

SEE SHEETS I-01
FOR FULL SHEET INDEX

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION FLOWER AVENUE SEPARATED BIKE LANES

FROM PINEY BRANCH ROAD TO ARLISS STREET

CIP PROJECT NO. 502004

35% SUBMITTAL, NOVEMBER 2023

OWNER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

DATE _____ TIM CUPPLES, P.E.
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION "STORM DRAIN DESIGN CRITERIA" DATED AUGUST 1988.

DATE _____ CARRIE CASTO, P.E.
MD. REGISTRATION NO. 28397

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO XXXX CUBIC YARDS OF EXCAVATION, XXX CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE XXXX SQUARE FEET.

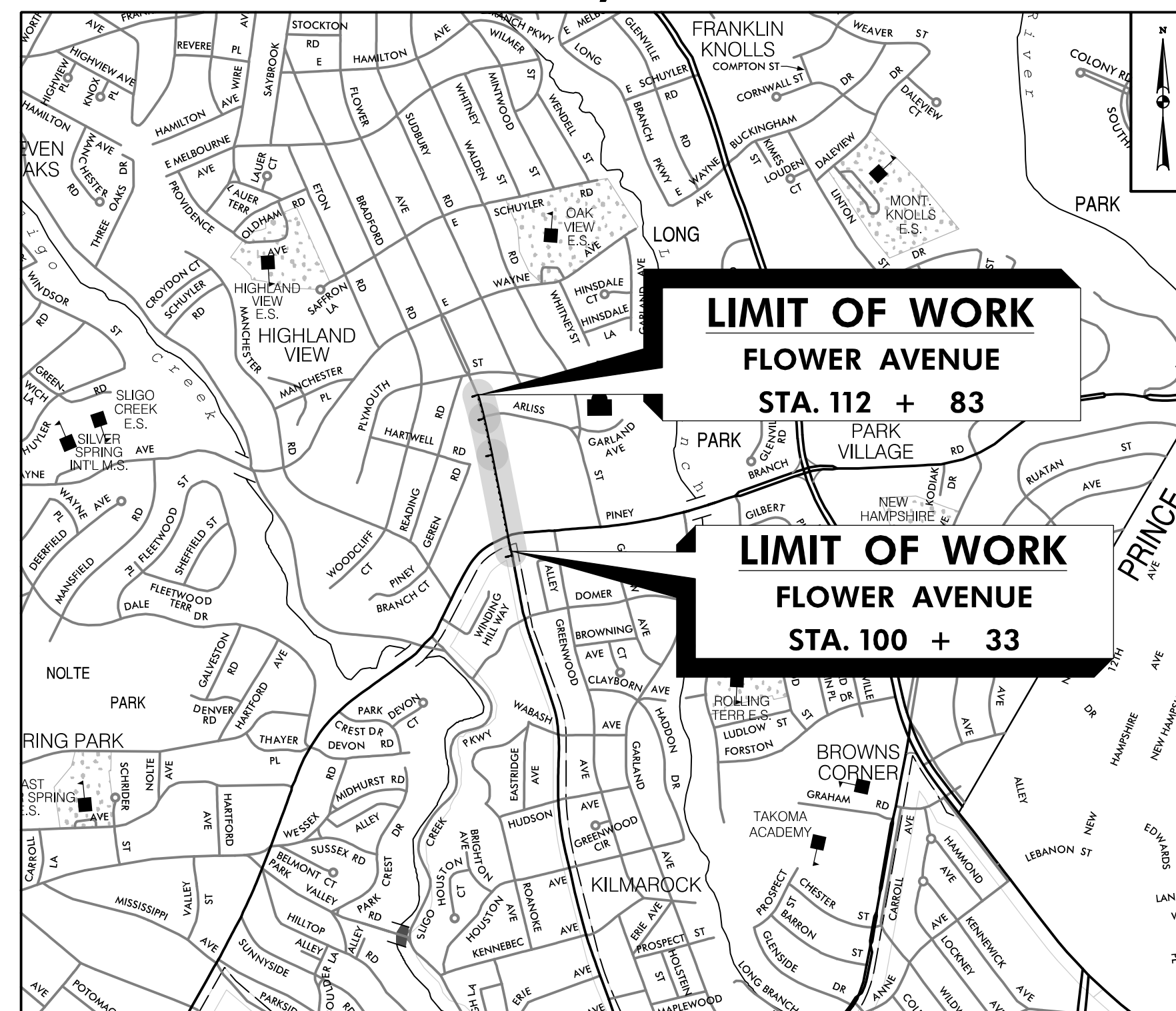
DATE _____ CARRIE CASTO, P.E.
MD. REGISTRATION NO. 28397

The following standards (construction and temporary traffic control) are required for this project:

- A. MD 374.3I - Standard C O G Inlets 5', 10', 15' & 20'
- B. MD 374.68 - Precast or Cast-In-Place C O G/C O S Opening for 8' Curb 5' or 10' Only
- C. MD 383.0I - Standard Manhole
- D. MD 386.1I - Standard Junction Box
- E. MD 620.02-0I - Standard Types C And D Concrete Curb and Combination Concrete Curb & Gutter
- F. MD 620.03 - Depressed Curb for Combination Curb and Gutter and Depressed Curb for Sidewalk Ramps
- G. MD 630.0I - Standard Entrance Construction Residential & Commercial Method No.1
- H. MD 630.02 - Standard Entrance Construction Residential & Commercial Method No. 2
- I. MD 655.1I - Sidewalk Ramps Perpendicular
- J. MD 655.12 - Sidewalk Ramps Parallel
- K. MD 655.13 - Sidewalk Ramps Combination
- L. MD 655.40 - Detectable Warning Surfaces
- M. MC-100.0I - Combination Concrete Curb and Gutter - Type A
- N. MC-102.0I - Depressed Curb Entrance
- O. MC-111.0I - Business District Sidewalk

For all standards referred to on the plans the contractor must go to the MDT SHA Book of Standards or Montgomery County design standards which will have the most current version. The Book of Standards can be accessed at:

<http://apps.roads.maryland.gov/businesswithsha/blzstdsSpecs/desManualStdPub/publicationonline/ohd/bookstd/index.asp>
<https://www.montgomerycountymd.gov/dot-dte/common/standards.html>



VICINITY MAP
SCALE: 1" = 1000'
LENGTH OF PROJECT:
FLOWER AVENUE = 0.25 miles

RELATED REQUIRED PERMITS					
IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF APPROVED SEDIMENT CONTROL PERMIT					
TYPE OF PERMIT	RECD	NOT RECD	PERMIT NO.	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District		X			
WATERWAY/WETLAND(S)					
a. Corps of Engineers		X			
b. MDE		X			
c. MDE Water Certification		X			
MDE Dom Safety		X			
DPS Roadside Tree Protection Plan	X			Approval Date	
N.P.D.E.S. NOTICE OF INTENT	X				
FEMA LOMR (Required Post Construction)	X				
SHK Access Permit:	X				
M-NCPPC Parks Permit:		X			
MCDPS SEDIMENT CONTROL	X				

TREE CANOPY REQUIREMENTS TABLE		Required Number of Shade Trees	
To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects		Area (sq. ft.) of the Limits of Disturbance	Number of Shade Trees Required
Exempt: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If exempt under Section 55-5 of the Code, please list the applicable exemption category below this table.		Exam	Exam
Project is subject to Chapter 22A-9 of the Mont. Co. Forest Conservation Law		1	3
Total Property Area		6,001	6
70,600 square feet		8,001	9
Total Disturbed Area		12,001	12
70,600 square feet		14,000	15
Shade Trees Required		26	
Shade Trees Proposed to be Planted		22	
Fee in Lieu (Trees Required - Trees Proposed) x \$250		Total Disturbed Area	\$ 1,000

MISS UTILITY

THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL UNDERGROUND UTILITIES IN THE AREA OF PROPOSED WORK ARE LOCATED PRIOR TO COMMENCING CONSTRUCTION WORK. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

THE CONTRACTOR IS ALSO RESPONSIBLE FOR LOCATING ALL PRIVATE UTILITIES (NOT LOCATED BY MISS UTILITY) WITHIN HOA PROPERTY AT THEIR EXPENSE. ALL UTILITIES SHOWN ON THE PLANS ARE PROVIDED FOR INFORMATION ONLY AND SHALL BE CONSIDERED APPROXIMATE. HOA SHALL NOT BE RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES. ANY UTILITIES OR OTHER UNDERGROUND FACILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.

DESIGN TRAFFIC DATA

ROADWAY	FLOWER AVENUE	
CONTROLS / YEARS	2022	2045
AVERAGE DAILY TRAFFIC (A.D.T.)	11900	13400
DESIGN HOURLY VOLUME (D.H.V.)	1080	1300
DIRECTIONAL DISTRIBUTION	50.7%	50.7%
% TRUCKS - A.D.T.	2.8%	2.8%
% TRUCKS - D.H.V.	1.7%	1.7%
DESIGN SPEED M. P. H.	30 MPH	
FUNCTIONAL CLASSIFICATION	URBAN MAJOR COLLECTOR	
CONTROL OF ACCESS	NONE	
INTENSITY OF DEVELOPMENT	URBAN	
TERRAIN	ROLLING	
ANTICIPATED POSTED SPEED	25 MPH	

OWNER TIM CUPPLES, PE, DBIA 100 Edison Park Drive, 4th Floor Gaithersburg, MD 20878 240-777-7214 tim.cupples@montgomerycountymd.gov	PROJECT MANAGER KHURSHEED BILGRAMI, PE 100 Edison Park Drive, 4th Floor Gaithersburg, MD 20878 240-777-7266 khursheed.bilgrami@montgomerycountymd.gov
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NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: UMK	DATE: NOVEMBER, 2023
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RECOMMENDED FOR APPROVAL						
Chief, Design Section				Date		
APPROVED						
Chief, Division of Transportation Engineering				Date		

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
TITLE SHEET



PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

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GENERAL NOTES

1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION DATED JULY 2023, ALL ERATA AND ADDENDA THERETO, AND THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES.
2. FOR CONSTRUCTION, HORIZONTAL SHALL BE BASED ON NAD 83/91 DATUM AND VERTICAL SHALL BE BASED ON NAVD 1988 DATUM.
3. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
4. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
5. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
6. CLEARING IS TO BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE PLANS.
7. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
8. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS AND WATER QUALITY SWALES SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
9. THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060
10. THE LOCATION OF RIGHT-OF-WAY AND EASEMENT LINES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. PLEASE REFER TO THE APPROPRIATE RIGHT-OF-WAY PLATS.
11. THE CONTRACTOR SHALL INSTALL PEDESTRIAN DETECTABLE WARNING SURFACES AT ALL SIDEWALK & PEDESTRIAN CROSSINGS. LOCATIONS AS DIRECTED BY THE ENGINEER. THE WARNING SURFACES SHALL BE IN CONFORMANCE WITH ADA REQUIREMENTS AND THE PROJECT SPECIAL PROVISION.
12. THE DESIGN FOR THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH STATE AND FEDERAL LEGISLATION.
13. ALL PROPOSED BUS STOPS SHALL BE ADA COMPLIANT.

SURVEY

1. HORIZONTAL DATUM: MARYLAND STATE PLANE COORDINATE SYSTEM
 VERTICAL DATUM: NAVD 1988
 SURVEY UNIT: SURVEY FEET
2. DATE OF SURVEY: SEPTEMBER, 2022
 SURVEY PERFORMED BY: MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
 100 EDISON PARK DRIVE, 4TH FLOOR
 GAITHERSBURG, MD 20878
3. ALL DIMENSIONS, STATIONS, AND ELEVATIONS ARE IN SURVEY FEET UNLESS OTHERWISE SHOWN.

 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC FEATURES AND ELEVATIONS, ABOVE AND BELOW GROUND, PRIOR TO BEGINNING CONSTRUCTION IN THE FIELD.

 THE CONTRACTOR SHALL BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCY BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS.
4. A BOUNDARY SURVEY WAS PERFORMED. IF ANY DISPUTE ARISES AS TO THE LOCATION OF RIGHT-OF-WAY LINES, PROPERTY LINES, OWNERSHIP, ETC., ADDITIONAL CONSULTATION WITH A MARYLAND-LICENSED SUREVEYOR IS ADVISED.

UTILITES

1. DATE OF INVESTIGATION: OCTOBER, 2022
 UTILITY INVESTIGATION PERFORMED BY: AB CONSULTANTS, INC.
 9450 ANNAPOLIS ROAD
 LANHAM, MD 20706
 PHONE: (301) 306-3091 FAX: (301) 306-3092

 ALL UTILITY MAPPING (QUALITY LEVEL D) WAS PREPARED BASED ON RECORDS PROVIDED BY UTILITY OWNERS FOR THIS PROJECT.
2. THE CONTRACTOR SHALL NOTIFY MISS UTILITY ONE CALL (811 OR 800-257-7777) 48 HOURS BUT NOT MORE THAN 10 DAYS PRIOR TO ANY EXCAVATION WORK.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES PRIOR TO BEGINNING EXCAVATION.
4. THE FOLLOWING UTILITY COMPANIES SHALL ALSO BE SPECIFICALLY NOTIFIED SIX WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION:

 PEPCO, ED KOVAR, 301-548-4340
 AT&T, GARY WIGFIELD, 301-874-1180
 FIBERLIGHT, MIKE JOHNSON, 678-347-9265
 WASHINGTON GAS LIGHT COMPANY, COLIN BURKE, 703-750-5541
 COMCAST, DWAYNE DOUTY, 301-456-8957
 WASHINGTON SUBURBAN SANITARY COMMISSION, KEVIN LETHBRIDGE, 301-206-7339
 VERIZON, JON BOBEL, 301-282-2942
 VERIZON BUSINESS, ADAM RICE, 571-220-8978
5. NO MECHANIZED EQUIPMENT SHALL BE USED FOR EXCAVATION IN CLOSE PROXIMITY TO UTILITIES. CONTRACTOR SHALL HAND DIG ONLY.
6. THE CONTRACTOR SHALL USE HAND EXCAVATION METHODS WHEN EXCAVATION OCCURS WITHIN 24 INCHES OF A GAS FACILITY.
7. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORTING AND PROTECTING EXISTING UTILITIES AS DIRECTED BY THE ENGINEER AND UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES DUE TO NEGLIGENCE.

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GN-01

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					Chief, Design Section	Date
					APPROVED	
					Chief, Division of Transportation Engineering	Date

**DEPARTMENT OF TRANSPORTATION
 DIVISION OF TRANSPORTATION ENGINEERING
 MONTGOMERY COUNTY, MARYLAND**

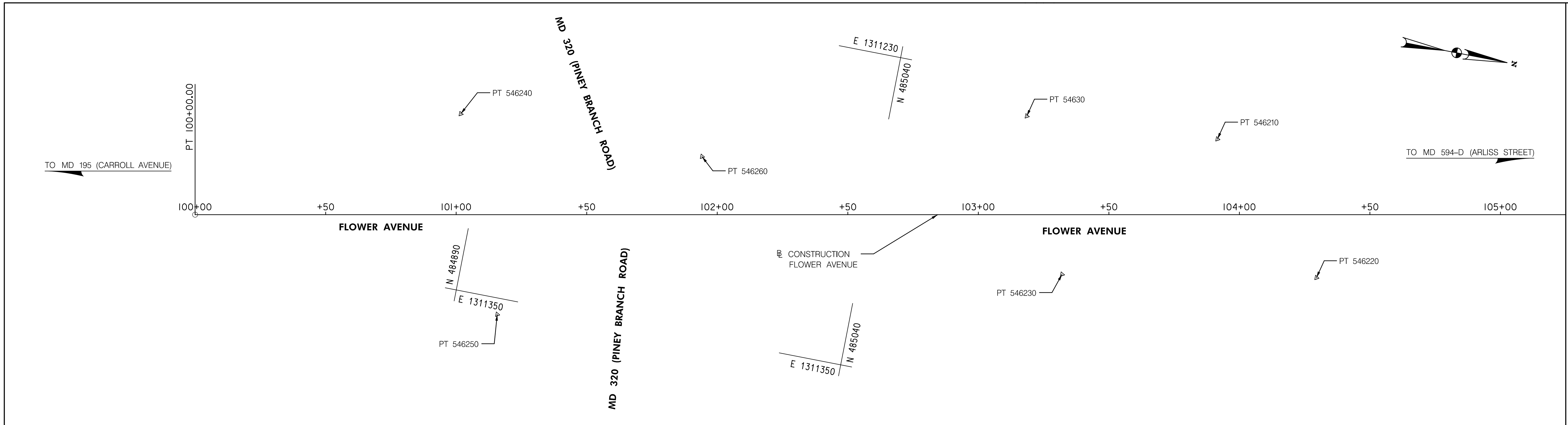
FLOWER AVENUE
 SEPARATED BIKE LANES
 GENERAL NOTES

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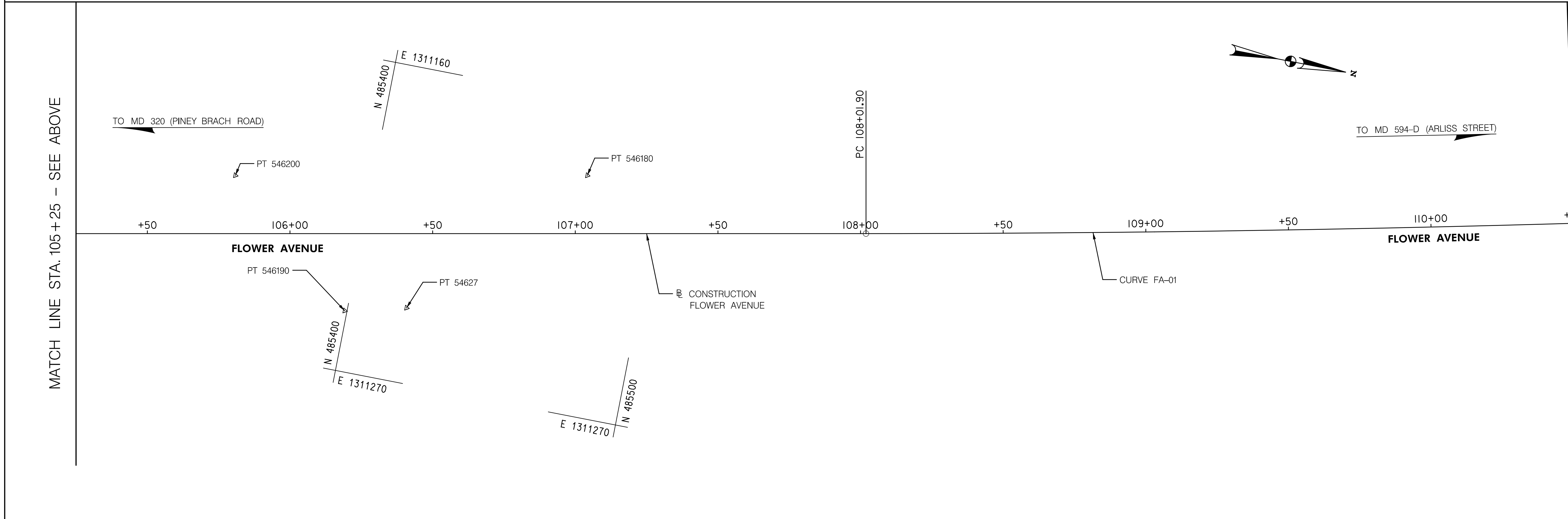


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MATCH LINE STA. 105 + 25 - SEE BELOW

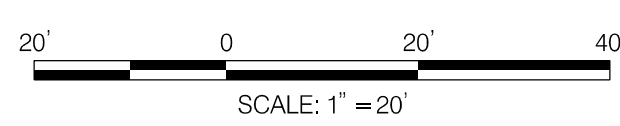


MATCH LINE STA. 105 + 25 - SEE ABOVE

MATCH LINE STA. 110 + 50 - SEE SHEET GS-02

SEE SHEET GS-02 FOR BASELINE AND TRAVERSE DATA

GS-01



NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: DHM III	DATE: NOVEMBER, 2023
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					APPROVED	
					Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 GEOMETRY SHEET

SCALE: 1"=20'

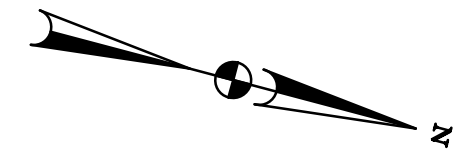
SHEET 05 of 40



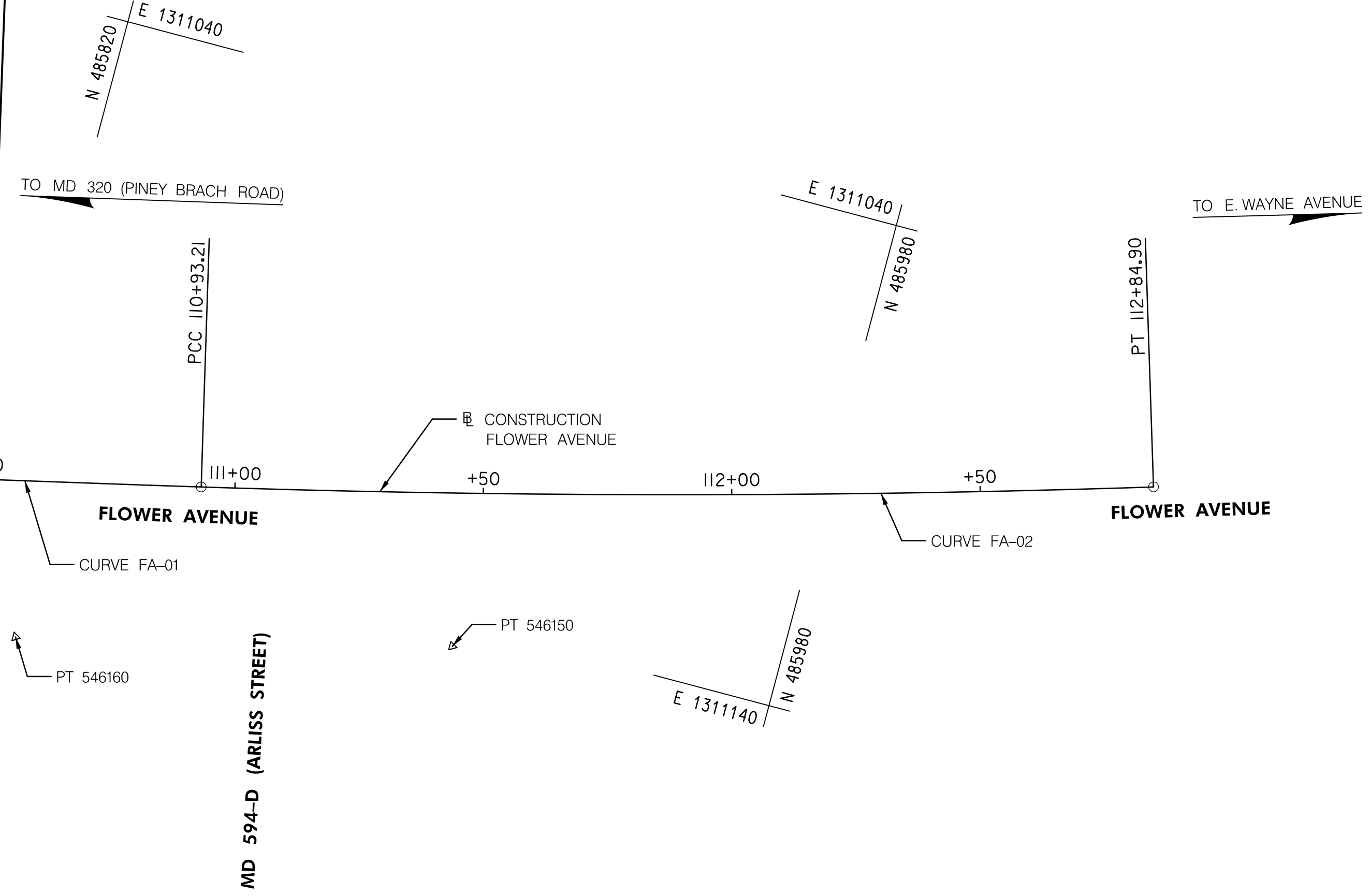
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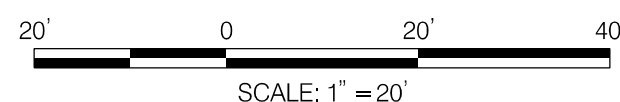
MATCH LINE STA. 110+50 - SEE SHEET GS-02



CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
FA-01	1° 57' 09.6030" LT	0° 40' 13.1492"	8547.5363	145.6662	291.3041	1.2411
FA-02	3° 44' 23.2407" LT	1° 57' 03.4475"	2936.8028	95.8790	191.6899	1.5647

BASELINE DATA					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
FA-01	PT	100+00.00	484786.2772	1311340.8211	N 11° 02' 02.6383" W
	PC	108+01.90	485573.3552	1311187.3429	N 11° 02' 02.6383" W
	PI	109+47.57	485716.3285	1311159.4635	
	CC		483937.4200	1302797.8201	
FA-02	PCC	110+93.21	485858.2689	1311126.7286	N 12° 59' 12.2413" W
	PI	111+89.09	485951.6955	1311105.1822	N 12° 59' 12.2413" W
	CC		485198.2945	1308265.0430	
	PT	112+84.90	486043.5178	1311077.5878	N 16° 43' 35.4820" W

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
546240	484878.7417	1311283.4065	272.31
546250	484907.1757	1311356.2199	274.49
546260	484972.5848	1311281.7822	274.85
54630	485091.7017	1311242.7621	277.65
546230	485116.5786	1311299.7306	278.75
546210	485165.0790	1311237.4348	280.13
546220	485212.4705	1311282.3385	282.93
546200	485352.4756	1311209.6440	282.77
546190	485399.1821	1311248.8661	290.39
54627	485420.2558	1311243.7496	291.49
546180	485473.5875	1311186.0421	293.94
546160	485829.8925	1311165.5251	307.00
546150	485915.3238	1311144.7781	309.50



GS-02

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Chief, Design Section _____	Date _____
APPROVED	
Chief, Division of Transportation Engineering _____	Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

