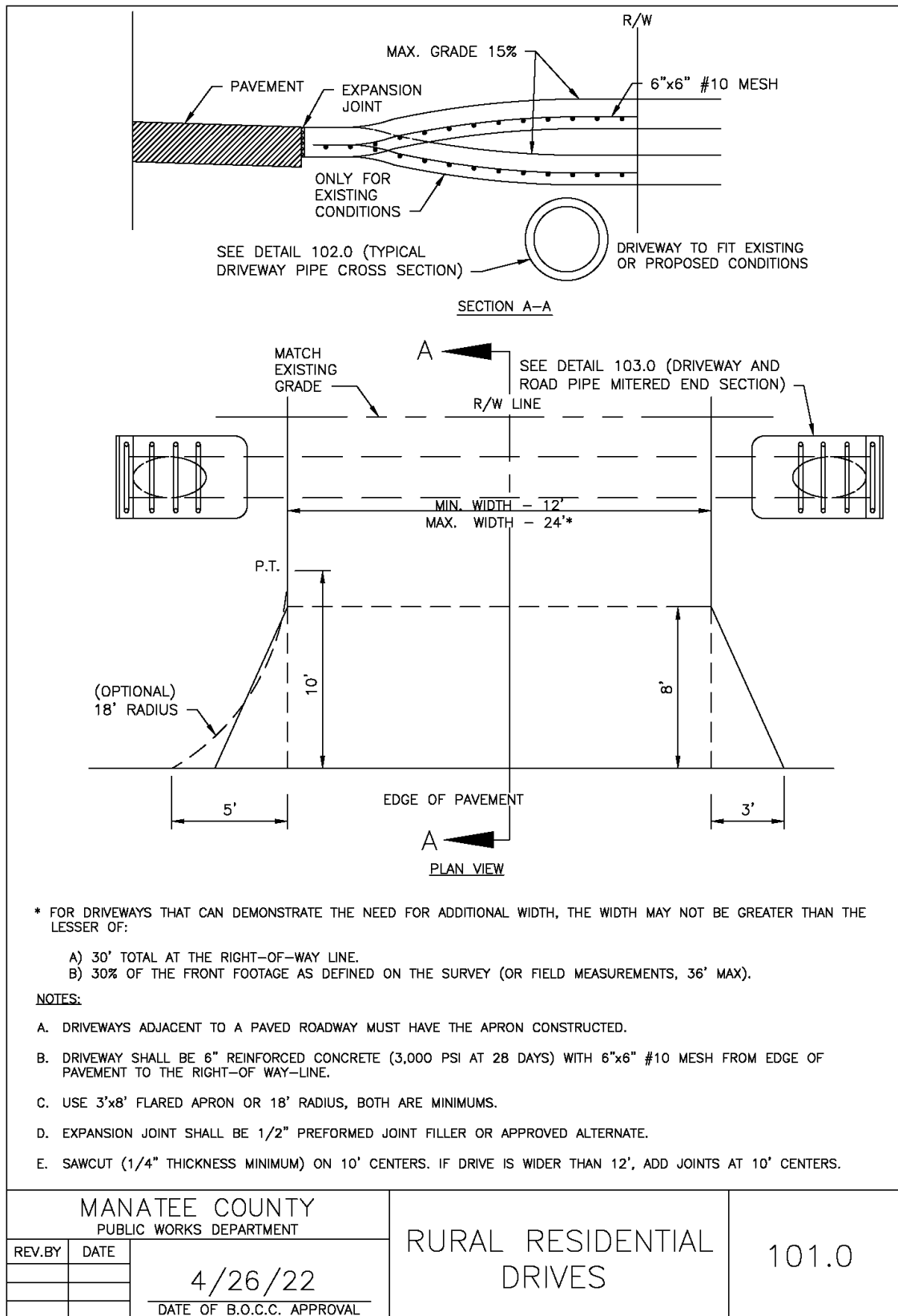
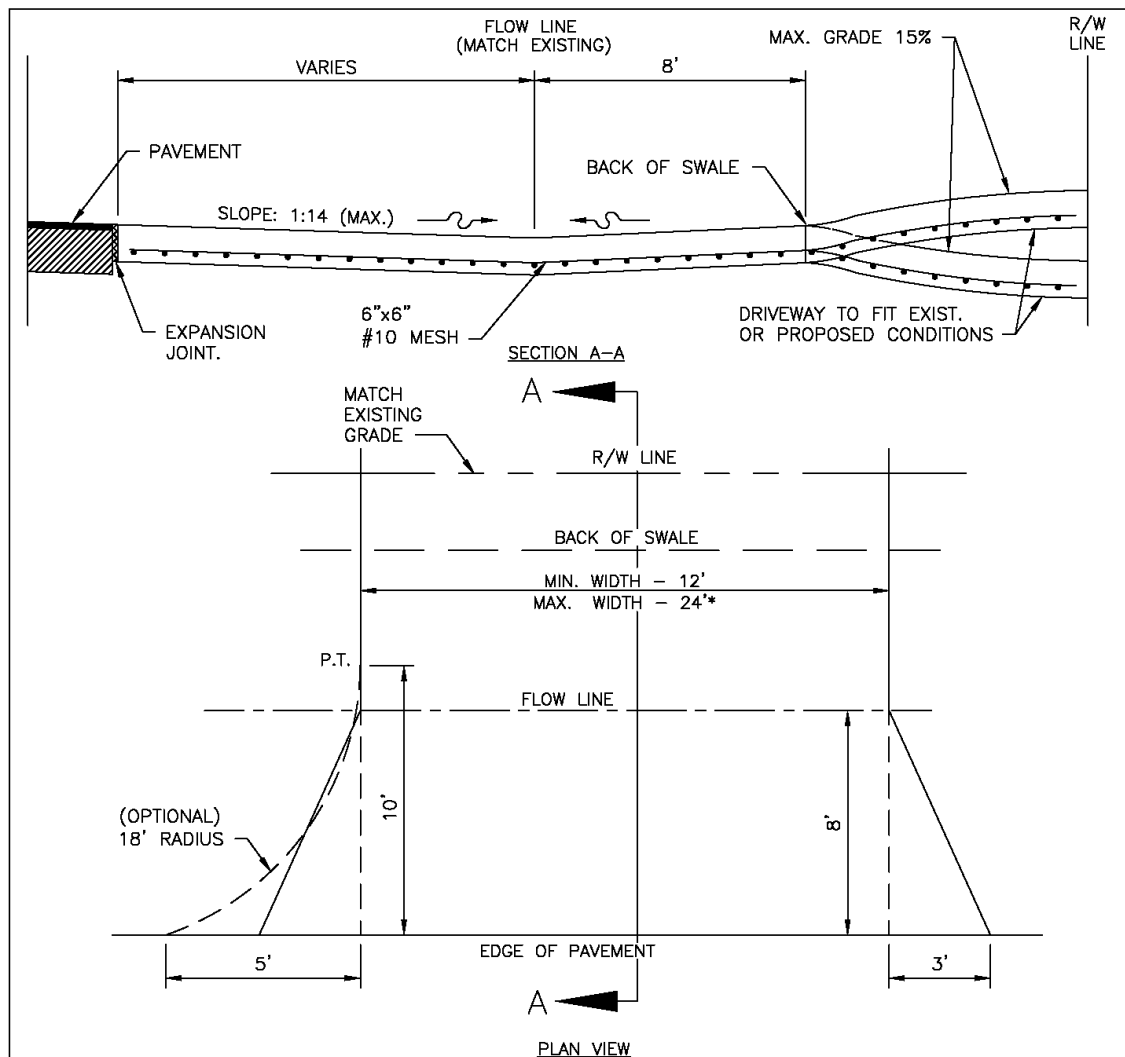


