAILS

DWG. NO. **617**

DATE: APRIL 2025

DIMENSIONS & QUANTITIES (1) ENDWALL										
SIZE OF PIPE	H	T	A	B	C	F	X	ONE PIPE CULVERTS		
								L	RIPRAP CY	
									CP	CMP
18"	2'–3"	1'–0"	4'–0"	0'–0"	0'–0"	1'–9"	2'–10"	8'–9"	1.2	1.2
24"	2'–9"	2'–0"	2'–0"	2'–6"	0'–0"	1'–9"	3'–5"	10'–3"	2.4	2.5
30"	3'–4"	2'–0"	2'–0"	3'–2"	0'–0"	1'–10"	4'–3"	12'–0"	3.3	3.4
36"	3'–10"	2'–0"	2'–0"	3'–8"	0'–0"	1'–10"	5'–1"	13'–6"	4.0	4.2
42"	4'–5"	3'–0"	2'–0"	2'–0"	2'–4"	1'–11"	6'–0"	15'–3"	6.4	6.7
48"	4'–11"	3'–0"	2'–0"	2'–0"	2'–10"	1'–11"	6'–9"	16'–9"	7.7	8.1
54"	5'–6"	3'–0"	2'–0"	2'–0"	3'–6"	2'–0"	7'–8"	18'–6"	9.5	10.1
60"	6'–0"	3'–0"	2'–0"	2'–0"	4'–0"	2'–0"	8'–6"	20'–0"	11.0	11.7
66"	6'–7"	3'–0"	2'–0"	2'–0"	4'–8"	2'–1"	9'–3"	21'–9"	13.2	14.1
72"	7'–1"	3'–0"	2'–0"	2'–0"	5'–2"	2'–1"	10'–0"	23'–3"	15.0	16.0
78"	7'–8"	3'–0"	2'–0"	2'–0"	5'–10"	2'–2"	10'–9"	25'–0"	17.5	18.7
84"	8'–2"	3'–0"	2'–0"	2'–0"	6'–4"	2'–2"	11'–8"	26'–6"	19.5	20.9

DIMENSIONS & QUANTITIES (1) ENDWALL									
SIZE OF PIPE	TWO PIPE CULVERTS			THREE PIPE CULVERTS			FOUR PIPE CULVERTS		
	L	RIPRAP CY		L	RIPRAP CY		L	RIPRAP CY	
		CP	CMP		CP	CMP		CP	CMP
18"	11'–7"	1.5	1.6	14'–5"	1.8	1.9	17'–3"	2.1	2.3
24"	13'–8"	3.0	3.2	17'–1"	3.7	4.0	20'–6"	4.3	4.7
30"	16'–3"	4.2	4.5	20'–6"	5.1	5.5	24'–9"	6.0	6.5
36"	18'–7"	5.2	5.7	23'–8"	6.3	6.9	28'–9"	7.4	8.2
42"	21'–3"	8.3	8.9	27'–3"	10.2	11.2	33'–3"	12.3	13.4
48"	23'–6"	10.0	10.8	30'–3"	12.3	13.5	37'–0"	14.5	16.2
54"	26'–2"	12.4	13.5	33'–10"	15.3	17.0	41'–6"	18.2	20.4
60"	28'–6"	14.4	15.8	37'–0"	17.8	19.8	45'–6"	21.1	23.8
66"	31'–0"	17.2	18.9	40'–3"	21.2	23.7	49'–6"	25.1	28.5
72"	33'–3"	19.4	21.4	43'–3"	23.9	26.8	53'–3"	28.3	32.3
78"	35'–9"	22.6	25.0	46'–6"	27.8	31.3	57'–3"	32.9	37.6
84"	38'–2"	25.3	28.1	49'–10"	31.1	35.2	61'–6"	36.9	42.4

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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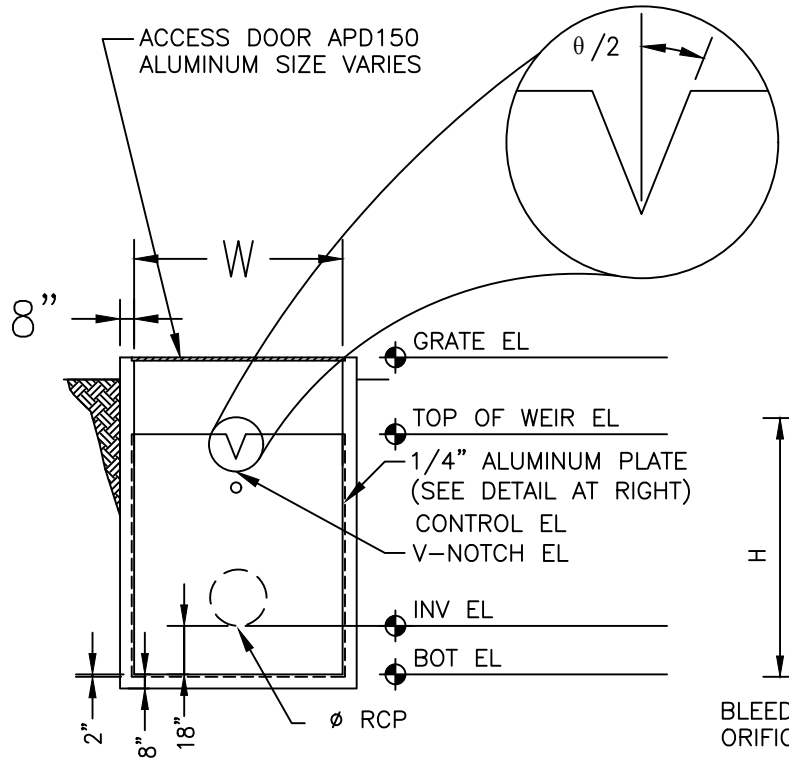
RIP-RAP HEADWALL - QUANTITIES & DIMENSIONS

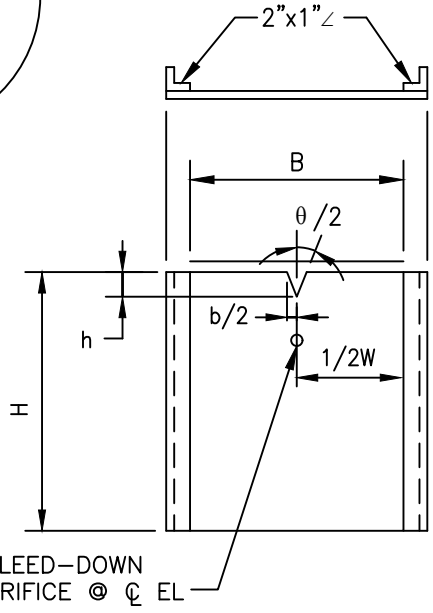
STANDARD DETAILS

DWG. NO. **618**

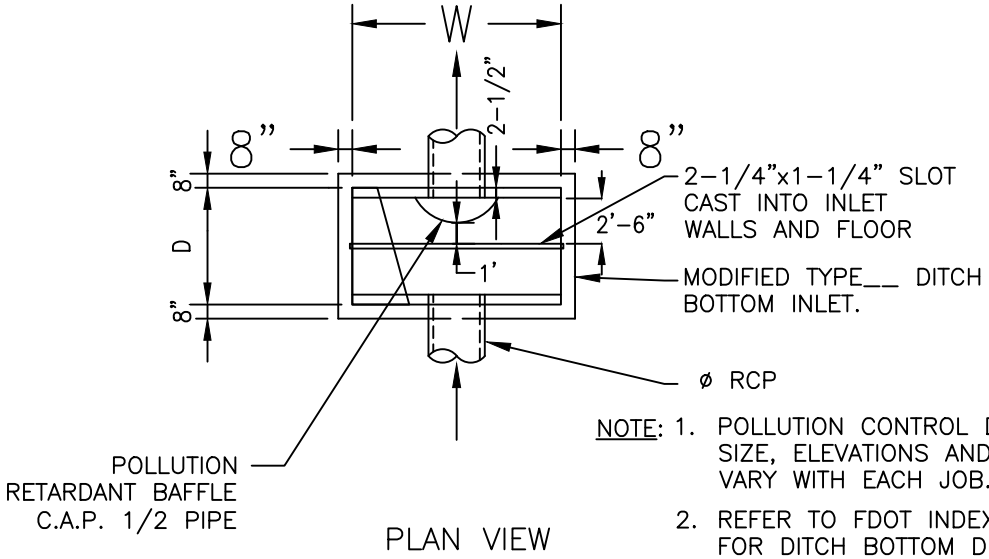
DATE: APRIL 2025



SECTION VIEW



ALUMINUM
PLATE DETAIL



PLAN VIEW

NOTE: 1. POLLUTION CONTROL DEVICE SIZE, ELEVATIONS AND DETAILS VARY WITH EACH JOB.

2. REFER TO FDOT INDEX NO. 232 FOR DITCH BOTTOM DETAILS, REINFORCING AND DIMENSIONS, UNLESS OTHERWISE NOTED

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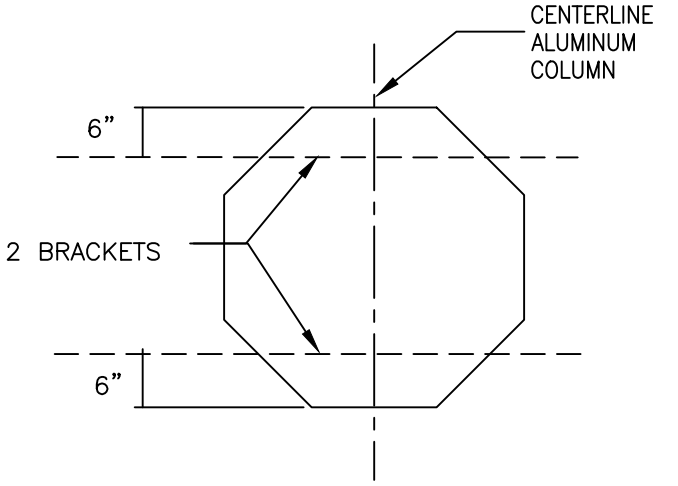
CONTROL BOX/PLATE

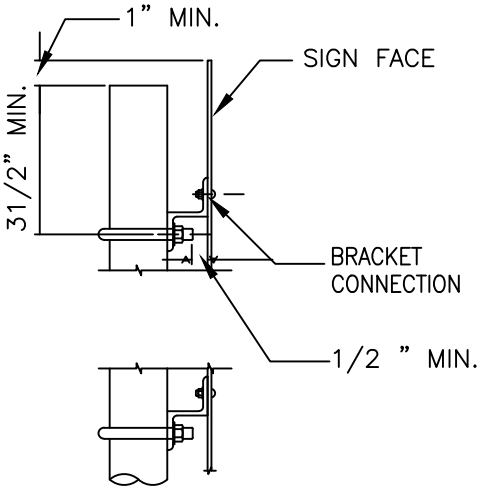
STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **619**



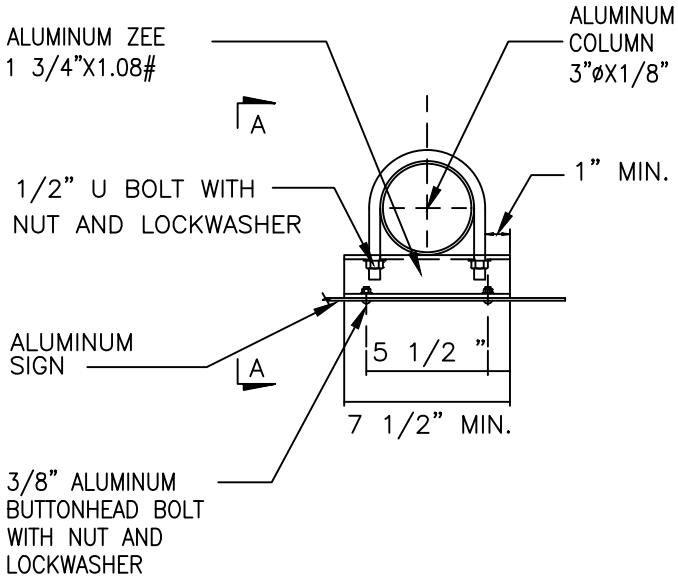
STOP



VIEW A–A

30"X30"

R1–1



TYPE I BRACKET

NOTES:

1. STOP SIGNS SHALL HAVE REFLECTIVE RED BACKGROUND AND WHITE LETTERING.
2. ALL SIGNS SHALL BE ACCORDING TO MUTCD. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

DRAWING N.T.S

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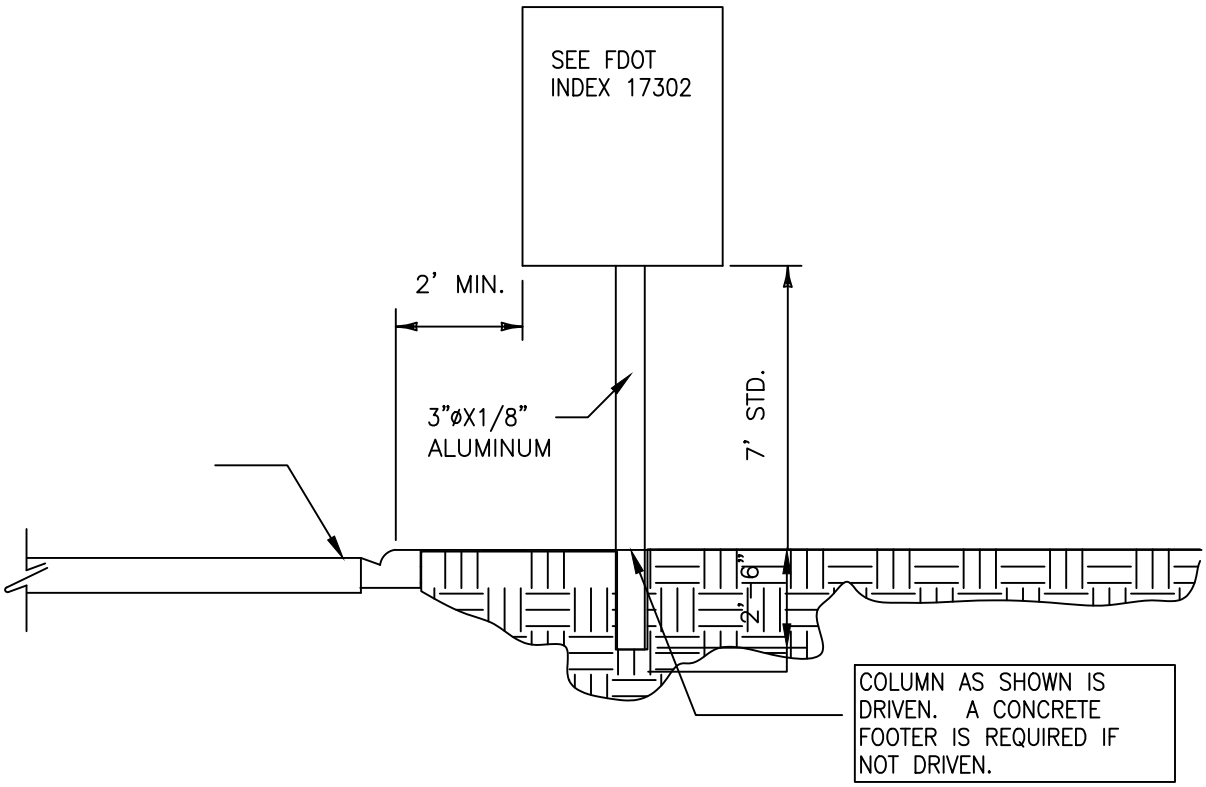
STOP SIGN & TYPICAL SIGN BRACKET

STANDARD DETAILS

DWG. NO. **620**

DATE: APRIL 2025

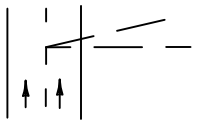


GENERAL NOTES:

1. The typical section shown here serves as a guide for locating the traffic signs required under various roadside conditions. For size and details of sign construction and footing, refer to the appropriate FDOTstandard index drawing for roadside sign.

2. It shall be the CONTRACTORS respon – sibility to verify the length of sign supports in the field prior to fabrication.

3. Roadside signs shall be installed at an angle of 1 to 4 degrees away from the traffic flow(see illustration). Shoulder mounted signs shall be rotated counterclockwise and median mounted signs rotated clockwise. Signs on curves shall be mounted as noted above from the perpendicular to the motorists line of sight.



Angle From Center
Of Roadway

4. The setback for stop and yield signs may be reduced to 3' minimum from the driving lane if required for visibility in business or residential sections with no curb and speeds of 30 MPH or less.

5. The mounting heights are measured from the bottom of the sign panel to a horizontal line extended from the edge of the driving lane. If the standard heights cannot be met, the minimum heights are as follows:

Expressway & Freeway Systems	7'
Other Roadway Systems	
Rural	5'
Urban (including residential with parking and/or pedestrian activity)	7'

If a secondary sign is mounted below the major sign,the major sign shall be at least 8' and the secondary sign at least 5' for expressway & freeway systems and for other systems the height to the secondary sign shall be at least 4' for rural and 6' for urban sections.

6. Sign supports should never be placed in ditches where erosion might affect the proper operation of the breakaway feature. It is also possible that a vehicle entering the ditch might be guided into the support.

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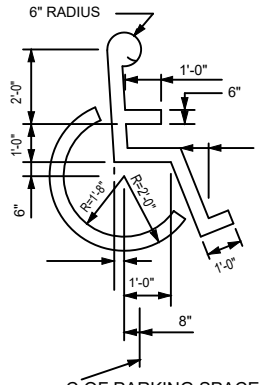
TYPICAL ROADSIDE PLACEMENT

STANDARD DETAILS

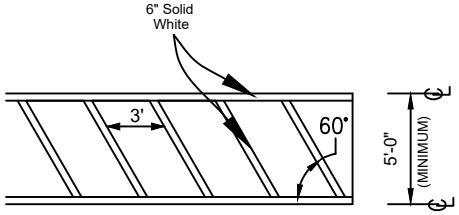
DATE: APRIL 2025

DWG. NO. **621**

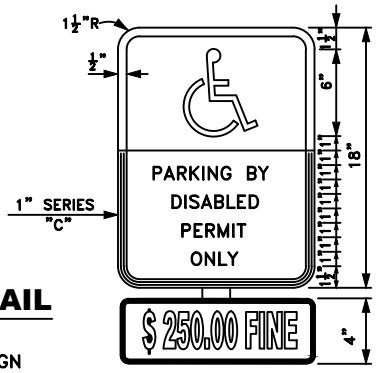


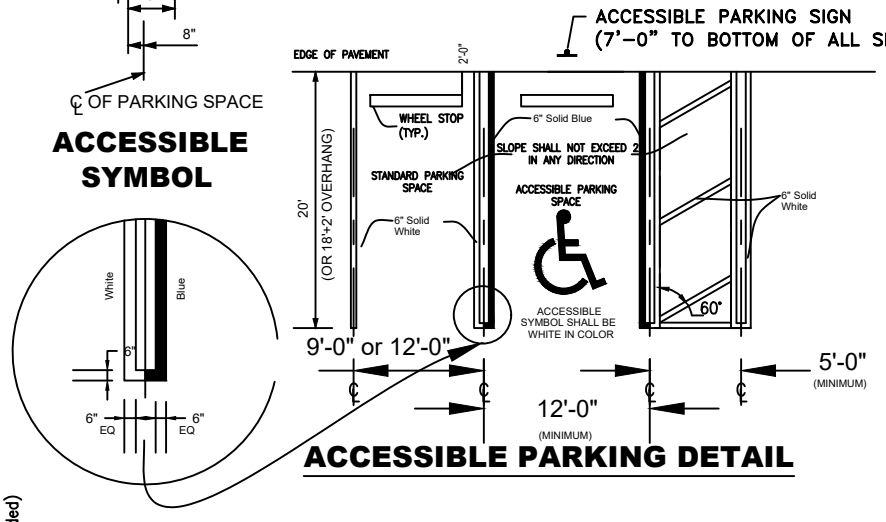
℄ OF PARKING SPACE

ACCESSIBLE SYMBOL



ACCESSIBLE CROSS-WALK DETAIL





ACCESSIBLE PARKING DETAIL

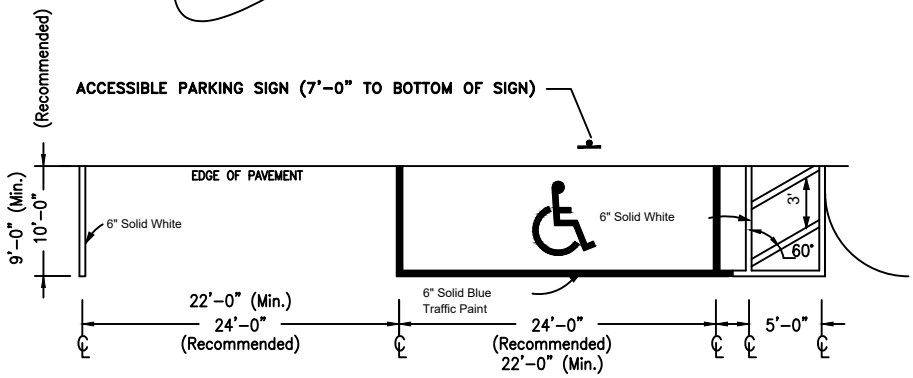
NOTES:

1. Top portion of FTP 25 shall have a reflective blue background with white reflective symbol and border.
2. Bottom portion shall have a reflective white background with black opaque legend and border.
3. FTP 26 may be fabricated on one panel or two.
4. FTP 25 is for use in areas where space is limited.