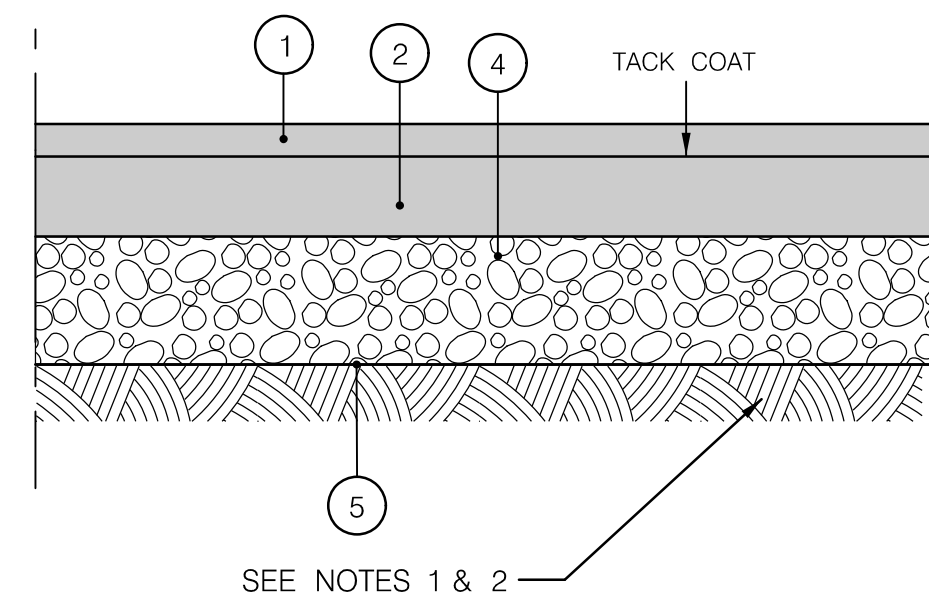
FLOWER AVENUE
SEPARATED BIKE LANES
GEOMETRY SHEET



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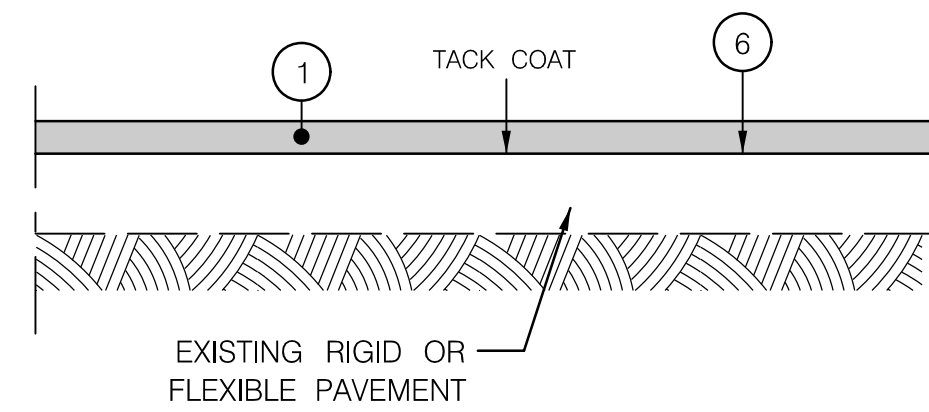
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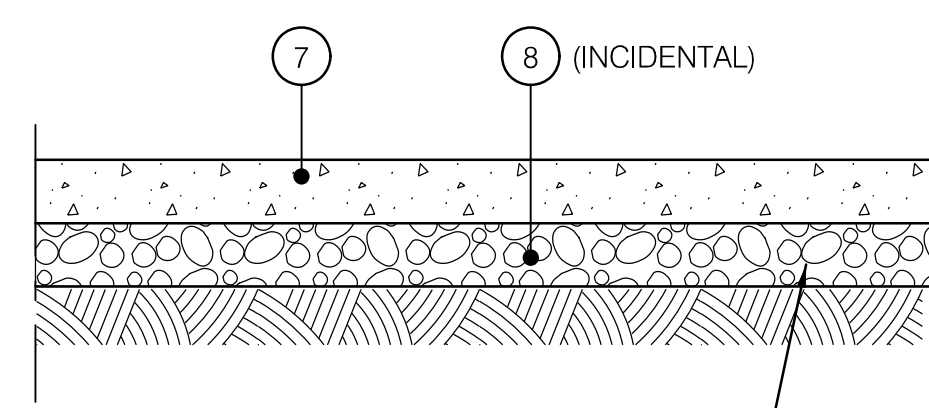


- NOTES
1. SUBGRADE PREPARATION SHALL BE AS PER SECTION 204 OF MDOT SHA SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS; PRIOR TO PLACEMENT OF PROPOSED BASE COURSE, SUBGRADE SHALL BE PROOF-ROLLED.
 2. UNDERCUT FOR REMOVAL OF SOFT AND/OR UNSUITABLE MATERIALS AND BACKFILLED WITH GRADED AGGREGATE BASE SHALL BE AS DIRECTED BY THE ENGINEER.

DETAIL A
FULL DEPTH ASPHALT PAVEMENT

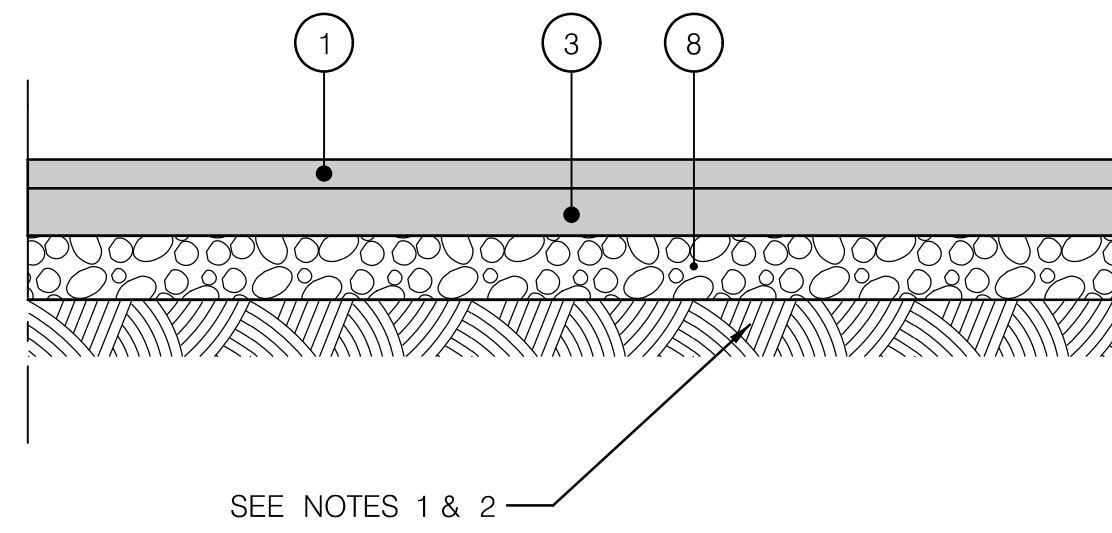


DETAIL B
MILLING AND OVERLAY



SUBGRADE PREPARATION PER THE SPECIFICATIONS; UNDERCUT AS DIRECTED BY THE ENGINEER

DETAIL C
PORTLAND CEMENT CONCRETE SIDEWALK

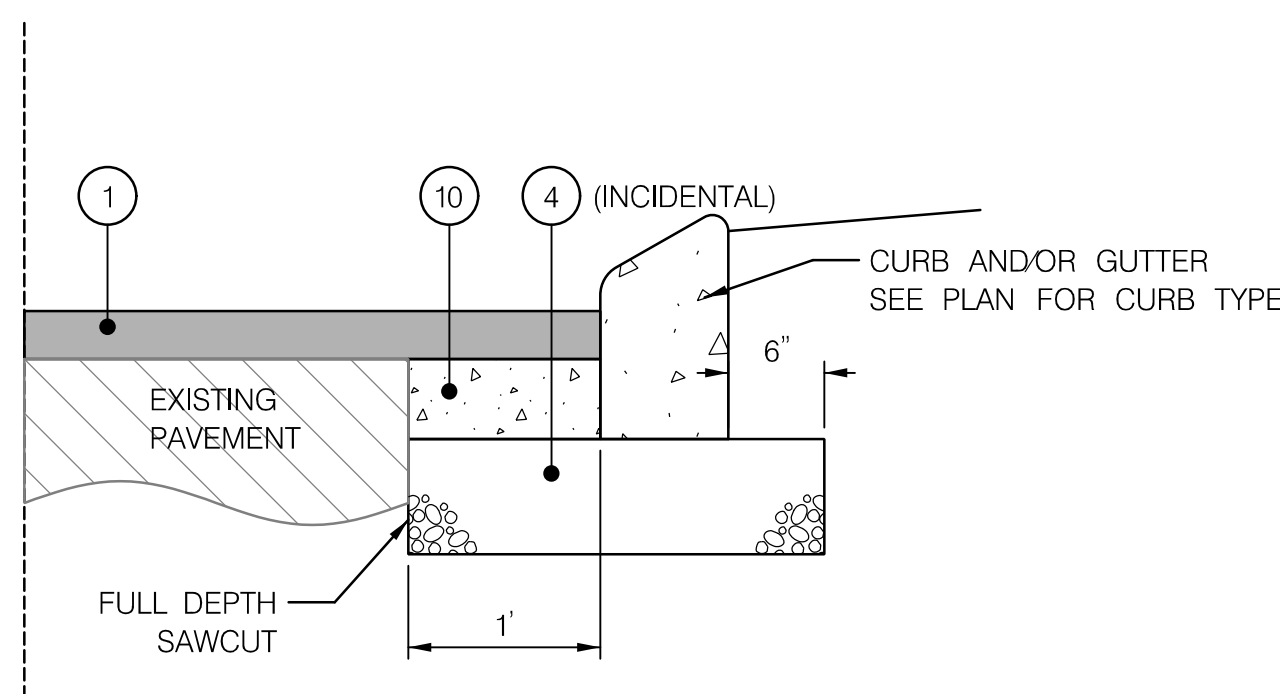


SEE NOTES 1 & 2

NOTES

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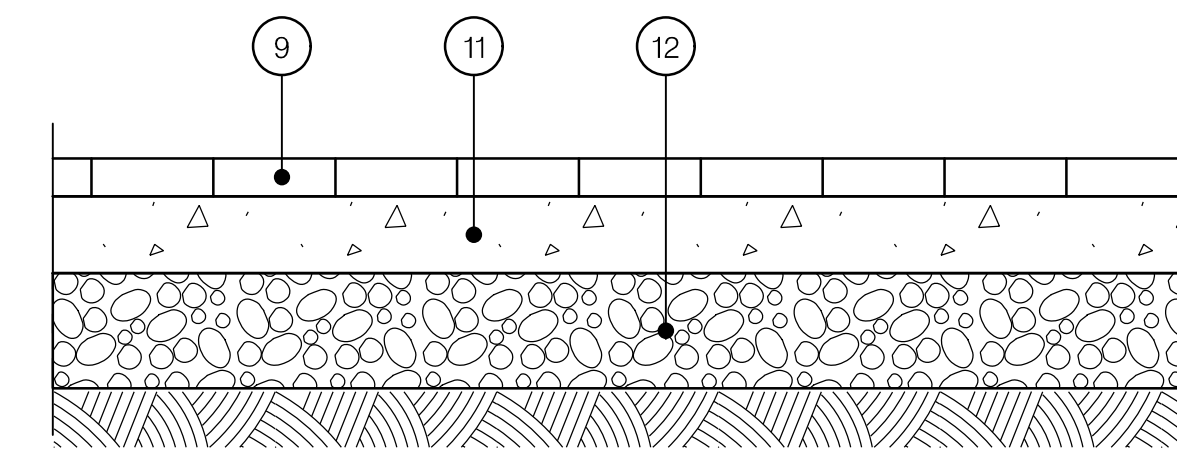
DETAIL D
ASPHALT BIKE LANE PAVEMENT SECTION



DETAIL E
CONCRETE CURB PATCH

LEGEND

- ① 2" HOT MIX ASPHALT SUPERPAVE, 9.5MM SURFACE COURSE, P.G. 64S-22, LEVEL 2
- ② 5" HOT MIX ASPHALT SUPERPAVE, 19.0MM BASE COURSE, P.G. 64S-22, LEVEL 2
- ③ 2.5" HOT MIX ASPHALT SUPERPAVE, 19.0MM BASE COURSE, P.G. 64S-22, LEVEL 2
- ④ 8 INCH GRADED AGGREGATE BASE, TWO EQUAL LAYERS
- ⑤ LIMIT OF CLASS I EXCAVATION
- ⑥ MILL EXISTING PAVEMENT TO 2 INCH DEPTH OR SURFACE OF EXISTING RIGID BASE
- ⑦ 5 INCH PLAIN PORTLAND CEMENT CONCRETE MIX NO. 7
- ⑧ 4 INCH AGGREGATE BASE COURSE
- ⑨ BRICK PAVERS (STD. NO. MC-111.02)
- ⑩ 8 INCH PLAIN PORTLAND CEMENT CONCRETE MIX NO. 7 (INCIDENTAL)
- ⑪ 4 INCH PLAIN PORTLAND CEMENT CONCRETE MIX NO. 7
- ⑫ 6 INCH GRADED AGGREGATE BASE (INCIDENTAL)



DETAIL F
BRICK SIDEWALK SECTION

11/16/2023 \\US1527-F01\shared\projects\202623\16\700 CADD\700 Sheet\pDT-0001_FlowerAve.dgn

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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
PAVEMENT DETAILS

SCALE: NTS

SHEET 09 of 40

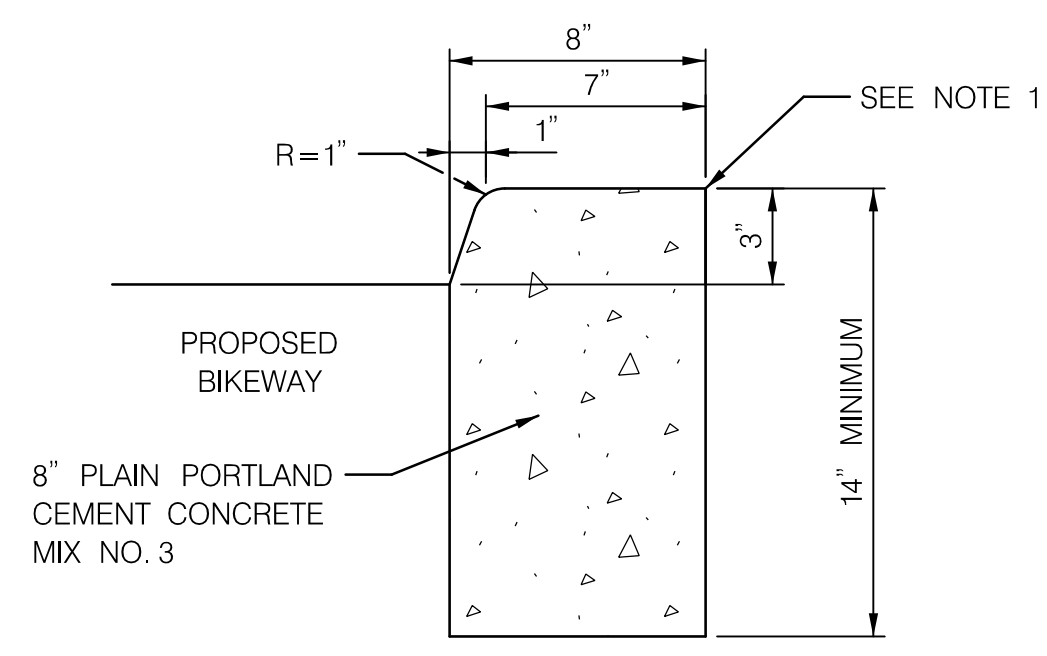
DT-01



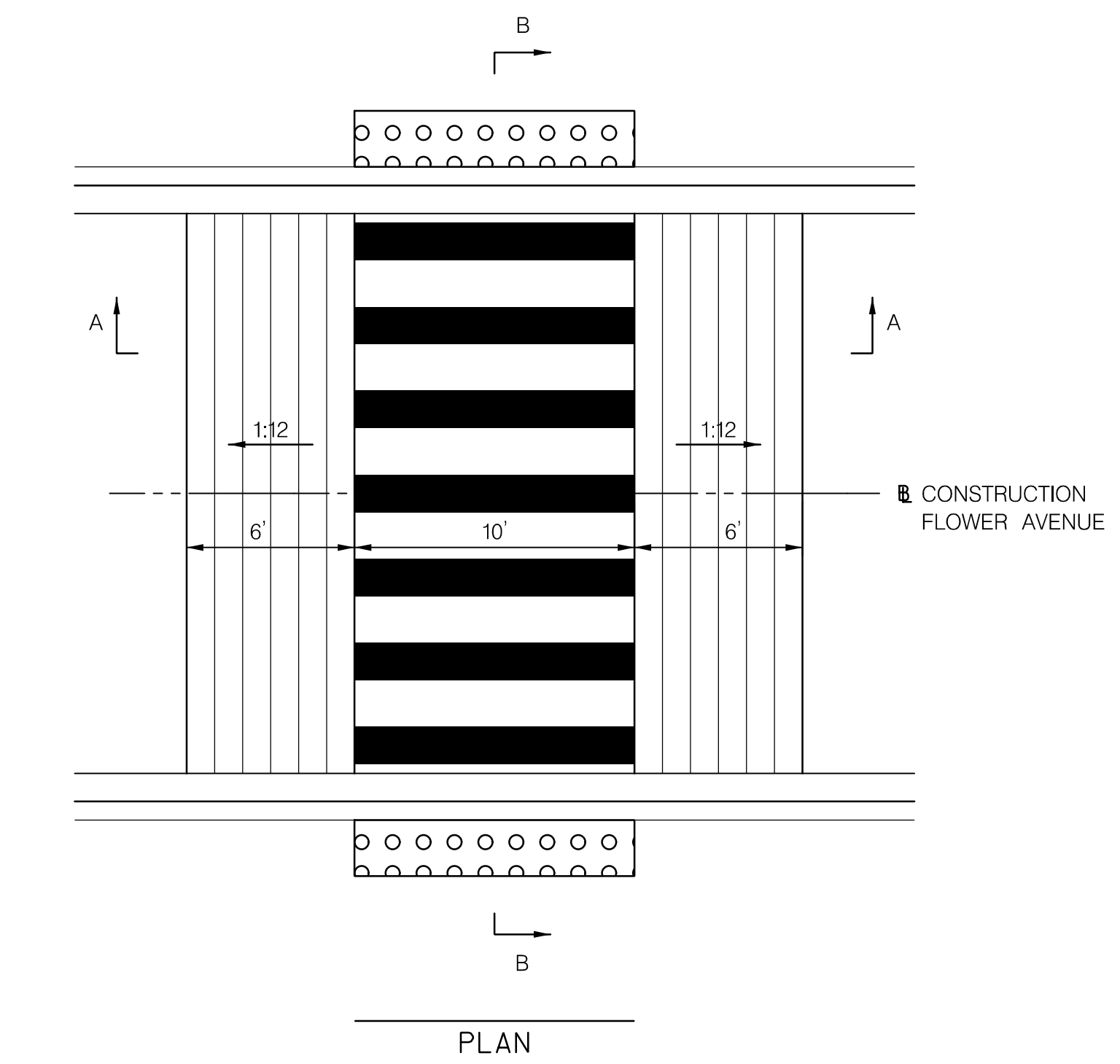
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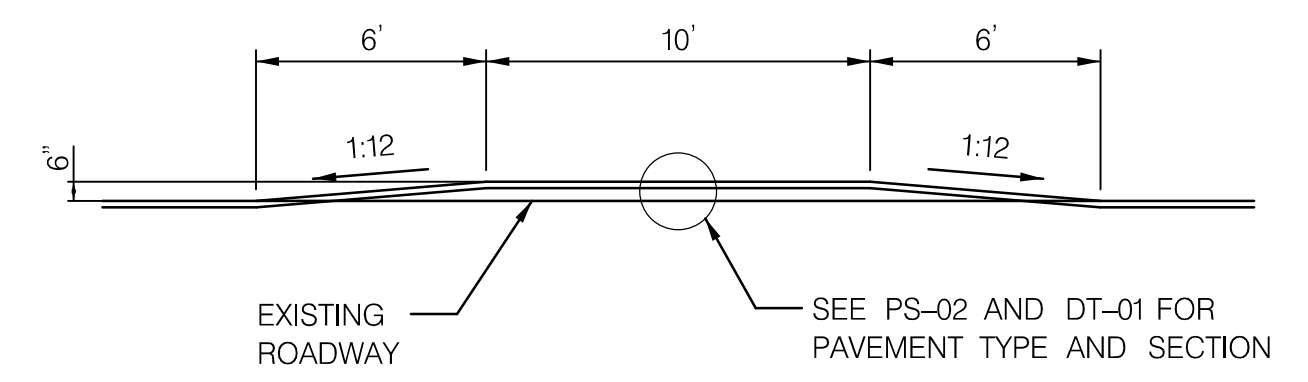
PROFESSIONAL CERTIFICATION:
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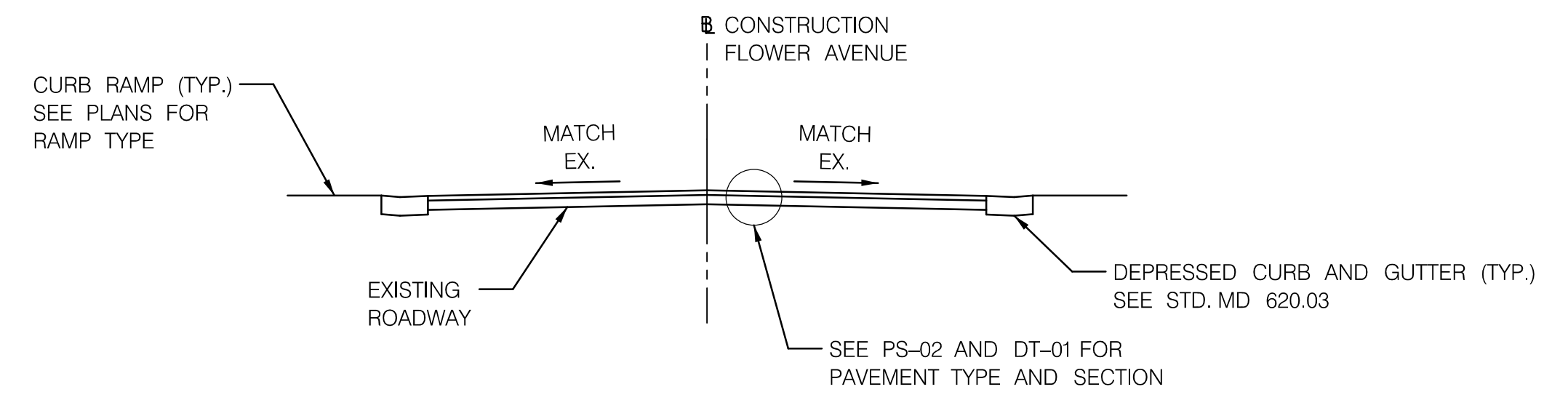
DETAIL A
MODIFIED TYPE D CURB



PLAN



SECTION A-A



SECTION B-B

DETAIL B
RAISED CROSSWALK

DT-02

NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: UMK	DATE: NOVEMBER, 2023
					DRAWN BY: UMK	DATE: NOVEMBER, 2023
					CHECKED BY: CC	DATE: NOVEMBER, 2023
					DRAWING NO.:	DATE:
					RECOMMENDED FOR APPROVAL	
					Chief, Design Section	Date
					APPROVED	
					Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
ROADWAY DETAILS

SCALE: NTS

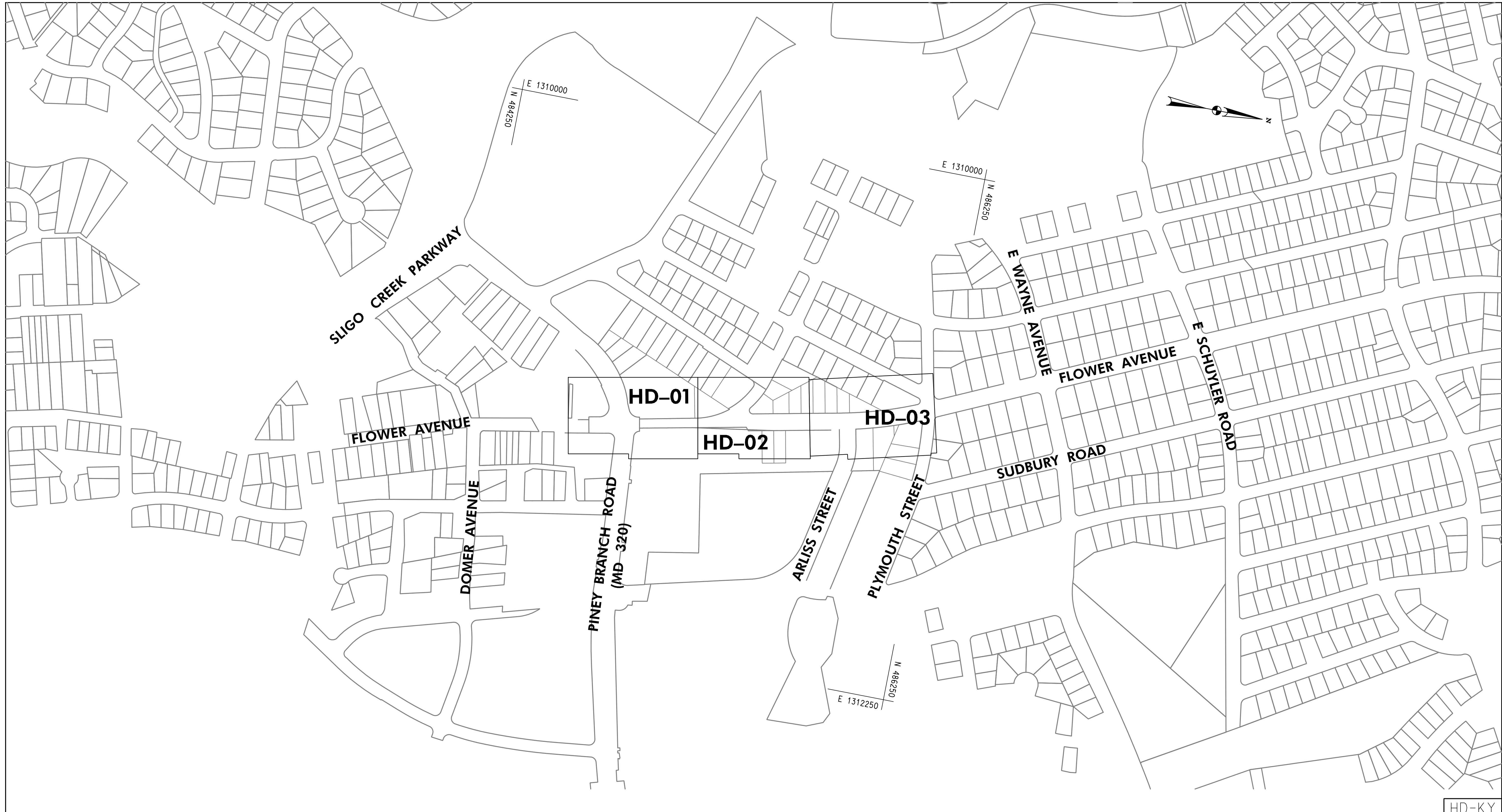
SHEET 10 of 40



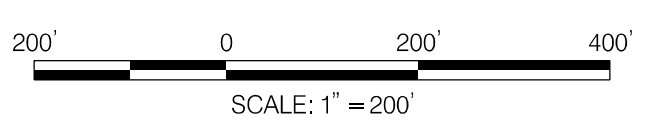
PROFESSIONAL CERTIFICATION:
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HD-KY