APPENDIX A: DRIVEWAY DETAILS

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Sheet 101.0. Rural Residential Drives
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Sheet 101.2. Rural Commercial Drives
Sheet 101.3. Urban Drives
Sheet 101.4. Curb Cut & Transition w/ T-Flare for Residential Drives
Sheet 101.5. Urban Commercial & Industrial Drives
Sheet 102.0. Typical Driveway Pipe Cross Section
Sheet 102.1. Driveway and Road Pipe Mitered End Section
Sheet 102.2. Mitered End Section for Elliptical, Single and Multiple Pipes
Sheet 102.3. Mitered End Section for Round, Single and Multiple Pipes
Sheet 103.0. Filter Fabric Jacket





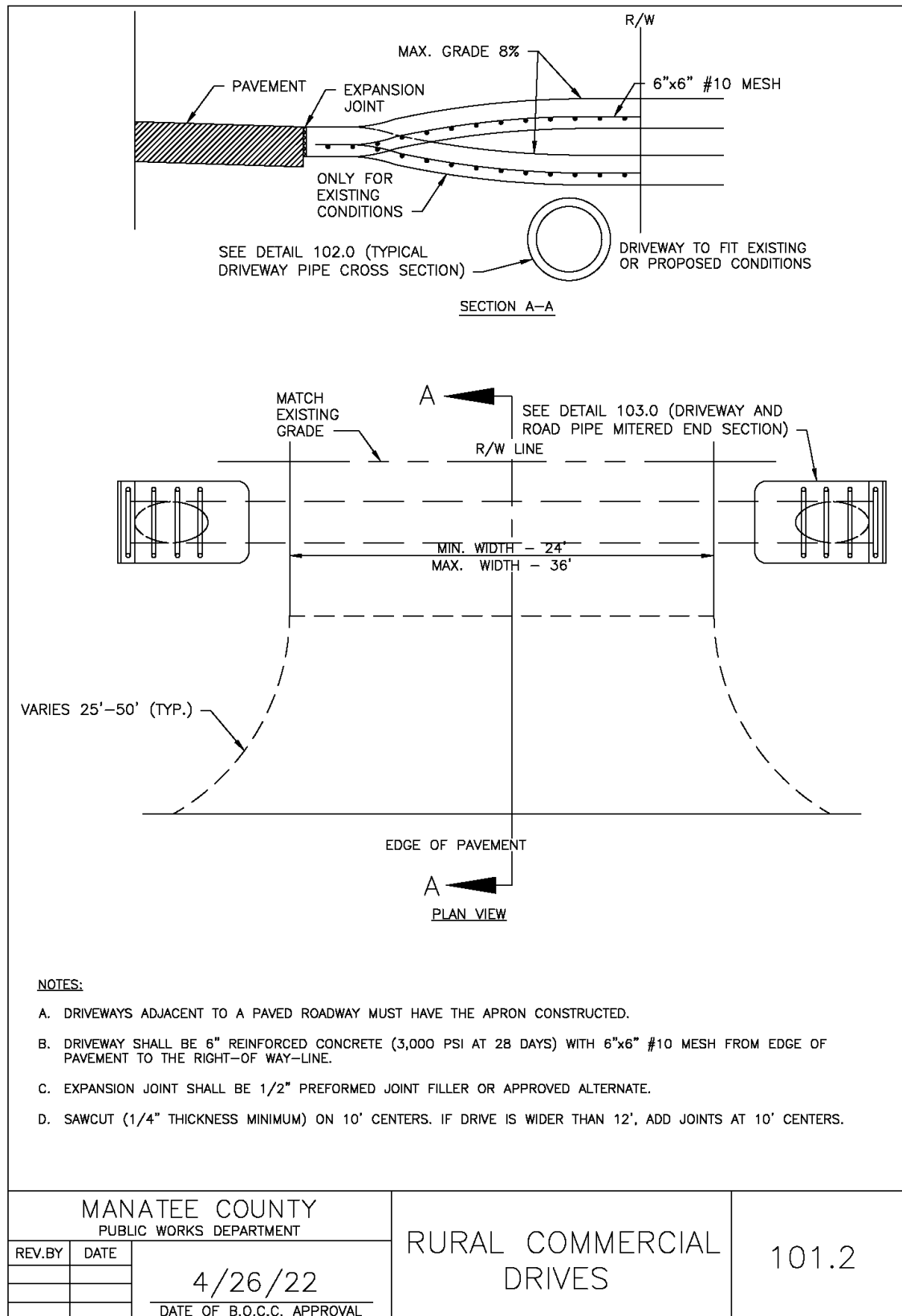
* FOR DRIVEWAYS THAT CAN DEMONSTRATE THE NEED FOR ADDITIONAL WIDTH, THE WIDTH MAY NOT BE GREATER THAN THE LESSER OF:

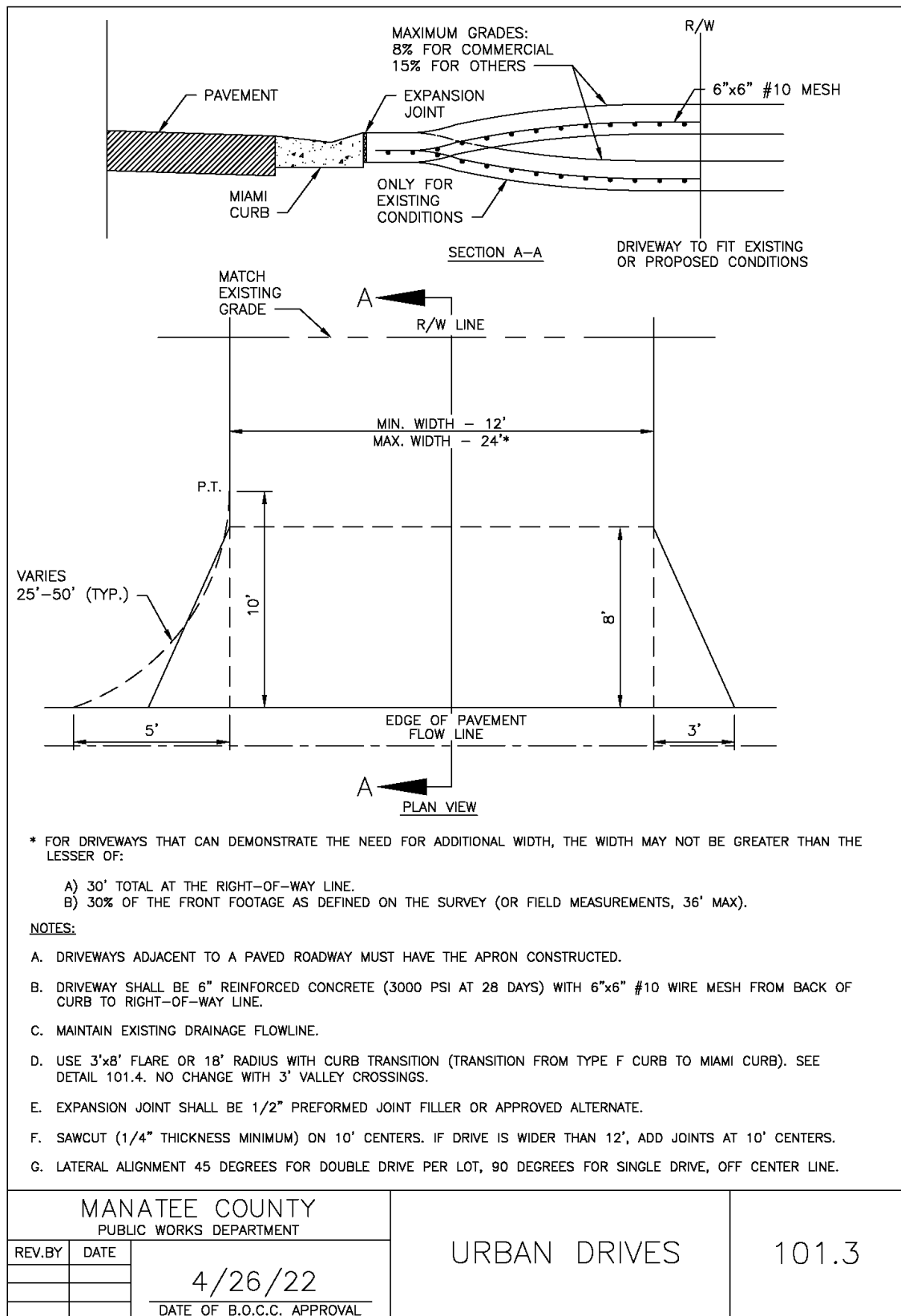
- A) 30' TOTAL AT THE RIGHT-OF-WAY LINE.
- B) 30% OF THE FRONT FOOTAGE AS DEFINED ON THE SURVEY (OR FIELD MEASUREMENTS, 36' MAX).

