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GENERAL NOTES

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MD 355 – CLARKSBURG
SHARED USE PATH
STA. 495+29 TO STA. 531+37
C. I. P. PROJECT NO. 501744

DEPARTMENT OF PERMITTING SERVICES

Isiah Leggett
County Executive

Diane R. Schwartz Jones
Director

April 18, 2019

Mr. Charles Main II
Wallace Montgomery
10150 York Road, Suite 200
Hunt Valley, Maryland 21030

Re: **REVISED PRELIMINARY AND FINAL WATER QUALITY PLAN/*SITE DEVELOPMENT STORMWATER MANAGEMENT PLAN*** for
MD 355 Mixed Use Path
Preliminary Plan #: N/A
SM File #: 283643
Tract Size/Zone: 1.4 acres/CR
Total Concept Area: 1.4 acres
Watershed: Little Seneca and Ten Mile Creek Special Protection Areas

Dear Mr. Main:

Based on a review by the Department of Permitting Services Review Staff, the Revised Preliminary/Final Water Quality Plan for the above-mentioned site is **acceptable**. The revision is for the removal of the proposed micro bioretention structure due to extreme site constraints. The Water Quality Plan proposes to meet required stormwater management goals via grass swales, pervious pavement and outfall Improvements for the 36" and 48" outfalls at the west side of MD 355 and MD 121. This approval is for the elements of the Water Quality Plan of which DPS has lead agency responsibility and does not include limits on imperviousness or buffer encroachments.

The following items will need to be addressed during the detailed sediment control/stormwater management plan stage:

1. A detailed review of the stormwater management computations will occur at the time of detailed plan review.
2. Overdrains will be required for the areas of pervious pavement due to the variable infiltration rates, some of which are lower than normally allowed.

This list may not be all-inclusive and may change based on available information at the time. A stream monitoring fee for the site area and a BMP monitoring fee for the disturbed area in the SPA is required.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process, or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Leo Galanko at 240-777-6242.

Sincerely,

Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: lmg

cc: N. Braunstein
SM File # 283643

ESD SUMMARY TABLE
REQUIRED:
TENMILE CREEK: PE=1.68" ESDV=3,132 CF
LITTLE SENECA CREEK: PE=1.80" ESDV=503
PROVIDED:
TENMILE CREEK: GRASS SWALE 3-1 PE=0.11" ESDV=17 CF
REMAINDER OF REQUIREMENT MET WITH OUTFALL REPAIR
LITTLE SENECA CREEK:
PERMEABLE PAVEMENT 1-1, 1-2, 1-3, 1-4
PE=2.0" ESDV=658 CF

TREE CANOPY REQUIREMENTS TABLE

To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for all projects.

Exempt: Yes ■ No ☐ If exempt under Section 55-5 of the Code, please check the applicable exemption category below.

Total Property Area	Total Disturbed Area
151,693 square feet	151,693 square feet
Shade Trees Required	**Shade Trees Proposed to be Planted**
N/A	N/A
Fee in Lieu (Trees Required – Trees Planted) x $250	$ 14,250

Required Number of Shade Trees

Area (sq. ft.) of the Limits of Disturbance FROM	TO	Number of Shade Trees Required
1	6,000	3
6,001	8,000	6
8,001	12,000	9
12,001	14,000	12
14,001	40,000	15

If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:

(Number of Square Feet in Limits of Disturbance ÷ 40,000) × 15

EXEMPTION CATEGORIES:

■ 55-5(a) any activity that is subject to Article II of Chapter 22A;
☐ 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;
☐ 55-5(f) any activity conducted by the County Parks Department;
☐ 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the maintenance has obtained all required permits;
☐ 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;
☐ 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;
☐ OTHER: Specify per Section 55-5 of the Code.

LIMIT OF WORK
C.I.P. PROJECT NO. 501744
MD 355 (FREDERICK ROAD)
STA. 531+37

LIMIT OF WORK
C.I.P. PROJECT NO. 501744
MD 355 (FREDERICK ROAD)
STA. 515+21 =
C.I.P. PROJECT NO. 508000
CLARKSBURG ROAD
STA. 515+21

LIMIT OF WORK
C.I.P. PROJECT NO. 501744
MD 355 (FREDERICK ROAD)
STA. 503+64=
C.I.P. PROJECT NO. 508000
CLARKSBURG ROAD
STA. 503+64

LIMIT OF WORK
C.I.P. PROJECT NO. 501744
MD 355 (FREDERICK ROAD)
SHARED USE PATH
STA. 495+29



SCALE : 1"= 2000'

VICINITY MAP

PROJECT LENGTH: 0.49 MILES
DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

LIMIT OF WORK
C.I.P. PROJECT NO. 501744
STRINGTOWN ROAD
STA. 703+11

OWNER'S / DEVELOPER'S CERTIFICATION

I/WE 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.

11/23/2022
DATE

MARICELA CORDOVA
ACTING CHIEF, DIVISION OF TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 36-90.

02/24/2023
DATE

MICHAEL W. MERCADO, P.E.
ASSOCIATE, MERCADO CONSULTANTS, INC.

PLAN LOCATION OF SOIL BORING

SOIL BORING LOG SUMMARY SHEETS ARE INCLUDED IN THE INVITATION FOR BIDS BOOK.

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION "DRAINAGE DESIGN" DATED NOVEMBER, 2013 (REV. JUNE 10,2014)

02/24/2023
DATE

ROBERT J. HUDSON, P.E.
SENIOR VICE PRESIDENT, WALLACE MONTGOMERY

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90. AND 7-02AM.

02/24/2023
DATE

GLENN MARSCHKE, P.E.
VICE PRESIDENT, WALLACE MONTGOMERY

SEAL

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. 26238, EXPIRATION DATE: 08/17/2023

DATE 11-23-2022

ROBERT J. HUDSON, P.E. 02/24/2023 DATE

RELATED REQUIRED PERMITS

To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects.

IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

TYPE OF PERMIT	REQ'D	NOT REQ'D	PERMIT NO.	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District		X	N/A	N/A	N/A
WATERWAYS/WETLAND(S)					MARCH 1 – JUNE 15
a. Corps of Engineers	X		2021-60768	03/14/2026 09/30/2026	MARCH 1 – JUNE 15
b. MDE	X		21-NT-3078	06/29/2026	MARCH 1 – JUNE 15
c. MDE Water Quality Certification		X	N/A	N/A	N/A
MDE Dam Safety		X	N/A	N/A	N/A
* DPS Roadside Trees Protection Plan	X		MR2020018	APPROVAL DATE 10/28/2022	
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED 02/06/2023
FEMA LOMR (Required Post Construction)		X			
OTHERS:					
M-NCPPC - CONSTRUCTION		X			
MSHA ACCESS PERMIT	X		#17-AP-MO-013-xx	TBD	N/A
DNR - ROADSIDE TREE PERMIT		X			

* A copy of the approved Roadside Trees Protection Plan must be delivered to the sediment control inspector at the preconstruction meeting.

ATTENTION

THIS SITE IS WITHIN THE ENVIRONMENTALLY SENSITIVE

CLARKSBURG SPECIAL PROTECTION AREA

TO HELP PROTECT THE DELICATE AQUATIC HABITAT FROM THE IMPACTS OF LAND DEVELOPMENT THESE PLANS MUST BE STRICTLY ADHERED TO

IF THERE IS A PROBLEM, CALL
ANDREW KOHLER AT 240-777-6275

AND THE MCDPS STAFF MEMBER WILL ASSIST YOU IN DEVELOPING A SOLUTION BEFORE STREAM IMPACTS OCCUR

(MENTION THAT THE SITE IS WITHIN A SPECIAL PROTECTION AREA WHEN YOU CALL)

"LET'S WORK TOGETHER TO KEEP IT CLEAN"

ACKNOWLEDGED MARICELA CORDOVA
OWNER/DEVELOPER

DRAINAGE STATEMENT

I understand that DPS approval of this sediment control/stormwater management plan is for demonstrated compliance with required environmental runoff treatment standards. This DPS sediment control/stormwater management plan approval does not relieve me of professional responsibility. I have analyzed the proposed design for sediment control permit no. SC-286581 and hereby certify that, based upon my background, training and experience, I have determined that the proposed improvements shown on this plan meet relevant laws and regulations. I further acknowledge that I have analyzed the post development drainage patterns for this project from the standpoint of my responsibilities under current Maryland Law and have determined that if permission is required from adjacent property owners, I have obtained it and have made copies of those permissions available to DPS.

Engineer's Signature — 02/24/2023 Date

ROBERT J. HUDSON
Printed Name

TECHNICAL REVIEW OF SEDIMENT CONTROL	ADMINISTRATIVE REVIEW
REVIEWED DATE	REVIEWED DATE
TECHNICAL REVIEW OF STORMWATER MANAGEMENT	**SMALL LOT DRAINAGE APPROVAL**
	N/A: ☐ OR
REVIEWED DATE	REVIEWED DATE
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

286581
SEDIMENT CONTROL PERMIT NO.

283643
SM. FILE NO.
STORMWATER MANAGEMENT:
PERMEABLE PAVEMENT, GRASS SWALE, OUTFALL REPAIR

PS&E SUBMITTAL

CERTIFICATION OF QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE 8,651 CUBIC YARDS OF EXCAVATION AND 1,291 CUBIC YARDS OF FILL AND THAT THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 151,693 SQUARE FEET.

02/24/2023
DATE

GLENN MARSCHKE, P.E.
VICE PRESIDENT, WALLACE MONTGOMERY

MONTGOMERY COUNTY DOT MAINTENANCE CERTIFICATION

I HEREBY CERTIFY THAT THE DEPARTMENT OF TRANSPORTATION WILL ASSUME MAINTENANCE RESPONSIBILITIES FOR ALL STORMWATER MANAGEMENT FACILITIES AS LISTED AND SHOWN, HEREON, IN ACCORDANCE WITHTHE MEMORANDUM OF UNDERSTANDING BETWEEN THIS DEPARTMENT AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DATED SEPTEMBER 1, 1986. IF, FOR ANY REASON, FUTURE IMPROVEMENTS TO THE ROADWAY ARE PLANNED THAT WOULD IMPACT ANY OF THE STORMWATER MANAGEMENT FACILITIES INCLUDED HEREIN, THIS DEPARTMENT WILL NOTIFY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DURING THE PLANNING OR EARLY DESIGN STAGE OF SUCH IMPROVEMENTS.

11/23/2022
DATE

MARICELA CORDOVA
ACTING CHIEF, DIVISION OF TRANSPORTATION ENGINEERING

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
Chief, Design Section — 11/22/2022 Date

APPROVED
Chief, Division of Engineering Services — 11/23/2022 Date

PLAN SHEET TI-01
TITLE SHEET
MD 355 - CLARKSBURG
SHARED USE PATH

SCALE: N.T.S. 02/2023

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

Project No. : C.I.P. PR. # 501744 SHEET 01 of 97

WALLACE MONTGOMERY
ENGINEERS • PLANNERS • SURVEYORS • CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
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www.WallaceMontgomery.com A Limited Liability Partnership

MCDOT
Montgomery County Department of Transportation
100 EDISON PARK DR., 4TH FLOOR GAITHERSBURG, MD 20878
240-777-7224

2/24/2023
M:\PROJ\2140I3.0010\Highways_Cadd_\pGN-T000_MD355.dgn

DPS FILE NO. SC0001 OF SC0047

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7	CR 01 OF 01	SC0006	CURB ELEVATIONS AND OFFSETS
8	GS 01 OF 01	SC0007	GEOMETRY LAYOUT
9	PS 01 OF 07	SC0008	ROADWAY PLAN - STA. 495+29 TO STA. 498+00 (MD 355)
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FOR ALL CONSTRUCTION WITHIN THE STATE OF MD RIGHT-OF-WAY THE CONTRACTOR SHALL REFER TO THE SHA BOOK OF STANDARDS WHICH CAN BE ACCESSED AT: HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZSTDSPECS/DESMANUALSTDPUB/PUBLICATIONSONLINE/OHD/BOOKSTD/INDEX/ASP.

THE FOLLOWING LIST OF STANDARDS SHALL BE USED WITHIN THIS PROJECT:

STD. NO.	
MD 104.02-01	SHOULDER WORK /2-LANE, 2-WAY GREATER THAN 40 MPH
MD 104.02-02	SHOULDER WORK /2-LANE, 2-WAY EQL/LESS THAN 40 MPH
MD 104.02-03	LANE SHIFT RIGHT OR LEFT SIDE /2-LANE, 2-WAY GREATER THAN 40 MPH/15 MIN - 12 HRS. OR DAYTIME ONLY
MD 104.02-04	LANE SHIFT RIGHT OR LEFT SIDE /2-LANE, 2-WAY EQL/LESS THAN 40 MPH/15 MIN - 12 HRS. OR DAYTIME ONLY
MD 104.02-05	WORK IN CENTER OF LOW-VOLUME ROAD 2-LANE, 2-WAY GREATER THAN 40 MPH/15 MIN - 12 HRS. OR DAYTIME ONLY
MD 104.02-06	WORK IN CENTER OF LOW-VOLUME ROAD 2-LANE, 2-WAY EQL/LESS THAN 40 MPH/15 MIN - 12 HRS. OR DAYTIME ONLY
MD 104.02-07	LANE SHIFT OF COMPLETE TRAVEL WAY BLOCKAGE /2-LANE, 2-WAY GREATER THAN 40 MPH/15 MIN - 12 HRS. OR DAYTIME ONLY
MD 104.02-08	LANE SHIFT OF COMPLETE TRAVEL WAY BLOCKAGE /2-LANE, 2-WAY EQL/LESS THAN 40 MPH/15 MIN - 12 HRS. OR DAYTIME ONLY
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MD 104.02-10	FLAGGING OPERATION /2-LANE, 2-WAY EQL/LESS THAN 40 MPH
MD 104.02-14	INTERSECTION FLAGGING OPERATION 2-LANE, 2-WAY EQL/LESS THAN 40 MPH
MD 354.01	STANDARD TYPE C ENDWALL METAL OR CONCRETE ROUND PIPE
MD 362.01	STANDARD TYPE H ENDWALL METAL OR CONCRETE ROUND PIPE
MD 368.01	STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE
MD 374.51	PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COG INLETS 5', 10', 15' & 20'
MD 374.51-01	PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COG INLETS 5', 10', 15' & 20'
MD 374.55	PRECAST CONCRETE INLET SLABS AND ADJUSTMENT COLLARS FOR COG AND COS INLETS
MD 374.61	PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COS INLETS 5', 10', 15' & 20'
MD 374.61-01	PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COS INLETS 5', 10', 15' & 20'
MD 374.68	PRECAST OR CAST-IN-PLACE COG/COS OPENING FOR 8" CURB 5' OR 10' ONLY
MD 378.03	STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN-END GRATE NON-TRAFFIC AREAS
MD 383.00	48" SQUARE STANDARD SHALLOW MANHOLE
MD 384.05	72" DIAMETER PRECAST MANHOLE FOR 42" & 48" PIPES
MD 578.01	REPAIRING PAVEMENT OPENINGS FOR UTILITY TRENCHES NEW COMBINATION CURB AND GUTTER PLACEMENT ALONG
MD 580.03	EXISTING PAVEMENT
MD 580.08	DRIVEWAYS AND BIKE PATHS PAVEMENT SECTIONS
MD 620.02	STANDARD TYPES A & B CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER
MD 620.03	DEPRESSED CURB FOR COMBINATION CURB AND GUTTER AND DEPRESSED CURB FOR SIDEWALK RAMPS
MD 630.02	STANDARD ENTRANCE CONSTRUCTION RESIDENTIAL & COMMERCIAL METHOD NO. 2
MD 635.01	MAILBOX PLACEMENT DETAILS
MD 655.11	SIDEWALK RAMPS PERPENDICULAR
MD 655.12	SIDEWALK RAMPS PARALLEL
MD 655.13	SIDEWALK RAMPS COMBINATION
MD 655.40	DETECTABLE WARNING SURFACES
MD 657.00	STANDARD STAIRWAYS
MC 811.01	METHODS OF GRADING SIDE SLOPES
SUP-FR(FN)-301	CHAIN LINK SAFETY FENCE-RETAINING WALLS AND BOX CULVERTS GENERAL NOTES
SUP-FR(FN)-302	TYPE III CHAIN LINK SAFETY FENCE-RETAINING WALLS AND BOX CULVERTS
REBAR-BL-101	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE
REBAR-DL-101	DEVELOPMENT LENGTH DIMENSIONS GRADE 60 REINFORCING STEEL IN MIX NO. 3 (3500 P.S.I.) CONCRETE
REBAR-BB-101	BAR BEND TYPES
REBAR-BB-102	REINFORCING STEEL HOOK TABLES AND DIAGRAMS
RW-301	RETAINING WALL AND WING WALL DRAINAGE SYSTEMS
RW-401	CONCRETE RETAINING WALL CONTRACTION AND EXPANSION JOINTS

NOTE: ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCED STANDARD AT THE TIME OF CONSTRUCTION.

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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.
ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER

DATE 2/8/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pGN-I001_MD355.dgn

PLAN SHEET INDX-01
INDEX OF SHEETS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 02 of 97

DPS FILE NO. SC0002 OF SC0047

GENERAL NOTES

1. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE LATEST APPROVED MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION (MDOT SHA) "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS" REVISIONS THEREOF OR ADDITIONS THERETO, AS INDICATED IN THE PROJECT DESCRIPTION OF THE INVITATION FOR BIDS BOOK; THE SPECIAL PROVISIONS INCLUDED IN THE INVITATION FOR BIDS BOOK; THE ADMINISTRATION'S "BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES" AND THE LATEST ADOPTED MUTCD, WASHINGTON SUBURBAN SANITARY COMMISSION (W.S.S.C.) STANDARDS, MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STANDARDS, AND SOIL CONSERVATION SERVICE POND CONSTRUCTION SPECIFICATIONS FOR MARYLAND.
2. FOR CONSTRUCTION, ALL HORIZONTAL CONTROL SHALL BE STATE HIGHWAY ADMINISTRATION NAD 83/91 AND VERTICAL CONTROL NAVD 88.
3. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION 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 ON THIS PLAN OR SIX (6) INCHES, WHICHEVER IS LESS, THE CONTRACTOR SHALL CONTACT THE MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION'S PROJECT INSPECTOR AND THE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
4. CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE. REPAIRS TO UTILITIES OR PROPERTY DAMAGED AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION, MUST BE MADE AT THE CONTRACTOR' EXPENSE WITHOUT ADDITIONAL COST TO MONTGOMERY COUNTY BEFORE PROCEEDING WITH CONSTRUCTION.
5. GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE IN BOTH TEMPORARY AND PERMANENT CONDITIONS.
6. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
7. CLEARING TO BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE PLANS.
8 CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL TO BE DONE UNDER THE SUPERVISION OF W.S.S.C., CALL (301) 699-4420
9. ALL STORM DRAINS SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE NOTED.
10. ALL UTILITY POLES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS.
11. 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 BEFORE STARTING A JOB. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES - MARYLAND FOREST, PARK AND WILDLIFE SERVICE WHOSE TELEPHONE NUMBER IS (301) 854-6060. THE PERMIT PROCESS TAKES SEVERAL DAYS. TAKE THIS INTO CONSIDERATION BEFORE STARTING A JOB.
12. 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 PLAT FILES NO. 776 TO 781.
13. CONCRETE DESIGN: SERVICE LOAD DESIGN METHOD.
14. REINFORCING STEEL DESIGN: (fs=24,000 PSI)
15. CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE f'c=3000 psi. ALL CONCRETE SHALL BE MIX NO.2 f'c=3000 psi UNLESS OTHERWISE NOTED.
16. REINFORCING STEEL SHALL CONFORM TO "ASTM" A 615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER ACI 318 REQUIREMENTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED.
17. FOR ADDITIONAL NOTES ON DRAINAGE STRUCTURES AND RETAINING WALLS SEE NOTES ELSEWHERE IN PLANS.
18. WHERE CURB AND GUTTER ENDS ARE EXPOSED, PROVIDE A NOSE DOWN SECTION AT 3:1 SLOPE.
19. DISTURBED AREAS TO BE PERMANENTLY GRASS SHALL RECEIVE 2" OF TOPSOIL.
20. STORM DRAIN AND UTILITY INSTALLATION WITHIN SHA RIGHT-OF-WAY AND IN EXISTING PAVEMENT SHALL BE IN ACCORDANCE WITH MD 578.01. ALL COSTS ASSOCIATED WITH MEETING THE REQUIREMENTS OF MD 578.01 SHALL BE INCIDENTAL TO THE APPLICABLE UTILITIES AND STORM DRAIN ITEMS.
21. SUBSURFACE INVESTIGATION RESULTS (TEST HOLES, SOIL BORINGS, ETC.) WILL BE MADE AVAILABLE TO THE CONTRACTOR.
22. PROPOSED INLETS AND ASSOCIATED PIPE EXTENSIONS SHALL BE CONNECTED TO THE NEAREST SOUND JOINT OF THE EXISTING PIPE AND IN COMPLIANCE WITH THE CONCRETE COLLAR CONNECTION DETAIL SHOWN ON THE STORM DRAIN SCHEDULE SHEET. PIPE CONNECTIONS WHETHER NEW PIPES TO EXISTING PIPES, NEW INLETS TO EXISTING PIPES, OR NEW PIPES TO EXISTING INLETS WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE CONSIDERED INCIDENTAL TO PERTINENT STORM DRAIN ITEMS.
23. NOTIFY MR. TONY GOODMAN (703) 750-4708 OF WASHINGTON GAS, FOR STAND BY, 48 HOURS PRIOR TO ANY EXCAVATION IN THE VICINITY OF NATURAL GAS TRANSMISSION LINES.
24. ANY RELOCATION OF EXISTING NATURAL GAS TRANSMISSION LINES MAY ONLY BE ABLE TO BE PERFORMED DURING THE NON-HEATING SEASON, MAY THROUGH SEPTEMBER.

CONVENTIONAL SIGNS

PROPOSED MEDIAN BARRIER
ELECTRICAL HAND BOX - SIGNALS (H.B.)
EXISTING GROUND LINE
PROPOSED TRAFFIC BARRIER
EXISTING TRAFFIC BARRIER
FENCE LINE
EXISTING RIGHT OF WAY LINE
PROPOSED RIGHT OF WAY LINE
EASEMENT
PROPERTY LINE
EXISTING ROADWAY
RAILROAD
BASE OR SURVEY LINE (F.S.)
FIRE HYDRANT
PROPOSED CULVERT
EXISTING CULVERT
EXISTING DROP INLET
UTILITY POLE
GUY WIRE
EXISTING CURB & GUTTER
WETLAND
HEDGE
WATER LINE (W)
SANITARY SEWER LINE (SAN)
GAS LINE (GAS)
OVERHEAD LINE (OHL)
SWM BORING/SOIL BORING TARGET (S, W) SB-01
TEST PIT LOCATION TH-01
EXISTING SANITARY MANHOLE (M.H.)
EXISTING STORM DRAIN MANHOLE (M.H.)
WATERS OF U.S. (AND ID NUMBERS) WUS4
STORMDRAIN STRUCTURE IDENTIFICATION (X / XX)
DITCH FLOW LINE
GRASS SWALE

FIELD SURVEY NOTES

1. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED BY WALLACE MONTGOMERY DECEMBER 19-21, 2016. SUPPLEMENTAL SURVEYS WERE PERFORMED JANUARY-MARCH 2017.
2. GANNETT FLEMING TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED BY MERCADO CONSULTANTS APRIL 2017.
3. TOPOGRAPHIC INFORMATION SHOWN ALONG THE NORTHBOUND SIDE OF MD355 FROM STA. 500+10± TO STA 502+10± IS FROM CONSTRUCTION DRAWINGS DATED SEPTEMBER 2015 FOR THE CLARKSBURG CONNECTOR PROJECT AND MAY NOT REPRESENT CURRENT EXISTING CONDITIONS. CONSTRUCTION DRAWINGS DATED SEPTEMBER 2015 FOR THE CLARKSBURG CONNECTOR PROJECT PROVIDED BY MCDOT.

EXPLANATORY NOTES AND REFERENCES

SIGHT DISTANCES: STOPPING SITE DISTANCES FOR VERTICAL CREST CURVES ARE BASED ON A HEIGHT OF EYE OF 3.5' AND A HEIGHT OF OBJECT OF 2'-0".

PIPE CULVERTS: ALL PIPE LENGTHS AND LOCATIONS SHALL BE VERIFIED IN THE FIELD AND CHECKED BY THE ENGINEER BEFORE ORDERING.

INVERT ELEVATIONS: ALL INVERT ELEVATIONS HAVE BEEN CALCULATED WITH THE MOST RELIABLE DATA AVAILABLE. FIELD CHANGES WILL BE AT THE DIRECTION OF THE ENGINEER.

ABBREVIATIONS

ABUT	-	ABUTMENT
ACCT. NO.	-	ACCOUNT NUMBER
APPROX.	-	APPROXIMATE
ASPH	-	ASPHALT SURFACE
BK.	-	BACK
BRG	-	BANK RUN GRAVEL
℄	-	BASELINE
BSM	-	BED STABILITY MIX
BLVD	-	BOULEVARD
BRG.	-	BEARING, BORING
B.R.L.	-	BUILDING RESTRICTION LINE
CATV	-	CABLE TV
℄	-	CENTERLINE
CONC.	-	CONCRETE
CMP	-	CORRUGATED METAL PIPE
CORR.	-	CORRECTION (V.C.)
CSW	-	CONCRETE SIDEWALK
CSXT	-	CSX RAILROAD
C.Y.	-	CUBIC YARDS
Dc	-	DEGREE OF CURVE
DELTA	-	CENTRAL ANGLE (CURVE DATA)
DEV	-	DEVELOPMENT
DIA.	-	DIAMETER
DI	-	EXISTING DRAIN INLET
E	-	EXTERNAL DISTANCE (CURVE DATA)
EA.	-	EACH
E.B.R.	-	EAST BOUND ROADWAY
ELEV., EL	-	ELEVATION
ECM	-	EROSION CONTROL MATTING
EX., EXIST.	-	EXISTING
EXP.	-	EXPANSION
F.S.	-	FAR SIDE
F/O	-	FIBER OPTIC
F.215	-	FOLIO
HI	-	HIGH POINT
INV.	-	INVERT
L	-	LENGTH OF CURVE (CURVE DATA)
LBS	-	POUNDS
L.F.	-	LINEAR FEET
LO	-	LOW POINT
LT.	-	LEFT
L.5660	-	LIBER
MAX.	-	MAXIMUM
MC	-	MONTGOMERY COUNTY
MD	-	MARYLAND
M.H., MH	-	MANHOLE
MIN.	-	MINIMUM
MOD.	-	MODIFIED
MSE	-	MECHANICAL STABILIZED EARTH
N.B.R.	-	NORTH BOUND ROADWAY
N.D.C.	-	NOSE DOWN CURB
NO.	-	NUMBER
NORM.	-	NORMAL
NRI	-	NATURAL RESOURCE INVENTORY
FSD	-	FOREST STAND DELINEATION
N.S.	-	NEAR SIDE
NTS	-	NOT TO SCALE
P 233	-	PARCEL
P/C	-	POINT OF CROWN
P.C.	-	POINT OF CURVATURE
P.C.C.	-	POINT OF COMPOUND CURVATURE
P/GE	-	PROFILE GRADE ELEVATION
P.G.L.	-	PROFILE GRADE LINE
P/GL	-	PROFILE GROUND LINE
PIE	-	PUBLIC IMPROVEMENT EASEMENT
P.I.	-	POINT OF INTERSECTION
PROP.	-	PROPOSED
P.S.I.	-	POUNDS PER SQUARE INCH
P.S.F.	-	POUNDS PER SQUARE FOOT
P.O.B.	-	POINT OF BEGINNING
P.O.E.	-	POINT OF ENDING
P/R	-	POINT OF ROTATION
P.P.C.C.	-	PLAIN PORTLAND CEMENT CONCRETE
P.T.	-	POINT OF TANGENT
PUE	-	PUBLIC UTILITY EASEMENT
P.V.C.	-	POINT OF VERTICAL CURVE
P.V.I.	-	POINT OF VERTICAL INTERSECTION
P.V.R.C.	-	POINT OF VERTICAL REVERSE CURVE
PVT.	-	PAVEMENT
P.V.T.	-	POINT OF VERTICAL TANGENCY
R	-	RADIUS (CURVE DATA)
R.C.P.	-	REINFORCED CONCRETE PIPE
RGC	-	RIFFLE GRADE CONTROL
RT.	-	RIGHT
R/W	-	RIGHT OF WAY
S.B.R.	-	SOUTH BOUND ROADWAY
SDWK.	-	SIDEWALK
SC	-	STORMCEPTOR
SD	-	STORM DRAIN
SBM	-	STREAM BED MATERIAL
SF	-	SQUARE FEET
SHA	-	STATE HIGHWAY ADMINISTRATION
S.Y.	-	SQUARE YARDS
SPP	-	STRUCTURAL PLATE PIPE
STA.	-	STATION
STD.	-	STANDARD
SSD	-	STOPPING SIGHT DISTANCE
SMH	-	SANITARY MANHOLE
SWM	-	STORM WATER MANAGEMENT
SW-I	-	STORM WATER MANAGEMENT BORING
T	-	TANGENT (CURVE DATA)
TM EW-31	-	TAX MAP
TBD	-	TO BE DETERMINED
TC	-	TOP OF CURB
TRANS	-	TRANSFORMER
TRAV	-	TRAVERSE POINT
TYP.	-	TYPICAL
UG	-	UNDERGROUND
UTIL.	-	UTILITY STRUCTURE
VC	-	VERTICAL CURVE
W	-	WATER LINE
W.B.R.	-	WEST BOUND ROADWAY
W.P.	-	WORKING POINT

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PROFESSIONAL CERTIFICATION

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ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — No. 26238 — PROFESSIONAL ENGINEER

DATE 2/8/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

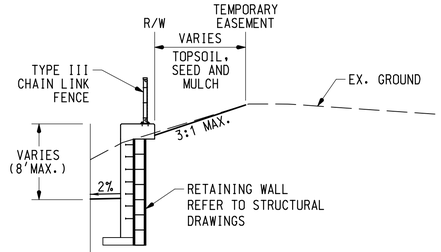
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PLAN SHEET GN-01
GENERAL NOTES AND DEFINITIONS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

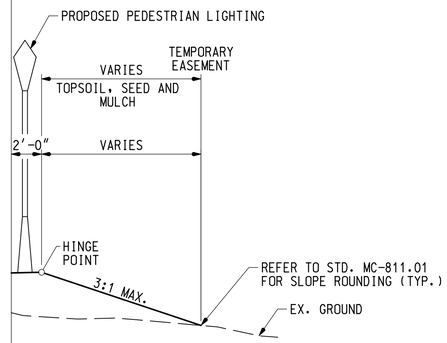
Project No. : C.I.P. PR. # 501744 SHEET 03 of 97

DPS FILE NO. SC0003 OF SC0047



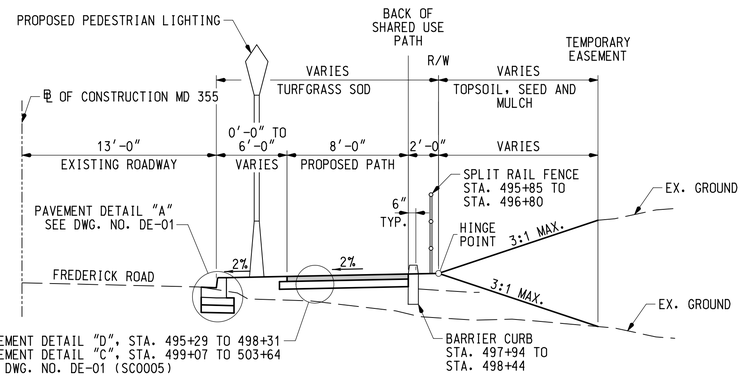
RETAINING WALL SECTION

STA. 522+89 TO STA. 523+80
NOT TO SCALE



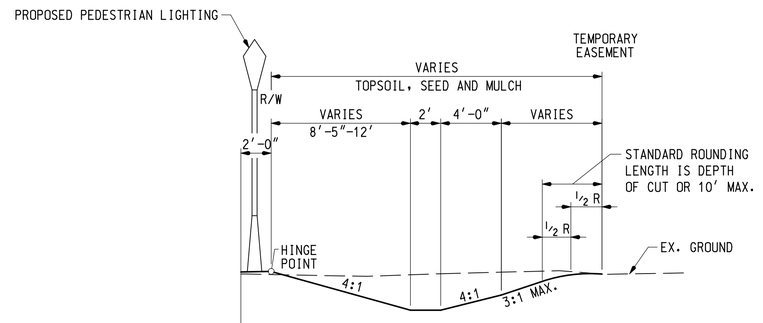
PROPOSED PEDESTRIAN LIGHTING

STA. 501+25 TO STA. 503+64
NOT TO SCALE



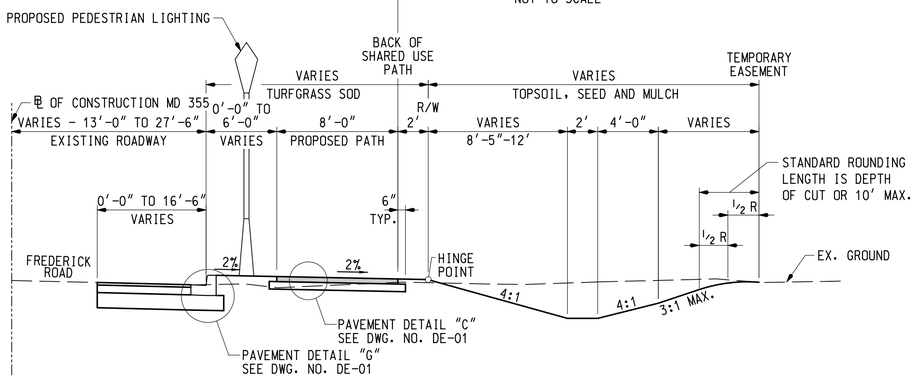
SOUTH OF CLARKSBURG ROAD NORMAL SECTION

STA. 495+29 TO STA. 503+64
STA. 522+89 TO STA, 523+80
NOT TO SCALE



PROPOSED PEDESTRIAN LIGHTING

STA. 528+00 TO STA. 528+50
NOT TO SCALE



NORTH OF CLARKSBURG ROAD NORMAL SECTION

PROPOSED CURB SECTION
STA. 515+00 TO STA. 522+89
STA. 523+80 TO STA. 528+60
NOT TO SCALE

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ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL
STATE OF MARYLAND
ROBERT JAMES HUDSON
26238
PROFESSIONAL ENGINEER
DATE 7-7-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

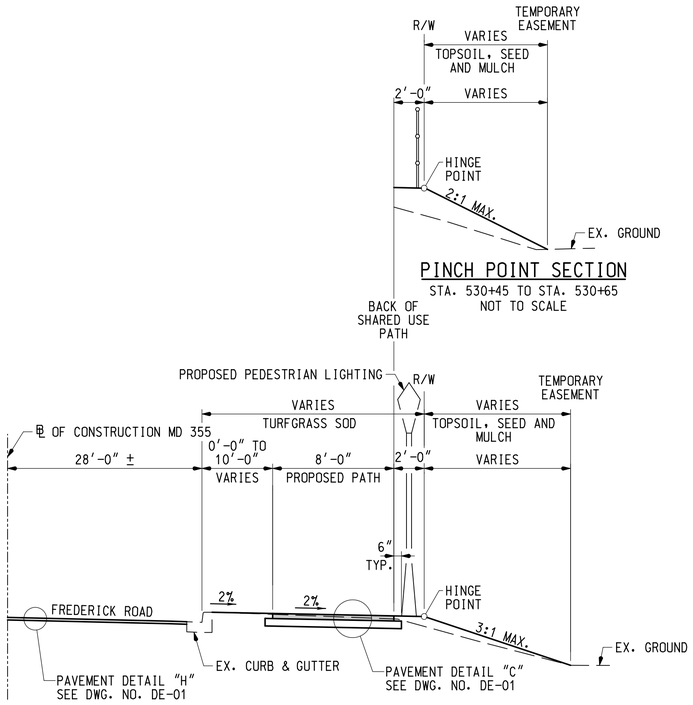
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PLAN SHEET TS-01
TYPICAL SECTIONS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 04 of 97

DPS FILE NO. SC0004 OF SC0047

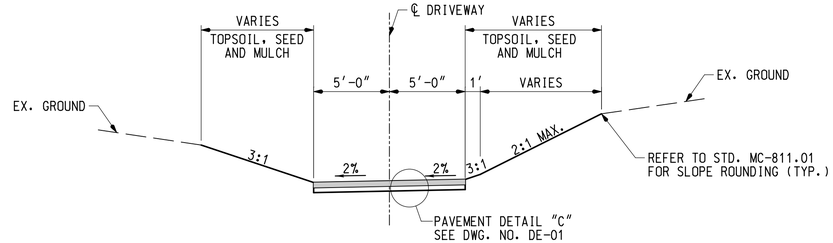


PINCH POINT SECTION

STA. 530+45 TO STA. 530+65
NOT TO SCALE

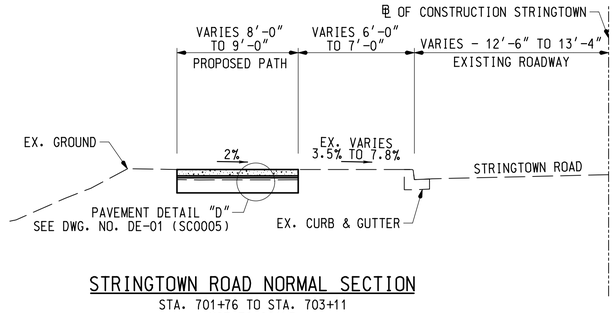
NORTH OF CLARKSBURG ROAD NORMAL SECTION

EXISTING CURB SECTION
STA. 528+60 TO STA. 531+37
NOT TO SCALE



DRIVEWAY SECTION BEYOND STANDARD ENTRANCE LIMITS

STA. 523+92
NOT TO SCALE



STRINGTOWN ROAD NORMAL SECTION

STA. 701+76 TO STA. 703+11
NOT TO SCALE

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SEAL
STATE OF MARYLAND
ROBERT JAMES HUDSON
No. 26238
PROFESSIONAL ENGINEER
DATE 8-3-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

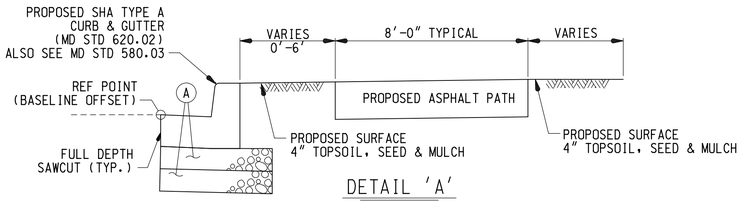
PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHT-X002_MD355.dgn

PLAN SHEET TS-02
TYPICAL SECTIONS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 05 of 97

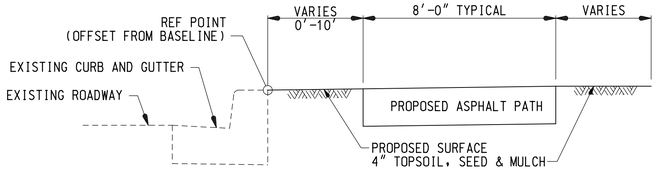
DPS FILE NO. SC0046 OF SC0047



DETAIL 'A'
NEW CURB AND GUTTER SECTION

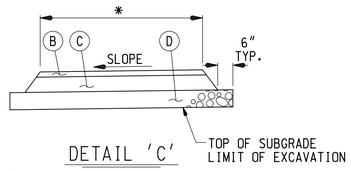
NOT TO SCALE

Ⓐ 12" BASE COURSE USING GRADED AGGREGATE (2-6" LIFTS)
(INCIDENTAL TO C&G PAYMENT)



DETAIL 'B'
EXISTING CURBED SECTION

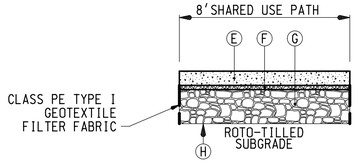
NOT TO SCALE



DETAIL 'C'
NEW PROPOSED ASPHALT PATH

NOT TO SCALE

Ⓑ 1.5" SUPERPAVE ASPHALT MIX 9.5mm SURFACE, PG 64S-22, L2
Ⓒ 2.5" SUPERPAVE ASPHALT MIX 19.0mm BASE, PG 64S-22, L2
Ⓓ 4.0" GRADED AGGREGATE BASE COURSE
REFER TO PLANS FOR DIMENSIONS
SEE MD STD 580.08 FOR ADDITIONAL INFORMATION



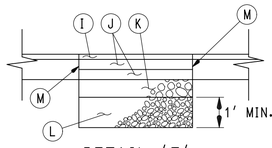
DETAIL 'D'
PERMEABLE PAVEMENT - SHARED USE PATH FOR MD 355 AND STRINGTOWN

NOT TO SCALE

Ⓔ 5.0" PERVIOUS CONCRETE SIDEWALK
Ⓕ 1.5" AASHTO NO. 8 CHOKER STONE COURSE
Ⓖ 12.0" WASHED AASHTO NO. 2 AGGREGATE RESERVOIR
Ⓗ LIMITS OF EXCAVATION (NO GEOTEXTILE)
ROTO-TILL SUBGRADE PRIOR TO INSTALLATION

PERVIOUS CONCRETE SIDEWALK NOTES:

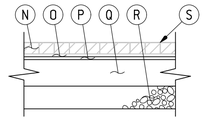
1. CONTRACTOR SHALL INSTALL PERVIOUS CONCRETE SIDEWALK PER SPECIFICATIONS.
2. REFER TO SECTION 902 OF MDOT SHA STANDARD SPECIFICATIONS, JULY 2022 OR LATEST VERSION, FOR PERVIOUS CONCRETE.
3. SUBGRADE MUST BE LEVEL. ROTO-TILL SUBGRADE PRIOR TO INSTALLATION. INSTALL STEPS AS NEEDED TO MAINTAIN MINIMUM 6 INCHES OF AGGREGATE.
4. CONSTRUCTION SPECIFICATIONS SHALL MEET MDE STORMWATER DESIGN MANUAL APPENDIX B-4.
5. SEE SHEET SW-01 (SC0047) FOR 4" PVC OVERDRAIN TYPICAL PROFILES



DETAIL 'E'
REPAIRING PAVEMENT OPENINGS FOR UTILITY TRENCHES

NOT TO SCALE

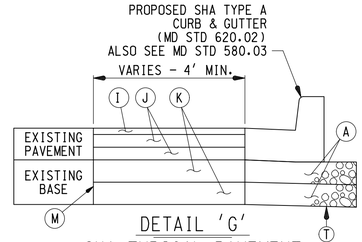
Ⓘ 2.0" SUPERPAVE ASPHALT MIX 9.5mm SURFACE, PG 64S-22, L2
Ⓙ 4.0" SUPERPAVE ASPHALT MIX 19.0mm BASE, PG 64S-22, L2
Ⓚ 6.0" GRADED AGGREGATE BASE COURSE
Ⓛ NO. 57 AGGREGATE
Ⓜ FULL DEPTH SAWCUT (TYP.)



