

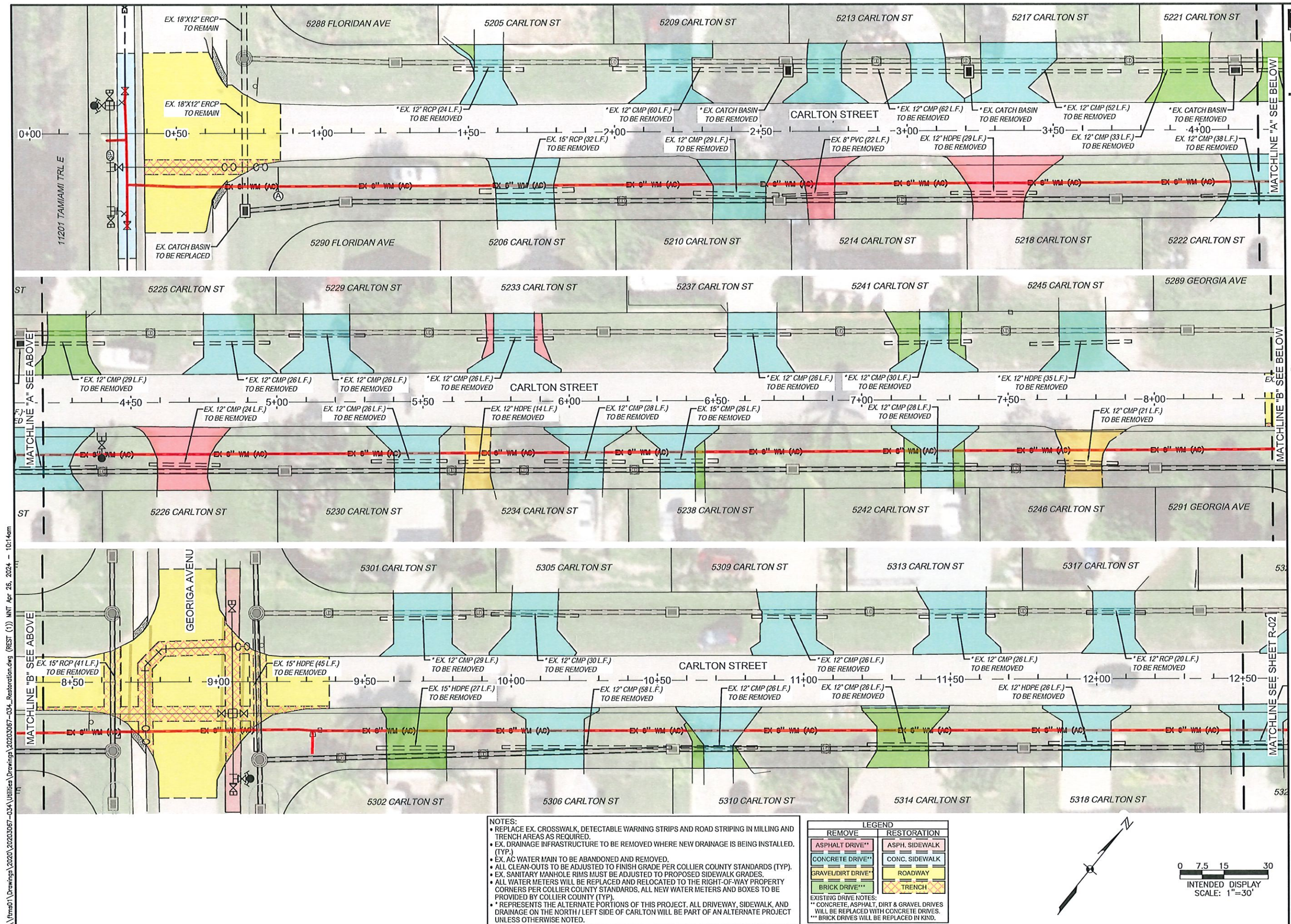
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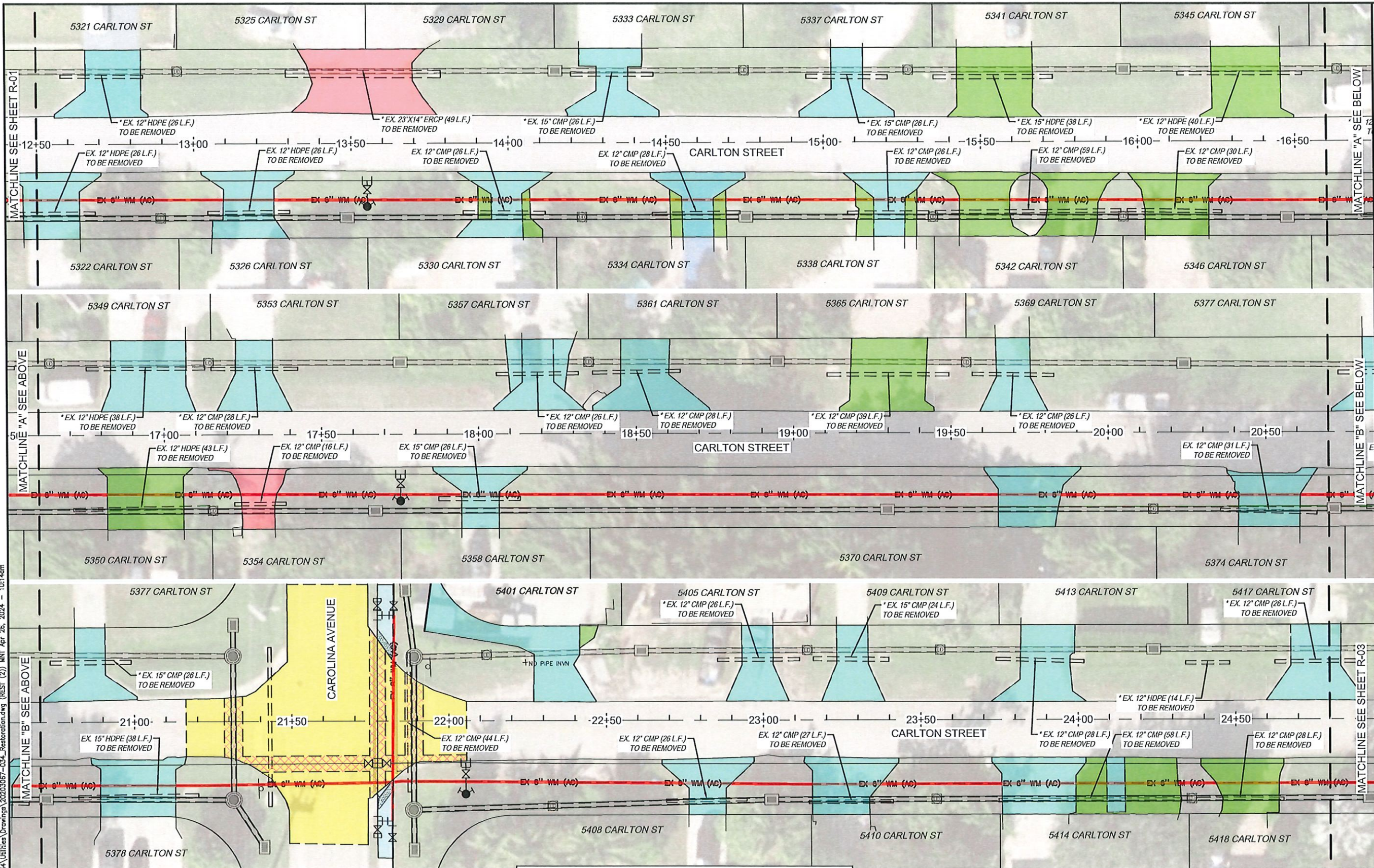
DATE:	April 26, 2024
PROJECT NO.	20203067-034
FILE NO.	50-29-26
SCALE:	As Shown

Construction Plans
Restoration Plans
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R-01

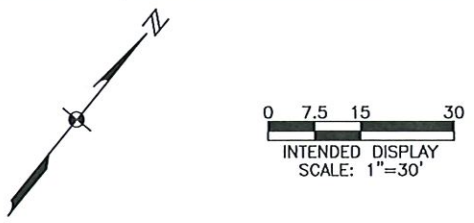




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- NOTES:**
- REPLACE EX. CROSSWALK, DETECTABLE WARNING STRIPS AND ROAD STRIPING IN MILLING AND TRENCH AREAS AS REQUIRED.
 - EX. DRAINAGE INFRASTRUCTURE TO BE REMOVED WHERE NEW DRAINAGE IS BEING INSTALLED. (TYP.)
 - EX. AC WATER MAIN TO BE ABANDONED AND REMOVED.
 - ALL CLEAN-OUTS TO BE ADJUSTED TO FINISH GRADE PER COLLIER COUNTY STANDARDS (TYP.)
 - EX. SANITARY MANHOLE RIMS MUST BE ADJUSTED TO PROPOSED SIDEWALK GRADES.
 - ALL WATER METERS WILL BE REPLACED AND RELOCATED TO THE RIGHT-OF-WAY PROPERTY CORNERS PER COLLIER COUNTY STANDARDS. ALL NEW WATER METERS AND BOXES TO BE PROVIDED BY COLLIER COUNTY (TYP.)
 - * REPRESENTS THE ALTERNATE PORTIONS OF THIS PROJECT. ALL DRIVEWAY, SIDEWALK, AND DRAINAGE ON THE NORTH / LEFT SIDE OF CARLTON WILL BE PART OF AN ALTERNATE PROJECT UNLESS OTHERWISE NOTED.

LEGEND	
REMOVE	RESTORATION
ASPHALT DRIVE**	ASPH. SIDEWALK
CONCRETE DRIVE**	CONC. SIDEWALK
GRAVEL/DIRT DRIVE**	ROADWAY
BRICK DRIVE***	TRENCH
EXISTING DRIVE NOTES:	
** CONCRETE, ASPHALT, DIRT & GRAVEL DRIVES WILL BE REPLACED WITH CONCRETE DRIVES.	
*** BRICK DRIVES WILL BE REPLACED IN KIND.	



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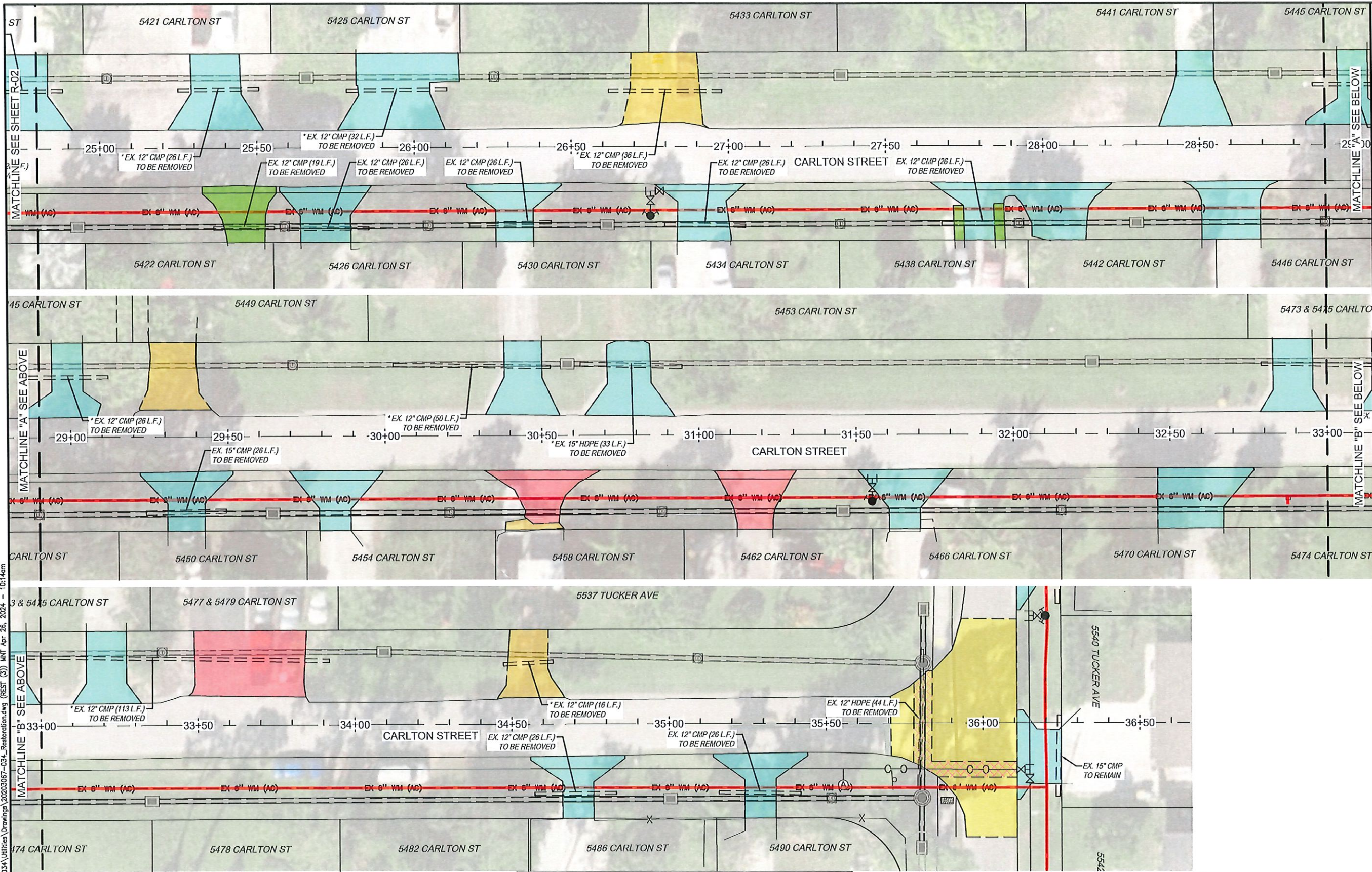
Carlton Street Sidewalk
and Utility Improvements
Collier County, Florida

REVISIONS	
NO.	DESCRIPTION

DATE: April 26, 2024
PROJECT NO. 20203067-034
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SCALE: As Shown

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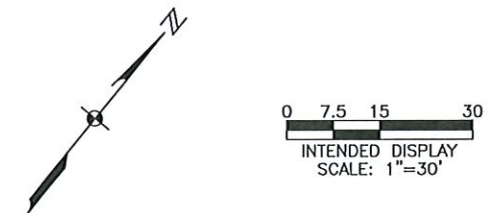
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R-02



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- NOTES:
- REPLACE EX. CROSSWALK, DETECTABLE WARNING STRIPS AND ROAD STRIPING IN MILLING AND TRENCH AREAS AS REQUIRED.
 - EX. DRAINAGE INFRASTRUCTURE TO BE REMOVED WHERE NEW DRAINAGE IS BEING INSTALLED. (TYP.)
 - EX. AC WATER MAIN TO BE ABANDONED AND REMOVED.
 - ALL CLEAN-OUTS TO BE ADJUSTED TO FINISH GRADE PER COLLIER COUNTY STANDARDS (TYP.)
 - EX. SANITARY MANHOLE RIMS MUST BE ADJUSTED TO PROPOSED SIDEWALK GRADES.
 - ALL WATER METERS WILL BE REPLACED AND RELOCATED TO THE RIGHT-OF-WAY PROPERTY CORNERS PER COLLIER COUNTY STANDARDS. ALL NEW WATER METERS AND BOXES TO BE PROVIDED BY COLLIER COUNTY (TYP.)
 - * REPRESENTS THE ALTERNATE PORTIONS OF THIS PROJECT. ALL DRIVEWAY, SIDEWALK, AND DRAINAGE ON THE NORTH/LEFT SIDE OF CARLTON WILL BE PART OF AN ALTERNATE PROJECT UNLESS OTHERWISE NOTED.

LEGEND	
REMOVE	RESTORATION
ASPHALT DRIVE**	ASPH. SIDEWALK
CONCRETE DRIVE**	CONC. SIDEWALK
GRAVEL/DIRT DRIVE**	ROADWAY
BRICK DRIVE***	TRENCH
EXISTING DRIVE NOTES:	
** CONCRETE, ASPHALT, DIRT & GRAVEL DRIVES WILL BE REPLACED WITH CONCRETE DRIVES.	
*** BRICK DRIVES WILL BE REPLACED IN KIND.	



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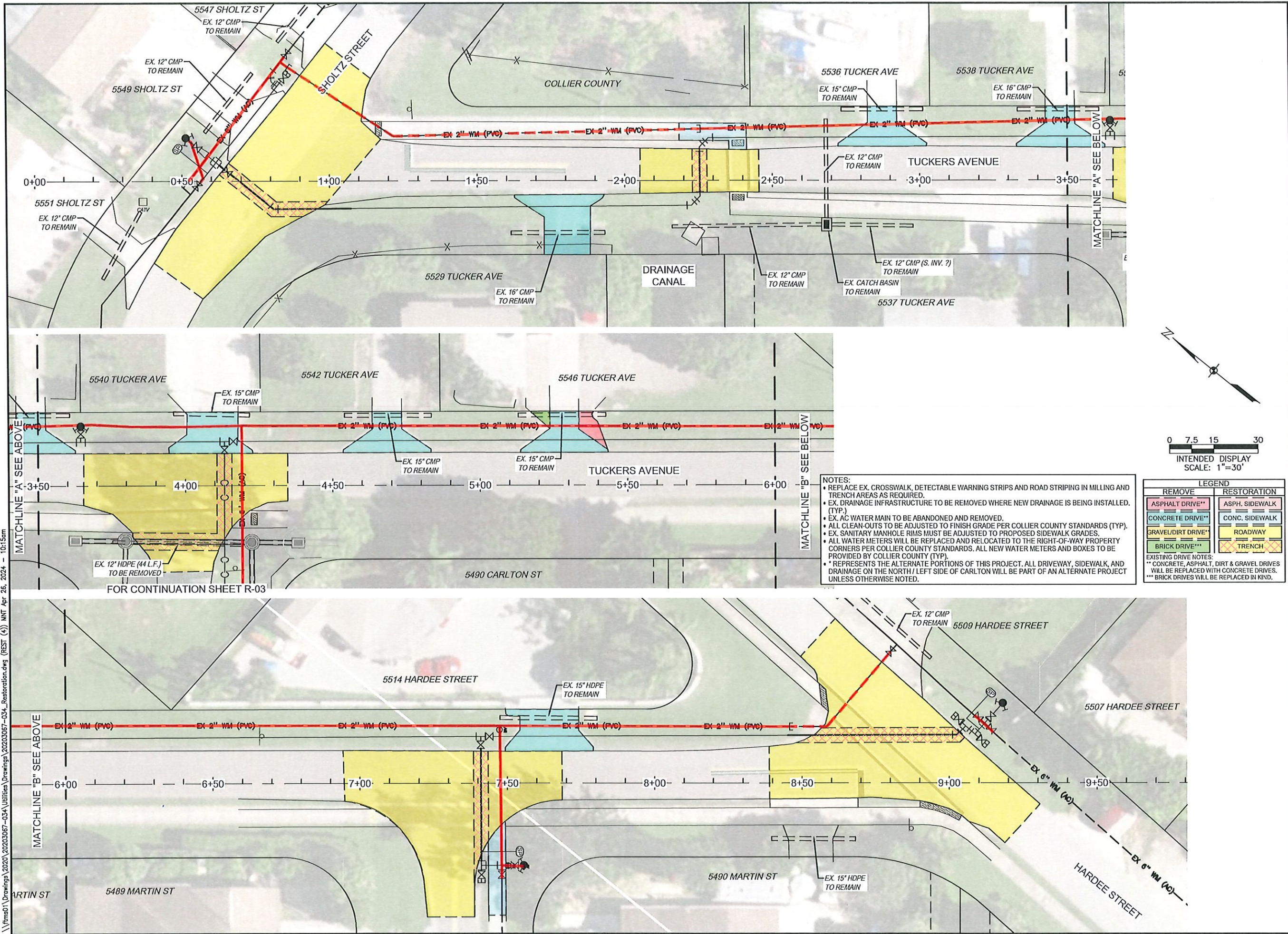
Carlton Street Sidewalk
and Utility Improvements
Collier County, Florida

REVISIONS	
NO.	DESCRIPTION

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PROJECT NO. 20203067-034
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SCALE: As Shown