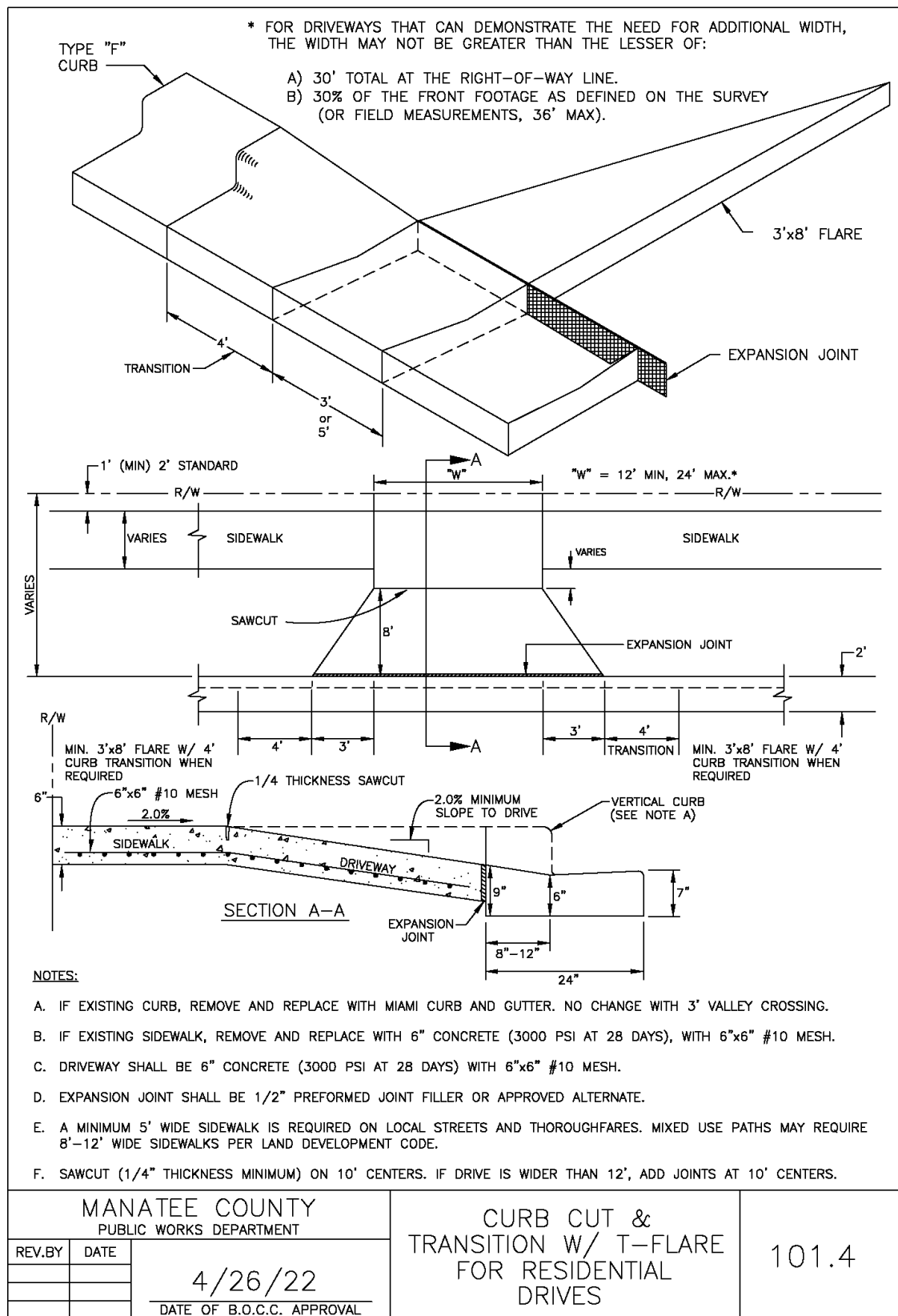
NOTES:

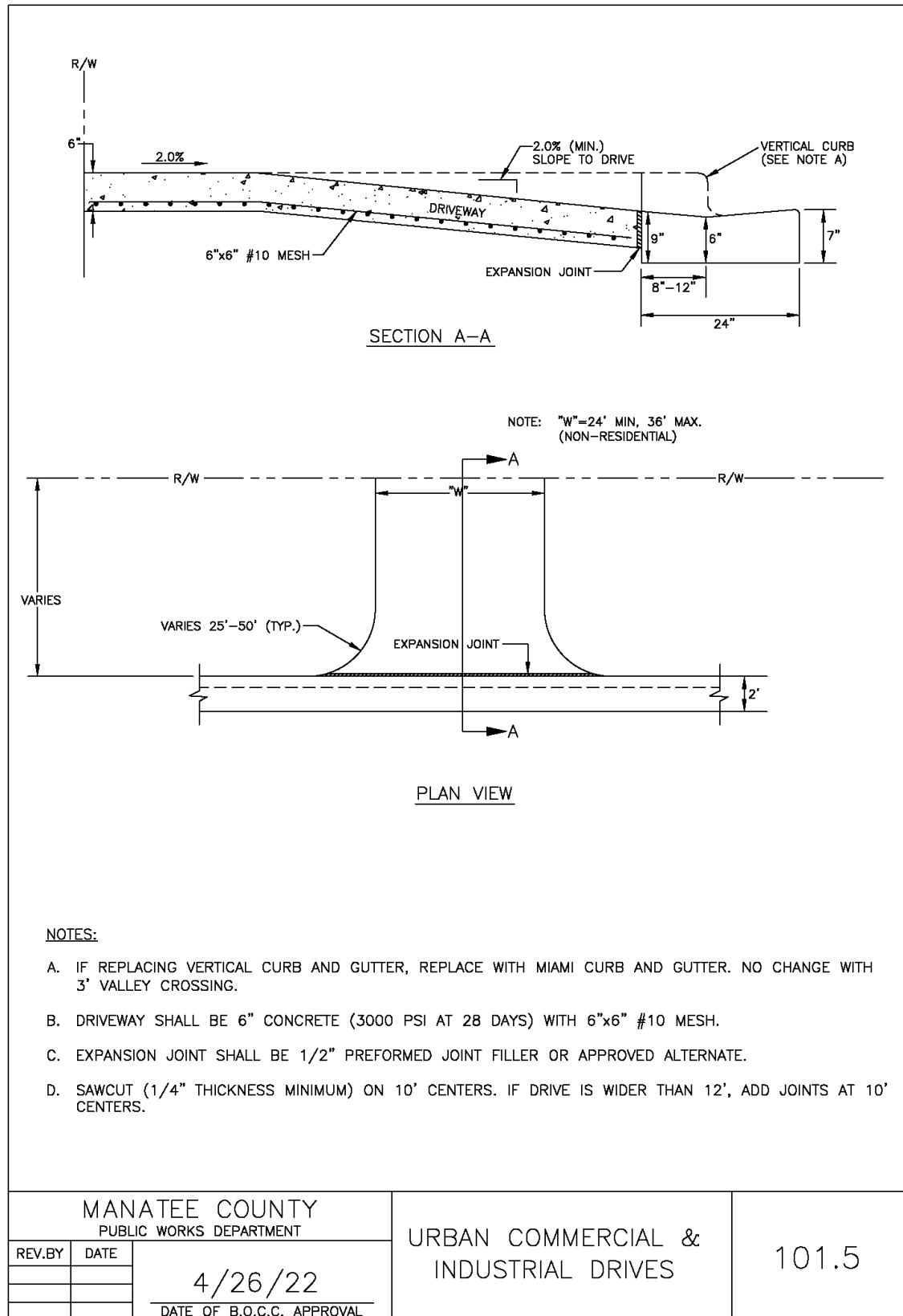
- A. DRIVEWAYS ADJACENT TO A PAVED ROADWAY MUST HAVE THE APRON CONSTRUCTED.
- B. DRIVEWAY SHALL BE 6" REINFORCED CONCRETE (3,000 PSI AT 28 DAYS) WITH 6"x6" #10 MESH FROM EDGE OF PAVEMENT TO THE RIGHT-OF-WAY-LINE.
- C. EXISTING DRAINAGE FLOWLINE TO BE MAINTAINED. PIPING MAY BE REQUIRED AT THE COUNTY'S DISCRETION. DEPARTMENT DIRECTOR OR DESIGNEE MAY APPROVE THE USE OF A SWALE DRIVE, IF ON-SITE CONDITIONS ARE FAVORABLE.
- D. USE 3'x8' FLARED APRON OR 18' RADIUS, BOTH ARE MINIMUMS.
- E. EXPANSION JOINT SHALL BE 1/2" PREFORMED JOINT FILLER OR APPROVED ALTERNATE.
- F. SAWCUT (1/4" THICKNESS MINIMUM) ON 10' CENTERS. IF DRIVE IS WIDER THAN 12', ADD JOINTS AT 10' CENTERS.

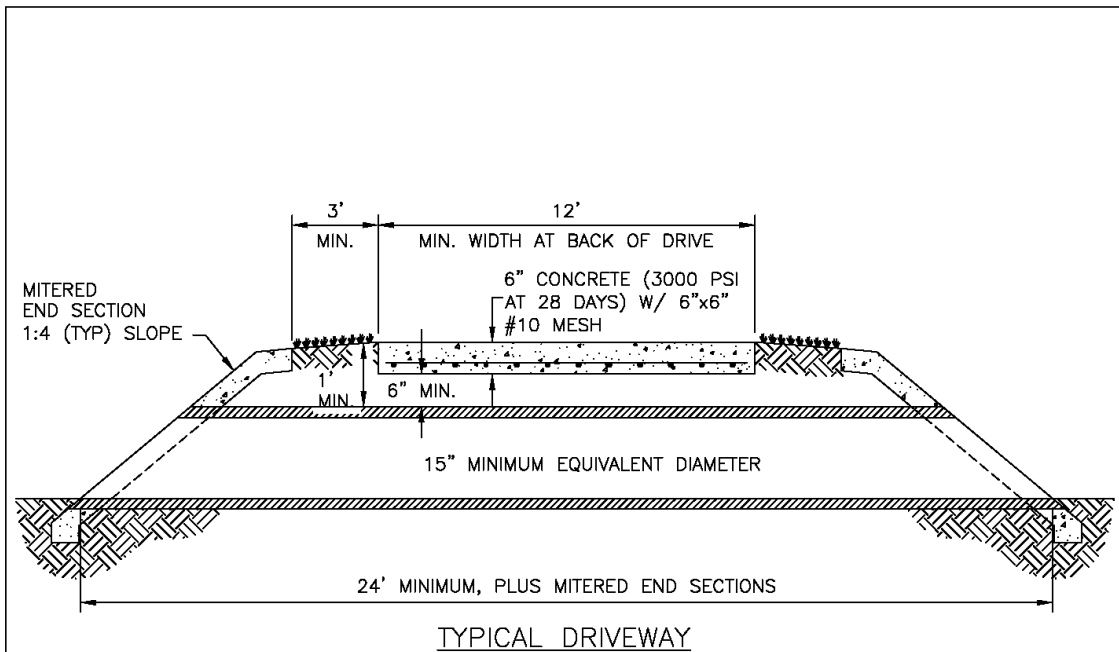
MANATEE COUNTY PUBLIC WORKS DEPARTMENT		RURAL RESIDENTIAL SWALE DRIVES	101.1
REV. BY	DATE		
	4/26/22		
	DATE OF B.O.C.C. APPROVAL		