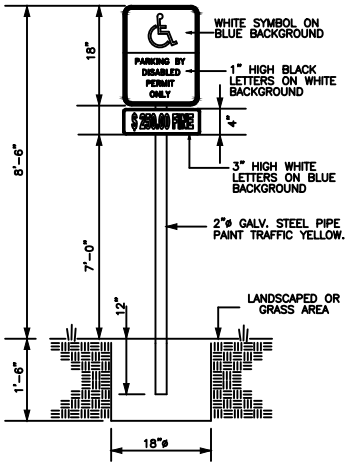
HANDICAP SIGN

F.D.O.T. INDEX NO. 17355

INSTALL SIGN IN FRONT OF HANDICAP SPACE



ACCESSIBLE PARKING DETAIL (PARALLEL)



HANDICAP SIGN INSTALLATION DETAIL

NOTES:

1. ACCESSIBLE PARKING SPACES SHALL COMPLY WITH THE FLORIDA BUILDING CODE, ADAAG, AND CITY OF COCONUT CREEK ORDINANCES.
2. ALL LINES TO BE 6" SOLID IN COLOR SPECIFIED

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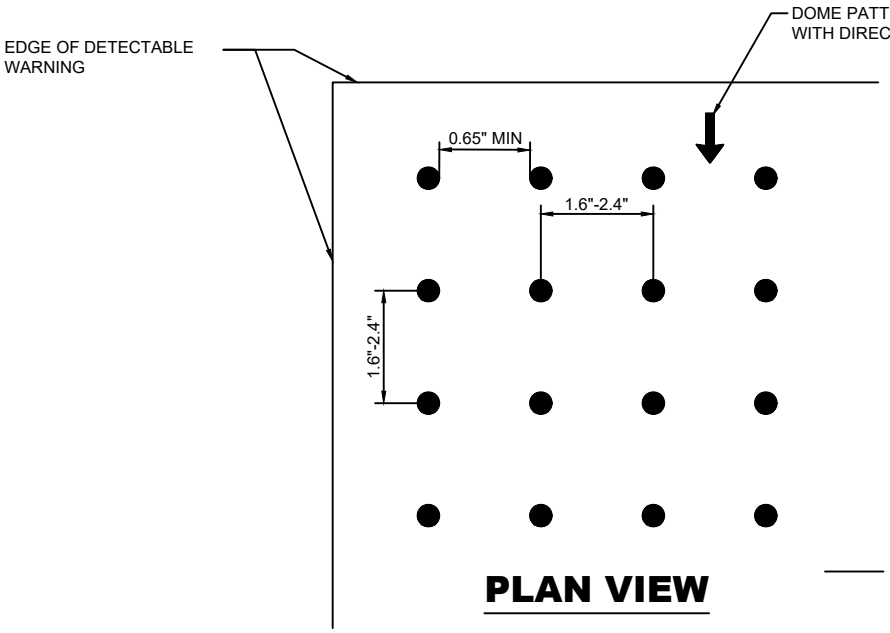
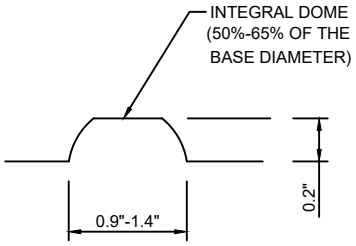
STANDARD ACCESSIBLE PARKING

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	622



PLAN VIEW



TRUNCATED DOME

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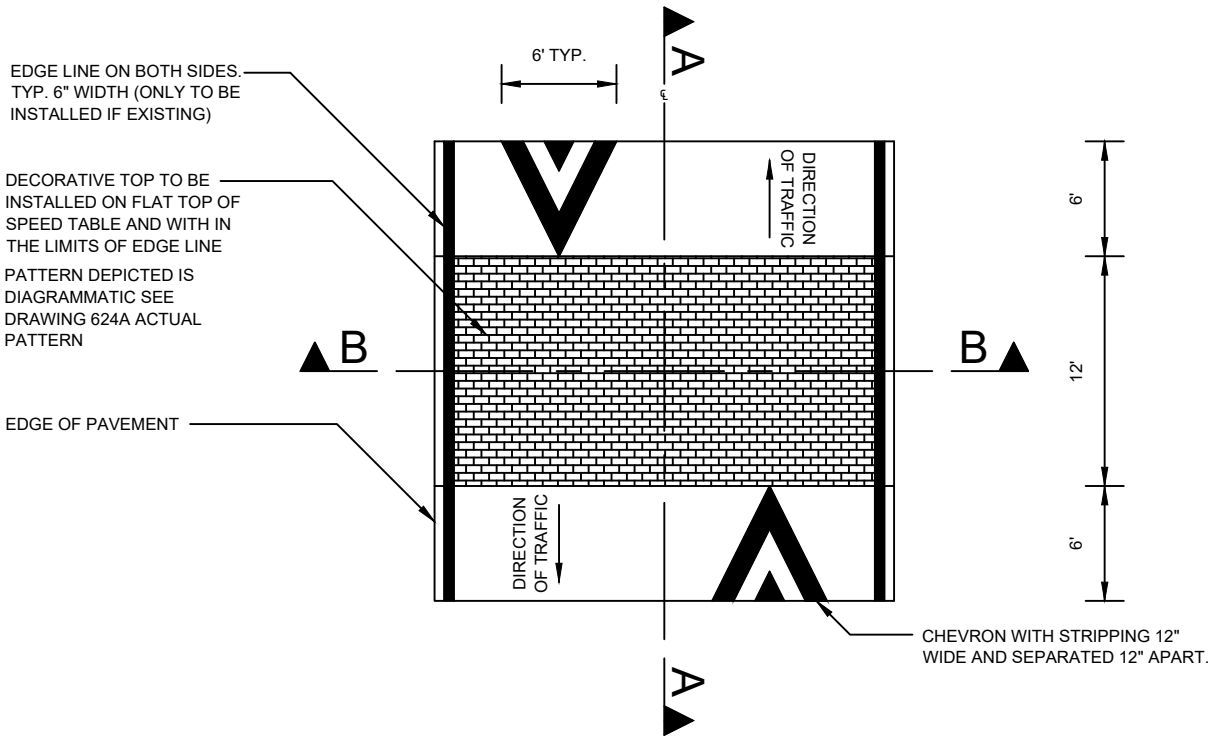
DETECTABLE WARNING

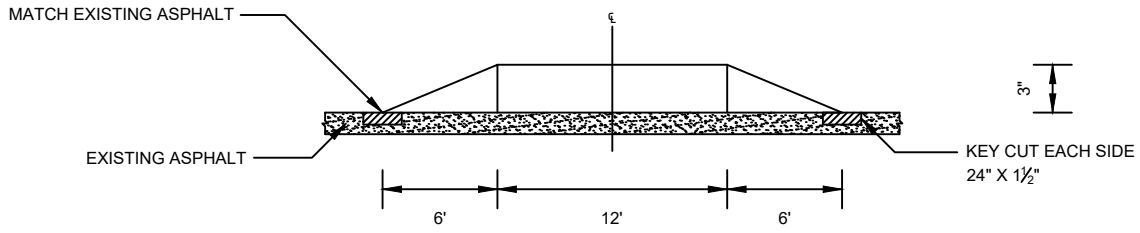
STANDARD DETAILS

DWG. NO. **623**

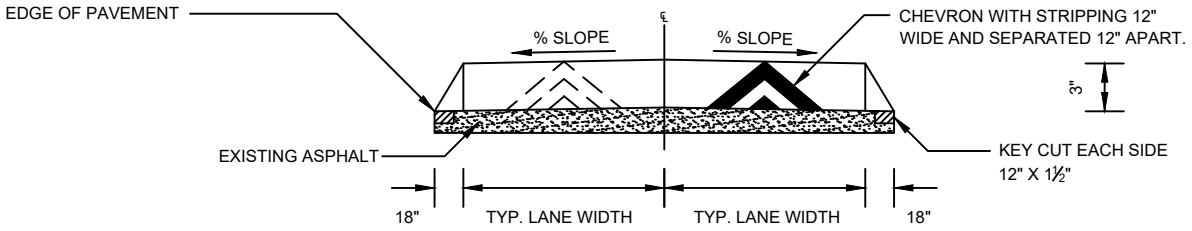
DATE: APRIL 2025



PLAN



SECTION A-A



SECTION B-B

NOTES

1. SEE SPECIFICATION ON 624A AND INSTALLATION NOTES ON 624B. 625 and 625A DEFINES SIGNAGE REQUIREMENTS

N.T.S

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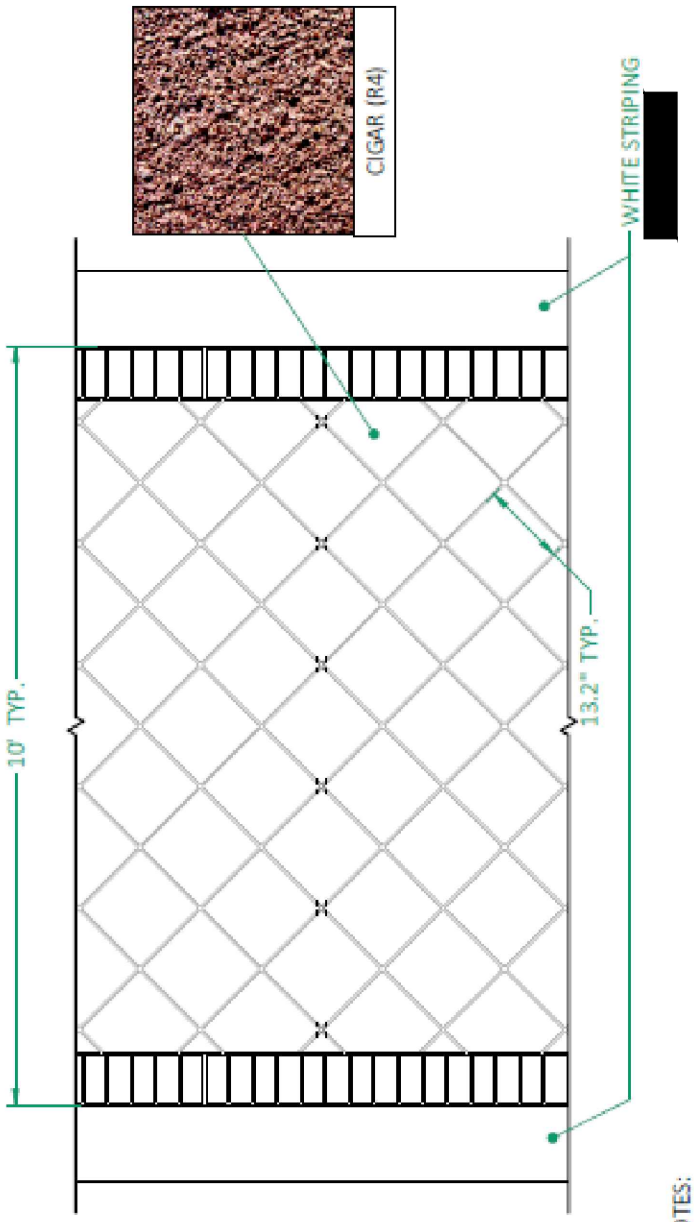
SPEED TABLE FOR CITY STREETS

STANDARD DETAILS

DWG. NO. **624**

DATE: APRIL 2025



NOTES:

1. PATTERNED PAVEMENT CROSSWALK FOR CITY OF COCONUT CREEK INSTALLED PRODUCT TO BE PAVE STS, FDOT APL No. 523-000-003.
2. PATTERN IS DIAGONAL TILE WITH SOLDIER COURSE BORDER. TILE SIZE HAS BEEN
3. ADJUSTED TO FIT PAVEWAY STANDARD MATERIAL SIZE. COLOR CIGAR (R4) IS CURRENT STS EQUIVALENT TO SAN DIEGO BUFF. NOTE THAT AREA TO BE INSTALLED WITH PATTERNED PAVEMENT MUST BE FREE OF ROADWAY
4. MARKINGS EITHER TEMPORARY OR PERMANENT.

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SPEED TABLE FOR CITY STREETS

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	624A

Installation

Installation is to take place on a fully cured substrate. For asphalt surfaces, full cure is 14 days.For concrete surfaces, full cure is 28 days.

Surface preparation is to be done mechanically, not chemically. Means of mechanical surface preparation include brooms, high powered blower, oil-free compressed air, pressure washing (with appropriate drying time), diamond grinding or shot blasting. Heating an asphalt substrate with the intention to soften the surface is not allowed.

Templates, in selected pattern, are to be aligned and joined together using appropriate adhesives.

Installation can proceed when surface temperatures are 55 degrees Fahrenheit and rising. The binder is to be spread over the template to an average thickness of 50 mils. Immediately after the binder is spread, begin broadcasting selected aggregate to the point of rejection and the binder is fully infused.

Cure time will vary and the area can be opened for traffic between 1-3 hours after completion. Before fully cured, sweep off excess aggregate and remove the templates, revealing the selected pattern. Upon full cure, sweep or scrape the area aggressively to remove any remaining loose aggregate

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SPEED TABLE FOR CITY STREETS

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	624B

GENERAL NOTES:

1. THE SPEED TABLE SHALL BE INSTALLED ALONG THE ENTIRE WIDTH OF THE ROADWAY (TYPICAL TWENTY FOUR (24) FEET), WITH THE FOLLOWING CHARACTERISTICS:

    a. HEIGHT OF THREE (3) INCHES
    b. TWELVE (12) FEET FLAT TOP
    c. SIX (6) FEET TRANSITIONS ON BOTH THE NEAR & FAR SIDES
    d. EIGHTEEN (18) INCHES TRANSITIONS ON BOTH CURB SIDES

2. KEY CUT TWENTY-FOUR (24) INCHES ON BOTH THE NEAR & FAR SIDES WITH TWELVE (12) INCHES NEXT TO SPEED TABLE AND TWELVE INCHES UNDERNEATH, FOR A DEPTH OF ONE AND A HALF (1.5) INCHES.

3. KEY CUT TWELVE (12) INCHES ON BOTH CURB SIDE EDGES, UNDERNEATH THE SPEED TABLE, FOR A DEPTH OF ONE AND A HALF (1.5) INCHES.

4. PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FIGURE 3B-30 OPTION "A".

    a. FOR EACH DIRECTION OF TRAVEL, INSTALL TWO (2) CHEVRONS, ONE (1) FOOT WHITE PAVEMENT MARKING, SPACED ONE (1) FOOT APART FOR A LENGTH OF SIX (6) FEET CENTERED ON THE TRAVEL LANE, PLACED ON THE TRANSITION ONLY.
    b. SIX (6) INCHES WHITE THERMOPLASTIC EDGE LINE TO BE REPLACED ALONGSIDE OF THE SPEED TABLE, IF THIS EDGE LINE PREVIOUSLY EXISTED.
    c. IF SOLID DOUBLE YELLOW CENTERLINE EXIST, CENTERLINE **SHALL NOT** BE PAINTED OVER SPEED TABLE.
    d. IF SPEED TABLE IS LOCATED WHERE A TEN (10) / THIRTY (30) SKIP LINES EXIST, THEN THE SPEED TABLE SHALL BE PLACED CENTER OF THE 30' SKIP.

5. ALL SPEED TABLES SHALL BE INSTALLED IN TWO (2) LIFTS OF SP 9.5 ASPHALT.

6. TACK COAT TO BE APPLIED PRIOR TO LAYING ASPHALT.

7. AN **APPROVED** MAINTENANCE OF TRAFFIC PLAN SHALL BE ESTABLISHED FOR EACH SPEED TABLE INSTALLATION.

8. INSTALLATION SHALL BE IN COMPLIANCE WITH THE FDOT STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION.

9. BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.

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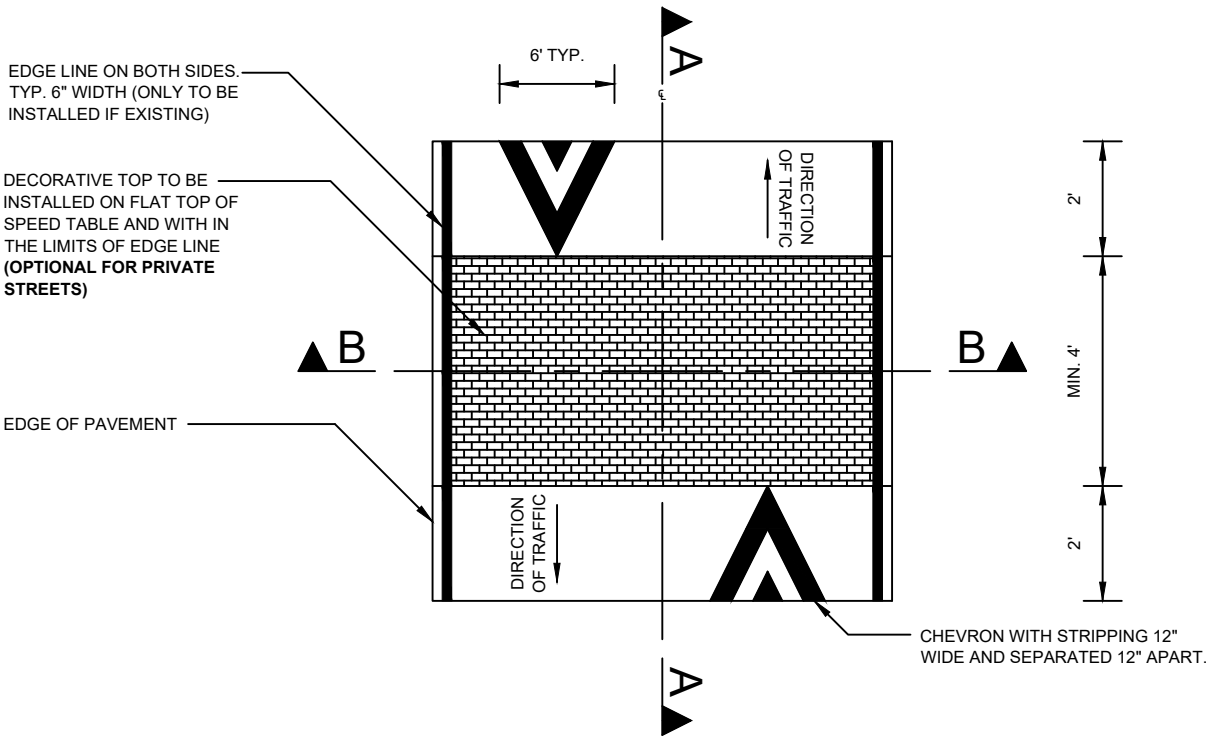
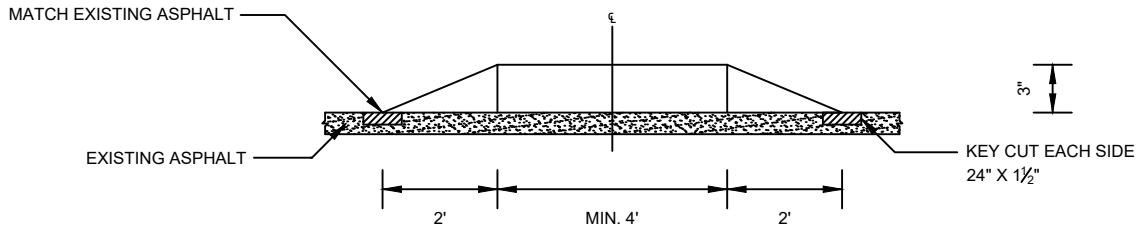
SPEED TABLE FOR CITY STREETS GENERAL NOTES

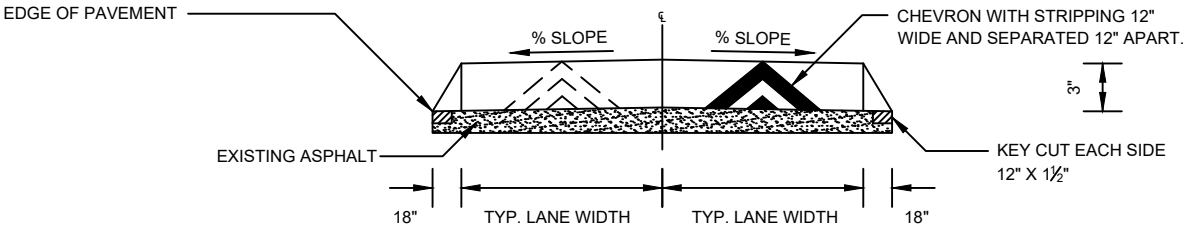
STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	625



PLAN



SECTION A-A



SECTION B-B

NOTES

1. REFER TO DWG 624A,624B,625, 625A AND 627 FOR FURTHER REQUIREMENTS

N.T.S

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SPEED TABLE/HUMPS FOR PRIVATE STREETS

STANDARD DETAILS

DWG. NO. **626**

DATE: APRIL 2025

GENERAL NOTES:

1. THE SPEED TABLE SHALL BE INSTALLED ALONG THE ENTIRE WIDTH OF THE ROADWAY (TYPICAL TWENTY FOUR (24) FEET), WITH THE FOLLOWING CHARACTERISTICS:

    a. HEIGHT OF THREE (3) INCHES
    b. FOUR (4) FEET FLAT TOP
    c. TWO (2) FEET TRANSITIONS ON BOTH THE NEAR & FAR SIDES
    d. EIGHTEEN (18) INCHES TRANSITIONS ON BOTH CURB SIDES

2. KEY CUT TWENTY-FOUR (24) INCHES ON BOTH THE NEAR & FAR SIDES WITH TWELVE (12) INCHES NEXT TO SPEED TABLE AND TWELVE INCHES UNDERNEATH, FOR A DEPTH OF ONE AND A HALF (1.5) INCHES.

3. KEY CUT TWELVE (12) INCHES ON BOTH CURB SIDE EDGES, UNDERNEATH THE SPEED TABLE, FOR A DEPTH OF ONE AND A HALF (1.5) INCHES.

4. PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FIGURE 3B-30 OPTION "A".

    a. FOR EACH DIRECTION OF TRAVEL, INSTALL TWO (2) CHEVRONS, ONE (1) FOOT WHITE PAVEMENT MARKING, SPACED ONE (1) FOOT APART FOR A LENGTH OF SIX (6) FEET CENTERED ON THE TRAVEL LANE, PLACED ON THE TRANSITION ONLY.
    b. SIX (6) INCHES WHITE THERMOPLASTIC EDGE LINE TO BE REPLACED ALONGSIDE OF THE SPEED TABLE, IF THIS EDGE LINE PREVIOUSLY EXISTED.
    c. IF SOLID DOUBLE YELLOW CENTERLINE EXIST, CENTERLINE **SHALL NOT** BE PAINTED OVER SPEED TABLE.
    d. IF SPEED TABLE IS LOCATED WHERE A TEN (10) / THIRTY (30) SKIP LINES EXIST, THEN THE SPEED TABLE SHALL BE PLACED CENTER OF THE 30' SKIP.

5. ALL SPEED TABLES SHALL BE INSTALLED IN TWO (2) LIFTS OF SP-9.5 ASPHALT.

6. TACK COAT TO BE APPLIED PRIOR TO LAYING THE SP-9.5 ASPHALT.

7. AN **APPROVED** MAINTENANCE OF TRAFFIC PLAN SHALL BE ESTABLISHED FOR EACH SPEED TABLE INSTALLATION.

8. INSTALLATION SHALL BE IN COMPLIANCE WITH THE FDOT STANDARDS SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION 2010.

9. BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SHALL BE IN PLACE AT ALL TIMES DURING CONSTRUCTION.

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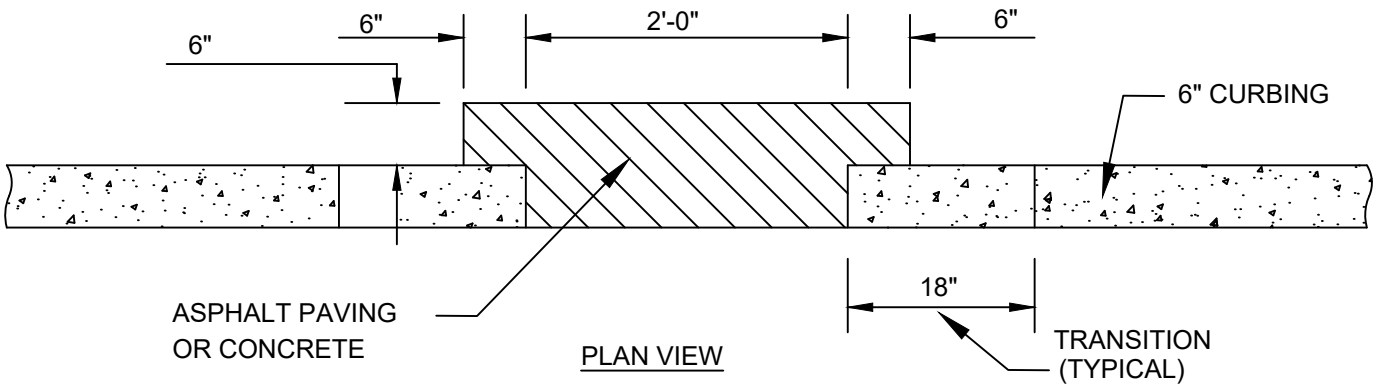
SPEED TABLE FOR PRIVATE STREETS GENERAL NOTES

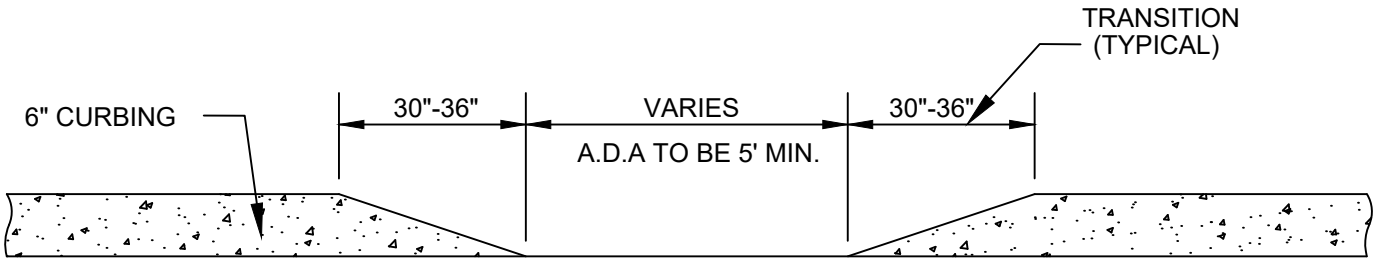
STANDARD DETAILS

DWG. NO. **627**

DATE: APRIL 2025



PLAN VIEW



FRONT SECTION

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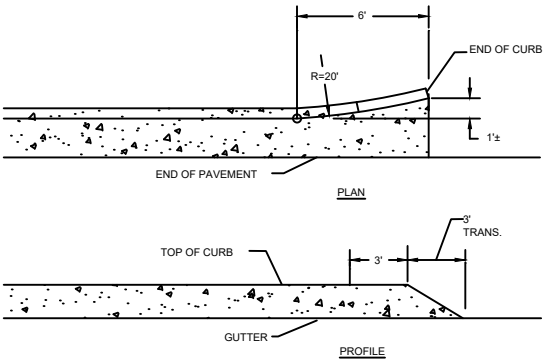
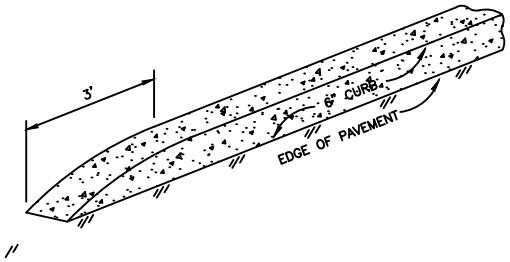
CURB OPENING

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	628

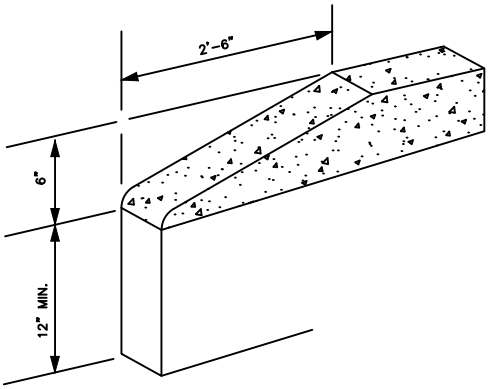


TO BE PER FDOT INDEX 300

CURB & GUTTER TERMINATION DETAIL



TYPICAL CURB ENDING



TYPICAL CURB TERMINATION

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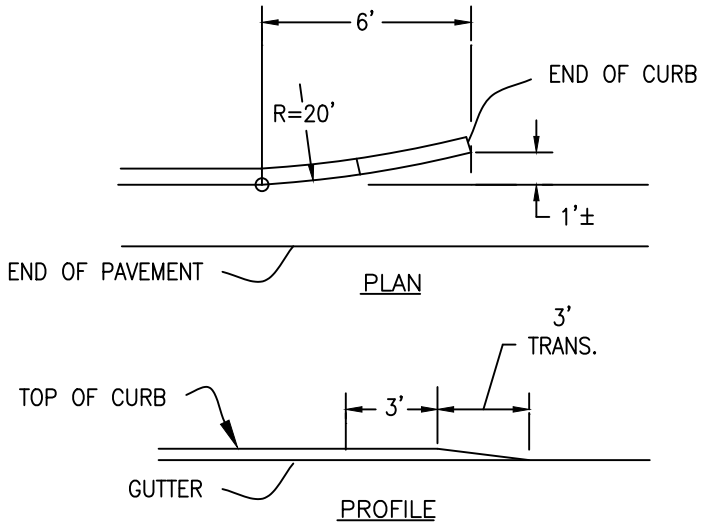
CURB TERMINATION

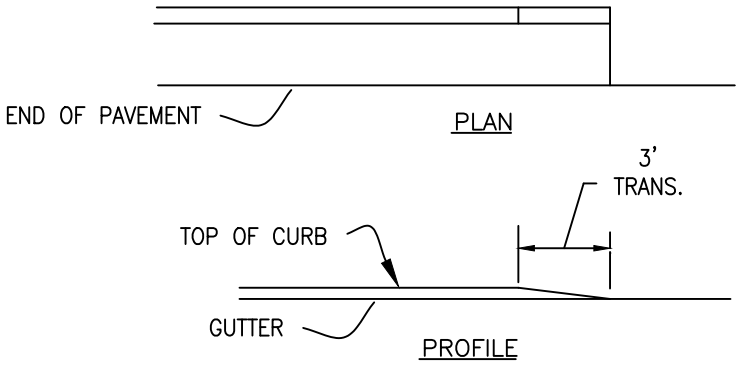
STANDARD DETAILS

DWG. NO. **629**

DATE: APRIL 2025



FLARED END



STRAIGHT END

TYPE F CURB & GUTTER

CURB FLARED AND STRAIGHT ENDS

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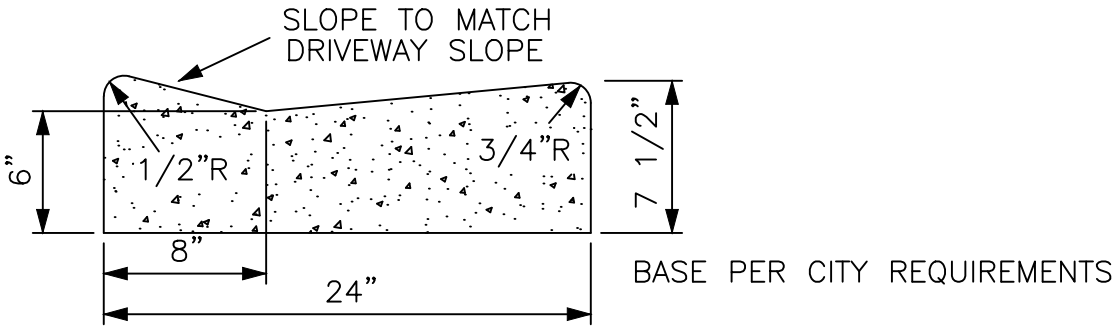
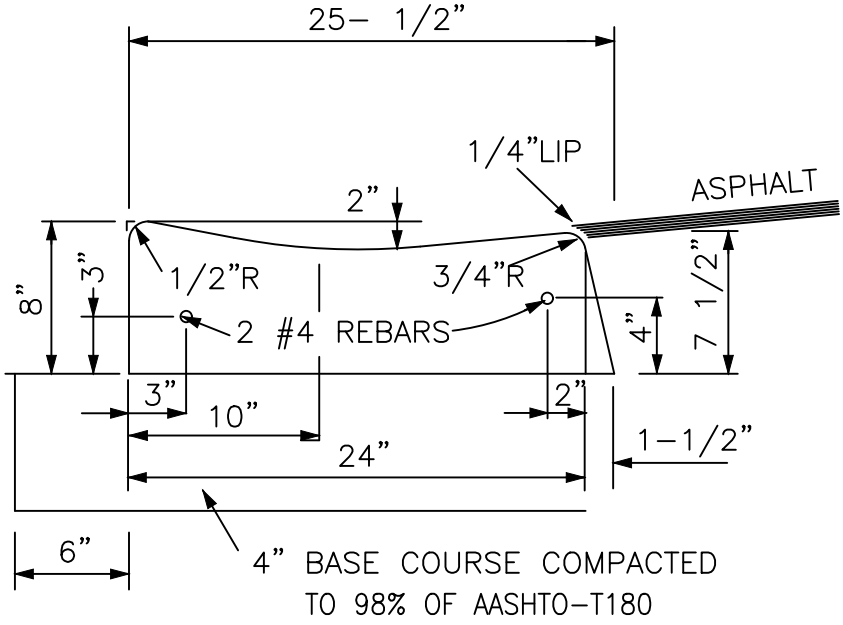
CURB FLARED AND STRAIGHT EDGE

STANDARD DETAILS	DWG. NO. 630
DATE: APRIL 2025	



DROP CURB



DRIVEWAY CURB & GUTTER

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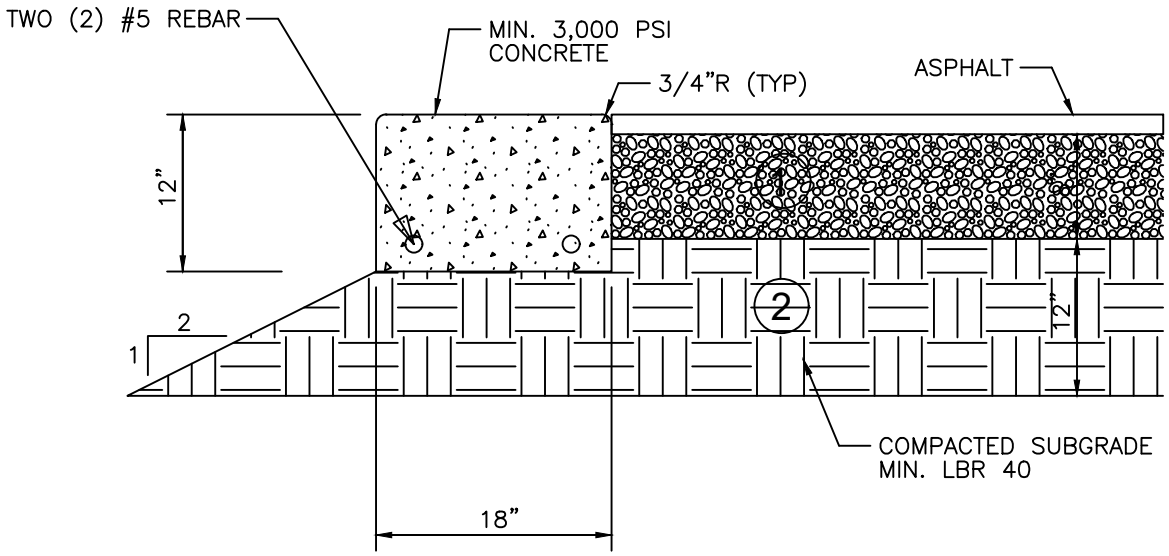
DRIVEWAY CURB AND GUTTER

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	631



GENERAL NOTES:

1. LIMEROCK BASE SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 WITH MINIMUM LBR 100 AND MAXIMUM OF 8" LIFTS.
2. SUB GRADE SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T-180 WITH MINIMUM LBR 40 AND A MAXIMUM OF 12" LIFTS.

ADDITIONAL CURBING NOTES:

1. DENSITY TESTS SHALL BE REQUIRED AT A MINIMUM OF ONE PER 5,000 SQUARE FEET, AND PERFORMED BY AN APPROVED, INDEPENDENT LABORATORY AT THE CONTRACTOR'S EXPENSE.
2. CURB SHALL BE POURED MONOLITHICALLY AND CONSTRUCTED IN ACCORDANCE WITH THIS DETAIL.
3. CONTROL JOINTS SHALL BE TOOLED OR CUT EVERY TEN (10) FEET.
4. ALL AREAS BEHIND CURBS SHALL BE BACKFILLED WITHIN 72 HOURS OF PLACEMENT.

UTILITIES & ENGINEERING DEPARTMENT

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COCONUT CREEK, FL 33073

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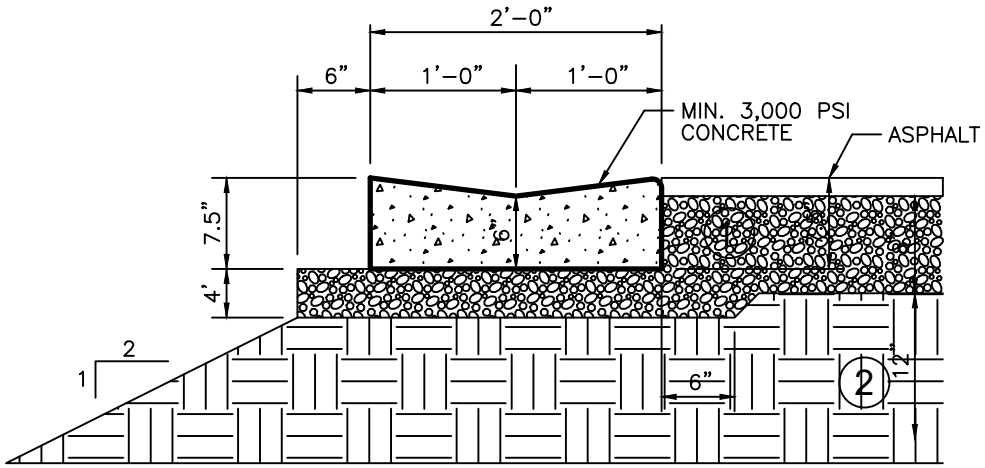
FAX NO: 954-571-4146
www.coconutcreek.net

HEADER CURB

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **632**



GENERAL NOTES:

1. LIMEROCK BASE SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETER–MINED BY AASHTO T–180 WITH MINIMUM LBR 100 AND MAXIMUM OF 8" LIFTS.

2. SUB GRADE SHALL BE COMPACTED TO NOT LESS THAN 98% OF MAXIMUM DENSITY AS DETERMINED BY AASHTO T–180 WITH MINIMUM LBR 40 AND A MAXIMUM OF 12" LIFTS.

ADDITIONAL CURBING NOTES:

1. DENSITY TESTS SHALL BE REQUIRED AT A MINIMUM OF ONE PER 5,000 SQUARE FEET, AND PERFORMED BY AN APPROVED INDEPENDENT LABORATORY AT THE CONTRACTOR'S EXPENSE.

2. CURB SHALL BE POURED MONOLITHICALLY AND CONSTRUCTED IN ACCORDANCE WITH THIS DETAIL.

3. CONTROL JOINTS SHALL BE TOOLED OR CUT EVERY TEN (10) FEET.

4. ALL AREAS BEHIND CURBS SHALL BE BACKFILLED WITHIN 72 HOURS OF PLACEMENT.

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VALLEY GUTTER

STANDARD DETAILS

DWG. NO. **633**

DATE: APRIL 2025

FOR FUTURE USE

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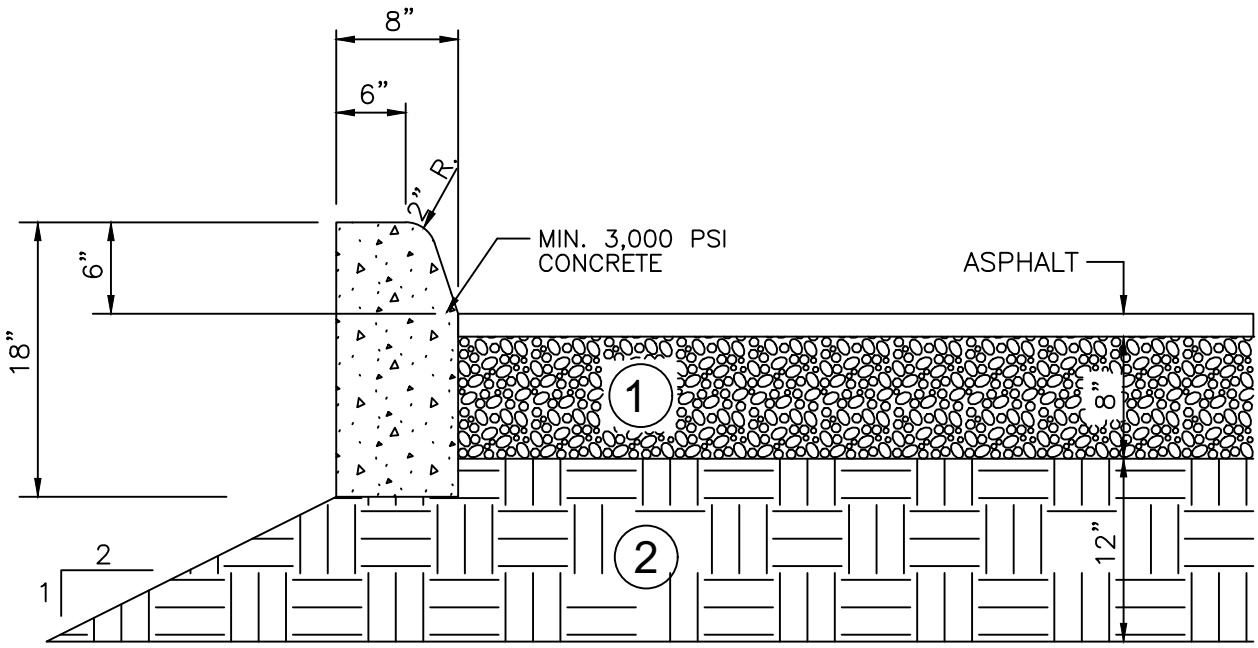
STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **634**



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ADDITIONAL CURBING NOTES:

1. DENSITY TESTS SHALL BE REQUIRED AT A MINIMUM OF ONE PER 5,000 SQUARE FEET, AND PERFORMED BY AN APPROVED INDEPENDENT LABORATORY AT THE CONTRACTOR'S EXPENSE.
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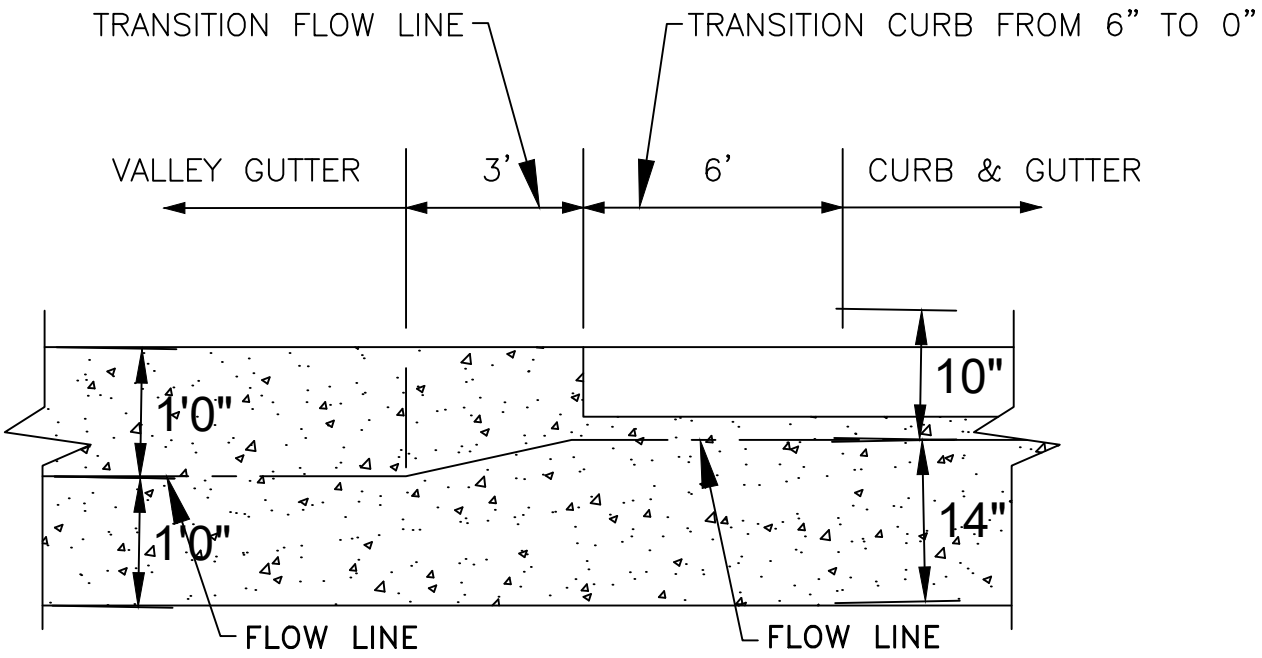
TYPE D CURB

STANDARD DETAILS

DWG. NO. **635**

DATE: APRIL 2025



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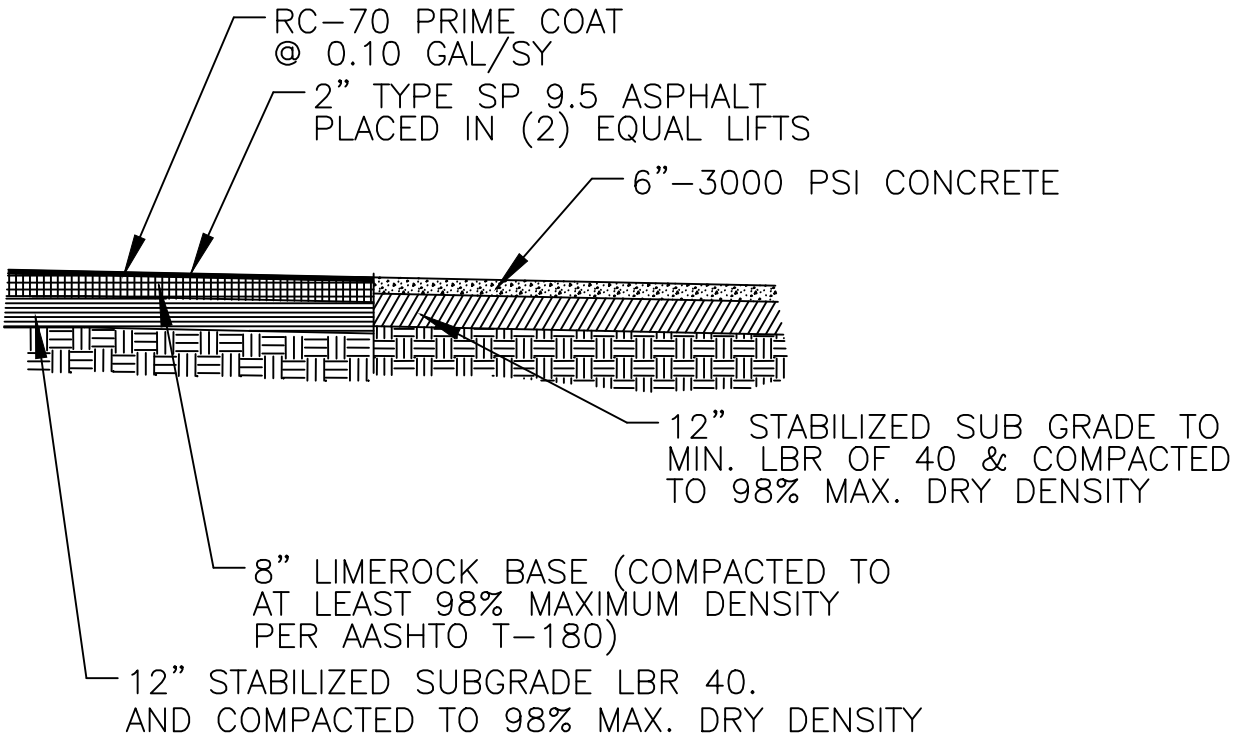
TRANSITION CURB AND GUTTER TO VALLEY CURB