DETAIL 'F'
VEHICULAR BRICK PAVER FOR ENTRANCE AT STA. 498+69

NOT TO SCALE

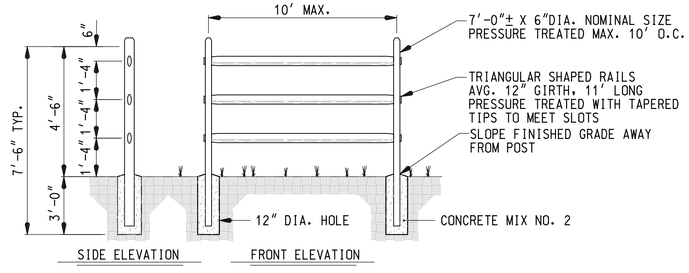
Ⓝ 4"x8"x2¼" MIN. BRICK PAVERS WITH HAND TIGHT JOINTS AND 3:1 SAND CEMENT SWEEP
Ⓞ ADHESIVE COAT - NEOPRENE MODIFIED ASPHALT PRIMECOAT - LOW VISCOSITY LIQUID ASPHALT
Ⓟ ¾" BITUMINOUS SETTING BED (ADJUST THICKNESS IF PAVER THICKNESS VARIES)
Ⓠ 7" POURED CONCRETE BASE, 3500 PSI, 6"x6"x2.1x2.1 WELDED WIRE CONTINUOUS WITHIN SLAB
Ⓡ 6.0" DENSE GRADED AGGREGATE BASE COURSE
Ⓢ FINISH GRADE OF PAVEMENT



DETAIL 'G'
SHA TYPICAL PAVEMENT

NOT TO SCALE

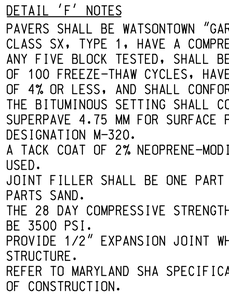
Ⓐ 12" BASE COURSE USING GRADED AGGREGATE (2-6" LIFTS)
(INCIDENTAL TO C&G PAYMENT)
Ⓘ 2.0" SUPERPAVE ASPHALT MIX 9.5mm SURFACE, PG 64S-22, L2
Ⓙ 4.0" SUPERPAVE ASPHALT MIX 19.0mm BASE, PG 64S-22, L2
Ⓚ 6.0" GRADED AGGREGATE BASE COURSE
Ⓜ FULL DEPTH SAWCUT (TYP.)
Ⓣ TOP OF SUBGRADE AND LIMIT OF EXCAVATION



SPLIT RAIL FENCE DETAIL

NOT TO SCALE

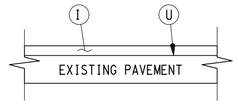
NOTE:
CONCRETE FOOTING IS INCIDENTAL TO THE PAY ITEM OF "SPLIT RAIL FENCE".



1. CURB & GUTTER TO BE USED WHERE STORM WATER WILL COLLECT AT FACE OF CURB EXCEPT AS DIRECTED BY THE ENGINEER.
2. MIX #2 OR MIX #6 CONCRETE AS DIRECTED ON PLANS.
3. SPECIAL DESIGN AS RETAINING WALL WHERE THIS DIMENSION EXCEEDS 18 INCHES. THIS BARRIER IS FOR USE ONLY IN OFF-STREET AREAS WHERE VEHICLE SPEEDS ARE MINIMAL.

BARRIER CURB DETAIL

NOT TO SCALE



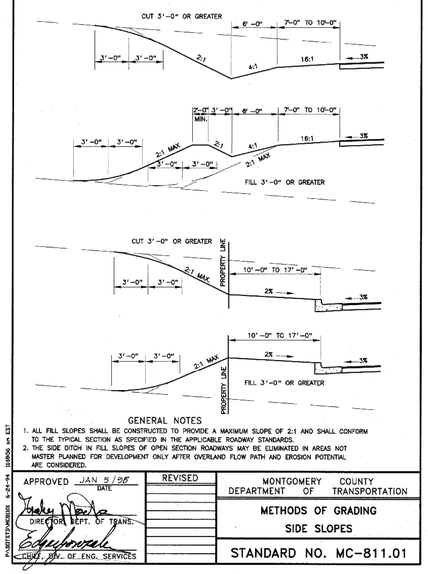
DETAIL 'H'
SHA FINE MILLING AND OVERLAY

NOT TO SCALE

Ⓘ 2.0" SUPERPAVE ASPHALT MIX 9.5mm FOR SURFACE, PG 64S-22, L2
Ⓤ TOP OF EXISTING PAVEMENT AFTER 2.0" FINE MILLING

DETAIL 'F' NOTES

1. PAVERS SHALL BE WATSONTOWN "GARDEN BLEND" OR APPROVED EQUAL, CLASS SX, TYPE 1, HAVE A COMPRESSIVE STRENGTH OF 10,000 PSI FOR ANY FIVE BLOCK TESTED, SHALL BE CAPABLE OF WITHSTANDING A MIN. OF 100 FREEZE-THAW CYCLES, HAVE AN AVERAGE WATER ABSORPTION RATE OF 4% OR LESS, AND SHALL CONFORM TO ASTM DESIGNATION OF C-902.
2. THE BITUMINOUS SETTING SHALL CONSIST OF HOT MIX ASPHALT SUPERPAVE 4.75 MM FOR SURFACE PG58-28 CONFORMING TO AASHTO DESIGNATION M-320.
3. A TACK COAT OF 2% NEOPRENE-MODIFIED ASPHALT ADHESIVE SHALL BE USED.
4. JOINT FILLER SHALL BE ONE PART PORTLAND CEMENT MIXED WITH THREE PARTS SAND.
5. THE 28 DAY COMPRESSIVE STRENGTH FOR THE CONCRETE SUBBASE SHALL BE 3500 PSI.
6. PROVIDE 1/2" EXPANSION JOINT WHERE BRICK ABUTS A RIGID STRUCTURE.
7. REFER TO MARYLAND SHA SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.



GENERAL NOTES

1. ALL FILL SLOPES SHALL BE CONSTRUCTED TO PROVIDE A MAXIMUM SLOPE OF 2:1 AND SHALL CONFORM TO THE TYPICAL SECTION AS SPECIFIED IN THE APPLICABLE ROADWAY STANDARDS.
2. THE SIDE DITCH IN FILL SLOPES OF OPEN SECTION ROADWAYS MAY BE ELIMINATED IN AREAS NOT MASTER PLANNED FOR DEVELOPMENT ONLY AFTER OVERLAND FLOW PATH AND EROSION POTENTIAL ARE CONSIDERED.

APPROVED JAN 5 '96
DATE
DIRECTOR, DEPT. OF TRANS.
CHIEF, DIV. OF ENG. SERVICES

REVISED

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

METHODS OF GRADING
SIDE SLOPES

STANDARD NO. MC-811.01

WALLACE MONTGOMERY
ENGINEERS · PLANNERS · SURVEYORS · CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

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.
ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023
DATE: 8-17-2023

SEAL
STATE OF MARYLAND
ROBERT JOSEPH HUDSON
26238
PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLAN SHEET DE-01
PAVEMENT DETAILS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 06 of 97

PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-D001_MD355.dgn

DPS FILE NO. SC0005 OF SC0047

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF CURB OFFSET	EASTBOUND ROADWAY BACK OF CURB ELEVATION	REMARKS
PS-01	495+29.11	21.33' RT.	661.41	
PS-01	495+47.30	15.01' RT.	660.85	
PS-01	495+50.00	14.25' RT.	660.73	
PS-01	495+55.28	13.67' RT.	660.61	
PS-01	495+75.00	13.67' RT.	659.59	
PS-01	496+00.00	13.67' RT.	659.27	
PS-01	496+25.00	13.67' RT.	658.54	
PS-01	496+50.00	13.67' RT.	657.88	
PS-01	496+75.00	13.67' RT.	657.43	
PS-01	497+00.00	13.67' RT.	657.28	
PS-01	497+25.00	13.67' RT.	657.35	
PS-01	497+50.00	13.67' RT.	657.51	
PS-01	497+75.00	13.67' RT.	657.76	
PS-01	498+00.00	13.67' RT.	658.06	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF CURB OFFSET	EASTBOUND ROADWAY BACK OF CURB ELEVATION	REMARKS
PS-02	498+00.00	13.67' RT.	658.06	
PS-02	498+25.00	13.67' RT.	658.44	
PS-02	498+33.76	13.67' RT.	658.57	
PS-02	498+50.00	19.88' RT.	658.47	
PS-02	498+50.97	20.79' RT.	658.49	MIDPOINT OF CURVE
PS-02	498+58.10	38.00' RT.	659.25	
PS-02	498+58.10	47.01' RT.	659.40	
PS-02	498+79.43	49.62' RT.	660.44	
PS-02	498+79.43	38.00' RT.	660.32	
PS-02	498+86.56	20.79' RT.	660.18	MIDPOINT OF CURVE
PS-02	499+00.00	13.96' RT.	660.15	
PS-02	499+03.76	13.67' RT.	660.03	
PS-02	499+25.00	13.67' RT.	660.52	
PS-02	499+50.00	13.67' RT.	661.13	
PS-02	499+75.00	13.67' RT.	661.68	
PS-02	500+00.00	13.67' RT.	661.75	
PS-02	500+25.00	13.67' RT.	662.77	
PS-02	500+50.00	13.67' RT.	663.42	
PS-02	500+75.00	13.67' RT.	663.70	
PS-02	501+00.00	13.67' RT.	663.59	
PS-02	501+25.00	13.67' RT.	663.33	
PS-02	501+26.93	13.67' RT.	663.30	
PS-02	501+44.14	20.80' RT.	663.66	MIDPOINT OF CURVE
PS-02	501+50.00	29.98' RT.	663.83	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF CURB OFFSET	EASTBOUND ROADWAY BACK OF CURB ELEVATION	REMARKS
PS-03	501+50.00	29.98' RT.	663.83	
PS-03	501+51.27	37.92' RT.	664.01	
PS-03	501+51.28	44.03' RT.	664.12	
PS-03	501+78.61	44.07' RT.	664.43	
PS-03	501+78.61	38.00' RT.	664.09	
PS-03	501+85.74	20.79' RT.	662.66	MIDPOINT OF CURVE
PS-03	502+00.00	13.84' RT.	661.81	
PS-03	502+04.86	13.67' RT.	662.02	
PS-03	502+25.00	13.67' RT.	661.65	
PS-03	502+50.00	13.67' RT.	661.14	
PS-03	502+75.00	13.67' RT.	659.91	
PS-03	503+00.00	13.67' RT.	659.01	
PS-03	503+20.00	13.67' RT.	658.72	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF CURB OFFSET	EASTBOUND ROADWAY BACK OF CURB ELEVATION	REMARKS
PS-04	515+27.58	13.67' RT.	663.31	
PS-04	515+50.00	13.67' RT.	662.23	
PS-04	515+75.00	13.67' RT.	661.05	
PS-04	516+00.00	13.67' RT.	660.01	
PS-04	516+17.86	13.67' RT.	659.28	MIDPOINT OF CURVE
PS-04	516+25.00	13.67' RT.	658.99	
PS-04	516+50.00	13.67' RT.	657.97	
PS-04	516+75.00	13.67' RT.	657.09	
PS-04	517+00.00	13.67' RT.	656.21	
PS-04	517+08.15	13.67' RT.	656.01	
PS-04	517+25.00	13.67' RT.	655.49	
PS-04	517+50.00	13.67' RT.	654.77	
PS-04	517+75.00	13.67' RT.	654.23	
PS-04	518+00.00	13.67' RT.	653.82	
PS-04	518+25.00	13.67' RT.	653.52	
PS-04	518+50.00	13.67' RT.	653.34	
PS-04	518+69.97	13.67' RT.	653.22	LOW POINT
PS-04	518+75.00	13.67' RT.	653.23	
PS-04	519+00.00	13.67' RT.	653.33	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF CURB OFFSET	EASTBOUND ROADWAY BACK OF CURB ELEVATION	REMARKS
PS-05	519+00.00	13.67' RT.	653.33	
PS-05	519+25.00	13.67' RT.	653.54	
PS-05	519+50.00	13.67' RT.	653.79	
PS-05	519+75.00	13.67' RT.	654.16	
PS-05	520+00.00	13.67' RT.	654.53	
PS-05	520+25.00	13.67' RT.	654.54	
PS-05	520+50.00	13.67' RT.	655.44	
PS-05	520+75.00	13.67' RT.	655.91	
PS-05	521+00.00	13.67' RT.	656.48	
PS-05	521+25.00	13.67' RT.	657.06	
PS-05	521+50.00	13.67' RT.	657.60	
PS-05	521+75.00	13.67' RT.	658.02	
PS-05	521+89.64	13.67' RT.	658.24	
PS-05	522+00.00	13.67' RT.	658.39	
PS-05	522+06.46	13.67' RT.	658.45	HIGH POINT
PS-05	522+25.00	13.67' RT.	658.45	
PS-05	522+50.00	13.67' RT.	658.26	
PS-05	522+75.00	13.67' RT.	657.44	
PS-05	522+96.54	13.67' RT.	657.34	MIDPOINT OF CURVE
PS-05	523+00.00	13.67' RT.	657.23	
PS-05	523+25.00	13.67' RT.	656.19	
PS-05	523+50.00	13.67' RT.	654.85	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF CURB OFFSET	EASTBOUND ROADWAY BACK OF CURB ELEVATION	REMARKS
PS-06	523+50.00	13.67' RT.	654.85	
PS-06	523+75.00	13.67' RT.	653.54	
PS-06	524+00.00	13.67' RT.	652.24	
PS-06	524+03.43	13.67' RT.	652.06	
PS-06	524+25.00	17.56' RT.	650.84	
PS-06	524+50.00	21.83' RT.	649.35	
PS-06	524+74.96	25.86' RT.	647.79	
PS-06	524+96.16	28.24' RT.	646.40	MIDPOINT OF CURVE
PS-06	525+00.00	28.61' RT.	646.15	
PS-06	525+17.52	29.17' RT.	645.04	
PS-06	525+25.00	29.17' RT.	644.60	
PS-06	525+50.00	29.17' RT.	643.07	
PS-06	525+75.00	29.17' RT.	641.54	
PS-06	526+00.00	29.17' RT.	639.91	
PS-06	526+02.75	29.17' RT.	639.74	MIDPOINT OF CURVE
PS-06	526+25.00	29.17' RT.	638.46	
PS-06	526+50.00	29.17' RT.	637.02	
PS-06	526+75.00	29.17' RT.	635.60	
PS-06	526+87.99	29.17' RT.	634.88	
PS-06	527+00.00	29.17' RT.	634.29	
PS-06	527+10.04	29.17' RT.	633.83	
PS-06	527+15.04	28.84' RT.	633.60	MATCH EXISTING

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF CURB OFFSET	EASTBOUND ROADWAY BACK OF CURB ELEVATION	REMARKS
PS-07	528+36.00	28.87' RT.	629.82	MATCH EXISTING
PS-07	528+50.00	28.36' RT.	629.57	
PS-07	528+75.00	27.44' RT.	629.19	
PS-07	529+00.00	26.52' RT.	628.94	
PS-07	529+13.77	26.01' RT.	628.83	
PS-07	529+19.72	25.99' RT.	628.80	MIDPOINT OF CURVE
PS-07	529+25.00	26.31' RT.	628.77	
PS-07	529+25.67	26.37' RT.	628.76	
PS-07	529+48.00	28.53' RT.	628.56	
PS-07	529+49.84	28.68' RT.	628.55	MIDPOINT OF CURVE
PS-07	529+50.00	28.69' RT.	628.55	
PS-07	529+51.69	28.78' RT.	628.54	
PS-07	529+54.02	28.86' RT.	628.52	MATCH EXISTING

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	EASTBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-01	495+34.50	37.62' RT.	661.53	
PS-01	495+36.63	36.12' RT.	661.46	
PS-01	495+50.00	29.44' RT.	661.03	
PS-01	495+50.32	29.33' RT.	661.03	MIDPOINT OF CURVE
PS-01	495+65.42	27.00' RT.	660.57	
PS-01	495+69.10	27.00' RT.	660.46	
PS-01	495+73.79	27.26' RT.	660.32	MIDPOINT OF CURVE
PS-01	495+75.00	27.42' RT.	660.29	
PS-01	495+78.43	28.05' RT.	660.20	
PS-01	495+84.83	29.13' RT.	660.03	
PS-01	495+91.32	29.50' RT.	659.84	
PS-01	495+94.19	29.50' RT.	659.76	
PS-01	496+00.00	29.21' RT.	659.58	
PS-01	496+00.67	29.13' RT.	659.56	MIDPOINT OF CURVE
PS-01	496+07.08	28.05' RT.	659.35	
PS-01	496+11.71	27.26' RT.	659.20	MIDPOINT OF CURVE
PS-01	496+16.41	27.00' RT.	659.06	
PS-01	496+25.00	27.00' RT.	658.80	
PS-01	496+48.73	27.00' RT.	658.17	
PS-01	496+50.00	26.98' RT.	658.14	
PS-01	496+58.20	26.22' RT.	657.93	
PS-01	496+67.42	23.91' RT.	657.74	
PS-01	496+74.09	22.23' RT.	657.61	
PS-01	496+75.00	22.09' RT.	657.60	
PS-01	496+80.95	21.67' RT.	657.50	
PS-01	497+00.00	21.67' RT.	657.44	
PS-01	497+25.00	21.67' RT.	657.51	
PS-01	497+50.00	21.67' RT.	657.66	
PS-01	497+75.00	21.67' RT.	657.92	
PS-01	497+93.83	21.67' RT.	658.13	
PS-01	498+00.00	22.12' RT.	658.23	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	EASTBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-02	498+00.00	22.12' RT.	658.23	
PS-02	498+01.31	22.34' RT.	658.26	MIDPOINT OF CURVE
PS-02	498+08.54	24.33' RT.	658.40	
PS-02	498+18.53	27.07' RT.	658.61	MIDPOINT OF CURVE
PS-02	498+25.00	27.87' RT.	658.72	
PS-02	498+28.86	28.00' RT.	658.78	
PS-02	498+32.22	28.00' RT.	658.83	
PS-02	498+36.06	27.87' RT.	658.89	MIDPOINT OF CURVE
PS-02	498+39.88	27.49' RT.	658.77	
PS-02	498+40.80	27.37' RT.	658.71	
PS-02	498+43.22	27.12' RT.	658.50	MIDPOINT OF CURVE
PS-02	498+46.36	27.00' RT.	658.40	
PS-02	498+50.00	27.00' RT.	658.48	
PS-02	498+55.47	27.00' RT.	658.59	
PS-02	498+82.59	26.00' RT.	659.16	
PS-02	499+00.00	26.00' RT.	660.03	
PS-02	499+25.00	26.00' RT.	660.77	
PS-02	499+31.82	26.00' RT.	660.94	
PS-02	499+39.98	25.35' RT.	661.12	MIDPOINT OF CURVE
PS-02	499+47.93	23.44' RT.	661.28	
PS-02	499+50.00	22.83' RT.	661.32	
PS-02	499+53.44	22.11' RT.	661.38	MIDPOINT OF CURVE
PS-02	499+59.09	21.67' RT.	661.49	
PS-02	499+62.79	21.67' RT.	661.57	
PS-02	499+68.44	22.11' RT.	661.71	MIDPOINT OF CURVE
PS-02	499+73.95	23.44' RT.	661.86	
PS-02	499+75.00	23.77' RT.	661.88	
PS-02	499+81.90	25.35' RT.	662.05	MIDPOINT OF CURVE
PS-02	499+90.06	26.00' RT.	662.22	
PS-02	500+00.00	26.00' RT.	662.42	
PS-02	500+25.00	26.00' RT.	663.02	
PS-02	500+50.00	26.00' RT.	663.66	
PS-02	500+75.00	26.00' RT.	663.95	
PS-02	501+00.00	26.00' RT.	663.84	
PS-02	501+25.00	26.00' RT.	663.41	
PS-02	501+25.94	26.00' RT.	663.31	
PS-02	501+36.55	30.39' RT.	663.68	MIDPOINT OF CURVE
PS-02	501+40.94	41.00' RT.	664.13	
PS-02	501+40.94	44.00' RT.	664.20	
PS-02	501+39.17	26.00' RT.	663.10	
PS-02	501+48.09	26.00' RT.	662.96	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	EASTBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-03	501+81.78	26.00' RT.	662.00	
PS-03	501+90.73	26.00' RT.	662.19	
PS-03	501+88.94	44.00' RT.	664.20	
PS-03	501+88.94	41.02' RT.	663.99	
PS-03	501+93.34	30.40' RT.	662.88	MIDPOINT OF CURVE
PS-03	502+00.00	26.53' RT.	662.24	
PS-03	502+03.96	26.00' RT.	661.95	
PS-03	502+25.00	26.00' RT.	661.90	
PS-03	502+50.00	26.00' RT.	661.38	
PS-03	502+75.00	26.00' RT.	660.58	
PS-03	503+00.00	26.00' RT.	659.67	
PS-03	503+25.00	26.00' RT.	658.70	
PS-03	503+50.00	26.00' RT.	656.92	
PS-03	503+62.30	26.00' RT.	656.25	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	EASTBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-04	515+29.32	25.32' RT.	663.09	
PS-04	515+42.07	23.90' RT.	662.44	MIDPOINT OF CURVE
PS-04	515+50.00	24.45' RT.	662.01	
PS-04	515+54.83	25.32' RT.	661.76	
PS-04	515+62.30	26.58' RT.	661.38	MIDPOINT OF CURVE
PS-04	515+69.87	27.00' RT.	661.02	
PS-04	515+75.00	27.00' RT.	660.78	
PS-04	516+00.00	27.00' RT.	659.75	
PS-04	516+25.00	27.00' RT.	658.72	
PS-04	516+39.01	27.00' RT.	658.16	MIDPOINT OF CURVE
PS-04	516+50.00	27.00' RT.	657.71	
PS-04	516+75.00	27.00' RT.	656.82	
PS-04	517+00.00	27.00' RT.	655.96	
PS-04	517+08.15	27.00' RT.	655.72	
PS-04	517+25.00	27.00' RT.	655.20	
PS-04	517+50.00	27.00' RT.	654.49	
PS-04	517+75.00	27.00' RT.	653.96	
PS-04	518+00.00	27.00' RT.	653.56	
PS-04	518+25.00	27.00' RT.	653.27	
PS-04	518+50.00	27.00' RT.	653.08	
PS-04	518+75.00	27.00' RT.	652.97	
PS-04	519+00.00	27.00' RT.	653.07	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	EASTBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-05	519+00.00	27.00' RT.	653.07	
PS-05	519+25.00	27.00' RT.	653.29	
PS-05	519+35.10	27.00' RT.	653.39	
PS-05	519+41.38	27.32' RT.	653.45	MIDPOINT OF CURVE
PS-05	519+47.59	28.27' RT.	653.49	
PS-05	519+50.00	28.72' RT.	653.51	
PS-05	519+61.30	29.67' RT.	653.65	MIDPOINT OF CURVE
PS-05	519+75.00	28.27' RT.	653.89	
PS-05	519+81.21	27.32' RT.	654.00	MIDPOINT OF CURVE
PS-05	519+87.49	27.00' RT.	654.10	
PS-05	520+00.00	27.00' RT.	654.28	
PS-05	520+25.00	27.00' RT.	654.71	
PS-05	520+50.00	27.00' RT.	655.18	
PS-05	520+75.00	27.00' RT.	655.64	
PS-05	520+80.82	27.00' RT.	655.78	
PS-05	520+85.99	27.20' RT.	655.89	MIDPOINT OF CURVE
PS-05	520+91.12	27.78' RT.	656.10	
PS-05	520+95.81	28.32' RT.	656.38	
PS-05	521+00.00	28.50' RT.	656.53	
PS-05	521+00.52	28.50' RT.	656.53	
PS-05	521+08.02	28.50' RT.	656.46	
PS-05	521+12.73	28.32' RT.	656.49	MIDPOINT OF CURVE
PS-05	521+17.41	27.78' RT.	656.61	
PS-05	521+22.54	27.20' RT.	656.74	MIDPOINT OF CURVE
PS-05	521+25.00	27.00' RT.	656.80	
PS-05	521+27.71	27.00' RT.	656.85	
PS-05	521+50.00	27.00' RT.	657.34	
PS-05	521+75.00	27.00' RT.	657.77	
PS-05	521+89.64	27.00' RT.	657.98	
PS-05	522+00.00	27.00' RT.	658.13	
PS-05	522+25.00	27.00' RT.	658.19	
PS-05	522+25.74	27.00' RT.	658.19	
PS-05	522+50.00	27.00' RT.	658.01	
PS-05	522+61.83	27.00' RT.	657.86	
PS-05	522+69.09	26.61' RT.	657.74	MIDPOINT OF CURVE
PS-05	522+75.00	25.70' RT.	657.64	
PS-05	522+76.26	25.44' RT.	657.63	
PS-05	522+82.90	24.36' RT.	657.52	MIDPOINT OF CURVE
PS-05	522+89.62	24.00' RT.	657.79	
PS-05	523+00.00	24.00' RT.	657.46	
PS-05	523+50.00	24.00' RT.	656.42	
PS-05	523+50.00	24.00' RT.	655.07	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	EASTBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-06	523+50.00	24.00' RT.	655.07	
PS-06	523+75.00	24.00' RT.	653.70	
PS-06	523+80.32	24.00' RT.	653.05	
PS-06	523+86.13	24.27' RT.	652.74	MIDPOINT OF CURVE
PS-06	523+91.89	25.08' RT.	652.43	
PS-06	524+00.00	26.59' RT.	651.98	
PS-06	524+25.00	31.10' RT.	650.47	
PS-06	524+43.44	34.26' RT.	649.28	
PS-06	524+50.00	35.71' RT.	648.85	
PS-06	524+51.19	36.06' RT.	648.77	MIDPOINT OF CURVE
PS-06	524+58.67	38.78' RT.	648.26	
PS-06	524+75.00	44.37' RT.	647.16	
PS-06	524+79.54	45.42' RT.	646.86	MIDPOINT OF CURVE
PS-06	525+00.00	47.66' RT.	645.54	
PS-06	525+01.39	47.67' RT.	645.45	
PS-06	525+25.00	47.67' RT.	644.09	
PS-06	525+50.00	47.67' RT.	642.63	
PS-06	525+75.00	47.67' RT.	641.04	
PS-06	525+94.69	47.67' RT.	639.84	MIDPOINT OF CURVE
PS-06	526+00.00	47.67' RT.	639.52	
PS-06	526+25.00	47.67' RT.	637.95	
PS-06	526+50.00	47.67' RT.	636.45	
PS-06	526+75.00	47.67' RT.	634.95	
PS-06	526+87.99	47.67' RT.	634.18	
PS-06	527+00.00	47.67' RT.	633.66	
PS-06	527+25.00	47.67' RT.	632.61	
PS-06	527+50.00	47.67' RT.	631.79	
PS-06	527+75.00	47.67' RT.	631.02	
PS-06	527+88.85	47.67' RT.	630.61	
PS-06	527+95.30	47.36' RT.	630.43	MIDPOINT OF CURVE
PS-06	528+00.00	46.81' RT.	630.33	

PLAN SHEET	BASELINE STATION	EASTBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	EASTBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-07	528+00.00	46.81' RT.	630.33	
PS-07	528+01.68	46.44' RT.	630.29	
PS-07	528+25.00	41.96' RT.	629.80	
PS-07	528+45.04	38.11' RT.	629.46	
PS-07	528+50.00	37.16' RT.	629.39	
PS-07	528+50.61	37.04' RT.	629.39	
PS-07	528+55.15	36.35' RT.	629.33	MIDPOINT OF CURVE
PS-07	528+59.73	36.00' RT.	629.26	
PS-07	528+75.00	35.44' RT.	629.03	
PS-07	529+00.00	34.52' RT.	628.78	
PS-07	529+14.06	34.01' RT.	628.67	
PS-07	529+19.48	33.99' RT.	628.64	MIDPOINT OF CURVE
PS-07	529+25.00	34.34' RT.	628.61	
PS-07	529+47.66	36.54' RT.	628.41	
PS-07	529+50.00	36.73' RT.	628.39	
PS-07	529+51.16	36.79' RT.	628.38	MIDPOINT OF CURVE
PS-07	529+54.66	36.86' RT.	628.36	
PS-07	529+75.00	36.78' RT.	628.47	
PS-07	529+79.58	36.76' RT.	628.50	MIDPOINT OF CURVE
PS-07	530+00.00	36.70' RT.	628.68	
PS-07	530+13.37	36.56' RT.	628.96	
PS-07	530+24.21	37.46' RT.	629.18	MIDPOINT OF CURVE
PS-07	530+25.00	37.61' RT.	629.20	
PS-07	530+34.70	40.36' RT.	629.34	
PS-07	530+50.00	44.22' RT.	629.70	
PS-07	530+51.53	44.40' RT.	629.75	MIDPOINT OF CURVE
PS-07	530+68.81	44.05' RT.	630.27	
PS-07	530+75.00	43.47' RT.	630.49	
PS-07	530+85.65	44.01' RT.	630.86	MIDPOINT OF CURVE
PS-07	531+00.00	47.98' RT.	631.28	
PS-07	531+01.81	48.78' RT.	631.32	
PS-07	531+15.05	53.31' RT.	631.67	MIDPOINT OF CURVE
PS-07	531+25.00	54.83' RT.	631.98	
PS-07	531+28.92	55.01' RT.	632.12	
PS-07	531+37.02	55.17' RT.	633.61	

PLAN SHEET	BASELINE STATION	SOUTHBOUND ROADWAY BACK OF SHARED USE PATH OFFSET	SOUTHBOUND ROADWAY BACK OF SHARED USE PATH ELEVATION	REMARKS
PS-01	700+75.58	29.38' RT.	661.03	
PS-01	701+00.00	29.53' RT.	660.47	
PS-01	701+25.00	29.64' RT.	659.52	
PS-01	701+48.39	29.00' RT.	658.67	
PS-01	701+50.00	28.96' RT.	658.62	PI
PS-01	701+65.51	28.77' RT.	657.93	
PS-01	701+75.00	28.78' RT.	657.45	
PS-01	701+82.62	28.78' RT.	657.09	
PS-01	702+00.00	28.77' RT.	656.39	
PS-01	702+25.00	28.76' RT.	655.34	
PS-01	702+50.00	28.76' RT.	654.23	
PS-01	702+75.00	28.88' RT.	653.26	
PS-01	703+00.00	28.97' RT.	652.39	
PS-01	703+10.52	28.94' RT.	652.18	

WALLACE MONTGOMERY
ENGINEERS · PLANNERS · SURVEYORS · CONSTRUCTION MANAGERS
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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.
ROBERT I. HUDSON MD NO-26238 EXP-08/17/2023

SEAL
STATE OF MARYLAND
ROBERT IAN HUDSON
26238
PROFESSIONAL ENGINEER
DATE: 2/6/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLAN SHEET CR-01
CURB ELEVATIONS AND OFFSETS
MD 355 - CLARKSBURG
SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 07 of 97