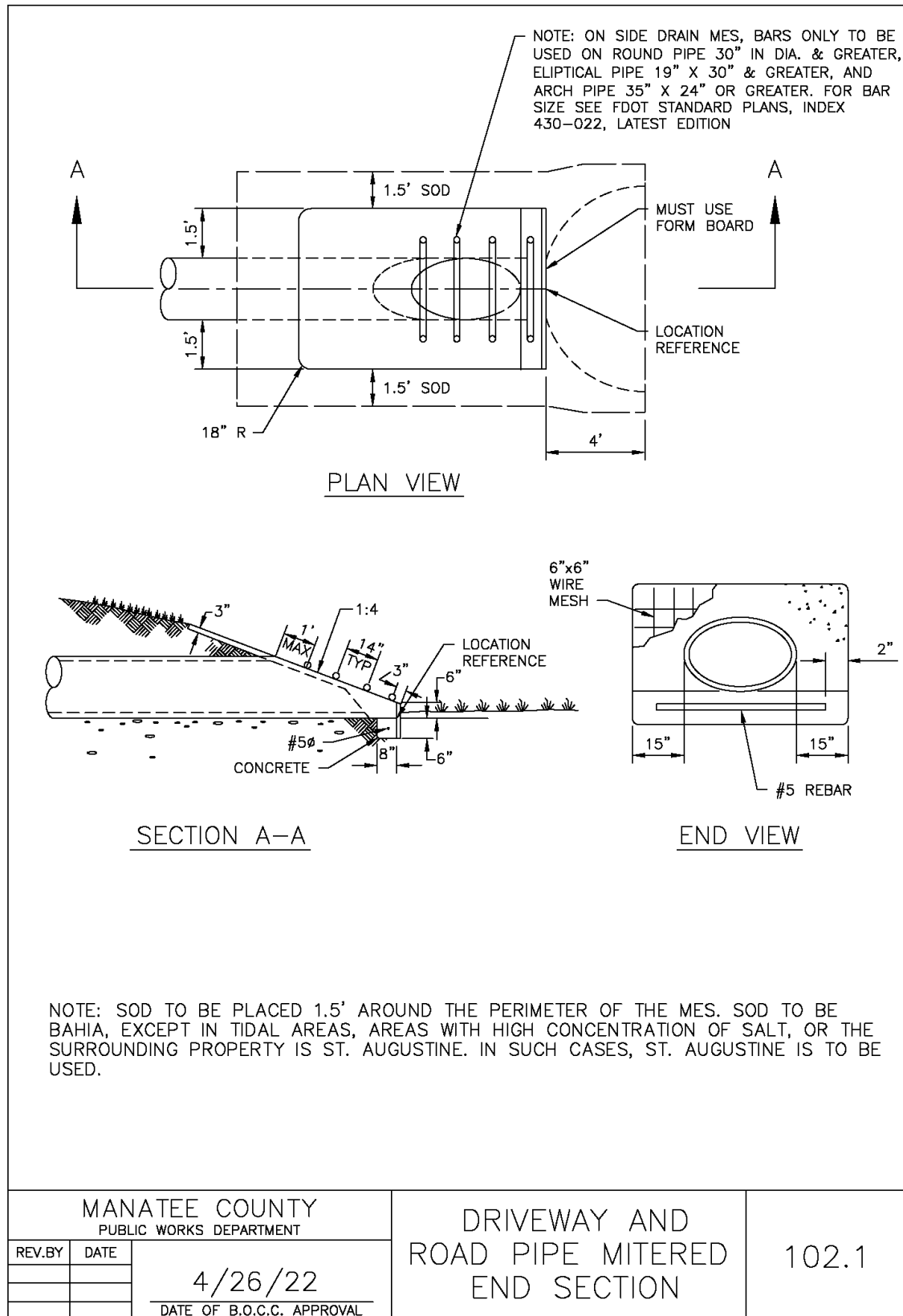
VARIABLES:

- CORRUGATED METAL PIPE WILL NOT BE ALLOWED WITHIN THE RIGHT-OF-WAY.
- REINFORCED CONCRETE PIPE (RCP) WILL REQUIRE A MINIMUM 6" OF COVER BENEATH BOTTOM OF DRIVEWAY, FOR A TOTAL OF 1' OF COVER.
- HIGH DENSITY POLYETHYLENE (HDPE) AND HIGH PERFORMANCE POLYPROPYLENE (HP) PIPE ARE ACCEPTABLE IN LIEU OF RCP. COVER SHALL MEET FDOT REQUIREMENTS.