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DESIGNED BY: DHM III	DATE: NOVEMBER, 2023
DRAWN BY: UMK	DATE: NOVEMBER, 2023
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DRAWING NO.:	DATE:
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Chief, Design Section _____	Date _____
APPROVED	
Chief, Division of Transportation Engineering _____	Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
ROADWAY KEY PLAN

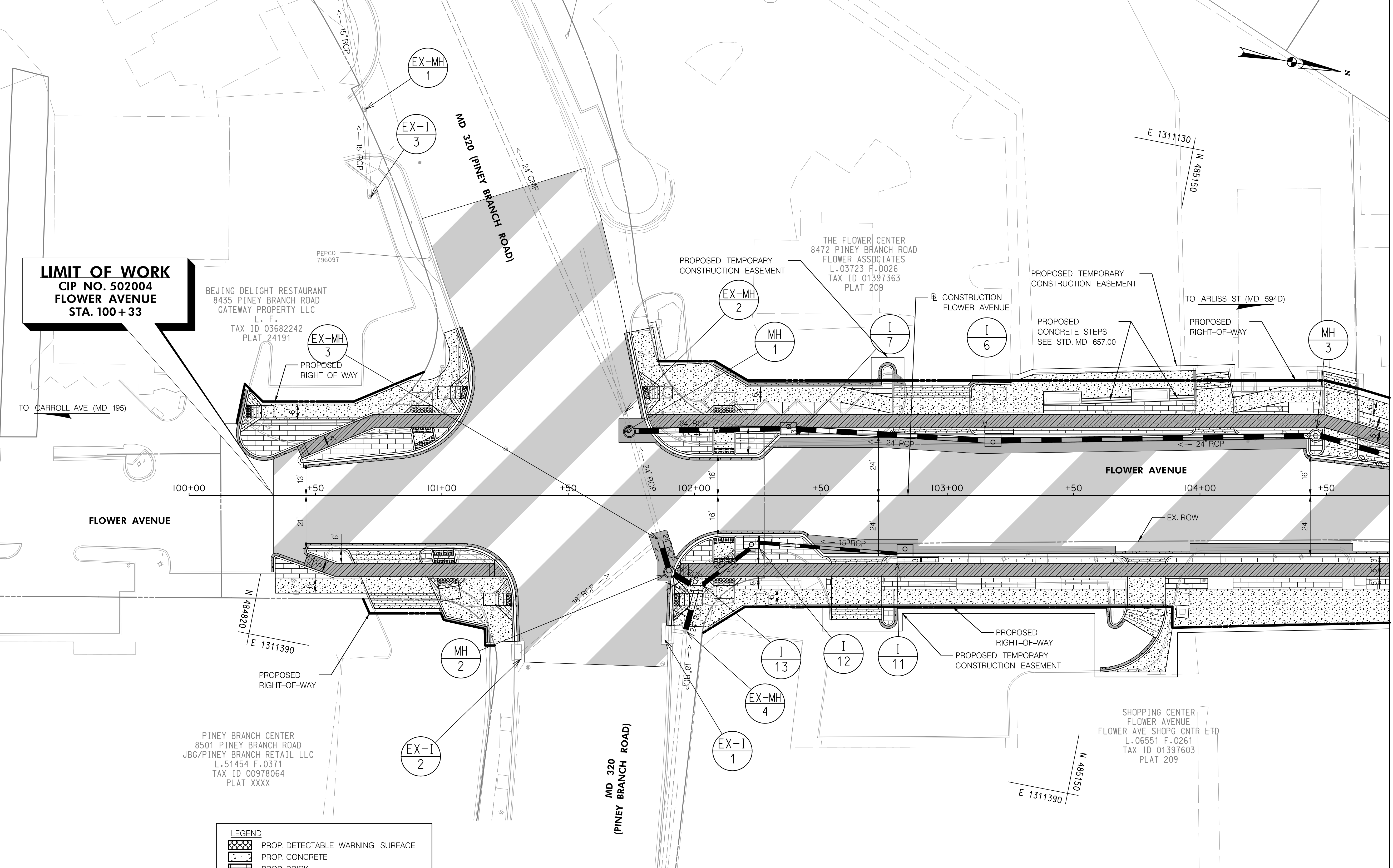


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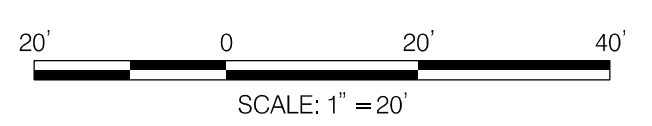
LIMIT OF WORK
CIP NO. 502004
FLOWER AVENUE
STA. 100+33



MATCH LINE STA. 104+75 - SEE SHEET PS-02

LEGEND

	PROP. DETECTABLE WARNING SURFACE
	PROP. CONCRETE
	PROP. BRICK
	PROP. MILL & OVERLAY
	PROP. FULL DEPTH PAVEMENT
	PROP. FULL DEPTH CYCLE TRACK
	PROP. CURB PATCH



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Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

DEPARTMENT OF TRANSPORTATION
 DIVISION OF TRANSPORTATION ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

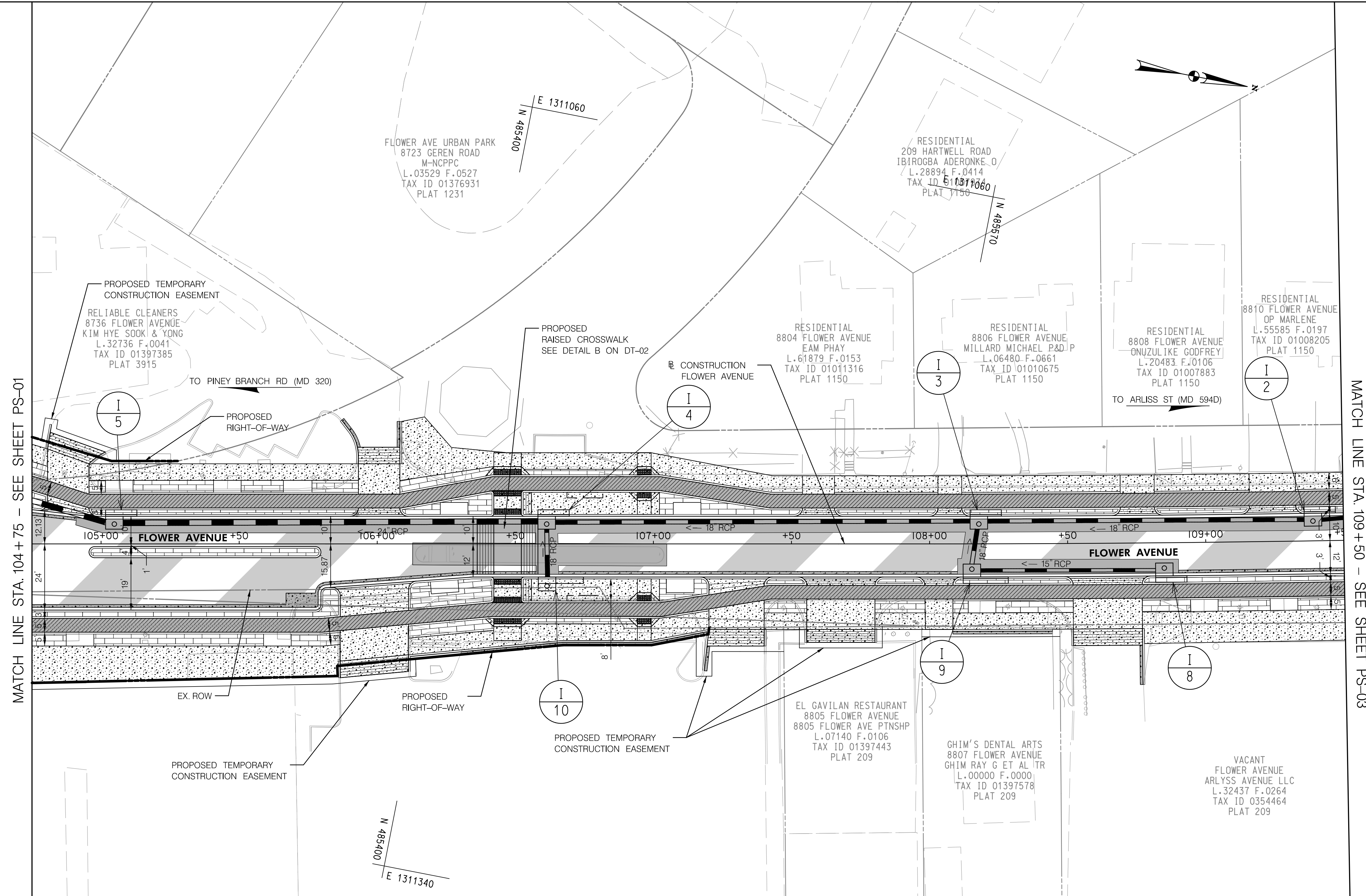
FLOWER AVENUE
 SEPARATED BIKE LANES
 ROADWAY PLAN

SCALE: 1"=20' SHEET 12 of 40

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PS-01

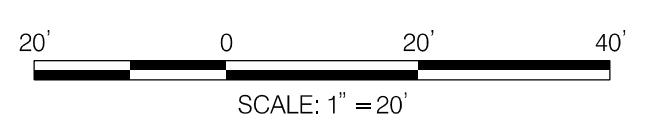


MATCH LINE STA. 104+75 - SEE SHEET PS-01

MATCH LINE STA. 109+50 - SEE SHEET PS-03

LEGEND

	PROP. DETECTABLE WARNING SURFACE
	PROP. CONCRETE
	PROP. BRICK
	PROP. MILL & OVERLAY
	PROP. FULL DEPTH PAVEMENT
	PROP. FULL DEPTH CYCLE TRACK
	PROP. CURB PATCH



NO.	REVISION	BY	APP'D	DATE

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Chief, Division of Transportation Engineering	Date

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MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 ROADWAY PLAN

SCALE: 1"=20' SHEET 13 of 40



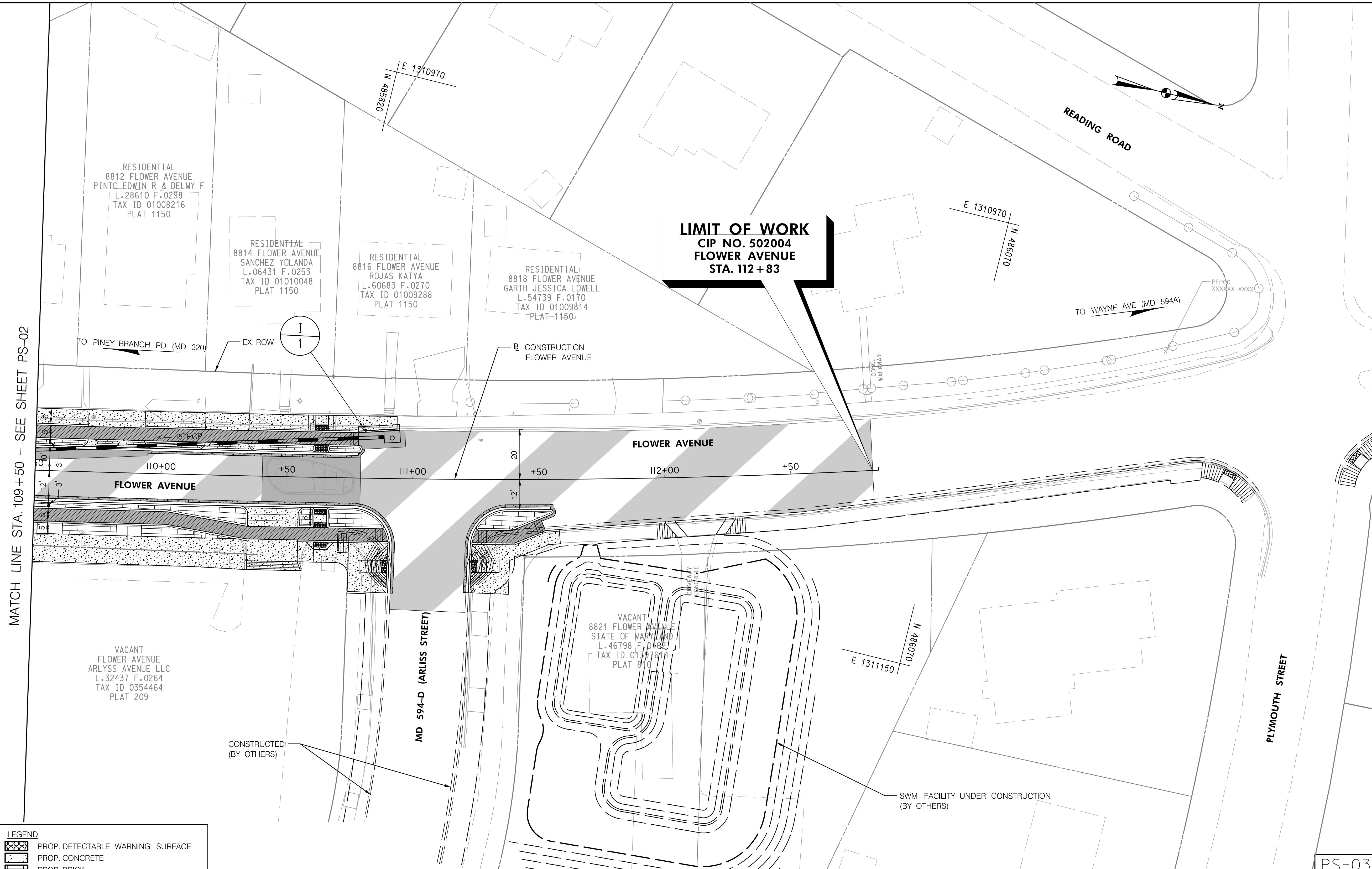
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PS-02

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LEGEND

	PROP. DETECTABLE WARNING SURFACE
	PROP. CONCRETE
	PROP. BRICK
	PROP. MILL & OVERLAY
	PROP. FULL DEPTH PAVEMENT
	PROP. FULL DEPTH CYCLE TRACK
	PROP. CURB PATCH

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BIPPA
Bicycle and Pedestrian Priority Areas

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Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date

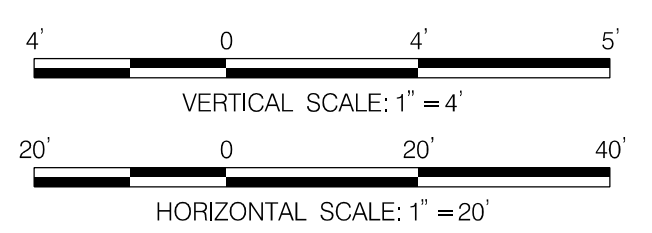
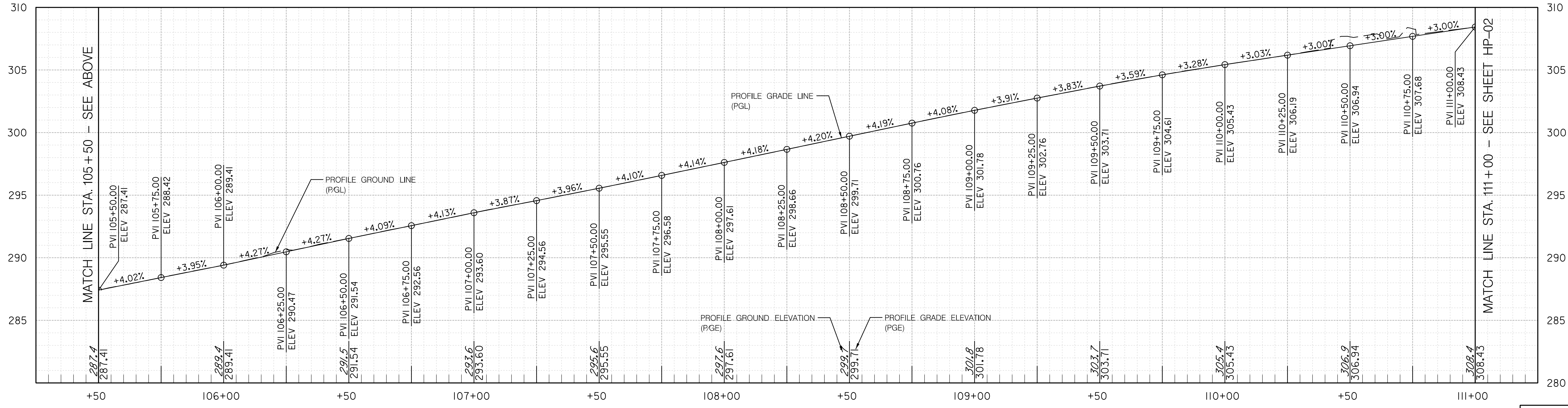
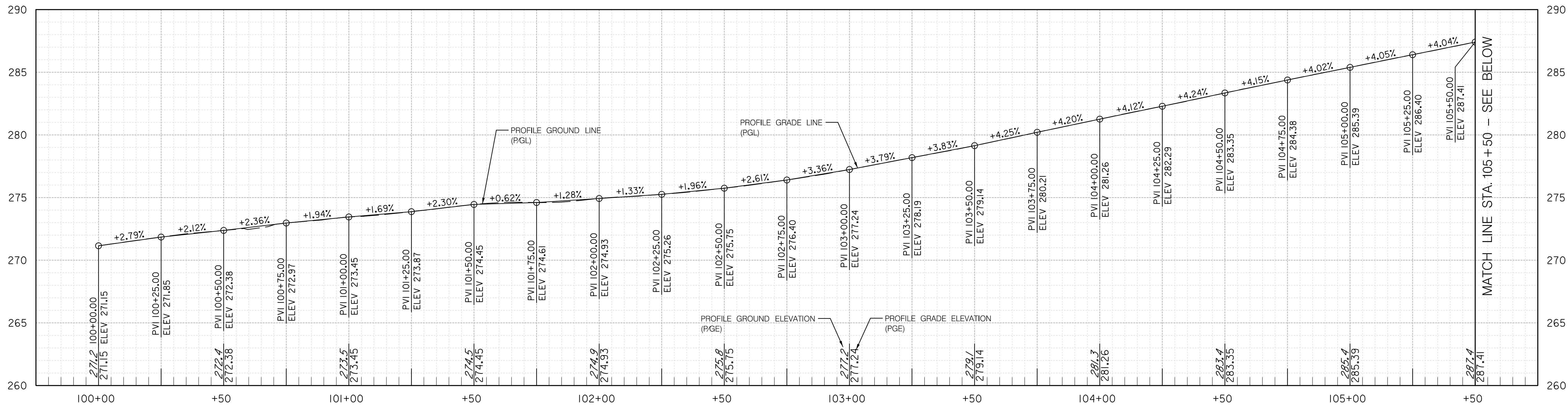
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DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
ROADWAY PLAN

SCALE: 1"=20' SHEET 14 of 40

PS-03

Attachment A: Corridor Engineering Drawings



NO.	REVISION	BY	APP'D	DATE

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Chief, Design Section _____ Date _____

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Chief, Division of Transportation Engineering _____ Date _____

DEPARTMENT OF TRANSPORTATION
 DIVISION OF TRANSPORTATION ENGINEERING
 MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 ROADWAY PROFILE

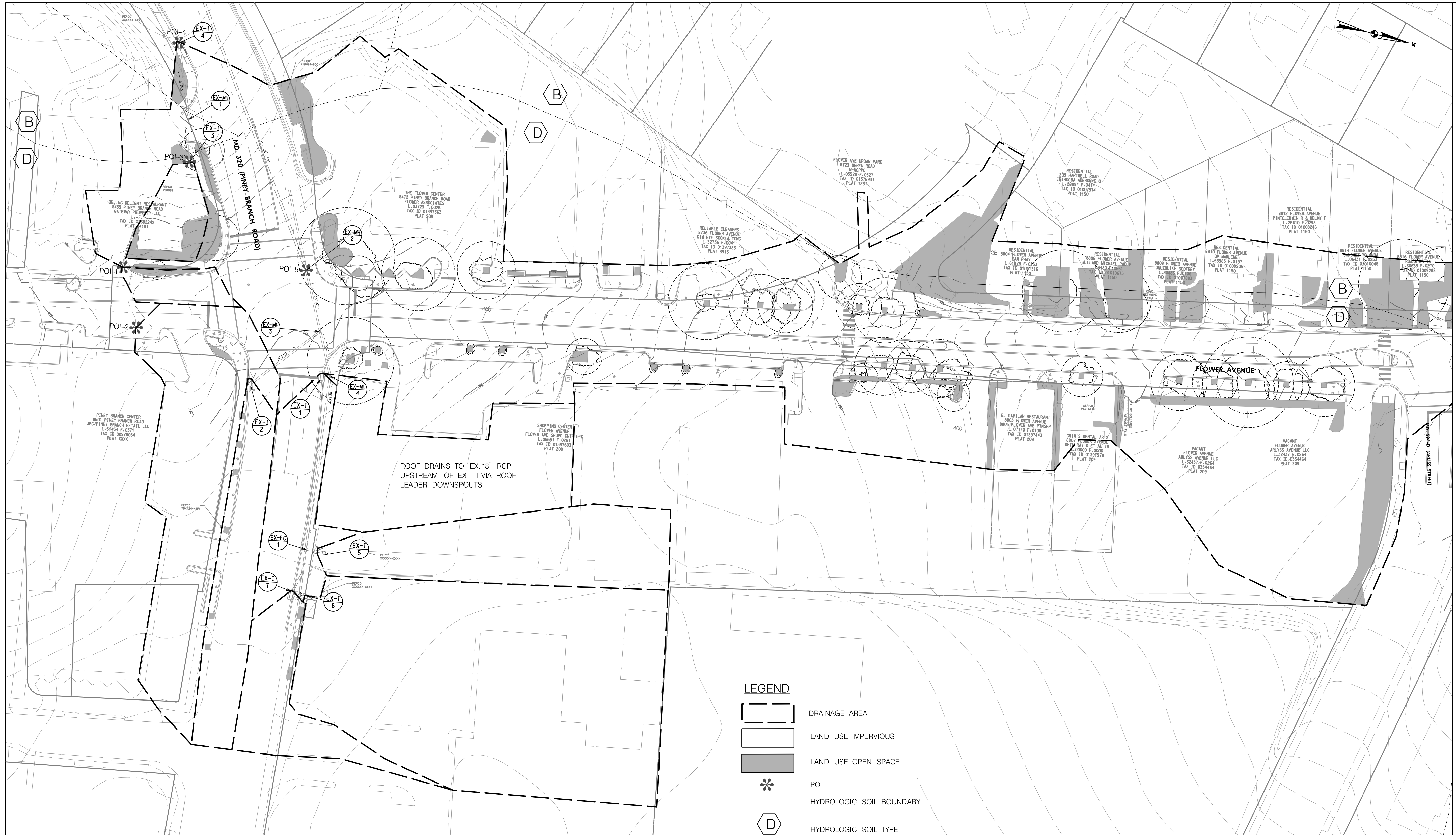


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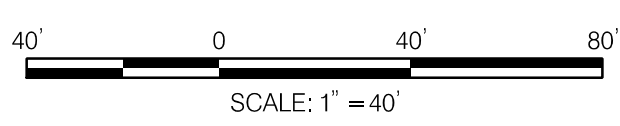
HP-01



MATCH LINE - SEE SHEET DA-02

LEGEND

- DRAINAGE AREA
- LAND USE, IMPERVIOUS
- LAND USE, OPEN SPACE
- * POI
- HYDROLOGIC SOIL BOUNDARY
- D HYDROLOGIC SOIL TYPE



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					Chief, Division of Transportation Engineering	Date

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MONTGOMERY COUNTY, MARYLAND**

FLOWER AVENUE
SEPARATED BIKE LANES
EXISTING CONDITIONS
DRAINAGE AREA MAP

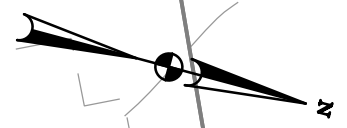
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DA-01



MATCH LINE - SEE SHEET DA-01



RESIDENTIAL
 GARIN, NICHOLE, VEGAR
 L.S. 1509 F. 001 P.01
 TAX 15 01009014
 PLAT 1150

VACANT
 8821 FLOWER AVENUE
 STATE OF MARYLAND
 L.S. 4678 F. 0052
 TAX 10 01397614
 PLAT 810

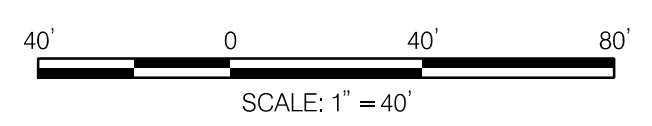
MD 594-D (ARLISS STREET)

D B

LEGEND

- DRAINAGE AREA
- LAND USE, IMPERVIOUS
- LAND USE, OPEN SPACE
- HYDROLOGIC SOIL BOUNDARY
- HYDROLOGIC SOIL TYPE
- POI

DA-02



NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: SMH	DATE: NOVEMBER, 2023
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					Chief, Design Section	Date
					APPROVED	
					Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 EXISTING CONDITIONS
 DRAINAGE AREA MAP