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	636



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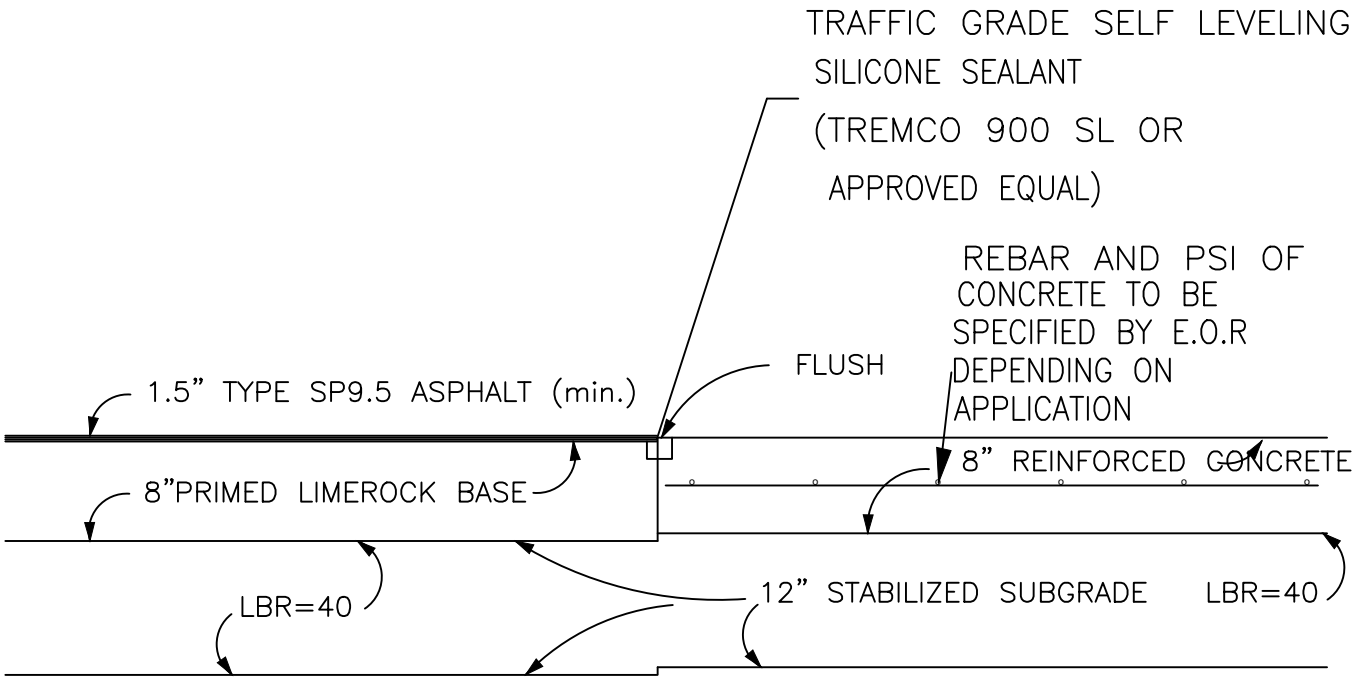
ASPHALT CONCRETE TO PC CONCRETE CONNECTION

STANDARD DETAILS	DWG. NO. 637
DATE: APRIL 2025	



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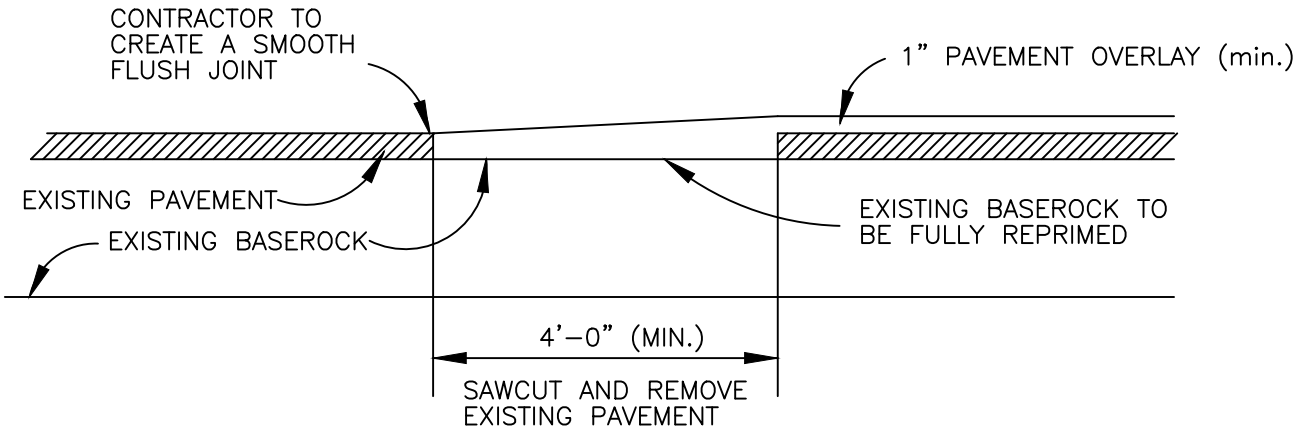
ASPHALT / PC CONCRETE JOINT

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	638



NOTES:

1. SLOPE CREATED BY OVERLAY SHALL NOT EXCEED 2% (0.02). SHOULD SLOPE EXCEED 2%, THEN MILLING SHALL BE REQUIRED. A 4'-0" SECTION PER EACH ADDITIONAL 1" OF OVERLAY SHALL BE MILLED AS NECESSARY TO ACHIEVE DESIRED SLOPE.

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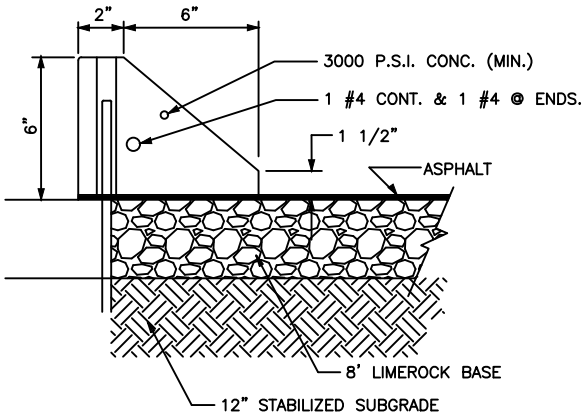
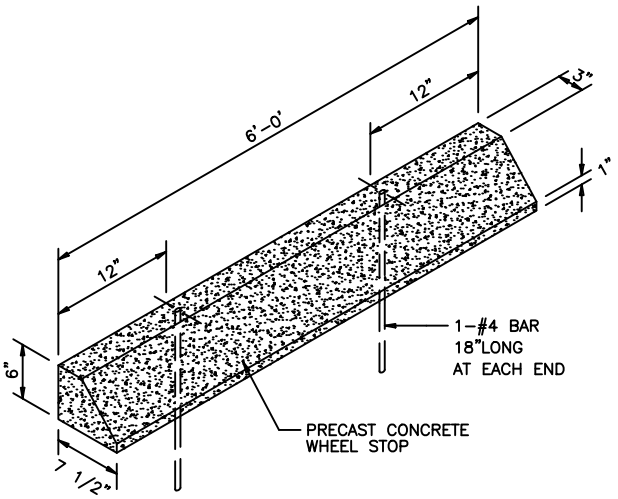
TERMINATION OF OVERLAY

STANDARD DETAILS	DWG. NO. 639
DATE: APRIL 2025	





NOTES:

1. CONCRETE STRENGTH SHALL BE 3,000 P.S.I.

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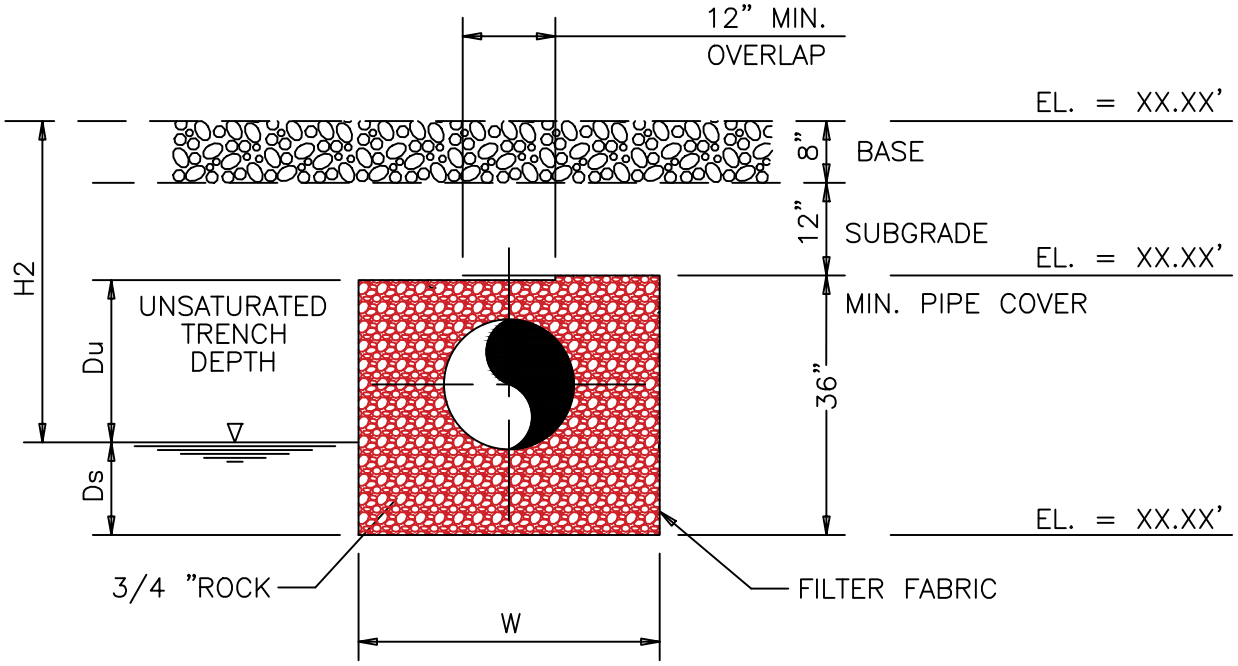
WHEELSTOP

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **640**



L= LENGTH OF TRENCH REQUIRED (FEET)
V= VOLUME TREATED (ACRE – INCHES)
W= TRENCH WIDTH (FEET)
K= HYDRAULIC CONDUCTIVITY (CFS/FT^2 – FT. HEAD)
H_2 = DEPTH TO WATER TABLE (FEET)
Du= NON–SATURATED TRENCH DEPTH (FEET)
Ds= SATURATED TRENCH DEPTH (FEET)

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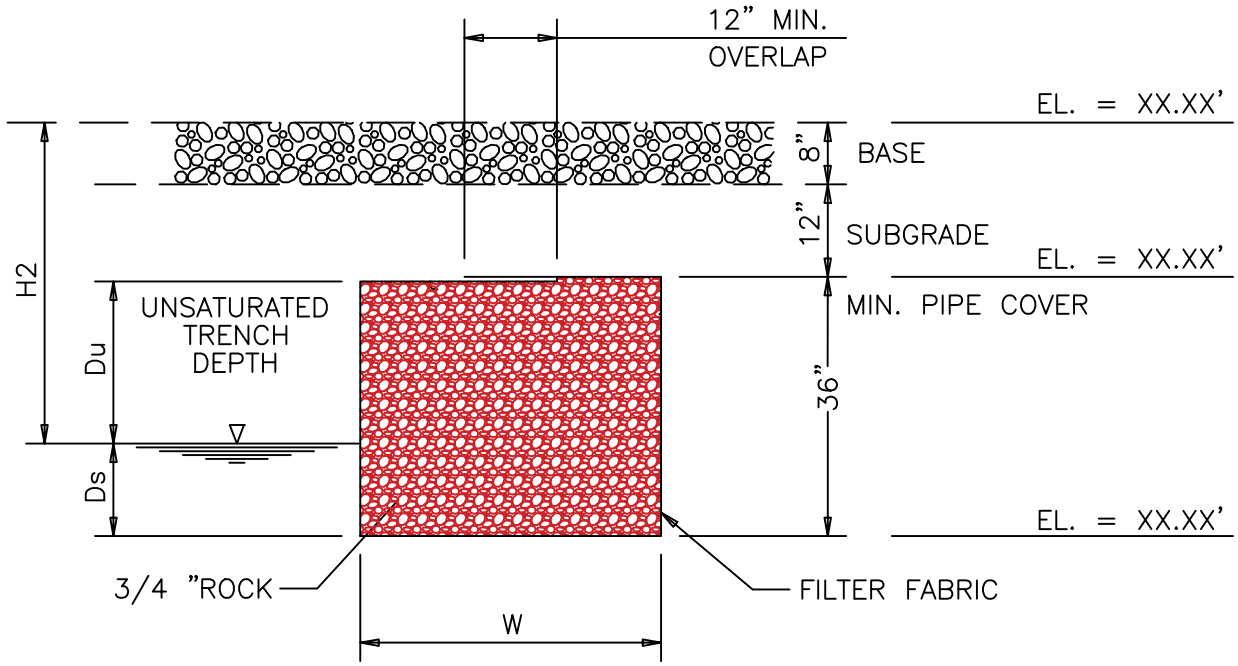
TYPICAL EXFILTRATION TRENCH

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **641**



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H_2 = DEPTH TO WATER TABLE (FEET)
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Ds= SATURATED TRENCH DEPTH (FEET)

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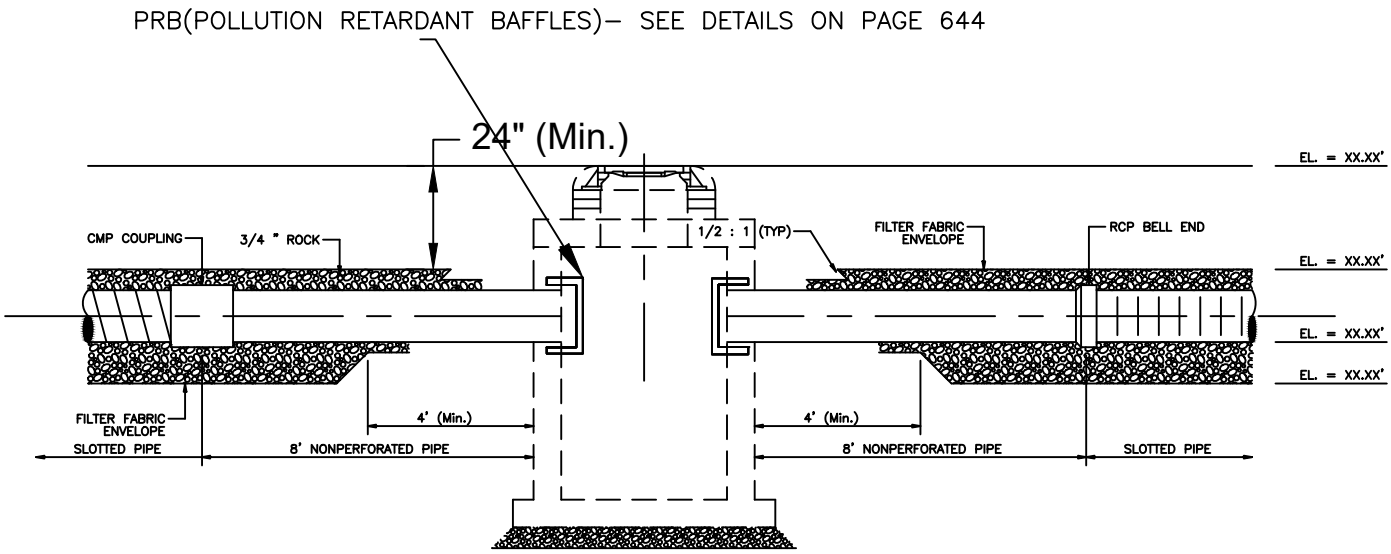
EXFILTRATION TRENCH WITHOUT PIPE

STANDARD DETAILS

DWG. NO. **641A**

DATE: APRIL 2025



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EXFILTRATION TRENCH LONGITUDINAL SECTION FOR BOTH CMP AND RCP

STANDARD DETAILS

DWG. NO. **642**

DATE: APRIL 2025

FOR FUTURE USE

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STANDARD DETAILS	DWG. NO. **642A**
DATE: **APRIL 2025**	

NOTES:

GEOWEB SPECIFICATIONS GW20V – 100 MM (4 IN) DEPTH
(BY PRESTO PRODUCTS OR EQUAL)

BASE MATERIAL:

POLYMER – POLYETHYLENE WITH DENSITY OF 0.935–0.965 G/CM^3

COLOR – BLACK

STABILIZER – CARBON BLACK CONTENT –2.0% BY WEIGHT

MINIMUM ESCR – 3000 HR

STRIP PROPERTIES:

SURFACE TREATMENT

PERFORMANCE – THE POLYETHYLENE STRIPS SHALL BE TEXTURED AND PERFORATED SUCH THAT THE PEAK FRICTION ANGLE BETWEEN THE SURFACE OF THE TEXTURED/PERFORATED PLASTIC AND A # 40 SILICA SAND AT 100% RELATIVE DENSITY SHALL BE NO LESS THAN 85% OF THE PEAK FRICTION ANGLE OF THE SILICA SAND IN ISOLATION WHEN TESTED BY THE DIRECT SHEAR METHOD PER ASTM D 5321. THE QUANTITY OF PERFORATIONS SHALL REMOVE 13.8% ±2.1 % OF THE CELL WALL AREA. MATERIAL – THE POLYETHYLENE STRIPS SHALL BE TEXTURED WITH A MULTITUDE OF RHOMBOIDAL (DIAMOND SHAPE) INDENTATIONS. THE RHOMBOIDAL INDENTATIONS SHALL HAVE A SURFACE DENSITY OF 22–31 PEN SQUARE CENTIMETER (140–200 PER SQUARE INCH). IN ADDITION, THE STRIPS SHALL BE PERFORATED WITH HORIZONTAL ROWS OF 10 MM (0.391 IN.) DIAMETER HOLES. PERFORATIONS WITHIN EACH ROW SHALL BE 19 MM (0.75 IN.) ON–CENTER. HORIZONTAL ROWS SHALL BE STAGGERED AND SEPARATED 12 MM (0.50 IN.) RELATIVE TO THE HOLE CENTERS. OUTER PERFORATION CENTERS SHALL BE 12 MM (0.50 IN.) FROM THE STRIP EDGES AND 25 MM (1.0 IN.) FROM THE CELL WELD POINTS.

CELL AND SEAM PROPERTIES:

CELL DETAILS

DEPTH – 100 MM (4 IN.)

LENGTH – 224 MM (8.8 IN.)

WIDTH – 259 MM (10.2 IN.)

DENSITY PER SQUARE METER (SQUARE YARD) – 36.4 (28.9)

NOMINAL AREA ± 1 % – 289 SQUARE CENTIMETER (44.8 SQUARE INCHES)

SHORT–TERM SEAM PEEL STRENGTH

CELL DEPTH – 75 MM (3 IN.)

MINIMUM CERTIFIED CELL SEAM STRENGTH – 1420 N (320 LBF)

SEAM HANG STRENGTH TEST

A 100 MM (4 IN.) WIDE SEAM SHALL SUPPORT A 72.5 KG. (160 LB) LOAD FOR 7 DAYS MINIMUM IN A TEMPERATURE–CONTROLLED ENVIRONMENT UNDERGOING A TEPERATURE CHANGE ON A 1–HOUR CYCLE FROM AMBIENT ROOM TO 54° C (130° F). AMBIENT ROOM TEMPERATURE PER ASTM E 41.

ALTERNATIVE SEAM HANG STRENGTH TEST

A 100 MM (4 IN.) WIDE SEAM SHALL SUPPORT A 72.5 KG. (160 LB) LOAD FOR 30 DAYS IN AN AMBIENT ROOM TEMPERATURE ENVIRONMENT. AMBIENT ROOM TEMPERATURE PER ASTM E 41.

SECTION PROPERTIES:

SECTION DIMENSIONS

SECTION WIDTH (VARIABLE) 2.3 M (7.7 FT.) TO 2.8 M (9.2 FT.)

SECTION LENGTH RANGE – MINIMUM 3.7 M (12.0 FT.) MAXIMUM 9.8 M (32.2 FT.)

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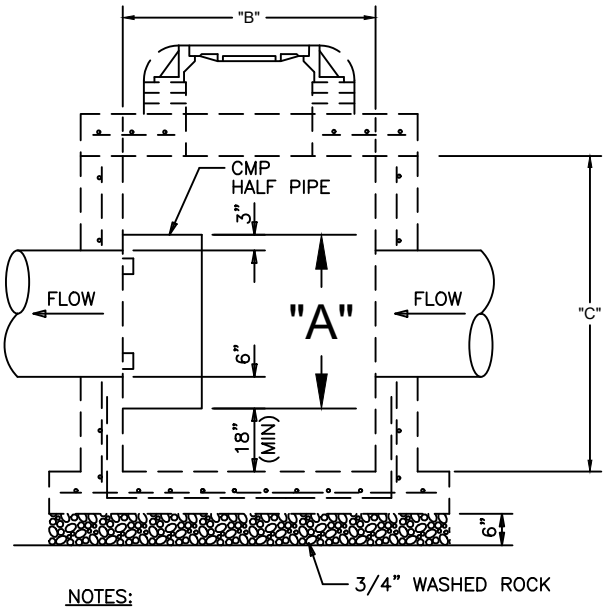
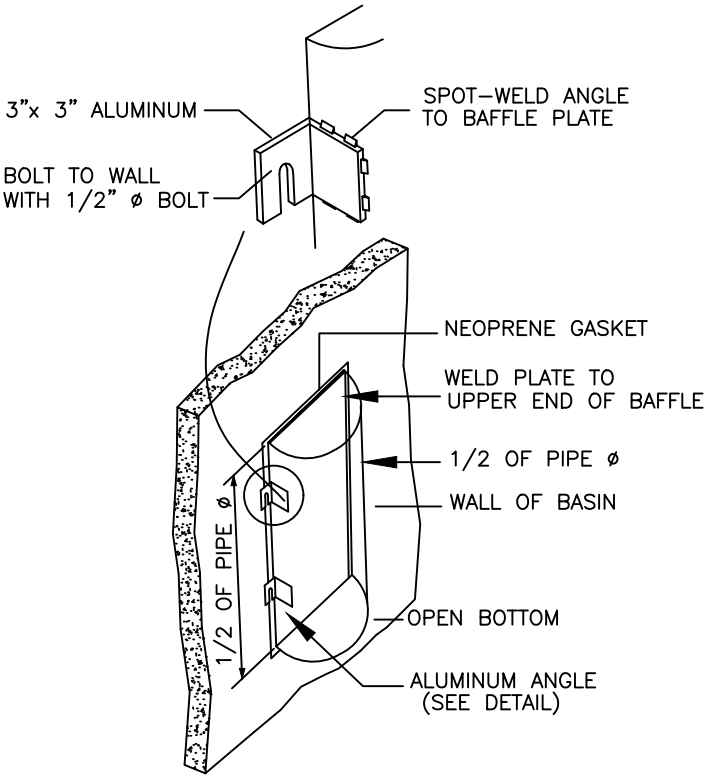
GEOWEB SPECIFICATION

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **643**





NOTES:

1. HALF ROUND PLATE TO BE WELDED TO TOP FOR POLLUTION RETARDANT BASIN.
2. THE HALF ROUND PIPE SHALL BE ONE SIZE LARGER THAN DISCHARGE PIPE.
3. FOR STRUCTURE'S CONSTRUCTION DIMENSIONS AND SPEC'S., SEE PRECAST CATCH BASIN DETAIL.
4. WEEP HOLES ARE NOT PERMITTED WHEN WORKING IN AN EXISTING STRUCTURE CONTRACTOR SHALL SEAL ALL EXISTING WEEP HOLES WITHIN STRUCTURES

PIPE DIAMETER	BAFFLE SCHEDULE		
	"A"	"B"	"C"
15"	27"	24"	37"
18"	30"	24"	37"
24"	36"	36"	36"
30"	42"	36"	42"
36"	48"	42"	54"
42"	56"	56"	56"
48"	60"	48"	60"
60"	72"	72"	72"