NOTES:

- GRADES AND LOCATIONS MUST BE REVIEWED AND APPROVED BY THE DRIVEWAY INSPECTOR FOR ALL PIPE INSTALLATIONS.
- ACTUAL REQUIRED PIPE DIAMETER WILL BE BASED ON THE FLOW RATE REQUIRED TO PASS THROUGH PIPE SO AS NOT TO IMPOUND WATER UPSTREAM.
- PIPE SIZE TO BE DETERMINED AND APPROVED BY MANATEE COUNTY.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		TYPICAL DRIVEWAY PIPE CROSS SECTION	102.0
REV. BY	DATE		
	4/26/22		
	DATE OF B.O.C.C. APPROVAL		



ELLIPTICAL PIPE													
DIMENSIONS & QUANTITIES													
	RISE R	SPAN S	X	A	B	C	E	F	G	M			
										SINGLE PIPE	DOUBLE PIPE	TRIPLE PIPE	QUAD. PIPE
2:1 SLOPE	12"	18"	2'-10"	1.97'	1.62'	3.59'	1.56'	4'	1.50'	4.92'	7.75'	10.58'	13.42'
	14"	23"	3'-4"	2.01'	1.99'	4.00'	1.89'	5'	1.90'	5.38'	8.71'	12.04'	15.38'
	19"	30"	4'-0"	2.11'	2.92'	5.03'	2.73'	6'	2.37'	6.04'	10.04'	14.04'	18.04'
	24"	38"	5'-0"	2.20'	3.85'	6.05'	3.56'	7'	2.85'	6.79'	11.79'	16.79'	21.79'
	29"	45"	5'-11"	2.34'	4.79'	7.13'	4.39'	8'	3.19'	7.50'	13.42'	19.33'	25.25'
	34"	53"	7'-0"	2.43'	5.72'	8.15'	5.23'	9'	3.57'	8.25'	15.25'	22.25'	29.25'
	38"	60"	7'-10"	2.52'	6.46'	8.98'	5.89'	9'	3.95'	8.92'	16.75'	24.58'	32.42'
	43"	68"	8'-11"	2.62'	7.39'	10.01'	6.73'	10'	4.28'	9.67'	18.58'	27.50'	36.42'
	48"	76"	9'-11"	2.71'	8.33'	11.04'	7.56'	11'	4.59'	10.42'	20.33'	30.25'	40.17'
	53"	83"	10'-8"	2.80'	9.26'	12.06'	8.39'	12'	4.77'	11.08'	21.75'	32.42'	43.08'
58"	91"	11'-8"	2.90'	10.19'	13.09'	9.23'	13'	5.01'	11.83'	23.50'	35.17'	46.83'	
4:1 SLOPE	12"	18"	2'-10"	2.36'	3.06'	5.42'	3.03'	5'	1.50'	4.92'	7.75'	10.58'	13.42'
	14"	23"	3'-4"	2.44'	3.75'	6.19'	3.70'	6'	1.90'	5.38'	8.71'	12.04'	15.38'
	19"	30"	4'-0"	2.62'	5.47'	8.09'	5.36'	8'	2.37'	6.04'	10.04'	14.04'	18.04'
	24"	38"	5'-0"	2.79'	7.18'	9.97'	7.03'	10'	2.85'	6.79'	11.79'	16.79'	21.79'
	29"	45"	5'-11"	3.05'	8.90'	11.95'	8.70'	12'	3.19'	7.50'	13.42'	19.33'	25.25'
	34"	53"	7'-0"	3.22'	10.62'	13.84'	10.36'	13'	3.57'	8.25'	15.25'	22.25'	29.25'
	38"	60"	7'-10"	3.39'	11.99'	15.38'	11.70'	15'	3.95'	8.92'	16.75'	24.58'	32.42'
	43"	68"	8'-11"	3.56'	13.71'	17.27'	13.36'	17'	4.28'	9.67'	18.58'	27.50'	36.42'
	48"	76"	9'-11"	3.73'	15.43'	19.16'	15.03'	19'	4.59'	10.42'	20.33'	30.25'	40.17'
	53"	83"	10'-8"	3.91'	17.15'	21.06'	16.70'	20'	4.77'	11.08'	21.75'	32.42'	43.08'
58"	91"	11'-8"	4.08'	18.87'	22.95'	18.36'	22'	5.01'	11.83'	23.50'	35.17'	46.83'	