SCALE: 1"=40' SHEET 19 of 40

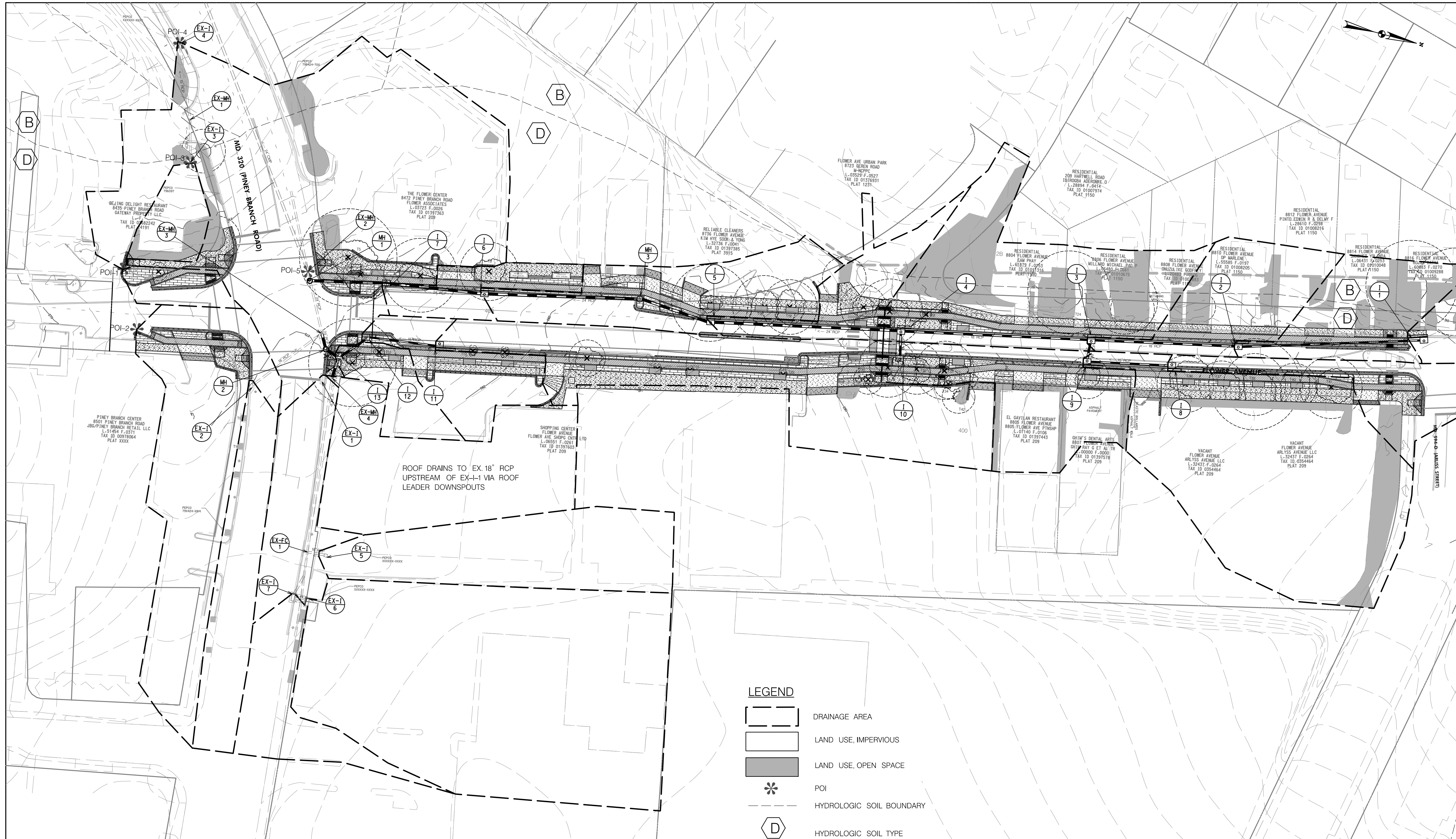
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BIPPA
 Bicycle and Pedestrian Priority Areas

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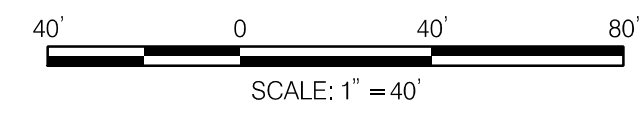
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MATCH LINE - SEE SHEET DA-04

LEGEND

- DRAINAGE AREA
- LAND USE, IMPERVIOUS
- LAND USE, OPEN SPACE
- * POI
- HYDROLOGIC SOIL BOUNDARY
- D HYDROLOGIC SOIL TYPE



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APPROVED						
					Chief, Division of Transportation Engineering	Date

**DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND**

FLOWER AVENUE
SEPARATED BIKE LANES
PROPOSED CONDITIONS
DRAINAGE AREA MAP

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DA-03



MATCH LINE - SEE SHEET DA-03

RESIDENTIAL
GARTH, JESSICA L. BELL
L.S. 1509 P. 001 FOR
TAX ID 20 397614
PLAT 810

VACANT
8821 FLOWER AVENUE
STATE OF MARYLAND
L.S. 1628 P. 0052
TAX ID 20 397614
PLAT 810

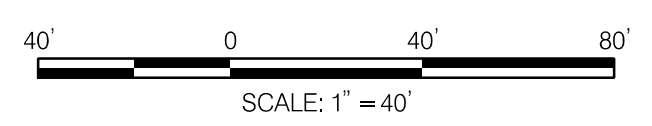
D

B

LEGEND

- DRAINAGE AREA
- LAND USE, IMPERVIOUS
- LAND USE, OPEN SPACE
- HYDROLOGIC SOIL BOUNDARY
- HYDROLOGIC SOIL TYPE
- POI

DA-04



NO.	REVISION	BY	APP'D	DATE

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APPROVED	
Chief, Division of Transportation Engineering _____	Date _____

**DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND**

FLOWER AVENUE
SEPARATED BIKE LANES
PROPOSED CONDITIONS
DRAINAGE AREA MAP

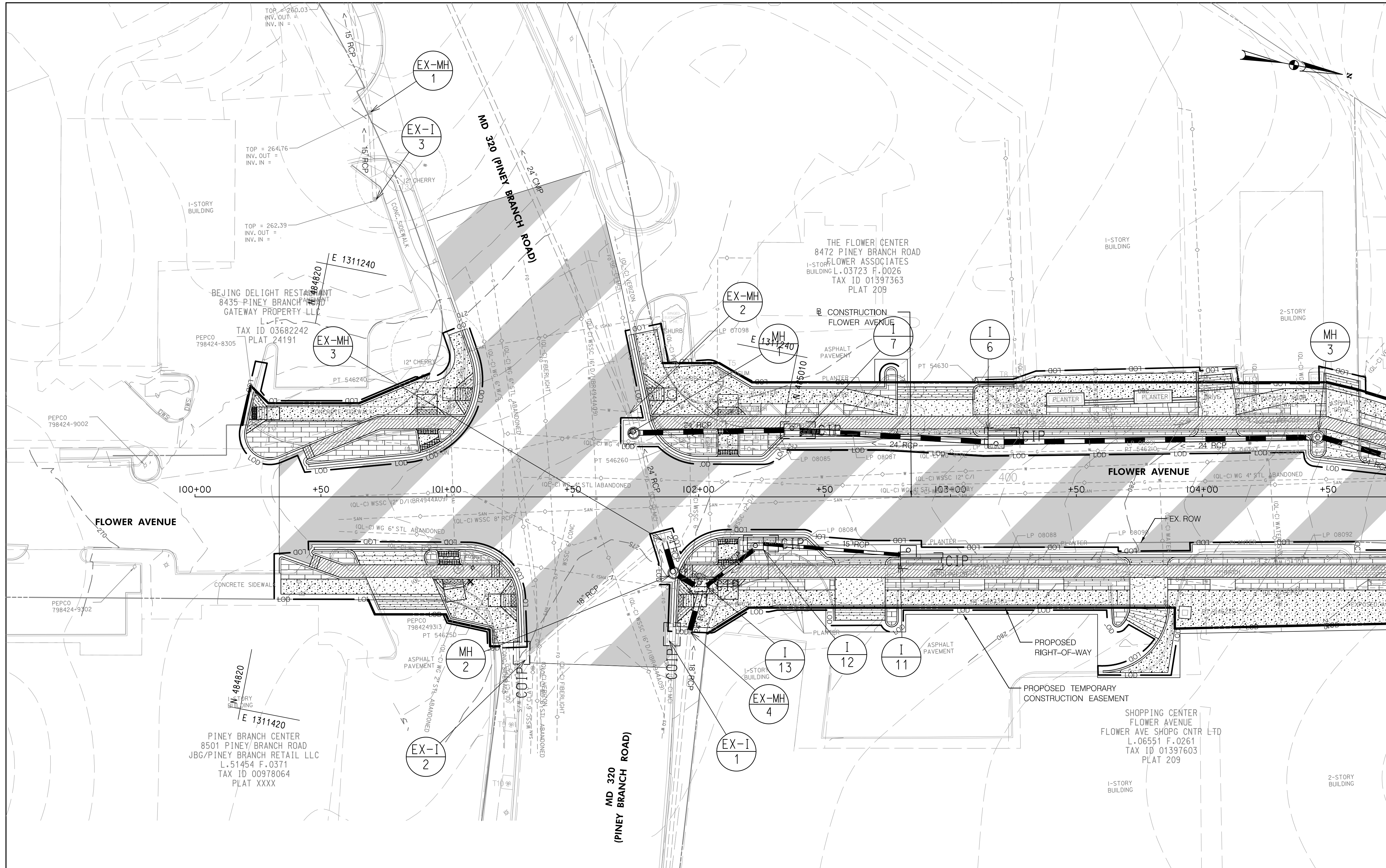
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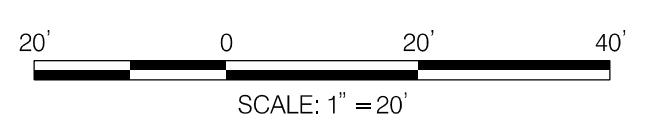


MATCH LINE STA. 104+75 - SEE SHEET ES-04

LEGEND

	CIP CURB INLET PROTECTION
	COMBINATION INLET PROTECTION
	LIMIT OF DISTURBANCE

ES-01



NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: SMH	DATE: NOVEMBER, 2023
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Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date

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DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

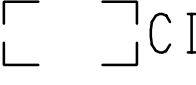

FLOWER AVENUE
 SEPARATED BIKE LANES
 EROSION AND SEDIMENT
 CONTROL PLAN

11/16/2023 \\US1527-F01\shared\projects\2026213116\700 CADD\700 Sheet\pES-P001_Flower Ave.dgn

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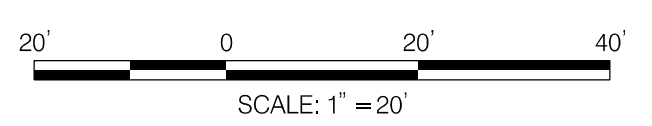
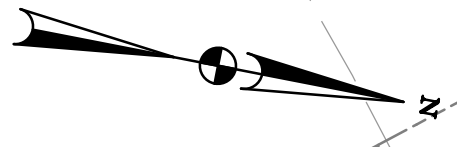
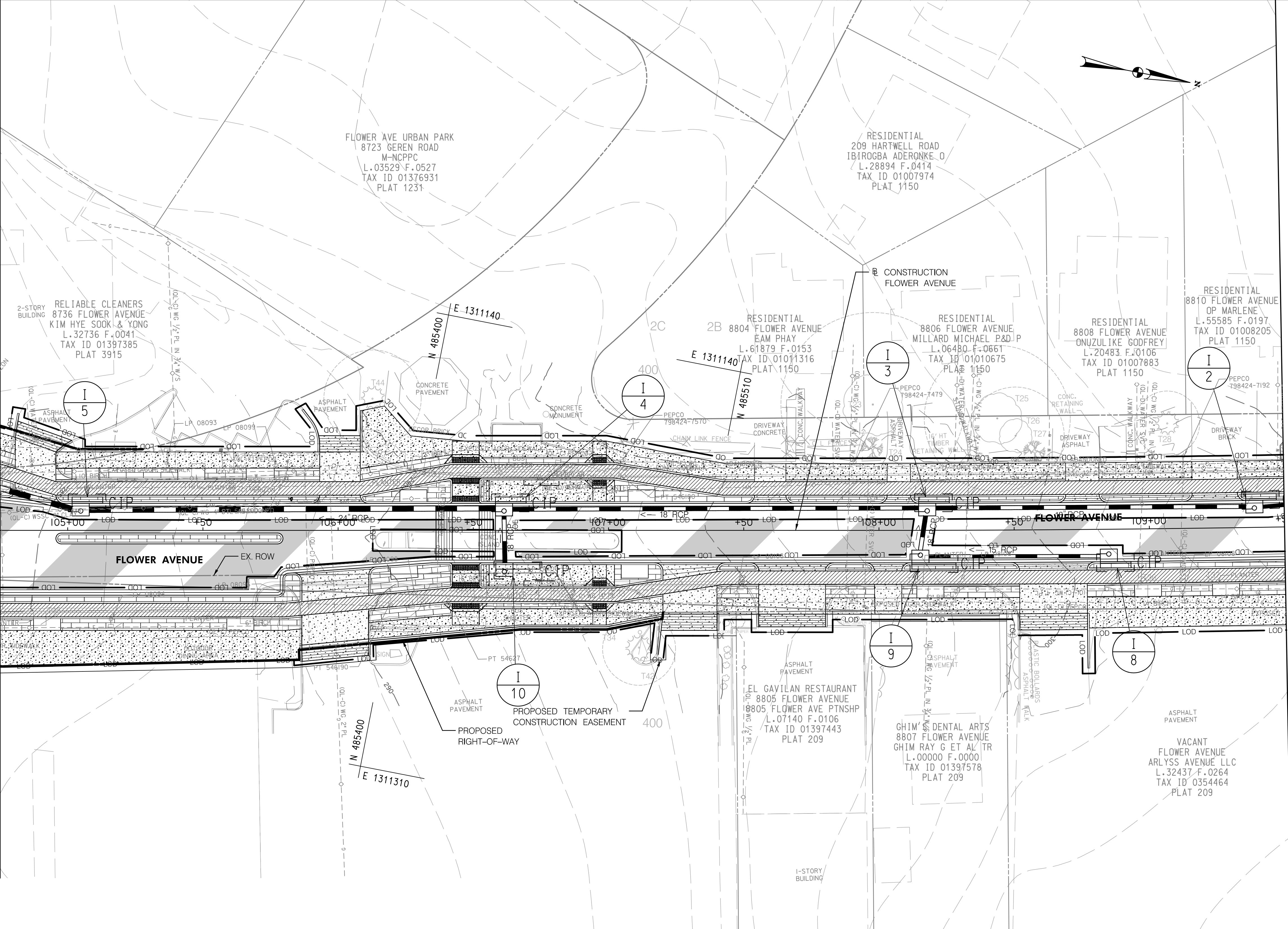


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LEGEND
 CIP CURB INLET PROTECTION
 LOD LIMIT OF DISTURBANCE

MATCH LINE STA. 104+75 - SEE SHEET ES-03

MATCH LINE STA. 109+50 - SEE SHEET ES-05



ES-02

NO.	REVISION	BY	APP'D	DATE

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APPROVED	
Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
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MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 EROSION AND SEDIMENT
 CONTROL PLAN

SCALE: 1"=20' SHEET 25 of 40

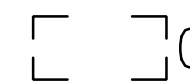



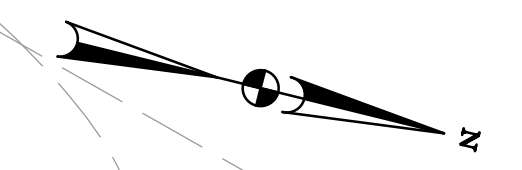
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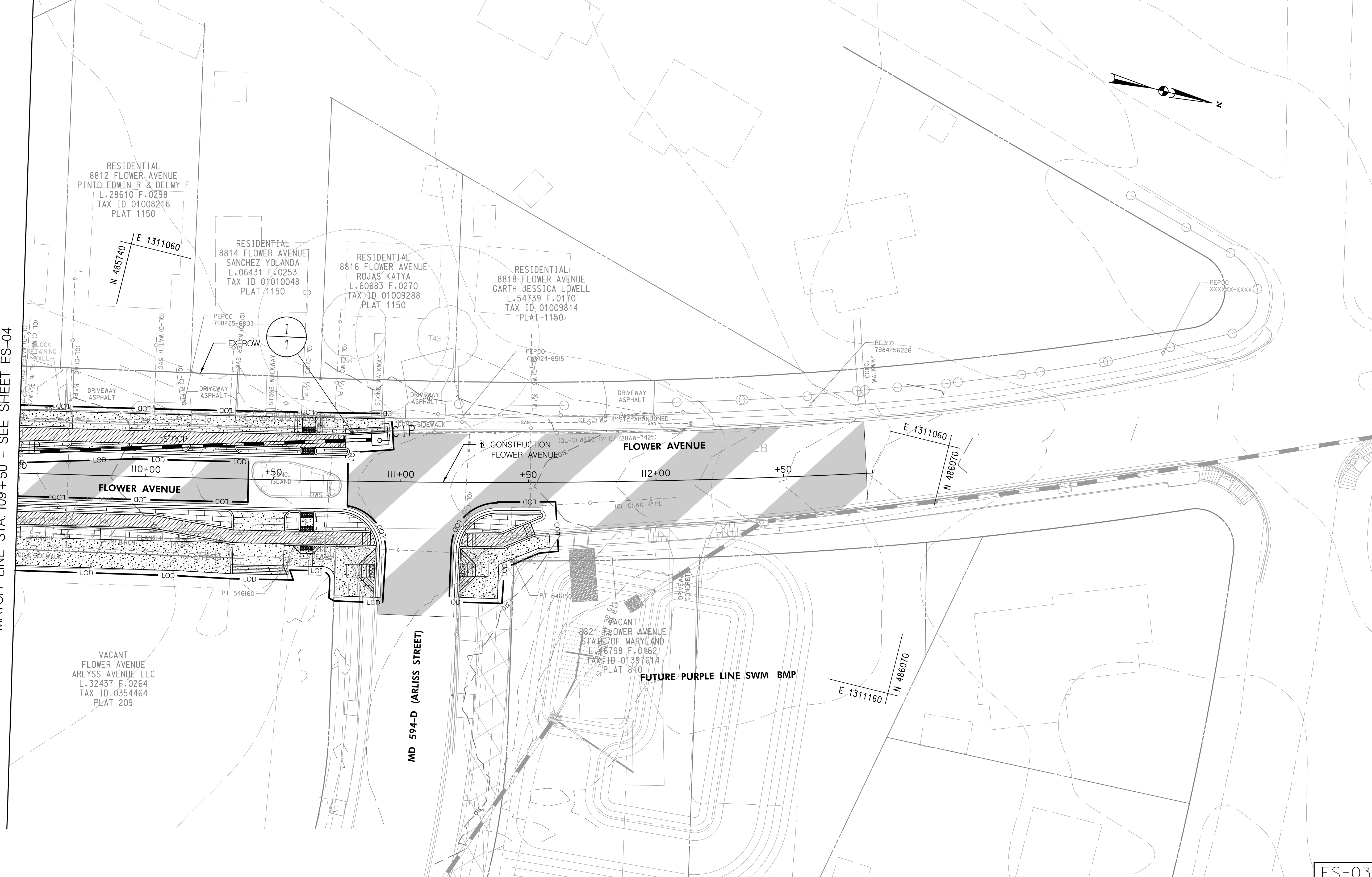
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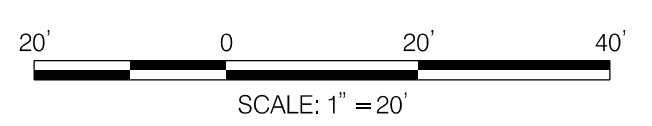
-  CIP CURB INLET PROTECTION
-  LOD LIMIT OF DISTURBANCE



MATCH LINE STA. 109+50 - SEE SHEET ES-04



ES-03



NO.	REVISION	BY	APP'D	DATE

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Chief, Design Section _____	Date _____
APPROVED	
Chief, Division of Transportation Engineering _____	Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 EROSION AND SEDIMENT
 CONTROL PLAN

SCALE: 1"=20' SHEET 26 of 40



PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED
 OR APPROVED BY ME, AND THAT I AM A DULY LICENSED
 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE
 OF MARYLAND.
 LICENSE NO: _____ EXPIRATION DATE: _____

810 Gleneagles Court, Suite 300
 Baltimore, MD 21286
 www.stantec.com

11/16/2023 \\US1527-F01\shared\projects\202623\16\700 CADD\700 Sheet\pES-P003_FlowerAve.dgn

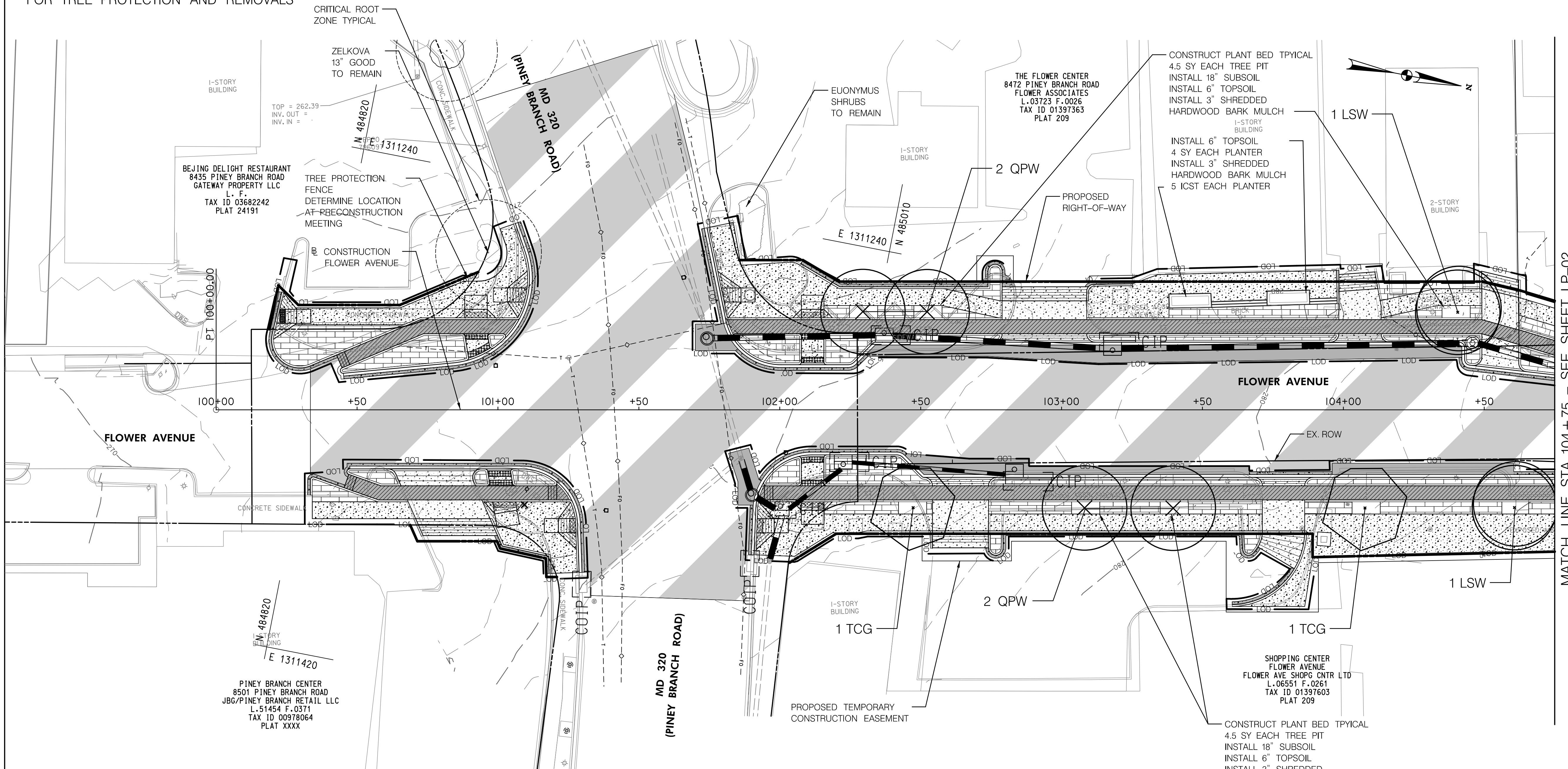
Attachment A: Corridor Engineering Drawings

PLANT LIST LP-01						
SYM	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	BALL	REMARKS
LSW	2	<i>Liquidambar styraciflua</i> 'Ward'	Ward Sweetgum	2.5 IN. CAL.	B&B	CENTRAL LEADER
QPA	4	<i>Quercus phellos</i> 'Abundance'	Abundance Willow Oak	2.5 IN. CAL.	B&B	CENTRAL LEADER
TCG	2	<i>Tilia cordata</i> 'Greenspire'	Greenspire Littleleaf Linden	2.5 IN. CAL.	B&B	CENTRAL LEADER
ICST	10	<i>Ilex crenata</i> 'Soft Touch'	Soft Touch Dwarf Holly	24" HT.	3 GAL CONT	30" ON CENTER

MATERIAL LIST - LP-01					
CATEGORY	COI	UNIT	DESCRIPTION	LOCATION	QUANTITY
701214	SY		PLACING FURNISHED SUBSOIL 18" DEPTH	TREE PIT (4'X10')	36
704365	SY		PLACING FURNISHED TOPSOIL 6" DEPTH	TREE PIT (4'X10')	44
710170	SY		CONSTRUCT PLANTING BEDS	TREE PIT (4'X10')	36
715015	SY		SHREDDED HARDWOOD BARK MULCHING 3" DEPTH	TREE PIT (4'X10')	44
700000	LF		TEMPORARY CHAIN LINK FENCE (TREE PROTECTION)	AS SHOWN	42

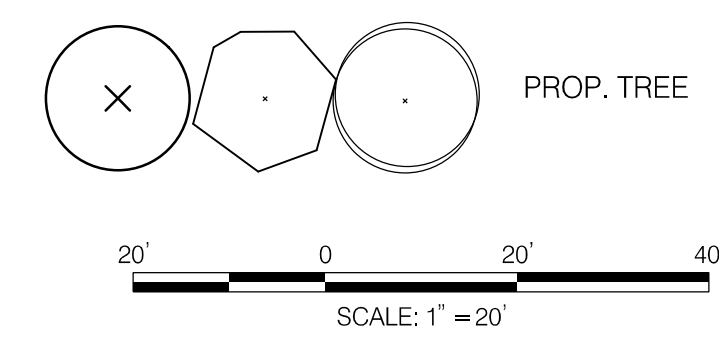
NOTE: SHREDDED HARDWOOD BARK MULCH IS INCIDENTAL TO CONSTRUCT PLANTING BEDS

REFER TO APPROVED SNRI 42023179E FOR TREE PROTECTION AND REMOVALS



MATCH LINE STA. 104+75 - SEE SHEET LP-02

LEGEND	
	PROP. DETECTABLE WARNING SURFACE
	PROP. CONCRETE
	PROP. BRICK
	PROP. MILL & OVERLAY
	PROP. FULL DEPTH PAVEMENT
	PROP. FULL DEPTH CYCLE TRACK
	PROP. CURB PATCH



NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KRD	DATE: NOVEMBER, 2023
DRAWN BY: MK	DATE: NOVEMBER, 2023
CHECKED BY: CC	DATE: NOVEMBER, 2023
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

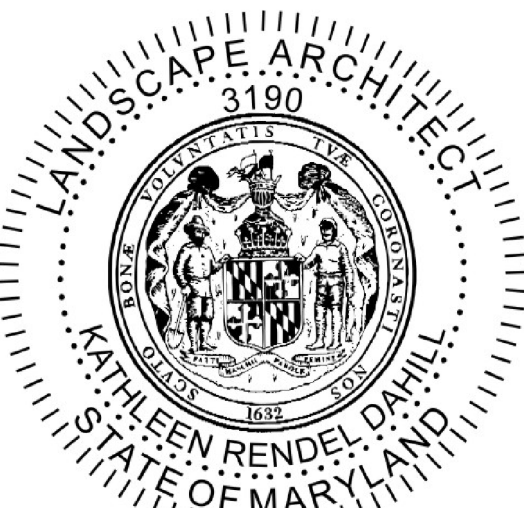
Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
LANDSCAPE PLAN