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SHEET NUMBER
R-03



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NO.	DESCRIPTION

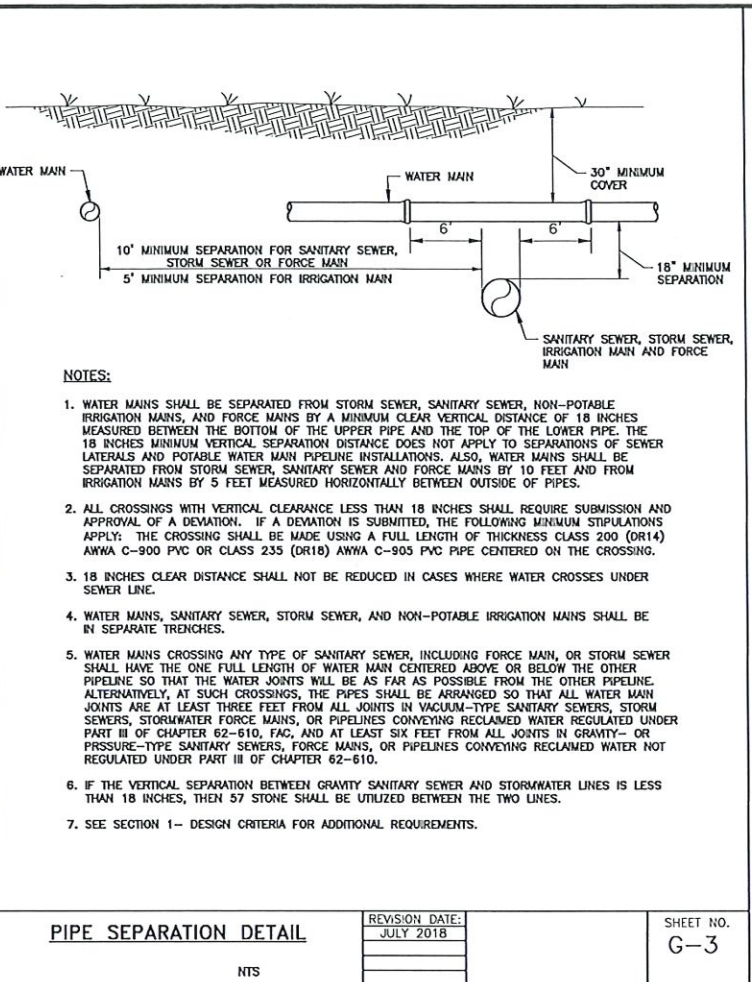
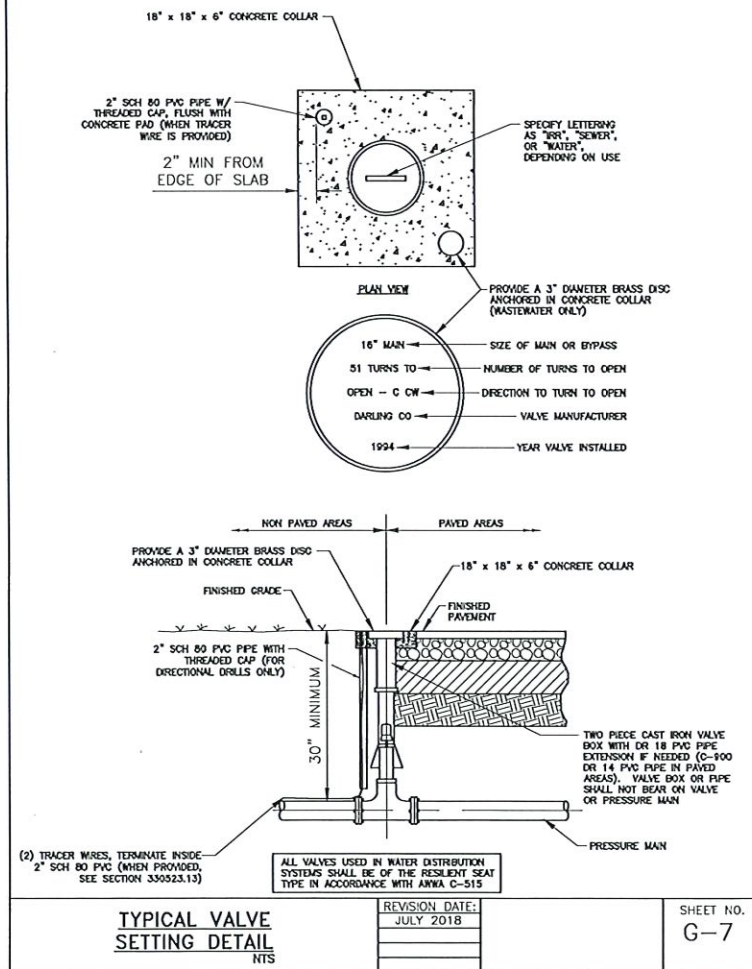
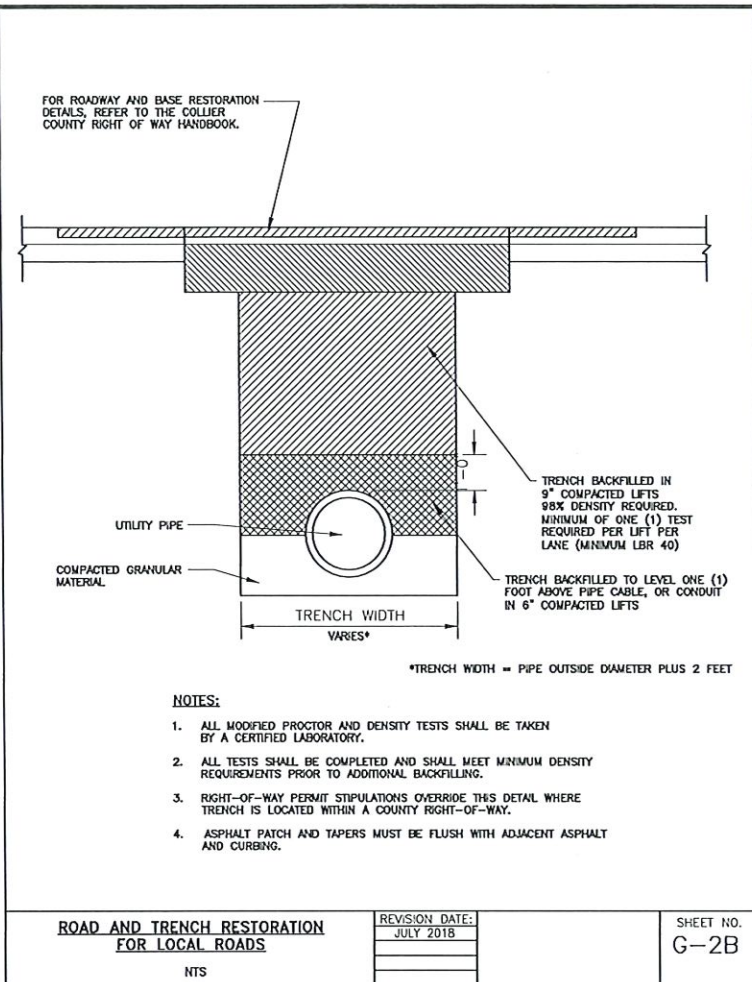
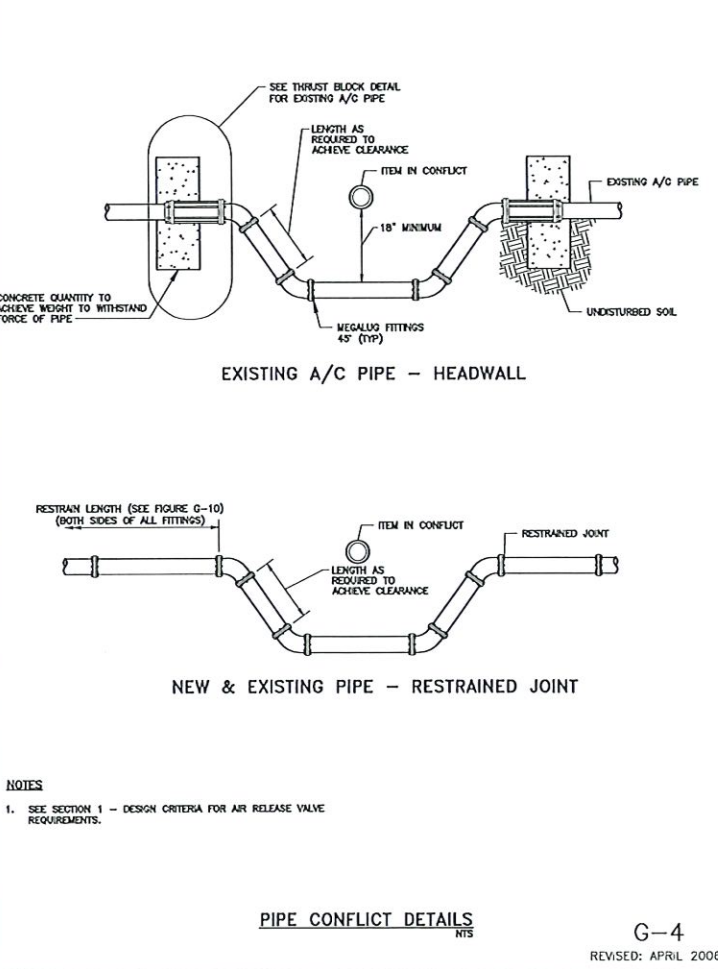
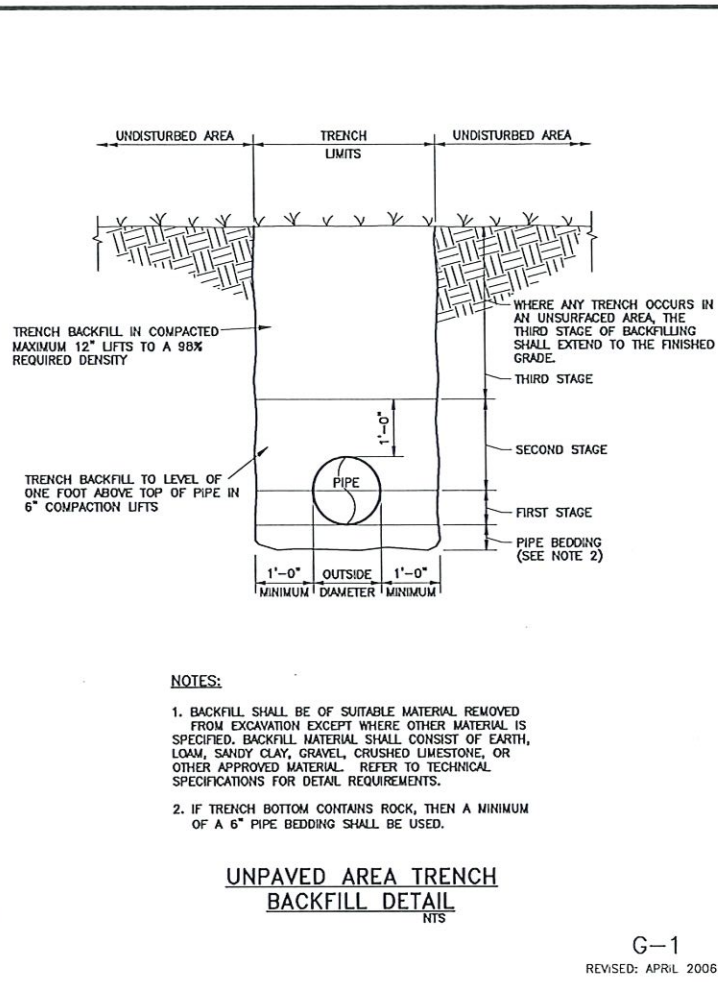
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PROJECT NO. 20203067-034
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SCALE: As Shown

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SHEET NUMBER
R-04

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PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)					DEAD ENDS (2)		45' VERTICAL BENDS	
	90'	45'	22-1/2'	11-1/4'		UPPER	LOWER	UPPER	LOWER
4	23	9	5	2	55	23	8		
6	32	13	6	3	77	32	11		
8	40	17	8	4	100	41	14		
10	48	20	10	5	120	50	17		
12	56	23	11	6	141	58	20		
16	71	29	14	7	181	75	25		
18	77	32	15	8	200	83	28		
20	84	35	17	9	218	90	30		
24	96	40	19	10	253	105	35		
30	112	47	22	11	303	125	41		
36	127	53	25	13	350	145	47		

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)	
	TEE (3)	REDUCER (4)
6 x 4	0	40
6 x 6	34	
8 x 4	0	72
8 x 8	55	
10 x 6	3	74
10 x 10	75	
12 x 4	0	122
12 x 8	31	75
12 x 12	95	
16 x 6	0	153
16 x 10	44	107
16 x 16	134	
18 x 8	0	157
18 x 12	68	108
18 x 18	152	
20 x 10	20	161
20 x 16	120	77
20 x 20	170	
24 x 12	37	187
24 x 18	132	109
24 x 24	204	
30 x 16	78	213
30 x 20	138	165
30 x 30	252	
36 x 18	84	259
36 x 24	170	191
36 x 36	298	

NOTES:

- RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCE SHOWN ON THE TABLES MEASURED FROM THE POINT OF CONNECTION.
- ISOLATION VALVES SHALL BE TREATED AS DEAD ENDS. WITH RESTRAINT ON BOTH SIDES OF THE VALVE.
- RESTRAINT IS FOR BRANCH OF TEE. IF BRANCH SIZE IS NOT ON TABLE, USE NEXT LARGEST BRANCH.
- RESTRAINT IS FOR LARGE DIAMETER SIDE OF REDUCER. IF REDUCER SIZE IS NOT ON TABLE, USE NEXT SMALLER REDUCER (SMALL END).
- THIS SCHEDULE IS TO BE USED FOR DUCTILE IRON AND PVC PIPE.

PIPE RESTRAINT SCHEDULE
NTS

G-10
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Collier County

Carlton Street Sidewalk
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Collier County, Florida

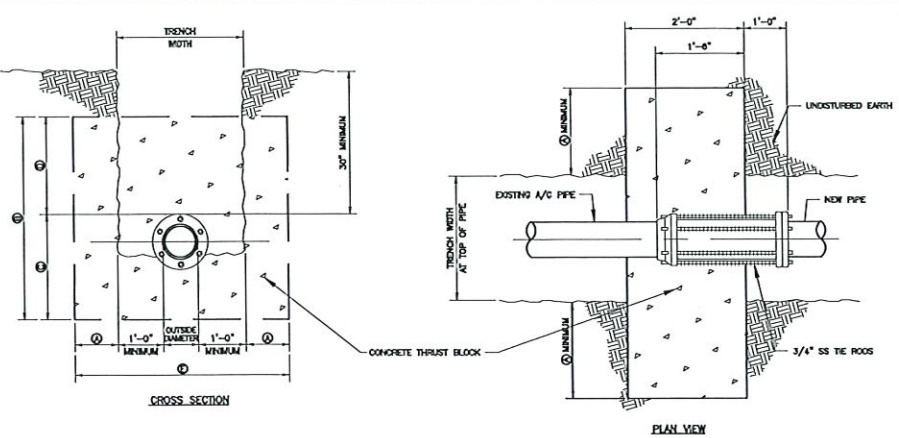
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DESCRIPTION
NO.
DATE: April 26, 2024
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SCALE: As Shown

Construction Plans
General Details
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D-01

REVISION: APRIL 2006

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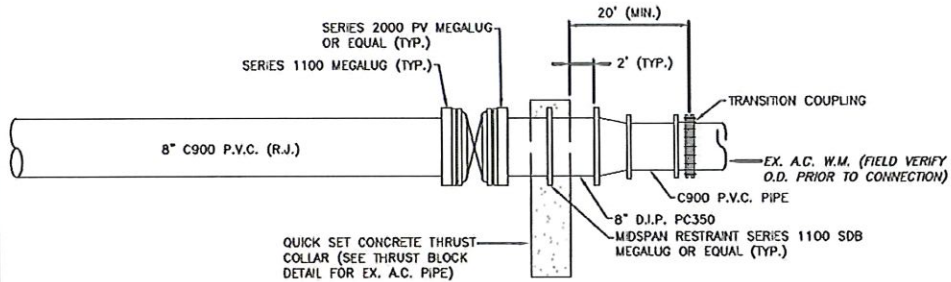


PIPE DIAMETER	①	②	③	④	⑤	⑥	NUMBER OF TIE RODS REQUIRED	CY.
4"	8"	36"	20"	18"	3'-10"	2	2	.85
6"	12"	36"	21"	15"	4'-8"	2	2	1.00
8"	12"	36"	22"	14"	4'-8"	2	2	1.04
10"	12"	36"	23"	13"	4'-10"	2	2	1.07
12"	18"	36"	24"	12"	6'-0"	2	2	1.33
18"	18"	36"	32"	4"	8'-4"	4	4	1.41

CUBIC YARDS OF CONCRETE (CY) = $\frac{(\text{①} \times \text{②})}{27} \times 2$

DESIGN ENGINEER SHALL VERIFY ABOVE DIMENSIONS AND THE NUMBER OF THE RODS.

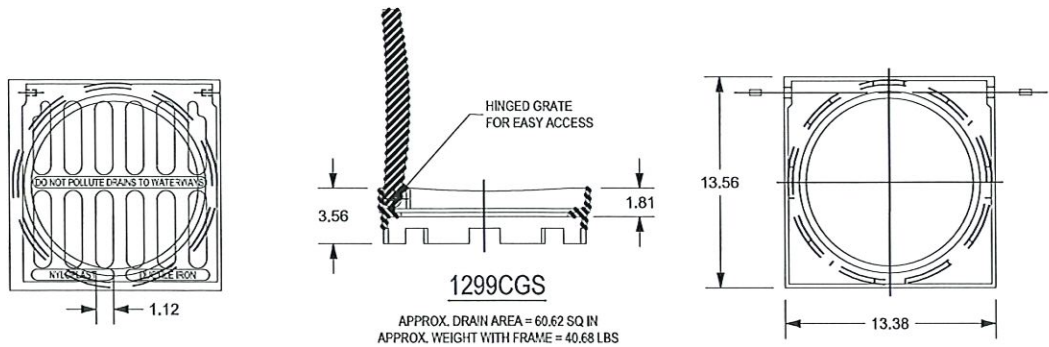
THRUST BLOCK DETAIL FOR EXISTING A/C PIPE



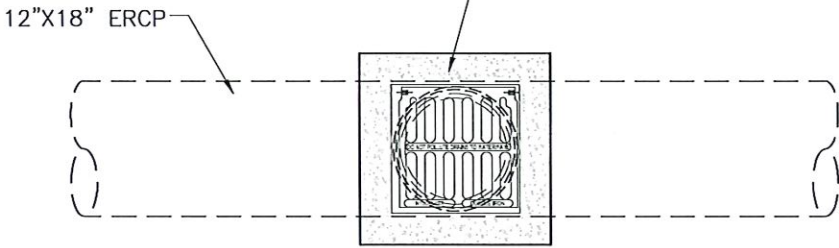
NOTES:

- CONTRACTOR SHALL COMPLETE CLEANING AND DISINFECTION PER SPECIFICATIONS PRIOR TO COMPLETING CONNECTION TO A.C. W.M. CONTRACTOR TO SWAB CONNECTIONS IN ACCORDANCE WITH AWWA AND PERMITTING REQUIREMENTS.
- CONTRACTOR SHALL WAIT TO PRESSURIZE THE PIPELINE UNTIL THRUST COLLAR IS CURED.
- CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF ALL CONNECTION JOINTS FOR LEAKAGE PRIOR TO BACKFILLING (IN PRESENCE OF ENGINEER) AND PRESSURE TEST BETWEEN VALVES.
- NEW PIPE JOINTS PER COLLIER COUNTY DETAIL G-10 (DEAD ENDS).
- ALL RESTRAINING DEVICES SHALL HAVE MEGABOND (OR EQUAL) COATING AND SS HARDWARE.
- CONTRACTOR SHALL FILL TRENCH WITH EXCAVATABLE FLOWABLE FILL TO 6 INCHES ABOVE TOP OF PIPES.

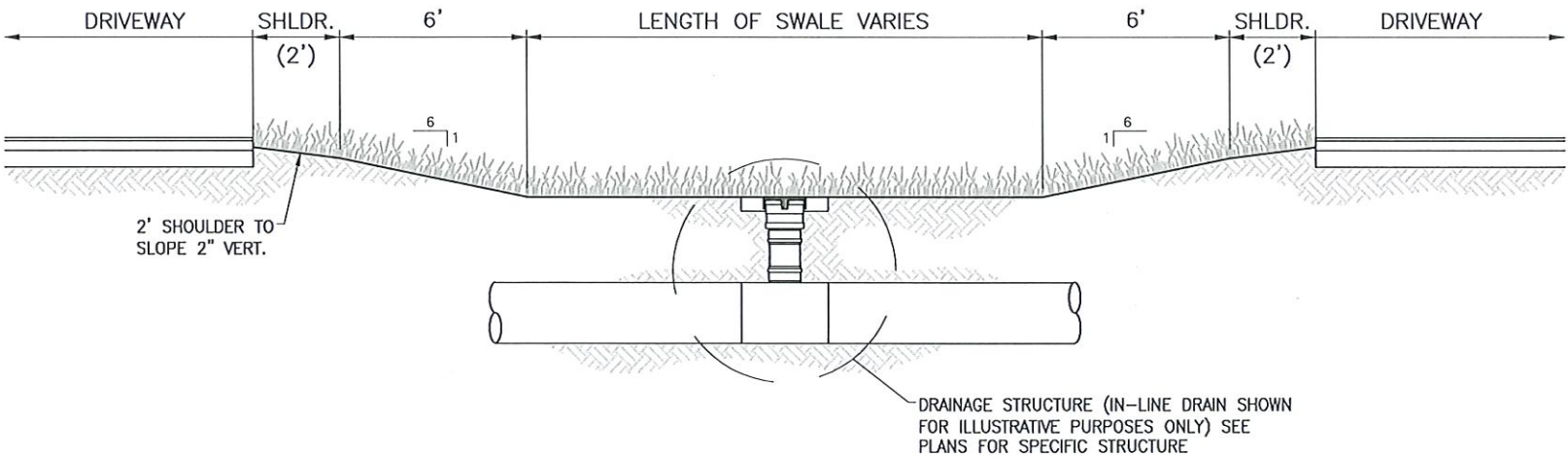
TRANSITION to A.C. WATERMAIN DETAIL
NOT TO SCALE



12" CAST IRON NYLOPLAST HINGED GRATE (STANDARD H-20 RATED) & 3'x3'x8" CONCRETE COLLAR (SLOPE TO BOTTOM OF SWALE),



IN-LINE DRAIN PIPE CONNECTION DETAIL
NOT TO SCALE



TYPICAL SWALE PROFILE
(between driveways)
NOT TO SCALE

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Carlton Street Sidewalk
and Utility Improvements
Collier County, Florida

REVISIONS
DESCRIPTION

NO.