TOP VIEW-SINGLE PIPE

TOP VIEW-MULTIPLE PIPE

SECTION

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

MITERED END SECTION
FOR ELLIPTICAL, SINGLE AND MULTIPLE PIPES

REV. BY

DATE

4/26/22

DATE OF B.O.C.C. APPROVAL

102.2

ROUND PIPE												
DIMENSIONS AND QUANTITIES												
	D	X	A	B	C	E	F	G	M			
									SINGLE PIPE	DOUBLE PIPE	TRIPLE PIPE	QUAD. PIPE
2:1 SLOPE	15"	2'-7"	1.92'	2.18'	4.10'	2.06'	5'	1.22'	4.63'	7.21'	9.79'	12.37'
	18"	2'-10"	1.97'	2.74'	4.71'	2.56'	8'	1.41'	4.92'	7.75'	10.58'	13.42'
	24"	3'-5"	2.06'	3.85'	5.91'	3.56'	7'	1.73'	5.50'	8.92'	12.33'	15.75'
	30"	4'-3"	2.15'	4.95'	7.10'	4.56'	8'	2.00'	6.08'	10.33'	14.58'	18.83'
	36"	5'-1"	2.25'	6.08'	8.33'	5.56'	9'	2.24'	6.67'	11.75'	16.83'	21.92'
	42"	6'-0"	2.34'	7.21'	9.55'	6.56'	10'	2.45'	7.25'	13.25'	19.25'	25.25'
	48"	6'-9"	2.43'	8.33'	10.76'	7.56'	11'	2.65'	7.83'	14.58'	21.33'	28.08'
	54"	7'-8"	2.52'	9.44'	11.96'	8.56'	12'	2.83'	8.42'	16.08'	23.75'	31.42'
	60"	8'-6"	2.62'	10.56'	13.18'	9.56'	14'	3.00'	9.00'	17.50'	26.00'	34.50'
	66"	9'-2"	2.71'	11.68'	14.39'	10.56'	15'	3.18'	9.58'	18.75'	27.92'	37.08'
	72"	10'-0"	2.80'	12.80'	15.60'	11.56'	16'	3.30'	10.16'	20.16'	30.16'	40.16'
4:1 SLOPE	15"	2'-7"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.21'	9.79'	12.37'
	18"	2'-10"	2.36'	5.12'	7.48'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'
	24"	3'-5"	2.53'	7.18' Δ	9.71'	7.03' Δ	11'	1.73'	5.50'	8.92'	12.33'	15.75'
	30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	6.08'	10.33'	14.58'	18.83'
	36"	5'-1"	2.87'	11.31' ◇	14.18'	11.03' ◇	15'	2.24'	6.67'	11.75'	16.83'	21.92'
	42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	7.25'	13.25'	19.25'	25.25'
	48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	7.83'	14.58'	21.33'	28.08'
	54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	8.42'	16.08'	23.75'	31.42'
	60"	8'-6"	3.56'	19.55'	23.11'	19.03'	23'	3.00'	9.00'	17.50'	26.00'	34.50'
	66"	9'-2"	3.73'	21.62'	25.35'	21.03'	25'	3.18'	9.58'	18.75'	27.92'	37.08'
	72"	10'-0"	3.91'	22.68'	26.59'	23.03'	27'	3.30'	10.16'	20.16'	30.16'	40.16'

CONCRETE SLAB, 3" OR 5-1/2" THICK, REINFORCED WITH WWF 6X6-WL.4XWL.4

TOP VIEW-SINGLE PIPE

CONCRETE SLAB, 3" OR 5-1/2" THICK, REINFORCED WITH WWF 6X6-WL.4XWL.4

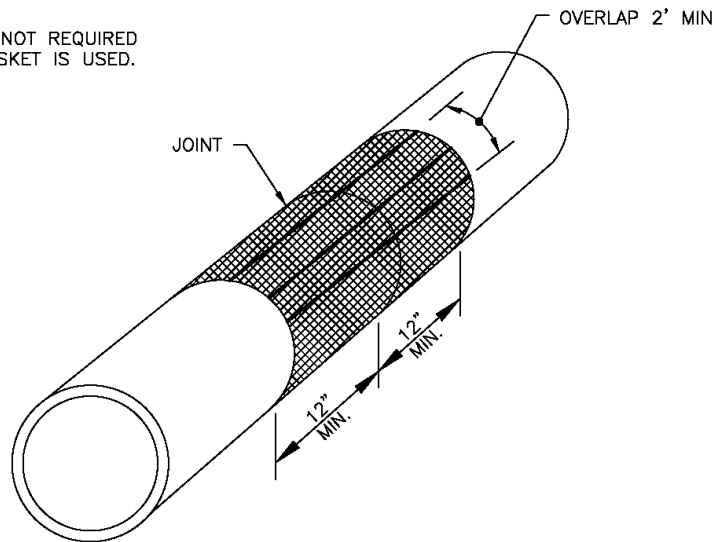
TOP VIEW-MULTIPLE PIPE

SECTION

NOTE: SEE FDOT STANDARD PLANS, INDEX 430-021 AND 430-022, LATEST EDITION FOR ADDITIONAL INFORMATION AND SADDLE SLOPE REQUIREMENTS.

MANATEE COUNTY PUBLIC WORKS DEPARTMENT		MITERED END SECTION FOR ROUND, SINGLE AND MULTIPLE PIPES	102.3
REV. BY	DATE		
	4/26/22		
	DATE OF B.O.C.C. APPROVAL		

NOTE: FILTER FABRIC NOT REQUIRED
WHEN AN O-RING GASKET IS USED.

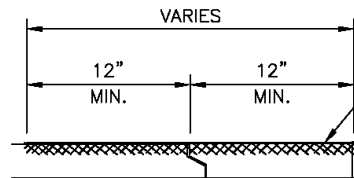


ISOMETRIC VIEW

NOTE: FOR COMPLETE FILTER FABRIC REQUIREMENTS, SEE FDOT DESIGN STANDARDS, 2014, INDEX 199, AND SECTION 985 FDOT STANDARD SPECIFICATIONS, LATEST EDITION.

NOTE: FILTER FABRIC MATERIAL
MUST MEET THE FOLLOWING
ASTM REQUIREMENTS:

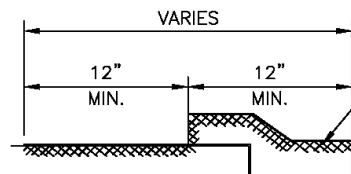
ASTM D 4595
ASTM D 4632
ASTM D 4533
ASTM D 4833
ASTM D 4491



WOVEN OR NON-WOVEN
FILTER FABRIC

NOTE: NOT NECESSARY
WITH O-RING GASKET.

BUTT JOINT



WOVEN OR NON-WOVEN
FILTER FABRIC

BELL JOINT

MANATEE COUNTY
PUBLIC WORKS DEPARTMENT

REV.BY	DATE

4/26/22

DATE OF B.O.C.C. APPROVAL

FILTER FABRIC
JACKET

103.0