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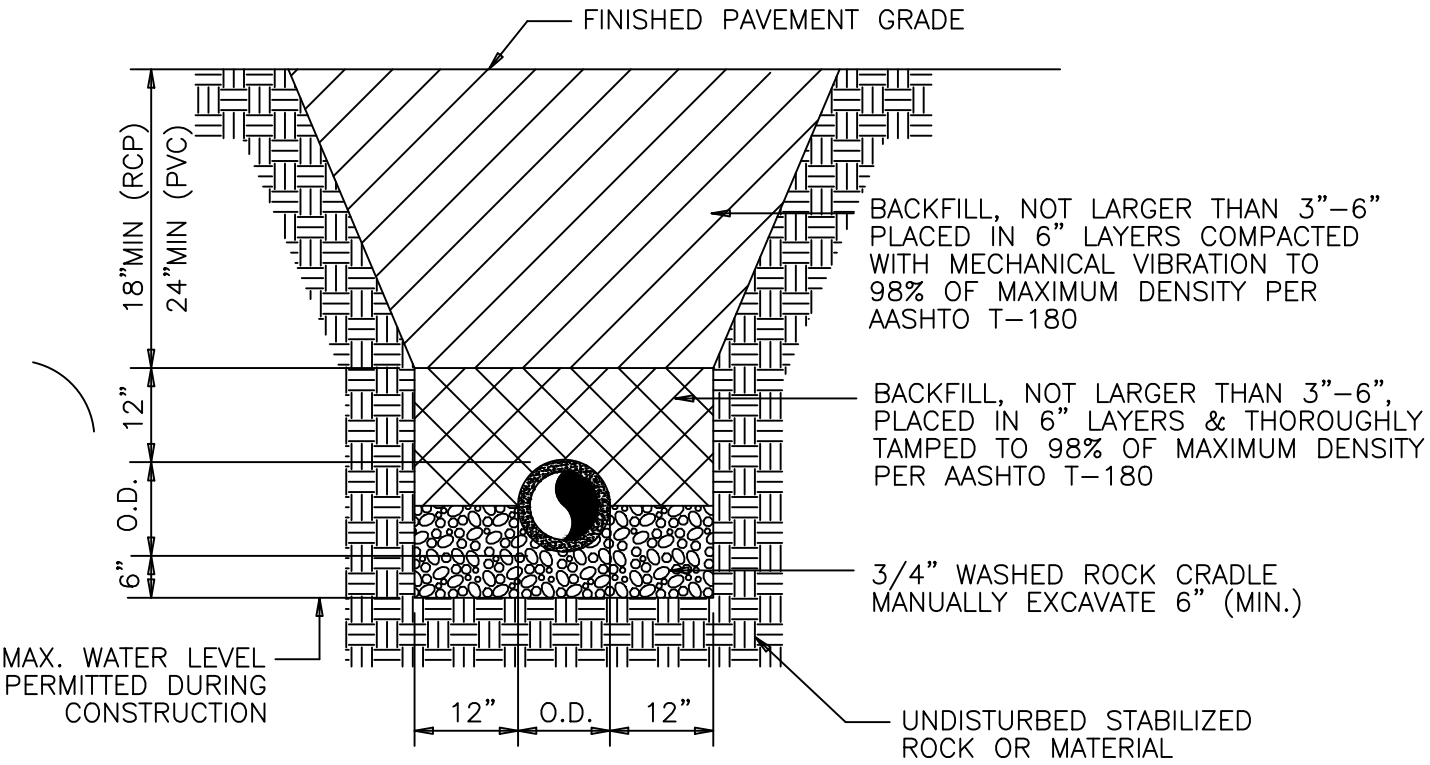
POLLUTION RETARDANT BAFFLE

STANDARD DETAILS

DWG. NO. **644**

DATE: APRIL 2025



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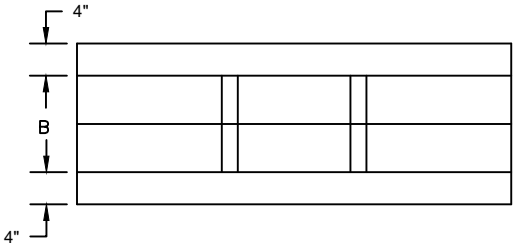
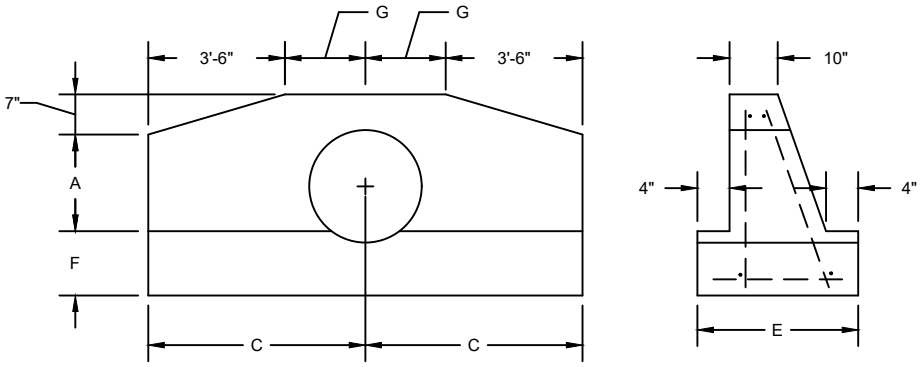
TYPICAL TRENCH FOR STORM DRAINS

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	645





PIPE SIZE	A	B	C	E	F	G
15”	1’–11”	1’–2”	4’–0”	1’–10”	1’–2”	0’–6”
18”	2’–2”	1’–3”	4’–6”	1’–11”	1’–3”	1’–0”
24”	2’–8”	1’–4”	5’–0”	2’–0”	1’–4”	1’–6”

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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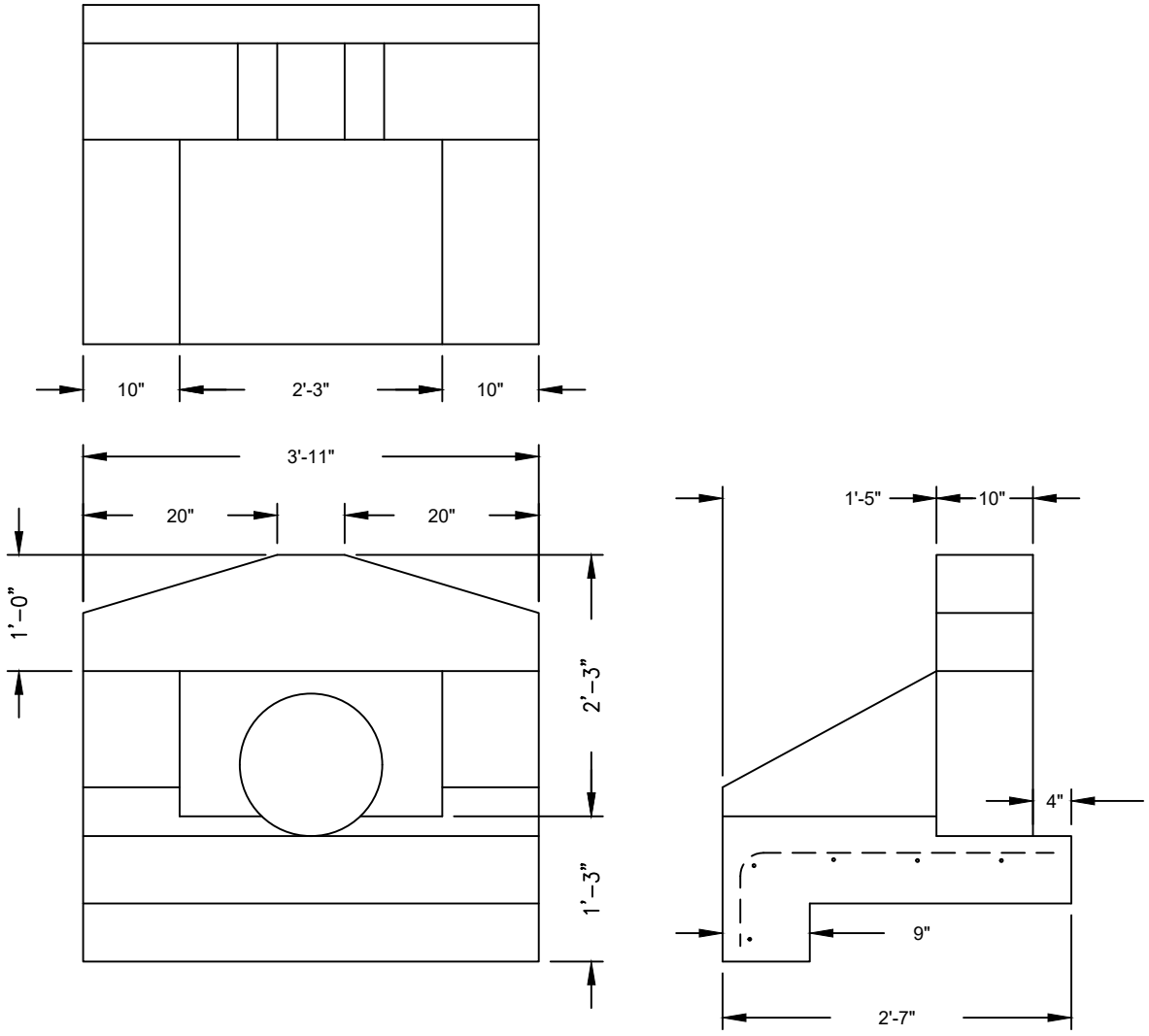
FDOT STRAIGHT ENDWALL

STANDARD DETAILS

DWG. NO. **646**

DATE: APRIL 2025



SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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FDOT U TYPE ENDWALL

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	647

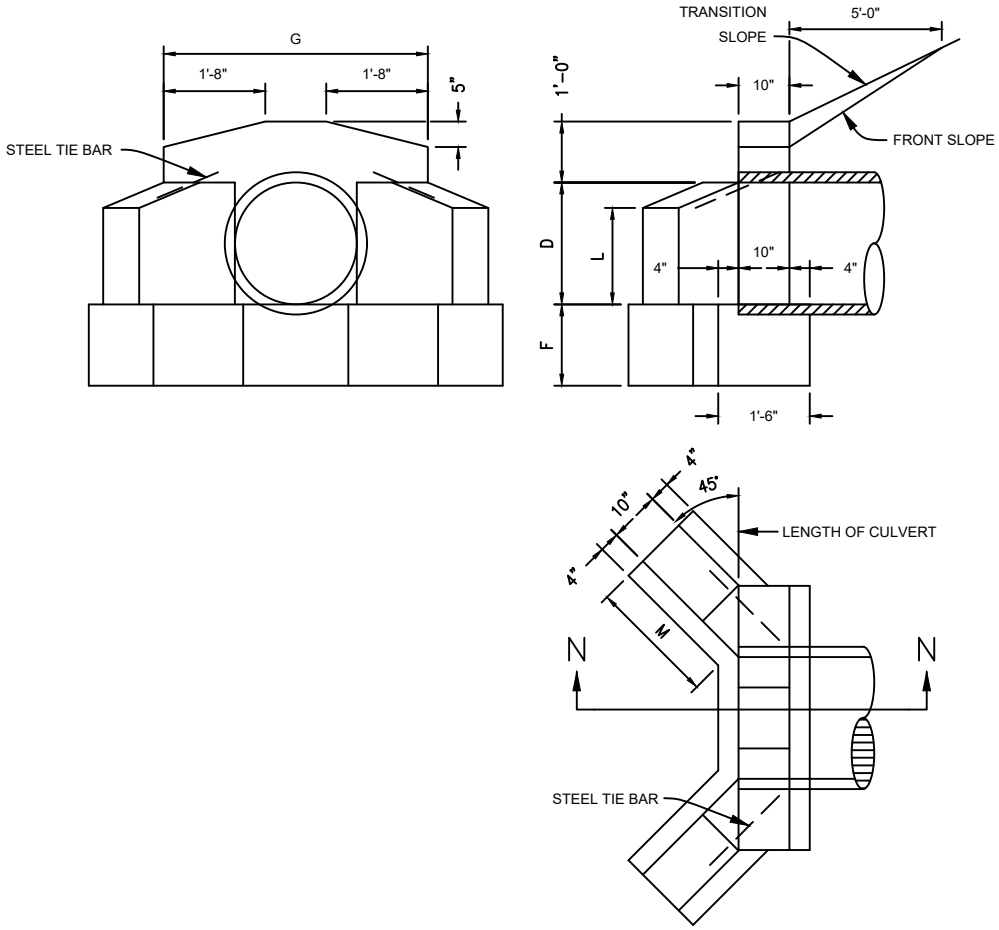

TABLE OF DIMENSIONS AND ESTIMATE QUANTITIES
PIPE CULVERT ENDWALLS WITH 45 DEG. WINGS

DIMENSIONS							QUANTITES IN ONE ENDWALL			
OPENING		WALL				FOOTING	CONCRETE, CLASS I TOTAL (C.Y.)			STEEL TIE BARS
D	AREA (S.F.)	H	G	L	M	F	CONC, PIPE	C.M. PIPE	C.I. PIPE	
15"	1.2	2'–3"	3'–7"	1'–0"	1'–3"	1'–3"	0.56	0.59	0.59	NONE
18"	1.8	2'–6"	3'–10"	1'–2"	1'–7"	1'–3"	0.74	0.77	0.77	NONE
24"	3.1	3'–0"	4'–4"	1'–5"	2'–1"	1'–4"	1.01	1.06	1.06	2– 3/4"ø x 2'–0"
30"	4.9	3'–6"	4'–10"	1'–9"	2'–5"	1'–6"	1.32	1.40	1.39	2– 3/4"ø x 2'–0"
36"	7.1	4'–0"	5'–4"	2'–0"	2'–11"	1'–8"	1.72	1.83	1.82	2– 3/4"ø x 3'–0"
42"	9.6	4'–6"	5'–10"	2'–3"	3'–6"	2'–0"	2.34	2.47		2– 3/4"ø x 3'–0"
48"	12.6	5'–0"	6'–4"	2'–6"	4'–0"	2'–0"	2.74	2.90		2– 3/4"ø x 3'–0"

SEE FDOT'S STANDARD
INDEXES FOR MORE DETAILS

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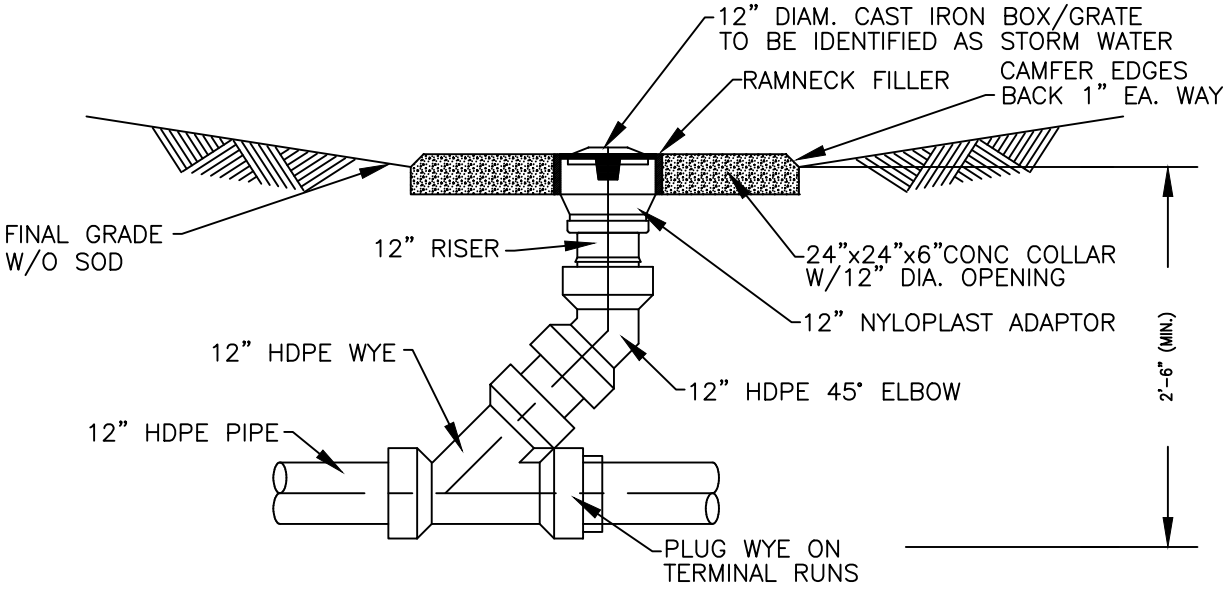
FDOT WINGED CONCRETE ENDWALL

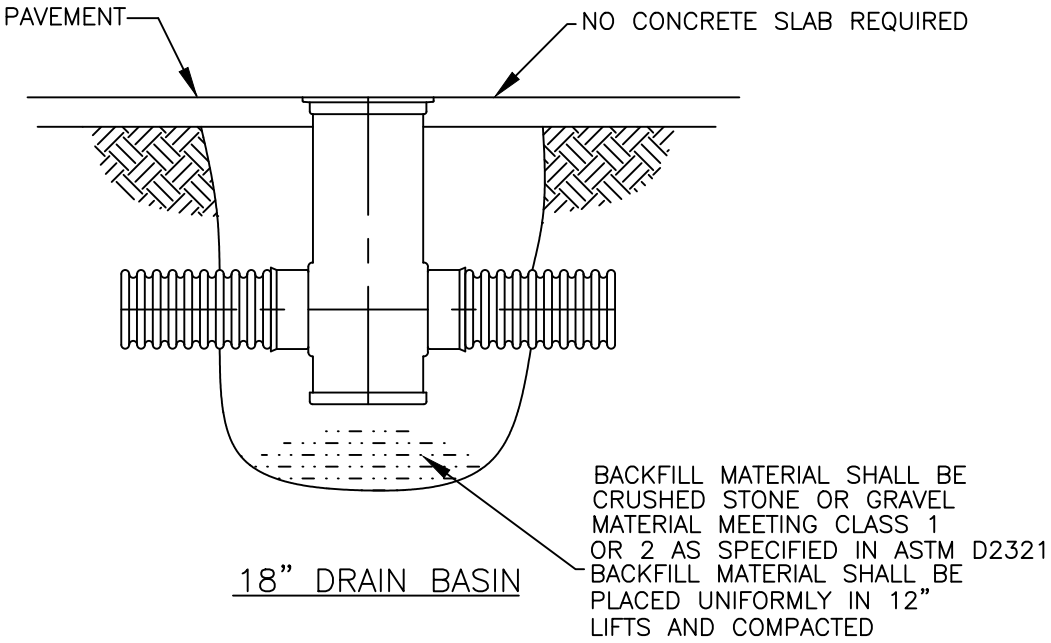
STANDARD DETAILS

DWG. NO. **648**

DATE: APRIL 2025



NOTE: YARD DRAINS SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) N-12 (ADVANCED DRAINAGE SYSTEMS) OR EQUAL.



18" DRAIN BASIN

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5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

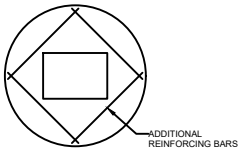
TEL NO: 954-973-6786
FAX NO: 954-571-4146
www.coconutcreek.net

YARD DRAIN

STANDARD DETAILS

DWG. NO. **649**

DATE: APRIL 2025



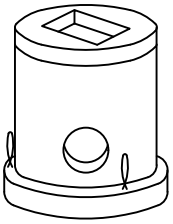
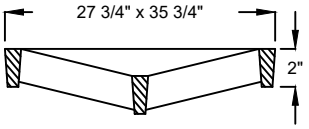
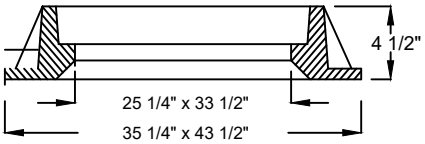
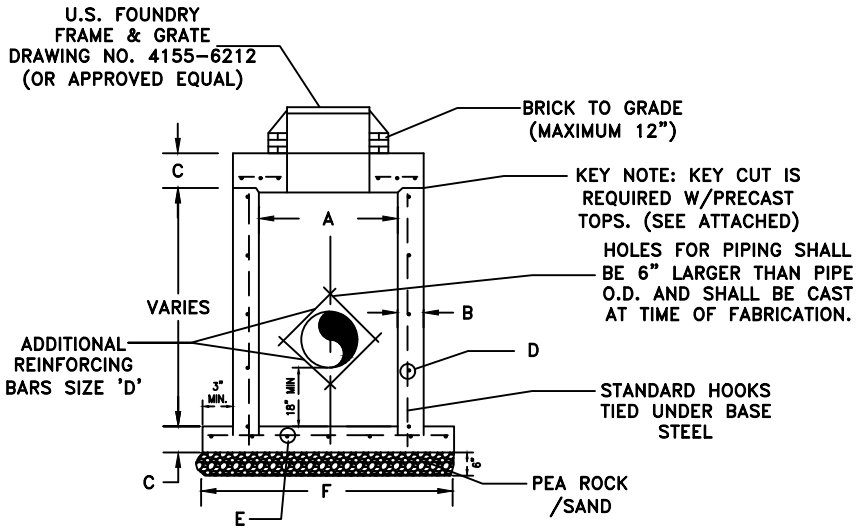


TABLE OF DIMENSIONS						
TYPE	A	B	C	D–C.C.E.W.	E–C.C.E.W.	F
Pø, Pφ	3'–6"	6"	8"	#4 AT 12"	#4 AT 12"	4'–10"
C–4, C–4φ	4'–0"	8"	8"	#4 AT 12"	#4 AT 12"	5'–10"
C–5	5'–0"	8"	8"	#5 AT 12"	#5 AT 12"	6'–10"
C–6	6'–0"	8"	10"	#5 AT 12"	#5 AT 6"	7'–10"
C–7	7'–0"	8	10"	#5 AT 12"	#5 AT 6"	8'–10"
C–8	8'–0"	10"	10"	2–W.W.M. W/#4 @12" C.C. VERT.	#5 AT 6"	10'–2"





USF # 4155 FRAME & GRATE



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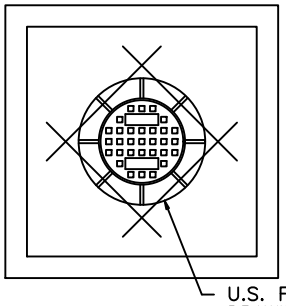
PRECAST CATCH BASIN

STANDARD DETAILS

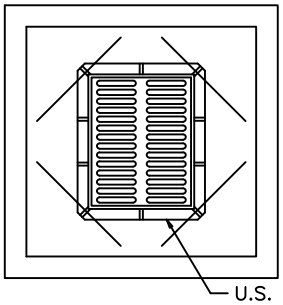
DATE: APRIL 2025

DWG. NO. 650



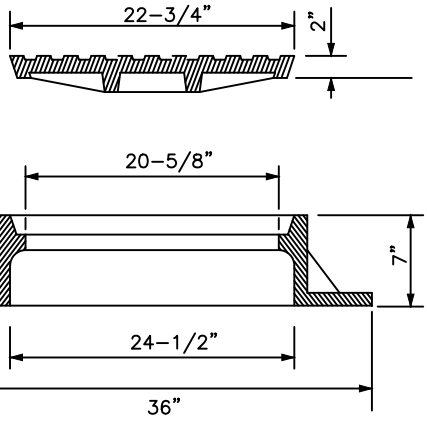
U.S. FOUNDRY FRAME & GRATE
DRAWING No.420-B
LABELED "STORM SEWER"
AND/OR CITY LOGO
(OR APPROVED EQUAL)

PLAN



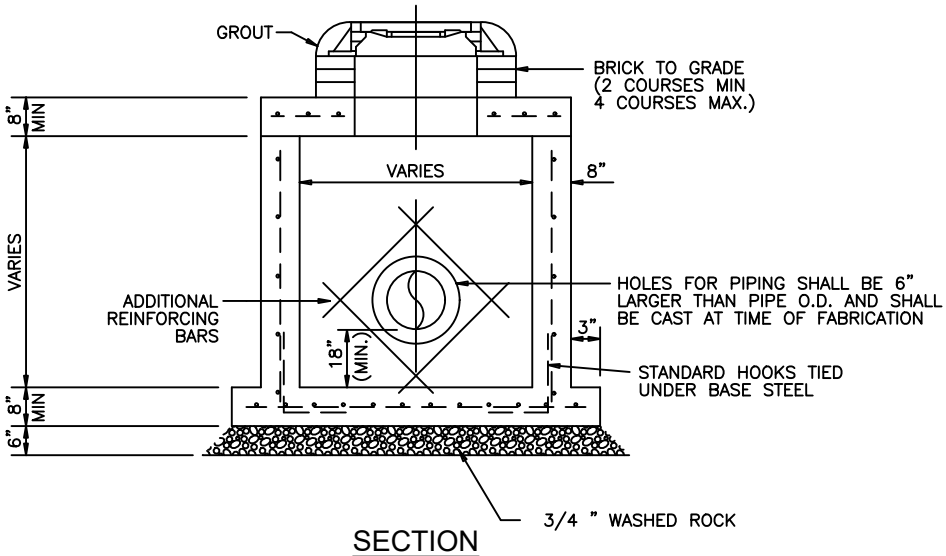
U.S. FOUNDRY FRAME & GRATE
DRAWING No.4155-6212
(OR APPROVED EQUAL)

IN GRASS AREAS, ALL GRATES SHALL HAVE A 2' CONCRETE APRON ALL AROUND.