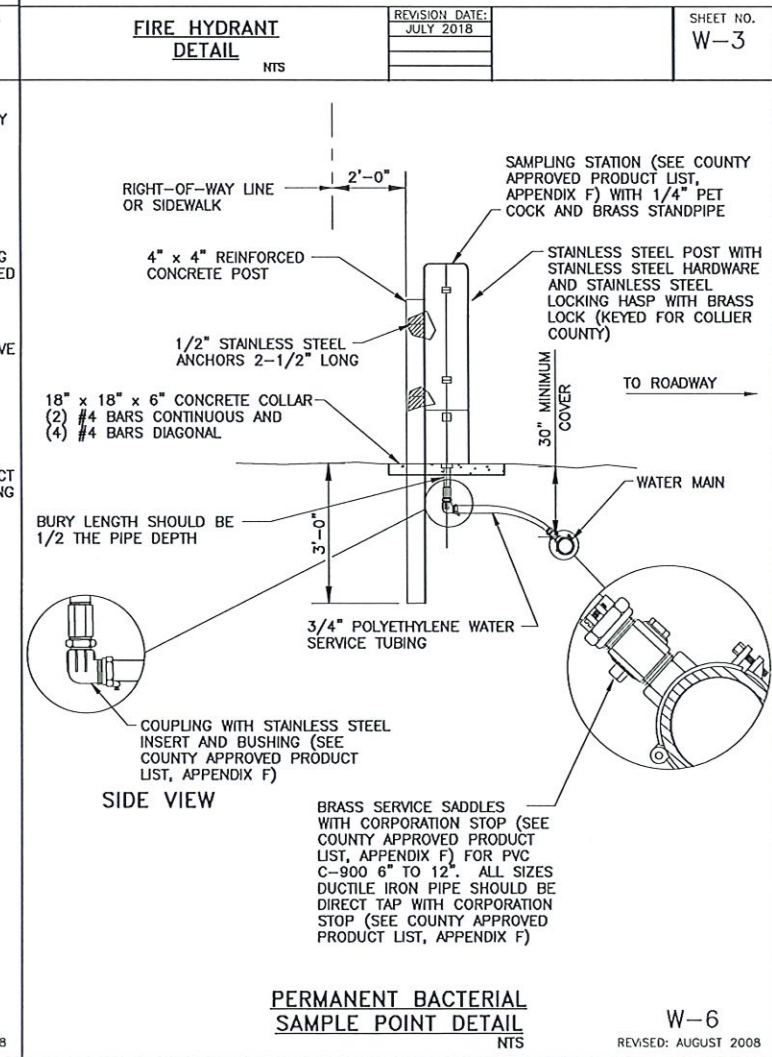
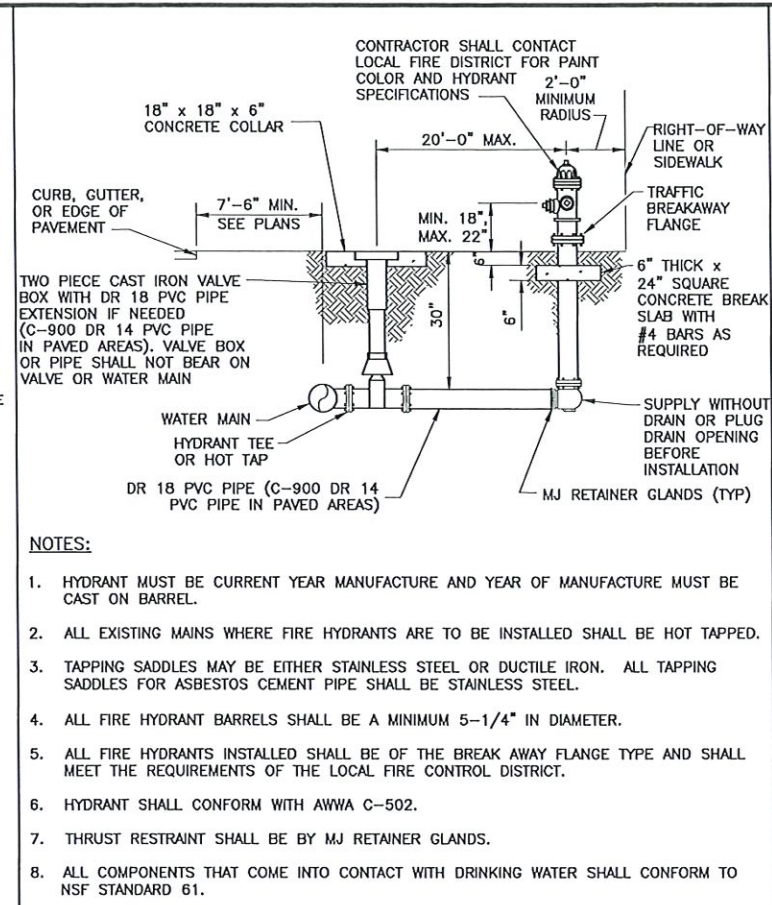
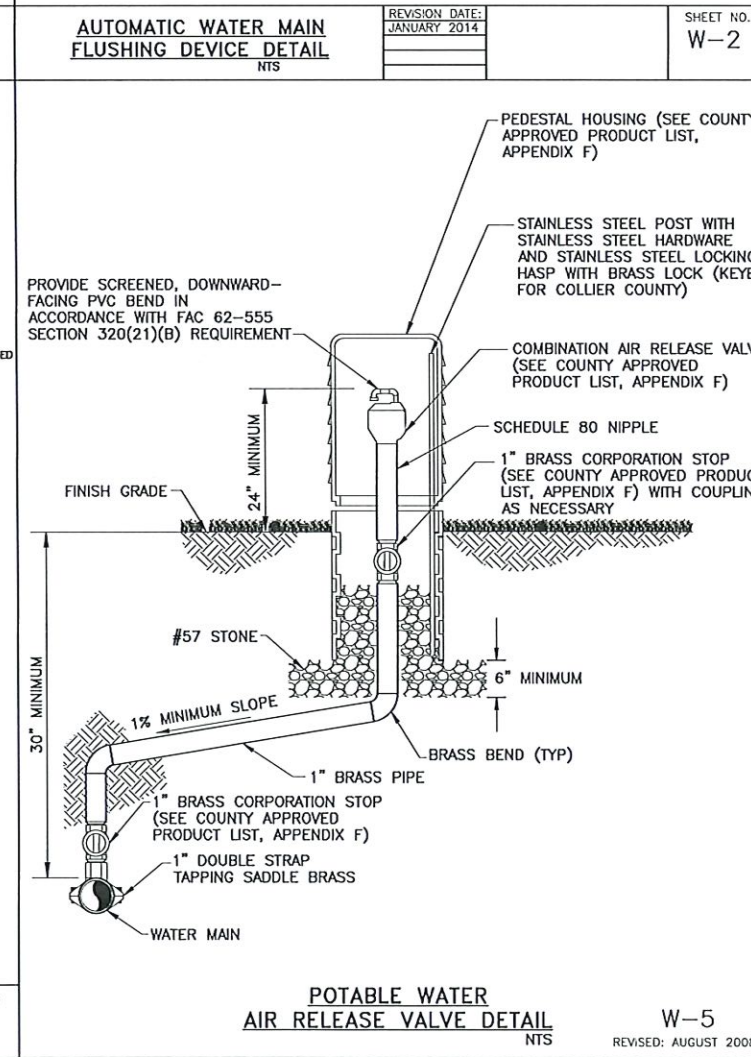
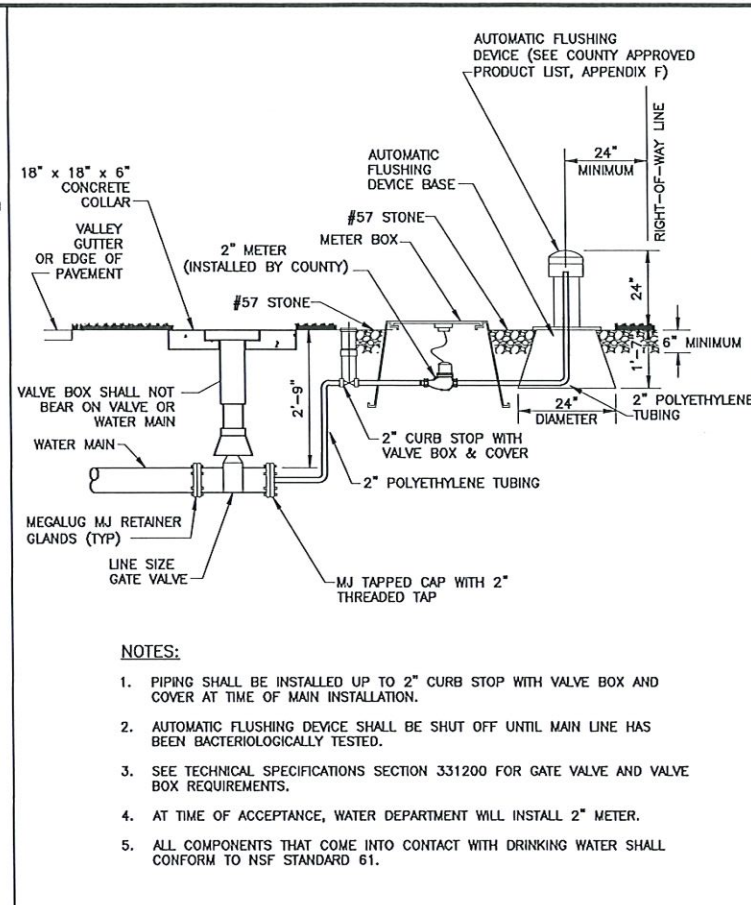
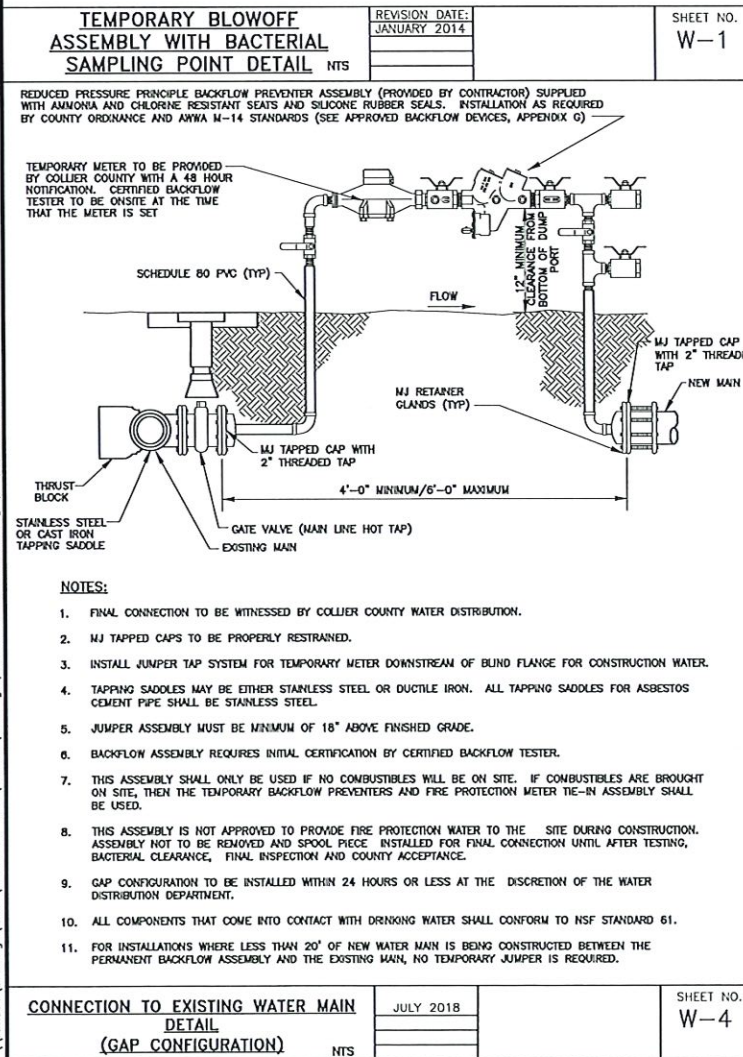
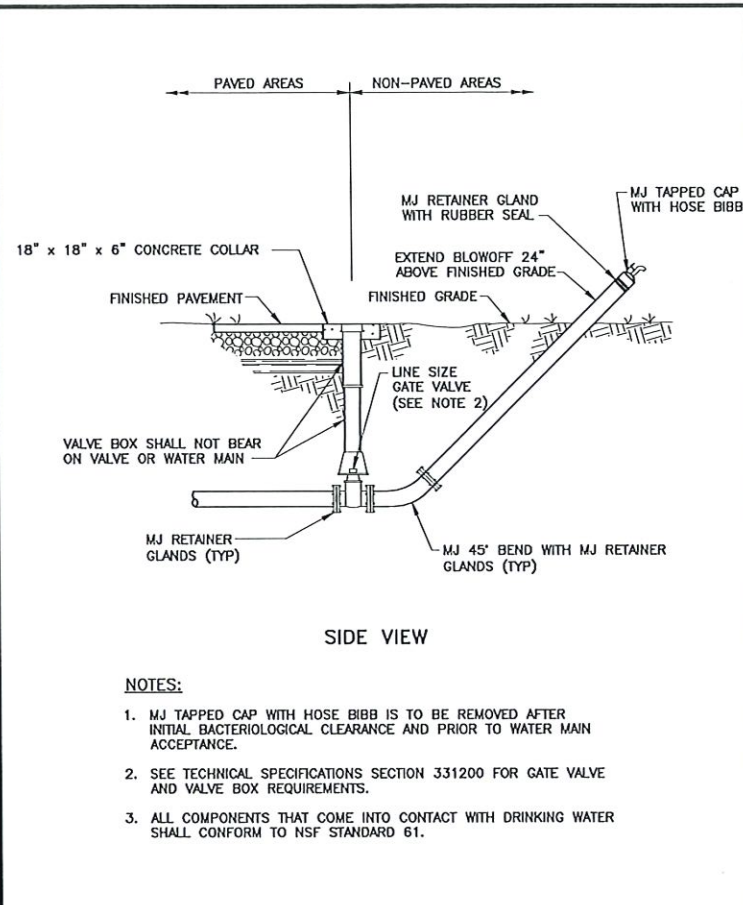
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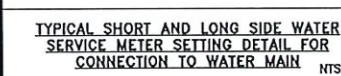
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SHEET NUMBER

D-02

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NEED TO UPDATE CHART

- NOTES:
1. 1-1/4" AND LARGER METERS SHALL BE SERVED BY SINGLE SERVICES ONLY.
 2. WYE CONNECTORS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F) SHALL BE USED FOR MULTI-SERVICE. SUCCESSIVE TAPS INTO WATER MAIN WILL BE NO CLOSER THAN 24" APART.
 3. ALL CASING PIPE SHALL EXTEND A MINIMUM OF 5' BEYOND THE EDGE OF PAVEMENT, WITH A CASING DIAMETER TO BE NO LESS THAN 4". CONDUIT SHALL BE MARKED WITH A ELECTRONIC MARKER (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F).
 4. TAPPING SADDLE, CORPORATION STOP, POLY TUBING, CURB STOP, AND METER BOXES SHALL BE INSTALLED BY UNDERGROUND UTILITY CONTRACTOR AT THE TIME OF WATER MAIN INSTALLATION.
 5. MATERIAL SPECIFICATIONS:
 - A. TAPPING SADDLES SHALL BE DOUBLE STRAP BRASS OR DUCTILE IRON (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F).
 - B. CORPORATION STOPS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F) SHALL BE BALL TYPE AND MADE OF RED BRASS. OUTLET SHALL BE COMPRESSIBLE POLYETHYLENE TUBE. COMPRESSION INSERT SHALL BE STAINLESS STEEL.
 - C. CURB STOPS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F) SHALL BE BALL TYPE AND MADE OF RED BRASS. INLET SHALL BE COMPRESSION JOINT. OUTLET SHALL BE SWELG NUT FOR METER CONNECTION.
 - D. TUBING SHALL BE POLYETHYLENE, PE4710, (AWWA C-901, DR 9) AND BE BLUE IN COLOR.
 6. ALL PLANTINGS SHALL BE A MINIMUM 3' FROM METER BOX, AND SHALL PROVIDE A 3' ACCESS OPENING.
 7. ALL COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61 AND THE REDUCTION OF LEAD DRINKING WATER ACT MEETING THE SAFE DRINKING WATER ACT.

SERVICE CONNECTION SIZING CHART AND NOTES

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Collier County, Florida

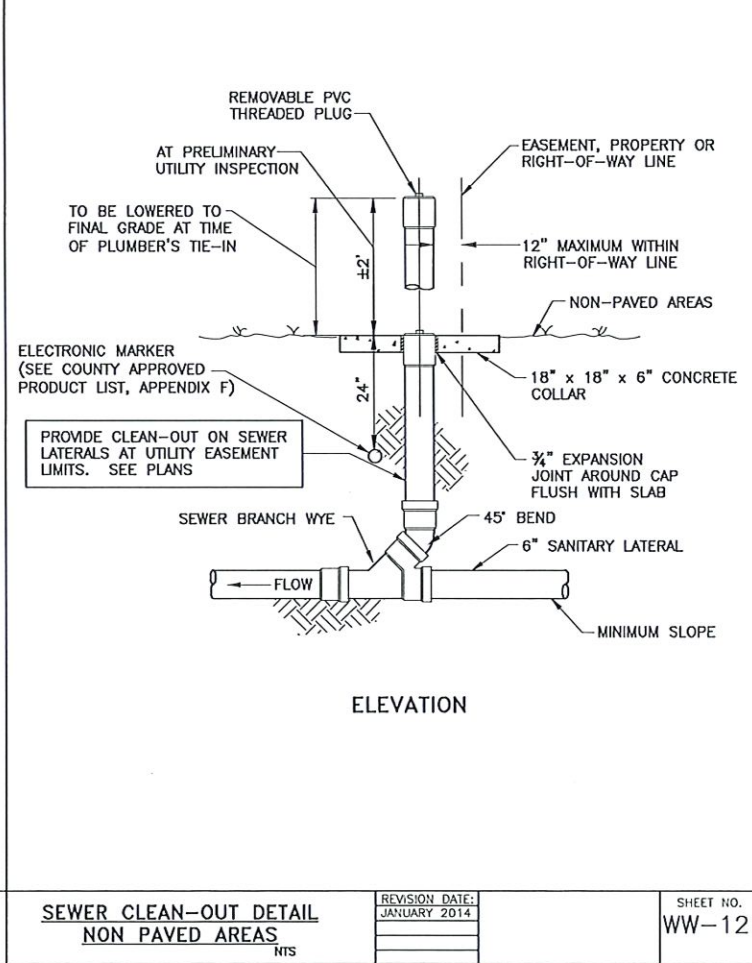
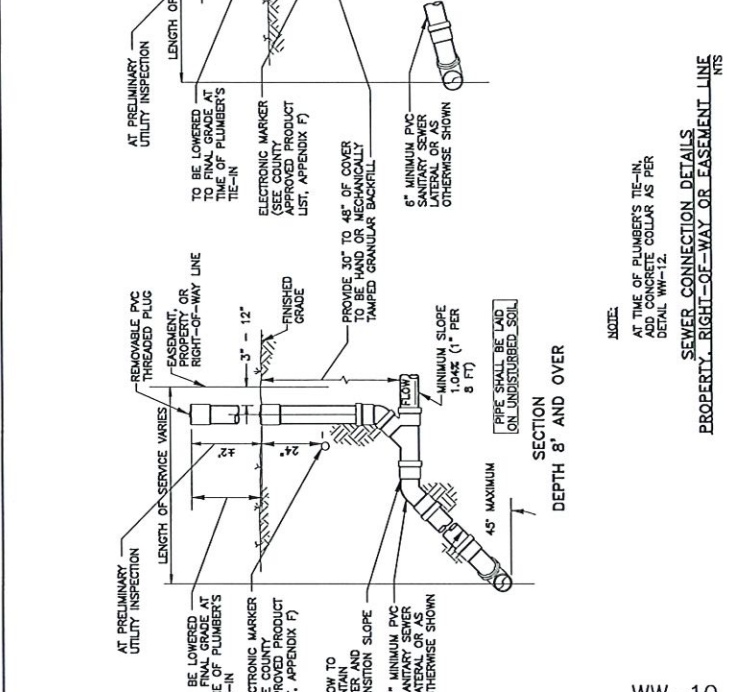
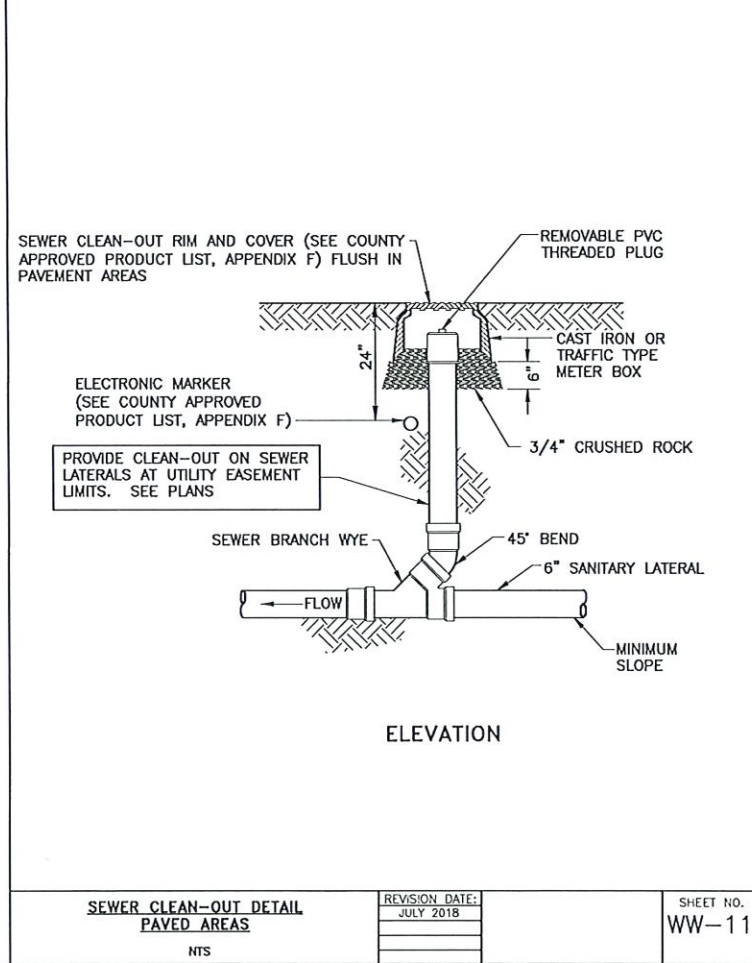
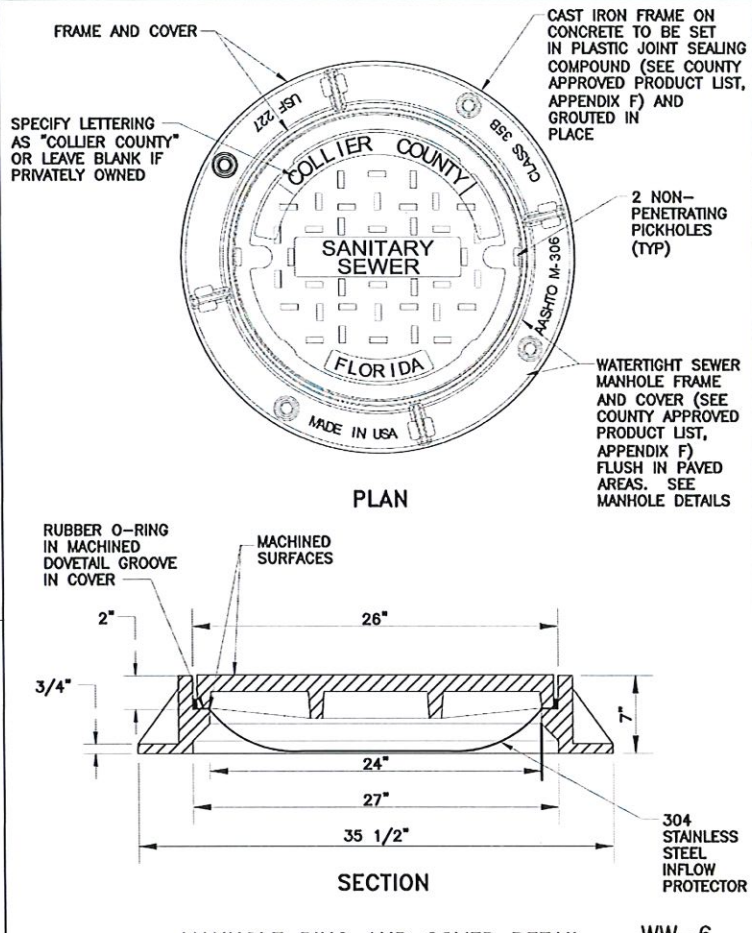
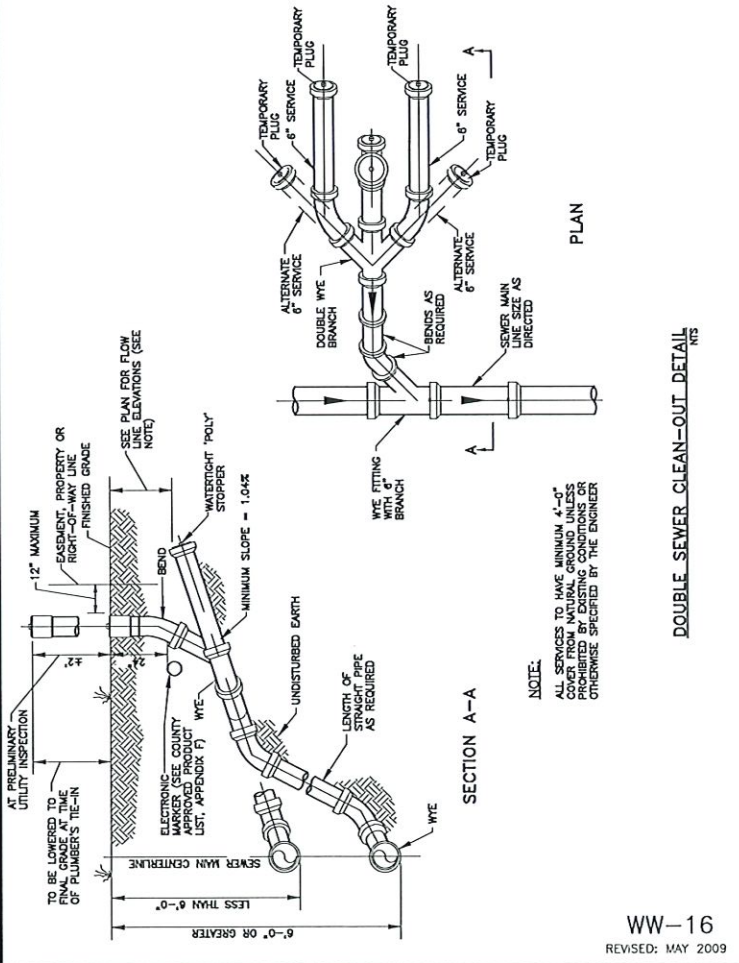
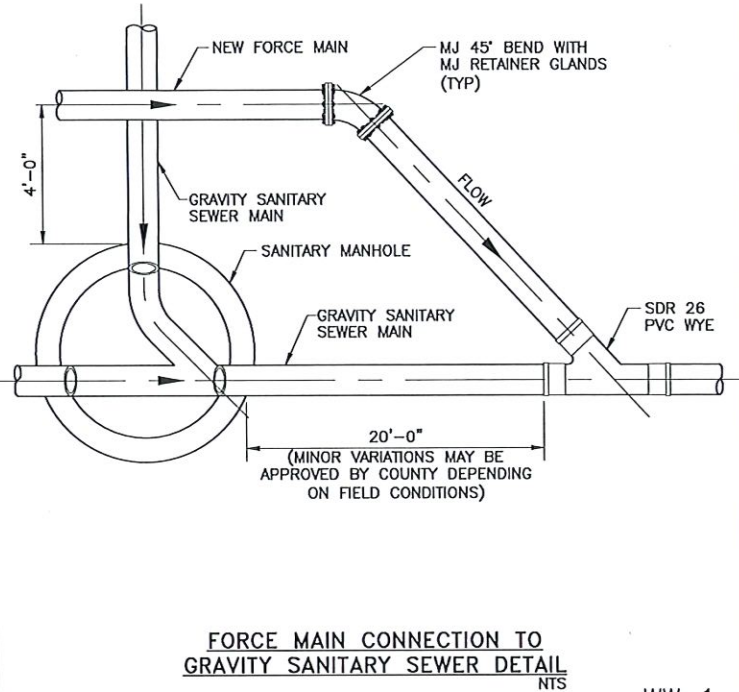
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SHEET NUMBER

D-04

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REVISIONS	
NO.	DESCRIPTION

GENERAL NOTES:

1. Use a 1-piece cover, unless the 2-piece cover is called for in the Plans, except at inlets and manholes with sump bottoms. Use the 2-piece cover when the sump depth exceeds 2', unless otherwise noted.
2. Include "Adjustable" on the cover for Type 1 manhole adjustable frames.
3. For square or rectangular precast drainage structures, use either deformed or smooth WWR meeting the requirements of Specification 931. WWR must be continuous around the box and lapped in accordance with Option 1 or 3 as shown in the Wall Reinforcing Splice Details.
4. Lap splice horizontal steel in the walls of rectangular structures in accordance with Option 1, 2 or 3 as shown in the Wall Reinforcing Splice Details.
5. Welding of splices and laps is permitted. Use AASHTO W259 requirements and restrictions on welds.
6. Rebar straight end embedment of peripheral reinforcement may be used in lieu of ACI standard hooks for top and bottom slabs, except when hooks are specifically called for in the Plans.
7. Precast opening for pipe must be the pipe OD plus 6" ($\pm$ 2" tolerance). Use mortar to seal the pipe into the opening of such a mix that shrinkage will not cause leakage into or out of the structure. Dry-pack mortar may be used to seal openings less than 2½" wide.