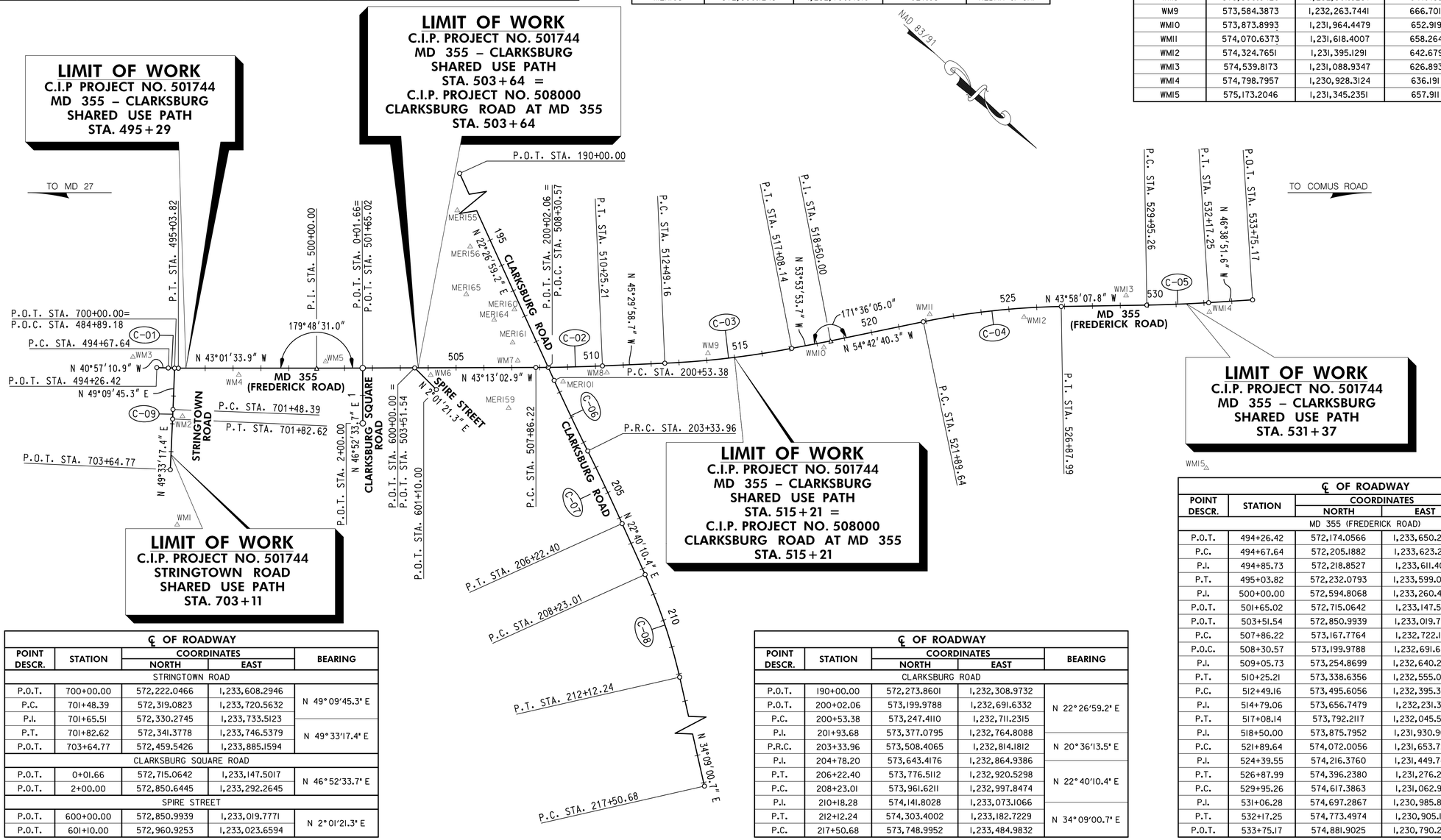
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DPS FILE NO. SC0006 OF SC0047

CURVE DATA								
CURVE	BASELINE	DELTA	Dc	RADIUS	TANGENT	LENGTH	CHORD	EXTERNAL
C-01	MD 355 (FREDERICK ROAD)	02°04'23.0" LT.	05°43'55.1"	1,000.00'	18.09'	36.18'	36.18'	0.16'
C-02	MD 355 (FREDERICK ROAD)	02°16'55.8" LT.	00°57'17.8"	6,000.00'	119.51'	238.99'	238.97'	1.19'
C-03	MD 355 (FREDERICK ROAD)	08°23'55.0" LT.	01°49'47.7"	3,131.21'	229.90'	458.98'	458.57'	8.43'
C-04	MD 355 (FREDERICK ROAD)	10°44'32.5" RT.	02°09'20.6"	2,658.00'	249.91'	498.35'	497.62'	11.72'
C-05	MD 355 (FREDERICK ROAD)	02°40'43.8" LT.	01°12'24.3"	4,748.00'	111.02'	221.99'	221.97'	1.30'
C-06	CLARKSBURG ROAD	01°50'45.7" LT.	00°39'28.6"	8,708.41'	140.30'	280.58'	280.57'	1.13'
C-07	CLARKSBURG ROAD	02°03'56.9" RT.	00°42'58.3"	8,000.00'	144.24'	288.44'	288.43'	1.30'
C-08	CLARKSBURG ROAD	11°28'50.3" RT.	02°56'58.6"	1,942.49'	195.27'	389.23'	388.58'	9.79'
C-09	STRINGTOWN ROAD	00°23'32.1" RT.	01°08'45.3"	5,000.00'	17.12'	34.23'	34.23'	0.03'

MERCADO CONTROL TRAVERSE				
POINT NO.	COORDINATES NORTH	COORDINATES EAST	ELEVATION	DESCRIPTION
MERI01	573,234.1295	1,232,692.8439	640.58	MAG NAIL
MERI55	572,576.9404	1,212,502.4391	627.96	REBAR & CAP
MERI56	572,699.6047	1,232,565.9920	633.02	REBAR & CAP
MERI59	573,195.9319	1,232,895.0696	651.80	REBAR & CAP
MERI60	572,969.3747	1,232,622.4062	638.49	MAG NAIL
MERI61	573,045.9194	1,232,713.7816	635.25	REBAR & CAP
MERI64	572,941.9113	1,232,699.0704	631.83	REBAR & CAP
MERI65	572,806.1245	1,232,700.4816	627.63	REBAR & CAP

WALLACE MONTGOMERY CONTROL TRAVERSE				
POINT NO.	COORDINATES NORTH	COORDINATES EAST	ELEVATION	DESCRIPTION
WMI	572,612.1750	1,234,012.7190	647.365	REBAR & CAP
WM2	572,360.6198	1,233,715.0813	656.216	REBAR & CAP
WM3	572,085.4874	1,233,681.0420	669.500	REBAR & CAP
WM4	572,406.9292	1,233,468.6510	655.793	REBAR & CAP
WM5	572,601.9950	1,233,221.1993	663.426	REBAR & CAP
WM6	572,910.5108	1,232,999.3619	656.127	REBAR & CAP
WM7	573,103.5557	1,232,748.6685	640.521	REBAR & CAP
WM8	573,366.8426	1,232,561.8287	647.495	REBAR & CAP
WM9	573,584.3873	1,232,263.7441	666.701	REBAR & CAP
WMI0	573,873.8993	1,231,964.4479	652.919	MAG NAIL
WMI1	574,070.6373	1,231,618.4007	658.264	REBAR & CAP
WMI2	574,324.7651	1,231,395.1291	642.679	REBAR & CAP
WMI3	574,539.8173	1,231,088.9347	626.893	REBAR & CAP
WMI4	574,798.7957	1,230,928.3124	636.191	REBAR & CAP
WMI5	575,173.2046	1,231,345.2351	657.911	REBAR & CAP



℄ OF ROADWAY				
POINT DESCR.	STATION	COORDINATES NORTH	COORDINATES EAST	BEARING
STRINGTOWN ROAD				
P.O.T.	700+00.00	572,222.0466	1,233,608.2946	N 49°09'45.3" E
P.C.	701+48.39	572,319.0823	1,233,720.5632	
P.I.	701+65.51	572,330.2745	1,233,733.5123	
P.T.	701+82.62	572,341.3778	1,233,746.5379	N 49°33'17.4" E
P.O.T.	703+64.77	572,459.5426	1,233,885.1594	
CLARKSBURG SQUARE ROAD				
P.O.T.	0+01.66	572,715.0642	1,233,147.5017	N 46°52'33.7" E
P.O.T.	2+00.00	572,850.6445	1,233,292.2645	
SPIRE STREET				
P.O.T.	600+00.00	572,850.9939	1,233,019.7771	N 2°01'21.3" E
P.O.T.	601+10.00	572,960.9253	1,233,023.6594	

℄ OF ROADWAY				
POINT DESCR.	STATION	COORDINATES NORTH	COORDINATES EAST	BEARING
CLARKSBURG ROAD				
P.O.T.	190+00.00	572,273.8601	1,232,308.9732	N 22°26'59.2" E
P.O.T.	200+02.06	573,199.9788	1,232,691.6332	
P.C.	200+53.38	573,247.4110	1,232,711.2315	
P.I.	201+93.68	573,377.0795	1,232,764.8088	N 20°36'13.5" E
P.R.C.	203+33.96	573,508.4065	1,232,814.1812	
P.I.	204+78.20	573,643.4176	1,232,864.9386	N 22°40'10.4" E
P.T.	206+22.40	573,776.5112	1,232,920.5298	
P.C.	208+23.01	573,961.6211	1,232,997.8474	
P.I.	210+18.28	574,141.8028	1,233,073.1066	N 34°09'00.7" E
P.T.	212+12.24	574,303.4002	1,233,182.7229	
P.C.	217+50.68	573,748.9952	1,233,484.9832	

℄ OF ROADWAY				
POINT DESCR.	STATION	COORDINATES NORTH	COORDINATES EAST	BEARING
MD 355 (FREDERICK ROAD)				
P.O.T.	494+26.42	572,174.0566	1,233,650.2792	
P.C.	494+67.64	572,205.1882	1,233,623.2616	N 40°57'10.9" W
P.I.	494+85.73	572,218.8527	1,233,611.4029	
P.T.	495+03.82	572,232.0793	1,233,599.0577	N 43°01'33.9" W
P.I.	500+00.00	572,594.8068	1,233,260.4999	
P.O.T.	501+65.02	572,715.0642	1,233,147.5017	
P.O.T.	503+51.54	572,850.9939	1,233,019.7771	
P.C.	507+86.22	573,167.7764	1,232,722.1166	N 43°13'02.9" W
P.O.C.	508+30.57	573,199.9788	1,232,691.6332	
P.I.	509+05.73	573,254.8699	1,232,640.2803	
P.T.	510+25.21	573,338.6356	1,232,555.0408	
P.C.	512+49.16	573,495.6056	1,232,395.3090	N 45°29'58.7" W
P.I.	514+79.06	573,656.7479	1,232,231.3315	
P.T.	517+08.14	573,792.2117	1,232,045.5762	N 53°53'53.7" W
P.I.	518+50.00	573,875.7952	1,231,930.9620	
P.C.	521+89.64	574,072.0056	1,231,653.7294	N 54°42'40.3" W
P.I.	524+39.55	574,216.3760	1,231,449.7432	
P.T.	526+87.99	574,396.2380	1,231,276.2415	
P.C.	529+95.26	574,617.3863	1,231,062.9135	N 43°58'07.8" W
P.I.	531+06.28	574,697.2867	1,230,985.8387	
P.T.	532+17.25	574,773.4974	1,230,905.1137	
P.O.T.	533+75.17	574,881.9025	1,230,790.2873	N 46°38'51.6" W

200' 0 200' 400'
SCALE: 1" = 200'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

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.
ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL
STATE OF MARYLAND
ROBERT JAMES HUDSON
26238
PROFESSIONAL ENGINEER
DATE: 6-5-2023

NO.	REVISION	DATE	BY

WALLACE MONTGOMERY
ENGINEERS · PLANNERS · SURVEYORS · CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pGS-P001_MD355.dgn

PLAN SHEET GS-01
GEOMETRY LAYOUT
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: 1"= 200' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 08 of 97

DPS FILE NO. SC0007 OF SC0047

C-01

CURVE DATA

DELTA = 2°04'23.0" LT.
Dc = 5°43'55.1"
R = 1,000.00'
L = 36.18'
T = 18.09'
CH = 36.18'
E = 0.16'

C-09

CURVE DATA

DELTA = 0°23'32.1" RT.
Dc = 1°08'45.3"
R = 5,000.00'
L = 34.23'
T = 17.12'
CH = 34.23'
E = 0.03'

WSSC UTILITY ADJUSTMENTS

UTILITY	STATION	OFFSET	REMARKS
SANITARY MANHOLE (#DA6570CI8)	495+80	10' LT.	WSSC WORK WILL BE DONE BY OTHERS AND ARE NOT PART OF THIS CONTRACT
SANITARY LINE (#DA6570CI8)	495+80 TO 498+00	10' LT. TO 10' LT.	
SANITARY HOUSE CONNECTION (#DA6570CI8)	495+80	32' LT.	
SANITARY HOUSE CONNECTION (#DA6570CI8)	495+80	29' RT.	

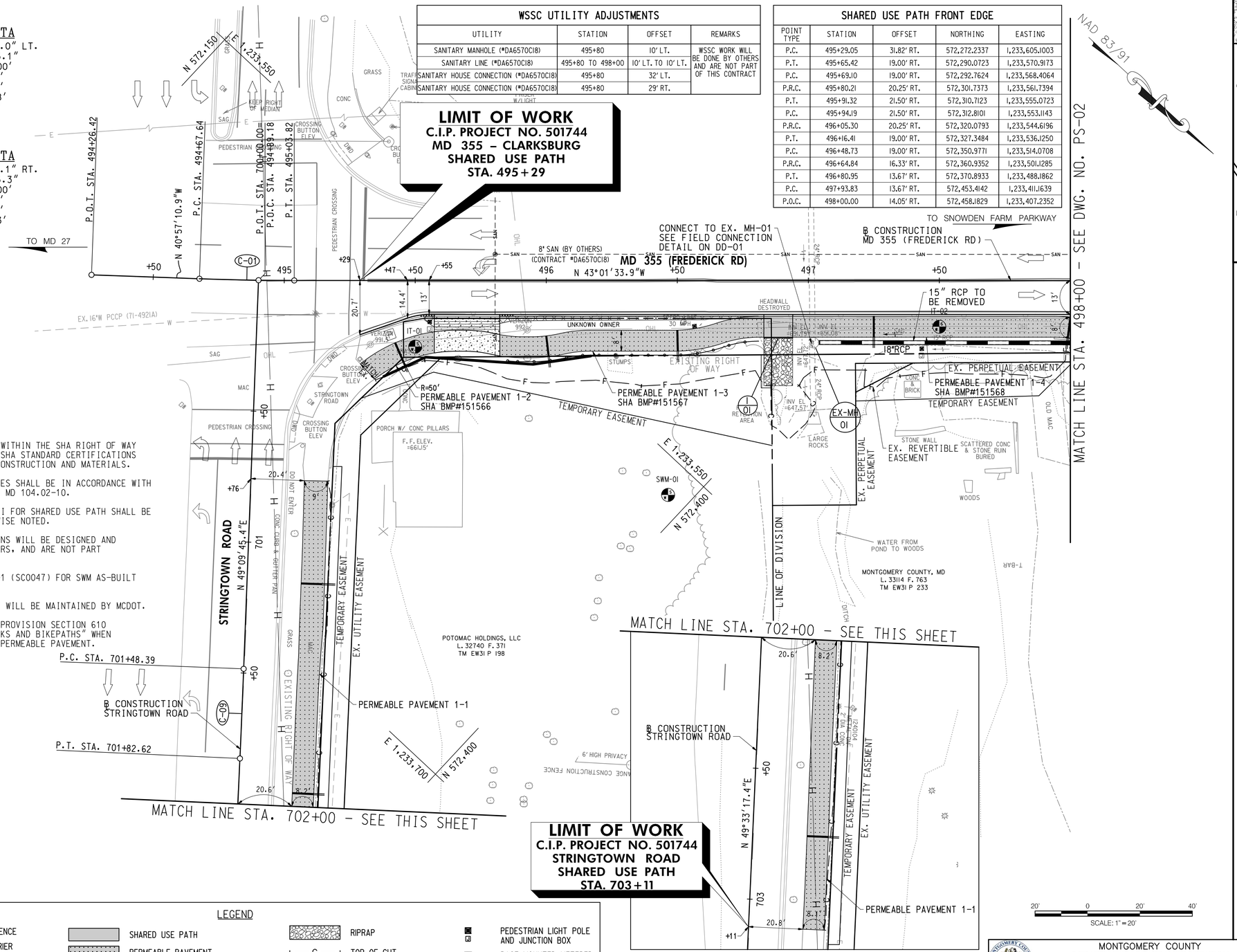
SHARED USE PATH FRONT EDGE

POINT TYPE	STATION	OFFSET	NORTHING	EASTING
P.C.	495+29.05	31.82' RT.	572,272.2337	1,233,605.1003
P.T.	495+65.42	19.00' RT.	572,290.0723	1,233,570.9173
P.C.	495+69.10	19.00' RT.	572,292.7624	1,233,568.4064
P.R.C.	495+80.21	20.25' RT.	572,301.7373	1,233,561.7394
P.T.	495+91.32	21.50' RT.	572,310.7123	1,233,555.0723
P.C.	495+94.19	21.50' RT.	572,312.8101	1,233,553.1143
P.R.C.	496+05.30	20.25' RT.	572,320.0793	1,233,544.6196
P.T.	496+16.41	19.00' RT.	572,327.3484	1,233,536.1250
P.C.	496+48.73	19.00' RT.	572,350.9771	1,233,514.0708
P.R.C.	496+64.84	16.33' RT.	572,360.9352	1,233,501.1285
P.T.	496+80.95	13.67' RT.	572,370.8933	1,233,488.1862
P.C.	497+93.83	13.67' RT.	572,453.4142	1,233,411.1639
P.O.C.	498+00.00	14.05' RT.	572,458.1829	1,233,407.2352

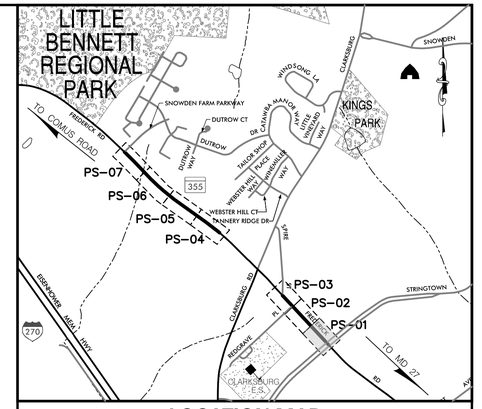
LIMIT OF WORK
C.I.P. PROJECT NO. 501744
MD 355 – CLARKSBURG
SHARED USE PATH
STA. 495+29

LIMIT OF WORK
C.I.P. PROJECT NO. 501744
STRINGTOWN ROAD
SHARED USE PATH
STA. 703+11

GENERAL NOTES:
1. ALL CONSTRUCTION WITHIN THE SHA RIGHT OF WAY SHALL CONFORM TO SHA STANDARD CERTIFICATIONS AND DETAILS FOR CONSTRUCTION AND MATERIALS.
2. DAILY LANE CLOSURES SHALL BE IN ACCORDANCE WITH MD 104.02-01 THRU MD 104.02-10.
3. ALL INTERIOR RADII FOR SHARED USE PATH SHALL BE 60' UNLESS OTHERWISE NOTED.
4. UTILITY RELOCATIONS WILL BE DESIGNED AND INSTALLED BY OTHERS, AND ARE NOT PART OF THIS CONTRACT.
5. SEE DWG. NO. SW-01 (SC0047) FOR SWM AS-BUILT TABLES.
6. PERVIOUS PAVEMENT WILL BE MAINTAINED BY MCDOT.
7. REFER TO SPECIAL PROVISION SECTION 610 "PERVIOUS SIDEWALKS AND BIKEPATHS" WHEN CONSTRUCTING THE PERMEABLE PAVEMENT.



LOCATION MAP
SCALE 1"=1000'



STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN, 8 INCH MIN. DEPTH (MD 620.02)

272 L.F.	MD 355 (FREDERICK ROAD) - STA. 495+29 TO STA. 498+00, RT.

SPLIT RAIL FENCE

97 L.F.	MD 355 (FREDERICK ROAD) - STA. 495+85 TO STA. 496+80, RT.

REMOVAL OF EXISTING PAVEMENT

1 C.Y.	MD 355 (FREDERICK ROAD) - STA. 495+53 TO STA. 495+57, RT.
5 C.Y.	MD 355 (FREDERICK ROAD) - STA. 495+82 TO STA. 496+81, RT.

REMOVAL OF EXISTING MASONRY

1 C.Y.	MD 355 (FREDERICK ROAD) - STA. 496+90, RT. (EXISTING HEADWALL)

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION

23 S.Y.	MD 355 (FREDERICK ROAD) - STA. 496+89, RT.

BARRIER CURB (SEE DWG. NO. DE-01)

6 L.F.	MD 355 (FREDERICK ROAD) - STA. 497+94 TO STA. 498+00, RT.

4" OVERDRAINS (SEE DWG. NO. SW-01)

13 L.F.	MD 355 (FREDERICK ROAD) - STA. 496+00, RT.
13 L.F.	MD 355 (FREDERICK ROAD) - STA. 496+50, RT.
13 L.F.	MD 355 (FREDERICK ROAD) - STA. 497+25, RT.
13 L.F.	STRINGTOWN ROAD - STA. 701+15, LT.
13 L.F.	STRINGTOWN ROAD - STA. 701+95, LT.
13 L.F.	STRINGTOWN ROAD - STA. 702+75, LT.

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX NO. 9 (MD 630.02)

38 S.Y.	MD 355 (FREDERICK ROAD) - STA. 495+57 TO STA. 495+82, RT.

LEGEND

- SPLIT RAIL FENCE
- TRAFFIC BARRIER
- H — CLARKSBURG HISTORIC DISTRICT BOUNDARY
- SHARED USE PATH
- PERMEABLE PAVEMENT
- FULL DEPTH PAVEMENT
- FINE MILLING & ASPHALT RESURFACING
- CONCRETE DRIVEWAY
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- VEHICULAR BRICK PAVER
- RIPRAP
- C — TOP OF CUT
- F — TOE OF FILL
- WETLAND
- B — WETLAND BUFFER
- WUS — WATERS OF THE US
- 102 +50 ℄ CONSTRUCTION
- PEDESTRIAN LIGHT POLE AND JUNCTION BOX
- BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- PIPE, INLET, END SECTION, STD. MANHOLE, STORM DRAIN SYMBOLS, ENDWALL

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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, ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — PROFESSIONAL ENGINEER

DATE 2/7/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/7/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-P001_MD355.dgn

PLAN SHEET PS-01
ROADWAY PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 495+29 TO STA. 498+00

SCALE: 1"= 20' 02/2023

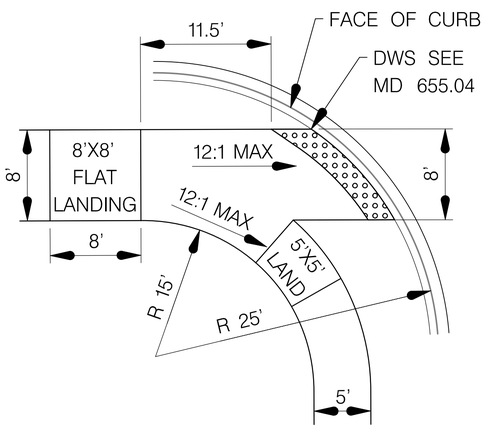
Project No. : C.I.P. PR. # 501744 SHEET 09 of 97

DPS FILE NO. SC0008 OF SC0047

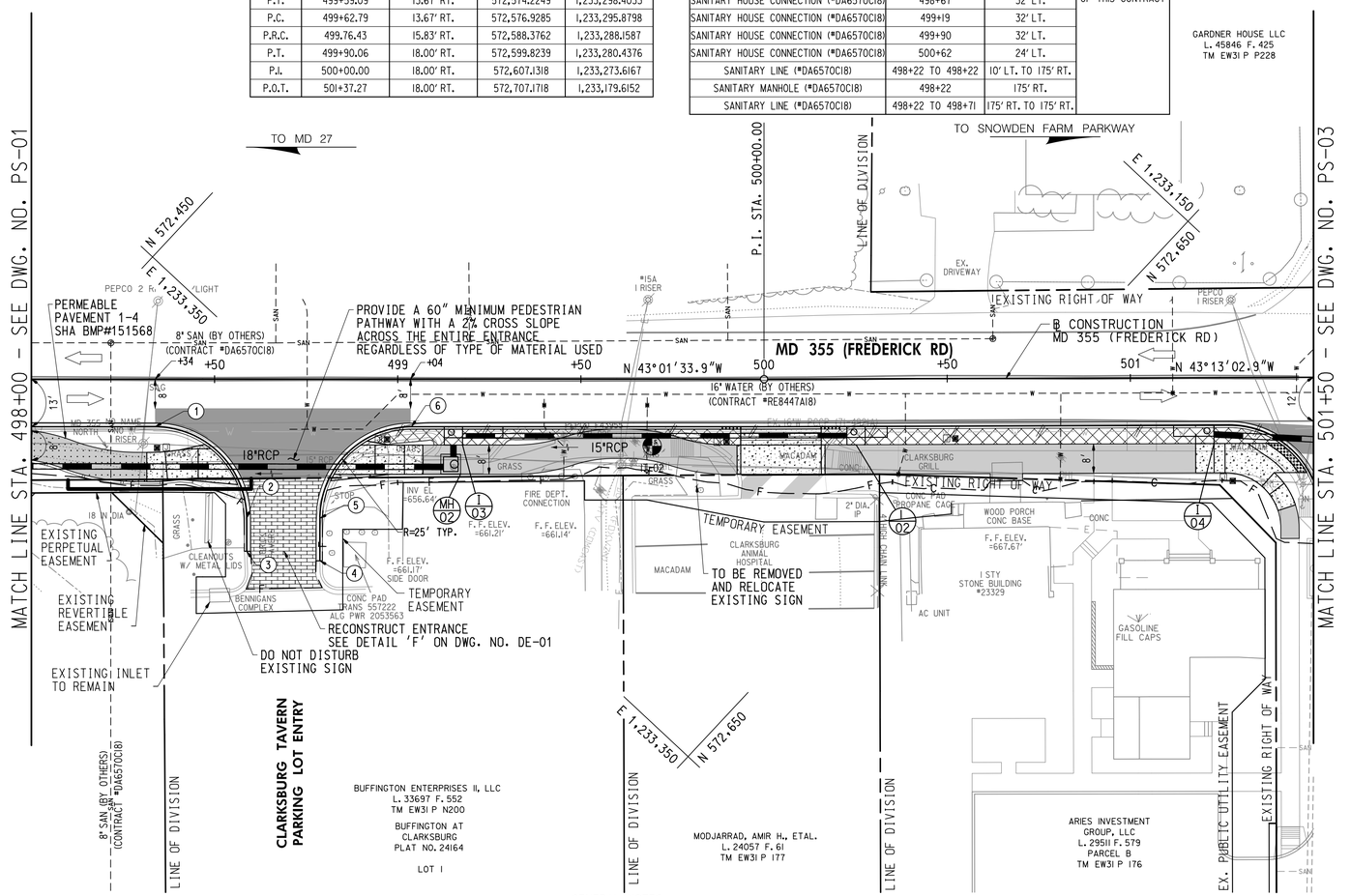
CLARKSBURG TAVERN'S ENTRANCE WORKING POINTS				
CONTROL POINT	STATION	OFFSET	NORTHING	EASTING
1	498+33.76	13.00' RT.	572,482.1489	1,233,383.4319
2	498+58.76	38.00' RT.	572,517.4833	1,233,384.6497
3	498+58.76	47.01' RT.	572,523.6301	1,233,391.2354
4	498+78.76	49.62' RT.	572,540.0332	1,233,379.4982
5	498+78.76	38.00' RT.	572,532.1042	1,233,371.0031
6	499+03.76	13.00' RT.	572,533.3220	1,233,335.6687

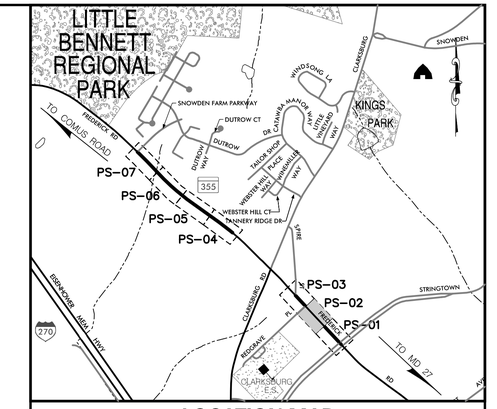
SHARED USE PATH FRONT EDGE				
POINT TYPE	STATION	OFFSET	NORTHING	EASTING
P.O.C.	498+00.00	14.05' RT.	572,458.1829	1,233,407.2352
P.R.C.	498+11.34	16.83' RT.	572,468.3763	1,233,401.5305
P.T.	498+28.86	20.00' RT.	572,483.3384	1,233,391.8970
P.C.	498+32.22	20.00' RT.	572,485.7967	1,233,389.6026
P.T.	498+38.83	19.56' RT.	572,490.3283	1,233,384.7730
P.C.	498+39.75	19.44' RT.	572,490.9178	1,233,384.0548
P.T.	498+45.51	19.01' RT.	572,494.8371	1,233,379.8064
P.O.T.	498+93.82	18.00' RT.	572,529.4680	1,233,346.1054
P.C.	499+31.82	18.00' RT.	572,557.2429	1,233,320.1813
P.R.C.	499+45.45	15.83' RT.	572,565.7339	1,233,309.2923
P.T.	499+59.09	13.67' RT.	572,574.2249	1,233,298.4033
P.C.	499+62.79	13.67' RT.	572,576.9285	1,233,295.8798
P.R.C.	499.76.43	15.83' RT.	572,588.3762	1,233,288.1587
P.T.	499+90.06	18.00' RT.	572,599.8239	1,233,280.4376
P.I.	500+00.00	18.00' RT.	572,607.1318	1,233,273.6167
P.O.T.	501+37.27	18.00' RT.	572,707.1718	1,233,179.6152

WSSC UTILITY ADJUSTMENTS			
UTILITY	STATION	OFFSET	REMARKS
WATER LINE (*RE8447AI8)	498+71 TO 501+50	14' RT. TO 4' RT.	WSSC WORK WILL BE DONE BY THIS CONTRACTOR
WATER HOUSE CONNECTION (*RE8447AI8)	498+74	22' LT.	
WATER VALVE (*RE8447AI8)	499+40	7' RT.	
WATER HOUSE CONNECTION (*RE8447AI8)	499+45	26' RT.	
WATER VALVE (*RE8447AI8)	499+68	7' RT.	
FIRE HYDRANT (*RE8447AI8)	499+68	25' RT.	
WATER HOUSE CONNECTION (*RE8447AI8)	500+37	26' RT.	
CURB STOP (*RE8447AI8)	500+80	28' RT.	
VENT BOX (*RE8447AI8)	501+12	22' LT.	
SANITARY LINE (*DA6570CI8)	498+00 TO 500+63	10' LT. TO 11' LT.	WSSC WORK WILL BE DONE BY OTHERS AND ARE NOT PART OF THIS CONTRACT
SANITARY MANHOLE (*DA6570CI8)	498+22	10' LT.	
SANITARY HOUSE CONNECTION (*DA6570CI8)	498+67	32' LT.	
SANITARY HOUSE CONNECTION (*DA6570CI8)	499+19	32' LT.	
SANITARY HOUSE CONNECTION (*DA6570CI8)	499+90	32' LT.	
SANITARY HOUSE CONNECTION (*DA6570CI8)	500+62	24' LT.	
SANITARY LINE (*DA6570CI8)	498+22 TO 498+22	10' LT. TO 175' RT.	
SANITARY MANHOLE (*DA6570CI8)	498+22	175' RT.	
SANITARY LINE (*DA6570CI8)	498+22 TO 498+71	175' RT. TO 175' RT.	



RAMP DETAIL
STA 501+45, RT.





LOCATION MAP
SCALE 1"=1000'

STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN, 8 INCH MIN. DEPTH (MD 620.02)	
82 L.F.	MD 355 (FREDERICK ROAD) - STA. 498+00 TO STA. 498+60, RT.
303 L.F.	MD 355 (FREDERICK ROAD) - STA. 498+78 TO STA. 501+50, RT.

REMOVAL OF EXISTING PAVEMENT	
7 C.Y.	MD 355 (FREDERICK ROAD) - STA. 498+92 TO STA. 499+59
3 C.Y.	MD 355 (FREDERICK ROAD) - STA. 499+63 TO STA. 499+94
19 C.Y.	MD 355 (FREDERICK ROAD) - STA. 500+16 TO STA. 501+41

DETECTABLE WARNING SURFACE FOR CURB RAMPS (MD 655.40)	
23 S.F.	MD 355 (FREDERICK ROAD) - STA. 501+45, RT.

SIDEWALK RAMP CONSTRUCTION	
MD 355 (FREDERICK ROAD) - STA. 498+53, RT.	MD 655.11
MD 355 (FREDERICK ROAD) - STA. 498+86, RT.	MD 655.11
MD 355 (FREDERICK ROAD) - STA. 501+45, RT.	SEE DETAIL THIS SHEET

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX NO. 9 (MD 630.02)	
32 S.Y.	MD 355 (FREDERICK ROAD) - STA. 499+94 TO STA. 500+16, RT.

BARRIER CURB (SEE DWG. NO. DE-01)	
44 L.F.	MD 355 (FREDERICK ROAD) - STA. 498+00 TO STA. 498+44, RT.

VEHICULAR BRICK PAVERS	
70 S.Y.	MD 355 (FREDERICK ROAD) - STA. 498+58 TO STA. 498+80, RT.

GENERAL NOTES:
1. ALL CONSTRUCTION WITHIN THE SHA RIGHT OF WAY SHALL CONFORM TO SHA STANDARD CERTIFICATIONS AND DETAILS FOR CONSTRUCTION AND MATERIALS.
2. DAILY LANE CLOSURES SHALL BE IN ACCORDANCE WITH MD 104.02-01 THRU MD 104.02-10.
3. ALL INTERIOR RADII FOR SHARED USE PATH SHALL BE 60' UNLESS OTHERWISE NOTED.
4. UTILITY RELOCATIONS WILL BE DESIGNED AND INSTALLED BY OTHERS, AND ARE NOT PART OF THIS CONTRACT.
5. SEE DWG. NO. SW-01 (SC0047) FOR SWM AS-BUILT TABLES.
6. PERVIOUS PAVEMENT WILL BE MAINTAINED BY MCDOT.

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- SPLIT RAIL FENCE
- TRAFFIC BARRIER
- H — CLARKSBURG HISTORIC DISTRICT BOUNDARY
- SHARED USE PATH
- PERMEABLE PAVEMENT
- FULL DEPTH PAVEMENT
- FINE MILLING & ASPHALT RESURFACING
- CONCRETE DRIVEWAY
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- VEHICULAR BRICK PAVER
- RIPRAP
- C — TOP OF CUT
- F — TOE OF FILL
- WETLAND
- B — WETLAND BUFFER
- WUS — WATERS OF THE US
- 102 +50 ℄ CONSTRUCTION
- PEDESTRIAN LIGHT POLE AND JUNCTION BOX
- P — BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- PIPE END SECTION
- INLET STD. MANHOLE
- STORM DRAIN SYMBOLS
- ENDWALL

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A Limited Liability Partnership

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
ROBERT J. HUDSON MD NO-26238 EXP=08/17/2023
DATE: 8-1-2023

SEAL — STATE OF MARYLAND — CHRISTOPHER T. PHILLIPS — 26238 — PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-P002_MD355.dgn

PLAN SHEET PS-02
ROADWAY PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 498+00 TO STA. 501+50

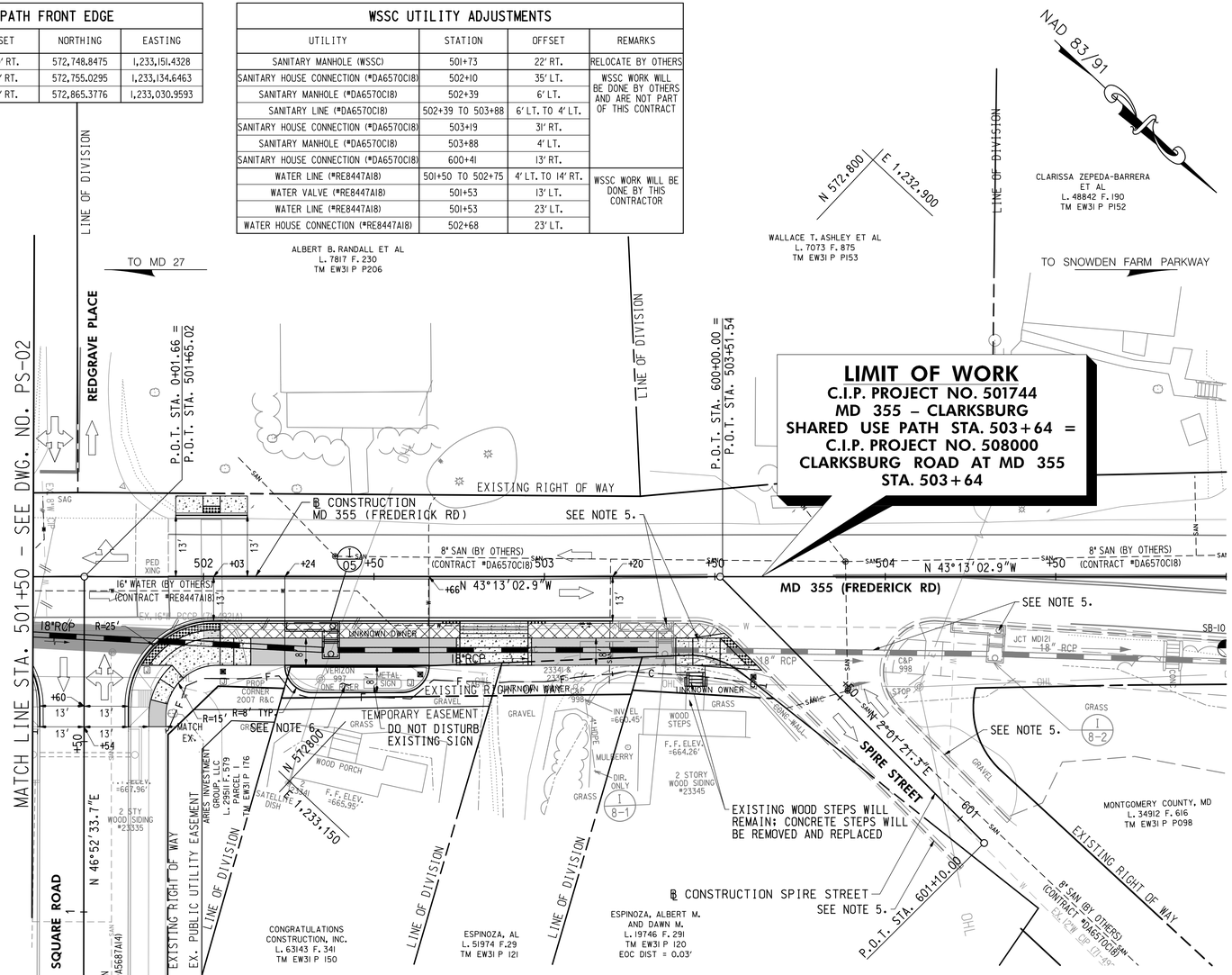
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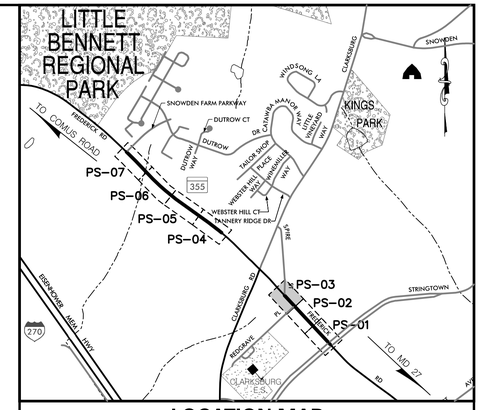
Project No. : C.I.P. PR. # 501744 SHEET 10 of 97

DPS FILE NO. SC0009 OF SC0047

SHARED USE PATH FRONT EDGE				
POINT TYPE	STATION	OFFSET	NORTHING	EASTING
P.C.	501+86.94	26.00' RT.	572,748.8475	1,233,151.4328
P.T.	502+02.94	18.00' RT.	572,755.0295	1,233,134.6463
P.O.T.	503+54.36	18.00' RT.	572,865.3776	1,233,030.9593

WSSC UTILITY ADJUSTMENTS			
UTILITY	STATION	OFFSET	REMARKS
SANITARY MANHOLE (WSSC)	501+73	22' RT.	RELOCATE BY OTHERS
SANITARY HOUSE CONNECTION (*DA6570CI8)	502+10	35' LT.	WSSC WORK WILL BE DONE BY OTHERS AND ARE NOT PART OF THIS CONTRACT
SANITARY MANHOLE (*DA6570CI8)	502+39	6' LT.	
SANITARY LINE (*DA6570CI8)	502+39 TO 503+88	6' LT. TO 4' LT.	
SANITARY HOUSE CONNECTION (*DA6570CI8)	503+19	31' RT.	
SANITARY MANHOLE (*DA6570CI8)	503+88	4' LT.	
SANITARY HOUSE CONNECTION (*DA6570CI8)	600+41	13' RT.	
WATER LINE (*RE8447AI8)	501+50 TO 502+75	4' LT. TO 14' RT.	WSSC WORK WILL BE DONE BY THIS CONTRACTOR
WATER VALVE (*RE8447AI8)	501+53	13' LT.	
WATER LINE (*RE8447AI8)	501+53	23' LT.	
WATER HOUSE CONNECTION (*RE8447AI8)	502+68	23' LT.	