MAINTENANCE ACCESS STRUCTURE FRAME & LID

USF# 420 C



SECTION

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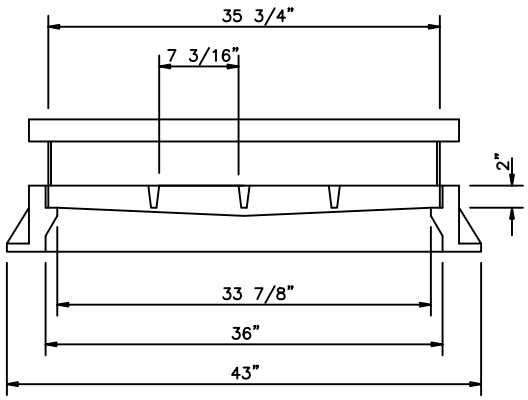
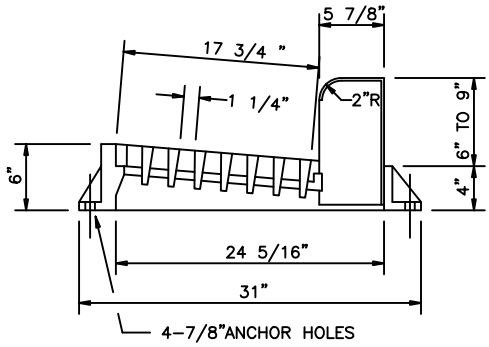
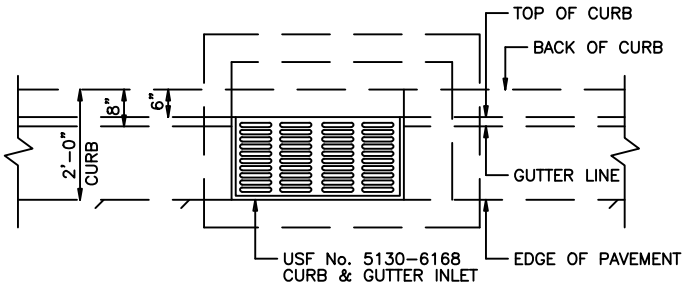
PRECAST DRAINAGE MAINTENANCE ACCESS STRUCTURE

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	651







(USF 5130-6168)

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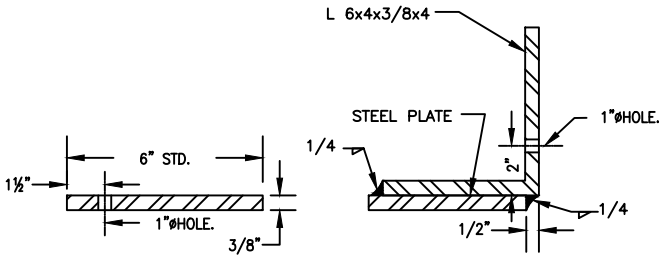
CURB AND GUTTER INLET

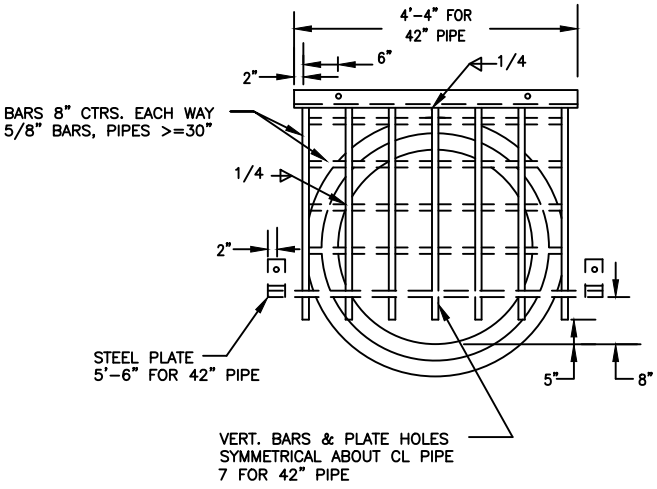
STANDARD DETAILS

DWG. NO. **652**

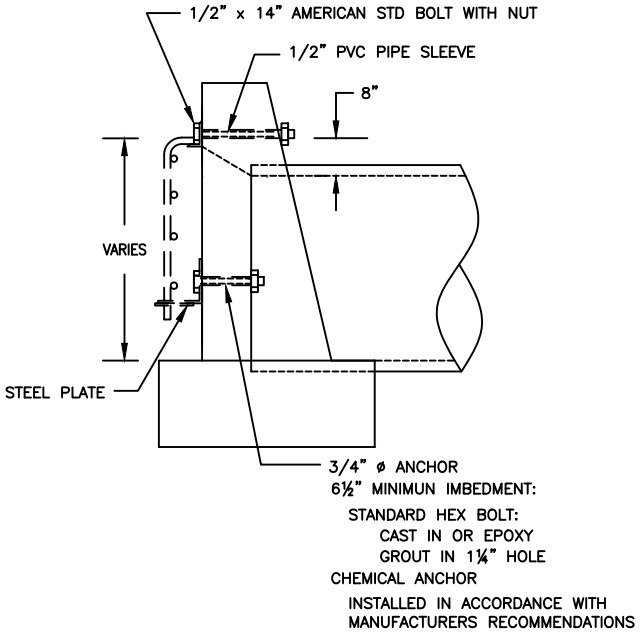
DATE: APRIL 2025



SECTION – STEEL PLATE CLIP DETAIL



FRONT VIEW



SIDE VIEW

PIPE DIA	18"	24"	30"	36"	42"
GRATE (Lbs)	48	58	74	90	111

NOTE:

1. GUARDS TO BE CONSTRUCTED ONLY AT LOCATIONS SPECIFICALLY CALLED FOR IN PLANS. GUARD, PLATE &
2. FOR OTHER SIZES AND SPECIFICATIONS CHECK FDOT INDEX NO. 280 (SHEETS 1 THROUGH 4)

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GUARD AT PIPE ENDS

STANDARD DETAILS

DWG. NO. **653**

DATE: APRIL 2025

CB No.	TYPE/SIZE	PIPE SIZE	RIM ELEV	INV ELEV				PIPE MATERIAL	COMMENTS
				N	S	E	W		

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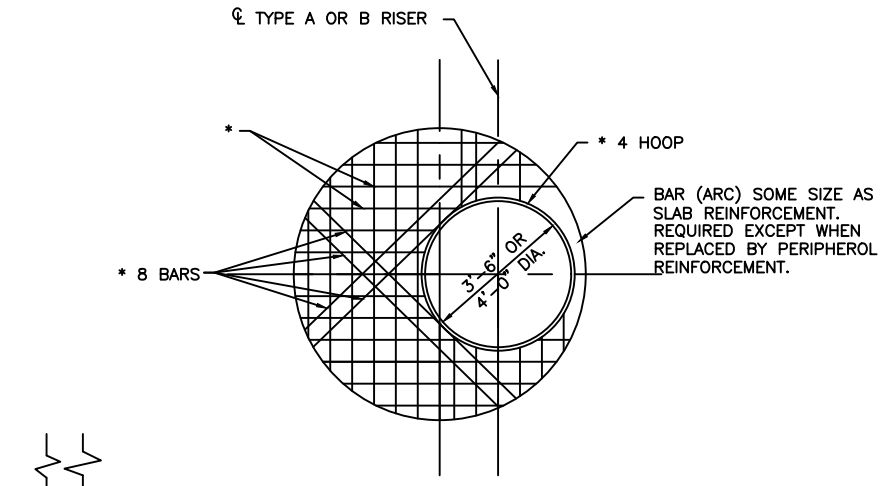
TYPICAL DRAINAGE STRUCTURES TABLE

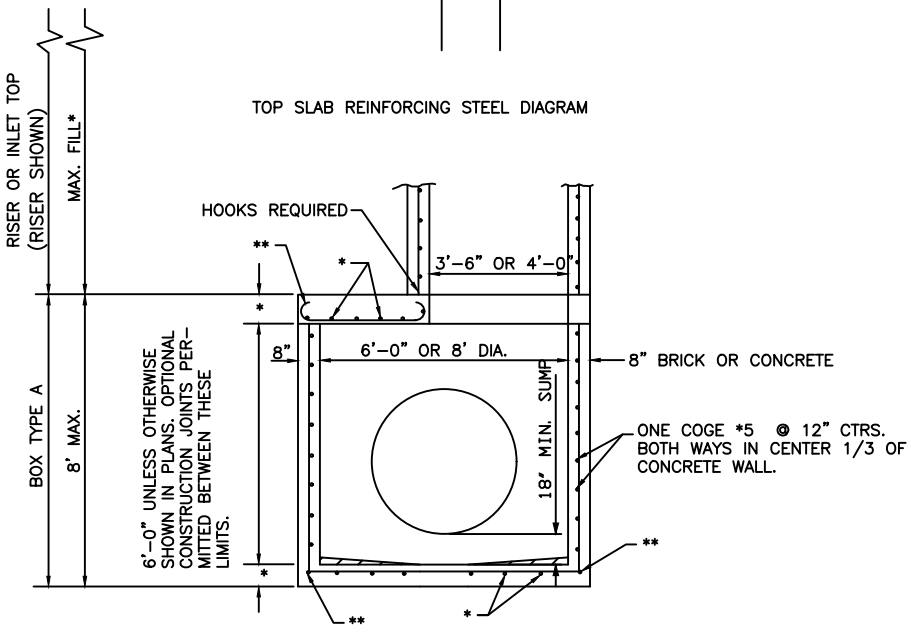
STANDARD DETAILS

DWG. NO. **654**

DATE: APRIL 2025



TOP SLAB REINFORCING STEEL DIAGRAM



ALTERNATE A

* SEE F.D.O.T. INDEX 200 FOR SLAB REINFORCEMENT
** PERIPHERAL BARS OR STRAIGHT END EMBEDMENTS MAY BE USED IN LIEU OF STANDARD HOOKS. IN ACCORDANCE WITH DETAILS INDEX No. 201. Sh. 3 of 5. REFER TO F.D.O.T. INDEX No. 200

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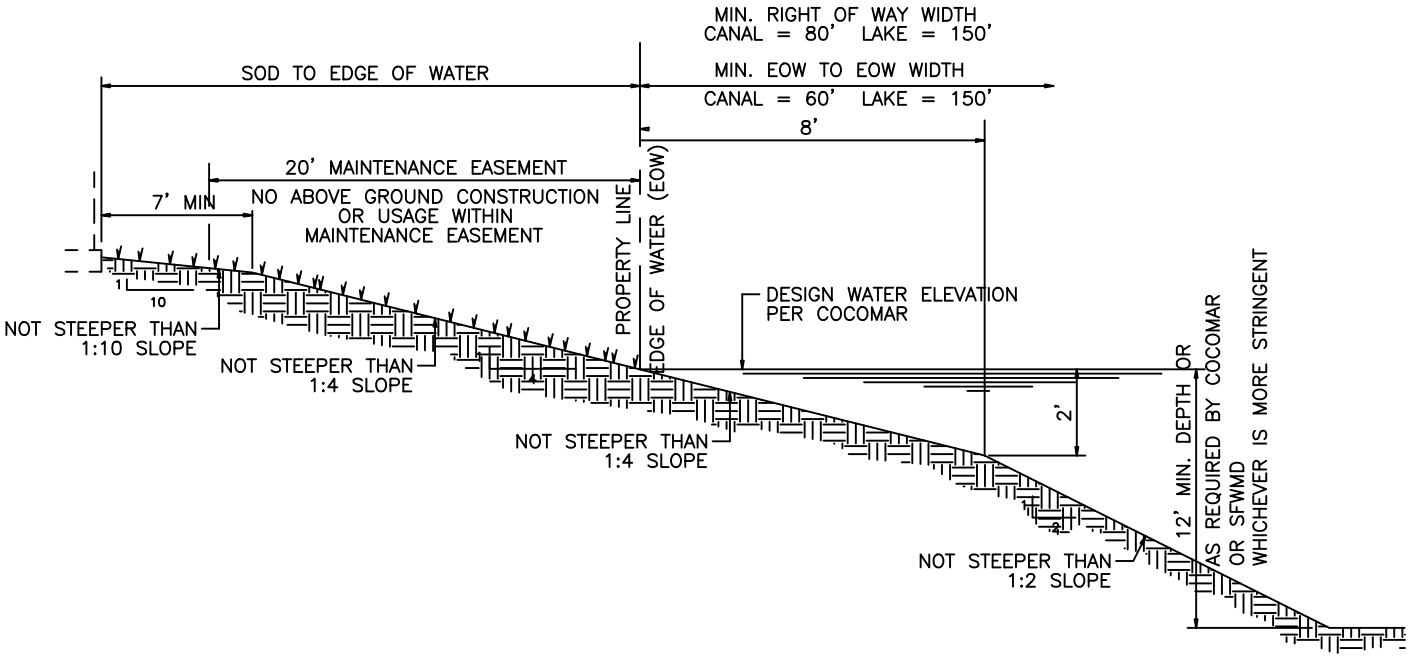
TYPE J STRUCTURE

STANDARD DETAILS

DWG. NO. **655**

DATE: APRIL 2025



NOTES

1. IF SLOPE IS FLATTER THAN 1 TO 4 THE SLOPE MUST BE CONTINUED TO A DEPTH 4' BELOW DESIGN WATER ELEVATION.
2. ALL FILL MATERIAL USED TO CONSTRUCT CANAL/LAKE SLOPES SHALL BE FREE OF DEBRIS.

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CANAL AND LAKE SIDES SLOPE

STANDARD DETAILS

DWG. NO. **656**

DATE: APRIL 2025

FOR FUTURE USE

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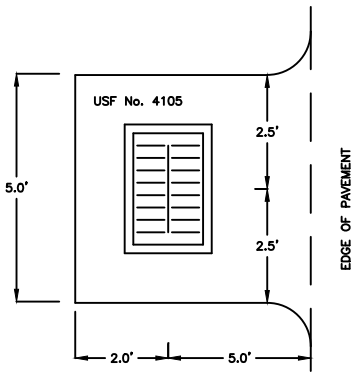
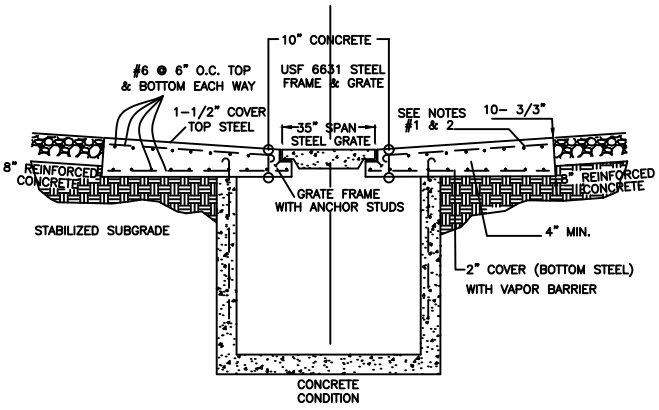
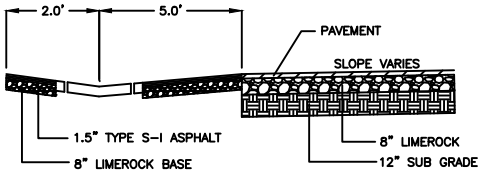
STANDARD DETAILS	DWG. NO. **657**
DATE: **APRIL 2025**	

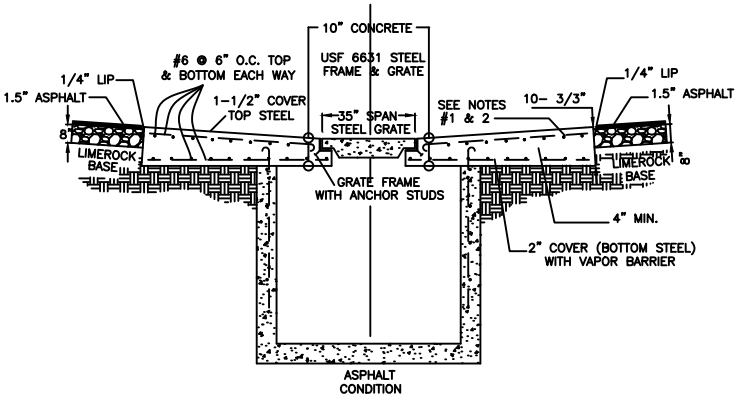


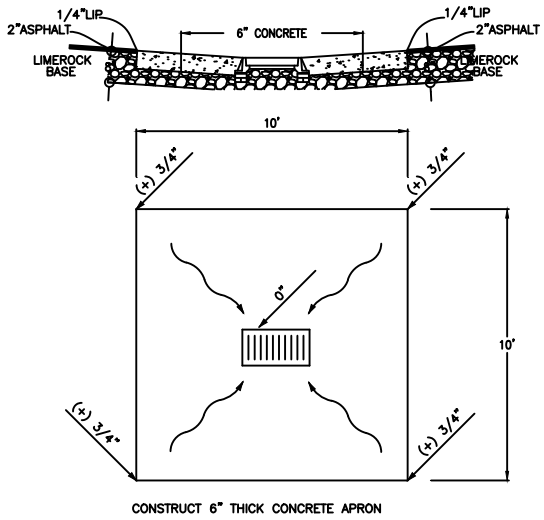
TYPICAL ASPHALT APRON



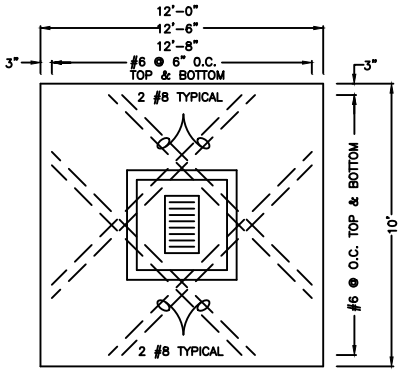


CROSS-SECTION ASPHALT APRON





CONSTRUCT 6" THICK CONCRETE APRON



CONCRETE APRON NOTES:

1. UPPERMOST BAR SHALL BE PLACED IN THE DIRECTION OF THE GRATE SPAN AS SHOWN.
2. UPPERMOST BAR SHALL HAVE STANDARD ACI HOOKS WHERE INTERSECTED BY THE GRATE FRAME.
3. CONCRETE SHALL BE 3000 PSI STRENGTH @ 28 DAYS (min.).
4. REINFORCING STEEL SHALL BE ASTM A615, GRADE 60.