Sheet	Description
1	General Notes, Contents, Manhole Top Overview, and Manhole Covers
2	Manhole Frames and Manhole Tops
3	Inlet Locking Grates, Subgrade and Base Temporary Drains, and Pipe to Structure Filter Fabric Wrap
4	Drainage Structure Invert, Sump Bottom, Wall Reinforcing Splice Details, and Typical Slab to Wall Details
5	Precast Option and Equivalent Reinforcement substitution
6	Construction Joints and Minimum Box Riser Segment Dimensions
7	Skewed Pipe in Rectangular Structures
8	Miscellaneous Pipe Connection Details

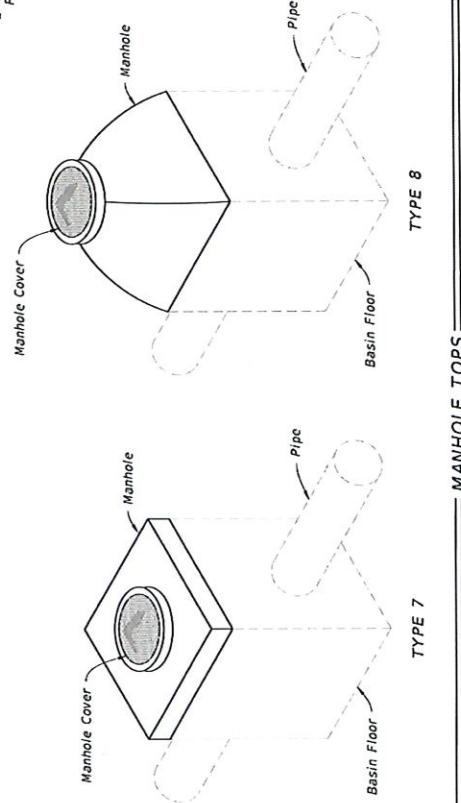
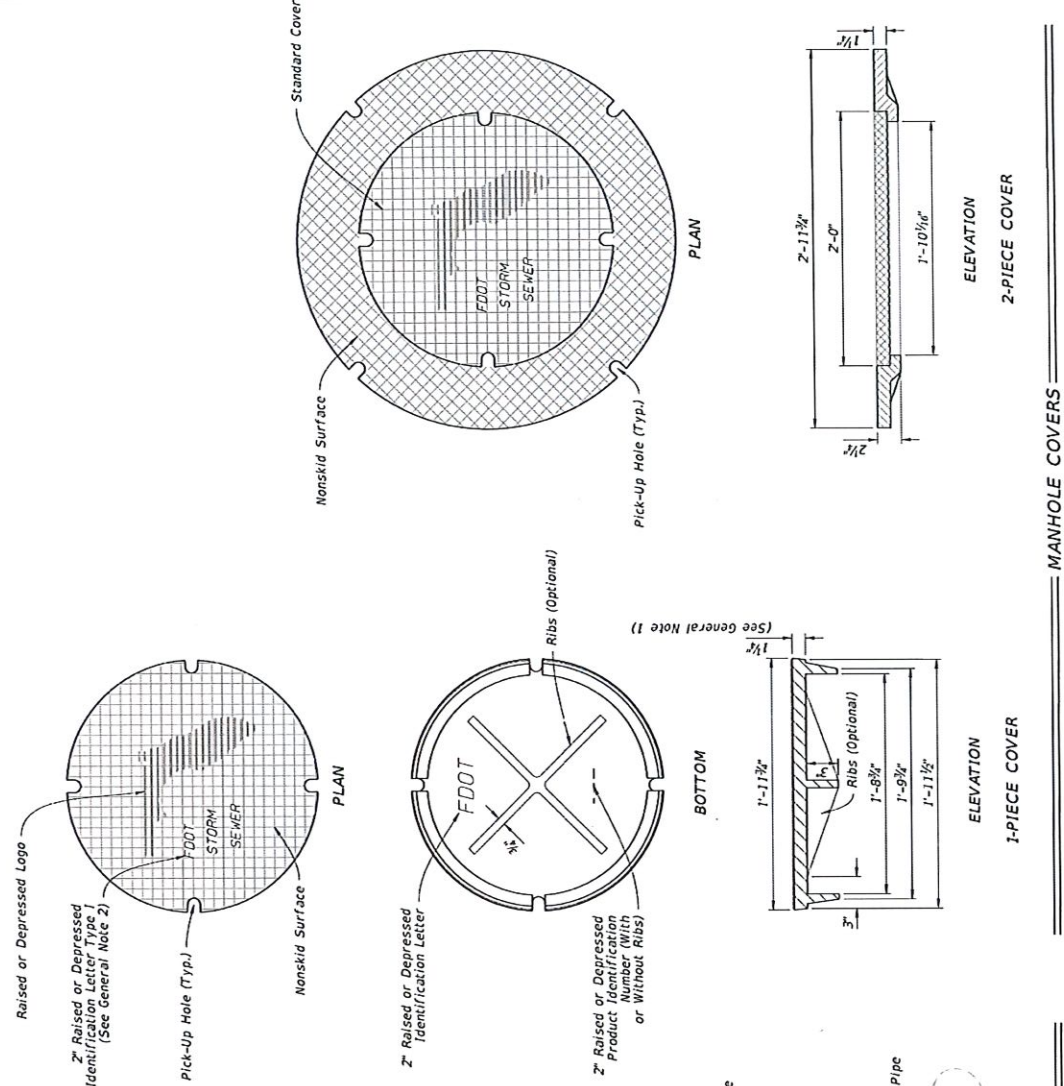
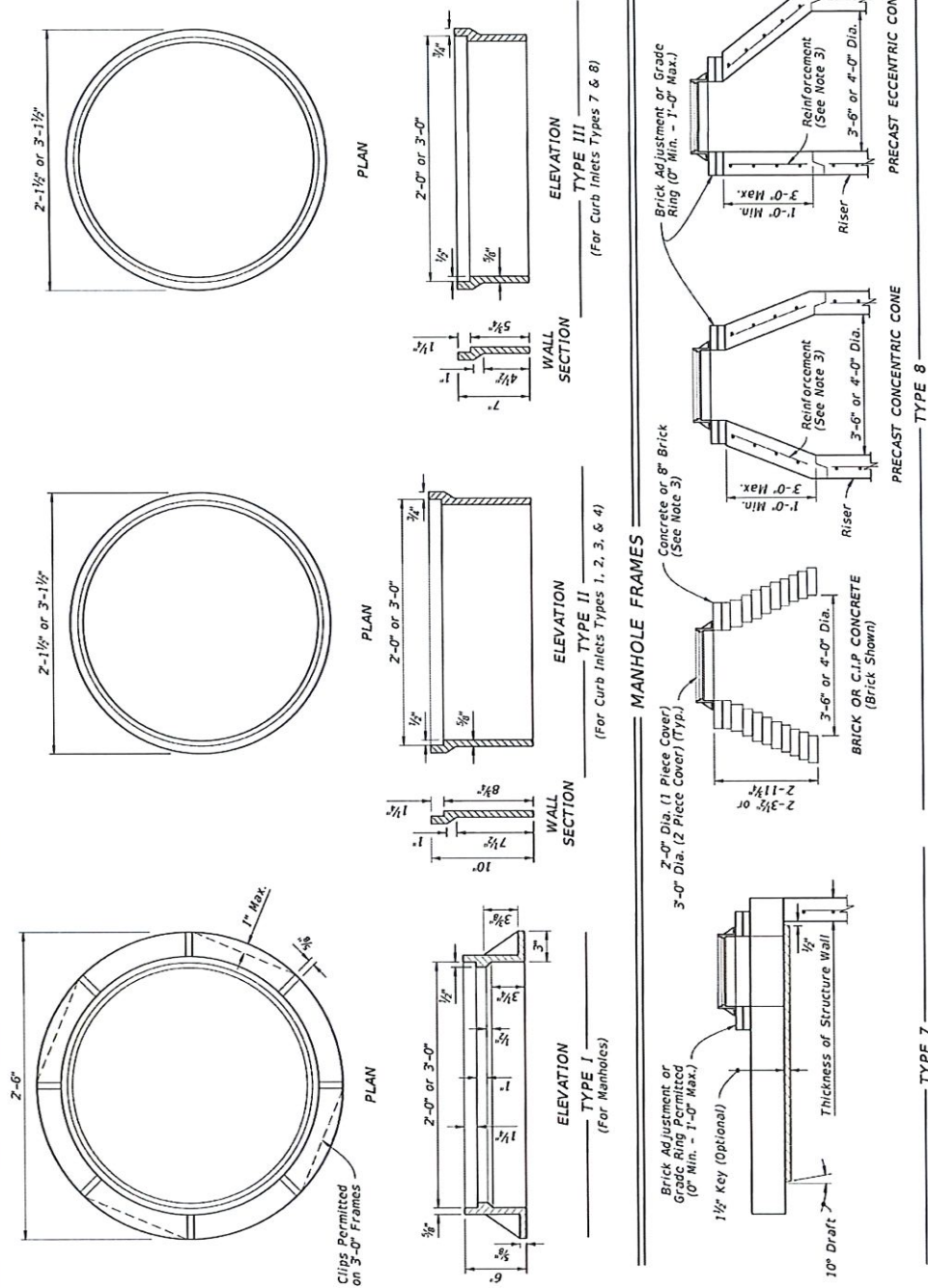


TABLE 1
WEIGHT OF CASTINGS (lb)

Frame Type	2'-0" OPENING		3'-0" OPENING	
	Frame	Cover (Std.)	2-Piece Cover	
			Inside	Outside
I	155	190	220	410
II	145	190	255	410
III	90	190	180	410

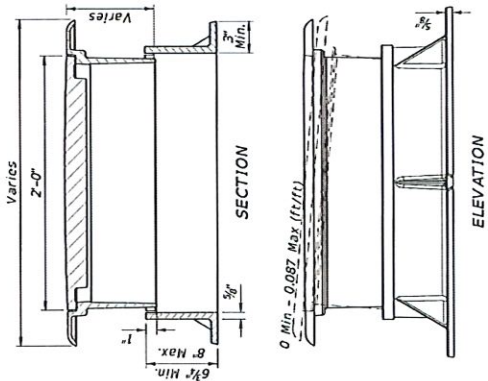
NOTE:
Frame Type 1 in Table 1, includes Adjustable frames.



NOTES:

- NOTES:**
1. Use Class II concrete for Manhole top Type 7 slabs.
 2. Manhole top Type 7 slabs may be of cast-in-place or precast construction. The optional key is for precast tops and in lieu of dowels. Omit frame and slab openings when top is used over a junction box.
 3. Manhole top Type 8 may be of cast-in-place, precast concrete construction, or brick construction. For concrete construction, use the same concrete and steel reinforcement as the supporting wall unit. An eccentric cone may be used.
 4. Use construction joint options, as shown on Sheet 6 to secure manhole tops to structures.
 5. Frames may be adjusted to a maximum 12" height with brick or precast ASTM C478 grade rings.
 6. Manhole top Type 8 may be substituted for a Type 7, if the minimum dimensions are not reduced.
 7. Manhole top Type 7 may be substituted for Type 8, if the minimum thickness (h) above pipe opening cannot be maintained with Type 8.

TYPE I ADJUSTABLE FRAME



DESCRIPTION:

LAST REVISION 11/01/20	
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FY 2023-24
STANDARD PLANS

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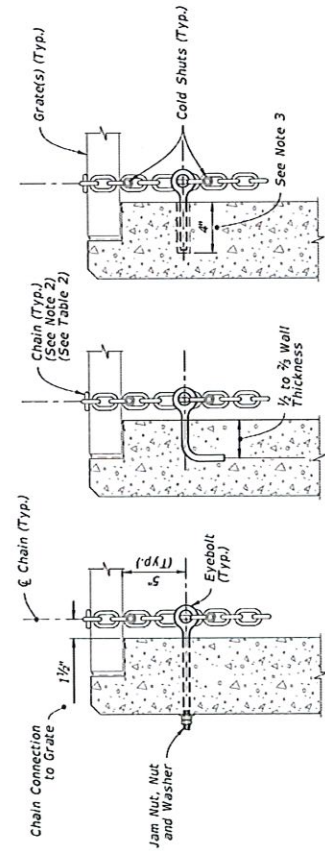
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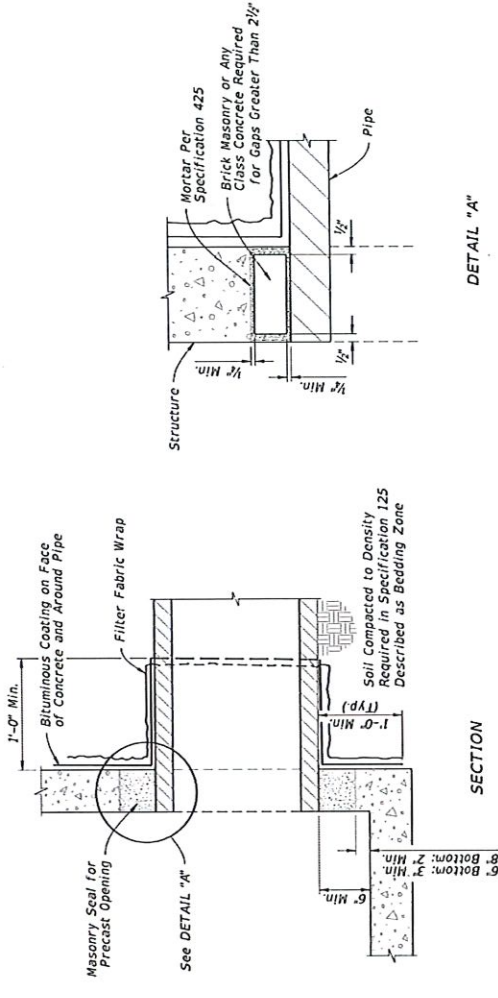
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PHONE: (239) 434-0333
E.B. #642 & L.B. #642

TABLE 2
CHAIN REQUIREMENTS

Index Number	Inlet Type	Eye-Bolts	Length of Chain	Handling & Remarks
425-030	I	1	4'-0"	Slide & Spin
	2	2	2 @ 4'-0"	Slide & Spin
425-031	N/A	1	3'-8"	Slide or Slide & Spin
425-032	N/A	1	4'-0"	Slide & Spin
425-040	S	1	4'-0"	Slide & Spin
425-041	V	1	4'-0"	Slide & Spin
425-050	A	1	3'-0"	Slide
425-051	B	1	5'-0"	Slide & Spin
	C	1	2'-6"	Slide & Spin
425-052	D	1	2'-6"	Slide & Spin
	E	2	2 @ 2'-6"	Slide & Spin
425-054	H	2	2 @ 2'-6"	Flip Ctr. Grate and Slide & Spin Single Free Grate
			1 or 2 @ 1'-6"	Center Grate(s) Chained to One End Grate
425-053	F	1	3'-6"	Flip or Slide & Spin
	G	1	6'-0"	Slide
425-054			2'-0"	Lifting Loop
	J	1	4'-0"	Slide & Spin

NOTES:

1. Install either a $\frac{3}{8}$ " $\varnothing$ x 1" Diameter Threaded Straight (Thru-Bolt), a J-Type, or an adhesive Bonded Anchor Evoxolt.
2. Install a $\frac{1}{2}$ " Chain and $\frac{3}{8}$ " Cold Shuts. When chaining two grates together provide adequate loop for easy handling.
3. Install adhesive bonded anchor option with a minimum of 4" embedment, and in accordance with Specification 416.



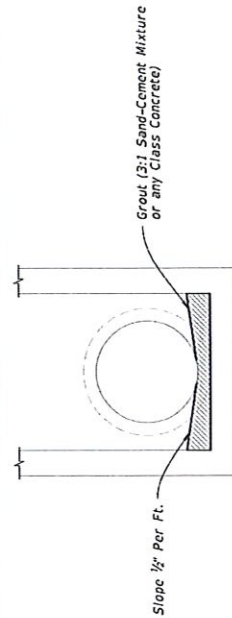
SECTION

DETAIL "A"

LOCKING GRATES TO INLETS

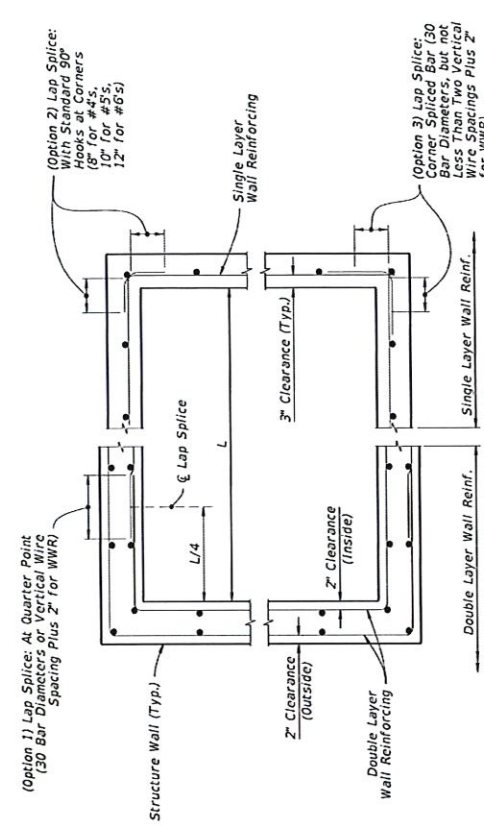
PIPE TO STRUCTURE FILTER FABRIC WRAP:

 FY 2023-24 STANDARD PLANS	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES		INDEX 425-001	SHEET 3 of 8
	LOCKING GRATES, SUBGRADE AND BASE TEMPORARY DRAINS, AND PIPE TO STRUCTURE FILTER FABRIC WRAP			



NOTE: For all structures unless excluded by special detail.

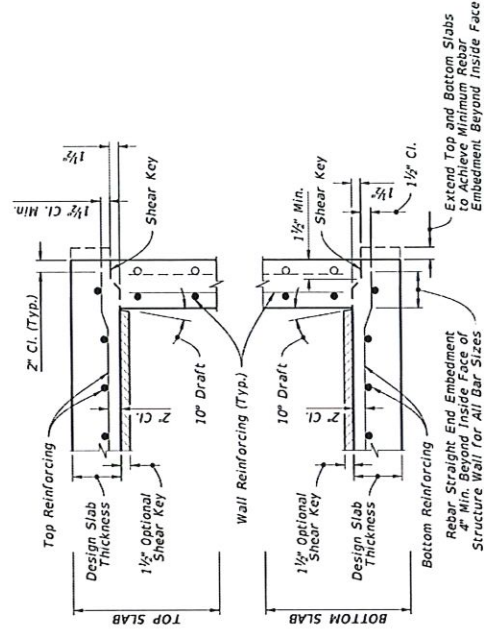
DRAINAGE STRUCTURE INVERT



HALF PLAN

HALF PLAN

WALL REINFORCING SPLICE DETAILS



NOTES:

1. See Sheet 6 for optional construction joints.
- 2 Bend bars as required to maintain cover.

ATYPICAL SLAB TO WALL DETAILS
(PRECAST STRUCTURE SHOWN)

OTOM

TYPICAL SLAB TO WALL DETAILS
(PRECAST STRUCTURE SHOWN)

DRAINAGE STRUCTURE INVERT, SUMP BOTTOM, WALL REINFORCING SPLICE DETAILS, AND TYPICAL SLAB TO WALL DETAILS

DESCRIPTION:		 FY 2023-24 STANDARD PLANS	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES	INDEX 425-001	SHEET 4 of 8
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Carlton Street Sidewalk
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EXAMPLE TABLE OF EQUIVALENT STEEL AREA

SCHEDULE	GRADE 60 REINFORCING BAR		EQUIVALENT GRADE 40 REINFORCING BAR		EQUIVALENT 65 KSI SMOOTH WELDED WIRE REINFORCEMENT		EQUIVALENT 70 KSI DEFORMED WELDED WIRE REINFORCEMENT	
	Bar Size & Spacing	Steel Area (in ² /ft)	Bar Size & Spacing	Steel Area (in ² /ft)	Style Designation	Steel Area (in ² /ft)	Style Designation	Steel Area (in ² /ft)
A	#3 @ 6½" Ctrs.	0.20	#3 @ 4½" Ctrs.	0.30	3"x3"-W4.6xW4.6	0.1846	3"x3"-D4.3xD4.3	0.1714
	#4 @ 12" Ctrs.		4"x4"-W6.2xW6.2		4"x4"-D5.7xD5.7			
	#5 @ 18" Ctrs.		4"x4"-W9.2xW9.2		4"x4"-D8.6xD8.6			
B	#3 @ 5½" Ctrs.	0.24	#3 @ 3½" Ctrs.	0.36	3"x3"-W5.5xW5.5	0.2215	3"x3"-D5.1xD5.1	0.2057
	#4 @ 10" Ctrs.		4"x4"-W7.4xW7.4		4"x4"-D6.9xD6.9			
	#4 @ 10" Ctrs.		6"x6"-W11.1xW11.1		6"x6"-D10.3xD10.3			
Special 1	#3 @ 5" Ctrs.	0.267	#3 @ 3" Ctrs.	0.40	3"x3"-W6.2xW6.2	0.2465	3"x3"-D5.7xD5.7	0.2289
	#4 @ 9" Ctrs.		4"x4"-W8.2xW8.2		4"x4"-D7.6xD7.6			
	#5 @ 10" Ctrs.		6"x6"-W12.3xW12.3		6"x6"-D11.4xD11.4			
C	#3 @ 3½" Ctrs.	0.37	#4 @ 4" Ctrs.	0.555	3"x3"-W8.5xW8.5	0.4892	3"x3"-D7.9xD7.9	0.3171
	#4 @ 6½" Ctrs.		4"x4"-W11.4xW11.4		4"x4"-D10.6xD10.6			
	#5 @ 10" Ctrs.		6"x6"-W17.1xW17.1		6"x6"-D15.9xD15.9			
D	#4 @ 4½" Ctrs.	0.53	#4 @ 3" Ctrs.	0.795	3"x3"-W12.2xW12.2	0.6738	3"x3"-D11.4xD11.4	0.4543
	#6 @ 7" Ctrs.		4"x4"-W16.3xW16.3		4"x4"-D15.1xD15.1			
	#6 @ 10" Ctrs.		6"x6"-W24.5xW24.5		6"x6"-D22.7xD22.7			
E	#4 @ 3" Ctrs.	0.73	#5 @ 3½" Ctrs.	1.095	3"x3"-W16.8xW16.8	0.9785	3"x3"-D15.6xD15.6	0.6257
	#5 @ 5" Ctrs.		4"x4"-W22.5xW22.5		4"x4"-D20.9xD20.9			
	#6 @ 7" Ctrs.		6"x6"-W33.7xW33.7		6"x6"-D31.3xD31.3			
F	#5 @ 3½" Ctrs.	1.06	#6 @ 3" Ctrs.	1.59	3"x3"-W24.5xW24.5	1.446	3"x3"-D22.7xD22.7	0.9086
	#6 @ 5" Ctrs.		4"x4"-W32.6xW32.6		4"x4"-D30.3xD30.3			
	#7 @ 7" Ctrs.		6"x6"-W48.9xW48.9		6"x6"-D45.4xD45.4			
Special 2	#5 @ 3" Ctrs.	1.24	#7 @ 4" Ctrs.	1.86	3"x3"-W28.6xW28.6	1.3477	3"x3"-D26.6xD26.6	1.0629
	#6 @ 4" Ctrs.		4"x4"-W38.2xW38.2		4"x4"-D35.4xD35.4			
	#7 @ 5½" Ctrs.		6"x6"-W57.2xW57.2		6"x6"-D53.1xD53.1			
G	#6 @ 3½" Ctrs.	1.46	#7 @ 3" Ctrs.	2.19	3"x3"-W33.7xW33.7	1.3477	3"x3"-D31.3xD31.3	1.2514
	#7 @ 5" Ctrs.		4"x4"-W44.9xW44.9		4"x4"-D41.7xD41.7			

NOTES:

1. See inlet indexes for optional precast inlet construction details up to depths of 15'.
2. Interior dimensions of an Alt. "B" Bottom may be adjusted to reflect these inlet interior dimensions when precast units are used in conjunction with Alt. "B" Structure Bottoms, Index 425-010.
3. Use concrete meeting the requirements of ASTM C478 or Class IV for precast structures with 6" wall or slab thickness.
4. Reinforcement may be deformed bar reinforcement or welded wire reinforcement. Bar reinforcement other than 60 ksi may be used, however only two grades are allowed: Grade 40 and Grade 60. Smooth welded wire reinforcement that meets all grades and has a design strength of 65 ksi and 70 ksi may be used. Reinforcement will be recognized as being in accordance with the Equivalent Steel Area Table provided. Use the following equations to determine the steel area and spacing for bars not otherwise specified:

$$\text{Grade 40 Steel Area} = A_{s40} = 60/40 \times A_{s60}$$

$$\text{Smooth Welded Wire Reinforcement Steel Area} = A_{s65} = 60/65 \times A_{s60}$$
5. Deformed Welded Wire Reinforcement Steel Area = $A_{s70} = 60/70 \times A_{s60}$
 When a reduced area of reinforcement is provided, any maximum bar spacing shown must also be reduced as determined by the following equations, unless otherwise shown:

$$\text{Max. Grade 40 Bar Spacing} = \text{Grade 60 Bar Spacing}$$

$$\text{Max. Smooth Welded Wire Spacing} = \text{Grade 60 Bar Spacing} \times 0.86$$

$$\text{Max. Deformed Welded Wire Spacing} = \text{Grade 60 Bar Spacing} \times 0.74$$

When an increased area of reinforcing is provided, the maximum bar spacing may be increased by the squared ratio of increased steel area, but not to exceed 12":

$$\text{Max. Bar Spacing Provided} = \text{Max. Bar Spacing Required} \times \left(\frac{\text{Steel Area Provided}}{\text{Min. Steel Area Required}} \right)^2$$

Use wire no smaller than W31 or D4.0, or larger and with spacing 8" or less. Use bar reinforcement displaying the minimum yield designation grade mark, or either the number 60 or one (1) grade mark line to be acceptable at the higher value. Use maximum bar spacing no greater than two (2) times the slab thickness with a maximum spacing of 12" or three (3) times the wall thickness, with a maximum spacing of 18" for vertical bars and 12" for horizontal bars. Areas smaller than W31 or D4.0 may be used in the walls of ASTM C 478 round structure bottoms and round risers.