LOCATION MAP
SCALE 1"=1000'

STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN, 8 INCH MIN. DEPTH (MD 620.02)	
16 L.F.	MD 355 (FREDERICK ROAD) - STA. 501+50 TO STA. 501+52, RT.
162 L.F.	MD 355 (FREDERICK ROAD) - STA. 501+78 TO STA. 503+20, RT.
21 L.F.	MD 355 (FREDERICK ROAD) - STA. 501+92 TO STA. 502+13, LT.

STANDARD TYPE 'A' CURB (MD 620.02)	
94 L.F.	MD 355 (FREDERICK ROAD) - STA. 502+24 TO STA. 502+66, RT.

REMOVAL OF EXISTING PAVEMENT	
11 C.Y.	MD 355 (FREDERICK ROAD) - STA. 502+05 TO STA. 502+75, RT.
9 C.Y.	MD 355 (FREDERICK ROAD) - STA. 502+95 TO STA. 503+51, RT.

DETECTABLE WARNING SURFACE FOR CURB RAMPS (MD 655.40)	
52 S.F.	MD 355 (FREDERICK ROAD) - STA. 501+92, RT.
10 S.F.	MD 355 (FREDERICK ROAD) - STA. 502+02, LT.
23 S.F.	MD 355 (FREDERICK ROAD) - STA. 503+58, RT.

SIDEWALK RAMP CONSTRUCTION	
MD 355 (FREDERICK ROAD) - STA. 501+92, RT.	MD 655.13
MD 355 (FREDERICK ROAD) - STA. 502+02, LT.	MD 655.12
MD 355 (FREDERICK ROAD) - STA. 503+58, RT.	MD 655.11

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX NO. 9 (MD 630.02)	
30 S.Y.	MD 355 (FREDERICK ROAD) - STA. 502+75 TO STA. 502+95, RT.

RELOCATE EXISTING MAILBOX	
2 EA.	MD 355 (FREDERICK ROAD) - STA. 503+11, RT.

CONCRETE STEPS (MD 657.00)	
1 C.Y.	MD 355 (FREDERICK ROAD) - STA. 503+44, RT.

GENERAL NOTES:
1. ALL CONSTRUCTION WITHIN THE SHA RIGHT OF WAY SHALL CONFORM TO SHA STANDARD CERTIFICATIONS AND DETAILS FOR CONSTRUCTION AND MATERIALS.
2. DAILY LANE CLOSURES SHALL BE IN ACCORDANCE WITH MD 104.02-01 THRU MD 104.02-10.
3. ALL INTERIOR RADII FOR SHARED USE PATH SHALL BE 60' UNLESS OTHERWISE NOTED.
4. UTILITY RELOCATIONS WILL BE DESIGN AND INSTALLED BY OTHERS, AND ARE NOT PART OF THIS CONTRACT.
5. CURB & GUTTER, SHARED USE PATH, TEMPORARY CURB RAMP, INLETS AND STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
6. PROVIDE SMOOTH FINISHED GRADE WITH TURFGRASS SOD FLUSH WITH HEIGHT OF PROPOSED CURB.
7. REFER TO SPECIAL PROVISION 404 "PROTECTION OF EXISTING STRUCTURES" WHEN WORKING CLOSE TO HISTORIC STRUCTURES.

LEGEND

SPLIT RAIL FENCE
TRAFFIC BARRIER
H — CLARKSBURG HISTORIC DISTRICT BOUNDARY
SHARED USE PATH
PERMEABLE PAVEMENT
FULL DEPTH PAVEMENT
FINE MILLING & ASPHALT RESURFACING
CONCRETE DRIVEWAY
PAVEMENT REMOVAL
DETECTABLE WARNING SURFACE
VEHICULAR BRICK PAVER
RIPRAP
C — TOP OF CUT
F — TOE OF FILL
WETLAND
B — WETLAND BUFFER
WUS — WATERS OF THE US
102 +50 ℄ CONSTRUCTION
PEDESTRIAN LIGHT POLE AND JUNCTION BOX
P — BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
PIPE, INLET, STORM DRAIN SYMBOLS, END SECTION, STD. MANHOLE, ENDWALL

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Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
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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, ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER
DATE: 2/7/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLAN SHEET PS-03
ROADWAY PLANS
MD 355 - CLARKSBURG
SHARED USE PATH
STA. 501+50 TO STA. 505+00

SCALE: 1" = 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 11 of 97

PLOTTED: 2/7/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-P003_MD355.dgn

DPS FILE NO. SC0010 OF SC0047

C-03

CURVE DATA

DELTA = 8°23'55.0" LT.
Dc = 1°49'47.7"
R = 3,131.21'
L = 458.98'
T = 229.90'
CH = 458.98'
E = 8.43'

SHARED USE PATH FRONT EDGE

POINT TYPE	STATION	OFFSET	NORTHING	EASTING
P.C.	515+27.58	17.52' RT.	573,695.2089	1,232,199.4379
P.R.C.	515+56.56	17.52' RT.	573,713.6047	1,232,176.8347
P.C.C.	515+69.87	19.00' RT.	573,723.1358	1,232,167.3279
P.T.	517+08.15	19.00' RT.	573,807.5622	1,232,056.7704
P.I.	518+50.00	19.00' RT.	573,891.3028	1,231,941.9375
P.O.T.	519+00.00	19.00' RT.	573,920.1877	1,231,901.1249

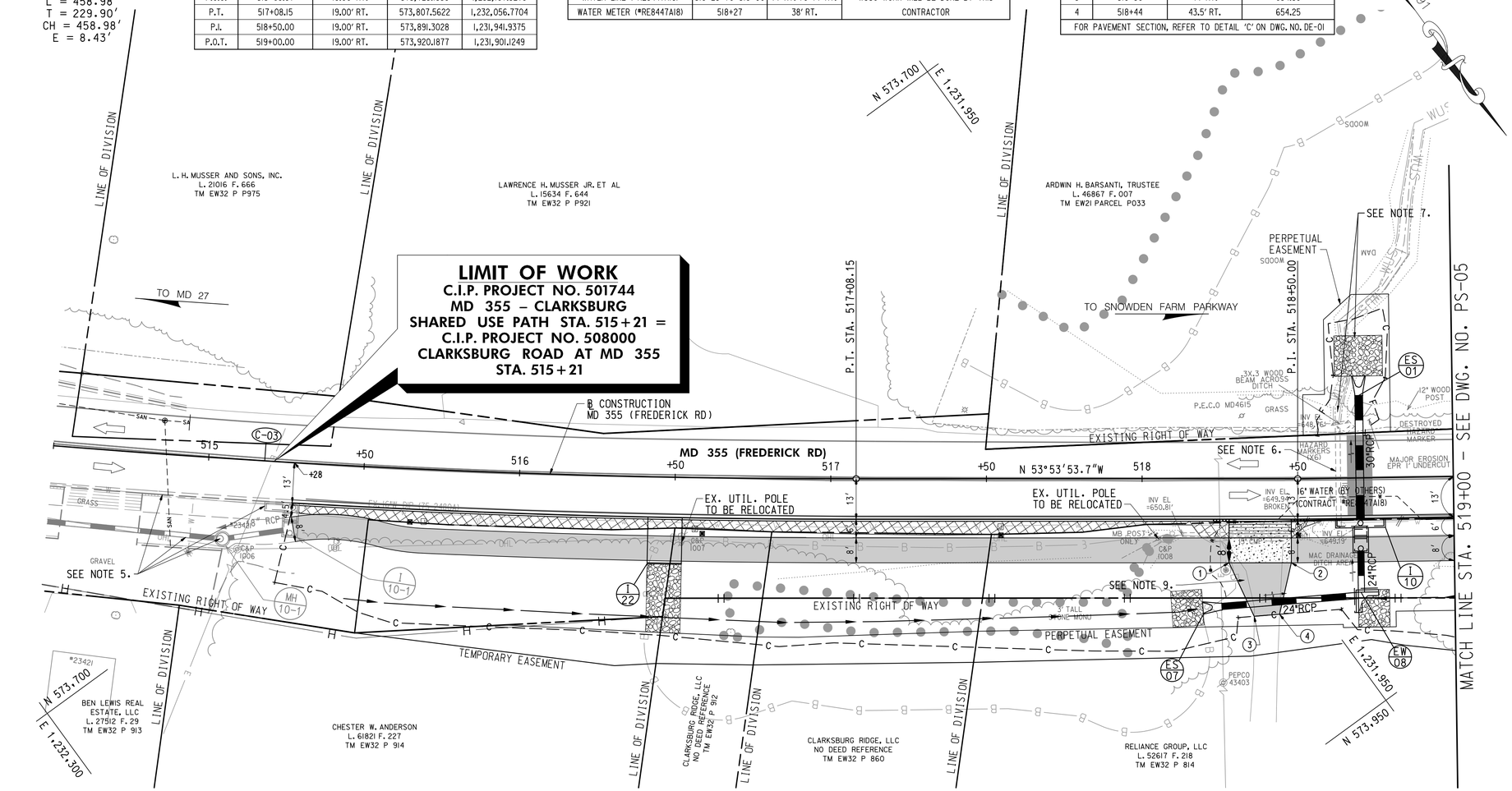
UTILITY ADJUSTMENTS

UTILITY	STATION	OFFSET	REMARKS
UTILITY POLE (VERIZON)	516+52	21' RT.	RELOCATE BY VERIZON
UTILITY POLE (VERIZON)	518+05	19' RT.	RELOCATE BY VERIZON
WATER LINE (*RE8447A18)	518+23 TO 519+00	14' RT. TO 14' RT.	WSSC WORK WILL BE DONE BY THIS
WATER METER (*RE8447A18)	518+27	38' RT.	CONTRACTOR

DRIVEWAY STAKEOUT POINTS - STA. 518+38

POINT	STATION	OFFSET	ELEVATION
1	518+28	27' RT.	653.32
2	518+48	27' RT.	653.32
3	518+36	44' RT.	654.39
4	518+44	43.5' RT.	654.25

FOR PAVEMENT SECTION, REFER TO DETAIL 'C' ON DWG. NO. DE-01



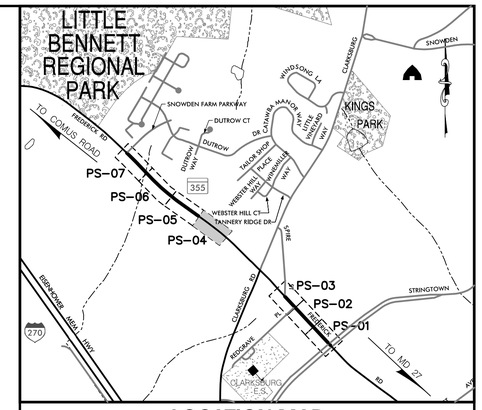
GENERAL NOTES:

1. ALL CONSTRUCTION WITHIN THE SHA RIGHT OF WAY SHALL CONFORM TO SHA STANDARD CERTIFICATIONS AND DETAILS FOR CONSTRUCTION AND MATERIALS.
2. DAILY LANE CLOSURES SHALL BE IN ACCORDANCE WITH MD 104.02-01 THRU MD 104.02-10.
3. ALL INTERIOR RADII FOR SHARED USE PATH SHALL BE 60' UNLESS OTHERWISE NOTED.
4. UTILITY RELOCATIONS WILL BE DESIGN AND INSTALLED BY OTHERS, AND ARE NOT PART OF THIS CONTRACT.
5. CURB & GUTTER, SHARED USE PATH, TEMPORARY CURB RAMP, INLETS, MANHOLE AND STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
6. ABANDON EXISTING 18" CMP STORM DRAIN USING FLOWABLE BACKFILL.
7. REGRADE EXISTING CHANNEL. REFER TO RIPRAP CHANNEL DETAIL ON DWG. NO. DD-01 AND GRADING ON DWG. NO. SC-07.
8. PAVEMENT PATCHING FOR UTILITY AND STORM DRAIN INSTALLATION SHALL COMPLY WITH STANDARD MD 578.01.
9. FOR DRIVEWAY PAVEMENT SECTION, SEE DETAIL 'C' ON DWG. NO. DE-01.

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- SPLIT RAIL FENCE
- TRAFFIC BARRIER
- H — CLARKSBURG HISTORIC DISTRICT BOUNDARY
- SHARED USE PATH
- PERMEABLE PAVEMENT
- FULL DEPTH PAVEMENT
- FINE MILLING & ASPHALT RESURFACING
- CONCRETE DRIVEWAY
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- VEHICULAR BRICK PAVER
- RIPRAP
- C — TOP OF CUT
- F — TOE OF FILL
- WETLAND
- B — WETLAND BUFFER
- WUS — WATERS OF THE US
- 102 +50 ℄ CONSTRUCTION
- PEDESTRIAN LIGHT POLE AND JUNCTION BOX
- P — BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- PIPE, INLET, STORM DRAIN SYMBOLS, END SECTION, STD. MANHOLE, ENDWALL



LOCATION MAP

SCALE 1"=1000'

STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN, 8 INCH MIN. DEPTH (MD 620.02)

371 L.F.	MD 355 (FREDERICK ROAD) - STA. 515+28 TO STA. 519+00, RT.

REMOVAL OF EXISTING PAVEMENT

38 C.Y.	MD 355 (FREDERICK ROAD) - STA. 515+30 TO STA. 518+28, RT.
1 C.Y.	MD 355 (FREDERICK ROAD) - STA. 518+48 TO STA. 518+57, RT.

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX NO. 9 (MD 630.02)

30 S.Y.	MD 355 (FREDERICK ROAD) - STA. 518+28 TO STA. 518+48, RT.

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION

29 S.Y.	MD 355 (FREDERICK ROAD) - STA. 516+47, RT.
13 S.Y.	MD 355 (FREDERICK ROAD) - STA. 518+20, RT.
23 S.Y.	MD 355 (FREDERICK ROAD) - STA. 518+70, LT.
11 S.Y.	MD 355 (FREDERICK ROAD) - STA. 518+75, RT.

FLOWABLE BACKFILL FOR PIPE ABANDONMENT

2 C.Y.	MD 355 (FREDERICK ROAD) - STA. 518+63, 15' RT. TO 17' LT.

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SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER

DATE 2/6/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-P004_MD355.dgn

PLAN SHEET PS-04
ROADWAY PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 514+50 TO STA. 519+00

SCALE: 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 12 of 97

DPS FILE NO. SC0011 OF SC0047

C-04

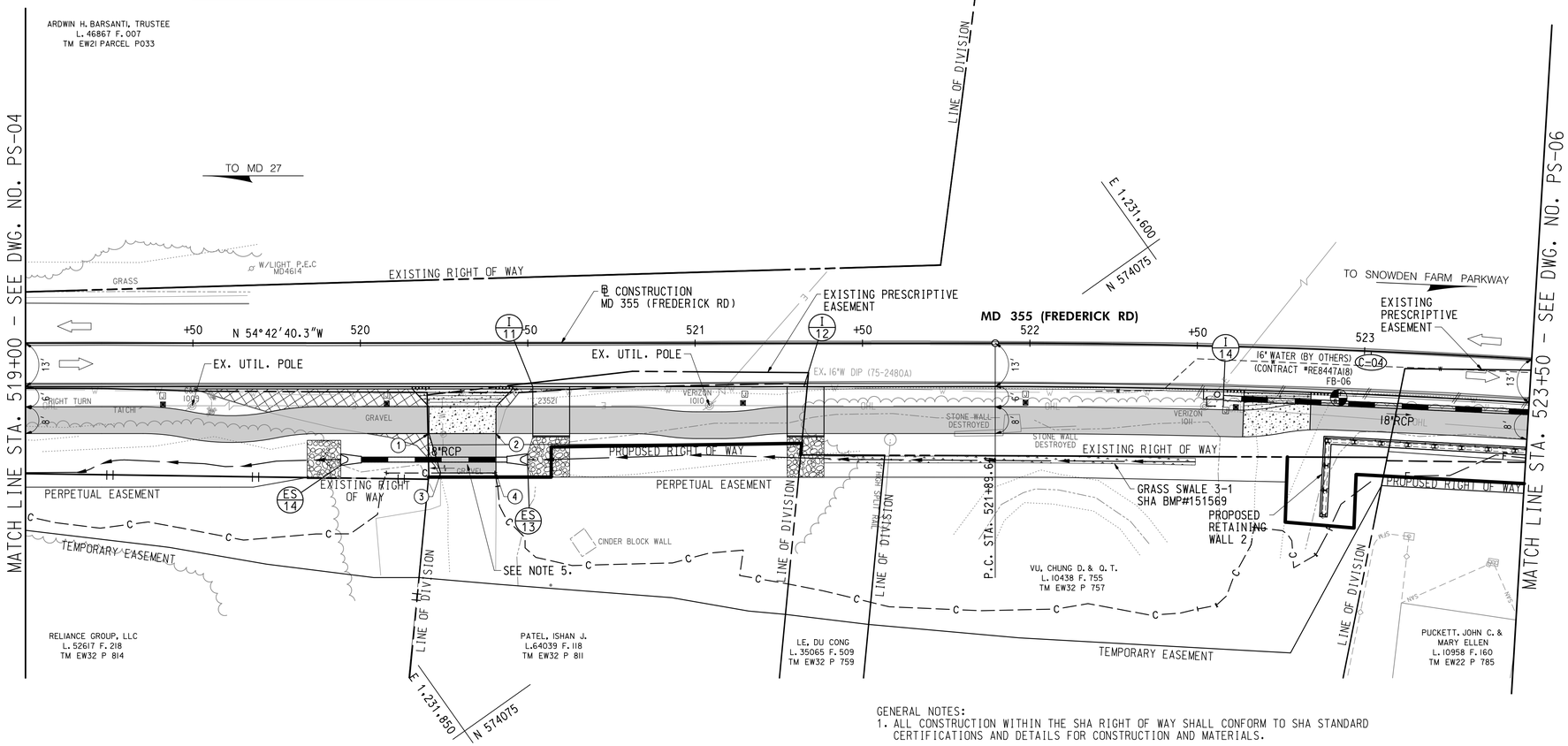
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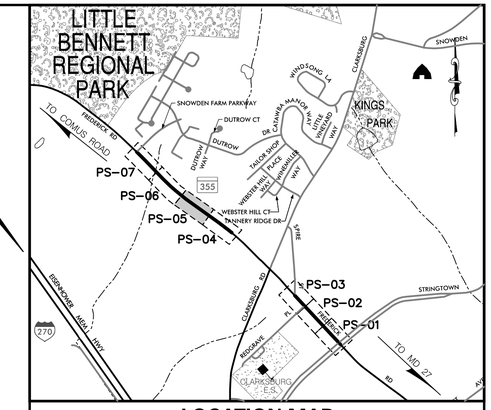
DELTA = 10°44′32.5″ RT.
Dc = 2°09′20.6″
R = 2,658.00′
L = 498.35′
T = 249.91′
CH = 497.62′
E = 11.72′

SHARED USE PATH FRONT EDGE				
POINT TYPE	STATION	OFFSET	NORTHING	EASTING
P.O.T.	519+00.00	19.00′ RT.	573,920.1877	1,231,901.1249
P.C.	519+35.10	19.00′ RT.	573,940.4648	1,231,872.4747
P.R.C.	519+49.21	20.43′ RT.	573,949.7856	1,231,861.7906
P.R.C.	519+73.39	20.43′ RT.	573,963.7548	1,231,842.0531
P.T.	519+87.49	19.00′ RT.	573,970.7314	1,231,829.7100
P.C.	520+80.82	19.00′ RT.	574,024.6498	1,231,753.5268
P.R.C.	520+89.91	19.69′ RT.	574,030.4652	1,231,746.5084
P.T.	521+00.52	20.50′ RT.	574,037.2498	1,231,738.3202
P.C.	521+08.02	20.50′ RT.	574,041.5826	1,231,732.1984
P.R.C.	521+18.62	19.69′ RT.	574,047.0486	1,231,723.0770
P.T.	521+27.71	19.00′ RT.	574,051.7338	1,231,715.2587
P.C.	521+89.64	19.00′ RT.	574,087.5133	1,231,664.7046
P.R.C.	522+61.83	19.00′ RT.	574,129.7094	1,231,606.7691
P.R.C.	522+74.53	17.63′ RT.	574,136.1991	1,231,595.8730
P.C.C.	522+89.62	16.00′ RT.	574,143.9834	1,231,582.9576
P.O.C.	523+50.00	16.00′ RT.	574,181.0132	1,231,535.7227

DRIVEWAY STAKEOUT POINTS – 520+30			
POINT	STATION	OFFSET	ELEVATION
1	520+20	27′ RT.	654.85
2	520+40	27′ RT.	655.00
3	520+24	39′ RT.	656.71
4	520+40	39′ RT.	657.36
FOR PAVEMENT SECTION, REFER TO DETAIL 'C' ON DWG. NO. DE-01			

UTILITY ADJUSTMENTS			
UTILITY	STATION	OFFSET	REMARKS
WATER LINE (*RE8447A18)	519+00 TO 519+10	14′ RT. TO 14′ RT.	WSSC WORK WILL BE DONE BY THIS
WATER LINE (*RE8447A18)	522+20 TO 523+50	14′ RT. TO 4′ RT.	CONTRACTOR
WATER HOUSE CONNECTION (WSSC)	520+25	16′ RT.	ADJUST TO PROPOSED GRADE
WATER METER (WSSC)	520+25	27′ RT.	
OVERHEAD UTILITIES	522+53 TO 523+50	18′ RT. TO 21′ RT.	RELOCATE BY VERIZON
UTILITY POLE (VERIZON)	522+50	18′ RT.	





LOCATION MAP

SCALE 1″=1000′

STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN, 8 INCH MIN. DEPTH (MD 620.02)	
449 L.F.	MD 355 (FREDERICK ROAD) - STA. 519+00 TO STA. 523+50, RT.

REMOVAL OF EXISTING PAVEMENT	
9 C.Y.	MD 355 (FREDERICK ROAD) - STA. 519+52 TO STA. 520+11, RT.
1 C.Y.	MD 355 (FREDERICK ROAD) - STA. 520+41 TO STA. 520+47, RT.

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX NO. 9 (MD 630.02)	
33 S.Y.	MD 355 (FREDERICK ROAD) - STA. 520+20 TO STA. 520+40, RT.
27 S.Y.	MD 355 (FREDERICK ROAD) - STA. 522+64 TO STA. 522+84, RT.

REMOVAL OF EXISTING MASONRY	
4 C.Y.	MD 355 (FREDERICK ROAD) - STA. 521+90, RT. (STONE WALL)

RELOCATE EXISTING MAILBOX	
1 EA.	MD 355 (FREDERICK ROAD) - STA. 520+44, RT.

REMOVE AND DISPOSE EXISTING FENCE	
32 L.F.	MD 355 (FREDERICK ROAD) - STA. 521+56 TO STA. 521+58, RT.

CLASS I RIPRAP FOR SLOPE AND CHANNEL PROTECTION	
13 S.Y.	MD 355 (FREDERICK ROAD) - STA. 519+89, RT.
17 S.Y.	MD 355 (FREDERICK ROAD) - STA. 520+57, RT.
15 S.Y.	MD 355 (FREDERICK ROAD) - STA. 521+33, RT.

GENERAL NOTES:
1. ALL CONSTRUCTION WITHIN THE SHA RIGHT OF WAY SHALL CONFORM TO SHA STANDARD CERTIFICATIONS AND DETAILS FOR CONSTRUCTION AND MATERIALS.
2. DAILY LANE CLOSURES SHALL BE IN ACCORDANCE WITH MD 104.02-01 THRU MD 104.02-10.
3. ALL INTERIOR RADII FOR SHARED USE PATH SHALL BE 60′ UNLESS OTHERWISE NOTED.
4. UTILITY RELOCATIONS WILL BE DESIGNED AND INSTALLED BY OTHERS, AND ARE NOT PART OF THIS CONTRACT.
5. FOR DRIVEWAY PAVEMENT SECTION, SEE DETAIL 'C' ON DWG. NO. DE-01.
6. SEE DWG. NO. SW-01 (SC0047) FOR SWM AS-BUILT TABLES.

20′ 0 20′ 40′
SCALE: 1″ = 20′

LEGEND

- SPLIT RAIL FENCE
- TRAFFIC BARRIER
- H — CLARKSBURG HISTORIC DISTRICT BOUNDARY
- SHARED USE PATH
- PERMEABLE PAVEMENT
- FULL DEPTH PAVEMENT
- FINE MILLING & ASPHALT RESURFACING
- CONCRETE DRIVEWAY
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- VEHICULAR BRICK PAVER
- RIPRAP
- C — TOP OF CUT
- F — TOE OF FILL
- WETLAND
- B — WETLAND BUFFER
- WUS — WATERS OF THE US
- 102 +50 ℄ CONSTRUCTION
- PEDESTRIAN LIGHT POLE AND JUNCTION BOX
- P — BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- PIPE, INLET, STORM DRAIN SYMBOLS, END SECTION, STD. MANHOLE, ENDWALL

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SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER

DATE 2-6-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-P005_MD355.dgn

PLAN SHEET PS-05
ROADWAY PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 519+00 TO STA. 523+50

SCALE: 1″= 20′ 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 13 of 97

DPS FILE NO. SC0012 OF SC0047

C-04

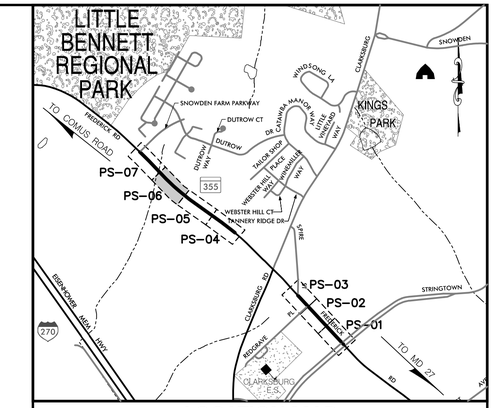
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DELTA = 10°44'32.5" RT.
Dc = 2°09'20.6"
R = 2,658.00'
L = 498.35'
T = 249.91'
CH = 497.62'
E = 11.72'

SHARED USE PATH FRONT EDGE				
POINT TYPE	STATION	OFFSET	NORTHING	EASTING
P.O.C.	523+50.00	16.00' RT.	574,181.0132	1,231,535.7227
P.C.C.	523+80.32	16.00' RT.	574,200.0082	1,231,512.3262
P.T.	523+93.40	17.22' RT.	574,209.2231	1,231,503.0813
P.C.	524+44.79	26.37' RT.	574,249.1345	1,231,470.0806
P.R.C.	524+61.94	31.47' RT.	574,264.1040	1,231,460.6110
P.C.C.	525+01.39	39.67' RT.	574,296.0701	1,231,436.9404
P.T.	526+87.99	39.67' RT.	574,423.7763	1,231,304.7893
P.C.	527+88.85	39.67' RT.	574,496.3689	1,231,234.7637
P.O.C.	528+00.00	38.62' RT.	574,503.6670	1,231,226.2721

UTILITY ADJUSTMENTS			
UTILITY	STATION	OFFSET	REMARKS
WATER LINE (#RE8447A18)	523+50 TO 524+21	4' RT. TO 14' RT.	WSSC WORK WILL BE DONE BY THIS CONTRACTOR
WATER HOUSE CONNECTION (#RE8447A18)	523+80	60' RT.	
UTILITY POLE (VERIZON)	524+11	21' RT.	RELOCATE BY VERIZON
UTILITY POLE (VERIZON)	524+87	28' RT.	
UTILITY POLE (VERIZON)	526+50	35' RT.	
UNDERGROUND FIBER OPTIC (VERIZON)	527+76	45' RT.	

DRIVEWAY STAKEOUT POINTS - 523+92			
POINT	STATION	OFFSET	ELEVATION
1	523+87	24' RT.	653.00
2	523.97	26' RT.	652.98
3	523+89	37' RT.	655.45
4	523+99	36' RT.	655.34
5	523+90	62' RT.	661.36
6	524+00	61' RT.	661.16
FOR PAVEMENT SECTION, REFER TO DETAIL 'C' ON DWG. NO. DE-01			



LOCATION MAP

SCALE 1"=1000'

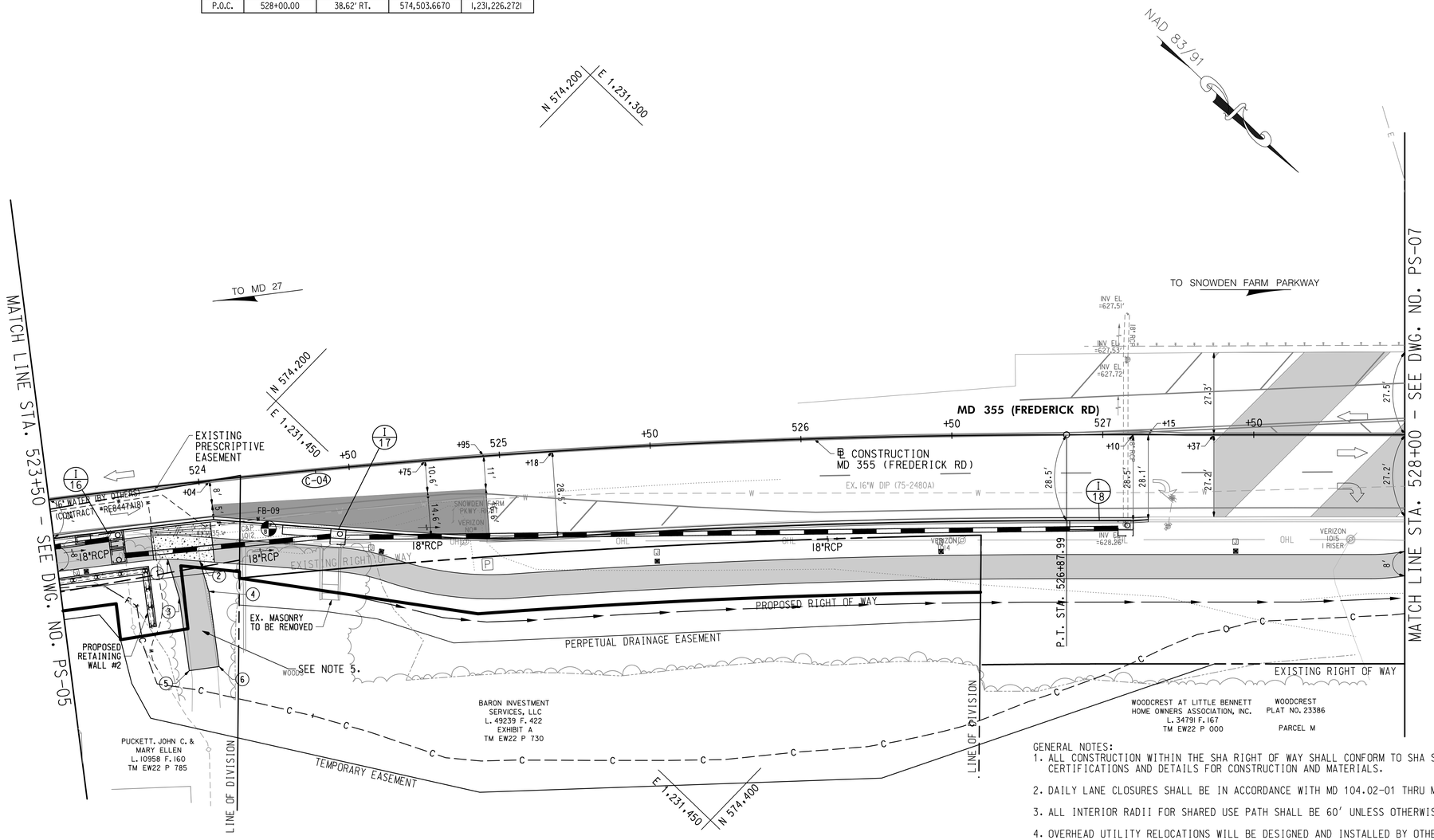
STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN, 8 INCH MIN. DEPTH (MD 620.02)	
364 L.F.	MD 355 (FREDERICK ROAD) - STA. 523+50 TO STA. 527+15, RT.

8 INCH PORTLAND CEMENT CONCRETE PAVEMENT FOR DRIVEWAY MIX NO. 9 (MD 630.02)	
26 S.Y.	MD 355 (FREDERICK ROAD) - STA. 523+82 TO STA. 524+02, RT.

REMOVAL OF EXISTING MASONRY	
20 C.Y.	MD 355 (FREDERICK ROAD) - STA. 524+09 TO STA. 524+55, RT. (STONE WALL AND STEPS)

RELOCATE EXISTING MAILBOX	
1 EA.	MD 355 (FREDERICK ROAD) - STA. 524+03, RT.

FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH	
383 S.Y.	MD 355 (FREDERICK ROAD) - STA. 527+37 TO STA. 528+00



GENERAL NOTES:

1. ALL CONSTRUCTION WITHIN THE SHA RIGHT OF WAY SHALL CONFORM TO SHA STANDARD CERTIFICATIONS AND DETAILS FOR CONSTRUCTION AND MATERIALS.
2. DAILY LANE CLOSURES SHALL BE IN ACCORDANCE WITH MD 104.02-01 THRU MD 104.02-10.
3. ALL INTERIOR RADII FOR SHARED USE PATH SHALL BE 60' UNLESS OTHERWISE NOTED.
4. OVERHEAD UTILITY RELOCATIONS WILL BE DESIGNED AND INSTALLED BY OTHERS.
5. FOR DRIVEWAY PAVEMENT SECTION, SEE DETAIL 'C' ON DWG. NO. DE-01.