(USE THIS SAME APRON FOR ROUND MH RIMS)

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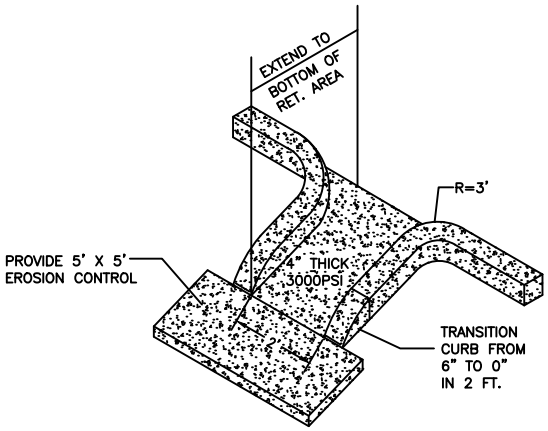
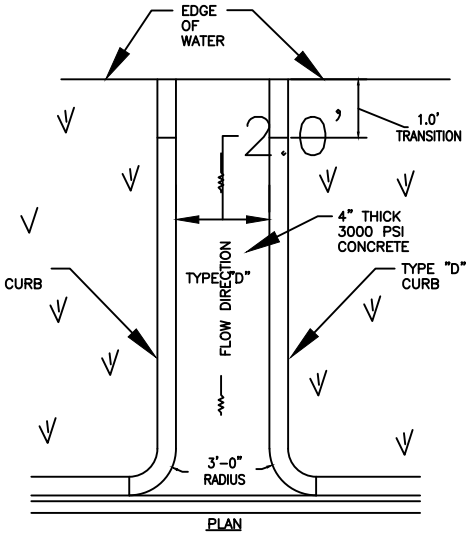
TYPICAL APRON RAMP

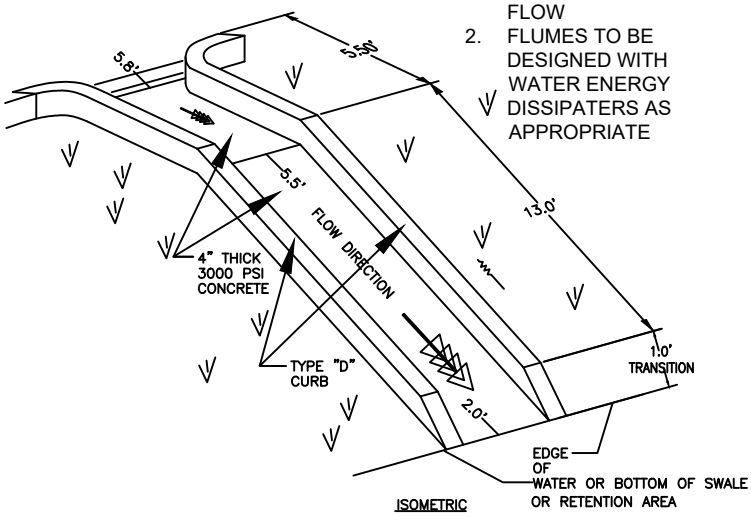
STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	658



NOTES:

1. FLOW ARROWS ARE REQUIRED TO BE ORIENTED AND BLOCKS INSERTED ON THE FLUME TO OPTIMIZE WATER FLOW
2. FLUMES TO BE DESIGNED WITH WATER ENERGY DISSIPATERS AS APPROPRIATE





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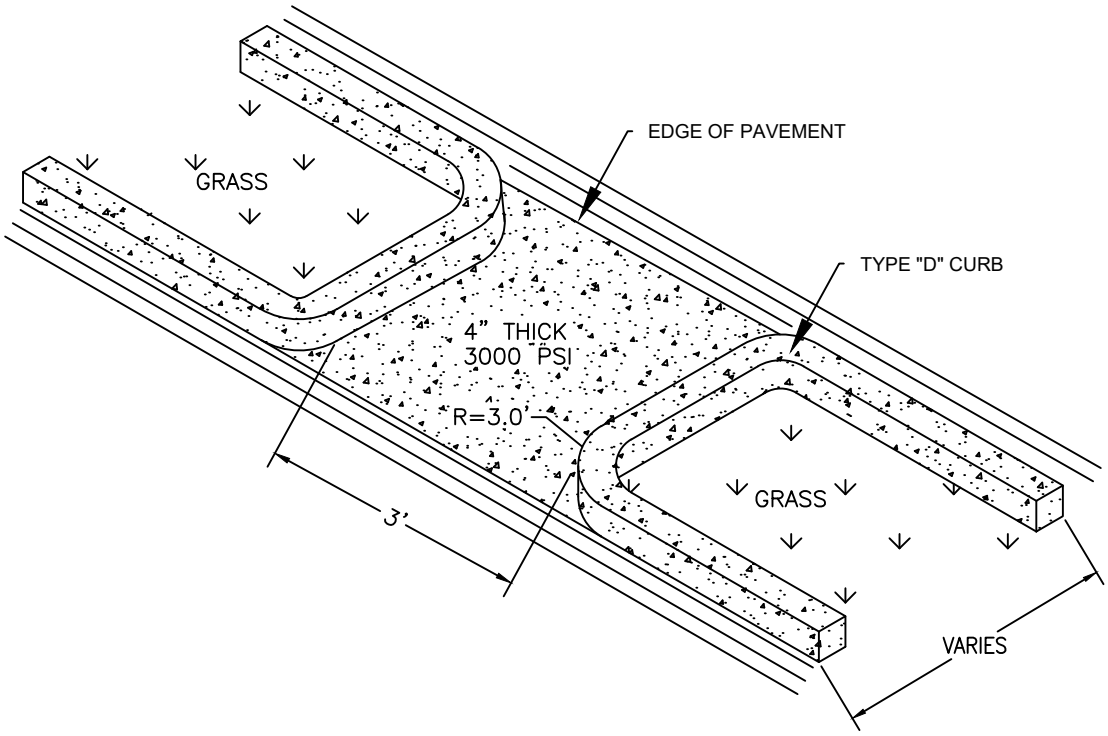
CONCRETE FLUME

STANDARD DETAILS

DWG. NO. **659**

DATE: APRIL 2025



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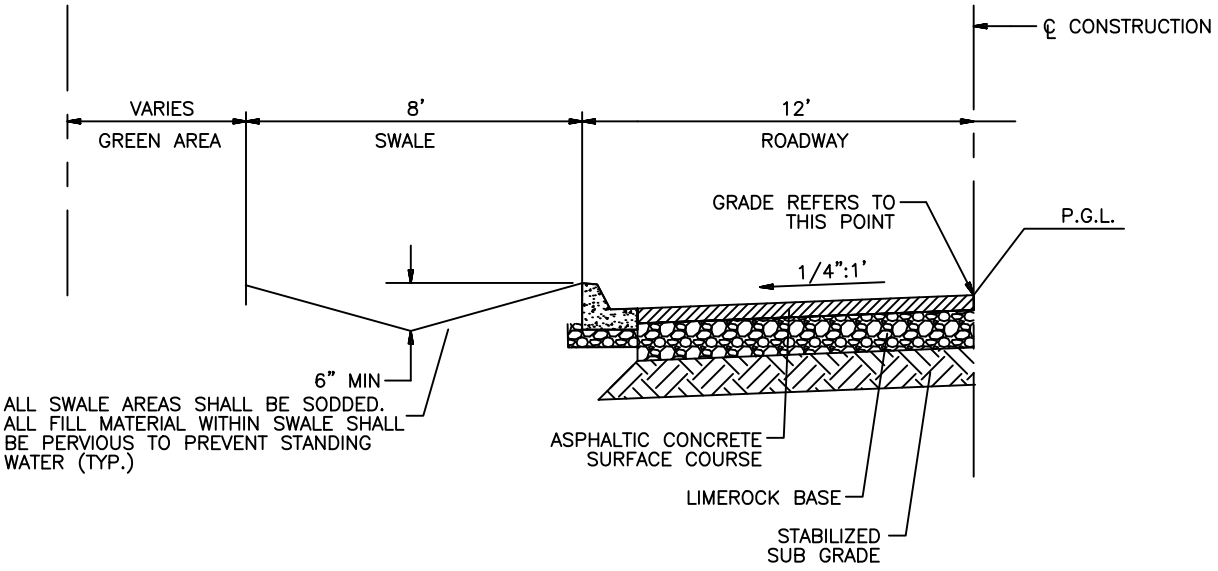
CONCRETE SLUICE

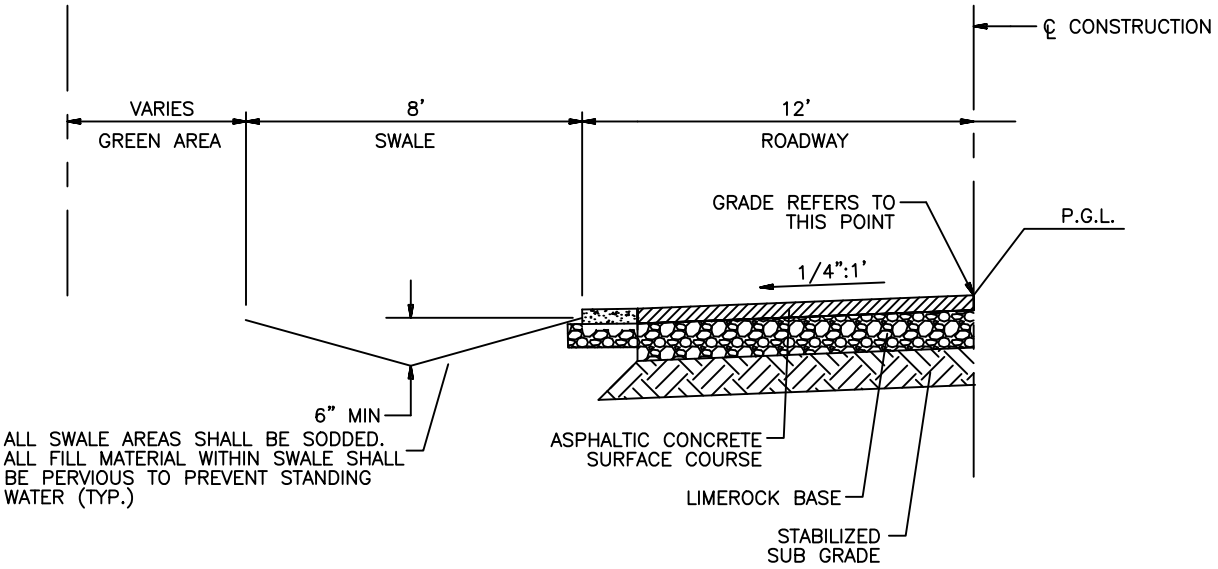
STANDARD DETAILS

DWG. NO. **660**

DATE: APRIL 2025



SECTION WITH CURB AND GUTTER



SECTION WITH CONCRETE FLUME

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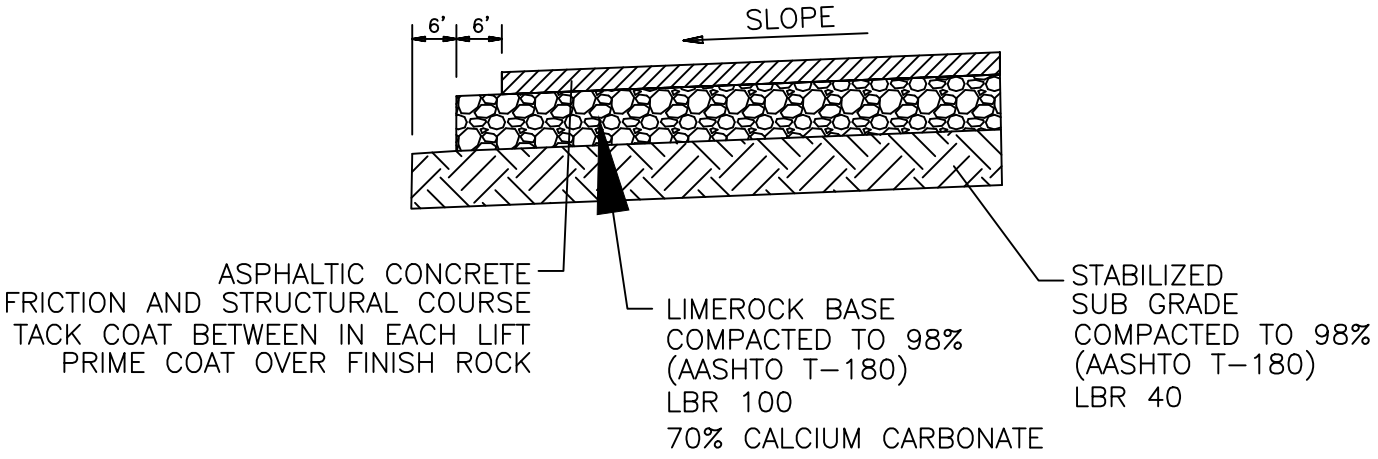
SWALE SECTION DESIGN

STANDARD DETAILS

DWG. NO. **661**

DATE: APRIL 2025



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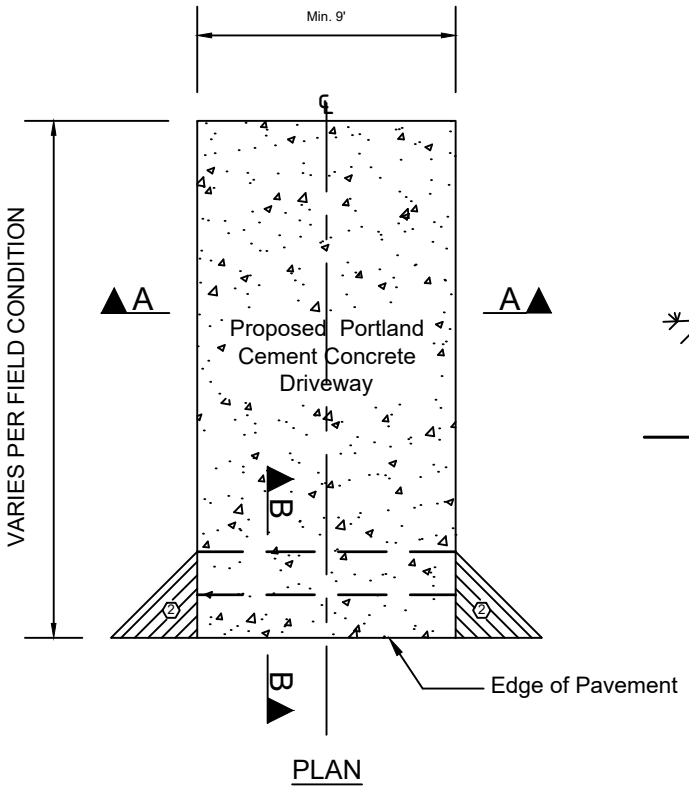
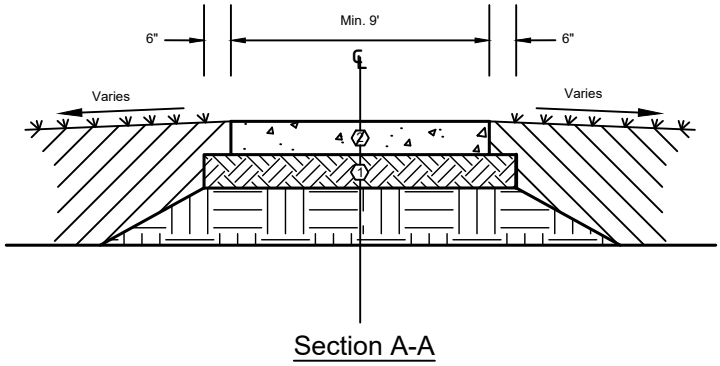
TYPICAL ROADWAY SECTION

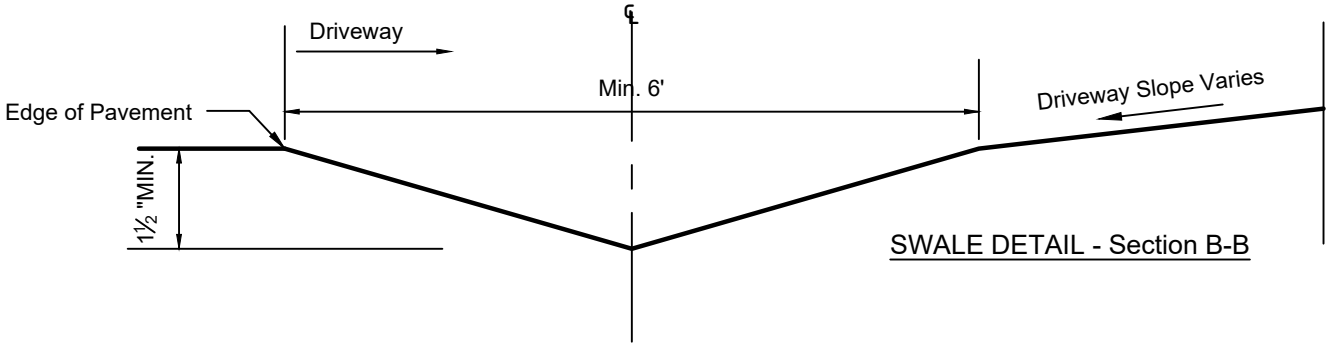
STANDARD DETAILS

DWG. NO. **662**

DATE: APRIL 2025







① Existing sub-grade shall be mechanically compacted at a depth of 12" to min. 98% of its maximum dry density as determined by AASHTO T-99 (MIN. LBR40).

② Min. 3000 psi Portland cement concrete with 6" x 6" W1.4 x W1.4 WWF. NO STRUCTURAL STEEL IN R.O.W.

③ Flare is optional depending on existing geometric conditions.

④ SLAB TO BE MIN.6" THICH IN R.O.W.

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RESIDENTIAL PORTLAND CEMENT CONCRETE DRIVEWAY (1 OF 2)

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	663A

GENERAL NOTES:

1. Portland Cement Concrete driveways shall consist of the following:
   a. Existing sub-grade shall be mechanically compacted to min. 98% of its max. dry density as determined by AASHTO T-99. Use LBR 40 Min.
   b. Compaction density test and reports are required at pre-pour inspection for new driveways and suggested for existing driveways.
   c. Min. 3000 psi Portland cement concrete with 6" x 6" W1.4 x W1.4 WWF. 6" thick in R.O.W no structural steel in R.O.W.
   d. Portland Cement Concrete to be cured according to Portland Cement Association.
2. Proposed concrete driveway must be constructed to finish flush with existing sidewalk and existing roadway as directed by City Engineer or designee.
3. City water/wastewater appurtenances and domestic plumbing shall be identified and not be impacted by construction.
4. Water service line, meter box, wastewater lateral and clean out shall remain in green areas and shall not conflict with driveway.
5. Any damage to existing facilities shall be restored to its original or better condition as directed by City Engineer or designee.
6. Best Management Practices for erosion and sediment control shall be in place during construction (as necessary).
7. All safety measures shall be in place during construction.
8. A Pre-pour inspection is required prior to the installation of the new concrete. The Inspection must be scheduled with the Engineering Division 48 hrs in advanced. (954) 973-6778.
9. A Final Engineering Inspection and close out of permit is required upon completion of the work.

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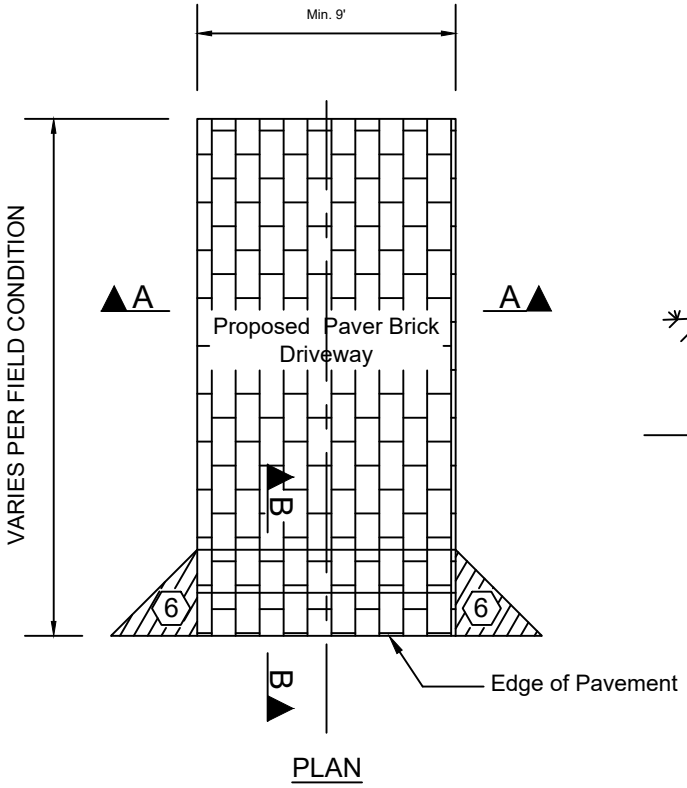
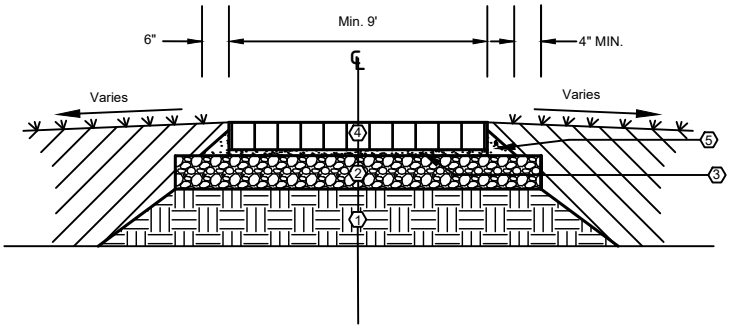
RESIDENTIAL PORTLAND CEMENT CONCRETE DRIVEWAY (2 OF 2)

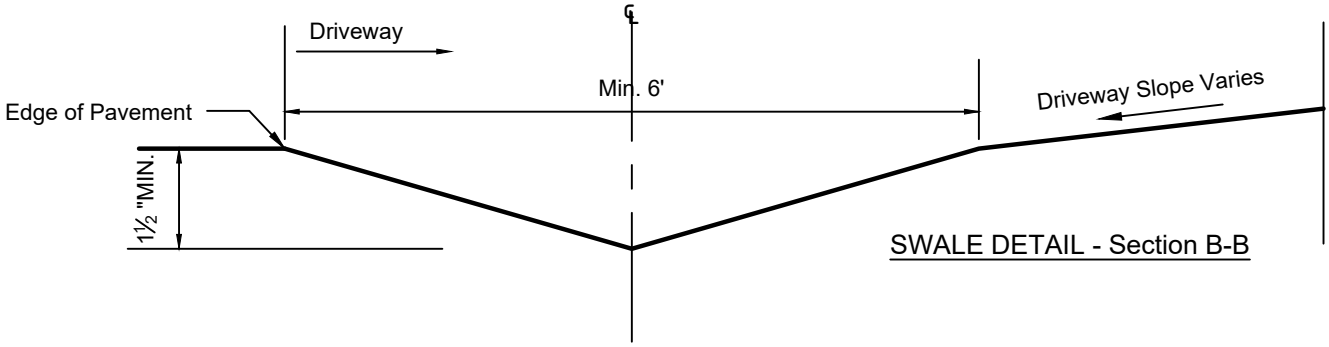
STANDARD DETAILS	DWG. NO. 663B
DATE: APRIL 2025	



PLAN



Section A-A



SWALE DETAIL - Section B-B

① Existing sub-grade shall be mechanically compacted at a depth of 12" to min. 98% of its maximum dry density as determined by AASHTO T-180.

② Provide 6" limerock base (LBR-100) and compacted to a min. 98 % of its max. dry density as determined by AASHTO T-180.

③ Provide a minimum of 1" maximum of 2" of bedding sand for paver bricks.

④ Thickness of pavers may vary depending on type of manufacturer. Ensure that sand is swept in-between pavers to lock in place.

⑤ Provide portland cement concrete restrain around pavers to hold them in place. To be installed 1 ½" below the the paver brick installation so that sod can abut to the new driveway.

⑥ Flare is optional depending on existing geometric conditions.

N.T.S

UTILITIES & ENGINEERING DEPARTMENT

5295 JOHNSON ROAD
COCONUT CREEK, FL 33073

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RESIDENTIAL PAVER BRICK DRIVEWAY (1 OF 2)

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	664A

GENERAL NOTES:

1. Paver Brick driveways shall consist of the following:
    a. Sub-grade shall be compacted to a min. 98% of its max. dry density as determined by AASHTO T-99.
    b. Provide 6" limerock base and compacted to a min. 98% of its max. dry density as determined by AASHTO T-180.
    c. Compaction density test and reports are required for both sub-grade and limerock base for new driveways and suggested for existing driveways.
    d. Minimum one (1) inch bedding sand for paver prick.
    e. Provide portland cement concrete restrain/collar around pavers to hold them in place. To be installed 1 1/2" below the the paver brick installation so that sod can abut to the new driveway.
2. Proposed paver brick driveway shall be constructed to finish flush with and existing sidewalk and existing roadway as directed by City Engineer.
3. City water/wastewater appurtenances and domestic plumbing shall be identified and not be impacted by construction.
4. Water service line, meter box, wastewater lateral and clean out shall remain in green areas and shall not conflict with driveway.
5. Any damage to existing facilities shall be restored to its original or better condition as directed by City Engineering Inspector.
6. All erosion control measures (Best Management Practices) shall be in place during construction (as necessary).
7. All safety measures shall be in place during construction.
8. A rough inspection is required prior to the installation of paver bricks. The Inspection must be scheduled with the Engineering Division 48 hrs in advanced. (954) 973-6778.
9. A Final Engineering Inspection and close out of permit is required upon completion of the work.