- 5. Fiber-reinforced concrete may be substituted for conventional steel reinforcement in accordance with the Structures Design Guidelines. Submit shop drawings corresponding to an approved fiber-reinforced concrete mix design for approval to the State Drainage Office.

SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES			INDEX	SHEET
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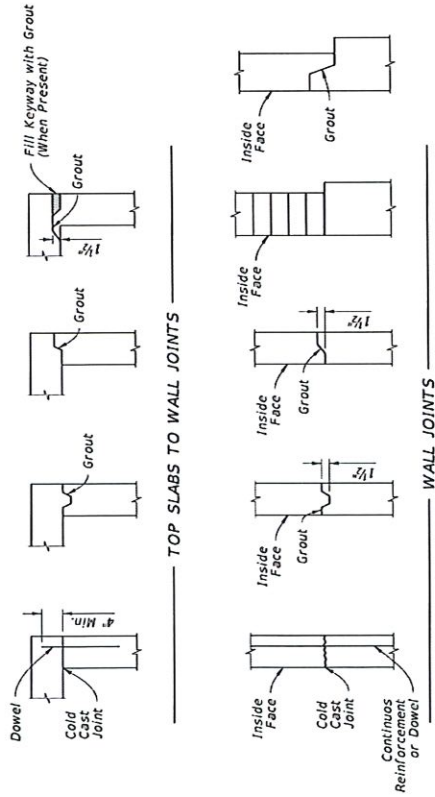
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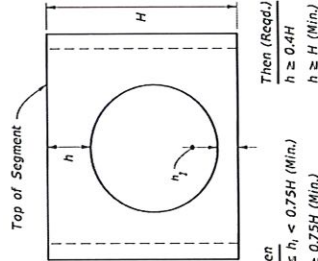
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STANDARD PLANS

EV 2023-24

1001



TOP SLABS TO WALL JOINTS



H H H Min.

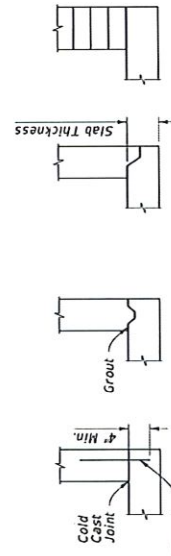
H (min.)	Box or Riser Diameter
1'-0"	3'-6" & 4'-0"
1'-6"	5'-0" & 6'-0"
2'-0"	>6'-0"

NOTES:

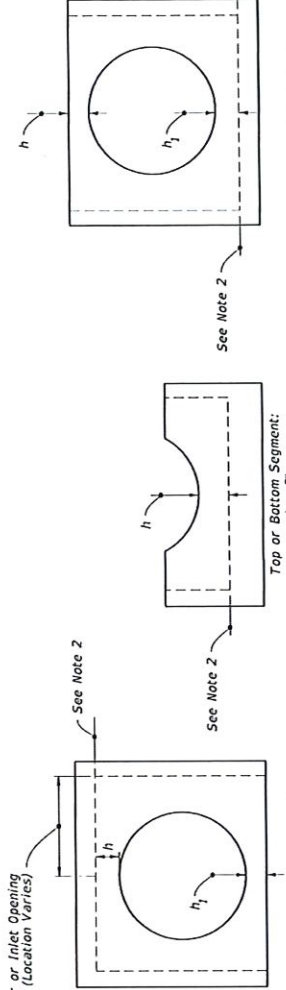
- NOTES:**
1. Segments may be inverted. Opening for pipe is the pipe OD plus 6" ($\pm 2"$ tolerance).
 2. If h can not be attained, then a top or bottom slab must be attached to the segment as shown below.

When	Then (Reqd.)
$6'' \leq h_i < 0.75H$ (Min.)	$h \geq 0.4H$
$h_i > 0.75H$ (Min.)	$h \geq H$ (Min.)

RISER SEGMENTS OTHER THAN DOWEL

Riser or Inlet Opening
(Location Varies) —

2

 $n \geq \text{zero and } h_i \geq 6''$
$$h_i \geq 2'' \text{ and } h \geq 6''$$

NOTES:

1. One or more types of joints may be used in a single structure, except brick wall structure. Brick wall construction is permitted on circular units only.

3. Keyways are to be a minimum of $1\frac{1}{2}$ deep.
4. Joint dowels are to be #4 bars, 12" long with a minimum of 6 bars per joint approximately evenly spaced for circular structures or at maximum 12" spacing for rectangular structures. Bars may be either Adhesive Bonded Dowels in accordance with Specification 416, or placed approximately 6" into fresh concrete leaving the remainder to extend into the secondary cast. Welded wire reinforcement may be substituted for the dowel bar in accordance with the equivalent steel area table on Sheet 5.
5. Minimum cover on dowel reinforcing bars is 2" to outside face of structure.
6. Seal joints between wall segments and between wall segments and top or bottom slabs with preformed plastic gasket material in accordance with Specification 430 or non-shrink grout in accordance with Specification 934.
7. Insert products approved by the Engineer may be used in lieu of dowel embedment.

NOTES:

- NOTES:**
1. *h* may be less than 6" when approved by the Engineer, but not for inlet segments at finish grade elevation.
 2. Dowel construction joint or monolithic cast only.

SEGMENTS FOR SLAB TO WALL DOWEL CONSTRUCTION JOINTS OR MONOLITHIC CAST

MINIMUM BOX AND RISER SEGMENT DIMENSIONS

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SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES

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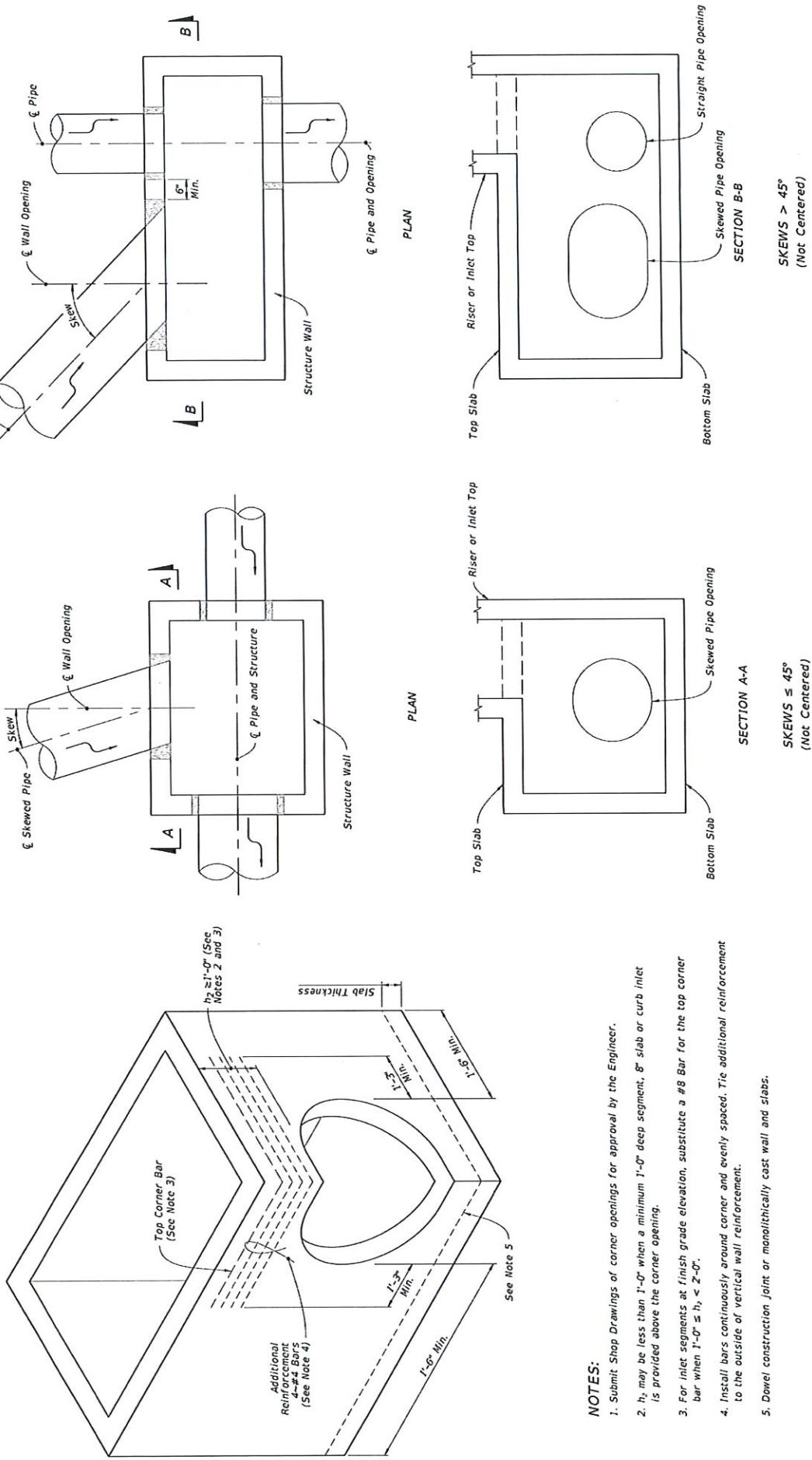
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Carlton Street Sidewalk
and Utility Improvements
Collier County, Florida

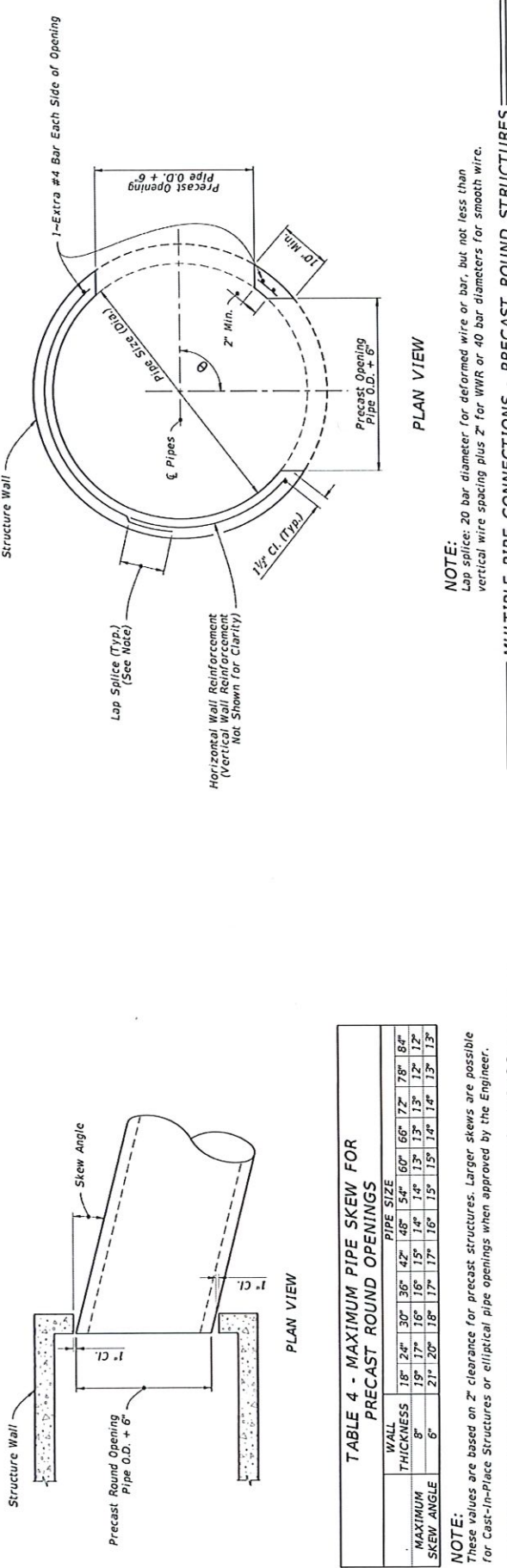


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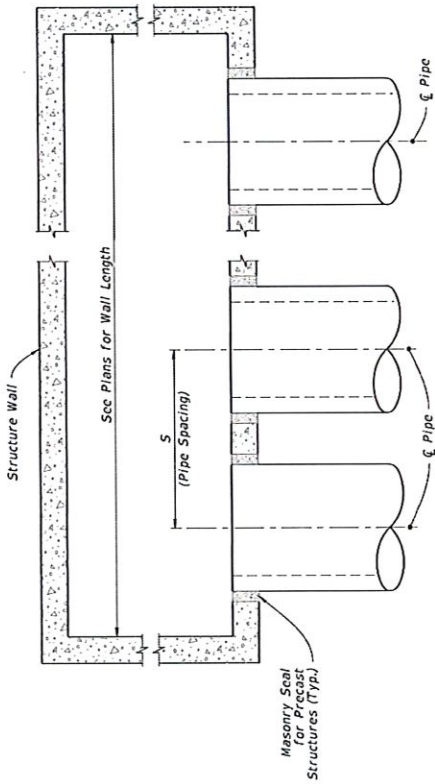
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LAST REVISION 11/01/20	NOISE	 FY 2023-24 STANDARD PLANS	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES	INDEX 425-001	SHEET 7 of 8
DESCRIPTION:					



PIPE SIZE	PIPE SPACING (S)
16"	2'-10"
24"	3'-5"
30"	5'-0"
36"	5'-11"
42"	6'-0"
48"	6'-9"
54"	7'-8"
60"	8'-6"
66"	9'-0"
72"	10'-0"
78"	10'-9"
84"	11'-8"



NOISE	DESCRIPTION:	FDOT	FY 2023-24	SUPPLEMENTARY DETAILS FOR DRAINAGE STRUCTURES	INDEX	SHEET
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[illegible]

GENERAL NOTES:

1. Work this Index with Specification 425 and Index 425-001.
 2. Type P standard structure bottoms are 4'-0" diameter and smaller (Alt. A) and 3'-6" square (Alt. B). Larger standard structure bottoms are designated Type J. Risers are permitted for all structures.
 3. Walls of circular structures (Alt. A) constructed in place may be of brick or reinforced concrete. Construct precast and rectangular structures (Alt. B) with reinforced concrete only.
 4. Wall thickness and reinforcement are for either reinforced cast-in-place or precast concrete units except that precast circular units may be furnished with walls in accordance with ASTM C478 (See Table 1).
 5. Top and bottom slab thickness and reinforcement are for precast and cast-in-place construction. Use Class II concrete, except when Class IV concrete is shown in the Plans.
 6. Alt. A or Alt. B structure bottoms may be used in conjunction with curb inlet tops Types 1, 2, 3, 4, 5, 6, 9, and 10, and any manhole or junction box. Alt. B structure bottoms may be used in conjunction with curb inlet Types 7 & 8, or any ditch bottom inlet.
 7. Rectangular structures may be rotated as directed by the Engineer in order to facilitate connections between the structure walls and pipes.
 8. Use straight embedment reinforcement in top and bottom slabs except when ACI hooks are specifically required.
 9. Construct corner fillets as shown for rectangular structures used with circular risers and inlet throats, and when used on skew with rectangular risers, inlets, and inlet throats. Construct fillets in the top slab of the Alt. A structure bottoms when used with the Type B risers. Reinforce each fillet with two #5 bars.
 10. Units larger than specified standards may be substituted at the contractor's option when these units will not cause or increase the severity of utility conflicts. Furnish such larger units at no additional cost to the Department. Larger Alt. A units cannot replace Alt. B units without approval of the Engineer. This Note applies to this Index only.
- REINFORCEMENT NOTES:**
1. Locate wall reinforcement in rectangular structures as shown in the WALL REINFORCEMENT SPLICE DETAILS in Index 425-001.
 2. Provide a minimum 2" clear cover for all reinforcement unless otherwise noted and except for 3/6" diameter ASTM C478 units.
 3. Additional bars used to restrain hole formers for precast structures with grouted pipe connections may be left flush with the hole surface.
 4. Cut or bend reinforcement at pipe openings to maintain cover.
 5. Remove exposed ends of reinforcing at precast pipe openings and grouted joints to 1" below the concrete surface and seal with a Type F Epoxy meeting the requirements of Specification 926.
 6. Equivalent area smooth or deformed welded wire reinforcement may be substituted in accordance with Index 425-001.

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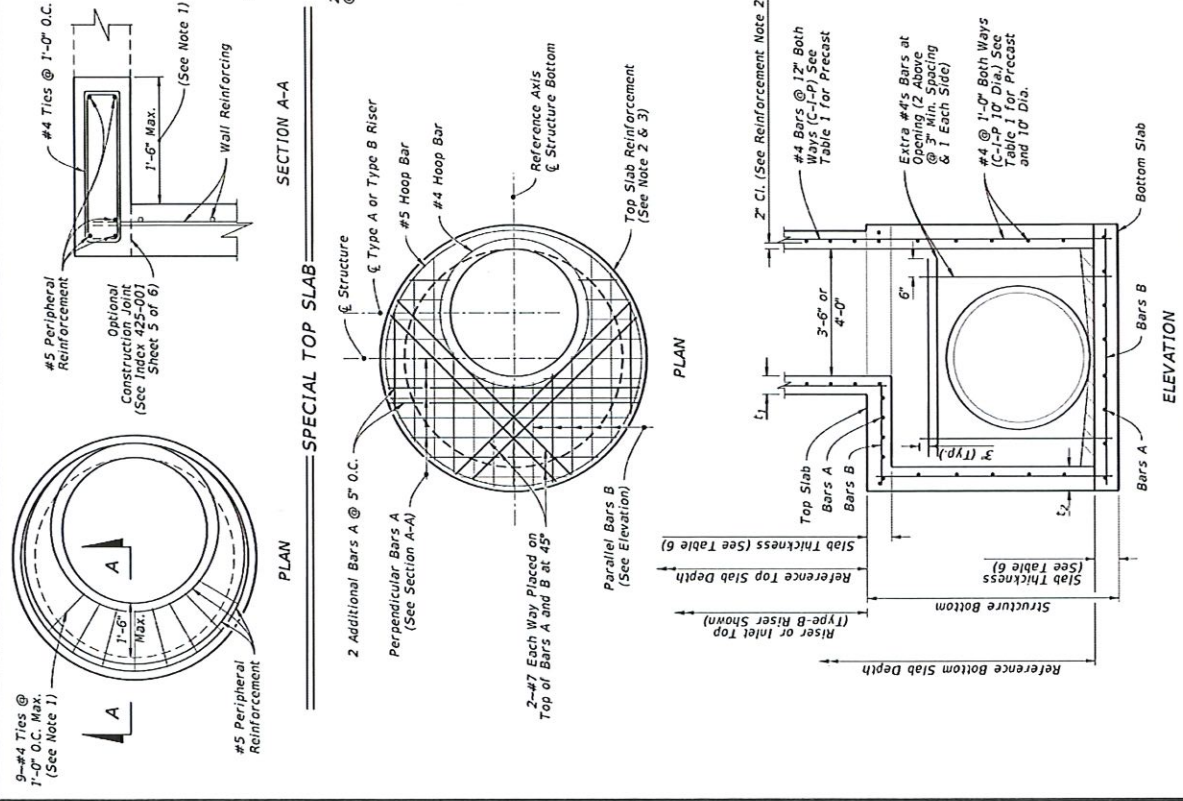
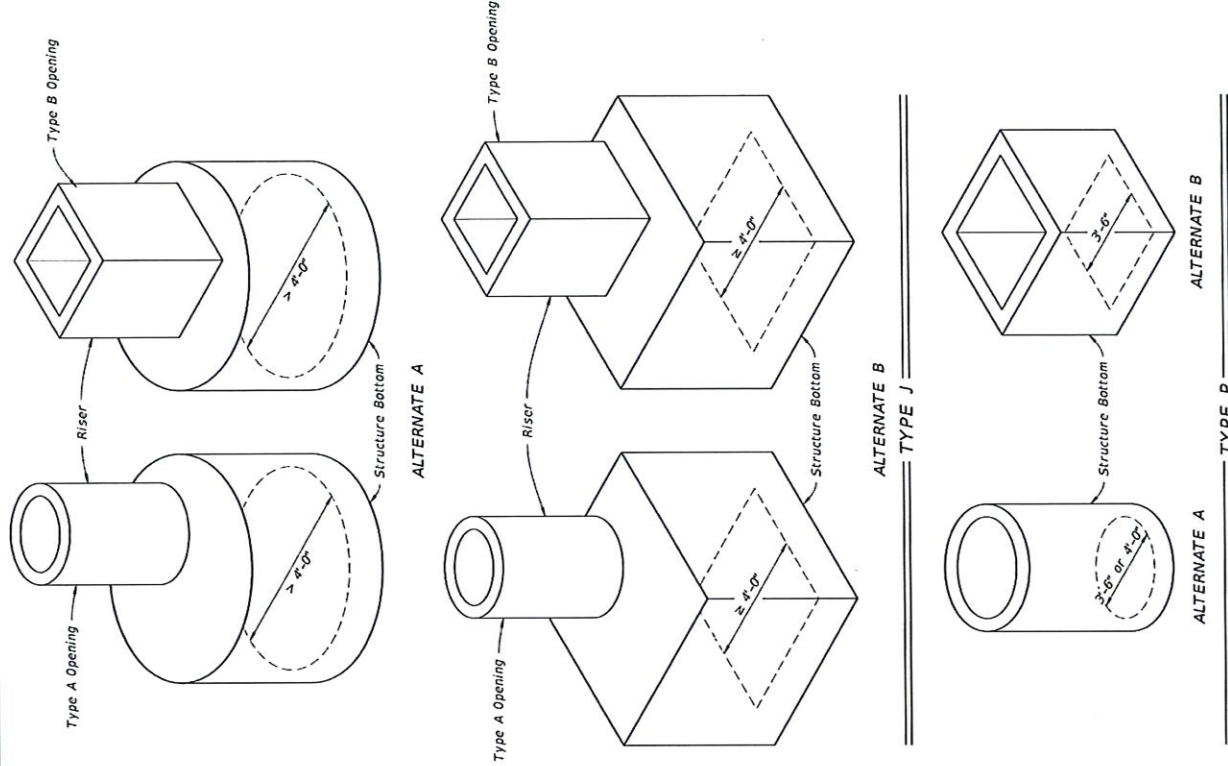
Sheet	Description
1	General Notes and Contents
2	Dimensional and Reinforcing Details
3	Tables 1, 2, 3, and 4
4	Tables 5 and 6

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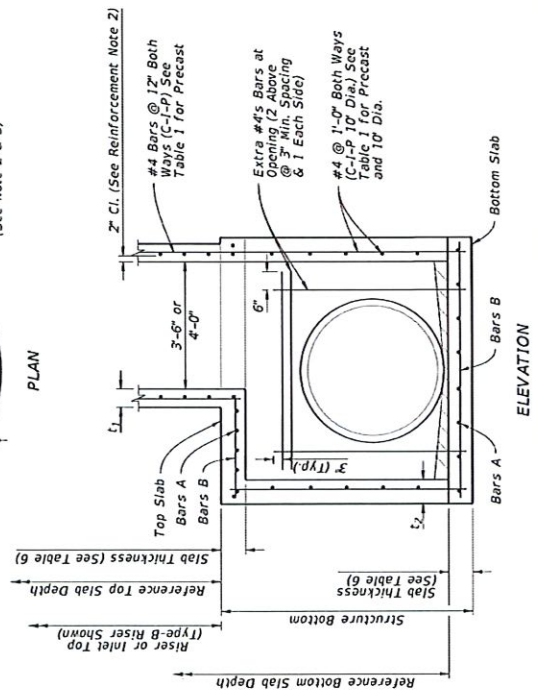
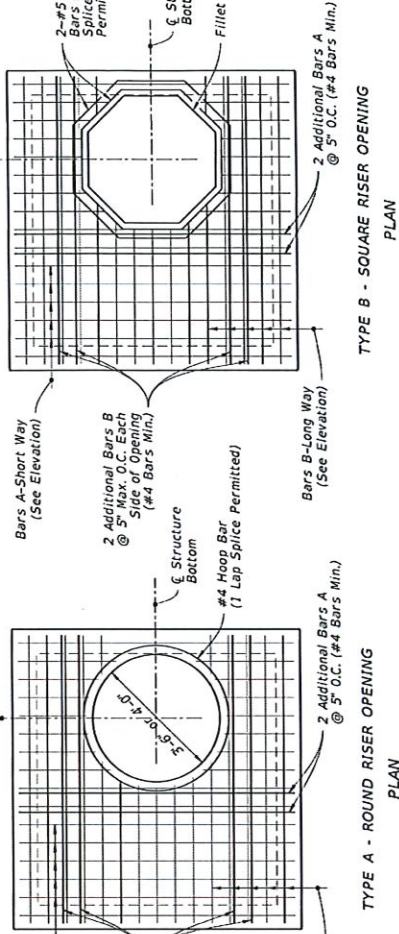
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STRUCTURE BOTTOMS TYPE J AND P

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- ALTERNATE A NOTES:**
1. Rotate #4 Bars as required to maintain cover.
 2. Construct the top or riser of the structure according to the top of the structure. The top of the structure shall be the inside diameter of a round structure is not more than 1'-6" larger than the opening in the riser or top slab.
 3. Alternate A slab reinforcing not applicable for Type A, B, C, D & E Ditch Bottom Inlets or Type S & V Gutter Inlets. See Indexes 425-040, 425-041, 425-050, 425-051, and 425-052.