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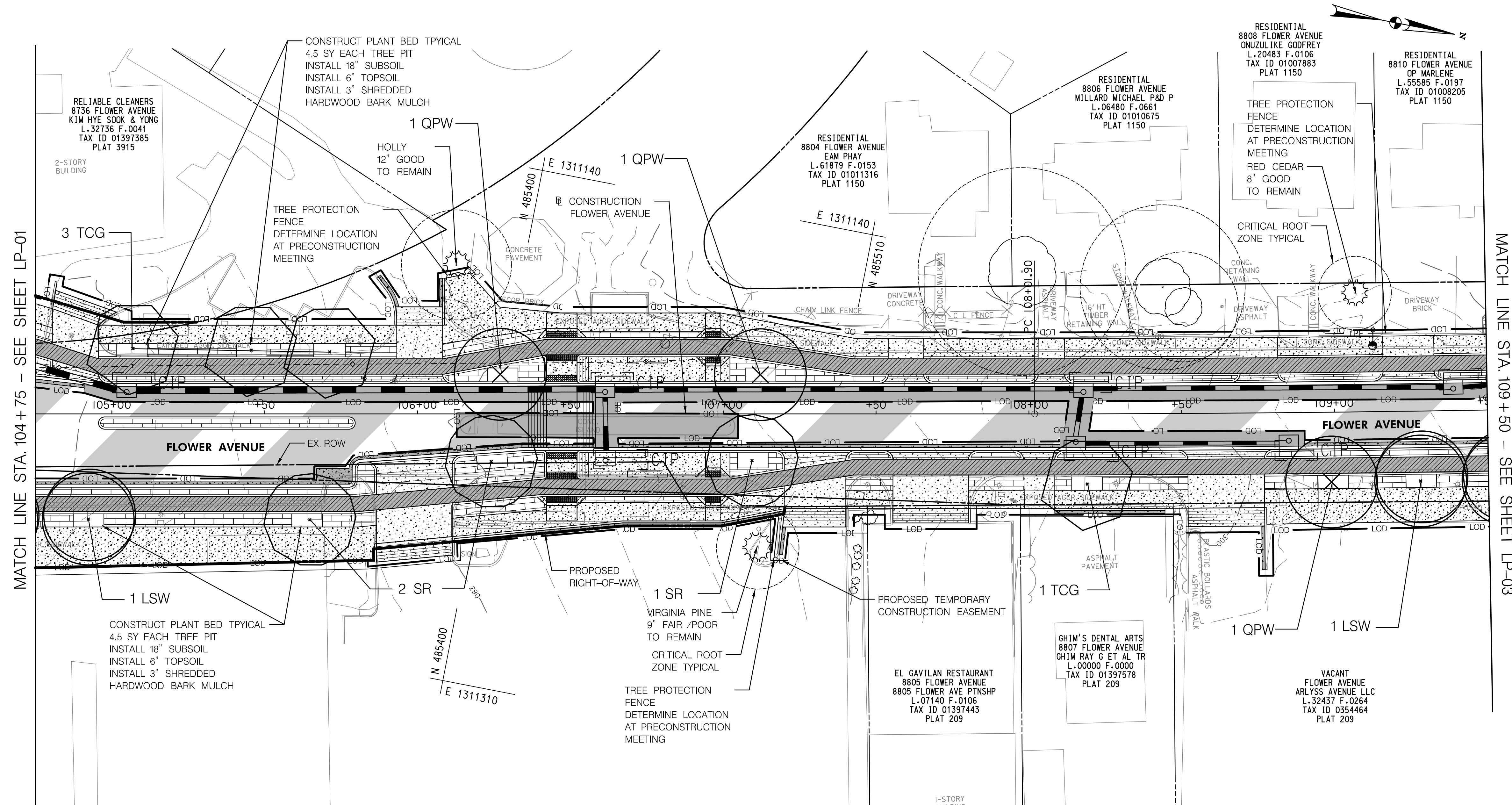
Attachment A: Corridor Engineering Drawings

PLANT LIST LP-02						
SYM	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	BALL	REMARKS
LSW	2	<i>Liquidambar styraciflua</i> 'Ward'	Ward Sweetgum	2.5 IN. CAL.	B&B	CENTRAL LEADER
QPA	3	<i>Quercus phellos</i> 'Abundance'	Abundance Willow Oak	2.5 IN. CAL.	B&B	CENTRAL LEADER
SR	3	<i>Syringa reticulata</i>	Lilac Tree	2.5 IN. CAL.	B&B	
TCG	3	<i>Tilia cordata</i> 'Greenspire'	Greenspire Littleleaf Linden	2.5 IN. CAL.	B&B	CENTRAL LEADER

REFER TO APPROVED SNRI 42023179E
FOR TREE PROTECTION AND REMOVALS

MATERIAL LIST - LP-02					
CATEGORY	CO	UNIT	DESCRIPTION	LOCATION	QUANTITY
701214	SY		PLACING FURNISHED SUBSOIL 18" DEPTH	TREE PIT (4'X10')	49.5
704365	SY		PLACING FURNISHED TOPSOIL 6" DEPTH	TREE PIT (4'X10')	49.5
710170	SY		CONSTRUCT PLANTING BEDS	TREE PIT (4'X10')	49.5
715015	SY		SHREDDED HARDWOOD BARK MULCHING 3" DEPTH	TREE PIT (4'X10')	49.5
700000	LF		TEMPORARY CHAIN LINK FENCE (TREE PROTECTION)	AS SHOWN	62

NOTE: SHREDDED HARDWOOD BARK MULCH IS INCIDENTAL TO CONSTRUCT PLANTING BEDS

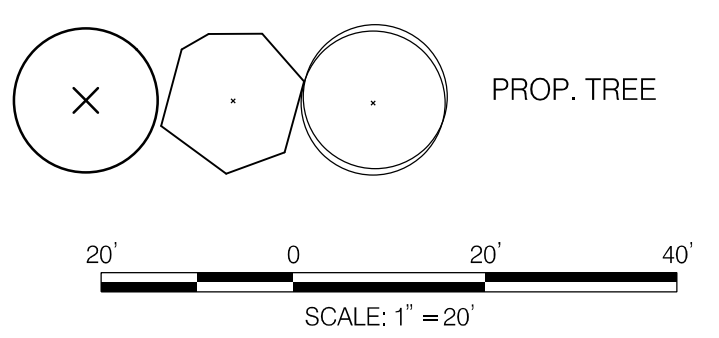


MATCH LINE STA. 104+75 - SEE SHEET LP-01

MATCH LINE STA. 109+50 - SEE SHEET LP-03

LEGEND

	PROP. DETECTABLE WARNING SURFACE
	PROP. CONCRETE
	PROP. BRICK
	PROP. MILL & OVERLAY
	PROP. FULL DEPTH PAVEMENT
	PROP. FULL DEPTH CYCLE TRACK
	PROP. CURB PATCH



NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KR D	DATE: NOVEMBER, 2023
DRAWN BY: MK	DATE: NOVEMBER, 2023
CHECKED BY: CC	DATE: NOVEMBER, 2023
DRAWING NO.:	DATE:
RECOMMENDED FOR APPROVAL	
Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
LANDSCAPE PLAN



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OR APPROVED BY ME AND THAT I AM A REGISTERED
LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE
OF MARYLAND.
LICENSE NO: #3190 EXPIRATION DATE: MAY 7, 2025

LP-02

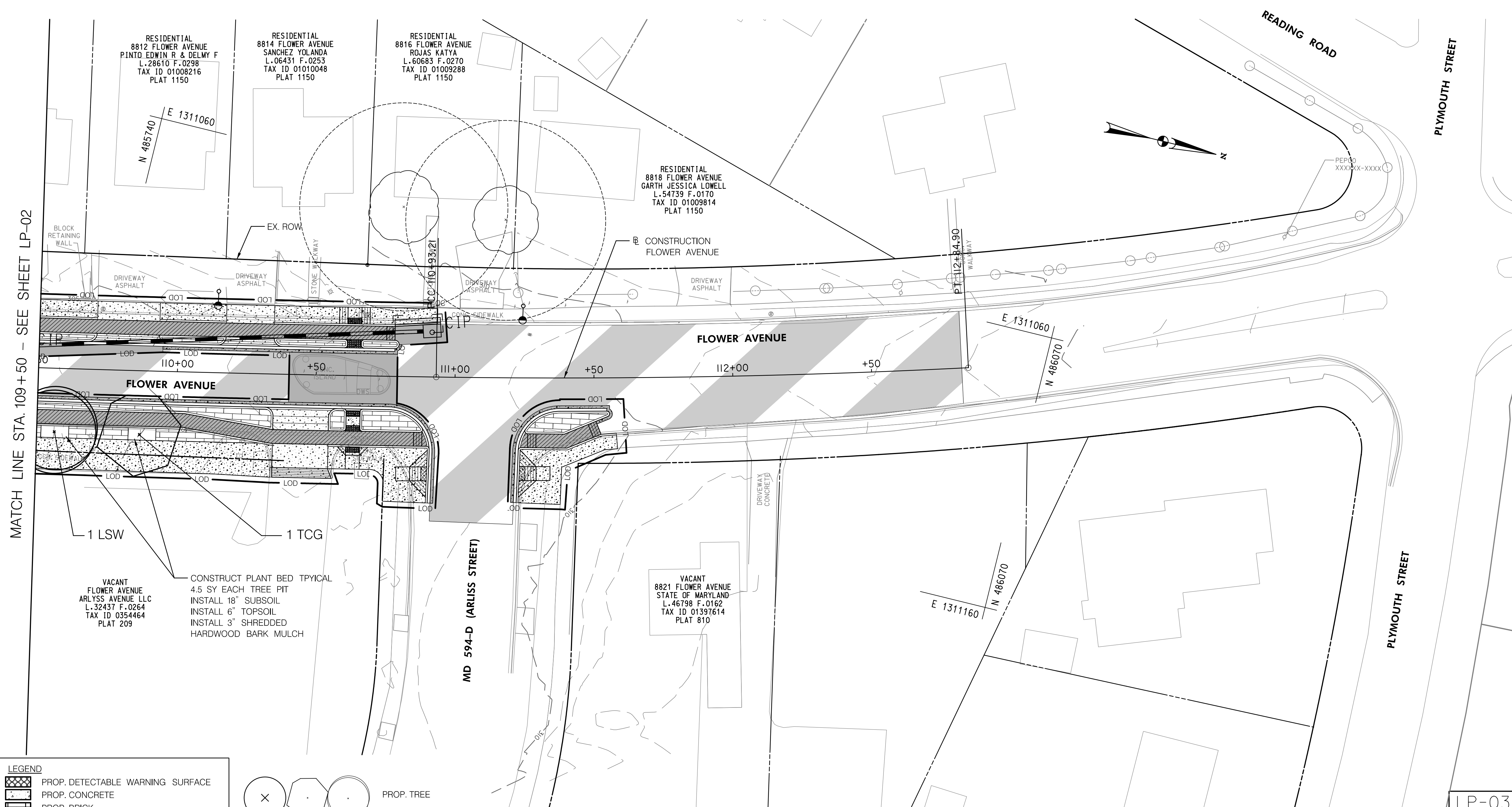
Attachment A: Corridor Engineering Drawings

PLANT LIST LP-03						
SYM	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	BALL	REMARKS
LSW	1	<i>Liquidambar styraciflua</i> 'Ward'	Ward Sweetgum	2.5 IN. CAL.	B&B	CENTRAL LEADER
TCG	1	<i>Tilia cordata</i> 'Greenspire'	Greenspire Littleleaf Linden	2.5 IN. CAL.	B&B	CENTRAL LEADER

REFER TO APPROVED SNRI 42023179E FOR TREE PROTECTION AND REMOVALS

MATERIAL LIST - LP-03				
CATEGORY CODE	UNIT	DESCRIPTION	LOCATION	QUANTITY
701214	SY	PLACING FURNISHED SUBSOIL 18" DEPTH	TREE PIT (4'X10')	9
704365	SY	PLACING FURNISHED TOPSOIL 6" DEPTH	TREE PIT (4'X10')	9
710170	SY	CONSTRUCT PLANTING BEDS	TREE PIT (4'X10')	9
715015	SY	SHREDDED HARDWOOD BARK MULCHING 3" DEPTH	TREE PIT (4'X10')	9

NOTE: SHREDDED HARDWOOD BARK MULCH IS INCIDENTAL TO CONSTRUCT PLANTING BEDS



LEGEND

- PROP. DETECTABLE WARNING SURFACE
- PROP. CONCRETE
- PROP. BRICK
- PROP. MILL & OVERLAY
- PROP. FULL DEPTH PAVEMENT
- PROP. FULL DEPTH CYCLE TRACK
- PROP. CURB PATCH

PROP. TREE

SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KR D	DATE: NOVEMBER, 2023
DRAWN BY: MK	DATE: NOVEMBER, 2023
CHECKED BY: CC	DATE: NOVEMBER, 2023
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
LANDSCAPE PLAN

SCALE: 1"=20' SHEET 29 of 40

11/16/2023 \\US1527-F01\shared\projects\202623116\700 CADD\700 Sheet\pLD-P003_FlowerAve.dgn



PROFESSIONAL CERTIFICATION:
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LICENSE NO: #3190 EXPIRATION DATE: MAY 7, 2025

Stantec

810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BIPPA
Bicycle and Pedestrian Priority Areas

LP-03

Attachment A: Corridor Engineering Drawings

GENERAL LANDSCAPE NOTES

1. INSTALL A MINIMUM OF 4 IN. DEPTH TOPSOIL IN TURFGRASS ESTABLISHMENT AREAS.
2. TREAT AND REMOVE INVASIVE SPECIES WHERE INDICATED ON THE PLANS AND WHERE DIRECTED BY THE ENGINEER.
3. RETAIN DESIRABLE TREES, SHRUBS, AND PERENNIALS EXCEPT WHERE INDICATED ON THE PLANS OR DIRECTED BY THE ENGINEER.
4. DO NOT REMOVE OR PRUNE THE BRANCHES OR ROOTS OF TREES WITHIN MDOT SHA RIGHT-OF-WAY WITHOUT AN APPROVED ROADSIDE TREE PERMIT OR REFORESTATION SITE REVIEW APPROVAL FROM THE MD DEPARTMENT OF NATURAL RESOURCES FOREST SERVICE.
5. PLANT IN CLUSTERS OF 3 TO 5 INDIVIDUAL TREES/SHRUBS OF LIKE SPECIES TO CREATE A PATTERN CONSISTENT WITH NATURAL FOREST DEVELOPMENT.

SITE SPECIFIC NOTES

1. TREE PLANTING SETBACKS:
 - A. NO TREES SHALL BE LOCATED IN CLEAR ZONES ADJACENT TO TRAVEL LANES OR IN INTERSECTION SIGHT TRIANGLES.
 1. IN FILL SLOPES OF 5:1 TO 4:1 THE MINIMUM OFFSET DISTANCE TO TREE TRUNKS FOR A TRAVEL LANE WITH A POSTED SPEED OF 55 MPH IS 30 FEET.
 - B. MAINTAIN OFFSETS FROM OVERHEAD ELECTRIC LINES AS PER THE FOLLOWING BASED ON SIZE AT MATURITY:
 1. OFFSET SMALL TREES (UNDER 20 FT. HEIGHT AT MATURITY) 20 FT. FROM WIRES AND POLES.
 2. OFFSET MEDIUM TREES (20-50 FT. HEIGHT AT MATURITY AND MEDIUM AND LARGE COLUMNAR TREES 20 FT. WIDE AT MATURITY) 30 FT. FROM WIRES AND POLES.
 3. OFFSET LARGE TREES (OVER 50 FT. HEIGHT AT MATURITY) 50 FT. FROM WIRES AND POLES.
 - C. INSTALL TREES AT LEAST 7 FT. PLUS HALF THE PIPE DIAMETER FROM THE CENTERLINE OF WATER, GAS, AND SANITARY SEWER LINES. ADDITIONAL SETBACKS MAY BE REQUIRED BY THE OWNER OF THE UTILITY.
 - D. INSTALL TREES AT LEAST 7 FT. PLUS HALF THE PIPE DIAMETER OF UNDERGROUND STORM DRAIN PIPES.
 - E. INSTALL TREES AT LEAST 15 FT. FROM BACK OF TRAFFIC BARRIERS.
 - F. INSTALL SHADE TREES AND UPRIGHT/COLUMNAR ORNAMENTAL TREES AT LEAST 5 FT. BACK FROM THE BACK OF CURB IN CLOSED-SECTION MEDIAN PLANTINGS.
 - G. INCREASE SETBACKS FROM ROADS, SIDEWALKS, TRAFFIC CONTROL DEVICES AND STRUCTURES FOR MULTISTEMMED AND/OR BROAD-SPREADING ORNAMENTAL TREES TO MAINTAIN NECESSARY BRANCH CLEARANCE.
2. SHRUB PLANTING SETBACKS:
 - A. INSTALL SHRUBS AT LEAST 10 FT. FROM TRAFFIC BARRIERS.
 - B. DO NOT INSTALL SHRUBS IN SIGHT TRIANGLES FOR INTERSECTIONS WHERE THE MATURE HEIGHT OF THE SHRUBS WHEN ADDED TO EXISTING TERRAIN WILL EXCEED 30 IN. HEIGHT.

MDTA LANDSCAPE NOTES

7.1 LANDSCAPE NOTES. LANDSCAPE CONSTRUCTION WITHIN THE RIGHT OF WAY OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (SHA) AND MARYLAND TRANSPORTATION AUTHORITY (MDTA) WITHIN STATE PROPERTY, EASEMENT AREAS AND LANDS TO BE CONVEYED TO SHA/MTA SHALL CONFORM TO THESE NOTES. FOR GUIDANCE REGARDING DESIGN MODIFICATIONS DURING CONSTRUCTION, REFER TO SHA LANDSCAPE DESIGN GUIDE, SHA LANDSCAPE ESTIMATING MANUAL, AND SHA ENVIRONMENTAL GUIDE FOR ACCESS AND DISTRICT PERMIT APPLICANTS AT [HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=25](http://www.roads.maryland.gov/index.aspx?pageid=25)

7.2 SHA STANDARD SPECIFICATIONS. LANDSCAPE CONSTRUCTION SHALL CONFORM TO SECTIONS 701 THROUGH 716, AND LANDSCAPE MATERIALS SHALL CONFORM TO SECTION 920 OF THE MOST RECENT REVISION OF SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, INCLUDING ALL REVISIONS AND SUPPLEMENTS, AND AS SPECIFIED IN THESE NOTES. THESE REQUIREMENTS SHALL SUPERSEDE ALL OTHER SPECIFICATIONS FOR WORK ON SHA PROPERTY. CURRENT SPECIFICATIONS ARE AT [HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=44](http://www.roads.maryland.gov/index.aspx?pageid=44)

7.3 EROSION AND SEDIMENT CONTROL MANAGER (ESCM). SOIL DISTURBANCE SUCH AS GRADING, EXCAVATION, SOIL PLACEMENT OR OTHER ACTIVITIES THAT INVOLVE SOIL DISTURBANCE SHALL BE SUPERVISED BY AN ESCM MANAGER WITH A VALID "SHA YELLOW CARD" IN CONFORMANCE WITH SHA STANDARD SPECIFICATIONS AND ANY APPLICABLE EROSION AND SEDIMENT CONTROL PERMIT.

7.4 SHA STANDARD DETAILS FOR TREES, SHRUBS AND PLANTING BEDS. THE INSTALLATION OF TREES, SHRUBS, PLANTING BEDS AND OTHER LANDSCAPE CONSTRUCTION RELATED TO SECTION 710 OF THE SHA STANDARD SPECIFICATIONS SHALL CONFORM TO THE "SHA BOOK OF STANDARDS FOR HIGHWAY & INCIDENTAL STRUCTURES - CATEGORY 7" AT [HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZSTDSSPECS/DESMANUALSTDPUB/PUBLICATIONSONLINE/OHD/BOOKSTD/TOCCAT7.ASP](http://apps.roads.maryland.gov/businesswithsha/bizstdsspecs/desmanualstdpub/publicationonline/ohd/bookstd/toccat7.asp)

7.5 TEMPORARY STABILIZATION SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 704 TO ENSURE THAT AREAS OF SOIL DISTURBANCE ARE PROTECTED FROM WIND, RAINFALL AND FLOWING WATER UNTIL PERMANENT STABILIZATION IS INSTALLED.

1. TEMPORARY MULCH, EITHER AS TEMPORARY STRAW MULCH OR TEMPORARY MATTING MULCH, SHALL BE INSTALLED AT THE END OF EACH WORKING DAY TO PROVIDE "SAME DAY STABILIZATION" UNLESS OTHER APPROVED STABILIZATION IS INSTALLED.
2. TEMPORARY STRAW MULCH SHALL BE INSTALLED ON AREAS AND SLOPES FLATTER THAN 4:1 TEMPORARY MATTING MULCH SHALL BE APPLIED ON SLOPES 4:1 AND STEEPER, AND TO AREAS WITH CHANNELS.
3. TEMPORARY SEED SHALL BE INSTALLED IN LIEU OF TEMPORARY MULCH WHEN SOIL REDISTURBANCE IS EXPECTED MORE THAN 30 DAYS AFTER SOIL DISTURBANCE. THE REQUIRED APPLICATION RATE SHALL BE 100 LBS PER ACRE OF 37-0-0 (SCU) FERTILIZER.

7.6 ROADWAY PAVEMENT REMOVAL. AREAS OF ROADWAY REMOVAL SHALL BE EXCAVATED TO REMOVED PAVEMENTS, AGGREGATE BASE, AND COMPACTED SOIL TO A MINIMUM DEPTH OF 10 INCHES BELOW THE PAVEMENT SURFACE OR AS NECESSARY TO REMOVE ALL MATERIAL UNSUITABLE FOR LANDSCAPING. THE EXCAVATION AREAS SHALL BE RESTORED WITH SUBSOIL AND TOPSOIL AS PART OF SOIL RESTORATION.

7.7 EXCAVATION AND DEBRIS REMOVAL. DEBRIS RELATED TO THE DEMOLITION OF SIDEWALKS, DRIVEWAYS, CURBS, TREES, STUMPS, ROOTS, FENCING, PIPES, AND OTHER MATERIALS THAT MAY INTERFERE WITH LANDSCAPE INSTALLATION OR FUTURE MAINTENANCE SHALL BE EXCAVATED AS NECESSARY FOR THEIR COMPLETE REMOVAL AND DISPOSAL.

7.8 SOIL RESTORATION. AREAS OF PAVEMENT REMOVAL, EXCAVATION OR DRILLING IN LANDSCAPED AREAS SHALL REMOVE EXCAVATED DEBRIS AND RESTORE THE SUBGRADE WITH APPROVED SUBSOIL AND TOPSOIL PLACED IN CONFORMANCE WITH SECTION 701 OF THE SHA STANDARD SPECIFICATIONS.

1. A LAYER OF APPROVED TOPSOIL AT LEAST 4 INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS FLATTER THAN 2:1 AND IN ALL CHANNELS PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED.
2. A LAYER OF APPROVED TOPSOIL AT LEAST 2 INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS 2:1 AND STEEPER PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED.
3. BIORETENTION SOIL MIX (BSM) AND OTHER MATERIALS INSTALLED IN CONJUNCTION WITH SPI 316 - STORMWATER FILTRATION FACILITIES AND SHA STORMWATER DETAILS SHALL BE INSTALLED IN CONFORMANCE WITH THE SHA LANDSCAPE NOTES AND LANDSCAPE PLANS. PLANT MATERIALS AND MULCH SHALL BE INSTALLED IN BSM IN CONFORMANCE WITH STORMWATER DETAILS. SECTION 710 OR OTHER SHA SPECIFICATIONS.

7.9 TURFGRASS SOD ESTABLISHMENT SHALL BE PERFORMED IN ALL DISTURBED AREAS, OR WITHIN THE AREAS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTION 708 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRE, AND NO FERTILIZER SHALL BE APPLIED FROM NOVEMBER 15 TO MARCH 1.

7.10 TURFGRASS ESTABLISHMENT SHALL BE PERFORMED IN ALL DISTURBED AREAS, OR WITHIN THE AREAS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTION 705 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRE, AND NO FERTILIZER SHALL BE APPLIED FROM NOVEMBER 15 TO MARCH 1.

7.11 SOIL STABILIZATION MATTING SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 709 OF THE SHA STANDARD SPECIFICATIONS, IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT PER SECTION 705 OR MEADOW ESTABLISHMENT PER SECTION 707 AS FOLLOWS:

1. AREAS FLATTER THAN 6:1. TYPE A OR TYPE E MATTING MAY BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT.
2. AREAS STEEPER THAN 6:1 AND FLATTER THAN 4:1. TYPE A OR TYPE E MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE.
3. CHANNELS, STORMWATER MANAGEMENT FACILITIES, AND SLOPES 4:1 AND STEEPER TYPE A SOIL STABILIZATION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE.

7.13 TREE PRESERVATION AREAS. TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) SHALL BE INSTALLED IN LOCATIONS DELINEATED ON THE PLANS IN CONFORMANCE WITH SECTION 120 OF THE SHA STANDARD SPECIFICATION TO PROTECT EXISTING TREES AND OTHER VEGETATION DURING CONSTRUCTION. AREAS WITHIN TOCF SHALL BE PROTECTED FROM ALL PROHIBITED AND RESTRICTED ACTIVITIES, AS SPECIFIED IN SECTION 120.

7.14 ROADSIDE TREE PERMIT. TREE REMOVAL, TREE INSTALLATION, TREE ROOT AND BRANCH PRUNING, AND OTHER REGULATED IMPACTS TO TREES IN THE SHA RIGHT OF WAY SHALL CONFORM TO THE REQUIREMENTS OF THE ROADSIDE TREE PERMIT (RTP) OF THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, OR THE APPROVED FOREST CONSERVATION ACT PLAN OF THE LOCAL AUTHORITY.

1. A COPY OF THE RTP OR FCP SHALL BE SUBMITTED TO THE SHA OFFICE OF ENVIRONMENTAL DESIGN BEFORE WORK IS PERFORMED, AND A COPY OF THE RTP OR FCP SHALL BE REPRODUCED IN THE PLANS OR BE IN POSSESSION OF THE APPLICANT AT THE PROJECT SITE WHEN THE PERMITTED WORK IS PERFORMED.

2. A MARYLAND LICENSED TREE EXPERT SHALL PERFORM THE SPECIFIED TREE OPERATIONS IN CONFORMANCE WITH THE SHA STANDARD SPECIFICATIONS AND ANSI A300 STANDARDS FOR TREE CARE OPERATIONS.

7.15 TREES AND OTHER PLANT MATERIAL INSTALLATION. TREES, SHRUBS, PERENNIALS, ANNUALS, BULBS, LANDSCAPE BEDS, BARK MULCH AND SIMILAR MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 710 AND 711 OF THE SHA STANDARD SPECIFICATIONS. TREE AND SHRUBS SHALL BE PRUNED AT THE TIME OF INSTALLATION TO ENSURE SIDEWALK CLEARANCE FOR PEDESTRIANS IS MAINTAINED TO A HEIGHT OF 8 FEET. NO TREE OR SHRUB SHALL BE INSTALLED WITHIN 3 FEET OF CURBS, SIDEWALKS, OR PAVEMENT EDGES.