20' 0 20' 40'
SCALE: 1"=20'

LEGEND

- SPLIT RAIL FENCE
- TRAFFIC BARRIER
- H — CLARKSBURG HISTORIC DISTRICT BOUNDARY
- SHARED USE PATH
- PERMEABLE PAVEMENT
- FULL DEPTH PAVEMENT
- FINE MILLING & ASPHALT RESURFACING
- CONCRETE DRIVEWAY
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- VEHICULAR BRICK PAVER
- RIPRAP
- C — TOP OF CUT
- F — TOE OF FILL
- WETLAND
- B — WETLAND BUFFER
- WUS — WATERS OF THE US
- 102 +50 ℄ CONSTRUCTION
- PEDESTRIAN LIGHT POLE AND JUNCTION BOX
- P — BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- PIPE, INLET, STORM DRAIN SYMBOLS, END SECTION, STD. MANHOLE, ENDWALL

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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.
ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER
DATE: 3-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-P006_MD355.dgn

PLAN SHEET PS-06
ROADWAY PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 523+50 TO STA. 528+00

SCALE: 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 14 of 97

DPS FILE NO. SC0013 OF SC0047

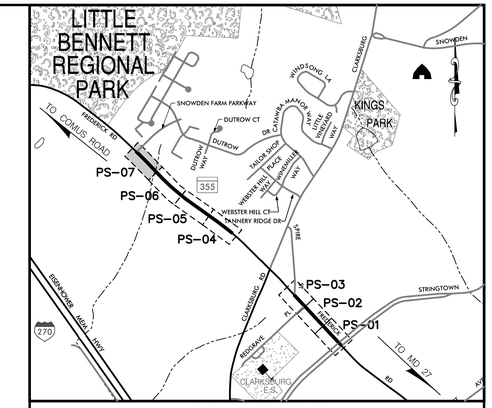
C-05

CURVE DATA

DELTA = 2°40′43.9″ LT.
Dc = 1°12′24.3″
R = 4,748.00′
L = 221.99′
T = 111.02′
CH = 221.97′
E = 1.30′

SHARED USE PATH FRONT EDGE				
POINT TYPE	STATION	OFFSET	NORTHING	EASTING
P.O.C.	528+00.00	38.62′ RT.	574,503.6670	1,231,226.2721
P.T.	528+00.17	38.59′ RT.	574,503.7691	1,231,226.1276
P.C.	528+49.10	29.19′ RT.	574,532.4572	1,231,185.3909
P.T.	528+59.44	28.01′ RT.	574,539.0779	1,231,177.3709
P.C.	529+13.77	26.01′ RT.	574,576.7931	1,231,138.2140
P.T.	529+25.67	26.37′ RT.	574,585.6084	1,231,130.2061
P.C.	529+48.00	28.53′ RT.	574,603.1812	1,231,116.2629
P.T.	529+51.69	28.78′ RT.	574,606.0040	1,231,113.8779
P.I.	529+54.02	28.86′ RT.	574,607.7378	1,231,112.3190
P.C.	530+13.84	28.55′ RT.	574,650.6339	1,231,070.4623
P.R.C.	530+37.51	32.88′ RT.	574,670.6976	1,231,056.9078
P.R.C.	530+67.65	36.14′ RT.	574,694.5849	1,231,037.8882
P.R.C.	531+05.11	41.51′ RT.	574,725.0592	1,231,014.9417
P.T.	531+29.06	47.01′ RT.	574,745.9429	1,231,001.5796
P.O.T.	531+36.60	47.16′ RT.	574,751.3704	1,230,996.2392

UTILITY ADJUSTMENTS			
UTILITY	STATION	OFFSET	REMARKS
UTILITY POLE GUY WIRE (VERIZON)	530+59	34′ RT.	RELOCATE BY VERIZON



LOCATION MAP

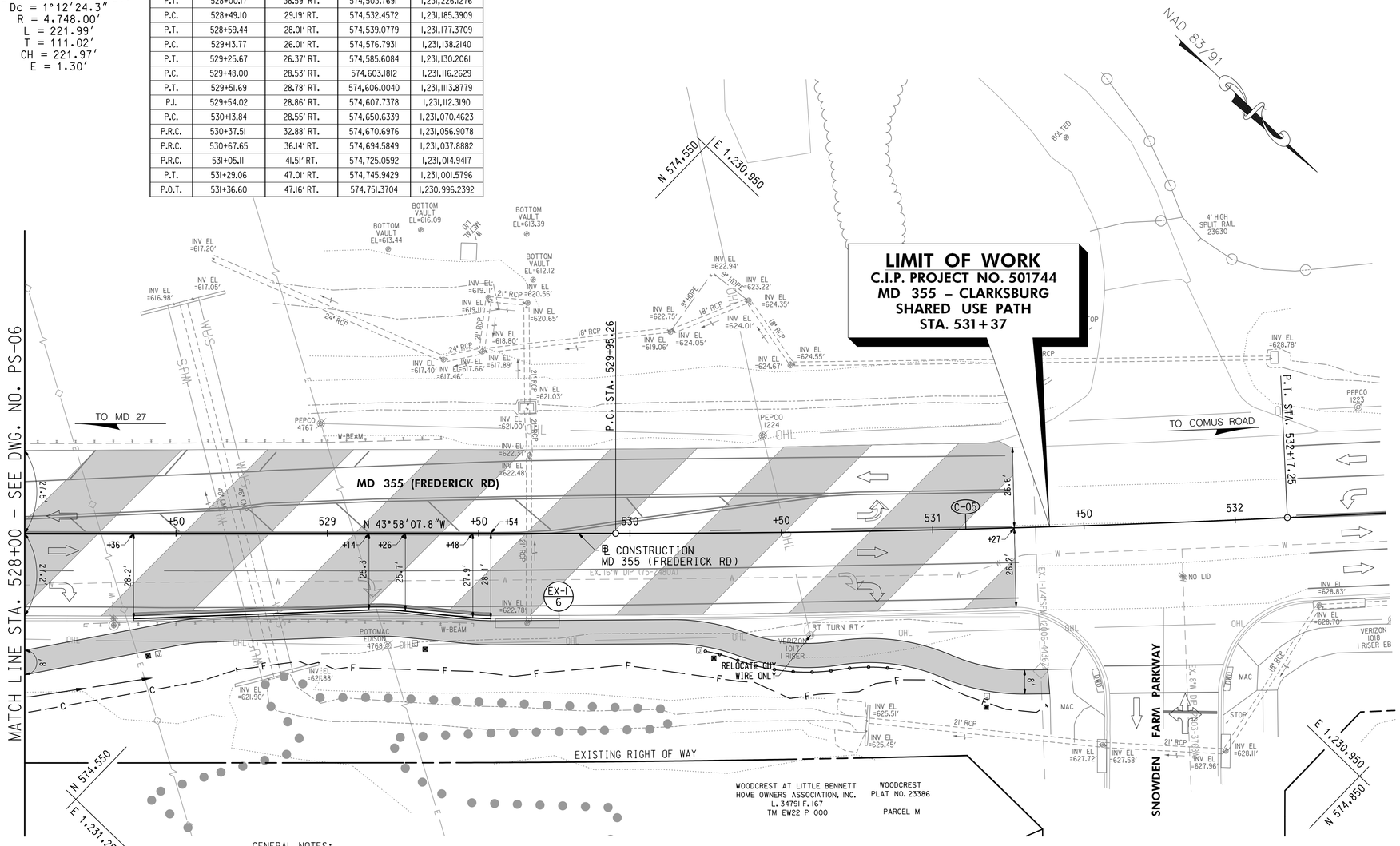
SCALE 1"=1000'

STANDARD TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN, 8 INCH MIN. DEPTH (MD 620.02)	
119 L.F.	MD 355 (FREDERICK ROAD) - STA. 528+36 TO STA. 529+54, RT.

REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM	
134 L.F.	MD 355 (FREDERICK ROAD) - STA. 528+20 TO STA. 529+48, RT.

SPLIT RAIL FENCE	
66 L.F.	MD 355 (FREDERICK ROAD) - STA. 530+25 TO STA. 530+89, RT.

FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH	
1,960 S.Y.	MD 355 (FREDERICK ROAD) - STA. 528+00 TO STA. 531+27



GENERAL NOTES:
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3. ALL INTERIOR RADII FOR SHARED USE PATH SHALL BE 60′ UNLESS OTHERWISE NOTED.
4. UTILITY RELOCATIONS WILL BE DESIGNED AND INSTALLED BY OTHERS, AND ARE NOT PART OF THIS CONTRACT.

20′ 0 20′ 40′
SCALE: 1"=20'

LEGEND

- SPLIT RAIL FENCE
- TRAFFIC BARRIER
- H — CLARKSBURG HISTORIC DISTRICT BOUNDARY
- SHARED USE PATH
- PERMEABLE PAVEMENT
- FULL DEPTH PAVEMENT
- FINE MILLING & ASPHALT RESURFACING
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- PAVEMENT REMOVAL
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- WETLAND
- B — WETLAND BUFFER
- WUS — WATERS OF THE US
- 102 +50 — CONSTRUCTION
- PEDESTRIAN LIGHT POLE AND JUNCTION BOX
- P — BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- PIPE, INLET, STORM DRAIN SYMBOLS, END SECTION, STD. MANHOLE, ENDWALL

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ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER
DATE 2/6/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

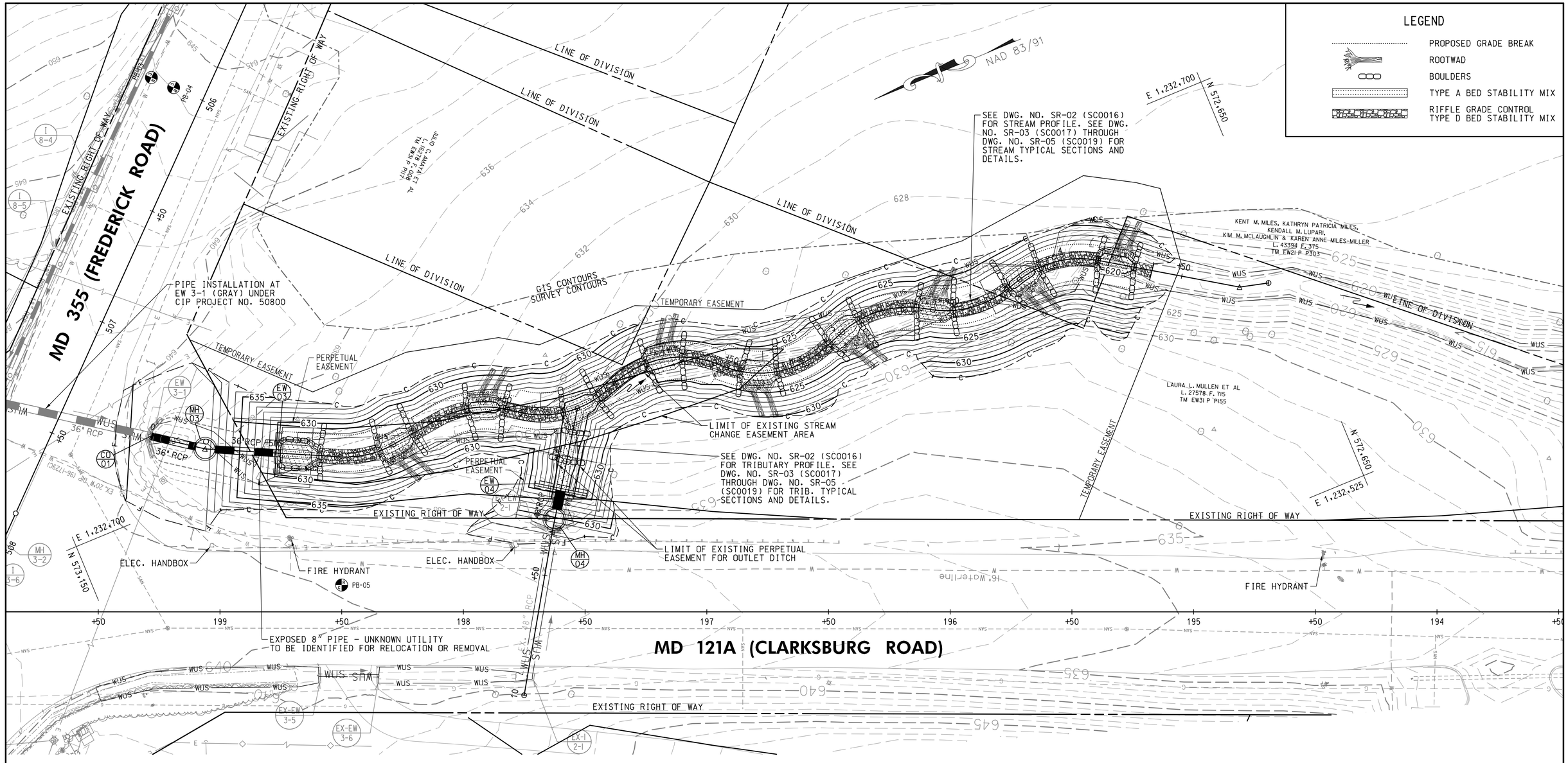
PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pHD-P007_MD355.dgn

PLAN SHEET PS-07
ROADWAY PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 528+00 TO STA. 531+37
02/2023

SCALE: 1"= 20'

Project No. : C.I.P. PR. # 501744 SHEET 15 of 97

DPS FILE NO. SC0014 OF SC0047



PLAN

SCALE: 1"=20'

20' 0 20' 40'

HOR. SCALE: 1" = 20'

BOULDERS	
336 EA.	MD 121A (CLARKSBURG ROAD)

ROOTWADS	
16 EA.	MD 121A (CLARKSBURG ROAD)

TYPE A BED STABILITY MIX (BSM)	
44 C.Y.	MD 121A (CLARKSBURG ROAD)

TYPE D BED STABILITY MIX (BSM)	
77 C.Y.	MD 121A (CLARKSBURG ROAD)

REMOVAL OF EXISTING MASONRY	
5 C.Y.	EW 3-1
5 C.Y.	EX-EW 2-1

EROSION CONTROL MATTING (ECM)	
250 S.Y.	MD 121A (CLARKSBURG ROAD)

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GLENN W. MARSCHKE MD NO-16142 EXP-08/17/2024

SEAL
STATE OF MARYLAND
GLENN W. MARSCHKE
No. 16142
PROFESSIONAL ENGINEER
DATE: 1-5-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : L.E.W. Drawn by : L.E.W. Checked by : C.V.M.

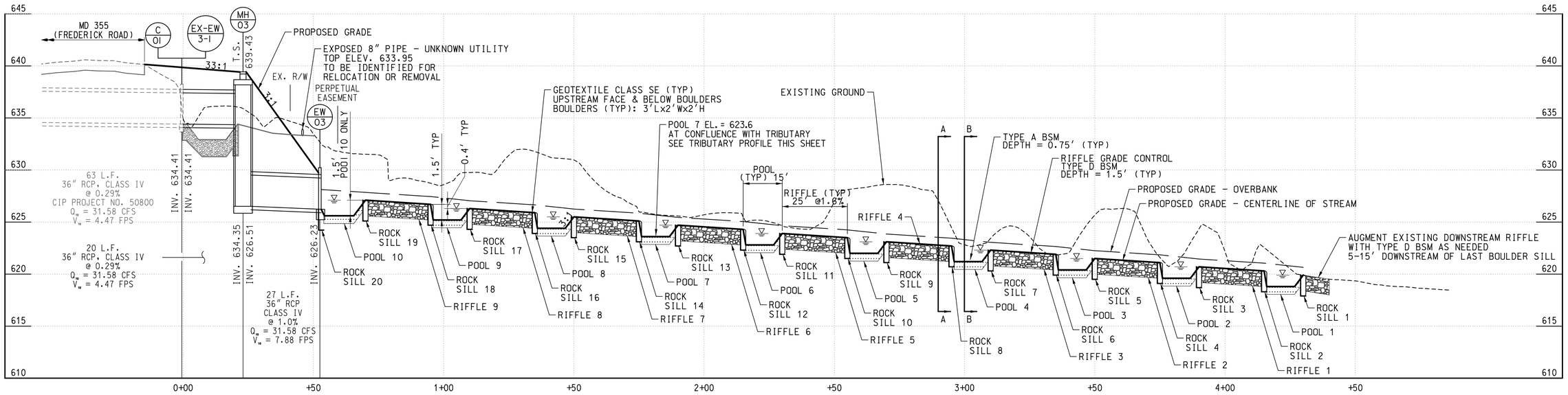
PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pSR-P001_MD355.dgn

PLAN SHEET SR-01
STREAM RESTORATION PLAN
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: 1"=20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 16 of 97

DPS FILE NO. SC0015 OF SC0047



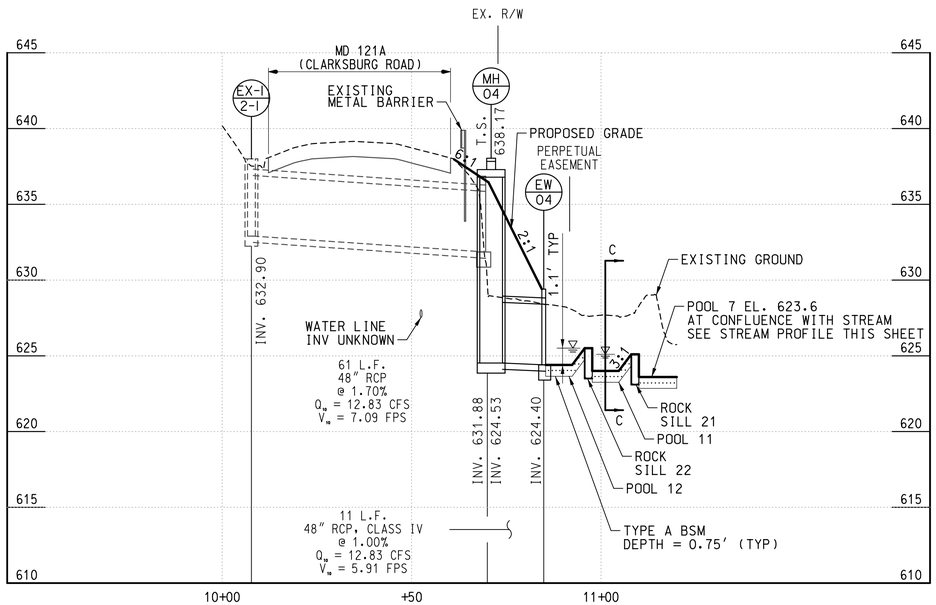
STREAM PROFILE

SCALE: HOR. 1"=20'
VERT. 1"=5'

NOTES:

SEE DWG. NO. SR-03 (SC0017) THROUGH DWG. NO. SR-05 (SC0019) FOR TYPICAL SECTIONS AND DETAILS. CHANNEL DEPTHS VARY BETWEEN SECTIONS ACCORDING TO PROFILE.

SEE DWG. NO. SR-03 (SC0017) FOR MONTGOMERY PARKS BED STABILITY MIX (BSM) TABLES FOR TYPE A BSM AND TYPE D BSM SPECIFICATIONS.



TRIBUTARY PROFILE

SCALE: HOR. 1"=20'
VERT. 1"=5'

20' 0 20' 40'
HOR. SCALE: 1"=20'

5' 0 5' 10'
VERT. SCALE: 1"=5'

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GLENN W. MARSCHKE MD NO-16142 EXP-08/17/2024

SEAL
STATE OF MARYLAND
GLENN W. MARSCHKE
No. 16142
PROFESSIONAL ENGINEER
DATE: 1-31-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : L.E.W. Drawn by : L.E.W. Checked by : C.V.M.

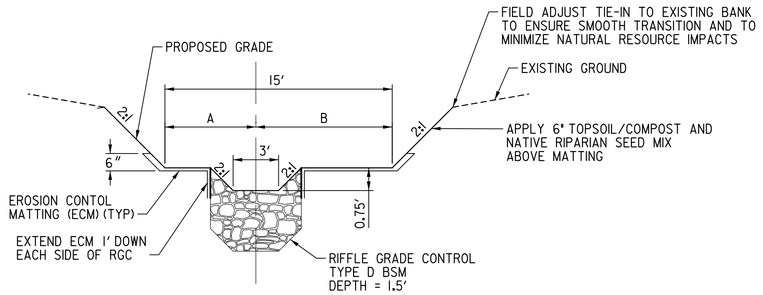
PLAN SHEET SR-02
STREAM RESTORATION PROFILE
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: AS SHOWN 02/2023

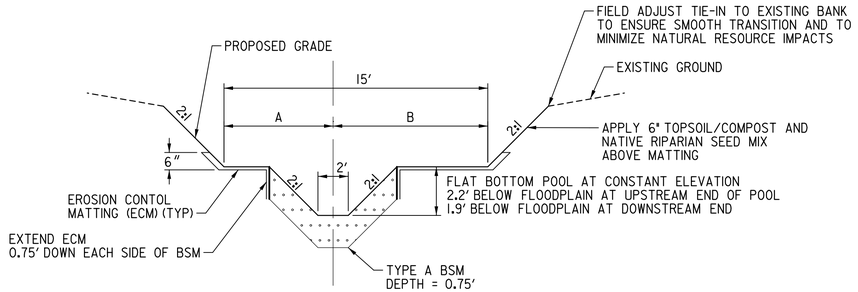
Project No. : C.I.P. PR. # 501744 SHEET 17 of 97

PLOTTED: 2/6/2023
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DPS FILE NO. SC0016 OF SC0047



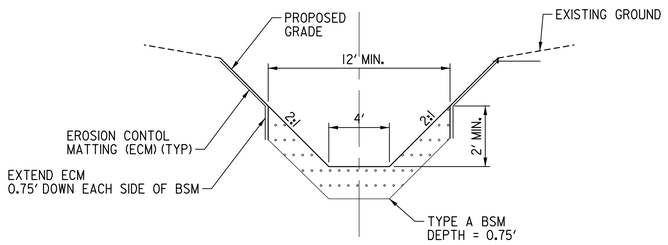
A–A RIFFLE TYPICAL SECTION
NOT TO SCALE



NOTE:

ADD ROOTWADS TO POOL AS SHOWN ON PLANS.

B–B POOL TYPICAL SECTION
NOT TO SCALE



C–C TRIBUTARY TYPICAL SECTION
NOT TO SCALE

SEE MONTGOMERY PARKS BED STABILITY MIX (BSM) TABLES (THIS SHEET) FOR TYPE A BSM AND TYPE D BSM SPECIFICATIONS

OVERBANK STAKEOUT TABLE

STATION	A	B
0+00	9'	6'
1+12	6'	9'
1+55	9'	6'
1+98	6'	9'
2+46	9'	6'
2+97	6'	9'
3+39	9'	6'
3+77	6'	9'

NATIVE RIPARIAN SEED MIX

PERCENT	COMMON NAME	SCIENTIFIC NAME
25%	VIRGINIA WILD RYE	*Elymus virginicus*
10%	ANNUAL RYE	*Lollium multiflorum*
20%	RIVERBANK WILD RYE	*Elymus riparius*
15%	RED FESCUE	*Festuca rubra L*
10%	DEERTONGUE	*Dischanthelium clandestinum*
20%	BOTTLEBRUSH	*Elymus hystrix*

Montgomery Parks Bed Stability Mix (BSM) Tables

Purpose: Bed Stability Mix (BSM) is a mixture of sands, gravels, cobbles, and rocks that are installed within stream channels to stabilize areas of high stress, provide channel shaping, and create long-term stability, surficial flow, aquatic habitat, and fish passage.
BSM Types: Selection of BSM Type for a particular project should be made based on channel size, stream gradient, anticipated water power, etc.

Type A: For small ephemeral-intermittent channels.

Material Size:	Percentage of BSM
BRG/Native SBM	50%
Woodchips	20%
#2 Stone	20%
Surge Stone	10%
Total:	100%

Type B: For small intermittent-perenial channels (BFw<9') w/low stresses.

Material Size:	Percentage of BSM
BRG/Native SBM	40%
Woodchips	20%
Surge Stone	20%
Class 0	30%
Total:	100%

Type C: For smaller perenial channels (BFw<12') w/low-moderate stresses.

Material Size:	Percentage of BSM
BRG/Native SBM	40%
Surge Stone	10%
Class 0	20%
Class I	30%
Total:	100%

Type D: For mid-size channels (BFw<18') with moderate-high stresses.

Material Size:	Percentage of BSM
BRG/Native SBM	30%
Class 0	20%
Class I	20%
Class II	30%
Total:	100%

Type E: For mid-large channels (BFw<24') with moderate stresses.

Material Size:	Percentage of BSM
BRG/Native SBM	20%
Class 0	10%
Class I	30%
Class II	40%
Total:	100%

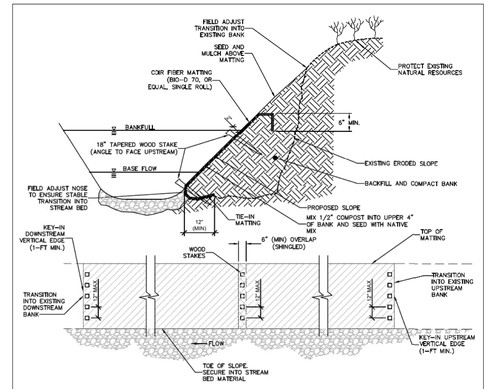
Type F: For mid-large channels (BFw<30') with moderate stresses.

Material Size:	Percentage of BSM
BRG/Native SBM	20%
Class I	30%
Class II	30%
Class III	20%
Total:	100%

Type G: For large channels with higher stresses.

Material Size:	Percentage of BSM
BRG/Native SBM	20%
Class I	10%
Class II	30%
Class III	40%
Total:	100%

Notes:
1. Native Stream Bed Material (SBM) should be harvested prior to channel grading for reuse, especially in upper 12" of BSM.
2. BSM materials shall consist of clean natural materials (i.e. no concrete, asphalt, stone dust, etc.)
3. Materials should be well mixed prior to in-stream placement, installed in 18" (max.) lifts, and washed in to promote surface flow.
4. Wash Bank Run Gravel (BRG)/SBM into each lift to lock-in material and establish surface flow at baseflow conditions.
5. Placed BSM lifts should be pressed/tracked into stream channel to ensure stability and smooth transitions.
6. Parks may permit common borrow to be incorporated into lower lifts of BSM and silica sand in upper layers if washed-in BRG does not seal BSM.
7. Installed BSM should be checked and augmented as needed once baseflow conditions are observed and following storm events.
8. Alternative BSM types may be submitted by design team for site specific approval by Parks.
9. Percentages listed are by volume. Actual content of each component may vary 5% up or down.



NOTES:
1. ANCHOR COIR MATTING ALONG TOE OF SLOPE AND PULL MATERIAL UP BANK BEFORE STAKING.
2. OVERLAP EDGES OF ADJACENT ROLLS 6" (MIN) AND STAKE AT 12" O.C. WITH THE STREAM ROLL SHINGLED OVER DOWNSTREAM.
3. ADDITIONAL FASTENING MAY BE REQUIRED WHERE MATTING IS CUT TO INSTALL PLANTINGS.
4. LAY FIBER MAT LOOSELY AND ANCHOR SUFFICIENTLY TO MAINTAIN DIRECT CONTACT WITH THE SOIL. PULL MATTING ACROSS SOIL, BUT DO NOT STRETCH MATTING.
5. PROVIDE ADDITIONAL STAKING ALONG CHANNEL BOTTOM WHERE ECM FORMS TOE OF SLOPE AND OTHER EDGES.
6. ANCHORING DIMENSIONS MAY BE REDUCED TO PROTECT NATURAL RESOURCES AS DIRECTED BY PARKS.
7. ADDITIONAL EROSION CONTROL MATTING STRIPS MAY BE ADDED ALONG STREAMBANK ABOVE BANKFULL AS DIRECTED BY PARKS.

EROSION CONTROL MATTING (ECM) DETAIL
The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks

Detail No. **623**
JUNE 2018

WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
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Hunt Valley, Maryland 21030
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SEAL
STATE OF MARYLAND · GLENN W. MARSCHKE · No. 16142 · PROFESSIONAL ENGINEER
DATE: 1-31-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
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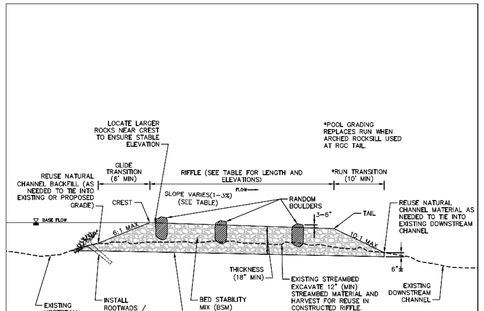
PLAN SHEET SR-03
STREAM RESTORATION TYP. SECTIONS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 18 of 97

PLOTTED: 2/8/2023
FILE: M:\PROJ\21413.0010\Highways\Cadd-Drainage\pSR-P003_MD355.dgn

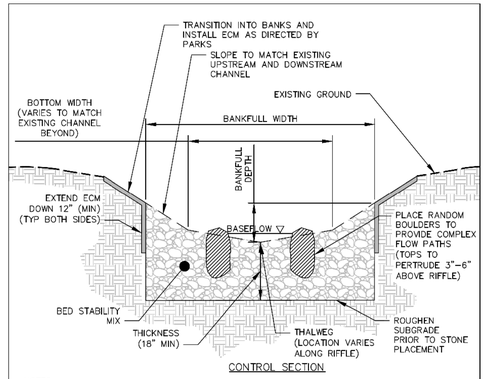
DPS FILE NO. SC0017 OF SC0047



PROFILE
(NTS)

RIFFLE GRADE CONTROL (RGC) TABLE								
STR #	CREST STATION	CREST ELEVATION	TAIL STATION	TAIL ELEVATION	SLOPE (%)	GLIDE LENGTH (FT)	RUN LENGTH (FT)	BANKFULL WIDTH (FT)	BANKFUL DEPTH (FT)
SEE TABLE BELOW									

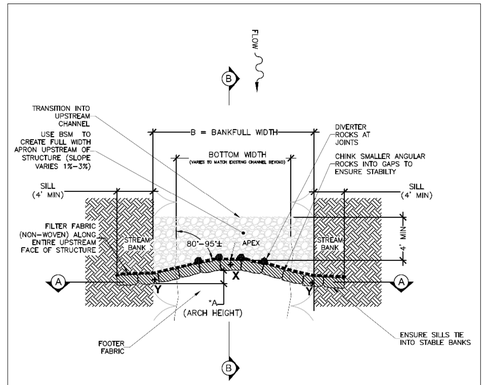
RIFFLE GRADE CONTROL DETAIL (1 OF 2)
The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks
Detail No. **604.1**
JUNE 2018



CONTROL SECTION

NOTES:
1. LAY OUT CRITICAL POINTS OF STRUCTURE AND FIELD ADJUST WITH PARKS TO ENSURE PROPER ORIENTATION, ELEVATIONS, AND TIE-INS. COORDINATE WORK AROUND EXISTING UTILITIES TO ENSURE PROTECTION AND STRUCTURE INTEGRITY.
2. WHERE EXISTING CHANNEL GRADES ARE BELOW THICKNESS OF RGC, BACKFILL WITH COMMON BORROW UP TO 30" BELOW FINISHED GRADE. USE ANGULAR BANK-RUN GRAVEL AND/OR BSM UP TO SURFACE OF RGC.
3. INSTALL AND COMPACT BSM IN LIFTS NOT TO EXCEED 12". SET RANDOM BOULDERS DURING CONSTRUCTION BASED ON ROCK THICKNESS AND TOP ELEVATION. RANDOM BOULDERS TO BE AT LEAST ⅓ BURIED AND NOT PROTRUDE MORE THAT 6" ABOVE RGC SURFACE. BSM SHALL BE MIXED PRIOR TO PLACEMENT.
4. WASH STREAMBED MATERIAL AND/OR BANK-RUN GRAVEL INTO EACH LIFT TO FILL ROCK VOIDS AND ENSURE SURFACE FLOW. SAVE SALVAGED NATIVE STREAMBED MATERIAL TO BE USED IN UPPERMOST-LIFT.
5. LARGER STONES SHALL BE SET IN VICINITY OF CREST AND TAIL TO ENSURE RGC STABILITY OVER RANGE OF FLOW EVENTS. SEE PLANS FOR LOCATION OF INTERNAL ROCK SILLS.
6. RUN EQUIPMENT OVER RGC TO ENSURE MATERIAL LOCKS TOGETHER AND CREATES STABLE TRANSITIONS INTO SURROUNDING FEATURES.
7. SHAPE CHANNEL BED TO FORM A THALWEG AND SLOPE SIDES UP TO MEET ADJACENT BANKS.
8. REVIEW FINISHED RGC WITH PARKS AND MAKE MODIFICATIONS AS DIRECTED.

RIFFLE GRADE CONTROL DETAIL (2 OF 2)
The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks
Detail No. **604.2**
JUNE 2018

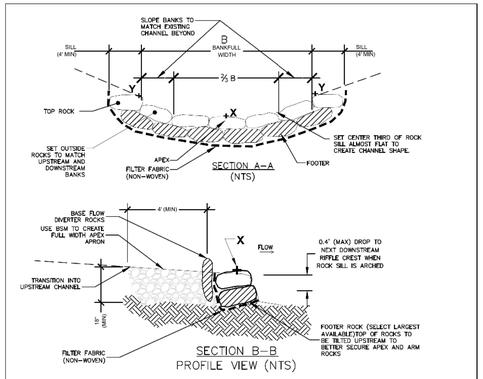


*NOTE: VANE ARM SHALL BE SHALLOW (5° OR 1:12) WHERE RIFFLE IS PLACED DOWNSTREAM. VANE ARM SHALL BE MORE ARCHED (UP TO 20° OR 1:3) WHERE POOL IS PLACED DOWNSTREAM OF ROCK SILL.

PLAN VIEW (NTS)

ROCK SILL (RS) TABLE						
STR #	STA.	POINT "X" C/L OFFSET (FT)	A (ARCH HEIGHT) (FT)	B (BANKFULL) (FT)	X (MSL)	Y (MSL)
SEE TABLE BELOW						

ROCK SILL DETAIL (1 OF 2)
The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks
Detail No. **603.1**
JUNE 2018



NOTES:
1. ALL DIMENSIONS AND ELEVATIONS TO BE FIELD ADJUSTED TO ENSURE STABLE INSTALLATION, FISH PASSAGE, AND TIE-IN TO BANKS.
2. ROCKS SHALL BE IMBRICATED WITH RECTANGULAR BLOCK SHAPE.
3. THE MINIMUM ELEVATION DIFFERENCE BETWEEN ELEVATION "X" AND ELEVATION "Y" IS 6-INCHES.
4. ACTUAL APEX ROCKS/BOULDERS SHALL BE FIELD SELECTED IN COORDINATION WITH PARKS.
5. STONE PLACEMENT SHALL BE FIELD ADJUSTED TO CREATE ARCHED SHAPE AND ENSURE STONE WILL REMAIN IN PLACE OVER FULL RANGE OF FLOW CONDITIONS. ROTATE STONES SLIGHTLY TOWARDS UPSTREAM TO MINIMIZE MOVEMENT/SETTLEMENT.
6. TIE IN SILLS SHALL EXTEND 4' MINIMUM INTO STABLE CHANNEL BANK.
7. ROCKS SHALL BE TIGHT FITTING WITH NO VOIDS/GAPS ALONG APEX AND VANE ARM. CHINK IN SMALLER ANGULAR STONE TO ESTABLISH SURFACE FLOW AND INTERCONNECTION OF ROCKS.
8. WHERE J-HOOK IS DOWNSTREAM OF UTILITY CROSSING, REPLACE APEX APRON WITH PIPE PROTECTION DETAIL. LOCATE J-HOOK APEX DOWNSTREAM OF UTILITY AND SET ORIENTATION TO MATCH CHANNEL.
9. STREAMBED MATERIAL SHALL COME FROM SALVAGED SOURCE FIRST AND THEN FURNISHED AS NECESSARY. OFFSITE STREAMBED MATERIAL SHALL BE USED TO CHOKE BOTTOM LAYERS OF ROCK WITH SALVAGED MATERIAL SAVED FOR TOP.
10. STATION REFERENCE POINT "X" IS LOCATED AT CENTER OF CHANNEL UNLESS SPECIFIED OTHERWISE. TOTAL WIDTH OF BASE FLOW DIVERTER ROCKS SHALL NOT EXCEED 1/10TH "B", AND SHALL BE LOCATED COMPLETELY INSIDE "D".
11. IF BASE FLOW DIVERTER ROCKS ARE USED, AT LEAST 4 OF THE ROCK SHALL BE BURIED, NO MORE THAN 6" EXPOSED ABOVE SURFACE.
12. NUMBER OF ROCKS SHOWN FOR GRAPHICAL PURPOSES ONLY. ACTUAL NUMBER OF ROCKS FOR THE STRUCTURE SHALL DEPEND ON ROCK SIZE AND STREAM WIDTH.
13. BACKFILL UPSTREAM SIDES OF APEX AND VANE ARMS WITH BSM
14. USE STREAM BED MIX (BSM) AS DIRECTED TO ESTABLISH "Z" CHANGE ELEVATION.
15. TOTAL WIDTH OF BASE FLOW DIVERTER ROCKS SHALL NOT EXCEED 1/10TH "B",AND SHALL BE LOCATED COMPLETELY INSIDE "D".
16. FOOTER ROCKS NOT SHOWN FOR CLARITY.