TYPE J BOTTOM - ALTERNATE A

TYPE J BOTTOM - ALTERNATE B

DIMENSIONAL AND REINFORCING DETAILS

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STRUCTURE BOTTOMS TYPE J AND P

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SHEET NUMBER
FDOT-05

Carlton Street Sidewalk
and Utility Improvements
Collier County, Florida



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TYPE	STRUCTURE/RISER DIAMETER (ft.)	CAST-IN-PLACE ITEMS CLASS II CONCRETE				PRECAST ITEMS CLASS II CONCRETE						
		t ₁	t ₂	A ₅	RISER BOTTOM (in.)	t ₁	t ₂	A ₅	RISER BOTTOM (in.)	t ₁ or t ₂	ASTM C478	
		t ₁	t ₂	A ₅	RISER BOTTOM (in.)	t ₁	t ₂	A ₅	RISER BOTTOM (in.)	t ₁ or t ₂	A ₂ ** (in ² /ft.)	
P	3'-6"	6	8	0.22 ft.	6	8	0.20	6	8	0.20	4**	0.105
P	4'-0"	6	8	0.20	6	8	0.20	5	8	0.20	5**	0.120
J	5'-0"	-	8	0.20	-	8	0.20	6	8	0.20	6**	0.150
J	6'-0"	-	8	0.20	-	8	0.20	6	8	0.20	6	0.180
J	7'-0"	-	8	0.20	-	8	0.20	7	8	0.20	7	0.210
J	8'-0"	-	8	0.20	-	8	0.20	8	8	0.20	8	0.240
J	10'-0"	-	10	0.40**	-	10	0.40**	10	10	0.40**	10	0.300
J	12'-0"	-	10	0.40**	-	12	0.40**	12	12	0.40**	12	0.360

 t_1 and t_2 —Wall Thickness.

A_c— Vertical and horizontal areas of reinforcement.

##Provide 0.20 eq. in.²/ft. at each face, 12" max. bar spacing.

^aModified minimum wall thickness.

***Min. total circumferential reinforcement for continuous steel hoops:

$\Delta Z = 0.40$ eq. 1a for riser section height equal or less than 2'-0" (2 hoop min.)

$\alpha_2 = 0.40$ sq. in. for 1750 section negative equal to 1225 then $\alpha_2 = 0.40$ sq. in. for 1750 section height more than 20 in to 40 in / 3 6000 m/c
 * 0.00 = 1/2 for these section height more than 20 in to 40 in / 3 6000 m/c

Some of references for present items are based on Grade 60 reinforcement

No reduction in the area of reinforcement is allowed for welded wire fabric in Table 1.

Area of vertical reinforcing may be reduced in accordance with ASTM C478.

SCHEDULE	GRADE 60 BARS OR 65 KSI & 70 KSI WELDED WIRE REINFORCING				MAXIMUM SPACING			
	GRADE 60 AREA (in ² /ft)	GR 60 BARS (in.)	65 KSI (in.)	70 KSI (in.)	WWR EQUIV. AREA (in.)	65 KSI (in.)	70 KSI (in.)	8
A12	0.20	12	8	8				
A6	0.20	6	5	4 $\frac{1}{2}$				
B10	0.24	10	8	7 $\frac{1}{2}$				
B5.5	0.24	5 $\frac{1}{2}$	5	4				
C6.5	0.37	6 $\frac{1}{2}$	6	5				
C3.5	0.37	3 $\frac{1}{2}$	3	2 $\frac{1}{2}$				
D7	0.53	7	6	5				
D4.5	0.53	4 $\frac{1}{2}$	4	3 $\frac{1}{2}$				
E5	0.73	5	4	4				
E3	0.73	3	3	3				
F5	1.06	5	4	4				
F3.5	1.06	3 $\frac{1}{2}$	3	3				
G5	1.45	5	4	4				
G3.5	1.45	3 $\frac{1}{2}$	3	3				
H4	1.75	4	3	3				

TYPE	WALL LENGTH (FT)	MAX. DEPTH (FT)	WALL THICKNESS (IN.)	PRECAST (IN.)
P	5'-3"-6"	40	6 Riser 8 Bottom	6
J	4'-0"	40	8	6
J	5'-0"	22	-	6
J	6'-0"	15	-	6
J	5'-0" to 9'-0"	40	8	8
J	10'-0" to 12'-0"	40	10	8
J	16'-0"	35	-	9
J	16'-0"	40	10	10
J	20'-0"	25	-	9
J	20'-0"	30	10	10

See Table 4 for Reinforcing Schedule.

VERTICAL REINFORCING	HORIZONTAL REINFORCING			WALL THICKNESS	VERTICAL REINFORCING			HORIZONTAL REINFORCING	
	WALL DEPTH	SCHEDULE	WALL DEPTH		SCHEDULE	WALL DEPTH	SCHEDULE	WALL DEPTH	SCHEDULE
SIZE: 3'-6" & RISER									
≥1.17' - 40'	A12	B10	≥1.17' < 10'	6/8"	28' - 40'	D7	B10	≥1.17' < 10'	6/8"
			10' < 18'	8/5				10' < 18'	8/5
			18' < 29'	6/5				18' < 29'	6/5
			SIZE: 4'-0"						
≥1.17' - 40'	A12	B10	≥1.17' < 6'	6/8"	28' - 40'	D7	B10	≥1.17' < 6'	6/8"
			6' < 10'	8/5				6' < 10'	8/5
			10' < 20'	6/5				10' < 20'	6/5
			SIZE: 5'-0"						
≥1.17' - 40'	A12	B10	≥1.17' < 5'	6/8"	28' - 40'	D7	B10	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 6'-0"						
≥1.17' < 26'	A12	B10	≥1.17' < 5'	6/8"	28' - 40'	D7	B10	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 7'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 8'-0"						
			SIZE: 9'-0"						
			SIZE: 10'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 11'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 12'-0"						
			SIZE: 13'-0"						
			SIZE: 14'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 15'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 16'-0"						
			SIZE: 17'-0"						
			SIZE: 18'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 19'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 20'-0"						
			SIZE: 21'-0"						
			SIZE: 22'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 23'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 24'-0"						
			SIZE: 25'-0"						
			SIZE: 26'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 27'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 28'-0"						
			SIZE: 29'-0"						
			SIZE: 30'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 31'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 32'-0"						
			SIZE: 33'-0"						
			SIZE: 34'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 35'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 36'-0"						
			SIZE: 37'-0"						
			SIZE: 38'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 39'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 40'-0"						
			SIZE: 41'-0"						
			SIZE: 42'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 43'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 44'-0"						
			SIZE: 45'-0"						
			SIZE: 46'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 47'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 48'-0"						
			SIZE: 49'-0"						
			SIZE: 50'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 51'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 52'-0"						
			SIZE: 53'-0"						
			SIZE: 54'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 55'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 56'-0"						
			SIZE: 57'-0"						
			SIZE: 58'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 59'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 60'-0"						
			SIZE: 61'-0"						
			SIZE: 62'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 63'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 64'-0"						
			SIZE: 65'-0"						
			SIZE: 66'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 67'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 68'-0"						
			SIZE: 69'-0"						
			SIZE: 70'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 71'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 72'-0"						
			SIZE: 73'-0"						
			SIZE: 74'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 75'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 76'-0"						
			SIZE: 77'-0"						
			SIZE: 78'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 79'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 80'-0"						
			SIZE: 81'-0"						
			SIZE: 82'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 83'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 84'-0"						
			SIZE: 85'-0"						
			SIZE: 86'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 87'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 88'-0"						
			SIZE: 89'-0"						
			SIZE: 90'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 91'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 92'-0"						
			SIZE: 93'-0"						
			SIZE: 94'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 95'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 96'-0"						
			SIZE: 97'-0"						
			SIZE: 98'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 99'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 100'-0"						
			SIZE: 101'-0"						
			SIZE: 102'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 103'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 104'-0"						
			SIZE: 105'-0"						
			SIZE: 106'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 107'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 108'-0"						
			SIZE: 109'-0"						
			SIZE: 110'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 111'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 112'-0"						
			SIZE: 113'-0"						
			SIZE: 114'-0"						
≥1.17' < 26'	A12	A12	≥1.17' < 5'	6/8"	26' - 40'	D7	D7	≥1.17' < 5'	6/8"
			5' < 9'	8/5				5' < 9'	8/5
			9' < 15'	6/5				9' < 15'	6/5
			SIZE: 115'-0"						
26' - 40'	A12	A12	26' - 40'	8"	26' - 40'	D7	D7	26' - 40'	8"
			SIZE: 116'-0"						
			SIZE: 117'-0"						
			SIZE: 118'-0"						
≥1.17' &									

TABLE 4 NOTES:

1. Wall depth is measured to the top of the bottom slab for boxes and to the top of the intermediate slab for risers.
2. Wall height is the distance between top of lower slab to bottom of upper slab. Maximum wall height is 12' for wall lengths exceeding 5', or 10' for wall lengths exceeding 12'.
3. Wall lengths exceeding 6'-0" require two layers of reinforcing (See Table 4) with 2" of cover from the horizontal bars to the inside and outside faces for each layer.
4. Wall lengths exceeding the dimensions or depths shown in Table 4, or 12'-0" diameter require a special design.
5. Wall thickness and reinforcing for rectangular structures is based on the longer wall length.

LAST REVISION 11/01/20	DESCRIPTION: REVISION	 FY 2023-24 STANDARD PLANS	STRUCTURE BOTTOMS TYPE J AND P	INDEX 425-010	SHEET 3 of 4
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SHORT-WAY		LONG-WAY		SHORT-WAY		LONG-WAY		SHORT-WAY		LONG-WAY	
SLAB DEPTH	SCHEDULE (Bars A)	SLAB DEPTH	SCHEDULE (Bars B)	SLAB DEPTH	SCHEDULE (Bars A)	SLAB DEPTH	SCHEDULE (Bars B)	SLAB DEPTH	SCHEDULE (Bars A)	SLAB DEPTH	SCHEDULE (Bars B)
SIZE: 3'-6" x UNLIMITED				SIZE: 6' x 6'				SIZE: 8' x 8'			
8" < 8"	B10	8" < 24"	B10	8" < 13"	C6.5	8" < 10"	C3.5	8" < 10"	D7	8" < 8"	D4.5
8" < 13"	B5.5	24"-40"	B5.5	13" < 23"	D7	10" < 18"	D4.5	10" < 19"	E5	9" < 13"	E5
13" < 31"	C6.5			23"-40"	E5	18" < 27"	E5	19"-30"	F5	13" < 18"	F5
31"-40"	D7					27" < 33"	E3			18" < 23"	F3.5
						33"-40"	F5			23"-30"	G3.5
SIZE: 4' x UNLIMITED				SIZE: 6' x 7'				SIZE: 8' x 9'			
8" < 7"	B5.5	8" < 15"	B10	8" < 8"	C6.5	8" < 8"	C6.5	8" < 8"	D7	8" < 9"	D7
7" < 19"	C6.5	13" < 29"	B5.5	8" < 16"	D7	8" < 12"	C3.5	8" < 14"	E5	7" < 9"	D4.5
19" < 31"	D7	29"-40"	C6.5	16" < 28"	E5	12" < 21"	D4.5	14" < 23"	F5	9" < 15"	E3
31"-40"	E5			28"-40"	F5	21" < 26"	E5	23"-31"	G3.5	15" < 20"	F5
						26" < 35"	F5			20" < 25"	F3.5
						35"-40"	F3			23"-31"	G3.5
SIZE: 5' x 5'				SIZE: 6' x 8'				SIZE: 9' x 9'			
8" < 3"	C6.5	8" < 3"	C6.5	8" < 6"	C6.5	8" < 6"	B5.5	8" < 8"	D7	8" < 9"	D4
3" < 7"	B5.5	3" < 13"	C6.5	6" < 13"	D7	6" < 11"	C3.5	6" < 14"	E5	7" < 10"	F5
7" < 22"	C6.5	13" < 22"	D7	13" < 23"	E5	11" < 17"	C6.5	14" < 22"	F5	10" < 17"	F3.5
22" < 29"	D7	22" < 29"	D4.5	22" < 35"	F5	17" < 27"	D4.5			17" < 27"	G3.5
29"-40"	E5					35"-40"	E5	SIZE: 9'x9'x10' SLAB THICKNESS			
SIZE: 5' x 6'				SIZE: 6' x 9'				SIZE: 10'x10'x10' SLAB THICKNESS			
8" < 12"	C6.5	8" < 3"	C6.5	8" < 8"	C6.5	8" < 8"	E3	22" < 36"	F5	22" < 31"	F3.5
12" < 26"	D7	3" < 9"	B5.5	8" < 14"	E5	8" < 14"	C6.5	36"-40"	G5	31"-40"	G3.5
26"-40"	E5	9" < 33"	C3.5	14" < 24"	F5	14" < 21"	C3.5	SIZE: 10'x10'x10' SLAB THICKNESS			
		23" < 25"	D4.5	24"-34"	G5	21" < 25"	D4.5	8" < 9"	C6.5	0.5" < 6"	C6.5
		35"-40"	E5			25" < 34"	E5	7" < 10"	D7	6" < 9"	D4.5
SIZE: 5' x 7'				SIZE: 6' x UNLIMITED				SIZE: 12'x12'x12" SLAB THICKNESS			
8" < 10"	C6.5	8" < 10"	B5.5	8" < 8"	C6.5	8" < 8"	B5.5	10" < 18"	E5	9" < 15"	E5
10" < 20"	D7	10" < 31"	C3.5	14" < 24"	F5	14" < 21"	C3.5	17" < 27"	F5	15" < 22"	F5
20" < 34"	E5	31"-40"	D4.5	24"-34"	G5	21" < 25"	D4.5	18" < 27"	F5	18" < 27"	F5
34"-40"	F5					29" < 34"	E5	27"-37"	G5	27"-37"	G3.5
SIZE: 5' x 8'				SIZE: 6' x UNLIMITED				SIZE: 12'x12'x12" SLAB THICKNESS			
8" < 7"	C6.5	8" < 8"	B10	8" < 8"	C6.5	8" < 8"	B5.5	8" < 10"	D7	8" < 9"	D7
7" < 13"	D7	8" < 17"	B5.5	14" < 24"	F5	14" < 21"	C3.5	10" < 16"	E5	8" < 14"	E5
13" < 24"	F5	17" < 25"	C6.5	24"-34"	G5	21" < 25"	D4.5	16" < 25"	F5	14" < 22"	F5
						25" < 35"	G5	25"-35"	G5	22" < 30"	G5
						35"-40"	H4			30"-35"	H4

SLAB AND WALL DESIGN TABLE NOTES

1. Size is the inside dimension(s) of a structure.
2. Slab reinforcement is appropriate for top, intermediate, and bottom slabs.
3. Bottom Slabs for precast 3'-6" x 3'-6" rectangular structures at 15' depth or less, may be 6" thick.
4. Slab depth is measured from finished grade to top of slab.
5. Reinforcing schedules with larger areas of steel may be substituted for that with smaller bars, provided the steel for that Schedule 810 may be substituted for Schedule 466. See item 425-00 for allowable bar spacing adjustments when larger areas of reinforcing are substituted.

[illegible]

SIZE: 5' x 5'		SIZE: 5' x UNLIMITED	
$\geq 0.5' < 8'$	C6.5	$\geq 0.5' < 1.4'$	B10
$8' < 14'$	D7	$1.4' < 2.4'$	B5.5
$14' < 25'$	E5	$2.4' < 3.4'$	C6.5
$25'-40'$	F5	$3.4'-40'$	C3.5

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DESCRIPTION:		INDEX	SHEET
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11/01/20		425-010	4 of 4

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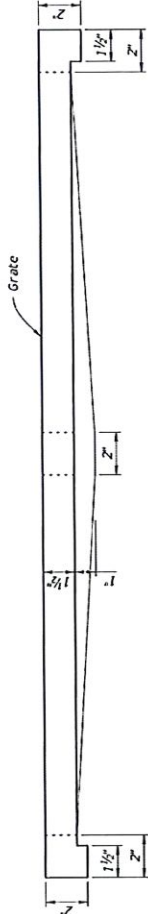
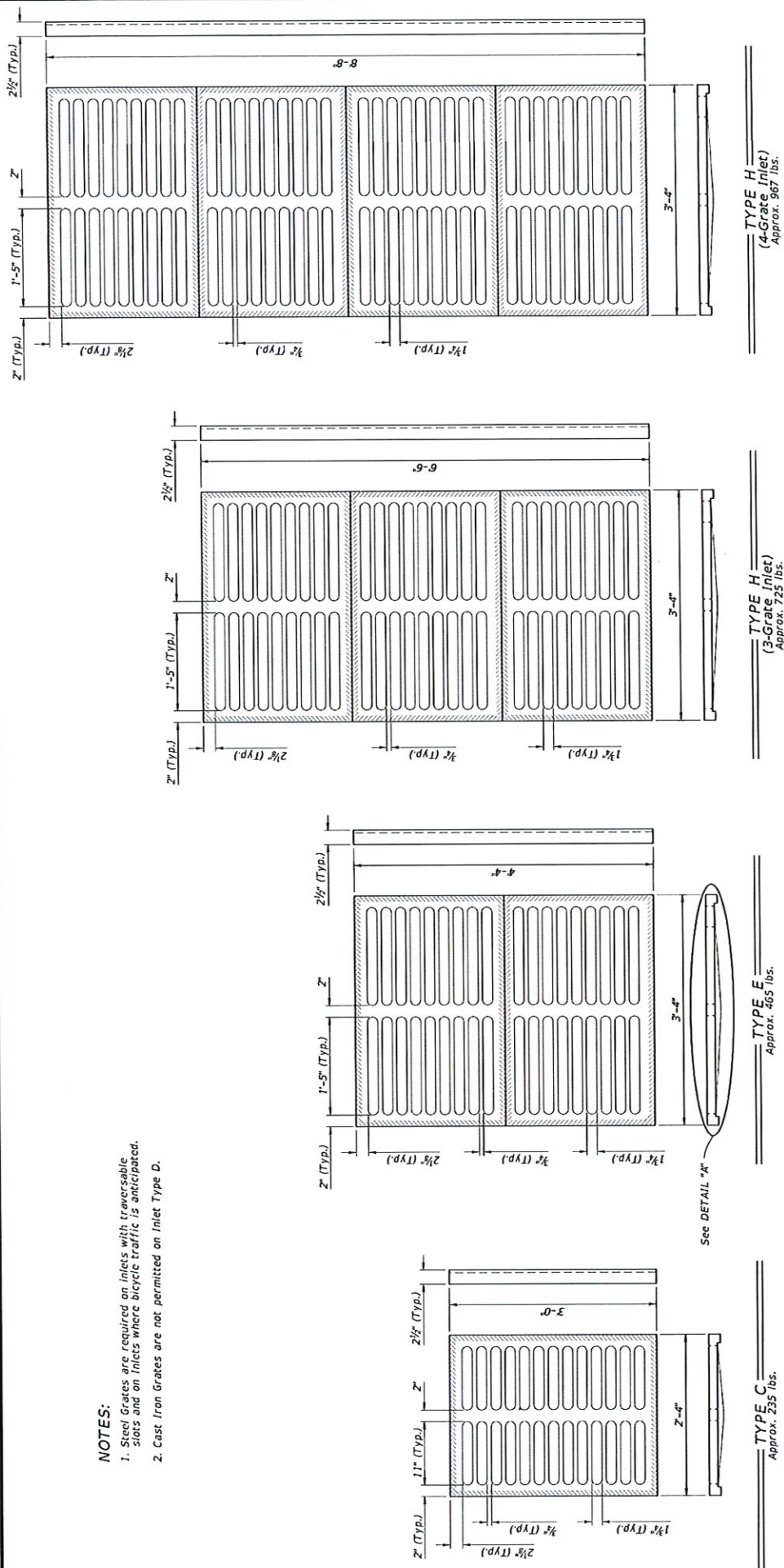
Construction Plans
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SHEET NUMBER
FDOT-06



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- NOTES:
1. Steel Grates are required on inlets with traversable. Slots and on inlets where bicycle traffic is anticipated.
 2. Cast Iron Grates are not permitted on Inlet Type D.