7.20 STUMP REMOVAL. STUMP REMOVAL IN TURFGRASS OR MEADOW AREAS SHALL BE PERFORMED IN CONFORMANCE WITH OPERATION 5 - STUMP REMOVAL OF SECTION 714.

7.21 TREE BRANCH PRUNING SHALL BE PERFORMED OR DIRECTLY SUPERVISED BY A MARYLAND LICENSED TREE EXPERT IN CONFORMANCE WITH ANSI A300 STANDARDS PER SECTION 712 AS NECESSARY FOR ANY OF THE FOLLOWING: TO INSTALL TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) ALONG DELINEATIONS OF PLANS; TO PERFORM TREE ROOT PRUNING ALONG DELINEATIONS ON PLANS; TO PROVIDE 8 FOOT CLEARANCE ABOVE SIDEWALK PAVEMENTS AND 16 FOOT CLEARANCE ABOVE ROADWAY PAVEMENTS; TO REPAIR TREE WOUNDS; AND TO PERFORM OTHER RECOMMENDED CLEANING, THINNING, REDUCING, AND PRUNING NECESSARY TO ACCOMMODATE UTILITIES. ALL DEBRIS SHALL BE REMOVED FROM SHA PROPERTY.

7.22 TREE ROOT PRUNING SHALL BE PERFORMED ALONG THE LINE SHOWN ON THE PLANS IN CONFORMANCE WITH SECTION 715. TREE ROOT PRUNING SHALL BE COMPLETED BEFORE BEGINNING EXCAVATION OR OTHER CONSTRUCTION ADJACENT TO TREES TO BE PRESERVED.

7.23 FINISHED MATERIALS. THE SUITABILITY, COLOR AND TEXTURE OF APPLICANT TO INSERT NAME OF MATERIALS WITH REFERENCES TO PAGES OF THE PLAN WHICH SPECIFY THESE MATERIALS TO BE INSTALLED SHALL BE APPROVED BEFORE INSTALLATION. THE CONTRACTOR SHALL FURNISH SAMPLE OR MAKE ARRANGEMENTS FOR INSPECTION AND APPROVAL AT THE PROJECT SITE.

Materials List - 35% Design				
Category Code	Unit	Description/Location	LOCATION	QUANTITY
701214	SY	PLACING FURNISHED SUBSOIL 18" DEPTH	TREE PIT	95
704365	SY	PLACING FURNISHED TOPSOIL 6" DEPTH	TREE PIT	103
710170	SY	CONSTRUCT PLANTING BEDS	TREE PIT	95
715015	SY	SHREDDED HARDWOOD BARK MULCHING 3" DEPTH	TREE PIT	103
700000	LF	TEMPORARY CHAIN LINK FENCE (TREE PROTECTION)	AS SHOWN	104

NOTE: SHREDDED HARDWOOD BARK MULCH IS INCIDENTAL TO CONSTRUCT PLANTING BEDS

TREE, SHRUB, AND PERENNIAL INSTALLATION AND ESTABLISHMENT - MASTER PLANT LIST						
SYM	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	BALL	REMARKS
LSW	5	<i>Liquidambar styraciflua 'Ward'</i>	Ward Sweetgum	2.5 IN. CAL.	B&B	CENTRAL LEADER
QPA	7	<i>Quercus phellos 'Abundance'</i>	Abundance Willow Oak	2.5 IN. CAL.	B&B	CENTRAL LEADER
SR	3	<i>Syringa reticulata</i>	Lilac Tree	2.5 IN. CAL.	B&B	
TCG	6	<i>Tilia cordata 'Greenspire'</i>	Greenspire Littleleaf Linden	2.5 IN. CAL.	B&B	CENTRAL LEADER
ICST	10	<i>Ilex crenata 'Soft Touch'</i>	Soft Touch dwarf holly	24" HT.	3 gallon	30" ON CENTER

LP-04

NO.	REVISION	BY	APP'D	DATE

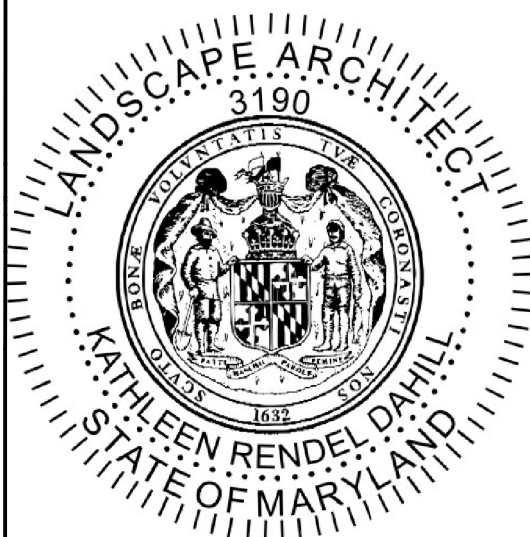
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RECOMMENDED FOR APPROVAL	
Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
LANDSCAPE PLAN
NOTES AND DETAILS

SCALE: NONE

SHEET 30 of 40



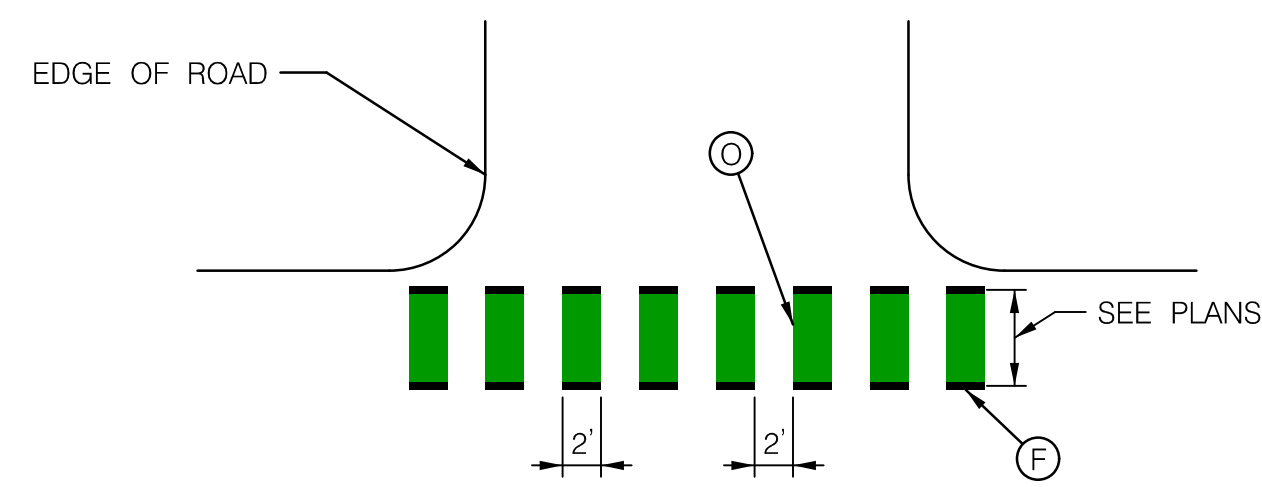
PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: #3190 EXPIRATION DATE: MAY 7, 2025



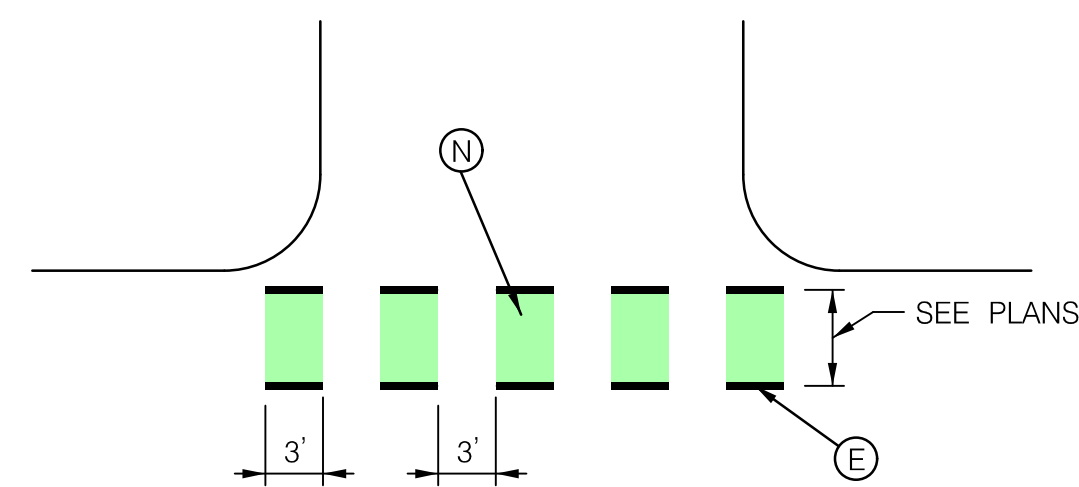
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
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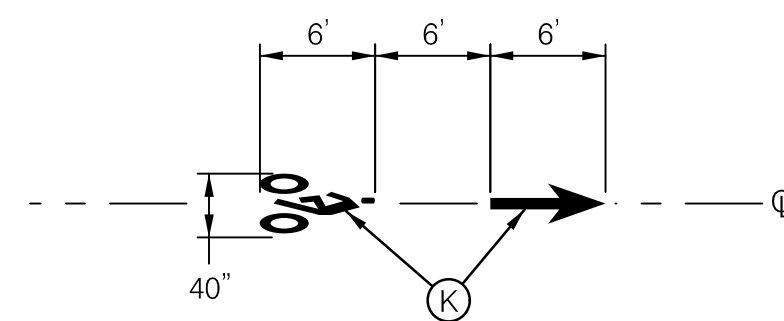
11/16/2023 \\US1527-F01\shared_projects\2026213116\700_CADD\700_Sheet\pLD-P004-FlowerAve.dgn



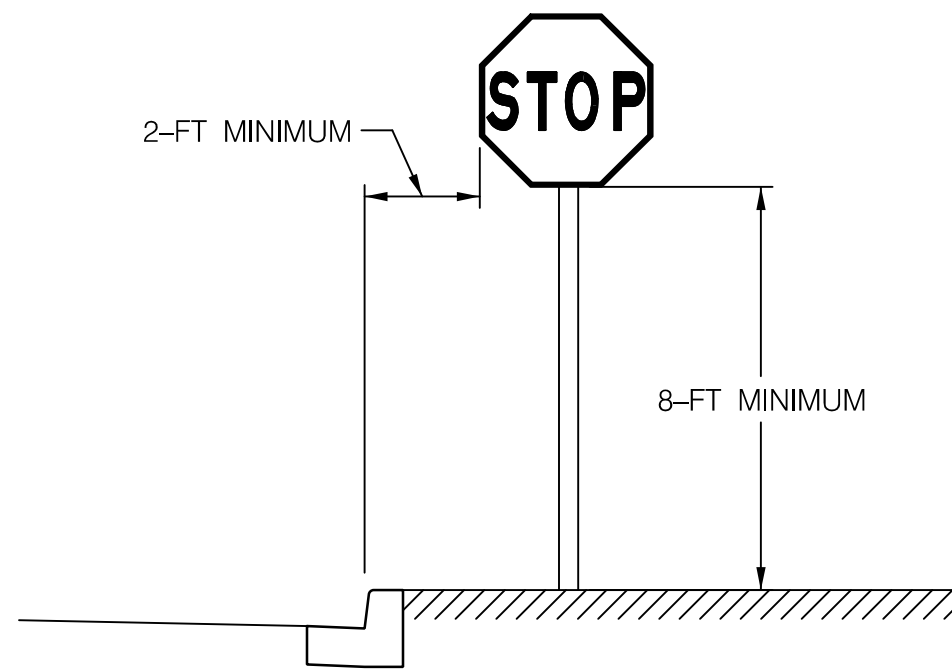
TYPICAL CONFLICT ZONE DETAIL
AT DRIVEWAYS AND MCDOT ROADWAYS



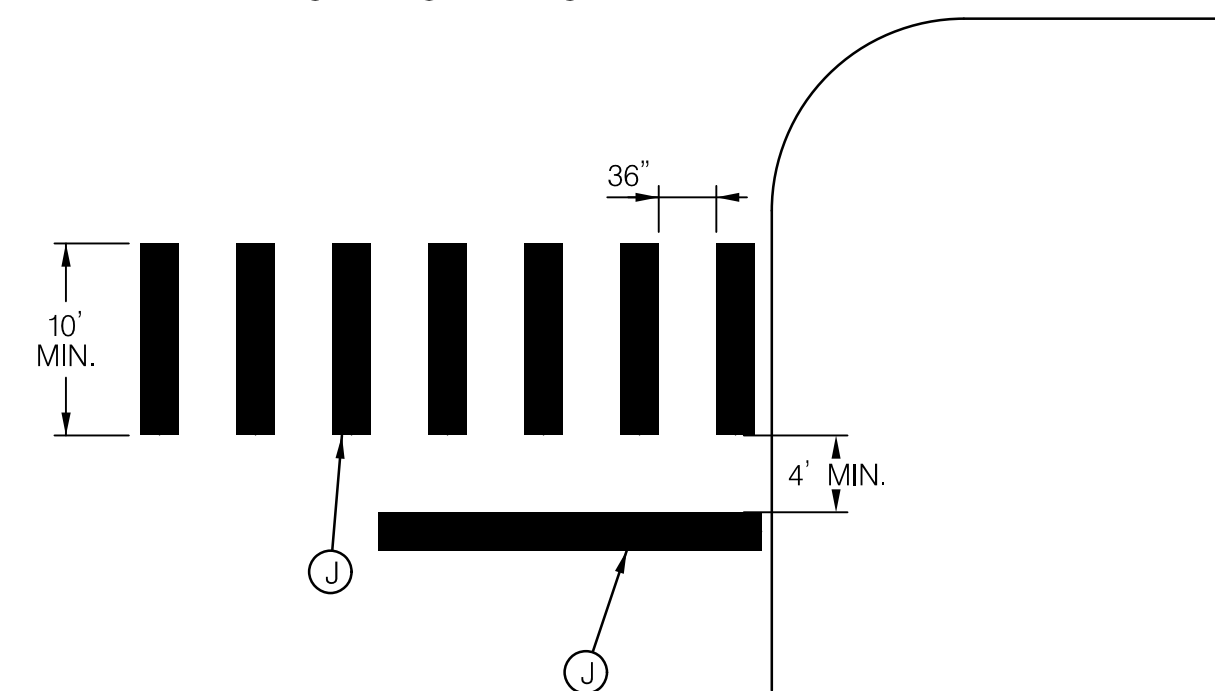
TYPICAL CONFLICT ZONE DETAIL
AT MDSA ROADWAYS



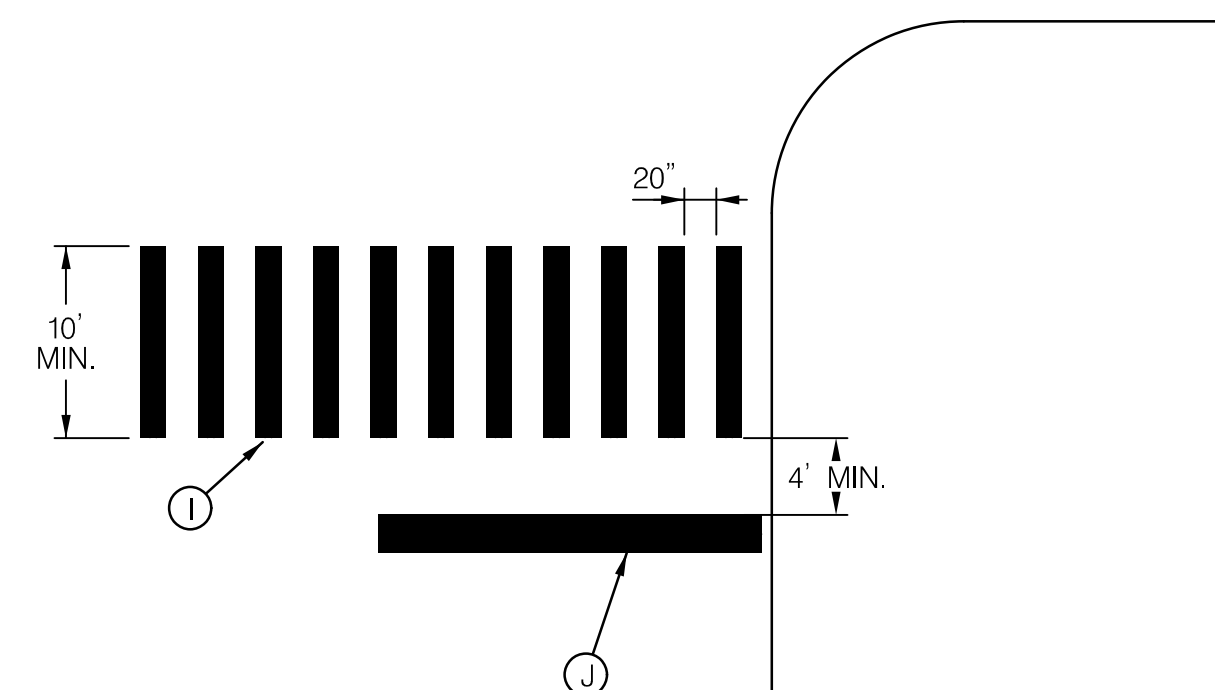
BIKE LANE SYMBOL DETAIL



POST MOUNTED SIGN DETAIL



TYPICAL CROSSWALK DETAIL SHA

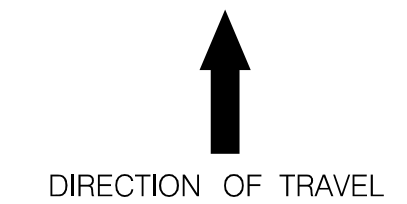
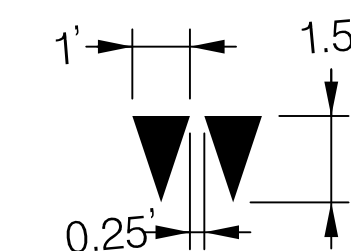


TYPICAL SIGNALIZED CROSSWALK DETAIL MCDOT

NOTE: STOP BARS AT UNSIGNALIZED CROSSWALK SHALL BE 16" FOR MCDOT

PAVEMENT MARKING LEGEND

- (A) INSTALL 5 INCH YELLOW LEAD FREE THERMOPLASTIC PAVEMENT MARKING (DOUBLE)
- (B) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (SOLID)
- (C) INSTALL 5 INCH YELLOW LEAD FREE THERMOPLASTIC PAVEMENT MARKING (SOLID)
- (D) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (3-9-3 DOTTED)
- (E) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (3-3-3 DOTTED)
- (F) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (2-2-2 DOTTED)
- (G) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (10-30-10 BROKEN)
- (H) INSTALL 12 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING
- (I) INSTALL 16 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING
- (J) INSTALL 24 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING
- (K) INSTALL THERMOPLASTIC BIKE SYMBOL WITH AN ARROW PAVEMENT MARKING
- (L) INSTALL THERMOPLASTIC SHARROW PAVEMENT MARKING
- (M) INSTALL WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (N) INSTALL GREEN PAVEMENT MARKING; PRE-FORMED THERMOPLASTIC (HIGH TRAFFIC VOLUME AREAS)
- (O) INSTALL GREEN PAVEMENT MARKING; EPOXY (LOW TRAFFIC VOLUME AREAS)
- (P) REMOVE PAVEMENT MARKING



YIELD MARKING DETAIL

DEPARTMENT OF TRANSPORTATION DIVISION OF TRAFFIC ENGINEERING AND OPERATIONS MONTGOMERY COUNTY, MD	
APPROVED	
For	
BY	
DATE:	

SND-01

NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: JRGB	DATE: NOVEMBER, 2023
					DRAWN BY: JRGB	DATE: NOVEMBER, 2023
					CHECKED BY: RJM	DATE: NOVEMBER, 2023
					DRAWING NO.:	DATE:
					RECOMMENDED FOR APPROVAL	
					Chief, Design Section	Date
					APPROVED	
					Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
SIGNING AND MARKING DETAILS

SCALE: NONE

SHEET 31 of 40

11/16/2023 \\US1527-F01\shared\projects\202623\16\700 CADD\700 Sheet\pSN-D001_FlowerAve.dgn

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

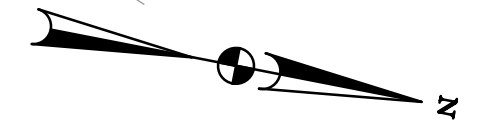
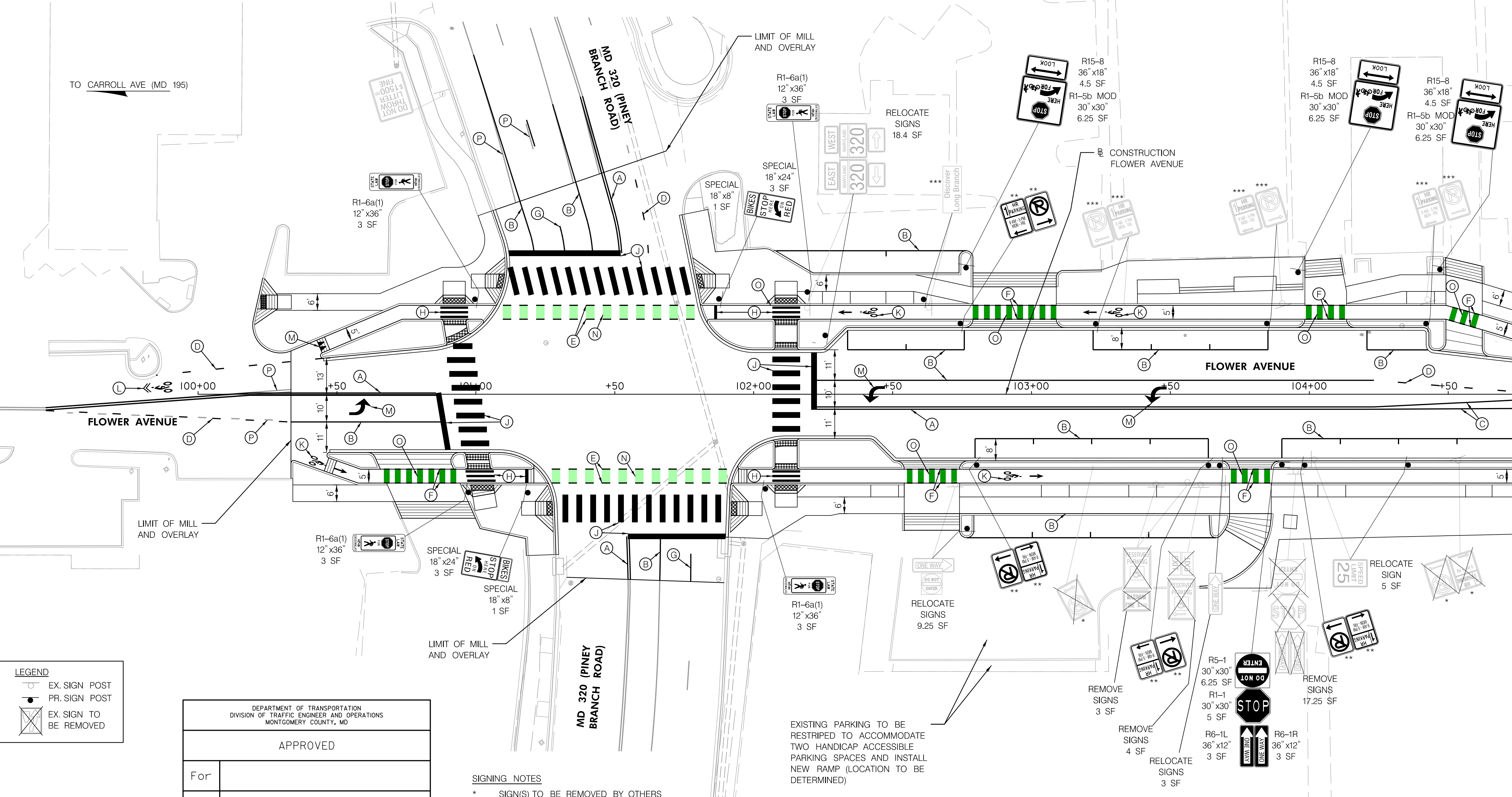


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Attachment A: Corridor Engineering Drawings

PAVEMENT MARKING LEGEND

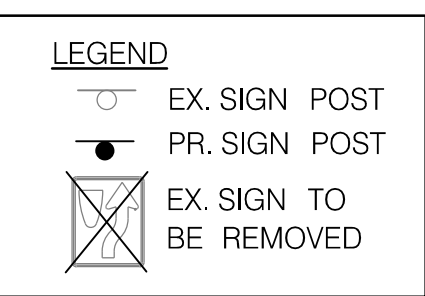
- | | |
|---|--|
| (A) INSTALL 5 INCH YELLOW LEAD FREE THERMOPLASTIC PAVEMENT MARKING (DOUBLE) | (I) INSTALL 16 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING |
| (B) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (SOLID) | (J) INSTALL 24 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING |
| (C) INSTALL 5 INCH YELLOW LEAD FREE THERMOPLASTIC PAVEMENT MARKING (SOLID) | (K) INSTALL THERMOPLASTIC BIKE SYMBOL WITH AN ARROW PAVEMENT MARKING |
| (D) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (3-9-3 DOTTED) | (L) INSTALL THERMOPLASTIC SHARROW PAVEMENT MARKING |
| (E) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (3-3-3 DOTTED) | (M) INSTALL WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS |
| (F) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (2-2-2 DOTTED) | (N) INSTALL GREEN PAVEMENT MARKING; PRE-FORMED THERMOPLASTIC (HIGH TRAFFIC VOLUME AREAS) |
| (G) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (10-30-10 BROKEN) | (O) INSTALL GREEN PAVEMENT MARKING; EPOXY (LOW TRAFFIC VOLUME AREAS) |
| (H) INSTALL 12 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING | (P) REMOVE PAVEMENT MARKING |



TO ARLISS ST (MD 594D)

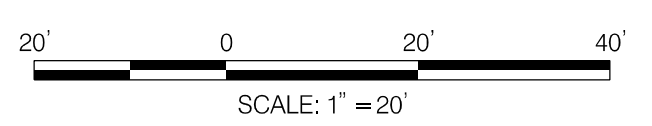
TO CARROLL AVE (MD 195)

MATCH LINE STA. 104+75 - SEE SHEET SN-02



DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING AND OPERATIONS MONTGOMERY COUNTY, MD	
APPROVED	
For	
BY	
DATE:	

- SIGNING NOTES**
- * SIGN(S) TO BE REMOVED BY OTHERS
 - ** SIGN(S) TO BE INSTALLED BY OTHERS
 - *** SIGN(S) TO BE RELOCATED BY OTHERS