ROCK SILL DETAIL (2 OF 2)
The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks
Detail No. **603.2**
JUNE 2018

RIFFLE GRADE CONTROL TABLE

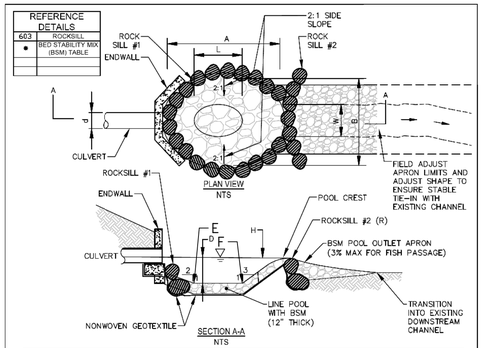
STR #	CREST STA.	CREST ELEV.	TAIL STA.	TAIL ELEV.	SLOPE %	GLIDE LENGTH	RUN LENGTH	BANKFULL WIDTH	BANKFULL DEPTH	IOYR VELOCITY
RIFFLE 9	0+70	627.1	0+95	626.7	1.6	N/A - ROCK SILL 19	N/A - ROCK SILL 18	6'	0.75'	3.27 FPS
RIFFLE 8	1+10	626.3	1+35	625.9	1.6	N/A - ROCK SILL 17	N/A - ROCK SILL 16	6'	0.75'	3.27 FPS
RIFFLE 7	1+50	625.5	1+75	625.1	1.6	N/A - ROCK SILL 15	N/A - ROCK SILL 14	6'	0.75'	3.27 FPS
RIFFLE 6	1+90	624.7	2+15	624.3	1.6	N/A - ROCK SILL 13	N/A - ROCK SILL 12	6'	0.75'	3.56 FPS
RIFFLE 5	2+30	623.9	2+55	623.5	1.6	N/A - ROCK SILL 11	N/A - ROCK SILL 10	6'	0.75'	3.56 FPS
RIFFLE 4	2+70	623.1	2+95	622.7	1.6	N/A - ROCK SILL 9	N/A - ROCK SILL 8	6'	0.75'	3.56 FPS
RIFFLE 3	3+10	622.3	3+35	621.9	1.6	N/A - ROCK SILL 7	N/A - ROCK SILL 6	6'	0.75'	3.56 FPS
RIFFLE 2	3+50	621.5	3+75	621.1	1.6	N/A - ROCK SILL 5	N/A - ROCK SILL 4	6'	0.75'	3.56 FPS
RIFFLE 1	3+90	620.7	4+15	620.3	1.6	N/A - ROCK SILL 3	N/A - ROCK SILL 2	6'	0.75'	3.56 FPS

ROCK SILL TABLE

STR #	STA.	POINT "X" C/L OFFSET	A ARCH HEIGHT	B BANKFULL	X ELEV.	Y ELEV.
ROCK SILL 20	0+53	0'	1'	15'	626.23	628.98
ROCK SILL 19	0+70	0'	1'	15'	627.1	627.85
ROCK SILL 18	0+95	0'	1'	15'	626.7	627.45
ROCK SILL 17	1+10	0'	1'	15'	626.3	627.05
ROCK SILL 16	1+35	0'	1'	15'	625.9	626.65
ROCK SILL 15	1+50	0'	1'	15'	625.5	626.25
ROCK SILL 14	1+75	0'	1'	15'	625.1	625.85
ROCK SILL 13	1+90	0'	1'	15'	624.7	625.45
ROCK SILL 12	2+15	0'	1'	15'	624.3	625.05
ROCK SILL 11	2+30	0'	1'	15'	623.9	624.65
ROCK SILL 10	2+55	0'	1'	15'	623.5	624.25
ROCK SILL 9	2+70	0'	1'	15'	623.1	623.85
ROCK SILL 8	2+95	0'	1'	15'	622.7	623.45
ROCK SILL 7	3+10	0'	1'	15'	622.3	623.05
ROCK SILL 6	3+35	0'	1'	15'	621.9	622.65
ROCK SILL 5	3+50	0'	1'	15'	621.5	622.25
ROCK SILL 4	3+75	0'	1'	15'	621.1	621.85
ROCK SILL 3	3+90	0'	1'	15'	620.7	621.45
ROCK SILL 2	4+15	0'	1'	15'	620.3	621.05
ROCK SILL 1	4+30	0'	1'	15'	619.9	620.65
ROCK SILL 22	10+96.7	0'	0'	12'	625.5	626.25
ROCK SILL 21	11+09.0	0'	0'	12'	625.1	625.85

TYPICAL BOULDER
NOT TO SCALE

- MONTGOMERY PARKS BED STABILITY MIX (BSM) TABLES SHOWN ON SR-03 (SC0017)



PLUNGE POOL SIZING CHART								
SIZE VARIABLE:	d	A	B	L	W	D	H	R
DESCRIPTION:	CULVERT WIDTH	POOL TOP LENGTH	POOL TOP WIDTH	POOL BOTTOM LENGTH	POOL BOTTOM WIDTH	POOL DEPTH	BACKWATER (ABOVE CULVERT INVERT)	ROCKSILL #2 HEIGHT ABOVE INVERT
SIZING GUIDE:		2d - 4d	1.5d - 3d	1.5d -3d	0.5d - 1.5d	18" - 36"	0" - 18"	0" - 18"

NOTES:

SEE TABLE BELOW FOR DIMENSIONS

1. PLUNGE POOL IS A MODIFIED MDE D-4-2 PLUNGE POOL SUITED FOR IN-STREAM SCOUR PROTECTION.
2. FIELD ADJUST PLUNGE POOL DIMENSIONS WITH COORDINATION WITH PARKS TO MINIMIZE NATURAL RESOURCE IMPACTS.
3. ADJUST THE PLUNGE POOL OUTLET TO ENSURE STABLE TRANSITION AND FISH PASSAGE THROUGH EXISTING CHANNEL.
4. STONE SHOULD NOT EXTEND ABOVE MORE THAN 2/3 CULVERT HEIGHT.
5. ALL STONE ABOVE BACKFILL ELEVATION SHALL BE BACKFILLED WITH TOP SOIL AND VEGETATED.
6. BACKWATER DEPTH VARIES DEPENDING ON CULVERT SIZE, SLOPE, AND UPSTREAM CONDITIONS.
7. MULTIPLE PLUNGE POOLS MAY BE USED IN SERIES AS CONDITIONS PERMIT.
8. EXTEND ENDWALL HEIGHT TO REDUCE PIPE LENGTH TO EXTENT PRACTICAL.
9. SET ROCKSILL #1 APEX ELEVATION 12" ABOVE INVERT WHEN CULVERT SIZE ALLOWS.

IN-STREAM CULVERT OUTFALL PLUNGE POOL DETAIL
The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks
Detail No. **629**
JUNE 2018

PLUNGE POOL TABLE

STR #	E STA.	F STA.	POOL ELEV.	d	A	B	L	W	D	H
POOL 10	0+54.26	0+65.5	625.6	36"	17'	5'	11.2'	2'	1.5'	0.87'
POOL 9	0+96.0	1+06.7	625.2	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 8	1+36.0	1+46.7	624.4	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 7	1+76.0	1+86.7	623.6	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 6	2+16.0	2+26.7	622.8	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 5	2+56.0	2+66.7	622.0	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 4	2+96.0	3+06.7	621.2	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 3	3+36.0	3+46.7	620.4	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 2	3+76.0	3+86.7	619.6	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 1	4+16.0	4+26.7	618.8	N/A	15'	4.2'	10.7'	2'	1.1'	N/A
POOL 13	10+85.4	10+92.4	624.4	N/A	11.3'	6.2'	7.0'	4'	1.1'	1.1'
POOL 12	10+97.7	11+04.7	624.0	48"	12.3'	6.2'	7.0'	4'	1.1'	N/A

WALLACE MONTGOMERY
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Hunt Valley, Maryland 21030
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www.WallaceMontgomery.com
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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.
GLENN W. MARSCHKE MD NO-16142 EXP-08/17/2024

SEAL
STATE OF MARYLAND
GLENN W. MARSCHKE
No. 16142
PROFESSIONAL ENGINEER
DATE: 1-31-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : L.E.W. Drawn by : L.E.W. Checked by : C.V.M.

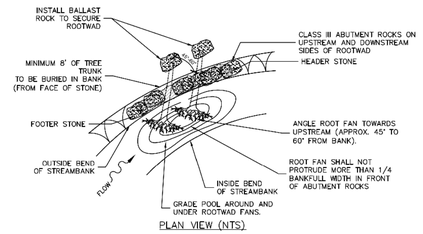
PLAN SHEET SR-04
STREAM RESTORATION DETAILS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 19 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pSR-P004_MD355.dgn

DPS FILE NO. SC0018 OF SC0047



NOTES:
1. WHEN EXCAVATING FOR ROOTWAD PLACEMENT DIG THE POOL AROUND THE FAN DEEPER TO ALLOW STABLE INSTALLATION WITH FAN INTACT.
2. USE INTACT HARDWOOD TREES. ACTUAL TREES TO BE APPROVED BY PARKS PRIOR TO INSTALLATION.
3. COMPACT EXCAVATION AREAS AND STABILIZE WITH ECM.
4. IF ROOTWAD SHAPE IS ELLIPTICAL, LONGER AXIS SHALL BE PLACED HORIZONTALLY.
5. REFER TO PLANS FOR APPROXIMATE ROOTWAD LOCATIONS. ACTUAL INSTALLATION LOCATIONS TO BE FIELD ADJUSTED WITH PARKS BASED ON FIELD CONDITIONS.
6. STABILIZE DISTURBED AREA WITH NATIVE RIPARIAN SEED MIX AND WOODY SHRUBS.

STREAM BANK ROOTWAD DETAIL

The Maryland-National Capital Park and Planning Commission
Montgomery County Department of Parks

Detail No. **618**
JUNE 2018

NOTE: SEE DWG. NO. SR-01 (SC0015) FOR ROOTWAD LOCATIONS.

Montgomery Parks Construction Notes for Stream Restoration on Parkland

1. A pre-construction meeting with the M-NCPPC (Parks) Construction Inspector, DPS SC Inspector, Urban Forester, Park Manager, Engineer, Contractor, and applicant's Stream Restoration Professional (SRP) shall occur to ensure full understanding of the project goals, design intent, and field conditions at the time of construction. (The applicant is responsible for coordination with MDE and other regulatory agencies as required by permits.) Contact Jay Childs, Park Construction Manager, at 301.485.2574 to schedule this meeting.
2. Contractor shall be familiar with and implement MDE Waterway Construction Guidelines and MDE Best Management Practices for Working in Nontidal Wetlands, Wetland Buffers, Waterways, and 100-Year Floodplain throughout construction. All in-channel construction shall occur "In the dry" with appropriate pump-around practices.
3. The applicant shall engage a SRP, an individual familiar with stream restoration revetment design features and waterway construction techniques, to oversee in-stream construction activities to ensure stable channel construction, including appropriate field adjustments and natural resources protection. The applicant shall empower this person to direct Contractor's work as needed to ensure design intent is achieved. This person shall coordinate all adjustments and acceptance of structures with DPS and Parks as construction progresses.
4. Parks and/or DPS, in coordination with the SRP and contractor, may require minor adjustments to the layout/elevation of in-stream structures, streambank stabilization, and grading during construction to minimize disturbance to trees/tree roots and to ensure functionality of completed construction. Note that the contractor shall take care to protect trunks/roots designated to remain throughout construction.
5. Contractor shall layout critical design points (centerline station, offsets, elevations, structures, etc.) along the stream channel for review prior to structure installation. SRP shall coordinate with Parks and DPS to adjust/confirm stakeout to ensure channel stability and protect natural resources. Contractor shall be responsible for maintaining stakeout during construction until final acceptance by Parks and DPS. Contractor shall maintain laser level equipment onsite to check grades as construction progresses.
6. Construction of in-stream revetments, including grade control, bank stabilization and habitat structures, shall be inspected by SRP, DPS, and Parks under baseflow (not pump-around) conditions to determine any modifications required prior to acceptance. Additional inspections following storm events may result in additional modifications. Contractor is encouraged to utilize construction equipment for compaction of completed structures to ensure stability.
7. Access routes and staging areas shall be field adjusted with Parks and DPS to minimize impacts to natural resources. Equipment restrictions (e.g., <8 psi loaded ground pressure) may be required by Parks and/or DPS in sensitive areas. Access routes will be limited to 12' width, unless otherwise approved by Parks and/or DPS.
8. Contractor shall coordinate all tree protection measures and tree removals with Parks and DPS prior to construction. Protection measures, such as hardwood mats, tree planking, root aeration matting, equipment restrictions, mulch roads, tree protection fencing, etc. must be installed before equipment enters root areas.
9. Contractor shall coordinate with DPS Sediment Control Inspector and Parks to utilize trenchless sediment controls (i.e. compost socks, trenchless silt fences, etc.) and/or daily stabilization to avoid cutting through mature tree root systems. Where trenching is required, root prune prior to excavation at the direction of Parks and DPS.
10. Tree trunk/root systems to remain shall not be damaged during placement of riprap, vegetated rock packs, riffle grade controls, rock sills, and other revetments. Exact extent/orientation of stone placement shall be adjusted in the field, and work completed in a manner that minimizes impacts to terrestrial and aquatic natural resources.
11. Contractor is responsible for control of water throughout construction, including stream flows and runoff through disturbed areas.
12. In-stream areas where pump-around is removed at the end of the workday must be completed and stabilized daily. Disturbed areas above baseflow shall receive seed/mulch at the end of each workday. Once stream flow is re-established at the end of the workday, the contractor shall allow sufficient time to inspect the new flow pattern and make appropriate adjustments to ensure non-erosive conditions before vacating the site.
13. Contractor is responsible for ensuring smooth transitions at upstream and downstream ends of work areas and between the streambed and its banks.
14. Upon completion of in-stream revetments and channel grading, thalweg to be reestablished as directed by the SRP, DPS and Parks.
15. All exposed stone (including stone toe, imbricated rock walls, rock packs, etc.) above bankfull depth shall be backfilled with topsoil/compost to within 2-inches of rock surface and vegetated with native riparian seed and mulched.
16. Voids should not be left in any completed in-stream structures. Structures should be chinked in with BSM and/or stream bed mix to fill all voids. Constructed riffles and other grade control revetments will not be accepted by Parks and DPS until surficial baseflow is established.
17. Applicant is responsible for completing fish rescues associated with all pump-arounds. Fish rescue teams should consist of properly trained personnel, based on Maryland Biological Stream Survey (MBSS) standards. A list of personnel certified in MBSS protocols can be found at http://www.dnr.maryland.gov/streams/MBSSRegistry.asp. Fish rescues require three (3) working days advanced notice to Parks and DPS.
18. Where fish pool/aquatic habitat is specified for preservation or enhancement, completed construction should favor the following conditions:
    - Root-water interaction at baseflow
    - Maintaining void space between roots and undercut banks
    - Restoring post-construction flow patterns to provide adequate scour depth to naturally wash out pools and maintain adequate habitat
19. Completed streambed profile shall not have revetment drops greater than six inches and constructed riffles shall not be steeper than 3% to ensure fish passage. Contractor will be required to modify/augment constructed revetments that exceed limits, or otherwise create fish passage restrictions at baseflow, as directed by SRP, DPS, and Parks.

Revised 06.01.18

Revised 06.01.18

WALLACE MONTGOMERY
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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.
GLENN W. MARSCHKE MD NO-16142 EXP-08/17/2024

SEAL
STATE OF MARYLAND · GLENN W. MARSCHKE · No. 16142 · PROFESSIONAL ENGINEER
DATE: 1-31-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : L.E.W. Drawn by : L.E.W. Checked by : C.V.M.

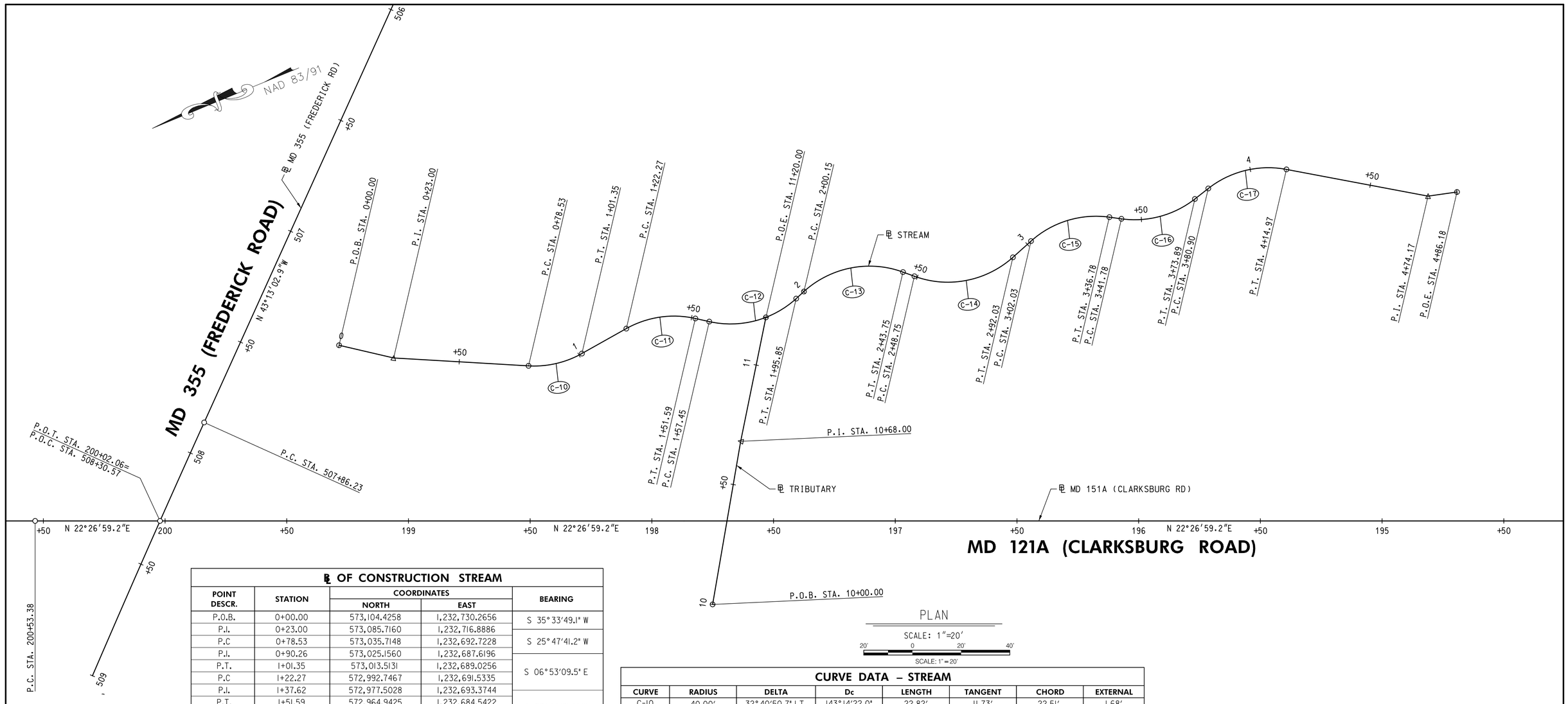
PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pSR-P005_MD355.dgn

PLAN SHEET SR-05
STREAM RESTORATION DETAILS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 20 of 97

DPS FILE NO. SC0019 OF SC0047



PLAN

SCALE: 1"=20'

SCALE: 1" = 20'

℄ OF CONSTRUCTION STREAM

POINT DESCR.	STATION	COORDINATES NORTH	COORDINATES EAST	BEARING
P.O.B.	0+00.00	573,104.4258	1,232,730.2656	S 35° 33'49.1" W
P.I.	0+23.00	573,085.7160	1,232,716.8886	
P.C	0+78.53	573,035.7148	1,232,692.7228	S 25° 47'41.2" W
P.I.	0+90.26	573,025.1560	1,232,687.6196	
P.T.	1+01.35	573,013.5131	1,232,689.0256	S 06° 53'09.5" E
P.C	1+22.27	572,992.7467	1,232,691.5335	
P.I.	1+37.62	572,977.5028	1,232,693.3744	
P.T.	1+51.59	572,964.9425	1,232,684.5422	S 35° 06'51.9" W
P.C	1+57.45	572,960.1500	1,232,681.1722	
P.I.	1+78.27	572,943.1158	1,232,669.1939	
P.T.	1+95.85	572,923.5338	1,232,676.2782	S 19° 53'19.8" E
P.C	2+00.15	572,919.4866	1,232,677.7424	
P.I.	2+24.40	572,896.6841	1,232,685.9917	
P.T.	2+43.75	572,878.8236	1,232,669.5903	S 42° 33'41.1" W
P.C	2+48.75	572,875.1408	1,232,666.2084	
P.I.	2+72.78	572,857.4404	1,232,649.9541	
P.T.	2+92.03	572,834.7780	1,232,657.9491	S 19° 25'55.6" E
P.C	3+02.03	572,825.3476	1,232,661.2760	
P.I.	3+20.58	572,807.8499	1,232,667.4489	
P.T.	3+36.78	572,791.8360	1,232,658.0769	S 30° 20'17.0" W
P.C	3+41.78	572,787.5207	1,232,655.5514	
P.I.	3+58.76	572,772.8645	1,232,646.9740	
P.T.	3+73.89	572,756.5139	1,232,651.5602	S 15° 40'06.2" E
P.C	3+80.90	572,749.7726	1,232,653.4511	
P.I.	3+99.05	572,732.2975	1,232,658.3527	
P.T.	4+14.97	572,717.1008	1,232,648.4299	S 33° 08'34.1" W
P.I.	4+74.17	572,667.5362	1,232,616.0664	S 14° 21'22.2" W
P.O.E.	4+86.18	572,655.8984	1,232,613.0878	

CURVE DATA – STREAM

CURVE	RADIUS	DELTA	Dc	LENGTH	TANGENT	CHORD	EXTERNAL
C-10	40.00'	32°40'50.7" LT.	143°14'22.0"	22.82'	11.73'	22.51'	1.68'
C-11	40.00'	42°00'01.4" RT.	143°14'22.0"	29.32'	15.35'	28.67'	2.85'
C-12	40.00'	55°00'11.7" LT.	143°14'22.0"	38.40'	20.82'	36.94'	5.10'
C-13	40.00'	62°27'00.9" RT.	143°14'22.0"	43.60'	24.25'	41.47'	6.78'
C-14	40.00'	61°59'36.7" LT.	143°14'22.0"	43.28'	24.03'	41.20'	6.66'
C-15	40.00'	49°46'12.6" RT.	143°14'22.0"	34.75'	18.55'	33.66'	4.09'
C-16	40.00'	46°00'23.2" LT.	143°14'22.0"	32.12'	16.98'	31.26'	3.46'
C-17	40.00'	48°48'40.3" RT.	143°14'22.0"	34.08'	18.15'	33.06'	3.93'

℄ OF CONSTRUCTION TRIBUTARY

POINT DESCR.	STATION	COORDINATES NORTH	COORDINATES EAST	BEARING
P.O.B.	10+00.00	573,003.2742	1,232,573.2328	S 57° 47'03.7" E
P.I.	10+68.00	572,967.0229	1,232,630.7641	
P.O.E	11+20.00	572,937.9853	1,232,673.9013	S 56° 03'13.3" W

WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com A Limited Liability Partnership

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. GLENN W. MARSCHKE MD NO=16142 EXP=08/17/2024

SEAL

STATE OF MARYLAND · GLENN W. MARSCHKE · No. 16142 · PROFESSIONAL ENGINEER

DATE: 1-31-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : L.E.W. Drawn by : L.E.W. Checked by : C.V.M.

PLAN SHEET SR-06
STREAM RESTORATION GEOM. LAYOUT
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 21 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pSR-P006_MD355.dgn

DPS FILE NO. SC0020 OF SC0047

STORMWATER MANAGEMENT AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY (FACILITIES) SHOWN ON THE PLANS AND INDIVIDUALLY IDENTIFIED BELOW HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS INCLUDED UNDER THE STATE HIGHWAY ADMINISTRATION PLAN REVIEW DIVISION APPROVAL, NUMBER ____ - PR - ____ EXCEPT AS NOTED IN GREEN ON THE "AS-BUILT" DRAWINGS. FURTHERMORE, THE GREEN-NOTED EXCEPTIONS DO NOT ADVERSELY AFFECT THE DESIGN AND/OR THE INTENDED PERFORMANCE OF THE FACILITY (FACILITIES).

PERMEABLE PAVEMENT 1-2 (SHA BMP NO. 151566)
PERMEABLE PAVEMENT 1-3 (SHA BMP NO. 151567)
PERMEABLE PAVEMENT 1-4 (SHA BMP NO. 151568)
GRASS SWALE 3-1 (SHA BMP NO. 151569)

EACH SWM FACILITY IS IDENTIFIED INDIVIDUALLY BY A UNIQUE SWM FACILITY NUMBER

Name (Printed) _____ Signature _____

Maryland Registration Number _____ Date _____

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 _____."

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

NOTE: AS-BUILT CHECKLISTS CONTAINED IN THE CONTRACT DRAWINGS SHALL BE COMPLETED BY THE AS-BUILT INSPECTOR AND SUBMITTED TO THE SHA ALONG WITH THIS CERTIFICATION.

PERMEABLE PAVEMENT 1-2

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR A-2 PERMEABLE PAVEMENTS

MAY ONLY BE CERTIFIED BY THE AS-BUILT (AB) INSPECTOR PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	MDE/PRD NUMBER	SHA CONTRACT NUMBER
151566	17APM0013XX	

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE PERMEABLE PAVEMENTS OR CONFIRMED SURROUNDING AREA IS STABILIZED, AND CONFIRMED FACILITY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	
OBSERVED EXCAVATION OF PERMEABLE PAVEMENT AREA	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
VERIFIED BOTTOM OF EXCAVATION IS LEVEL	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF GEOTEXTILE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF AGGREGATE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF PERMEABLE PAVEMENT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
PERMEABLE PAVEMENT WIDTH (FT)	8.0 FT.		
PERMEABLE PAVEMENT LENGTH (FT)	28 FT.		
MAXIMUM PERMEABLE PAVEMENT LONGITUDINAL SLOPE (FT/FT) – MAY NOT EXCEED 5%	2.8%		
MAXIMUM PERMEABLE PAVEMENT CROSS SLOPE (FT/FT)	2%		
DEPTH OF AGGREGATE (FT)	1.0 FT.		
THICKNESS OF PERMEABLE PAVEMENT (FT)	5 IN.		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE — APPROVING AUTHORITY: ☐ MDE ☐ PRD

ACCEPTED BY: _____ (NAME) DATE: _____

REVISED 10-20-2017

PERMEABLE PAVEMENT 1-3

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR A-2 PERMEABLE PAVEMENTS

MAY ONLY BE CERTIFIED BY THE AS-BUILT (AB) INSPECTOR PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	MDE/PRD NUMBER	SHA CONTRACT NUMBER
151567	17APM0013XX	

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE PERMEABLE PAVEMENTS OR CONFIRMED SURROUNDING AREA IS STABILIZED, AND CONFIRMED FACILITY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	
OBSERVED EXCAVATION OF PERMEABLE PAVEMENT AREA	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
VERIFIED BOTTOM OF EXCAVATION IS LEVEL	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF GEOTEXTILE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF AGGREGATE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF PERMEABLE PAVEMENT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
PERMEABLE PAVEMENT WIDTH (FT)	8.0 FT.		
PERMEABLE PAVEMENT LENGTH (FT)	102 FT.		
MAXIMUM PERMEABLE PAVEMENT LONGITUDINAL SLOPE (FT/FT) – MAY NOT EXCEED 5%	2.8%		
MAXIMUM PERMEABLE PAVEMENT CROSS SLOPE (FT/FT)	2%		
DEPTH OF AGGREGATE (FT)	1.0 FT.		
THICKNESS OF PERMEABLE PAVEMENT (FT)	5 IN.		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE — APPROVING AUTHORITY: ☐ MDE ☐ PRD

ACCEPTED BY: _____ (NAME) DATE: _____

REVISED 10-20-2017

PERMEABLE PAVEMENT 1-4

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR A-2 PERMEABLE PAVEMENTS

MAY ONLY BE CERTIFIED BY THE AS-BUILT (AB) INSPECTOR PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	MDE/PRD NUMBER	SHA CONTRACT NUMBER
151568	17APM0013XX	

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO EXCAVATION, VERIFIED ESC MEASURES ARE INSTALLED AROUND THE PERMEABLE PAVEMENTS OR CONFIRMED SURROUNDING AREA IS STABILIZED, AND CONFIRMED FACILITY STAKEOUT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	
OBSERVED EXCAVATION OF PERMEABLE PAVEMENT AREA	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
VERIFIED BOTTOM OF EXCAVATION IS LEVEL	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF GEOTEXTILE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF AGGREGATE	☐ PHOTOGRAPHS ☐ INSPECTION REPORT ☐ OTHER (LIST):	
OBSERVED INSTALLATION OF PERMEABLE PAVEMENT	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ OTHER (LIST):	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
PERMEABLE PAVEMENT WIDTH (FT)	9.0 FT.		
PERMEABLE PAVEMENT LENGTH (FT)	132 FT.		
MAXIMUM PERMEABLE PAVEMENT LONGITUDINAL SLOPE (FT/FT) – MAY NOT EXCEED 5%	0.7%		
MAXIMUM PERMEABLE PAVEMENT CROSS SLOPE (FT/FT)	2%		
DEPTH OF AGGREGATE (FT)	1.0 FT.		
THICKNESS OF PERMEABLE PAVEMENT (FT)	5 IN.		

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE — APPROVING AUTHORITY: ☐ MDE ☐ PRD

ACCEPTED BY: _____ (NAME) DATE: _____

REVISED 10-20-2017

GRASS SWALE 3-1

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR M-8 GRASS SWALES

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	MDE/PRD NUMBER	SHA CONTRACT NUMBER
151569	17APM0013XX	

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, OBSERVED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF CHECK DAMS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☑ CHECK DAM ☐ OUTFALL ☐ NOT APPLICABLE ☐ OTHER (WRITE IN):	
OBSERVED FINAL GRADING OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED ESTABLISHMENT OF TURFGRASS SOD OR SOIL STABILIZATION MATTING AND TURFGRASS SEED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ LANDSCAPE ACCEPTANCE LETTER	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT) – MAY NOT BE LESS THAN 2 FT OR EXCEED 8 FT	2 FT.		
TOTAL LENGTH (FT)	111 FT.		
MAXIMUM CHANNEL SLOPE (FT/FT) – MAY NOT EXCEED 4%	1.7%		
LEFT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	4:1		
RIGHT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	4:1		
NUMBER OF CHECK DAMS	0		
DISTANCE BETWEEN CHECK DAMS (FT)	SEE PROFILE		
CHECK DAM HEIGHT (FT)	SEE PROFILE		
TOP OF DITCH ELEVATION (FT)	SEE PROFILE		

ONLY COMPLETE THE PORTION BELOW WHEN TOLERANCES ARE NOT MET. ALSO PROVIDE COMPUTATIONS AND SWM REPORT REVISIONS.

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
ESDv WATER SURFACE ELEVATION (FT)	656.02*		
ESDv FLOW DEPTH (IN.)	2.6 IN		
1-YR FLOW VELOCITY (FT/S) – MUST BE NON-EROSIVE	0.8 FPS		
10-YR WATER SURFACE ELEVATION (FT)	656.23*		
10-YR FLOW DEPTH (IN.)	5.2 IN		
10-YR FLOW VELOCITY (FT/S) – MUST BE NON-EROSIVE	1.2 FPS		
10-YR FREEBOARD (IN.) – MAY NOT BE LESS THAN 9 IN. – MEASURED VERTICALLY FROM 10-YR WATER SURFACE ELEVATION TO PAVEMENT EDGE/SHOULDER	9.2 IN		

* ELEVATIONS FOR DOWNSTREAM EXTENT OF SWALE

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE — APPROVING AUTHORITY: ☐ MDE ☐ PRD

ACCEPTED BY: _____ (NAME) DATE: _____

REVISED 04-10-2018

DPS | Montgomery County Department of Permitting Services
255 Rockville Pike, 2nd Floor
Rockville, MD 20850-4166
Phone: 311 in Montgomery County or (240)777-0311
Fax: (240)777-6262
http://www.montgomerycountymd.gov/permittingservices

CONSTRUCTION INSPECTION CHECK-OFF LIST FOR PERMEABLE PAVEMENTS

STAGE	MCDPS INSPECTOR	OWNER/ DEVELOPER
MANDATORY NOTIFICATION: Inspection and approval of each practice is required at these points prior to proceeding with construction. The permittee is required to give the MCDPS Inspector twenty-four (24) hours notice (DPS telephone 240-777-0311). The DPS inspector may waive an inspection, and allow the owner/developer to make the required inspection per a prior scheduled arrangement which has been confirmed with the DPS inspector in writing. Work completed without MCDPS approval may result in the permittee having to remove and reconstruct the unapproved work. **Upon completion of the project, a formal Stormwater Management As-Built must be submitted to MCDPS unless a Record Drawing Certification has been allowed instead.** Each of the steps listed below must be verified by either the MCDPS Inspector OR the Owner/Developer.	INITIALS/DATE	INITIALS/DATE
1. Excavation to subgrade conforms to approved plans		
2. Placement and backfill of any drainage or distribution systems conforms to approved plans		
3. Placement of crushed stone subbase conforms to approved plans		
4. Placement of surface material conforms to approved plans		
5. Final grading and permanent stabilization conforms to approved plans		

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CONSTRUCTION INSPECTION CHECK-OFF LIST FOR PERMEABLE PAVEMENTS

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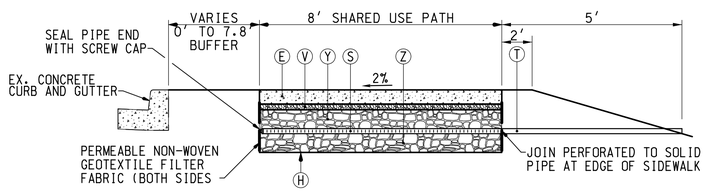
CONSTRUCTION INSPECTION CHECK-OFF LIST FOR PERMEABLE PAVEMENTS

STAGE	MCDPS INSPECTOR	OWNER/ DEVELOPER
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2. Placement and backfill of any drainage or distribution systems conforms to approved plans		
3. Placement of crushed stone subbase conforms to approved plans		
4. Placement of surface material conforms to approved plans		
5. Final grading and permanent stabilization conforms to approved plans		

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CONSTRUCTION INSPECTION CHECK-OFF LIST FOR PERMEABLE PAVEMENTS

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3. Placement of crushed stone subbase conforms to approved plans		
4. Placement of surface material conforms to approved plans		
5. Final grading and permanent stabilization conforms to approved plans		

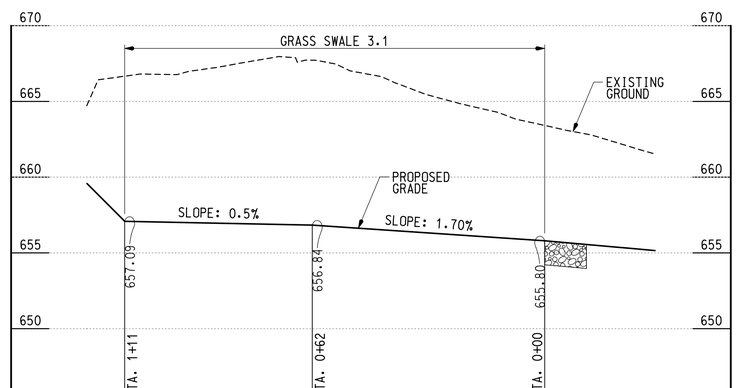


OVERDRAIN TYPICAL PROFILE FOR STRINGTON ROAD AND MD 355

STA. 701+15 LT.
STA. 701+95 LT.
STA. 702+75 LT.
STA. 495+42 RT.
STA. 496+00 RT.
STA. 496+50 RT.
STA. 497+25 RT.
STA. 498+00 RT.

NOT TO SCALE

Ⓔ 5" PERVIOUS CONCRETE SIDEWALK
Ⓥ 1.5" AASHTO NO. 8 CHOKER STONE COURSE
Ⓨ 6" WASHED AASHTO NO. 2 AGGREGATE RESERVOIR
Ⓢ 4" PERFORATED PVC OVERDRAIN (8 L.F. @ 0%)
Ⓣ 4" SOLID PVC OVERDRAIN (5 L.F. @ 0%)
Ⓩ 6" WASHED ASSHTO NO. 2 AGGREGATE RESERVOIR
Ⓗ LIMITS OF EXCAVATION (NO GEOTEXTILE)



GRASS SWALE 3.1 (SHA BMP NO. 151569) – PROFILE

SCALE: HOR. 1"=20'
VERT. 1"=5'

SEE SHEET DE-01 (SC0005) FOR PERMEABLE PAVEMENT TYPICAL DETAIL

WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com A Limited Liability Partnership

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.
GLENN W. MARSCHKE MD NO-16142 EXP-08/17/2024

SEAL — STATE OF MARYLAND — GLENN W. MARSCHKE — No. 16142 — PROFESSIONAL ENGINEER

DATE: 1-31-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : L.E.W. Drawn by : L.E.W. Checked by : C.V.M.