DESCRIPTION:		FY 2023-24		CAST IRON GRATE DETAILS	
LAST REVISION	REVISION	STANDARD PLANS		DITCH BOTTOM INLET TYPES C, D, E, AND H	SHEET
10/01/20		FDOT		425-052	7 of 14

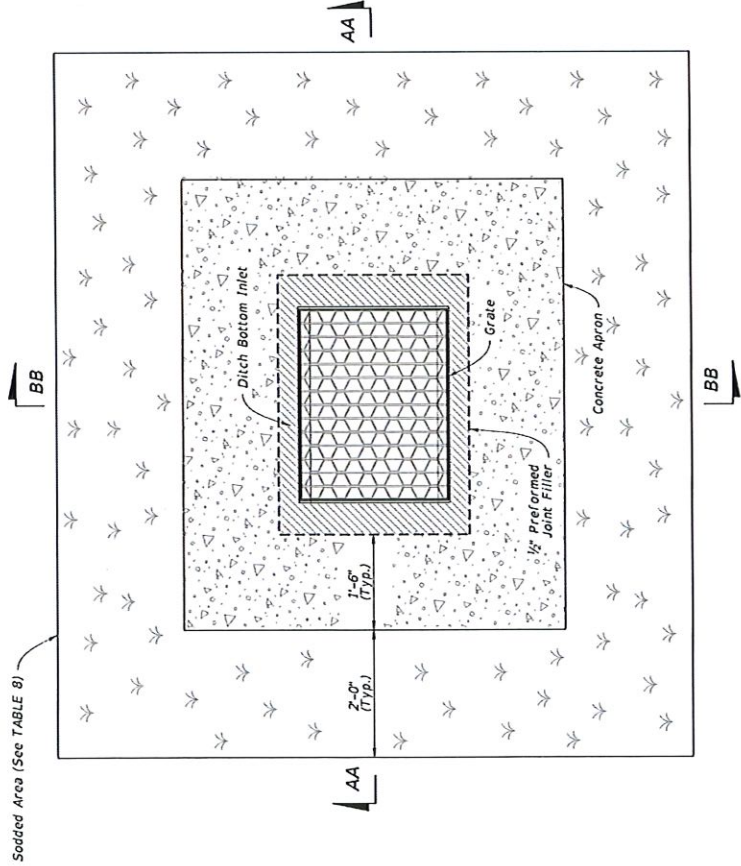
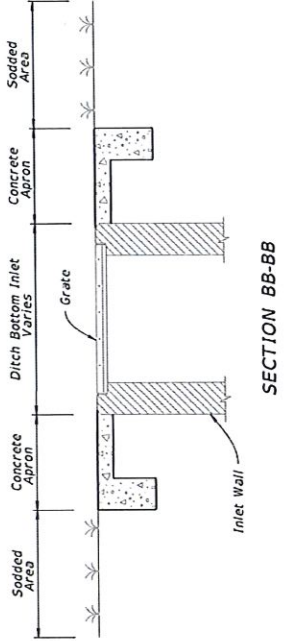
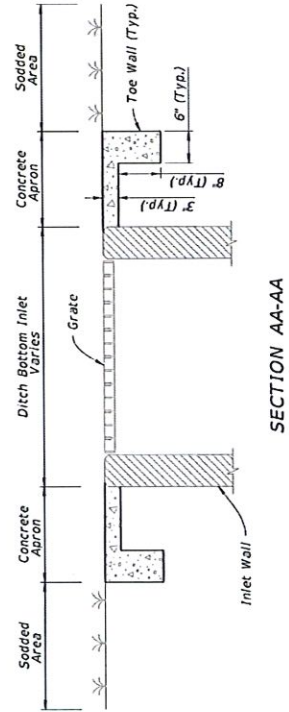


TABLE 8 CONCRETE APRON AND SOD QUANTITIES		
SOD AND PAVEMENT		
Inlet Type	Sod Sq. Yd.	Conc. Cy.
C	8	0.30
D	9	0.36
E	9	0.37
H	11	0.45

- NOTES:
1. Concrete Apron to be installed only where called for in the Plans.
 2. Sod always required.



DESCRIPTION:		FY 2023-24		TRAVERSABLE INLET WITHOUT SLOT DETAILS	
LAST REVISION	REVISION	STANDARD PLANS		DITCH BOTTOM INLET TYPES C, D, E, AND H	SHEET
10/01/20		FDOT		425-052	9 of 14

REVISIONS	
NO.	DESCRIPTION

DATE: April 26, 2024
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FILE NO. 50-29-26
SCALE: As Shown

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SHEET NUMBER
FDOT-08

Carlton Street Sidewalk
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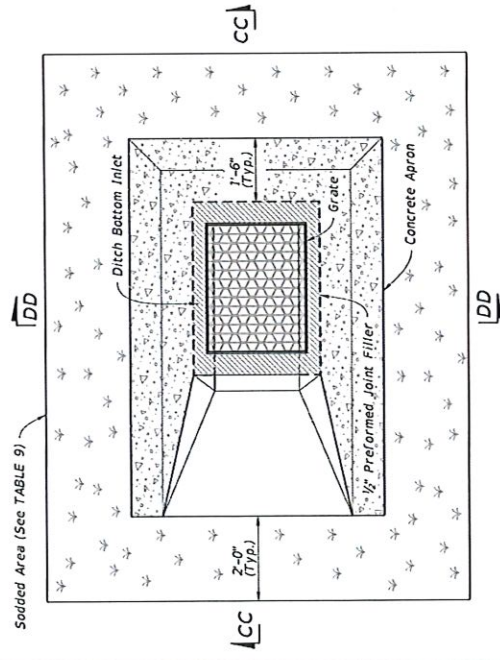


TABLE 9 CONCRETE APRON AND SOD QUANTITIES		
SINGLE SLOT		
Inlet Type	Sod SY	Conc. CY
C	12	0.77
D	14	0.91
E	14	0.91
H	--	--

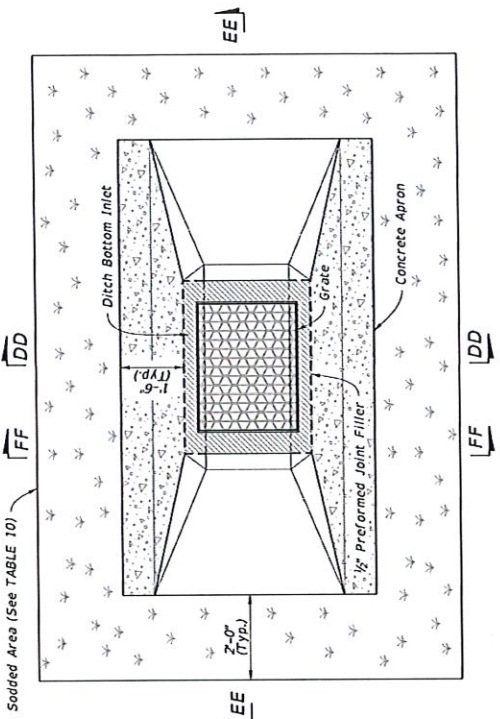
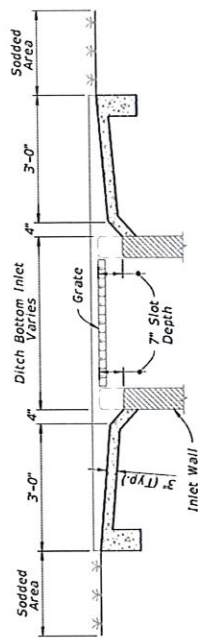
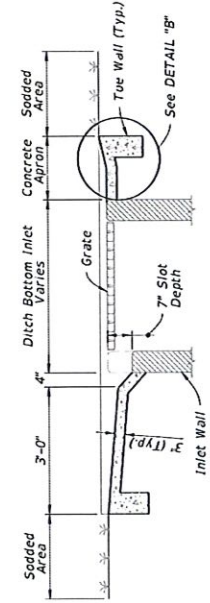


TABLE 10 CONCRETE APRON AND SOD QUANTITIES		
SLOT		
Inlet Type	Sod SY	Conc. CY
C	16	0.93
D	19	1.10
E	18	1.08
H	--	--

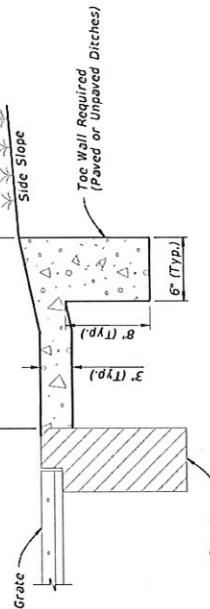
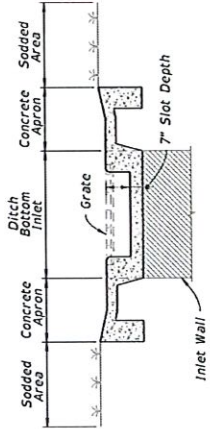
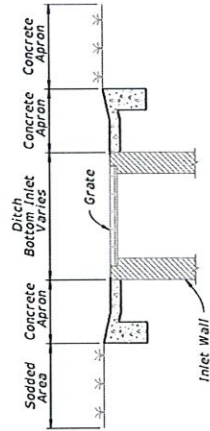


SECTION CC-CC

SECTION EE-EE

SINGLE SLOT

DOUBLE SLOT



SECTION DD-DD

SECTION FF-FF

DETAIL "B"

NOTE:
Sod always required.

DESCRIPTION:		FY 2023-24 STANDARD PLANS		DITCH BOTTOM INLET TYPES C, D, E, AND H		TRAVERSABLE INLET WITH SLOT DETAILS	
LAST REVISION	REVISION	FDOT		INDEX		SHEET	
10/01/20				425-052		10 of 14	

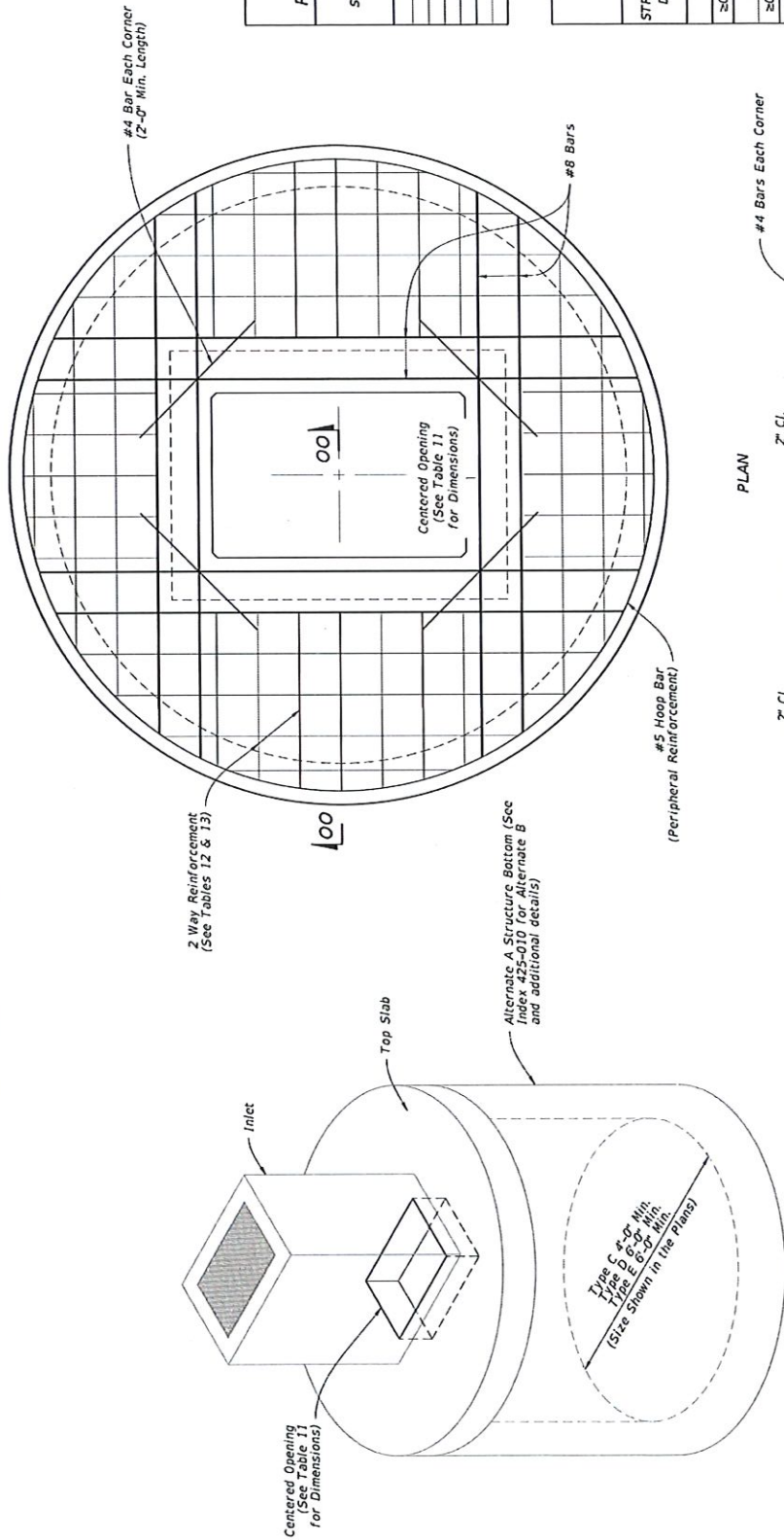
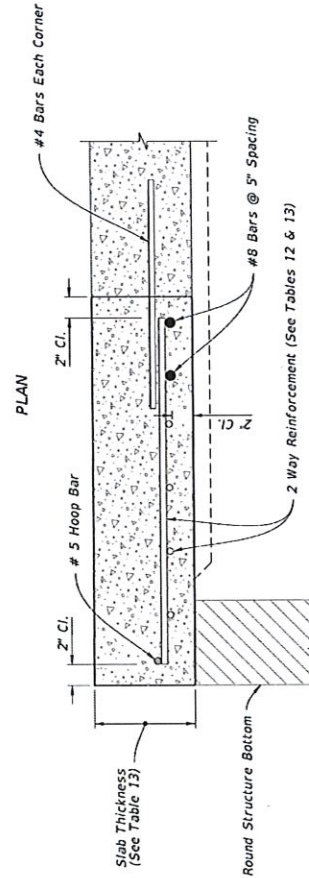


TABLE 11 TOP SLAB OPENINGS		
DIAMETER	OPENING SIZE	
	Min.	Max.
4'-0"	2'-0" x 3'-1"	2'-0" x 3'-1"
5'-0"	2'-0" x 3'-1"	3'-1" x 4'-1"
6'-0"	2'-0" x 3'-1"	3'-0" x 4'-6"
8'-0"	2'-0" x 3'-1"	3'-0" x 4'-6"



SECTION 00-00

ISOMETRIC VIEW

TOP SLAB REINFORCEMENT DETAILS

DESCRIPTION:		FY 2023-24 STANDARD PLANS		DITCH BOTTOM INLET TYPES C, D, E, AND H		ALTERNATE A STRUCTURE BOTTOM - TOP SLAB DETAILS	
LAST REVISION	REVISION	FDOT		INDEX		SHEET	
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NO.	DESCRIPTION

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PROJECT NO.	20203067-034
FILE NO.	50-29-26
SCALE:	As Shown

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SHEET NUMBER
FDOT-09

Carlton Street Sidewalk
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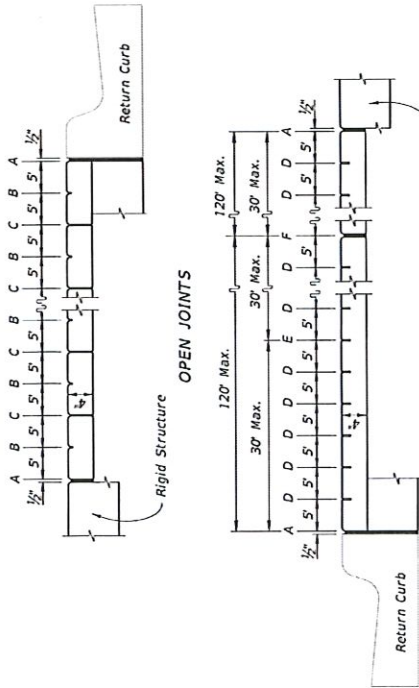


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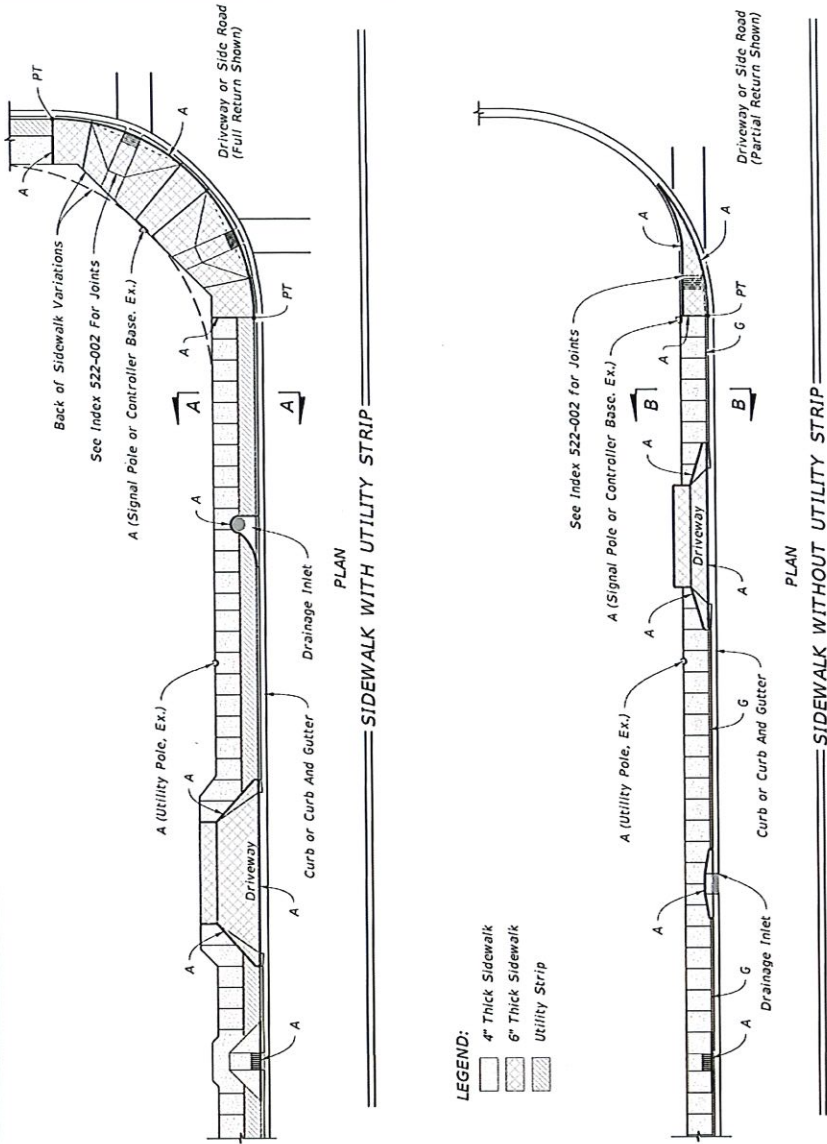
GENERAL NOTES:

- Construct sidewalks in accordance with Specification 522. Use 6" concrete for Sidewalks and Curb Ramps located within Curb Returns (See Plan View). Install all other concrete with thickness as shown, unless otherwise detailed in the Plans.
- Include detectable warnings on sidewalk curb ramps in accordance with Index 522-002.
- For Driveways see Index 522-003.
- Bond breaker material can be any impermeable coated or sheet membrane or preformed material having a thickness of not less than 6 mils and not more than 1/2".
- Construct sidewalks with Edge Beam through the limits of any surface mounted Pedestrian/Bicycle Railing or Pipe Guardrail shown in the Plans. (See RAILING DETAIL)

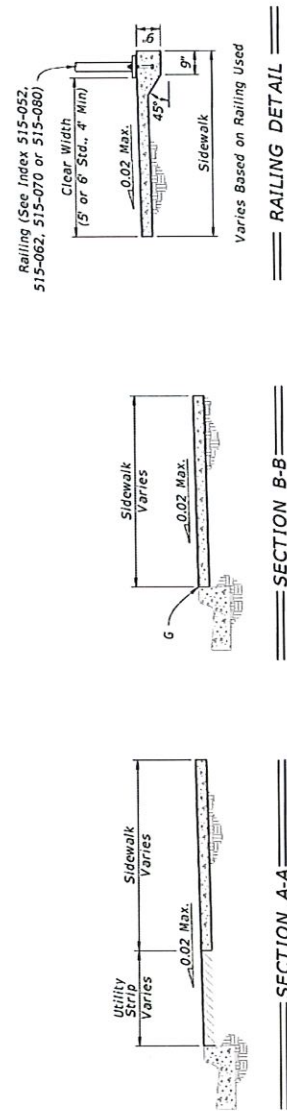


LONGITUDINAL SECTION

- LEGEND:
- A- 1/2" Expansion Joints (Preformed Joint Filler) between the sidewalk and driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).
 - B- 1/8" Dummy Joints, Tooled
 - C- 1/8" Formed Open Joints
 - D- 3/8" Saw Cut Joints, 1 1/2" Deep (within 96 hours) Max. 5' Centers
 - E- 1/2" Saw Cut Joints, 1 1/2" Deep (within 12 hours) Max. 30' Centers (Joint(s) Required When Length Exceeds 30')
 - F- 1/2" Expansion Joint When Run of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.
 - G- Cold Joint With Bond Breaker, Tooled

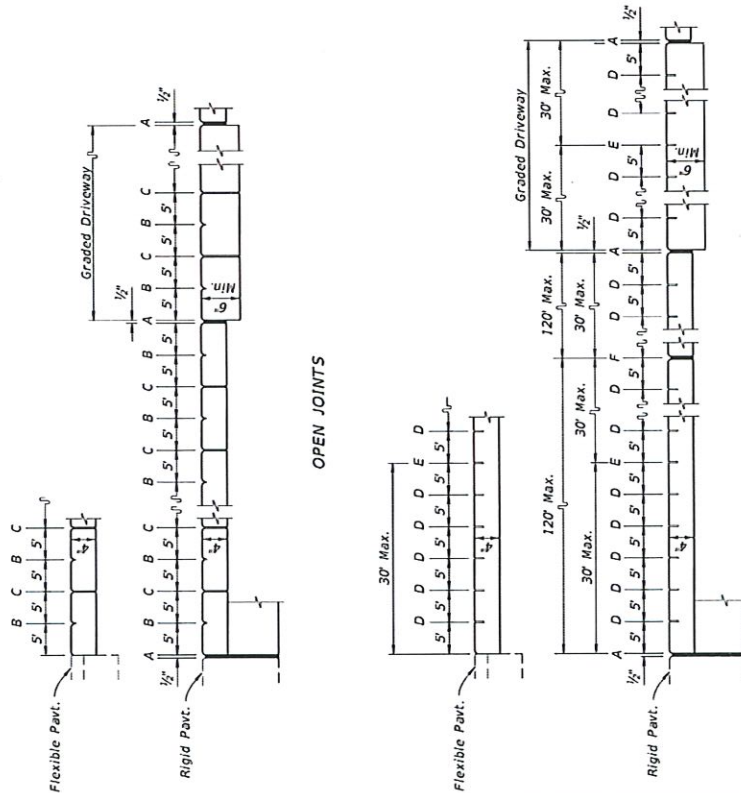


- LEGEND:
- 4" Thick Sidewalk
 - 6" Thick Sidewalk
 - Utility Strip



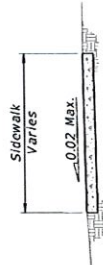
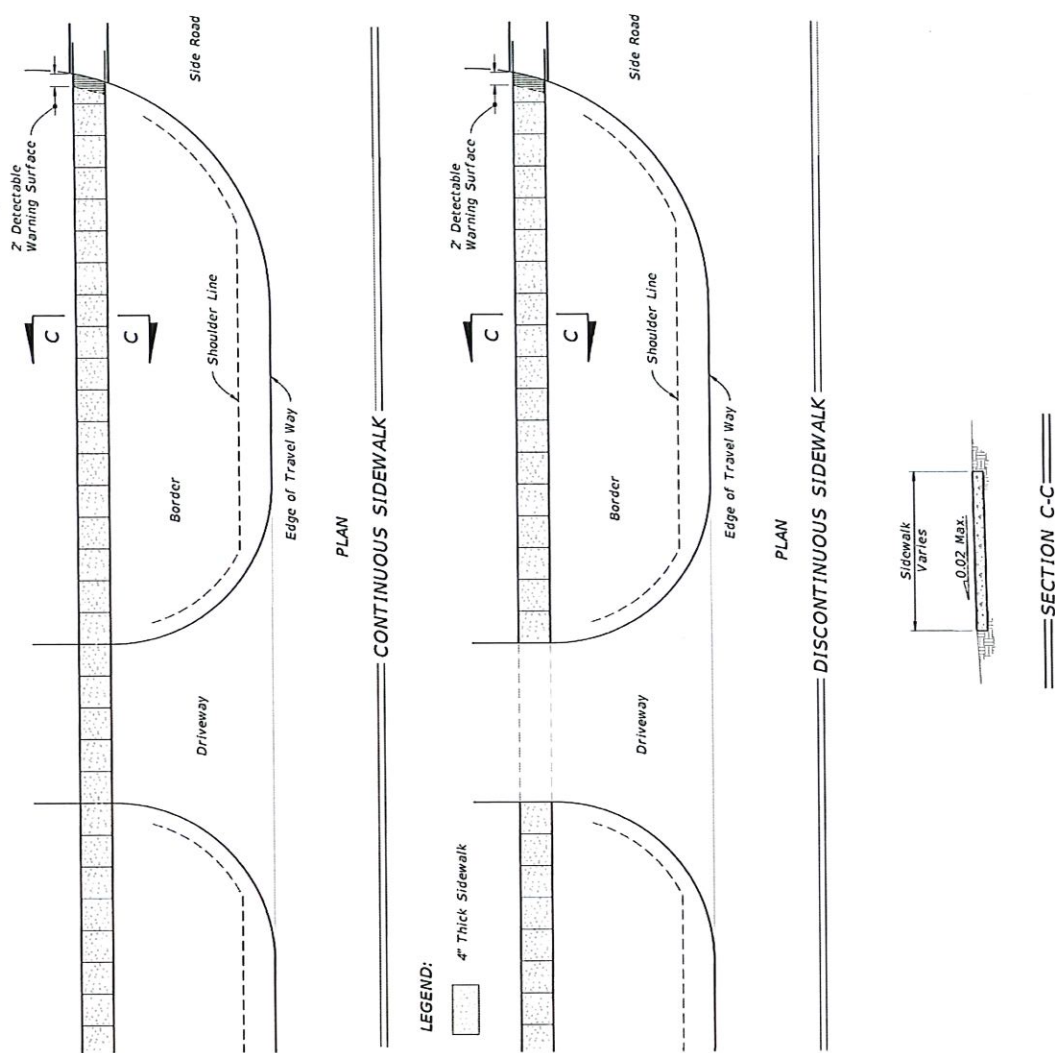
SIDEWALK JOINTS

DESCRIPTION:		FY 2023-24		GENERAL NOTES AND CONCRETE SIDEWALK ON CURBED ROADWAYS	
LAST REVISION	REVISION	STANDARD PLANS		CONCRETE SIDEWALK	
11/01/18		FDOT		INDEX 522-001	
				SHEET 1 of 2	



LONGITUDINAL SECTION

- LEGEND:
- A- 1/2" Expansion Joints (Preformed Joint Filler) between the sidewalk and driveways, sidewalk-intersections, and all other fixed objects (e.g. drainage inlets and utility poles).
 - B- 1/8" Dummy Joints, Tooled
 - C- 1/8" Formed Open Joints
 - D- 3/8" Saw Cut Joints, 1 1/2" Deep (within 96 hours) Max. 5' Centers
 - E- 1/2" Saw Cut Joints, 1 1/2" Deep (within 12 hours) Max. 30' Centers (Joint(s) Required When Length Exceeds 30')
 - F- 1/2" Expansion Joint When Run of Sidewalk Exceeds 120'. Intermediate locations when called for in the plans or at locations as directed by the Engineer.