EXISTING PARKING TO BE RESTRIPE TO ACCOMMODATE TWO HANDICAP ACCESSIBLE PARKING SPACES AND INSTALL NEW RAMP (LOCATION TO BE DETERMINED)

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: JRGB	DATE: NOVEMBER, 2023
DRAWN BY: JRGB	DATE: NOVEMBER, 2023
CHECKED BY: RJM	DATE: NOVEMBER, 2023
DRAWING NO.:	DATE:
RECOMMENDED FOR APPROVAL	
Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
SIGNING AND MARKING PLAN

SCALE: 1"=20'

SHEET 32 of 40

11/16/2023 \\US1527-F01\shared\projects\202623116\700 CADD\700 Sheet\pSN-P001_FlowerAve.dgn

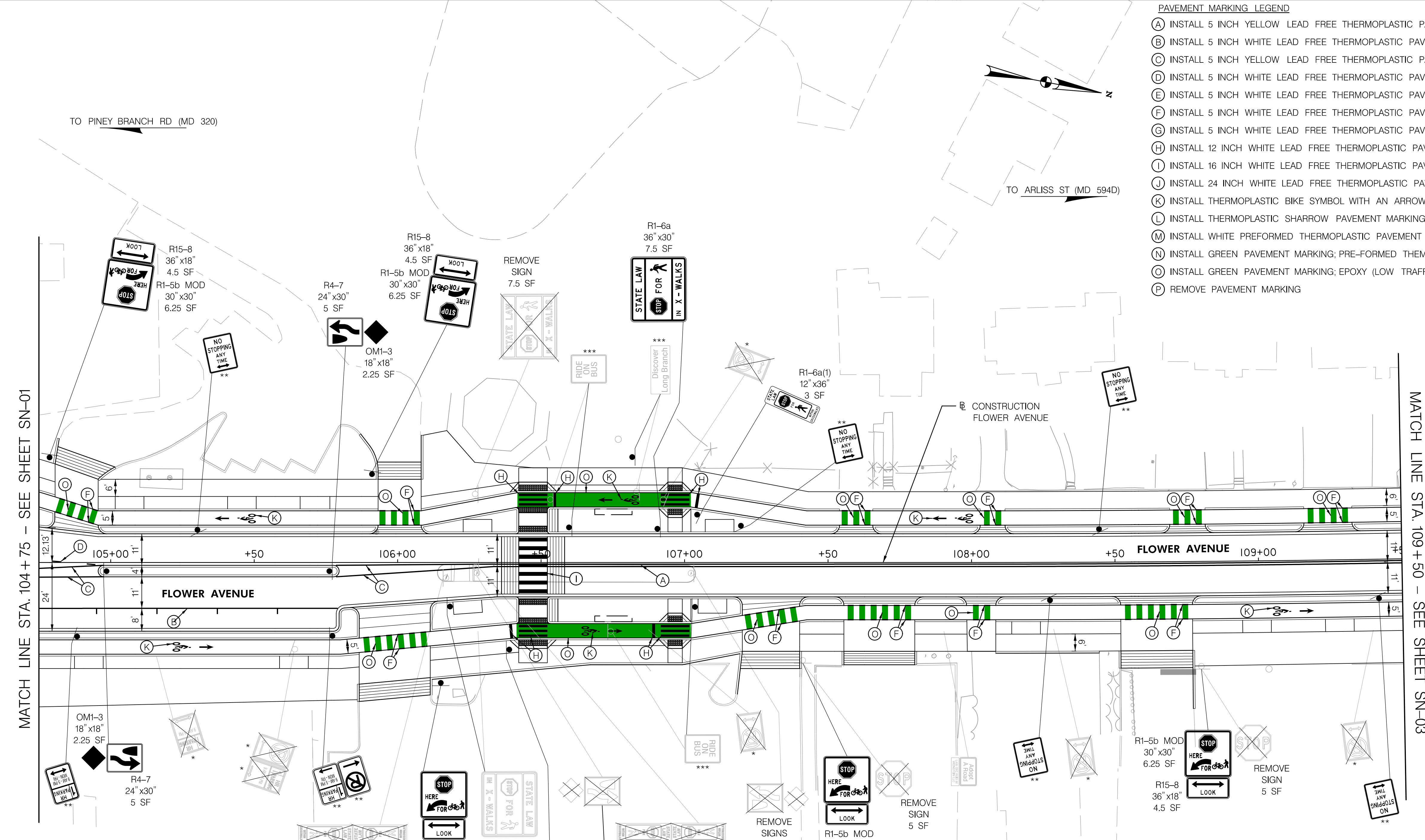
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LICENSE NO: _____ EXPIRATION DATE: _____



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Baltimore, MD 21286
www.stantec.com

SN-01

- PAVEMENT MARKING LEGEND**
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 - (P) REMOVE PAVEMENT MARKING



DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING AND OPERATIONS
MONTGOMERY COUNTY, MD

APPROVED

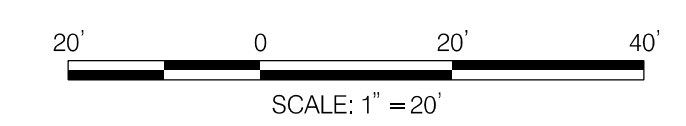
For _____

BY _____

DATE: _____

SIGNING NOTES

- * SIGN(S) TO BE REMOVED BY OTHERS
- ** SIGN(S) TO BE INSTALLED BY OTHERS
- *** SIGN(S) TO BE RELOCATED BY OTHERS



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					Chief, Design Section	Date
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					Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
SEPARATED BIKE LANES
SIGNING AND MARKING PLAN

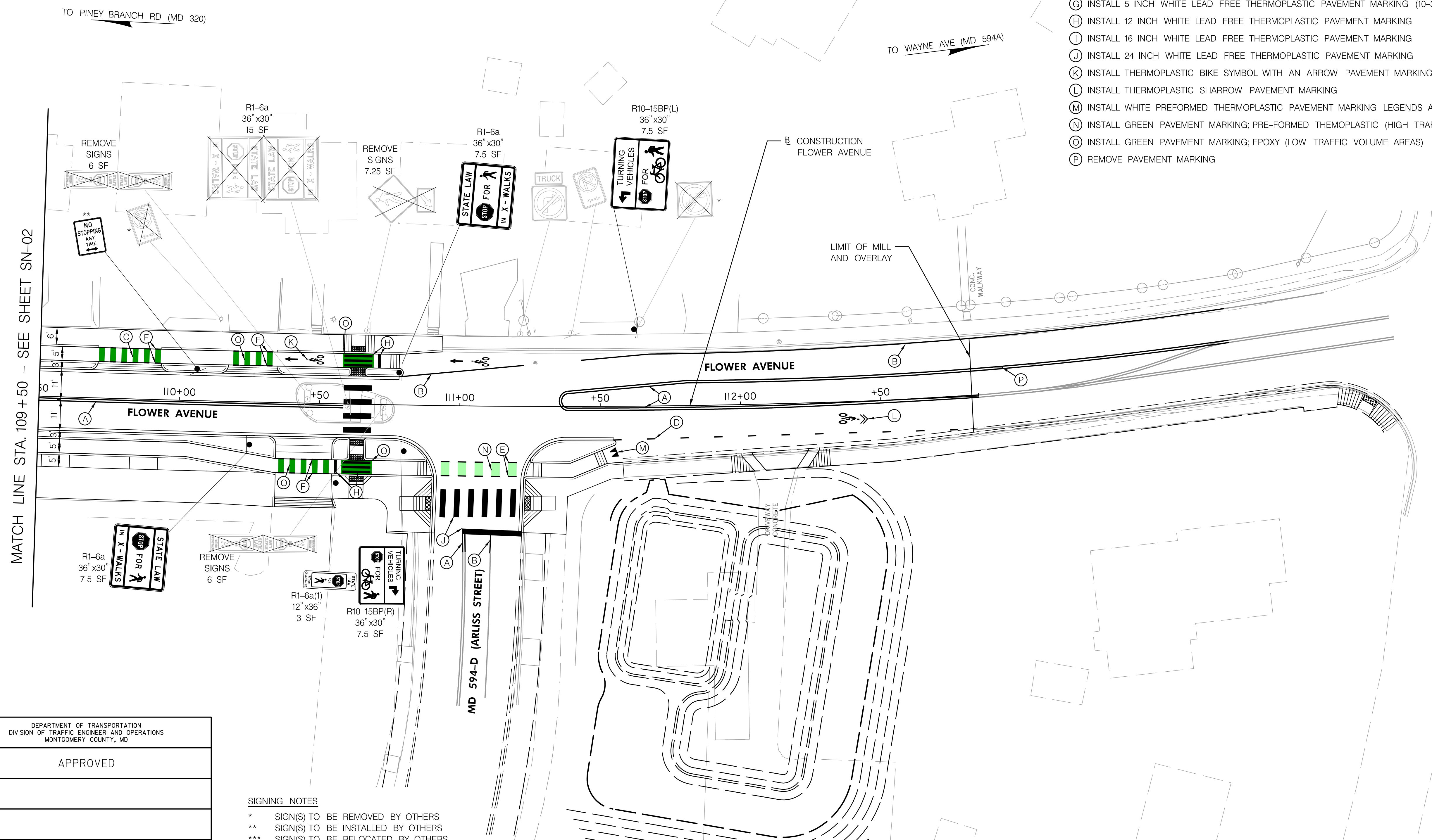


LEGEND

- EX. SIGN POST
- PR. SIGN POST
- ⊗ EX. SIGN TO BE REMOVED

11/16/2023 \\US1527-F01\shared\projects\2026213116\700 CADD\700 Sheet\pSN-P002_FlowerAve.dgn

- PAVEMENT MARKING LEGEND**
- (A) INSTALL 5 INCH YELLOW LEAD FREE THERMOPLASTIC PAVEMENT MARKING (DOUBLE)
 - (B) INSTALL 5 INCH WHITE LEAD FREE THERMOPLASTIC PAVEMENT MARKING (SOLID)
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 - (P) REMOVE PAVEMENT MARKING



MATCH LINE STA. 109+50 - SEE SHEET SN-02

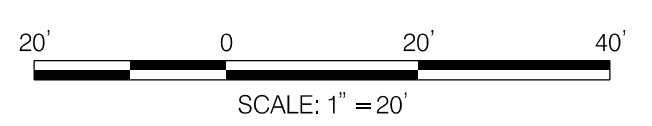
LEGEND

	EX. SIGN POST
	PR. SIGN POST
	EX. SIGN TO BE REMOVED

DEPARTMENT OF TRANSPORTATION DIVISION OF TRAFFIC ENGINEER AND OPERATIONS MONTGOMERY COUNTY, MD	
APPROVED	
For	
BY	
DATE:	

SIGNING NOTES

- * SIGN(S) TO BE REMOVED BY OTHERS
- ** SIGN(S) TO BE INSTALLED BY OTHERS
- *** SIGN(S) TO BE RELOCATED BY OTHERS



NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: JRGB	DATE: NOVEMBER, 2023
DRAWN BY: JRGB	DATE: NOVEMBER, 2023
CHECKED BY: RJM	DATE: NOVEMBER, 2023
DRAWING NO.:	DATE:
RECOMMENDED FOR APPROVAL	
Chief, Design Section	Date
APPROVED	
Chief, Division of Transportation Engineering	Date

**DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND**

FLOWER AVENUE
SEPARATED BIKE LANES
SIGNING AND MARKING PLAN



PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

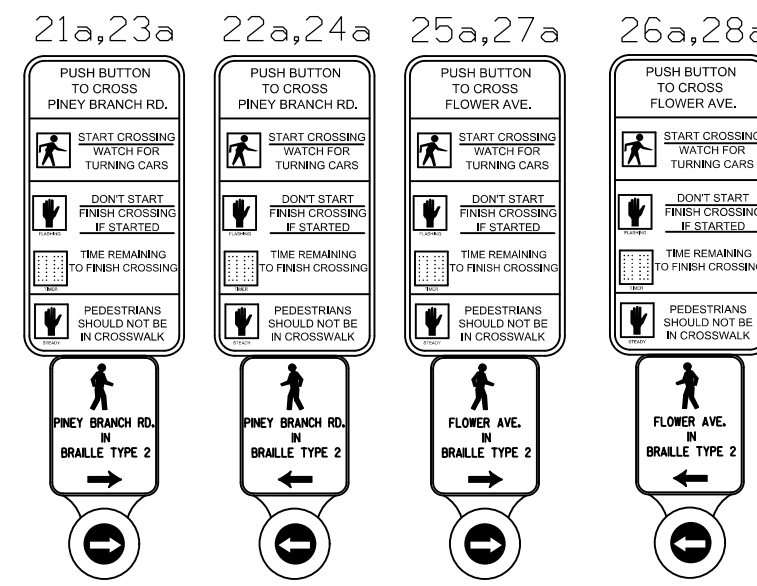
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SN-03

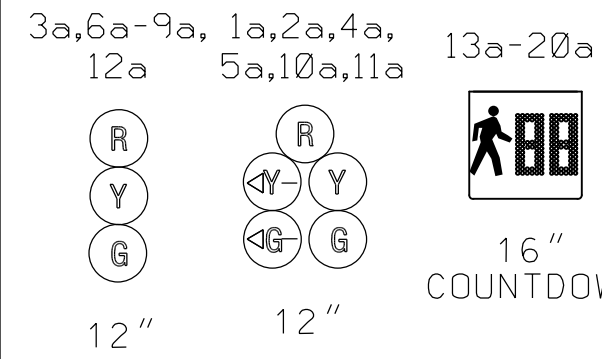
Attachment A: Corridor Engineering Drawings

EXISTING ACCESSIBLE PUSHBUTTON AND SIGN TO BE REPLACED

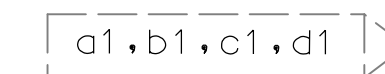


NOTE: MD 320 IS CONSIDERED TO RUN IN AN EAST/WEST DIRECTION

EXISTING LED SIGNALS TO BE REPLACED



EXISTING VIDEO DETECTION ZONES



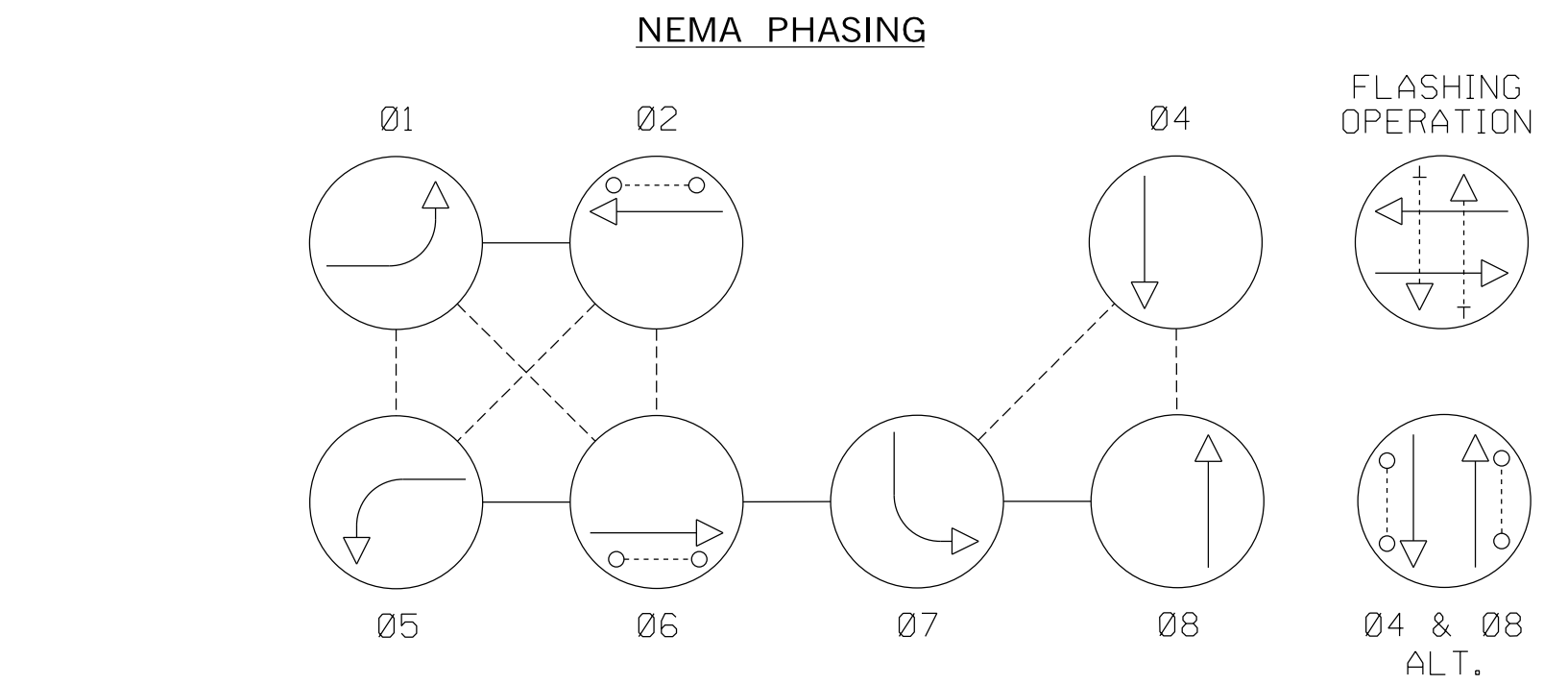
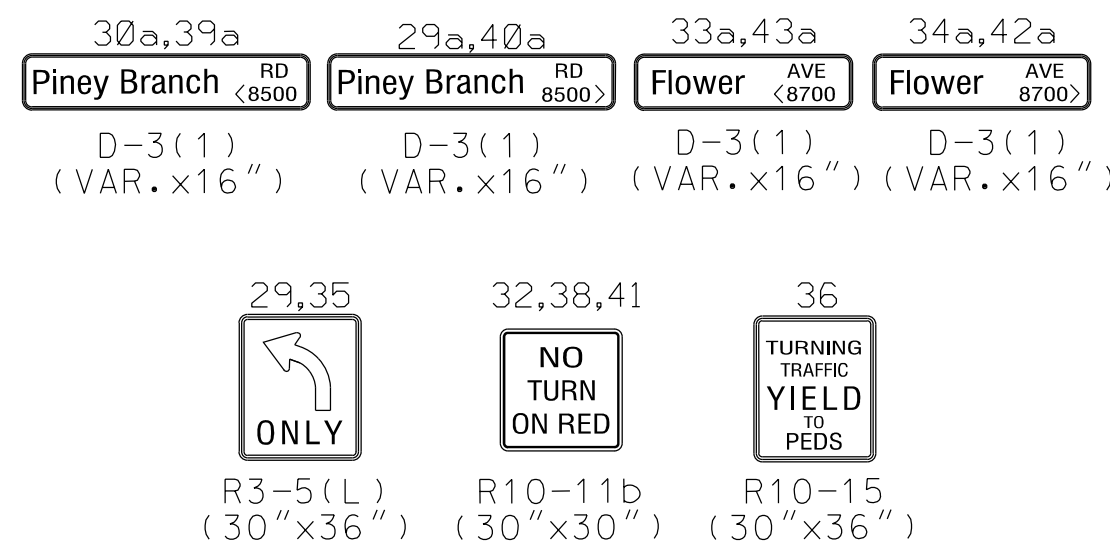
EXISTING DETECTION CAMERAS



EXISTING CCTV CAMERA

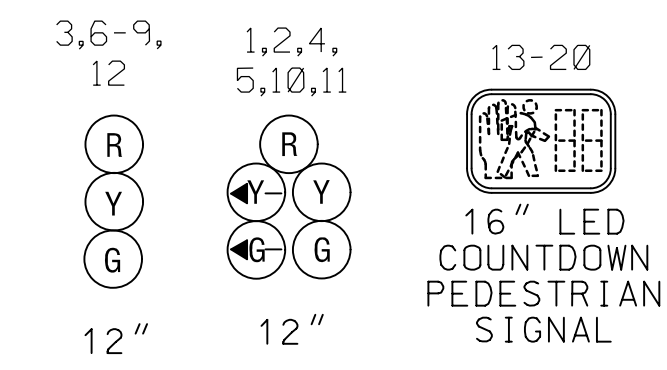


EXISTING SIGNS TO BE REMOVED

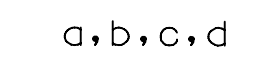


NOTE: PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY. PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

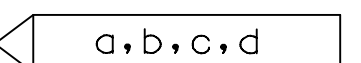
PROPOSED LED SIGNALS



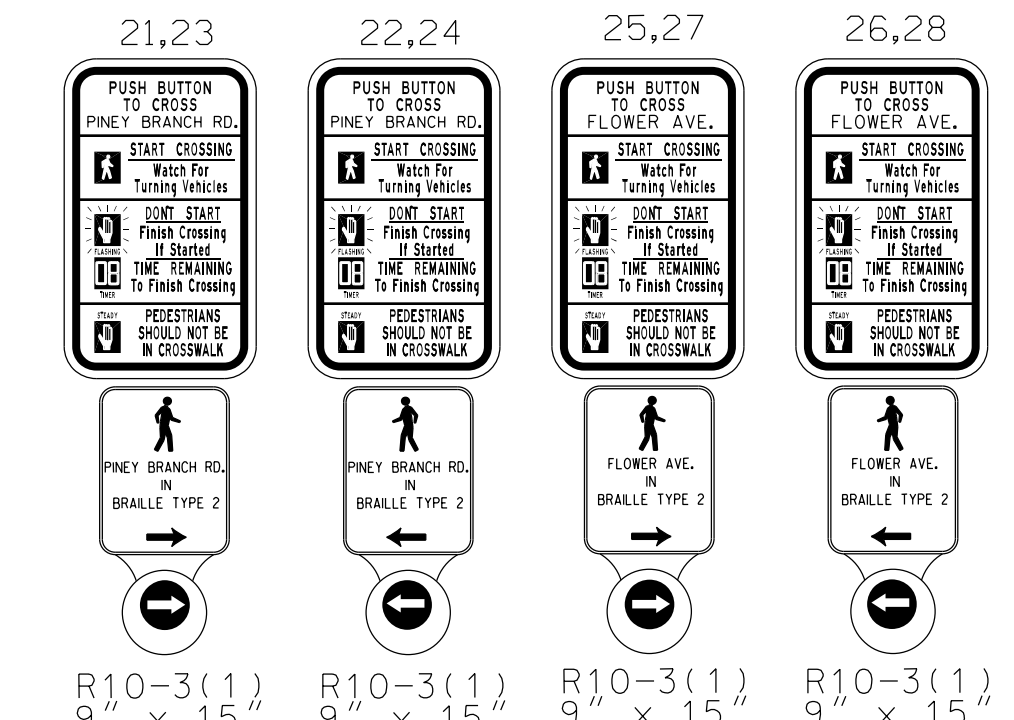
PROPOSED DETECTION CAMERAS



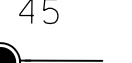
PROPOSED VIDEO DETECTION ZONES



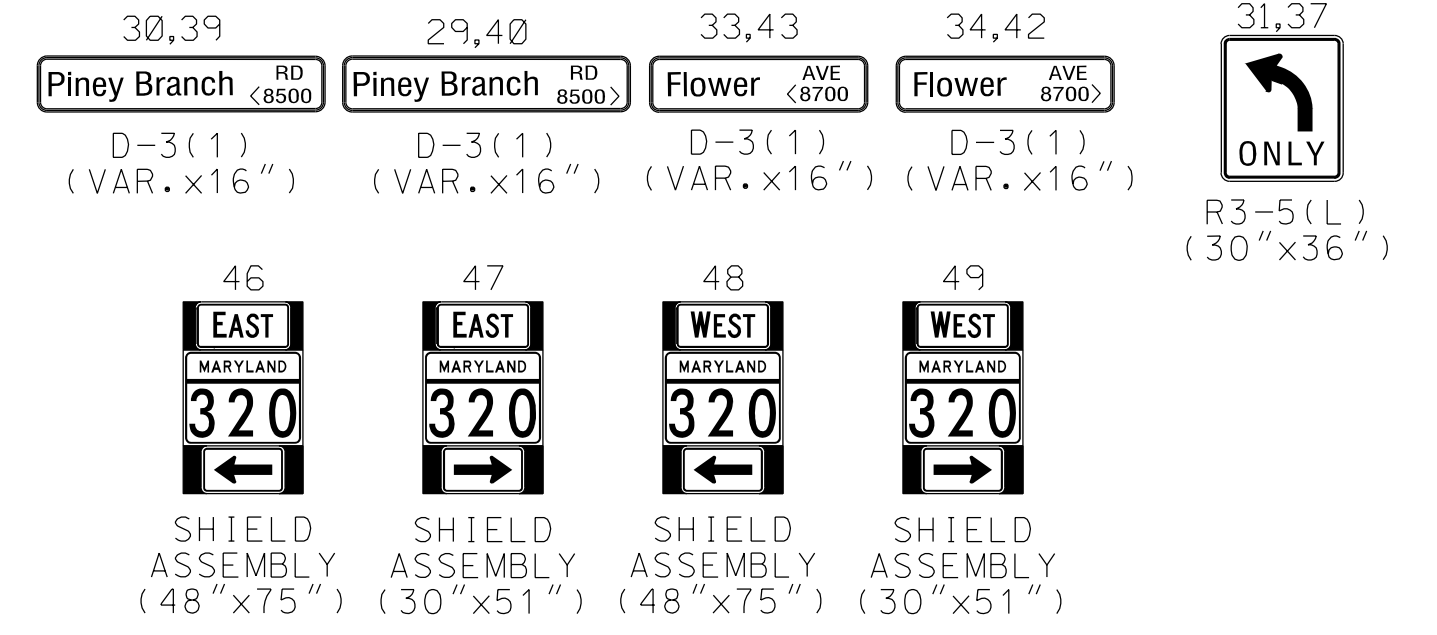
PROPOSED ACCESSIBLE PUSHBUTTON AND SIGN



RELOCATED CCTV CAMERA

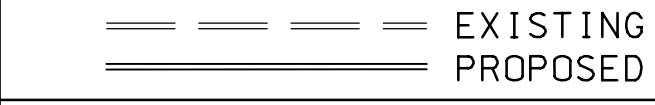


PROPOSED SIGNS

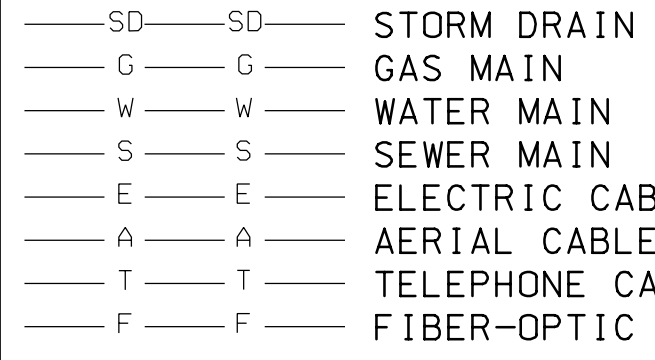


PEPCO P#798424-9313
AERIAL HEIGHTS:
PRIMARY - 34'-0"
SECONDARY - 28'-10"
CATV - 25'-2"
CATV - 24'-0"
TELEPHONE - 22'-6"

GEOMETRIC LEGEND



UTILITY LEGEND



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OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MDOT
MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 320 (PINEY BRANCH RD.) AND FLOWER AVE.
TACOMA PARK, MARYLAND

APPROVALS		REVISIONS		TRAFFIC SIGNAL PLAN	
[Signature]		[Signature]		SCALE: 1"=20'	ADVERTISED DATE: 7/99
[Signature]		[Signature]		CONTRACT NO. _____	
[Signature]		[Signature]		DESIGNED BY: _____	COUNTY: MONTGOMERY
[Signature]		[Signature]		DRAWN BY: REDRAWN BY JAH	LOGMILE: 15032001.63
[Signature]		[Signature]		CHECKED BY: _____	TIMS NO: J436
[Signature]		[Signature]		MDE/PRD: _____	TOD NO: _____
[Signature]		[Signature]		TS NO. 2684B	DRAWING SG-01 OF 02
[Signature]		[Signature]		SHEET NO. 36 OF 40	

Attachment A: Corridor Engineering Drawings

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC CONTROL SIGNAL WITH INTERCONNECT, STREET LIGHTING AND A TRAFFIC SURVEILLANCE CAMERA AT THE INTERSECTION OF MD 320 (PINEY BRANCH RD) AND FLOWER AVE IN MONTGOMERY COUNTY. A NEW MAST ARM TRAFFIC SIGNAL WITH INTERCONNECT, STREET LIGHTING, TRAFFIC SURVEILLANCE CAMERA AND COUNTDOWN PEDESTRIAN SIGNALS WITH AUDIBLE PUSHBUTTONS SHALL BE INSTALLED AT THIS LOCATION. MD 320 (PINEY BRANCH RD) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

II. INTERSECTION OPERATION

1. THE INTERSECTION SHALL CONTINUE TO OPERATE IN A NEMA SIX-PHASE, SEMI-ACTUATED MODE, WITH THE MD 320 (PINEY BRANCH RD) APPROACHES RUNNING CONCURRENTLY. THE EXCLUSIVE/PERMISSIVE LEFT TURN PHASES FOR BOTH APPROACHES OF MD 320 (PINEY BRANCH RD) SHALL REMAIN IN OPERATION. THE PEDESTRIAN PHASES ACROSS MD 320 (PINEY BRANCH RD) SHALL NOW BE COUNTDOWN PEDESTRIAN PHASES WITH AUDIBLE PUSHBUTTON ACTUATION. THE PEDESTRIAN PHASES ACROSS FLOWER AVE SHALL NOW BE COUNTDOWN PEDESTRIAN PHASES WITH AUDIBLE PUSHBUTTONS ON RECALL. THE FLOWER AVE APPROACHES SHALL ALSO CONTINUE TO RUN CONCURRENTLY.
2. A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH VIDEO INTERFACE AND ALL NECESSARY EQUIPMENT HOUSED IN A NEMA SIZE "6" BASE-MOUNTED CABINET SHALL BE INSTALLED AT THIS INTERSECTION.
3. MONTGOMERY COUNTY SIGNAL SHOP SHALL INSTALL APS CONTROL UNIT INTO CONTROLLER CABINET. THE CONTRACTOR SHALL DELIVER THE CONTROL UNIT AND AUDIBLE PUSHBUTTONS TO MR. KEITH LORD OF THE MONTGOMERY COUNTY SIGNAL SHOP FOR TESTING AND PROGRAMMING.

III. SPECIAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES, EXCLUDING INTERCONNECT, TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE.
2. DISCONNECTING AND SPlicing OF INTERCONNECT CABLE SHALL BE PERFORMED BY MONTGOMERY COUNTY FORCES. THE CONTRACTOR SHALL RUN THE INTERCONNECT CABLE INTO THE BASE OF EACH CABINET AND PROPERLY TAG THE CABLE. ALL CONTROLLER CABINET WIRING WILL BE PERFORMED BY MONTGOMERY COUNTY FORCES. CONTACT KAMAL HAMUD AT (240) 777-8761 SEVENTY-TWO HOURS IN ADVANCE OF INTENDED WORK.
3. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
4. CONTACT MR. MIKE KINNEY AT (240) 777-8760 SEVENTY-TWO HOURS IN ADVANCE OF INTENDED WORK FOR WIRING RELOCATING OF TRAFFIC SURVEILLANCE CAMERA EQUIPMENT INCLUDING POLE MOUNT CAMERA CABINET.
5. APS WILL FUNCTION AS FOLLOWS:
 - TO CROSS PINEY BRANCH ROAD
 - A. WHEN PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE "WAIT TO CROSS PINEY BRANCH AT FLOWER, CROSSWALK ANGLES LEFT."
 - B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
 - TO CROSS FLOWER AVENUE
 - A. WHEN PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE "WAIT TO CROSS FLOWER AT PINEY BRANCH."
 - B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

DISTRICT 3

MR. JOSEPH MOGES
ASSISTANT DISTRICT ENGINEER - TRAFFIC
301-513-7498

MR. MARK LOEFFLER
DISTRICT ENGINEER - UTILITIES
301-513-7350

MR. JOHN GOVER
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
301-513-7336

MR. GREGORY EDWARDS
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
301-513-7304

MONTGOMERY COUNTY

MR. KAMAL HAMUD
MONTGOMERY COUNTY-TRAFFIC ENGINEERING
PHONE NUMBER 240-777-8761

OOTs CONTACTS:

MS. REBECCA LICHTENSTEIN, P.E.
CHIEF TRAFFIC OPERATION DIVISION
PHONE: (410)-787-7630

MR. ANTOINE YATES
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410)-787-7625

MR. MIKE BASSO
CHIEF, SIGNAL OPERATIONS
PHONE: (410)-787-7652

MR. MICHAEL BOYLE
CHIEF, WAREHOUSE SECTION
PHONE: (410)-787-7668

MR. DAVID "TODD" JONES
SIGN SHOP MANAGER
410-787-7676

PEPCO

MR. PAUL WILSON
PHONE 202-833-7500

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION:

ITEM NO. / CAT CODE	QUANTITY	DESCRIPTION
-----	-----	-----
-----	-----	-----
-----	-----	-----

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR:

ITEM NO. / CAT CODE	QUANTITY	DESCRIPTION
-----	-----	-----
-----	-----	-----
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C. EQUIPMENT TO BE REMOVED AND RETURNED TO SHA:

MONTGOMERY COUNTY FORCES SHALL REMOVE THE CONTROLLER AND ALL AUXILIARY EQUIPMENT FROM THE CONTROLLER CABINET. THE CABINET AND ALL OTHER REMOVED SIGNAL MATERIALS ARE TO BECOME PROPERTY OF THE CONTRACTOR.

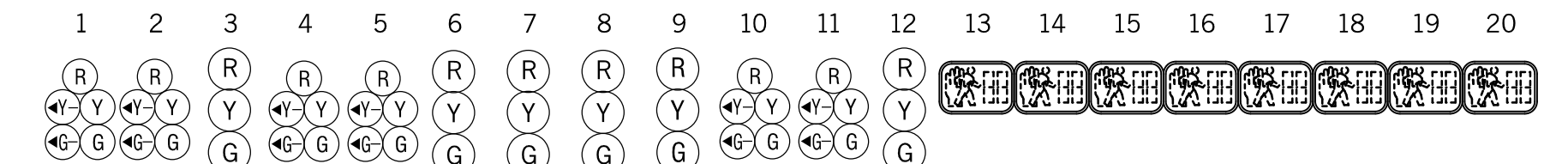
MAINTENANCE OF TRAFFIC NOTE

MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL:

- STANDARD NO. 104.03-01 (MULTI-LANE UNDIVIDED SHOULDER WORK)
- STANDARD NO. 104.04-01 (MULTI-LANE DIVIDED SHOULDER WORK)

ADDITIONAL TRAFFIC CONTROL STANDARDS MAY BE USED AS DIRECTED BY THE ENGINEER.


PHASE CHART



PHASE 1 AND 5	←GR	←GR	R	←GR	←GR	R	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
CHANGE TO PHASES 1 AND 6, 2 AND 5, OR 2 AND 6																						
PHASE 1 AND 6	←GG	←GG	G	R	R	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
1 AND 6 CHANGE	←YG	←YG	G	R	R	R	R	R	R	R	R	R	R	R	DW	WK	WK	DW	DW	DW	DW	DW
PHASE 2 AND 5	R	R	R	←GG	←GG	G	R	R	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
2 AND 5 CHANGE	R	R	R	←YG	←YG	G	R	R	R	R	R	R	R	R	WK	DW	DW	WK	DW	DW	DW	DW
PHASE 2 AND 6	G	G	G	G	G	G	R	R	R	R	R	R	R	R	WK	WK	WK	WK	DW	DW	DW	DW
PED CLEARANCE	G	G	G	G	G	G	R	R	R	R	R	R	R	R	FLDW	FLDW	FLDW	FLDW	DW	DW	DW	DW
2 AND 6 CHANGE	Y	Y	Y	Y	Y	Y	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 7	R	R	R	R	R	R	R	R	R	R	R	R	R	R	←GG	←GG	G	DW	DW	DW	DW	WK
4 AND 7 CHANGE	R	R	R	R	R	R	R	R	R	R	R	R	R	R	←YG	←YG	G	DW	DW	DW	DW	WK
PHASE 4 AND 8	R	R	R	R	R	R	R	G	G	G	G	G	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 AND 8 CHANGE	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8 ALT	R	R	R	R	R	R	R	G	G	G	G	G	G	G	DW	DW	DW	DW	WK	WK	WK	WK
PED CLEARANCE	R	R	R	R	R	R	R	G	G	G	G	G	G	G	DW	DW	DW	DW	FLDW	FLDW	FLDW	FLDW
4 AND 8 ALT CHANGE	R	R	R	R	R	R	R	Y	Y	Y	Y	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FLY	FLY	FLY	FLY	FLY	FLY	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM NOT TO SCALE

SG-02



MONTGOMERY COUNTY
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

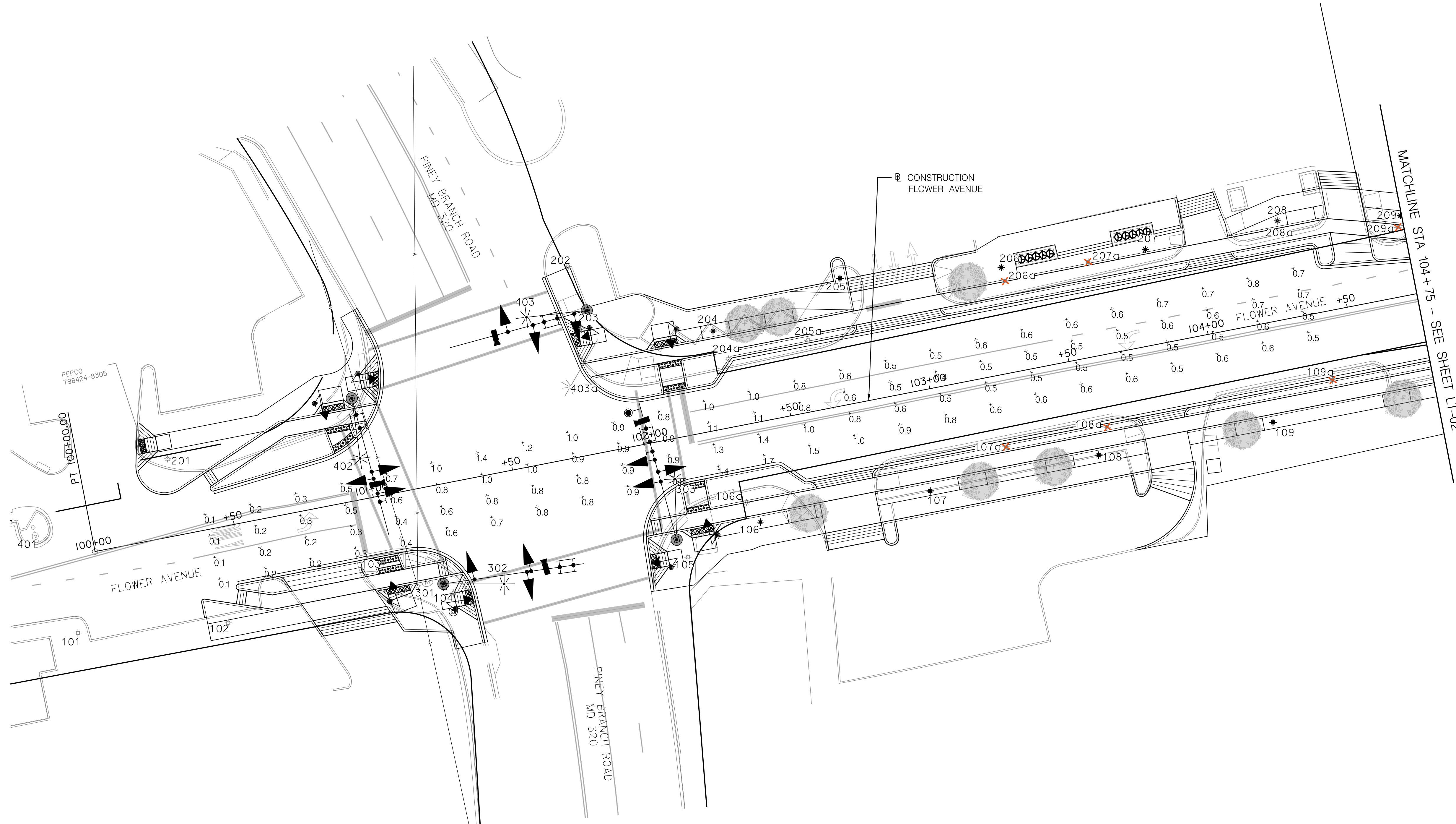
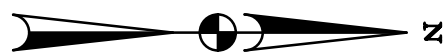
MD 320 (PINEY BRANCH RD.)
AND FLOWER AVE.
TACOMA PARK, MARYLAND

GENERAL INFORMATION SHEET			
SCALE	NTS	ADVERTISED DATE	CONTRACT NO.
DESIGNED BY		COUNTY	MONTGOMERY
DRAWN BY	JM	LOGMILE	15032001.63
CHECKED BY	RJM	TMS NO.	J436
MDE/PRD		TOD NO.	
TS NO.	2684B	DRAWING	SG-02 OF 02
		SHEET NO.	37 OF 40



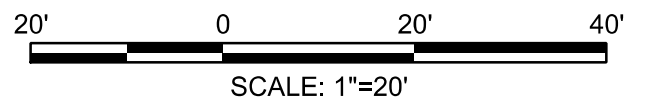
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BY: dmarthugh



LEGEND

- ⊕0.0 EXISTING NIGHTTIME LIGHT LEVEL
- ✕ EXISTING STREETLIGHT TO BE REPLACED
- ⊙ EXISTING STREETLIGHT TO REMAIN
- ★ PROPOSED STREETLIGHT
- ⊙ EXISTING LUMINAIRE TO REMAIN
- ⊙ EXISTING LUMINAIRE TO BE REMOVED
- ⊙ PROPOSED 100W LED LUMINAIRE
- ✱ EXISTING MAST-ARM MOUNTED LIGHT
- ✱ PROPOSED MAST-ARM MOUNTED LIGHT



LT-01

NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: RJM	DATE: NOVEMBER, 2023
					DRAWN BY: JM	DATE: NOVEMBER, 2023
					CHECKED BY: RJM	DATE: NOVEMBER, 2023
					DRAWING NO.:	DATE:
RECOMMENDED FOR APPROVAL						
					Chief, Design Section	Date
APPROVED						
					Chief, Division of Transportation Engineering	Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 LIGHTING PLAN

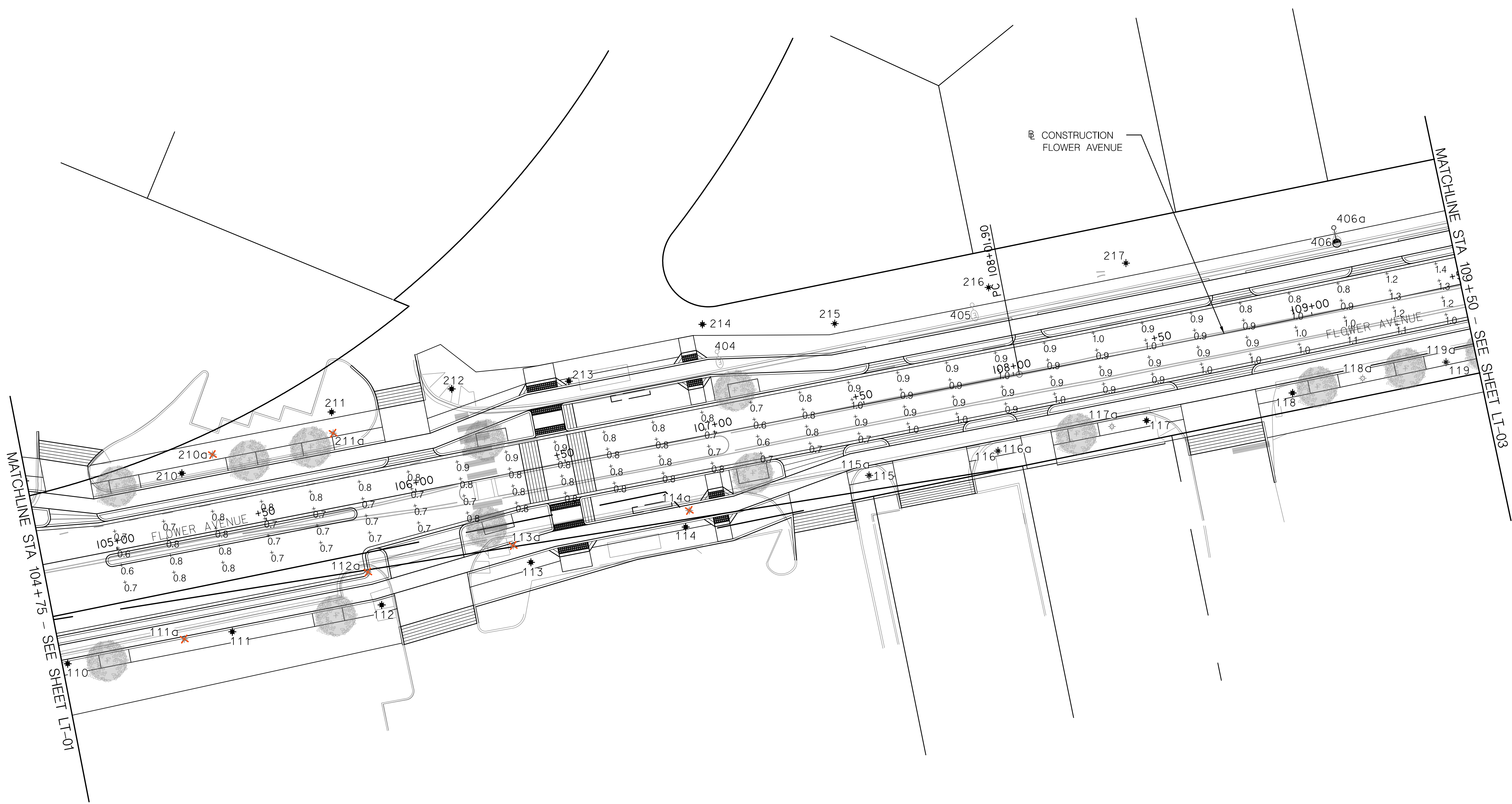
11/16/2023 \\US1527-F01\shared\projects\202623\16\700 CADD\700 Sheet\LT-01_FlowerAve.dgn

PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED
 OR APPROVED BY ME, AND THAT I AM A DULY LICENSED
 PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE
 OF MARYLAND.
 LICENSE NO: _____ EXPIRATION DATE: _____



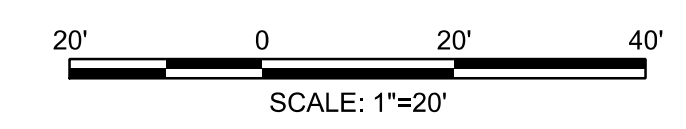
810 Gleneagles Court, Suite 300
 Baltimore, MD 21286
 www.stantec.com





LEGEND

- ⊙0.0 EXISTING NIGHTTIME LIGHT LEVEL
- ✕ EXISTING STREETLIGHT TO BE REPLACED
- ⊙ EXISTING STREETLIGHT TO REMAIN
- ★ PROPOSED STREETLIGHT
- ⊙ EXISTING LUMINAIRE TO REMAIN
- ⊙ EXISTING LUMINAIRE TO BE REMOVED
- ⊙ PROPOSED 100W LED LUMINAIRE
- ✱ EXISTING MAST-ARM MOUNTED LIGHT
- ✱ PROPOSED MAST-ARM MOUNTED LIGHT



LT-02

NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: RJM	DATE: NOVEMBER, 2023
					DRAWN BY: JM	DATE: NOVEMBER, 2023
					CHECKED BY: RJM	DATE: NOVEMBER, 2023
					DRAWING NO.:	DATE:
RECOMMENDED FOR APPROVAL						
Chief, Design Section					Date	
APPROVED						
Chief, Division of Transportation Engineering					Date	

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

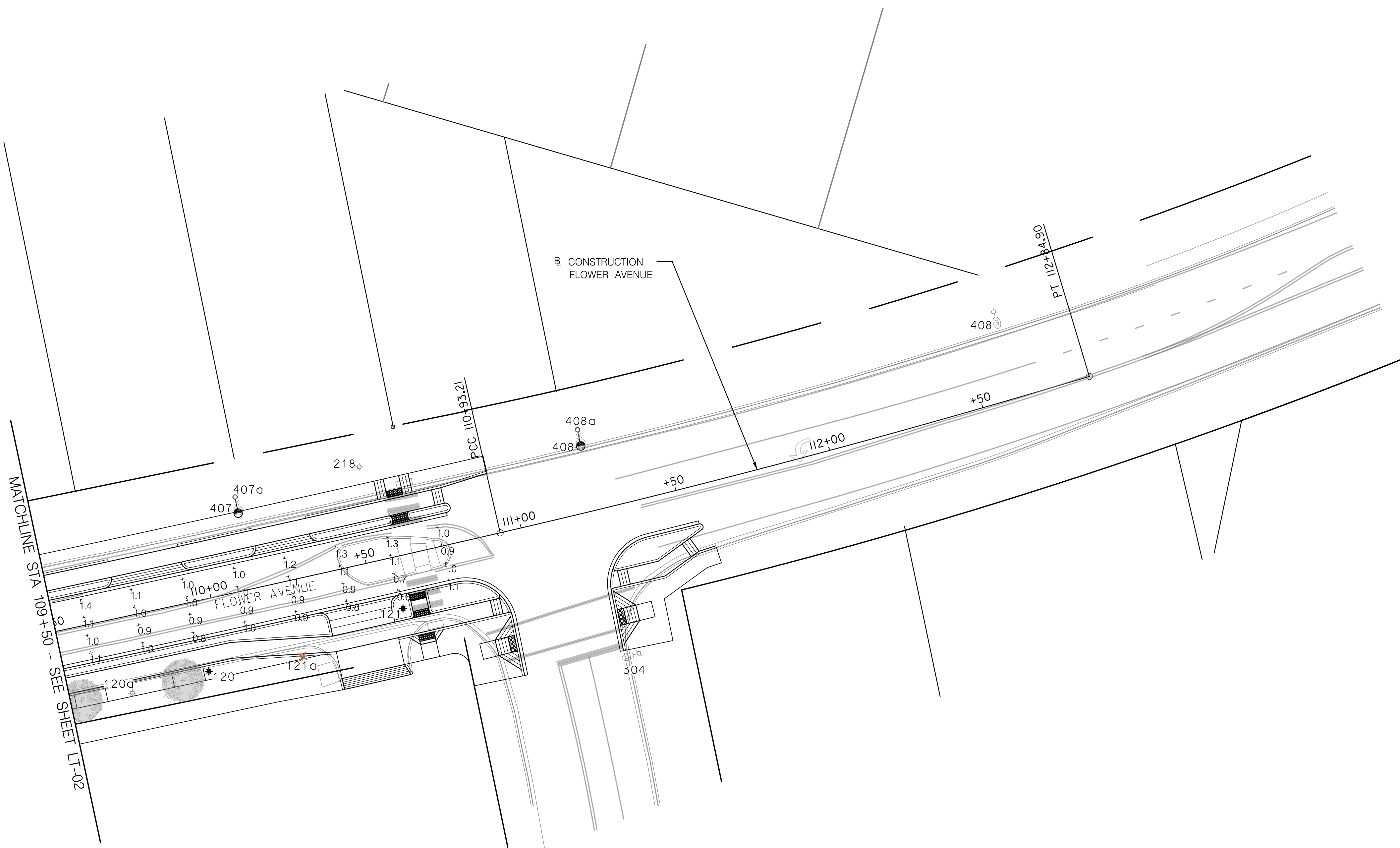
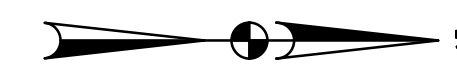
FLOWER AVENUE
 SEPARATED BIKE LANES
 LIGHTING PLAN



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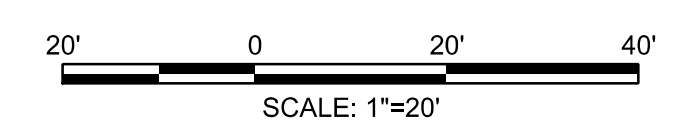
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 Baltimore, MD 21286
 www.stantec.com

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LEGEND

- ⊕0.0 EXISTING NIGHTTIME LIGHT LEVEL
- ✗ EXISTING STREETLIGHT TO BE REPLACED
- ⊕ EXISTING STREETLIGHT TO REMAIN
- ★ PROPOSED STREETLIGHT
- ⊕ EXISTING LUMINAIRE TO REMAIN
- ⊗ EXISTING LUMINAIRE TO BE REMOVED
- ⊕ PROPOSED 100W LED LUMINAIRE
- ✱ EXISTING MAST-ARM MOUNTED LIGHT
- ✱ PROPOSED MAST-ARM MOUNTED LIGHT



LT-03

NO.	REVISION	BY	APP'D	DATE	DESIGNED BY: RJM	DATE: NOVEMBER, 2023
					DRAWN BY: JM	DATE: NOVEMBER, 2023
					CHECKED BY: RJM	DATE: NOVEMBER, 2023
					DRAWING NO.:	DATE:
RECOMMENDED FOR APPROVAL						
Chief, Design Section					Date	
APPROVED						
Chief, Division of Transportation Engineering					Date	

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

FLOWER AVENUE
 SEPARATED BIKE LANES
 LIGHTING PLAN



PROFESSIONAL CERTIFICATION:
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