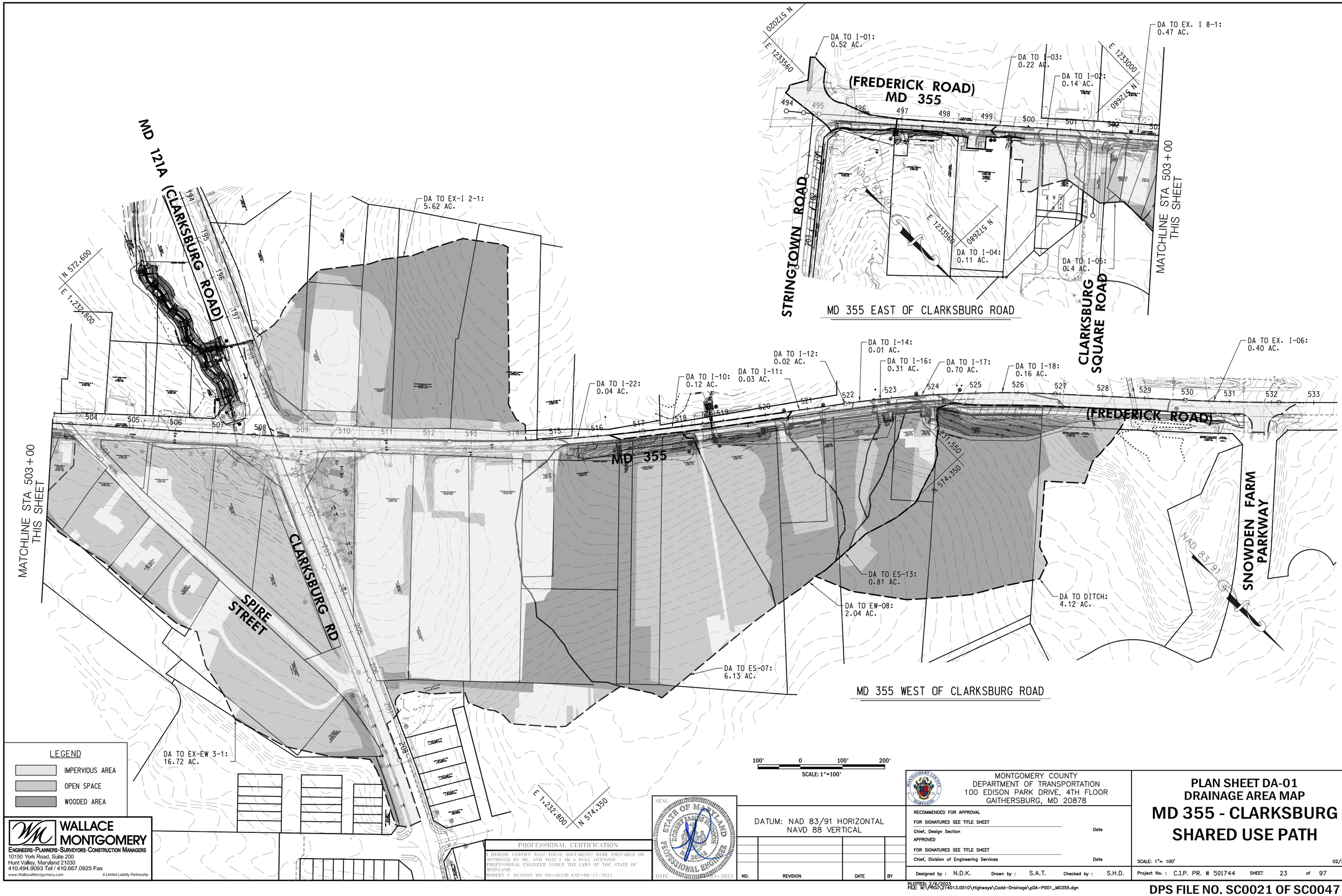
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PLAN SHEET SW-01
STORMWATER MANAGEMENT AS-BUILT TABLES
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 22 of 97

DPS FILE NO. SC0047 OF SC0047



WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

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.
ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL
STATE OF MARYLAND
ROBERT JAMES HUDSON
PROFESSIONAL ENGINEER
DATE: 8-17-2023

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pDA-P001_MD355.dgn

PLAN SHEET DA-01
DRAINAGE AREA MAP
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: 1"= 100' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 23 of 97

DPS FILE NO. SC0021 OF SC0047

STRUCTURE SCHEDULE

PLAN SHEET	NUMBER	STATION	OFFSET	TYPE	ELEVATION TOP	ELEVATION INV.	STANDARD	VERTICAL DEPTH
SR-01	C-01	507+34.48	37.44′ LT.	36″ CONCRETE COLLAR	N/A	634.41	SEE DWG. NO. DD-02	N/A
PS-01	I-01	496+88.53	13.00′ RT.	10′ COG OPENING	657.27	N/A	MD 374.68	N/A
PS-02	I-02	500+25.07	13.00′ RT.	STANDARD 10′ COG INLET	662.79	652.97	MD 374.51	3.65
PS-02	I-03	499+15.20	13.00′ RT.	STANDARD 15′ COG INLET	660.41	651.77	MD 374.51	2.47
PS-02	I-04	501+20.27	13.00′ RT.	STANDARD 10′ COG INLET	663.40	657.40	MD 374.51	0.00
PS-03	I-05	502+37.34	13.00′ RT.	MODIFIED 15′ COG INLET *	661.55	655.55	SEE DWG. NO. DD-02	0.00
PS-04	I-22	516+47.01	13.00′ RT.	MODIFIED 10′ COG OPENING *	658.10	N/A	SEE DWG. NO. DD-02	N/A
PS-04	I-10	518+69.97	13.00′ RT.	MODIFIED 15′ COS INLET *	653.22	647.09	SEE DWG. NO. DD-02	0.00
PS-05	I-11	520+57.00	13.00′ RT.	MODIFIED 10′ COG OPENING *	655.56	N/A	SEE DWG. NO. DD-02	N/A
PS-05	I-12	521+33.00	13.00′ RT.	MODIFIED 10′ COG OPENING *	657.22	N/A	SEE DWG. NO. DD-02	N/A
PS-05	I-14	522+55.72	13.00′ RT.	STANDARD 5′ COG INLET	658.25	652.08	MD 374.51	0.00
PS-06	I-16	523+70.69	13.00′ RT.	MODIFIED 15′ COG INLET *	653.80	647.63	SEE DWG. NO. DD-02	0.00
PS-06	I-17	524+44.68	20.27′ RT.	STANDARD 20′ COG INLET	649.51	643.33	MD 374.51	0.00
PS-06	I-18	527+07.54	28.50′ RT.	STANDARD 20′ COG INLET	633.64	628.26±	MD 374.51	0.00
PS-04	ES-01	518+69.97	26.50′ LT.	30″ STANDARD CONCRETE END SECTION ROUND	N/A	646.16	MD 368.01	N/A
PS-04	ES-07	518+25.62	40.56′ RT.	24″ STANDARD CONCRETE END SECTION ROUND	N/A	650.83	MD 368.01	N/A
PS-05	ES-13	520+43.81	34.79′ RT.	18″ STANDARD CONCRETE END SECTION ROUND	N/A	653.64	MD 368.01	N/A
PS-05	ES-14	520+00.31	34.77′ RT.	18″ STANDARD CONCRETE END SECTION ROUND	N/A	652.86	MD 368.01	N/A
SR-01	EW-03	198+76.16	65.24′ LT.	STANDARD TYPE C ENDWALL FOR 36 INCH PIPE	N/A	626.23	MD 354.01	N/A
SR-01	EW-04	197+60.05	49.75′ LT.	STANDARD TYPE C ENDWALL FOR 48 INCH PIPE	N/A	624.40	MD 354.01	N/A
PS-04	EW-08	518+68.96	36.74′ RT.	STANDARD TYPE H ENDWALL FOR 24 INCH PIPE	N/A	650.36	MD 362.01	N/A
		518+68.96	43.24′ RT.					
		518+75.47	36.72′ RT.					
PS-01	EX. MH-01	497+01.97	23.75′ RT.	EXISTING 48″ PRECAST MANHOLE	657.48	647.72±	N/A	N/A
PS-02	MH-02	499+14.47	23.22′ RT.	48″ SQUARE STANDARD SHALLOW MANHOLE	660.49	651.60	MD 383.00	5.06
SR-01	MH-03	199+06.08	66.97′ LT.	72″ DIAMETER PRECAST MANHOLE	639.43	626.51	MD 384.05	3.92
SR-01	MH-04	197+63.15	34.67′ LT.	72″ DIAMETER PRECAST MANHOLE	638.17	624.53	MD 384.05	4.64

* NOTE: THE CONTRACTOR MUST SUBMIT THE ASSOCIATED SHOP DRAWINGS (FOR REVIEW AND APPROVAL) TO MDOT SHA OHD HIGHWAY HYDRAULICS DIVISION (HHDsha@mdot.maryland.gov).

PIPE SCHEDULE

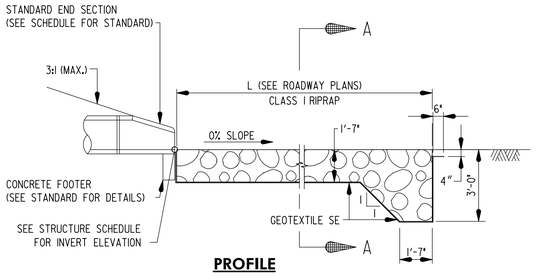
PLAN SHEET	STRUCTURE FROM	STRUCTURE TO	SIZE	UPSTREAM INV.	DOWNSTREAM INV.	TYPE	LENGTH	COMMENT
PS-01 & 02	MH-02	EX. MH-01	18″	651.60	648.76	RCP CLASS IV	209′	RAISE EX. MH-01 TO PROPOSED GRADE
PS-02	I-02	I-03	15″	652.97	652.02	RCP CLASS IV	106′	
PS-02	I-03	MH-02	18″	651.77	651.70	RCP CLASS IV	4′	
PS-02 & 03	I-04	I-05	18″	657.40	655.65	RCP CLASS IV	113′	
PS-03	I-05	EX. I 8-1	18″	655.55	651.99	RCP CLASS IV	94′	TIE-IN TO INLET CONSTRUCTED UNDER PROJECT NO. 508000
PS-04	ES-07	EW-08	24″	650.83	650.61	RCP CLASS IV	44′	
PS-04	EW-08	I-10	24″	650.36	647.50	RCP CLASS IV	14′	
PS-04	I-10	ES-01	30″	647.09	646.16	RCP CLASS IV	47′	
PS-05	ES-13	ES-14	18″	653.64	652.86	RCP CLASS IV	44′	
PS-05 & 06	I-14	I-16	18″	652.08	647.73	RCP CLASS IV	111′	
PS-06	I-16	I-17	18″	647.63	643.43	RCP CLASS IV	70′	
PS-06	I-17	I-18	18″	643.33	628.43	RCP CLASS IV	257′	
SR-01	EX. EW-03-1	MH-03	36″	634.41	634.35	RCP CLASS IV	20′	
SR-01	MH-03	EW-03	36″	626.51	626.23	RCP CLASS IV	27′	
SR-01	MH-04	EW-04	48″	624.53	624.40	RCP CLASS IV	11′	

END SECTIONS AND END WALL OUTFALL PROTECTION SCHEDULE*

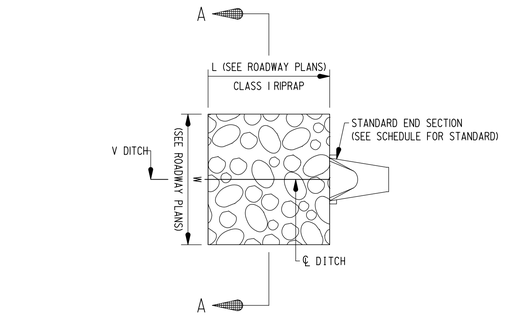
STRUCTURE ID	L (FT)	W (FT)	T (IN)	H (FT)	CLASS	TYPE	QTY (SY)	CUTOFF WALL (LF)	Q_m (CFS)	V_m (FPS)
ES-01	13.0	15.5	19	1.75	CLASS I	ROP III	23	15.5	18.1	9.2
ES-07	10.0	11.5	19	1.58	CLASS I	ROP II	13	11.5	11.6	5.1
EW-08	10.0	12.0	19	1.65	CLASS I	ROP II	14	12.0	11.6	5.1
ES-14	10.0	11.5	19	1.50	CLASS I	ROP II	13	11.5	1.7	4.9

Q_m AND VELOCITIES WILL BE NON-EROSIVE AND LESS THAN 5 FPS AT THE END OF THE RIPRAP.

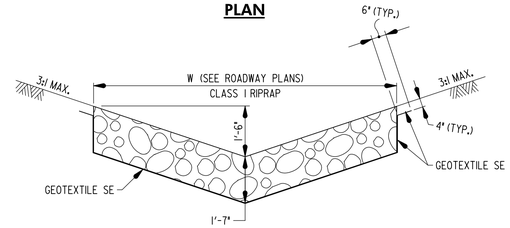
* CONSTRUCT ROCK OUTLET PROTECTION IN ACCORDANCE WITH MDE D-4 STANDARDS AND SPECIFICATIONS FOR OUTLET PROTECTION - D-4-1 ROCK OUTLET PROTECTION.



PROFILE

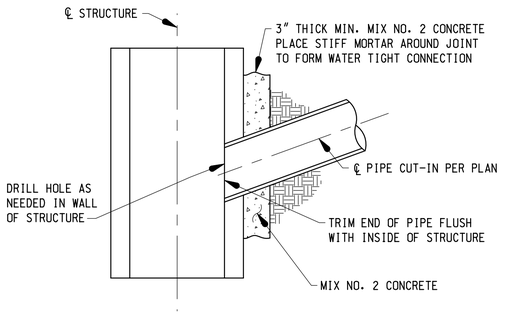


PLAN



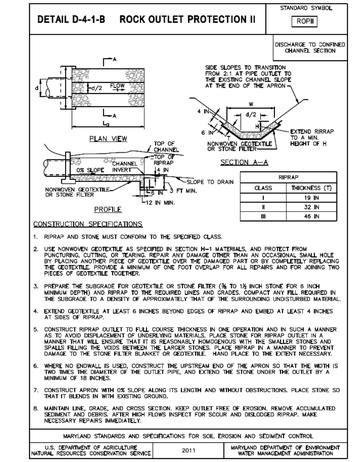
SECTION A-A

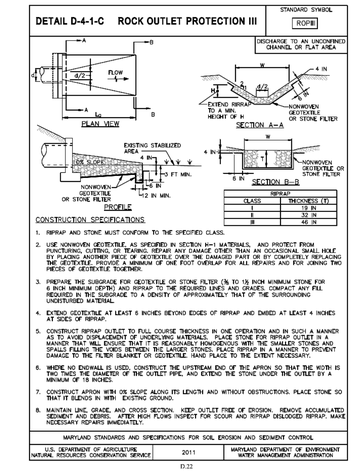
RIPRAP CHANNEL PROTECTION WITH END SECTION

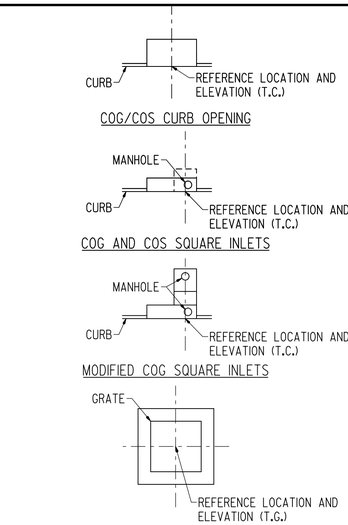


FIELD CONNECTION DETAIL

NOT TO SCALE







DRAINAGE STRUCTURE LOCATION REFERENCES

NOT TO SCALE

WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
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ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER
DATE 8-17-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILES: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pDD-S001_MD355.dgn

PLAN SHEET DD-01
DRAINAGE SCHEDULE & DETAILS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 24 of 97

DPS FILE NO. SC0022 OF SC0047

CONVEYANCE DITCH STAKEOUT				
PLAN SHEET	STATION	OFFSET	WIDTH	ELEVATION
PS-04	515+45.58	42.73' RT.	2'	661.00
PS-04	515+50.00	43.00' RT.	2'	660.33
PS-04	515+75.00	43.81' RT.	2'	658.02
PS-04	516+00.00	44.11' RT.	2'	656.86
PS-04	516+25.00	44.70' RT.	2'	655.84
PS-04	516+50.00	45.22' RT.	2'	654.54
PS-04	516+75.00	45.94' RT.	2'	653.66
PS-04	517+00.00	45.82' RT.	2'	652.37
PS-04	517+25.00	45.58' RT.	2'	651.77
PS-04	517+50.00	44.96' RT.	2'	651.28
PS-04	517+75.00	44.23' RT.	2'	650.97
PS-04	518+00.00	43.48' RT.	2'	650.90
PS-04	518+19.57	41.51' RT.	2'	650.87

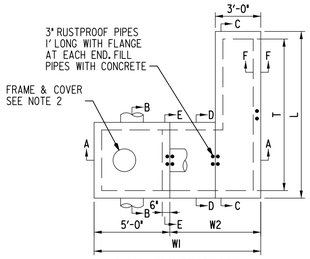
CONVEYANCE DITCH STAKEOUT				
PLAN SHEET	STATION	OFFSET	WIDTH	ELEVATION
PS-04	518+75.00	38.49' RT.	2'	650.36
PS-04 & 05	519+00.00	37.98' RT.	2'	651.00
PS-05	519+25.00	35.38' RT.	2'	651.72
PS-05	519+50.00	36.34' RT.	2'	652.22
PS-05	519+75.00	35.97' RT.	2'	652.60
PS-05	519+94.15	34.77' RT.	2'	652.92

CONVEYANCE DITCH STAKEOUT				
PLAN SHEET	STATION	OFFSET	WIDTH	ELEVATION
PS-05	520+50.00	34.75' RT.	2'	653.89
PS-05	520+75.00	34.40' RT.	2'	654.36
PS-05	521+00.00	33.27' RT.	2'	654.95
PS-05	521+25.00	34.75' RT.	2'	655.50
PS-05	521+38.50	34.75' RT.	2'	655.80

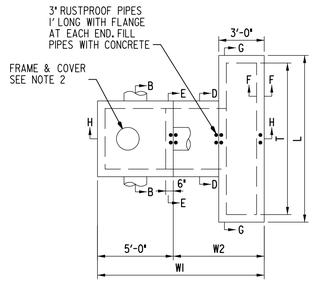
GRASS SWALE 3-1 SHA BMP# XXXXX STAKEOUT				
PLAN SHEET	STATION	OFFSET	WIDTH	ELEVATION
PS-05	521+38.50	34.75' RT.	2'	655.80
PS-05	521+50.00	34.75' RT.	2'	656.05
PS-05	521+75.00	34.75' RT.	2'	656.48
PS-05	522+00.00	34.75' RT.	2'	656.84
PS-05	522+25.00	34.75' RT.	2'	656.89
PS-05	522+50.00	34.75' RT.	2'	656.94

CONVEYANCE DITCH STAKEOUT				
PLAN SHEET	STATION	OFFSET	WIDTH	ELEVATION
PS-06	524+46.51	42.46' RT.	2'	647.85
PS-06	524+50.00	43.19' RT.	2'	647.79
PS-06	524+75.00	51.70' RT.	2'	646.14
PS-06	525+00.00	55.42' RT.	2'	644.25
PS-06	525+25.00	55.42' RT.	2'	642.80
PS-06	525+50.00	55.42' RT.	2'	641.34
PS-06	525+75.00	55.42' RT.	2'	639.75
PS-06	526+00.00	55.42' RT.	2'	638.23
PS-06	526+25.00	55.42' RT.	2'	636.66
PS-06	526+50.00	55.42' RT.	2'	635.16
PS-06	526+75.00	55.42' RT.	2'	633.66
PS-06	527+00.00	55.42' RT.	2'	632.37
PS-06	527+25.00	55.42' RT.	2'	631.33
PS-06	527+50.00	55.42' RT.	2'	630.50
PS-06	527+75.00	55.42' RT.	2'	629.73
PS-06 & 07	528+00.00	54.37' RT.	2'	629.04
PS-07	528+25.00	49.57' RT.	2'	628.52
PS-07	528+38.61	47.69' RT.	2'	628.34

DITCH STABILIZATION CHART						
PLAN SHEET	FROM	TO	AVERAGE VELOCITY	DEPTH OF FLOW	MATTING DEPTH	MATTING TYPE
PS-04	515+50, RT.	518+25, RT.	4.78 FPS	0.56'	1.00'	TYPE 'A' MATTING
PS-04 & 05	518+50, RT.	520+00, RT.	2.03 FPS	0.46'	1.00'	TYPE 'A' MATTING
PS-05	520+50, RT.	522+50, RT.	2.01 FPS	0.26'	1.00'	TYPE 'A' MATTING
PS-05 & 06	524+50, RT.	528+50, RT.	4.68 FPS	0.42'	1.00'	TYPE 'A' MATTING



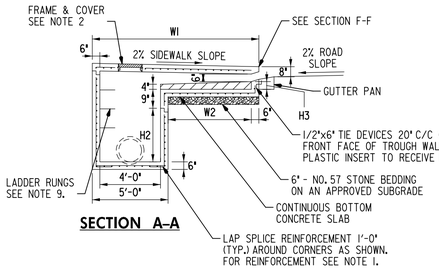
COG INLET PLAN



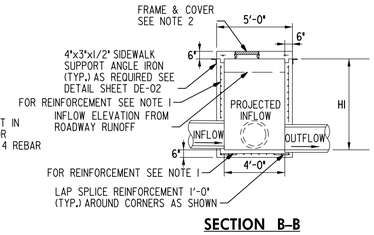
COS INLET PLAN

MODIFIED COG INLET DIMENSION TABLE							
INLET	T(FT)	L(FT)	HI(FT)	H2(FT)	H3(IN)	WI(FT)	W2(FT)
I-05	15.0	16.0	5.72	3.80	5.44	11.0	6.0
I-16	15.0	16.0	5.72	3.80	5.44	11.0	6.0

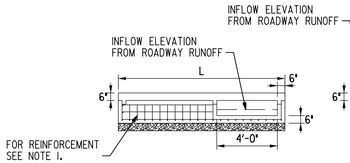
MODIFIED COS INLET DIMENSION TABLE							
INLET	T(FT)	L(FT)	HI(FT)	H2(FT)	H3(IN)	WI(FT)	W2(FT)
I-10	15.0	16.0	5.72	3.80	5.44	11.0	6.0



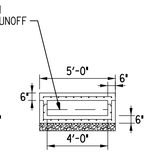
SECTION A-A



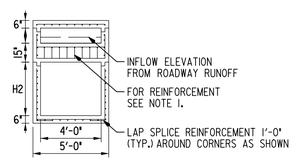
SECTION B-B



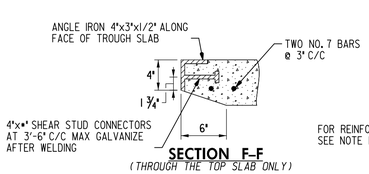
SECTION C-C



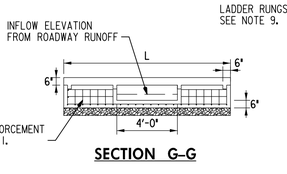
SECTION D-D



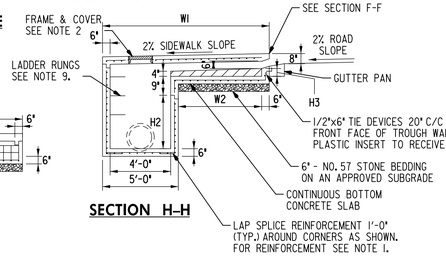
SECTION E-E



SECTION F-F
(THROUGH THE TOP SLAB ONLY)



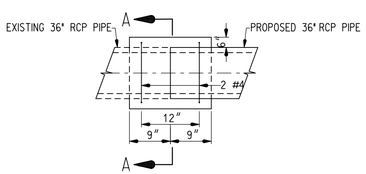
SECTION G-G



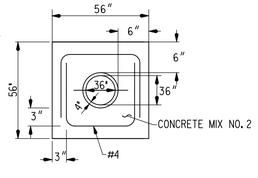
SECTION H-H

MODIFIED COG AND COS INLET DETAIL

SCALE: N.T.S.



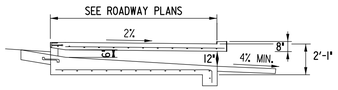
SIDE VIEW



SECTION A-A

CONCRETE COLLAR DETAIL

SCALE: N.T.S.



MODIFIED 10' COG OPENING

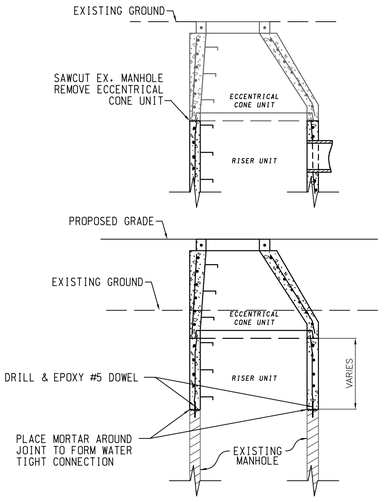
SCALE: N.T.S.

MODIFIED 10' COG OPENING NOTES:

1. SEE MD 374.68 DETAIL FOR DETAILS AND NOTES.

NOTES

1. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE EPOXY COATED NO. 4 BARS PLACED IN THE CENTER OF TOOLS, AND INCIDENTALS REQUIRED TO SATISFACTORILY CONSTRUCT THE INLET AND COMPLETE THE WORK. INLET WALLS AT 6" C/C TWO WAYS. REINFORCEMENT STEEL SHALL MEET THE REQUIREMENTS OF ASTM A615, GRADE 60.
2. FOR MANHOLE FRAME AND COVER SEE MD 383.61.
3. CONCRETE SHALL BE MIX NO. 3.
4. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
5. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN/FT TOWARD THE OUTLET SHALL BE PROVIDED IN THE FIELD.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. SLOPED TROUGH FLOOR TO BE CAST IN THE FIELD AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS. WHEN SLOPED TROUGH FLOOR IS USED, ROUGHEN PRECAST TROUGH FLOOR.
8. PRECAST INLET JOINTS - THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURER'S RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & MD 374.64.
11. SEE STANDARD MD 374.65 FOR DEPRESSED GUTTER PAN.
12. CUSTOM COG/COS INLET SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER EACH CUSTOM COG/COS INLET. PAYMENT WILL BE FULL COMPENSATION FOR ALL CONCRETE, REINFORCEMENT, LADDER RUNGS, EXCAVATION, LABOR, EQUIPMENT.

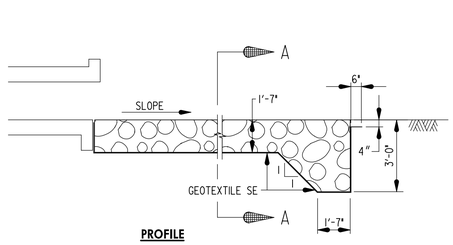


MANHOLE EXTENSION

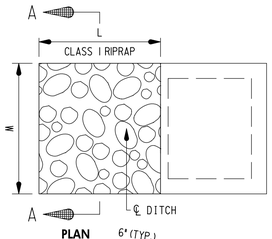
NOT TO SCALE

MANHOLE EXTENSION NOTES:

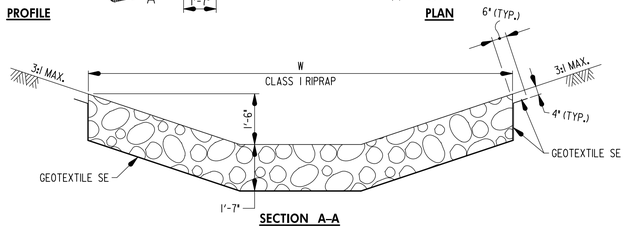
1. SEE STANDARD MD 384.01 FOR DETAILS AND NOTES.



PROFILE



PLAN



SECTION A-A

RIPRAP CHANNEL PROTECTION WITH END SECTION

FLOW THROUGH COG INLET OUTFALL PROTECTION SCHEDULE*											
STRUCTURE ID	Lo (FT)	W (FT)	T (IN)	H (FT)	CLASS	TYPE	SLOPE	QTY (SY)	CUTOFF WALL (LF)	Q10 (CFS)	V10 (FPS)
I-01	18.2	11.0	19	1.50	CLASS I	ROP III	33%	23	11.0	2.75	3.14
I-11	13.0	11.0	19	1.50	CLASS I	ROP II	33%	16	11.0	0.2	1.04
I-12	12.0	11.0	19	1.50	CLASS I	ROP II	33%	18	11.0	0.1	0.91
I-22	23.0	11.0	19	1.50	CLASS I	ROP II	33%	29	11.0	0.2	1.19

* CONSTRUCT ROCK OUTLET PROTECTION IN ACCORDANCE WITH MDE D-4 STANDARDS AND SPECIFICATIONS FOR OUTLET PROTECTION - D-4-1 ROCK OUTLET PROTECTION.

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Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
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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.
ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JAMES HUDSON — 26238 — PROFESSIONAL ENGINEER

DATE 8-1-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

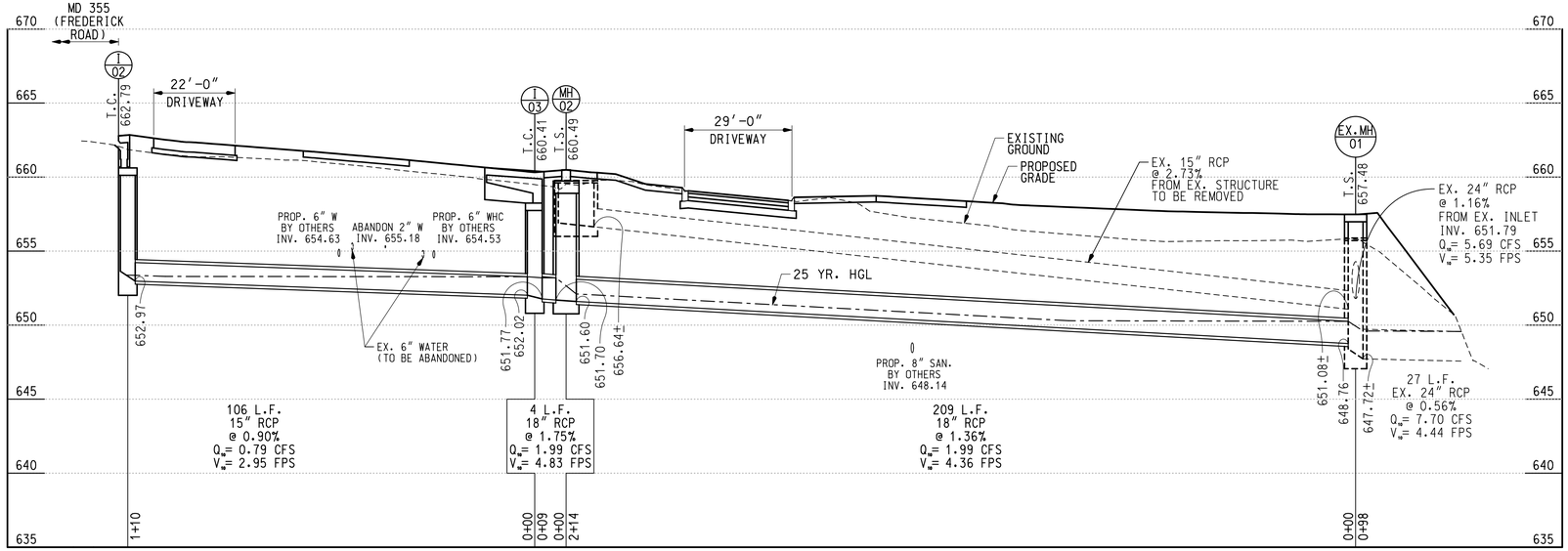
PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pDD-S002_MD355.dgn

PLAN SHEET DD-02
DRAINAGE DETAILS
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: N.T.S. 02/2023

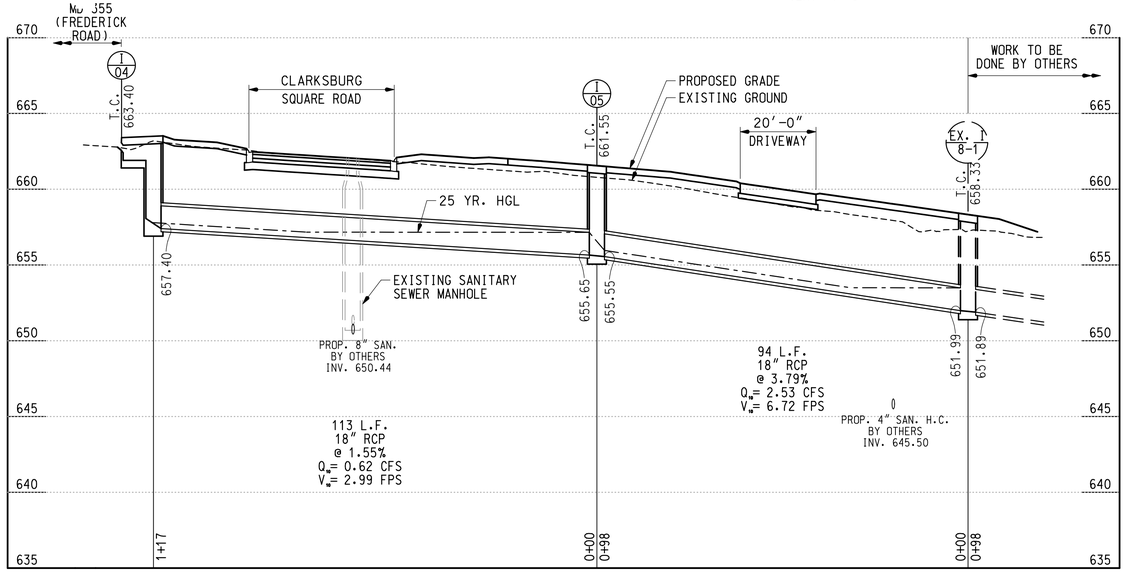
Project No. : C.I.P. PR. # 501744 SHEET 25 of 97

DPS FILE NO. SC0023 OF SC0047



I-02 TO EX. MH-01

SCALE: HOR. 1"=20'
VERT. 1"=5'



I-04 TO EX. I8-1 (BY OTHERS)

SCALE: HOR. 1"=20'
VERT. 1"=5'

20' 0 20' 40'
HORIZONTAL SCALE: 1" = 20'

5' 0 5' 10'
VERTICAL SCALE: 1" = 5'

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NOTE:
INFORMATION FOR SEWER LINES (CONTRACT #DA657OC18) AND WATER LINES (CONTRACT #RE8447A18) CROSSING DRAIN PIPES WAS TAKEN FROM WSSC PROPOSED DESIGN PLANS. EXISTING LINES WILL BE REPLACED CONCURRENTLY WITH THIS PROJECT.

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, ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL
STATE OF MARYLAND
ROBERT JAMES HUDSON
No. 26238
PROFESSIONAL ENGINEER

DATE 8-3-2023

NO.	REVISION	DATE	BY

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

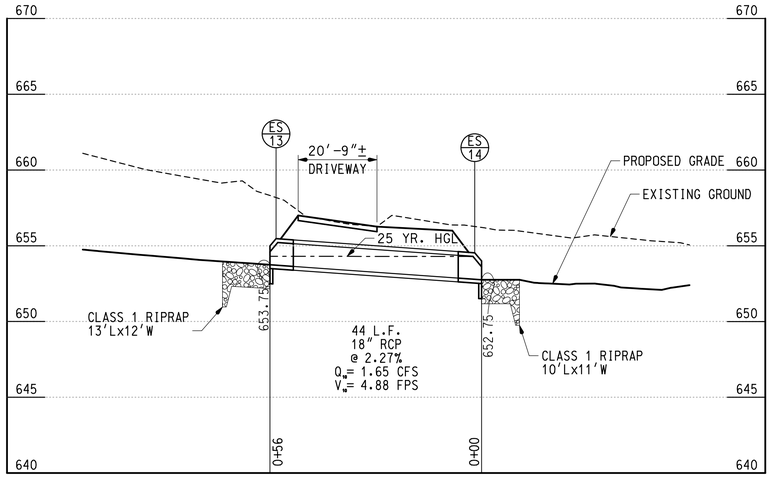
PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pDP-V001_MD355.dgn

PLAN SHEET DP-01
DRAINAGE PROFILES
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: AS SHOWN — 02/2023

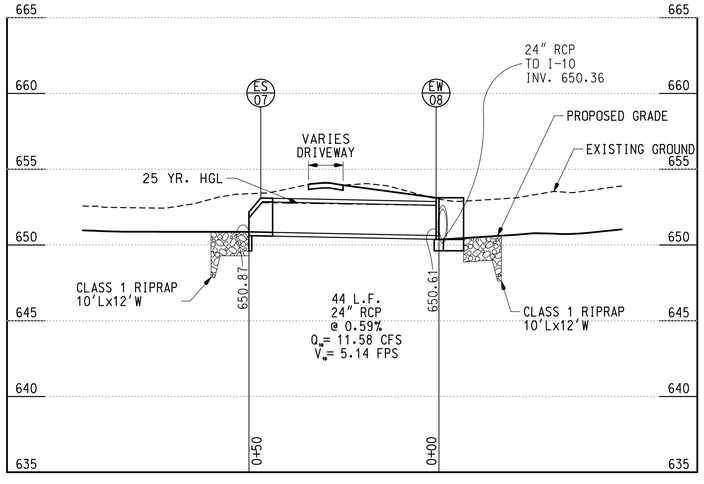
Project No. : C.I.P. PR. # 501744 SHEET 26 of 97

DPS FILE NO. SC0024 OF SC0047



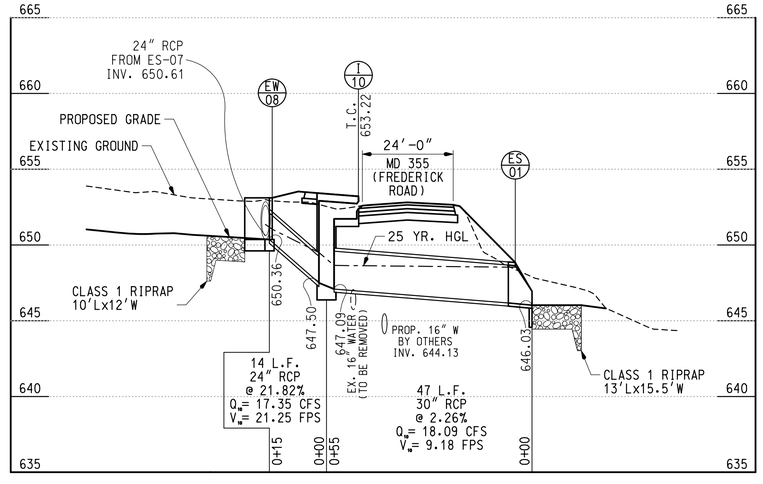
ES-13 TO ES-14

SCALE: HOR. 1"=20'
VERT. 1"=5'



ES-07 TO EW-08

SCALE: HOR. 1"=20'
VERT. 1"=5'



EW-08 TO ES-01

SCALE: HOR. 1"=20'
VERT. 1"=5'

20' 0 20' 40'
HORIZONTAL SCALE: 1"=20'

5' 0 5' 10'
VERTICAL SCALE: 1"=5'

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NOTE:
INFORMATION FOR SEWER LINES (CONTRACT #DA6570C18) AND WATER LINES (CONTRACT #RE8447A18) CROSSING DRAIN PIPES WAS TAKEN FROM WSSC PROPOSED DESIGN PLANS. EXISTING LINES WILL BE REPLACED CONCURRENTLY WITH THIS PROJECT.