N.T.S

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RESIDENTIAL PAVER BRICK DRIVEWAY (2 OF 2)

STANDARD DETAILS	DWG. NO. 664B
DATE: APRIL 2025	

MISCELLANEOUS DETAILS

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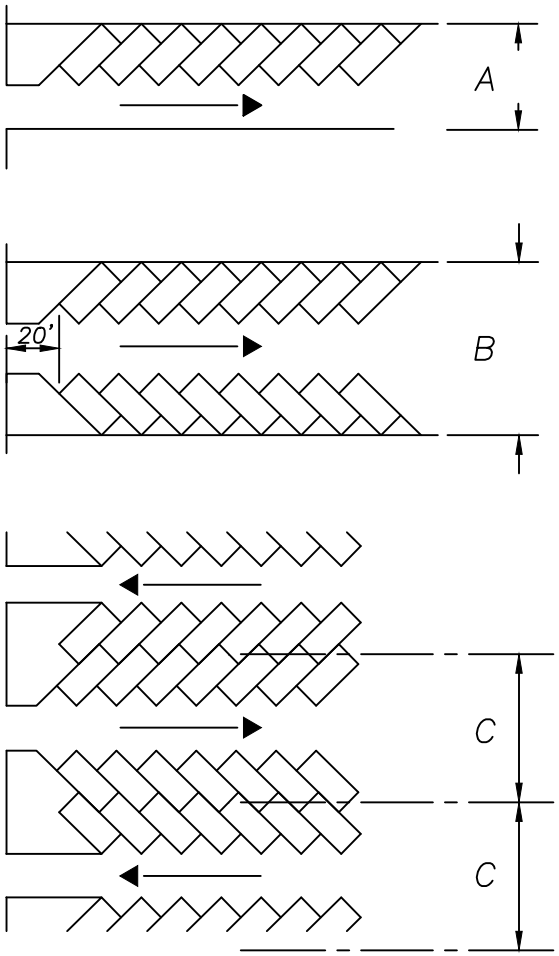
MISCELLANEOUS

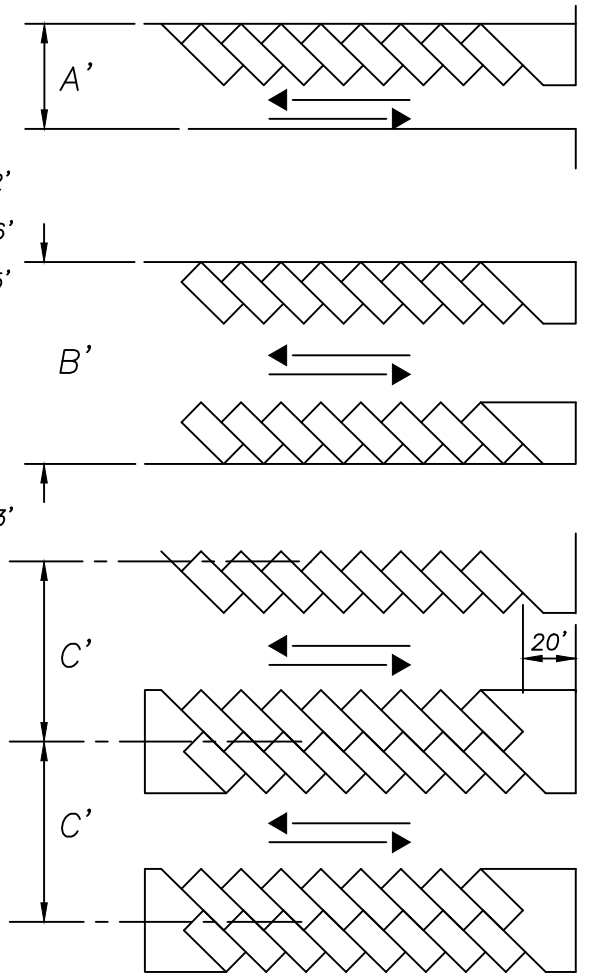
STANDARD DETAILS	DWG. NO. **700**
DATE: **APRIL 2025**	

PARKING LOT DIMENSION SPECIFICATIONS

FOR ONE WAY TRAFFIC



FOR TWO WAY TRAFFIC

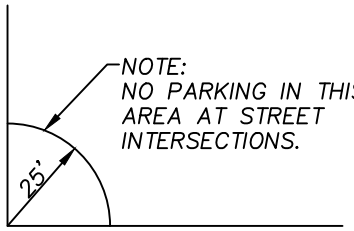


PARKING

ONE WAY ANGLE	A	B	C		TWO WAY A'	B'	C'
	23'	32'	32'	0°	33'	42'	42'
	31'	48'	40.2'	30°	42'	59'	51.2'
	34'	53'	46.6'	45°	45'	64'	57.6'
	37'	57'	52.5'	60°	46'	66'	61.5'
	42'	60'	60'	90°	42'	60'	60'

COMPACT PARKING

A	B	C		A'	B'	C'
30'	47.2'	41.5'	45°	41'	58'	52.3'
32'	49.8'	45.8'	60°	42'	60'	56'
40'	56'	56'	90°	40'	56'	56'



N.T.S

NOTES:

1. ALL EXAMPLES ABOVE SHOW 45 ANGLE PARKING WITH 9'x18' PARKING STALLS.
2. A TIRE BUMPER CURB IS REQUIRED WHEN PARKING SPACE FACES PROPERTY LINE AND PEDESTRIAN AREA. VEHICLE OVERHANGS SHALL NOT OVERLAP WITH THE PEDESTRIAN PATH ADJACENT TO THE STALL.
3. A MIN. BACKUP DISTANCE OF 20.00 FT. IS REQUIRED BETWEEN THE PROPERTY LINE & THE 1ST STALL.
4. FOR 90–DEGREE PARKING ANGLE, THE MINIMUM DRIVE AISLE WIDTH IS 24 FEET.

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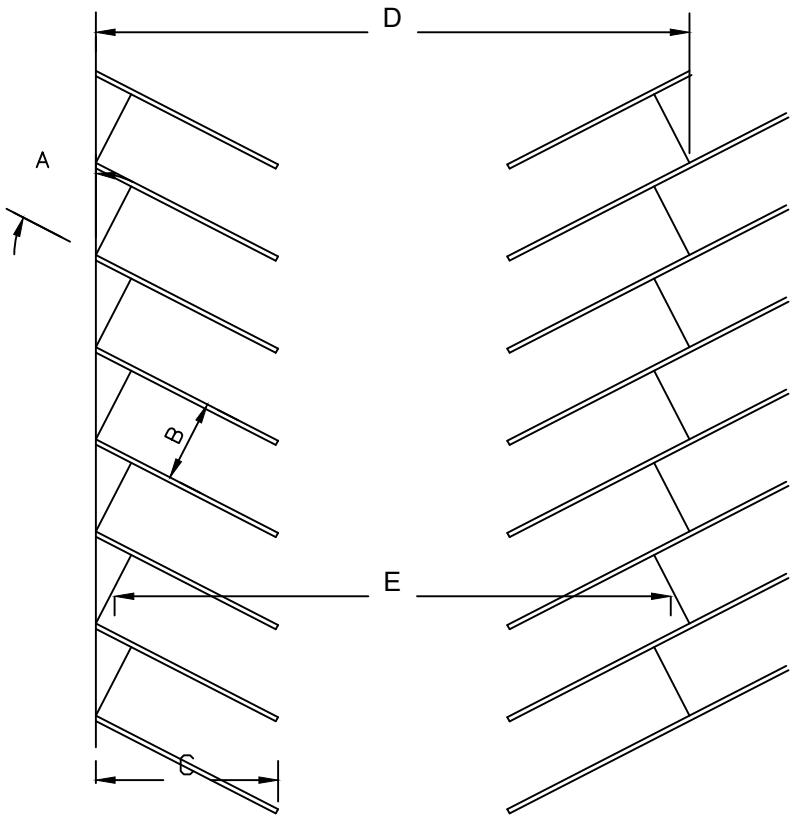
PARKING LOT WIDTH DIMENSION SPECIFICATIONS

STANDARD DETAILS

DATE: APRIL 2025

DWG. NO. **701**

PARKING STRUCTURE STANDARDS



ANGLE (DEGREES)	STALL WIDTH FT.	STALL DEPTH TO WALL	WALL TO WALL (FT.)	INTERLOCK TO INTERLOCK (FT.)

FULL SIZE STALLS (WITHOUT WHEELSTOPS NOR 2' OF OVERHANG)
(a) 9.0 Ft x 18.0 Ft

A	B	C	D	E	Notes
45°	9.0	19.1	53.0	46.6	One-Way aisle only
60°	9.0	20.1	57.0	52.5	One-Way aisle only
75°	9.0	19.7	63.4	61.1	One-Way aisle only
90°	9.0	18.0	60.0	60.0	Two-Way aisle only

1. *NO COLUMN ENCROACHMENT SHALL BE ALLOWED. MINIMUM TWO FEET ROOM FOR PASSENGER ACCESS SHALL BE PROVIDED FOR PARKING SPACES ADJACENT TO VERTICAL ELEMENTS.*
2. *ALL PARKING STALLS SHALL BE DOUBLE STRIPED AND HAVE A TIRE BUMPER CURB.*
3. *ADEQUATE TURNAROUND AREA SHALL BE PROVIDED IN THE DEAD-END OF THE PARKING AISLE AND BEFORE THE GATES.*

N.T.S

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PARKING STRUCTURE STANDARDS

STANDARD DETAILS

DWG. NO. **702**

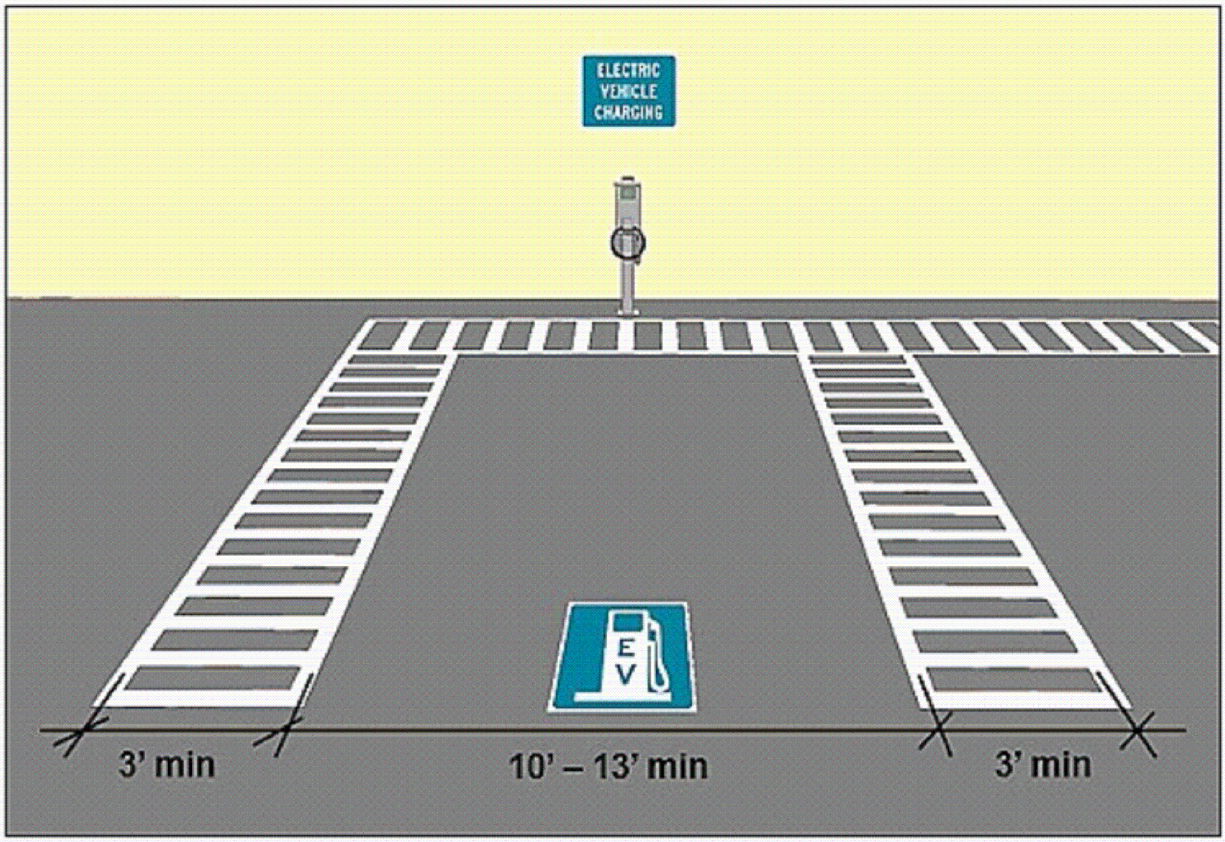
DATE: APRIL 2025

Recommendations: Provide access to a reasonable number of spaces serving EV charging stations or use the scoping table in §208.2 to determine an appropriate number. (The number of accessible spaces serving EV charging stations must be determined separately from the required number of car and van parking spaces.)

Accessible EV Charging Stations

Accessible Route

Provide an accessible route on both sides of the vehicle space that connects to the charging station for easier access.



Vehicle Space

A vehicle space at least 10' – 13' wide is advisable. A 10' width offers an extra 2' that effectively provides a 5' aisle on one side when paired with the accessible route; a 13' wide space will allow an 8' aisle. This flexibility is helpful since the parking direction is determined by the location of the charging station and the vehicle connection. Use the International Symbol of Accessibility only where spaces are reserved exclusively for people with disabilities.

N.T.S

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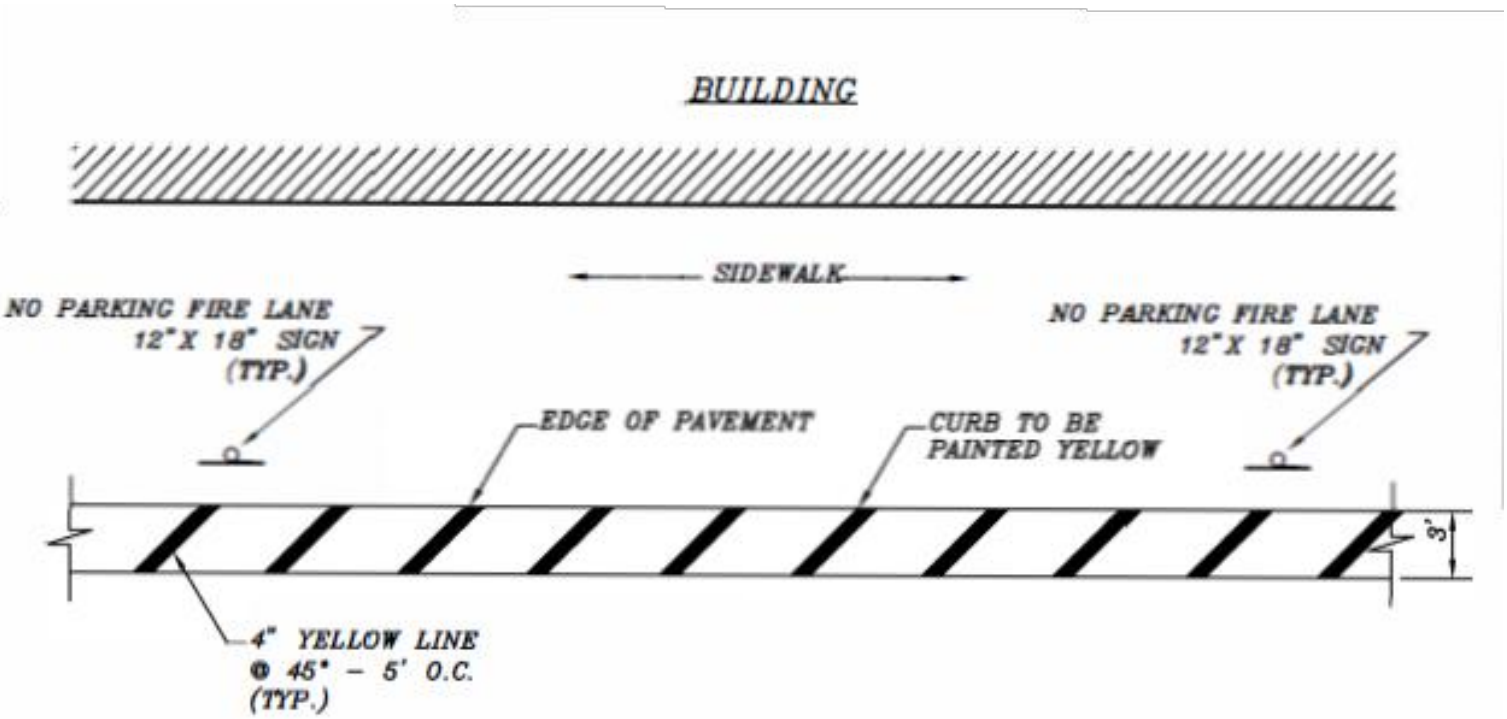
ACCESSIBLE EV CHARGING STATIONS

STANDARD DETAILS	DWG. NO.
DATE: APRIL 2025	703



NOTES:

1. The pavement shall be painted with parallel four-inch-wide yellow strip lines every 5' on center extending at lest 3' from edge of the pavement.

N.T.S

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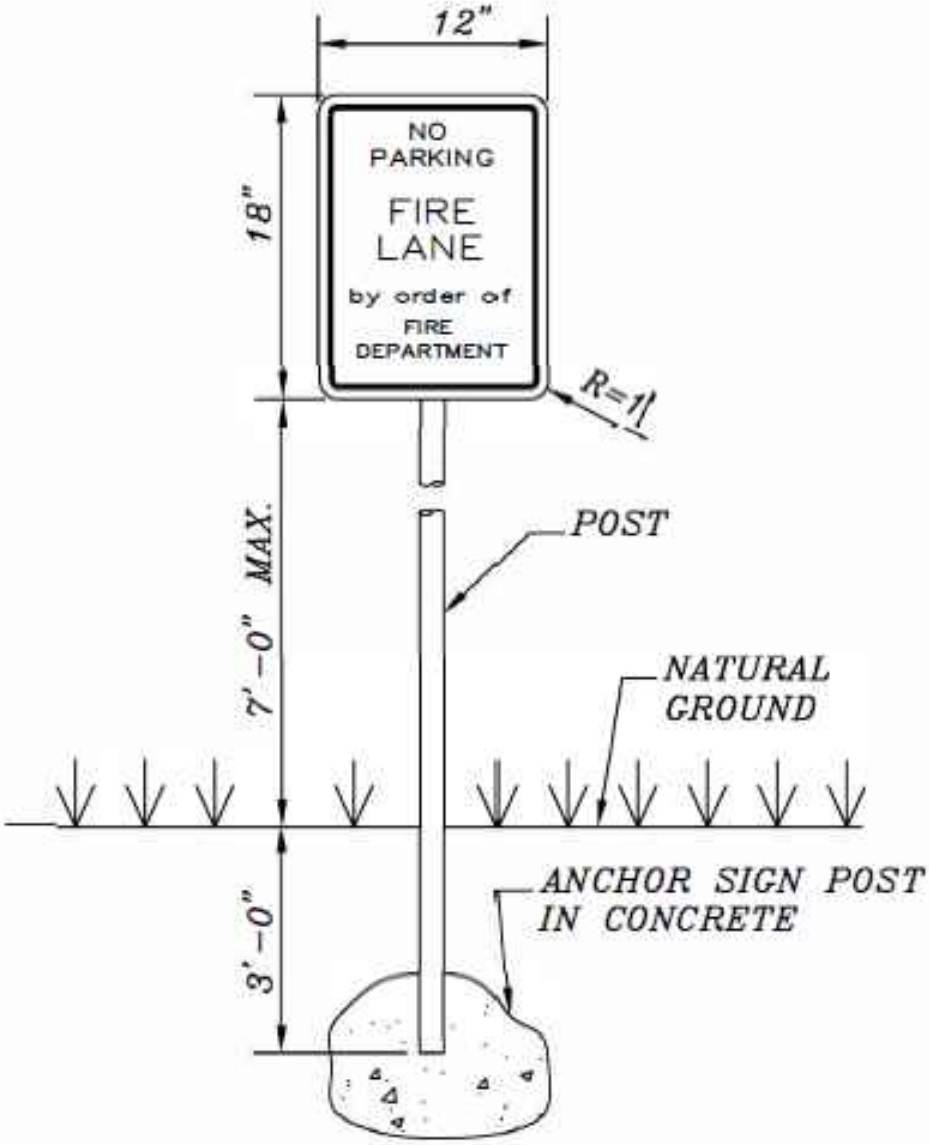
FIRE LANE

STANDARD DETAILS

DWG. NO. **704**

DATE: APRIL 2025



NOTES:

1. "NO PARKING FIRE LANE BY ORDER OF FIRE DEPARTMENT" SIGN AT MAX 60' O.C. SIGN TO BE 12"x 18" W/ RED LETTERS ON WHITE BACKGROUND.
2. SIGN TO BE POSTED 7' MAX. ABOVE FINISHED GRADE. ON B.C.T.E.D. STANDARD POST.

N.T.S

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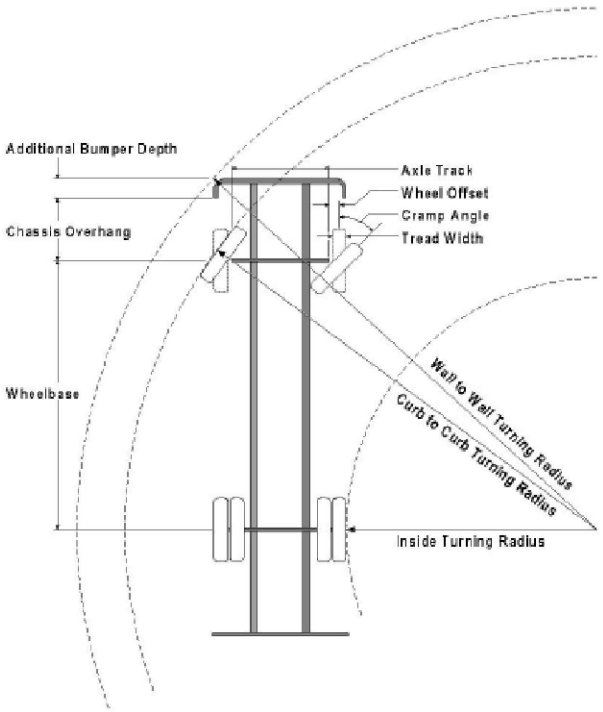
FIRE LANE SIGNAGE

STANDARD DETAILS	DWG. NO. 705
DATE: APRIL 2025	

Bid Number: 783 **Chassis:** Enforcer Chassis, 33.5K Single Axle, 75' HDL
Department: Coconut Creek **Body:** Aerial, HD Ladder 75', Quint, Alum Body



Parameters:

*Inside Cramp Angle:	50°
Axle Track:	85.86 in.
Wheel Offset:	3.12 in.
Tread Width:	12.4 in.
Chassis Overhang:	65.95 in.
Additional Bumper Depth:	19 in.
Front Overhang:	84.95 in.
Wheelbase:	237.5 in.

Calculated Turning Radii:

Inside Turn:	15 ft. 10 in.
Curb to curb:	31 ft. 8 in.
Wall to wall:	36 ft. 5 in.

Category	Option	Description
Axle, Front, Custom	0629557	Axle, Front, Meritor MFS-20, 20,000 lb Saber FR/Enforcer
Wheels, Front	0019575	Wheels, Front, Alcoa, 22.50" x 9.00", Aluminum, Hub Pilot
Tires, Front	0582936	Tires, Front, Goodyear, G289 WHA, 315/80R22.50, 20 ply
Bumpers	0012245	Bumper, 19" Extended, Saber FR/Enforcer
Aerial Devices	0592916	Aerial, 75' Heavy Duty Ladder

Notes:

*Actual Inside cramp angle may be less than shown.

Curb to Curb turning radius calculated for 9.00 inch curb.

Definitions:

Inside CrampAngle	Maximum turning angle of the front inside fire.
Axle Track	King-pin to King-pin distance of front axle.
Wheel Offset	Offset from the center line of the wheel to the King-pin.
Tread Width	Width of the tire tread.
Chassis Overhang	Distance of the center line of the front axle to the front edge of the cab. This does not include the bumper depth.
Additional Bumper Wheel	Depth that the bumper assembly adds to the front overhang.
Wheelbase	Distance between the center lines of the vehicles front and rear axles.
Inside Turning Radius	Radius of the smallest circle around which the vehicle can turn.
Curb to Curb Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures assumes a curb height of 9 inches.
Wall to Wall Turning Radius	Radius of the smallest circle around which the vehicle's tires can turn. This measures takes into account any front overhang due to chassis , bumper extensions and or aerial devices.

N.T.S

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FIRE TRUCK TURNING PERFORMANCE ANALYSIS

STANDARD DETAILS

DWG. NO. **706**

DATE: APRIL 2025