SECTION C-C

SIDEWALK JOINTS

DESCRIPTION:		FY 2023-24		CONCRETE SIDEWALK ON FLUSH SHOULDER ROADWAYS	
LAST REVISION	REVISION	STANDARD PLANS		CONCRETE SIDEWALK	
11/01/18		FDOT		INDEX 522-001	
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		SCALE: As Shown	

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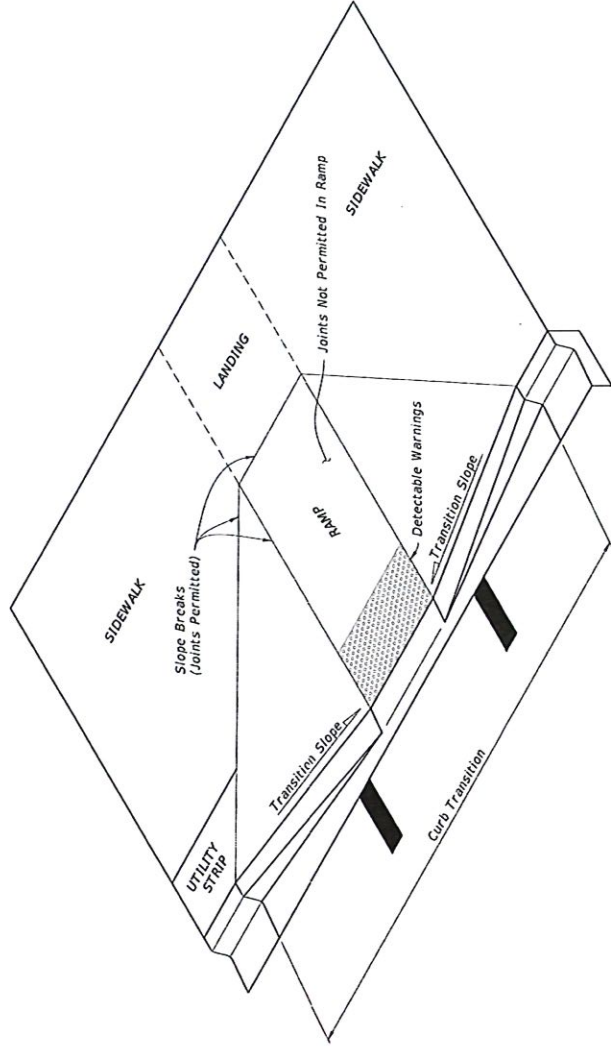
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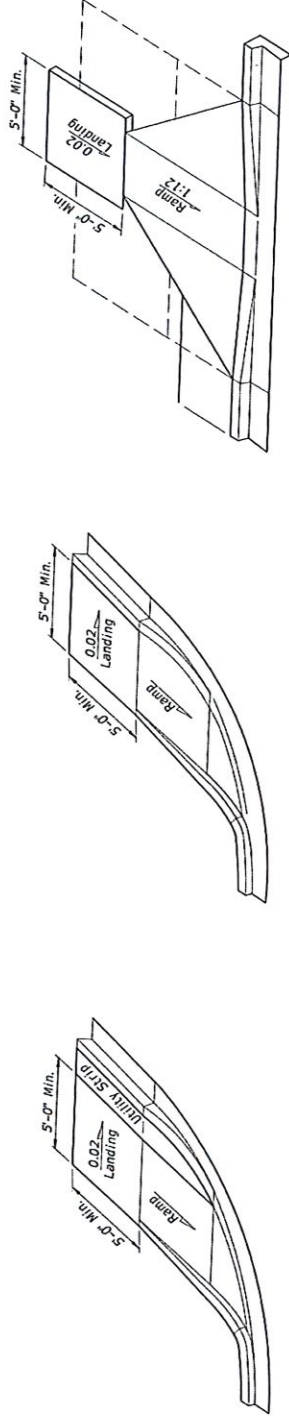
GENERAL NOTES:

1. Cross Slopes and Grades:
 - A. Sidewalk, ramp, and landing slopes (i.e. 0.02, 0.05, and 1:12) shown in this Index are maximums. With approval of the Engineer, provide the minimum feasible slope where the requirements cannot be met.
 - B. Landings must have cross-slopes less than or equal to 0.02 in any direction.
 - C. Maintain a single longitudinal slope along each side of the curb ramp. Ramp slopes are not required to exceed 15 feet in length.
 - D. Joints permitted at the location of Slope Breaks. Otherwise locate joints in accordance with Index 522-001. No joints are permitted within the ramp portion of the Curb Ramp.
2. Curb, Curb and Gutter and/or Sidewalks:
 - A. Refer to Index 522-001 for concrete thickness and sidewalk details.
 - B. Remove any existing curb, curb and gutter, or sidewalk to the nearest joint beyond the curb transition or to the extent that no remaining section is less than 5 feet long.
 - C. Width of Curb Ramp is 4'-0" minimum. Match sidewalk or Shared Use Path width as shown in the Plans.
3. Curb Ramp Alpha-Identification:
 - A. Sidewalk curb ramp alpha-identifications (e.g. CR-A) are provided for reference purposes in the Plans.
 - B. Alpha-identifications CR-I and CR-J are intentionally omitted.
4. Detectable Warnings:
 - A. Install detectable warnings in accordance with Specification 527.
 - B. Place detectable warnings across the full width of the ramp or landing, to a minimum depth of 2 feet, extending perpendicular to the curb line and no greater than 5 feet from the back of the curb or edge of pavement.
 - C. If detectable warnings are shown in the Plans on slopes greater than 5%, align the truncated domes with the centerline of the ramp; otherwise, the truncated domes are not required to be aligned.



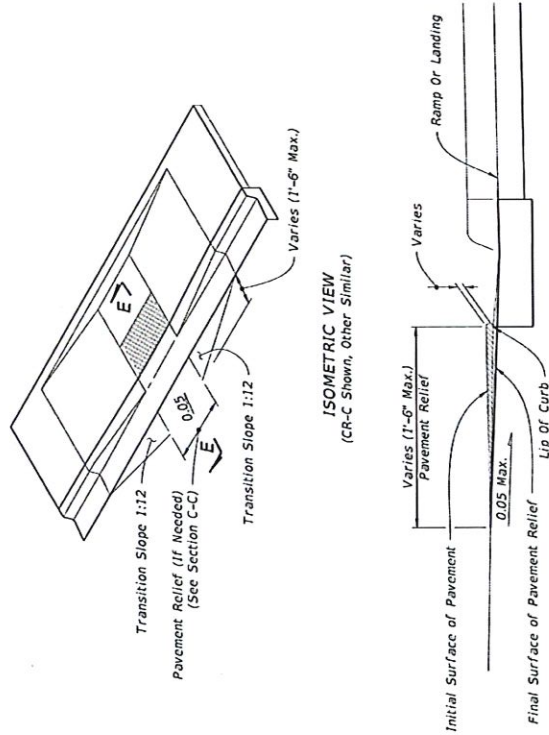
: CURB RAMP NOMENCLATURE

LAST REVISION	DESCRIPTION:	FY 2023-24  STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
11/01/21				522-002	1 of 7



LANDINGS FOR CURB RAMPS WITHOUT SIDEWALKS:
(See CR-F, CR-G & CR-K Respectively For Detectable Warning Details/Options)

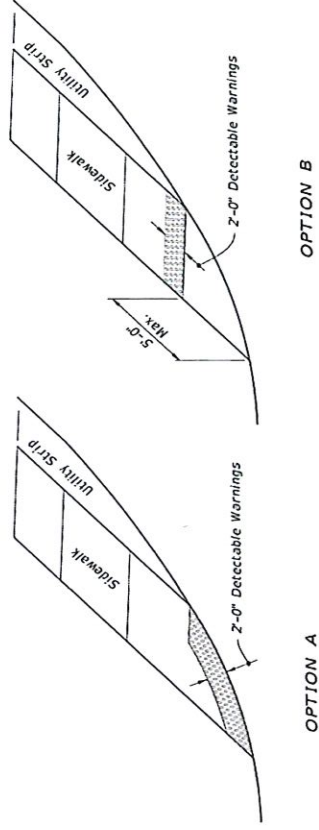
(See CR-F, CR-G & CR-K Respectively For Detectable Warning Details/Options)



NOTE: Remove Elevated Pavement By Spading And Rolling, Smooth Milling, or Grinding.

SECTION E-E

PAVEMENT RELIEF DETAILS



DETECTABLE WARNING ON FLUSH SHOULDER SIDEWALKS

LAST REVISION 11/01/20	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMPS	INDEX	SHEET
				522-002	6 of 7

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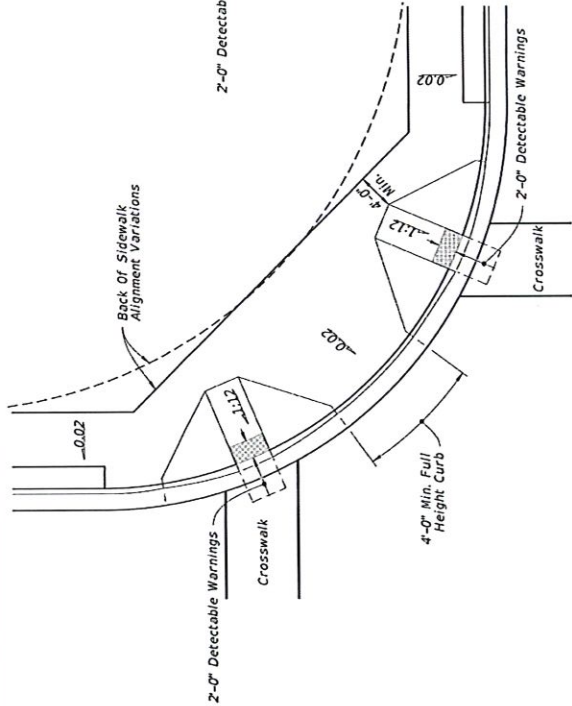
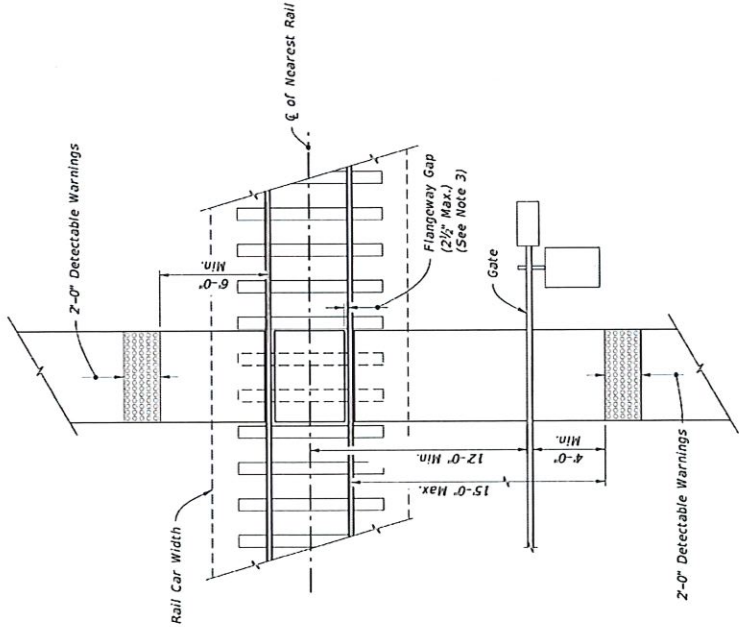
Carlton Street Sidewalk
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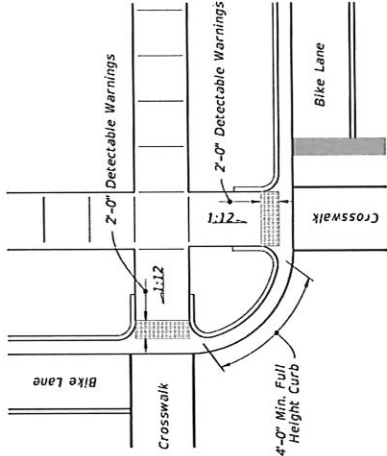
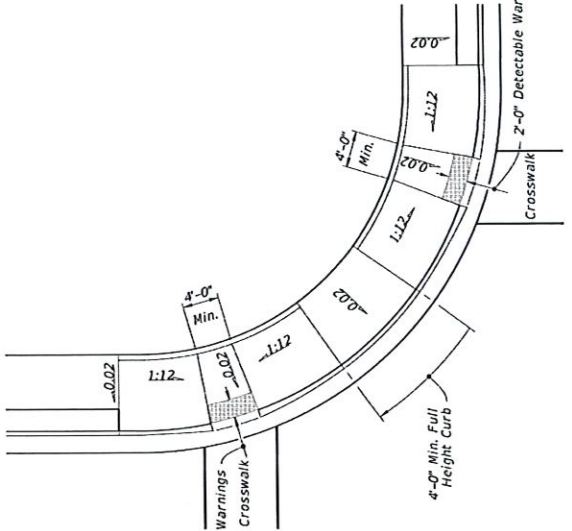
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NOTES:

1. Where crosswalk markings are used, ramps must fall within the crosswalk limits. A clear space of 48" minimum is required at the bottom of the ramp within a marked crosswalk. If crosswalk markings are not present, a clear space of 48" minimum is required at the bottom of the ramp outside of active travel lanes.
2. Crosswalk widths and configurations vary; must conform to Index 711-001.
3. Flangeway Gap may be up to 3' for Freight-only Railways.



CURB RAMP WITHIN RADIAL RETURN



CURB RAMP OUTSIDE RADIAL RETURN

LINEAR SIDEWALK RAMP

RAILROAD CROSSING

PLACEMENT OF SIDEWALK CURB RAMP AT CURBED RETURNS (TYP.)

RAILROAD CROSSING AND CURB RAMP AT CURBED RETURNS

LAST REVISION	DESCRIPTION	FDOT	FY 2023-24 STANDARD PLANS	DETECTABLE WARNINGS AND SIDEWALK CURB RAMP	INDEX	SHEET
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NO.	REVISIONS DESCRIPTION

DATE: April 26, 2024

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FILE NO. 50-29-26

SCALE: As Shown

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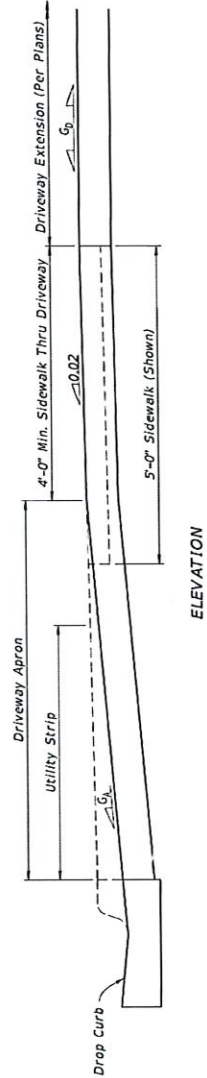
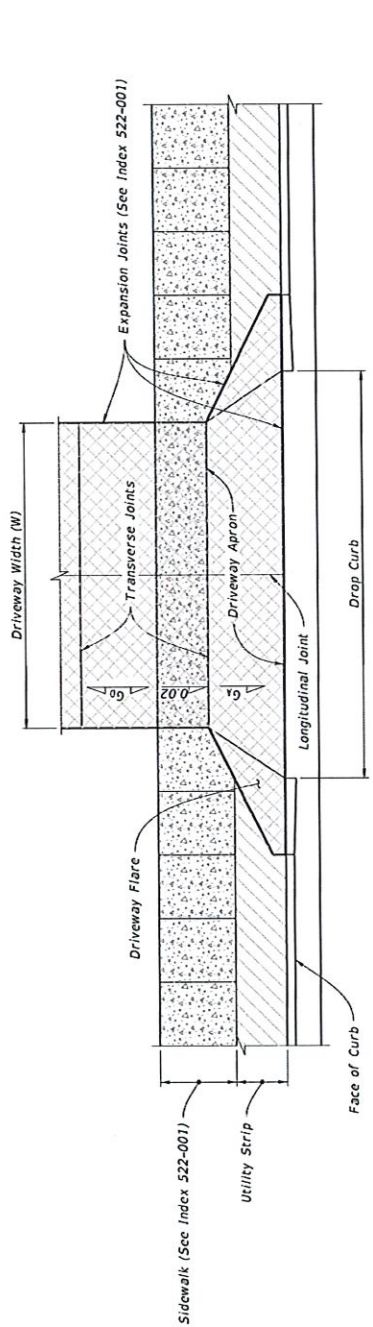
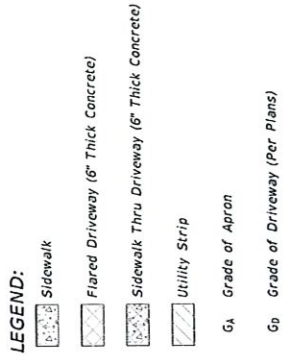
SHEET NUMBER
FDOT-12



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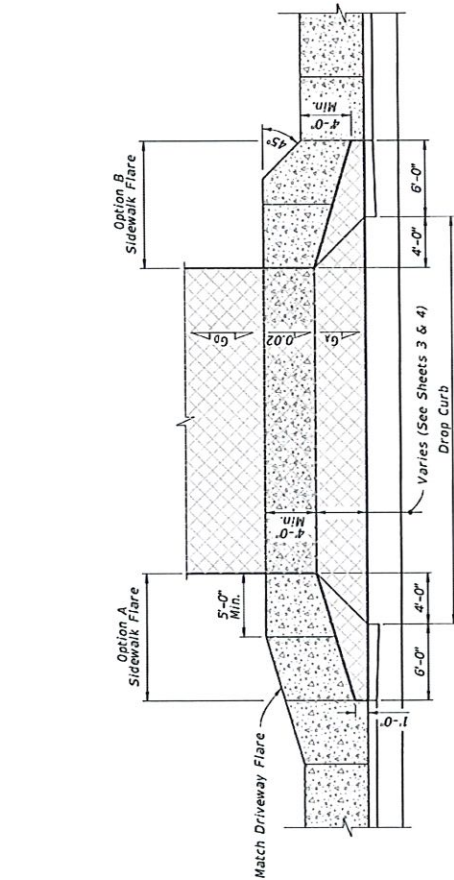
GENERAL NOTES:

1. Work this index with Specification 522.
2. Refer to Index 520-001 for drop curb details and Index 522-001 for joints between driveway, sidewalks, and curb.
3. Existing Curb and Gutter:
Remove existing curb and gutter to either the nearest joint beyond the flared point or to where no remaining section is less than 3 feet long.
4. Grades and cross slopes shown are maximums.
5. Longitudinal Joints:
Construct $\frac{1}{2}$ " open joints placed at equal (20' max.) intervals for driveways over 20' wide. Match joints in curb and gutter to match joints in driveways.
6. Transverse Joints:
Construct $\frac{1}{2}$ " open joints @ 10' centers and $\frac{1}{2}$ " expansion joints with preformed joint filler every 5th joint.
Construct driveways (6" thick concrete) to a uniform width (W) to the R/W line or the extent shown in the Plans.
7. Construct driveways (6" thick concrete) to a uniform width (W) to the R/W line or the extent shown in the Plans.
8. Width of Sidewalk Thru Driveway is 4'-0" minimum. Match sidewalk width when shown in Plans or when utility strip width is equal to or greater than the depth of the Driveway Apron.
9. Alpha-Numeric Identification:
Concrete Flared Driveway Alpha-Numeric Identifications (e.g. G4) are provided for reference purposes in the Plans.

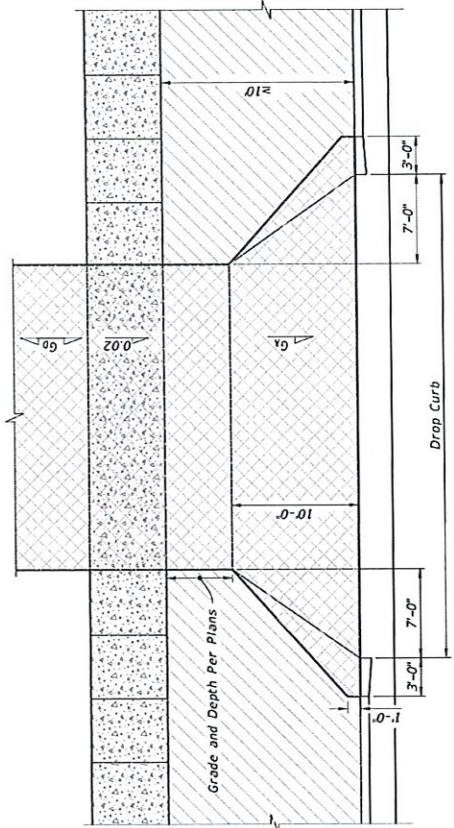


CONCRETE FLARED DRIVEWAY NOMENCLATURE

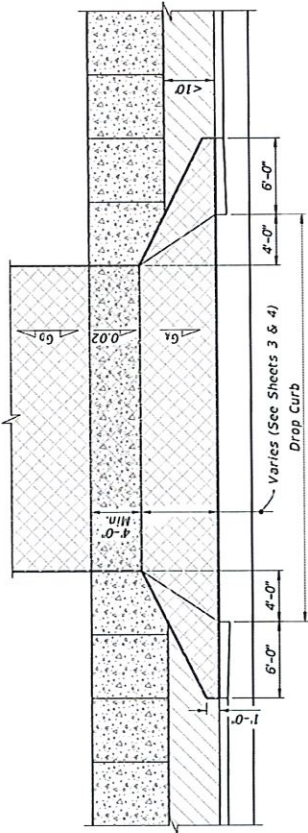
LAST REVISION	DESCRIPTION:	INDEX	SHEET
11/01/18	FY 2023-24 STANDARD PLANS	522-003	1 of 4



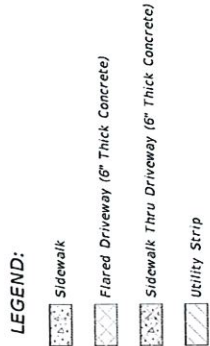
SIDEWALK WITHOUT UTILITY STRIP



WITHOUT SIDEWALK OR UTILITY STRIP $\approx 10'$ WIDE



UTILITY STRIP < 10' WIDE



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CONCRETE FLARED DRIVEWAYS

REVISION	DESCRIPTION
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1	
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DATE: April 26, 2024
PROJECT NO. 20203067-034
FILE NO. 50-29-26
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Carlton Street Sidewalk
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