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ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL
STATE OF MARYLAND
ROBERT JAMES HUDSON
26238
PROFESSIONAL ENGINEER

DATE: 2-8-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

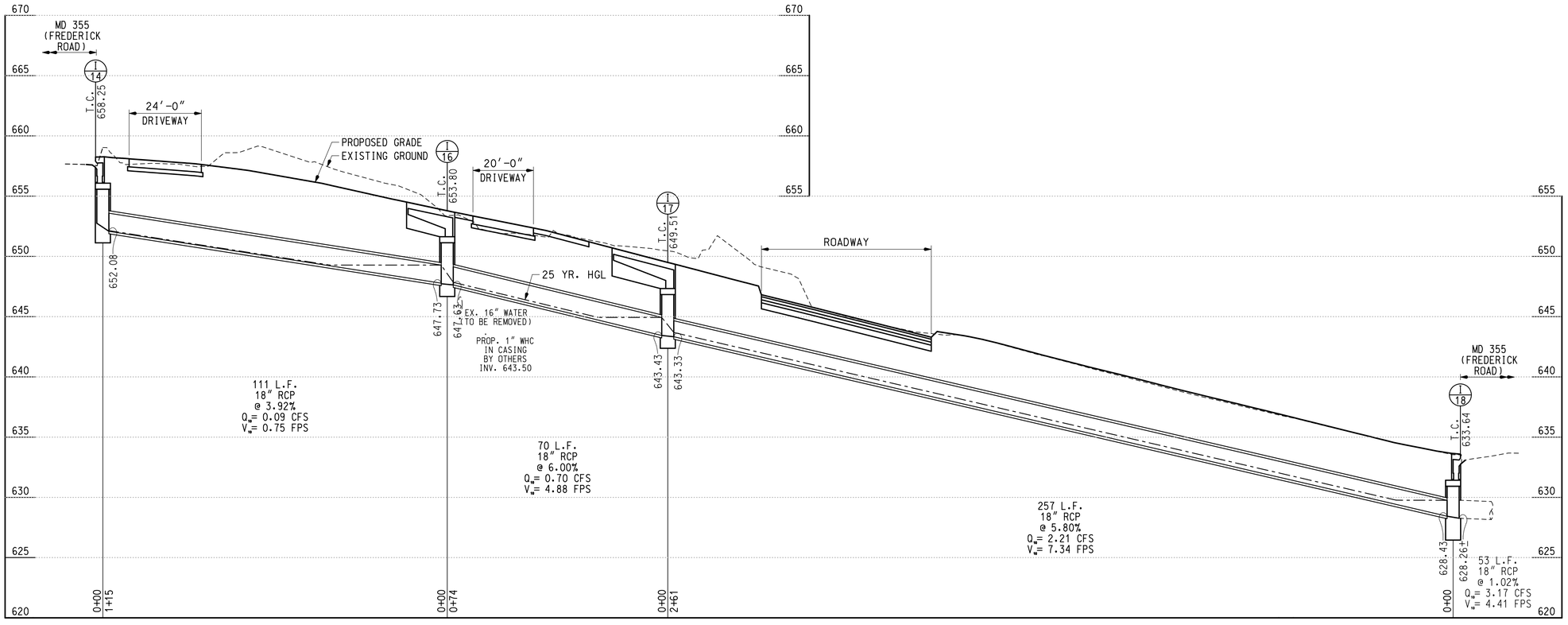
PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pDP-V002_MD355.dgn

PLAN SHEET DP-02
DRAINAGE PROFILES
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: AS SHOWN 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 27 of 97

DPS FILE NO. SC0025 OF SC0047



I-14 TO I-19

SCALE: HOR. 1"=20'
VERT. 1"=5'

20' 0 20' 40'
HORIZONTAL SCALE: 1"=20'

5' 0 5' 10'
VERTICAL SCALE: 1"=5'

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PROFESSIONAL CERTIFICATION

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ROBERT J. HUDSON MD NO-26230 EXP-08/17/2023

SEAL
STATE OF MARYLAND
ROBERT JAMES HUDSON
26230
PROFESSIONAL ENGINEER
DATE: 8/7/2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-Drainage\pDP-V003_MD355.dgn

PLAN SHEET DP-03
DRAINAGE PROFILES
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: AS SHOWN 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 28 of 97

DPS FILE NO. SC0026 OF SC0047

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY-EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE, THEIR ENGINEER AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.

2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
   A. AT THE REQUIRED PRE-CONSTRUCTION MEETING.
   B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES.
   C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
   D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   E. PRIOR TO FINAL ACCEPTANCE.

3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE DEPARTMENT.

4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC ROADS. ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.

5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION, ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.

6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

   A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

   B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

   ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

7. THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.

9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SC/SM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWN SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.

12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON-MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.

15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL.

16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.

17. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.

18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.

19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.

20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

21. SEDIMENT TRAP(S)/BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE-HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST-III) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

22. SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.

23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

24. NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK.

25. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:

A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON-SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR

B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON-EROSIVE OUTLET; OR

C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON-WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.

28. TOPSOIL MUST BE APPLIED TO ALL PERVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE "STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS".

29. THE ENGINEER MUST RETAIN ALL MATERIAL TICKETS AND GEOTECH REPORTS TO BE PROVIDED ALONG WITH AS-BUILT PLANS TO DPS FOR REVIEW AND APPROVAL.

SEQUENCE OF CONSTRUCTION

1. PRIOR TO CLEARING TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240) 777-0311 (48 HOURS NOTICE), THE MNCPPC, PLANNING DEPARTMENT, PLANS ENFORCEMENT INSPECTOR (301) 495-4550 (48 HOURS NOTICE), THE OWNERS REPRESENTATIVE, AND THE SITE ENGINEER. IN ORDER FOR THE MEETING TO OCCUR, THE APPLICANT MUST PROVIDE ONE PAPER SET OF APPROVED SEDIMENT CONTROL PLANS TO MCDPS SEDIMENT CONTROL INSPECTOR AT THE PRECONSTRUCTION MEETING. IF NO PLANS ARE PROVIDED, THE MEETING SHALL NOT OCCUR AND WILL NEED TO BE RESCHEDULED PRIOR TO COMMENCING ANY WORK.
2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.
3. THE PERMITTEE MUST OBTAIN WRITTEN APPROVAL FROM THE MNCPPC INSPECTOR, CERTIFYING THAT THE LIMITS OF DISTURBANCE AND TREE PROTECTION MEASURES ARE CORRECTLY MARKED AND INSTALLED PRIOR TO COMMENCING ANY CLEARING.
4. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AS PER MDSHA STANDARDS.
5. ALL DISTURBED AREAS SHOWN AS SAME DAY STABILIZATION SHALL BE STABILIZED AT THE END OF EACH WORK DAY.

PHASE 1

1. ESTABLISH THE LOD. ONE WEEK.
2. INSTALL SILT FENCE AND SUPER SILT FENCE AS SHOWN ON PLANS. INSTALL INLET PROTECTION COIP 2.1. ONE WEEK.
3. INSTALL EACH STORMDRAIN SYSTEM UNDER A 3-DAY NOAA DRY WEATHER FORECAST (I-02 TO I-05, I-10, I-14, I-16 TO I-18, MH-02, ES-01, ES-07, ES-13, ES-14, AND EW-08) FROM DOWNSTREAM TO UPSTREAM AS SHOWN ON PLANS. BLOCK PIPE BETWEEN ES-13 AND ES-14. USE SAME DAY STABILIZATION (SDS) TO TREAT THE AREAS. AREAS OF SDS MUST BE STABILIZED AT THE END OF EACH WORK DAY. PLACE INLET PROTECTION (CIP 2.1 TO CIP 2.3, CIP 3.1, CIP 3.2, CIP 4.1, CIP 5.2, CIP 6.1 TO CIP 6.3, AND CIP 7.1) DEVICES AS SHOWN ON PLANS ONCE STORM DRAIN SYSTEM IS ONLINE. UPON COMPLETION AND STABILIZATION OF STORMDRAIN WORK, AND WITH APPROVAL OF THE DPS INSPECTOR, REMOVE SF 1.6. ONE MONTH.
4. INSTALL THE FOLLOWING CONTROLS: EARTH DIKE (ED 4.1 TO ED 4.7, ED 5.1 TO ED 5.3, ED 6.1, AND ED 6.2), TEMPORARY ASPHALT BERMS (TAB 4.1, TAB 5.1, TAB 5.2, TAB 6.1), TEMPORARY STONE OUTLET STRUCTURE (TSOS 4.1, TSOS 4.2, TSOS 5.1, AND TSOS 7.1), PUMP AROUND DEVICE, FILTER BAG (FB 2.1) AND PIPE SLOPE DRAIN (PSD 4.1) AS SHOWN ON THE PLANS. TWO WEEKS.
5. PROVIDE INITIAL GRADING AS SHOWN ON THE PLANS. ONE MONTH.
6. INSTALL STABILIZED CONSTRUCTION ENTRANCE (SCE 1.1), SILT FENCE (SF 11.1), SANDBAGS (SB 1.1 TO SB 1.3), PUMP AROUND DEVICE, PORTABLE SEDIMENT TANK (PST 1.1), AND FILTER BAG (FB 1.1) AS SHOWN ON SHEET NO. SC-11. TWO WEEKS.

PHASE 2

1. ESTABLISH THE LOD AS SHOWN ON SC-12. ONE WEEK.
2. INSTALL I-01, I-22, I-11, AND I-12 AS SHOWN ON PLANS. PLACE INLET PROTECTION (CIP 1.1 AND CIP 5.1). BLOCK I-11, I-12 AND I-22. FOUR WEEKS.
3. PERFORM STREAM RESTORATION CONSTRUCTION AS SHOWN ON PLANS. INSTALLATION OF MH-03, MH-04, EW-03, AND EW-04 SHALL OCCUR UNDER A 3-DAY NOAA DRY WEATHER FORECAST. STREAM WORK IS PROHIBITED DURING THE PERIOD OF MARCH 1ST THROUGH JUNE 15TH, INCLUSIVE, DURING ANY YEAR. THREE MONTHS.
4. CONSTRUCT SHARED USE PATH, RETAINING WALLS 1 AND 2, AND PEDESTRIAN LIGHTING AS SHOWN ON PLANS. REMOVE PUMP AROUND DEVICE (SC-15 AND SC-16), ED 4.5 (SC-15), ED 5.3 (SC-16), AND ED 6.2 (SC-17), PRIOR TO INSTALLING PATHWAY, AND FINALIZE GRADING AS EACH UPSTREAM SECTION OF PATHWAY IS CONSTRUCTED. PROTECT PERMEABLE PAVEMENT FROM SEDIMENTATION CONTAMINATION UNTIL ESTABLISHING PERMANENT STABILIZATION. TWO MONTHS.
5. WITH WRITTEN APPROVAL FROM THE DPS INSPECTOR, REMOVE THE REST OF EROSION AND SEDIMENT CONTROLS AND STABILIZE AREAS DISTURBED BY THEIR REMOVAL, AND UNBLOCK I-11, I-12, AND I-22 AND PIPE BETWEEN ES-13 AND ES-14.
6. PROVIDE AS-BUILT PLANS WITH ALL OF THE AS-BUILT INFORMATION TO MCDPS FOR REVIEW AND APPROVAL.

STANDARD SYMBOLS

AT-GRADE INLET PROTECTION	AGIP	ROCK OUTLET PROTECTION I	ROPI
BAFFLE BOARDS	BB	ROCK OUTLET PROTECTION II	ROPII
BENCHING	BENCHING	ROCK OUTLET PROTECTION III	ROPIII
CATCH BASIN INSERT	CBI	SILT FENCE	SF
CLEAR WATER DIVERSION PIPE	CWD - 12 (DESIGNATION CWD-12 REFERS TO 12 INCH CLEAR WATER DIVERSION)	SILT FENCE ON PAVEMENT	SFOP
CLEAR WATER PIPE	CWP	SOD	
COMBINATION INLET PROTECTION	COIP	STABILIZED CONSTRUCTION ENTRANCE	SCE
CONCRETE WASHOUT STRUCTURE	CWS	STANDARD INLET PROTECTION	SIP
CURB INLET PROTECTION	CIP	STOCKPILE AREA	
DIVERSION FENCE	DF	STONE CHECK DAM	CD
EARTH DIKE	A-I (PLACE DESIGNATION (A-I, B-2, ETC.) ON FLOW CHANNEL SIDE OF DIKE.)	STONE/RIPRAP OUTLET SEDIMENT TRAP ST II	ST-II
EMERGENCY SPILLWAY	ES	SUBSURFACE DRAINS	SSD
FILTER BAG	FB	SUMP PIT	SP
FILTER BERM	FB-A / FB-B	SUPER SILT FENCE	SSF
FILTER LOG	FL-18 (DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.)	TEMPORARY ACCESS BRIDGE	TB
GABION INFLOW PROTECTION	GP	TEMPORARY ACCESS CULVERT	
GABION INLET PROTECTION	GIP	TEMPORARY ASPHALT BERM	TAB
HORIZONTAL DRAW-DOWN DEVICE	HDDD	TEMPORARY BARRIER DIVERSION	TBD
LIMIT OF DISTURBANCE	LOD	TEMPORARY GABION OUTLET STRUCTURE	TGOS
MEDIAN INLET PROTECTION	MIP	TEMPORARY SOIL STABILIZATION MATTING-TYPE A	
MEDIAN SUMP INLET PROTECTION	MSIP	TEMPORARY SOIL STABILIZATION MATTING-TYPE B	
MOUNTABLE BERM	MB	TEMPORARY SOIL STABILIZATION MATTING-TYPE C	
PERIMETER DIKE/SWALE	PDS-I	TEMPORARY STONE OUTLET STRUCTURE	TSOS
PERMANENT SOIL STABILIZATION MATTING-TYPE B		TEMPORARY SWALE	A-I (PLACE DESIGNATION (A-I, B-2, ETC.) ON FLOW CHANNEL SIDE OF SWALE.)
PERMANENT SOIL STABILIZATION MATTING-TYPE C		WASH RACK OPTION	WR
PIPE OUTLET SEDIMENT TRAP ST I	ST-I	CHESAPEAKE BAY CRITICAL AREA	CBCA
PIPE SLOPE DRAIN	PSD - 12 (DESIGNATION PSD-12 REFERS TO 12 INCH PIPE SLOPE DRAIN.)	DRAINAGE BOUNDARY	DA
PLUNGE POOL	PP	EXISTING CONTOURS	- 100 -
PORTABLE SEDIMENT TANK	PST	PROPOSED CONTOURS	100
REMOVABLE PUMPING STATION	RPS	TREE PROTECTION FENCE	TPF
RIPRAP INFLOW PROTECTION	RRP-2	WETLAND	
RIPRAP OUTLET SEDIMENT TRAP ST III	ST-III	WETLAND BUFFER	B
		100-YEAR FLOODPLAIN	

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

   USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
   USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
   USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

SITE INFORMATION:

A. TOTAL AREA OF FACILITY (BASE, CAMPUS, PARK, ETC.) 3.96 ACRES
B. TOTAL AREA OF PROJECT SITE 3.96 ACRES
C. AREA DISTURBED 3.48 ACRES
D. AREA TO BE ~~ROOFED OR~~ PAVED 0.82 ACRES
E. TOTAL CUT 8651 CUBIC YARDS
F. TOTAL FILL 1291 CUBIC YARDS
G. OFF-SITE WASTE / BORROW AREA LOCATION N/A

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MESSER · 38931 · PROFESSIONAL ENGINEER

MERCADO CONSULTANTS, INC.

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET — Date
Chief, Design Section
APPROVED
FOR SIGNATURES SEE TITLE SHEET — Date
Chief, Division of Engineering Services

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS SC-01 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

09/2022

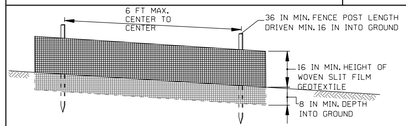
Project No. : C.I.P. PR. # 501744 SHEET 29 of 97

PLOTTED: 2/20/2023
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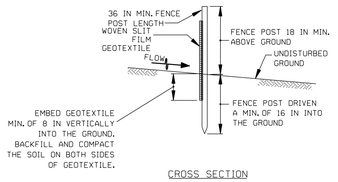
DPS FILE NO. SC0027 OF SC0047

DETAIL E-1 SILT FENCE

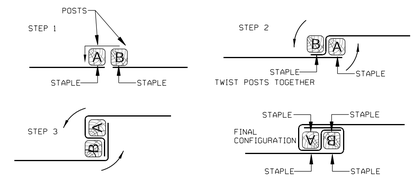
STANDARD SYMBOL: SF



ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ × ¾ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN; OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

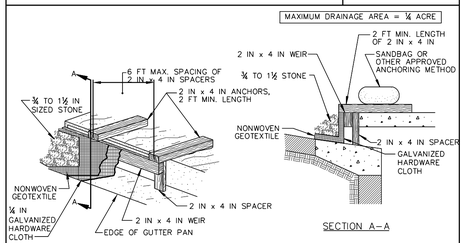
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP



ISOMETRIC

SECTION A–A

CONSTRUCTION SPECIFICATIONS

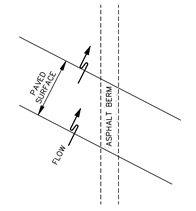
1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

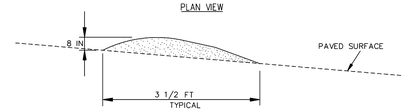
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-5 TEMPORARY ASPHALT BERM

STANDARD SYMBOL: ASB



PLAN VIEW



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

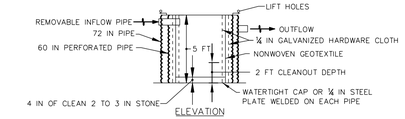
1. CONSTRUCT BERM ON AN UNINTERRUPTED, CONTINUOUS GRADE.
2. INSTALL BERM TO CONFORM TO CROSS SECTION DIMENSIONS OF A UNIFORM HEIGHT OF 8 INCHES MINIMUM AND APPROXIMATE WIDTH OF 3½ FEET.
3. PROVIDE OUTLET PROTECTION AS REQUIRED ON PLAN.
4. COMPACT ASPHALT BERM.
5. REPAIR DAMAGED ASPHALT. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.
6. UPON REMOVAL OF ASPHALT BERM, RETURN TO ORIGINAL CONDITIONS OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

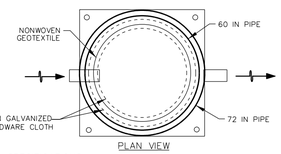
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-3 PORTABLE SEDIMENT TANK

STANDARD SYMBOL: PST



ELEVATION



PLAN VIEW

CONSTRUCTION SPECIFICATIONS

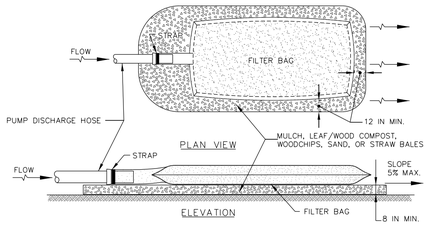
1. PROVIDE 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP CAPACITY. REQUIRED STORAGE VOLUME MAY BE ATTAINED BY PLACEMENT OF TANKS IN PARALLEL WITH INFLOW EVENLY DISTRIBUTED AMONG TANKS. OVERTOPPING OF TANKS IS NOT PERMITTED.
2. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER FOR THE INNER PIPE. LINE PIPE WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, SANDWICHED BETWEEN, AND ATTACHED TO, ¼ INCH HARDWARE CLOTH.
3. OVERLAP GEOTEXTILE 8 INCHES MINIMUM AT VERTICAL SEAM AND AT THE BOTTOM PLATE.
4. ANCHOR GEOTEXTILE AT BOTTOM OF TANK WITH 4 INCHES OF 2 TO 3 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE.
5. USE 72 INCH CORRUGATED METAL OR PLASTIC OUTER PIPE WITH PERMANENT OUTFLOW PIPE WITH INVERT LOWER THAN INFLOW PIPE
6. INFLOW PIPE MUST DISCHARGE INTO INNER PIPE AND BE REMOVABLE.
7. PLACE TANK ON LEVEL SURFACE AND DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A PORTABLE SEDIMENT TANK REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT FROM INNER PIPE WHEN IT REACHES TWO FEET IN DEPTH. IF SYSTEM CLOGS, PULL OUT INNER PIPE, REMOVE ACCUMULATED SEDIMENT, AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: FB



CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC^{-1})	1.2 SEC^{-1}	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15–0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

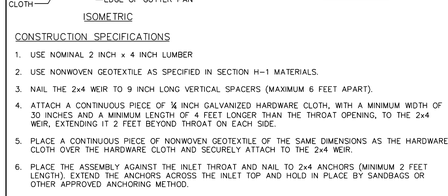
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-1 PIPE SLOPE DRAIN

STANDARD SYMBOL: PSD – 12

DESIGNATION PSD-12 REFERS TO 12 IN PIPE SLOPE DRAIN.

ISOMETRIC VIEW



PROFILE

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

D.3

DETAIL D-1 PIPE SLOPE DRAIN

STANDARD SYMBOL: PSD – 12

DESIGNATION PSD-12 REFERS TO 12 IN PIPE SLOPE DRAIN.

CONSTRUCTION SPECIFICATIONS

1. THE HEIGHT OF THE EARTH DIKE MUST BE AT LEAST 2 TIMES THE PIPE DIAMETER MEASURED FROM THE INVERT OF THE PIPE. EXTEND THE TOP ELEVATION OF DIKE AT ZERO PERCENT GRADE UNTIL IT INTERCEPTS THE TOP OF THE ADJOINING EARTH DIKE.
2. FLEXIBLE PIPE IS PREFERRED. HOWEVER, CORRUGATED METAL PIPE OR EQUIVALENT PVC PIPE CAN BE USED. ALL CONNECTIONS MUST BE WATERTIGHT.
3. ATTACH A FLARED END SECTION TO THE INLET END OF PIPE WITH A WATERTIGHT CONNECTION. AT THE INLET OF THE PIPE SLOPE DRAIN, INSTALL 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PLACED 12 INCHES IN DEPTH ON NONWOVEN GEOTEXTILE AND EXTEND OUT 5 FEET FROM THE INLET IN ALL DIRECTIONS.
4. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
5. SECURELY ANCHOR THE PIPE SLOPE DRAIN (PSD) TO THE SLOPE. SPACE THE ANCHORS EVERY 10 FEET.
6. HAND TAMP THE SOIL AROUND AND UNDER THE PIPE AND END SECTION IN 4 INCH LIFTS TO THE TOP OF THE EARTH DIKE.
7. UPON COMPLETING INSTALLATION OF THE PSD, STABILIZE ASSOCIATED DISTURBANCES WITH SEED, MULCH, AND TACK.
8. INSTALL OUTLET PROTECTION AS SPECIFIED ON APPROVED PLAN.
9. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION. MAINTAIN WATER TIGHT CONNECTIONS AND POSITIVE DRAINAGE. REMOVE ACCUMULATED SEDIMENT AND DEBRIS.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

D.4

MERCADO CONSULTANTS, INC.

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND — MICHAEL W. MERCADO — 38931 — PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-28_SC02MD355.dgn

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS SC- 02 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

09/2022

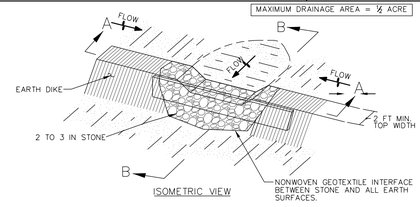
Project No. : C.I.P. PR. # 501744 SHEET 30 of 97

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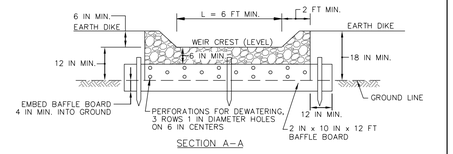
DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE

STANDARD SYMBOL: TSOS

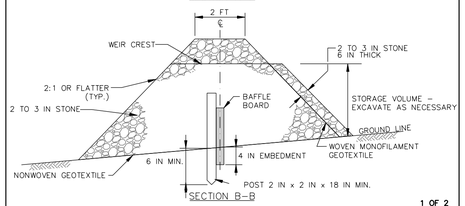
MAXIMUM DRAINAGE AREA = ½ ACRE



ISOMETRIC VIEW



SECTION A–A



SECTION B–B

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-7 TEMPORARY STONE OUTLET STRUCTURE

STANDARD SYMBOL: TSOS

CONSTRUCTION SPECIFICATIONS

1. PROVIDE STORAGE VOLUME AS SPECIFIED ON APPROVED PLANS.
2. USE NONWOVEN GEOTEXTILE ON INTERFACE BETWEEN GROUND AND STONE.
3. PERFORATE BAFFLE BOARD WITH 3 ROWS OF 1 INCH DIAMETER HOLES 6 INCHES ON CENTER. EMBED A MINIMUM OF 4 INCHES INTO GROUND, AND EXTEND BAFFEL BOARD MINIMUM OF 12 INCHES INTO EARTH DIKE.
4. USE CLEAN 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE WOVEN MONOFILAMENT GEOTEXTILE ON UPSTREAM FACE AND COVER WITH A MINIMUM OF 6 INCHES OF ADDITIONAL STONE.
5. USE NONWOVEN AND WOVEN MONOFILAMENT GEOTEXTILES AS SPECIFIED IN SECTION H–1 MATERIALS.
6. SET WEIR CREST OF STONE 6 INCHES LOWER THAN THE TOP OF EARTH DIKE. USE MINIMUM LENGTH OF 6 FEET FOR WEIR CREST.
7. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO WITHIN 6 INCHES OF WEIR CREST. REPLACE GEOTEXTILE AND STONE FACING WHEN STRUCTURE CEASES TO DRAIN. MAINTAIN LINE, GRADE, AND CROSS SECTION.
8. UPON REMOVAL OF STONE OUTLET STRUCTURE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

2 OF 2

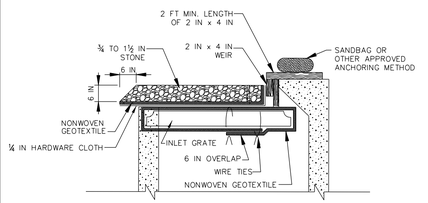
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

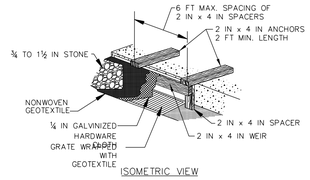
DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



SECTION



ISOMETRIC VIEW

1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
3. LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2X4 WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
6. NAIL THE 2X4 WEIR TO THE TOP OF A 9 INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
7. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS OF 2x4 INCH TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
8. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
9. FORM THE ¼ INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
10. AT NON–SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
11. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

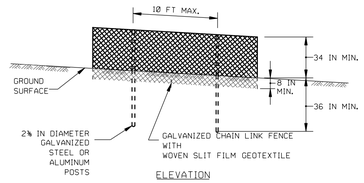
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MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

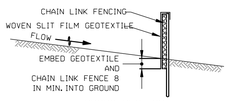
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



ELEVATION



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

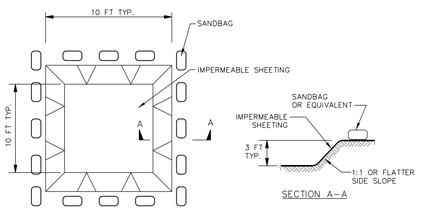
1. INSTALL 2¼ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2¼ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

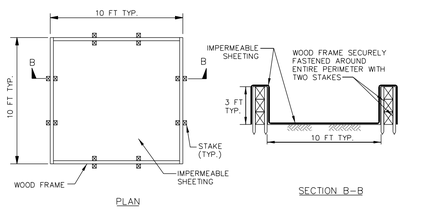
STANDARD SYMBOL: CWS



PLAN

SECTION A–A

EXCAVATED WASHOUT STRUCTURE



PLAN

SECTION B–B

WASHOUT STRUCTURE WITH WOOD PLANKS

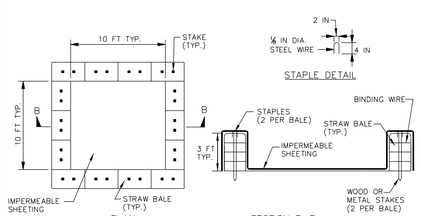
1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



PLAN

SECTION B–B

NOTE: CAN BE TWO STACKED BALES OR PARTIALLY EXCAVATED TO REACH 3 FT DEPTH

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET–VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

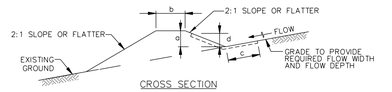
2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

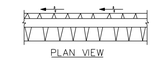
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-1 EARTH DIKE

STANDARD SYMBOL: A–1 (PLACE DESIGNATION (e.g. A–1) ON FLOW CHANNEL SIDE OF DIKE)



CROSS SECTION



PLAN VIEW

DIKE TYPE	A	B
a – DIKE HEIGHT	18 IN MIN.	30 IN MIN.
b – DIKE WIDTH	24 IN MIN.	36 IN MIN.
c – FLOW WIDTH	4 FT MIN.	6 FT MIN.
d – FLOW DEPTH	12 IN MIN.	24 IN MIN.

FLOW CHANNEL STABILIZATION

A–1	SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
A–2/B–2	SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
A–3/B–3	4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
2. EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. COMPACT FILL.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B–4 VEGETATIVE STABILIZATION.
8. UPON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

MERCADO CONSULTANTS, INC.

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND — MICHAEL W. MERCADO — 38931 — PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS SC- 03 of 19

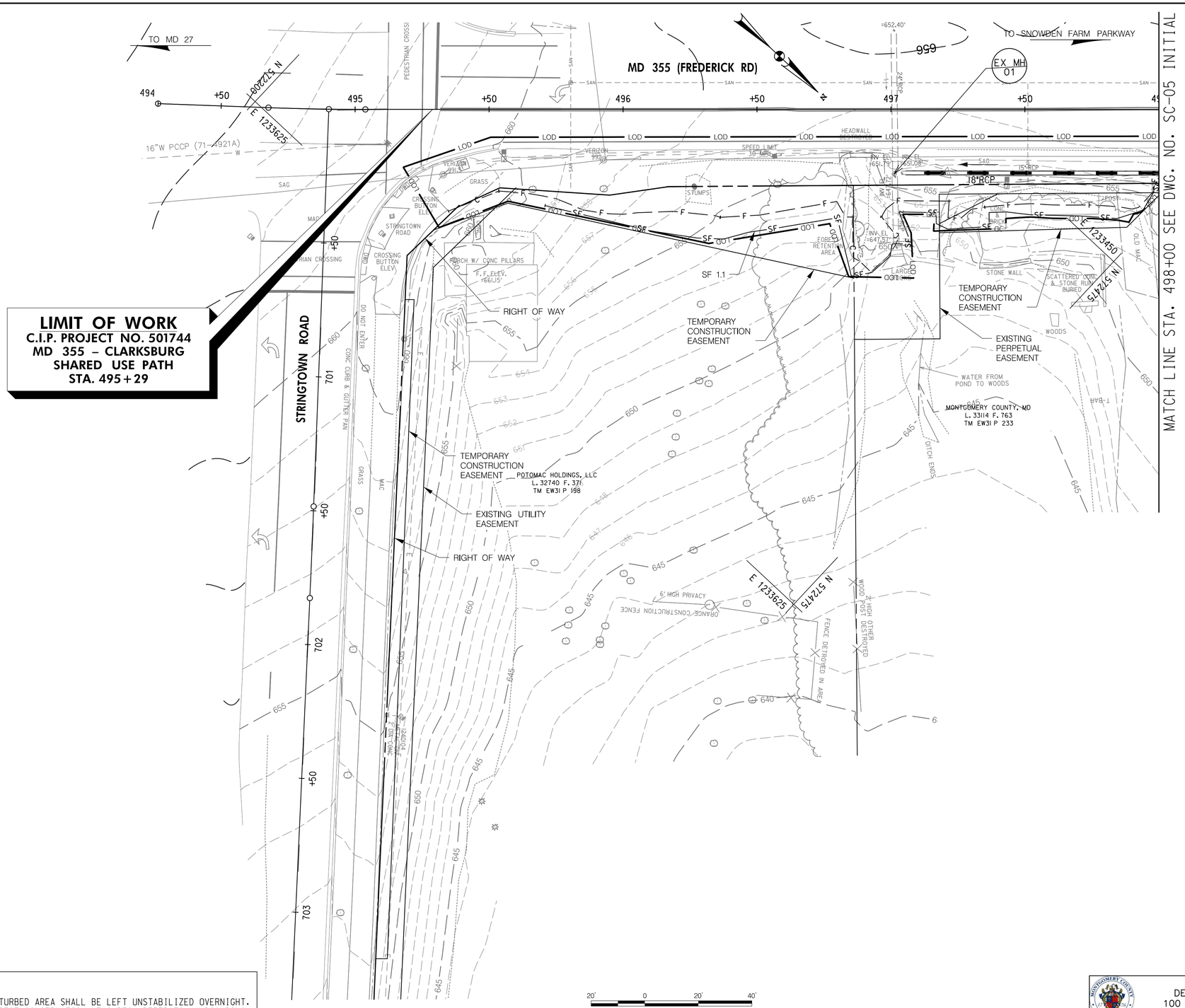
MD 355 - CLARKSBURG SHARED USE PATH

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 31 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-29_SC03_MD355.dgn

DPS FILE NO. SC0029 OF SC0047



SILT FENCE (SF)		
SF 1.1	322 LF	STA. 495+71 TO 498+57, RT

NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD
SILT FENCE PHASE 1	SF
SAME DAY STABILIZATION	

20' 0 20' 40'

SCALE: 1" = 20'

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND — MICHAEL W. MERCADO — 38931 — PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-30_SC04_MD355_INITIAL.dgn

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC-04 OF 19

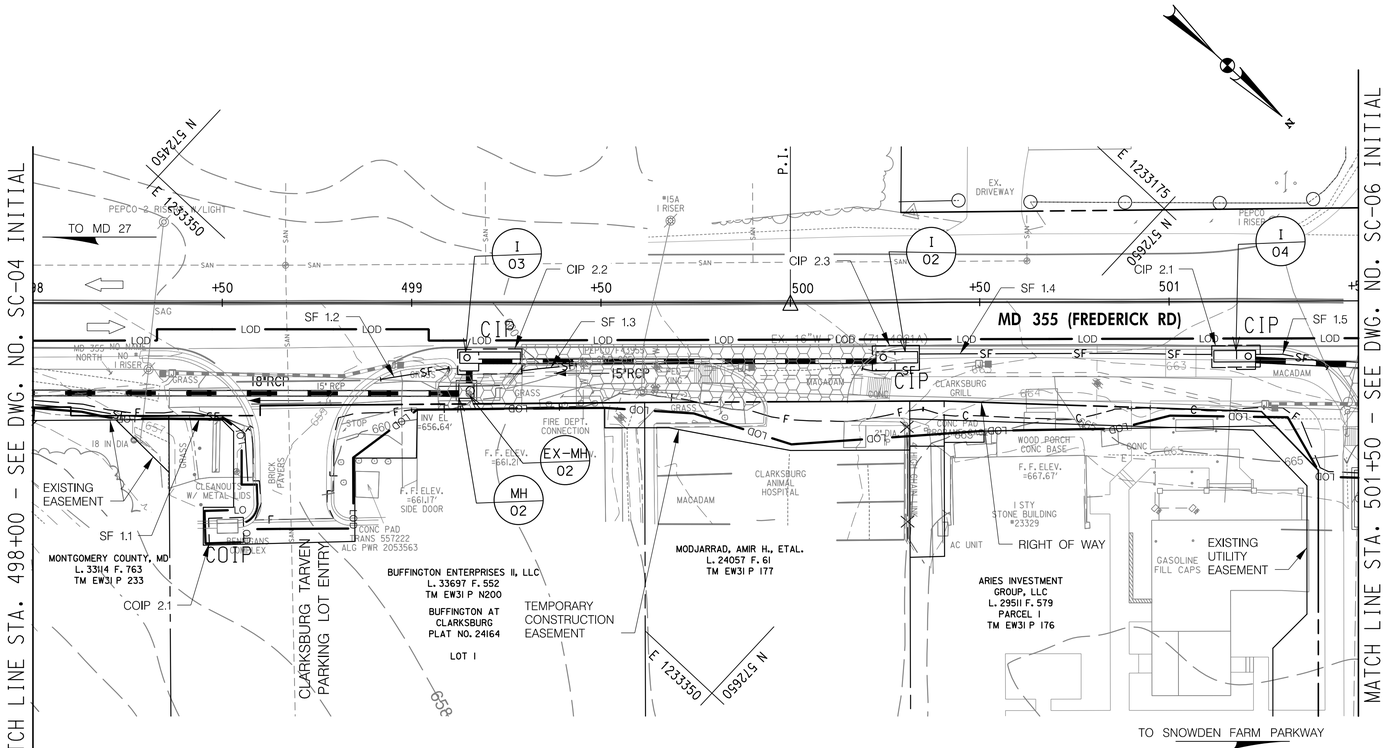
MD 355 - CLARKSBURG SHARED USE PATH

STA. 495+29 TO STA. 498+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 32 of 97

DPS FILE NO. SC0030 OF SC0047



INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 2.1	STA. 501+20, RT	1 EA	0.07
CIP 2.2	STA. 499+21, RT	1 EA	0.07
CIP 2.3	STA. 500+28, RT	1 EA	0.02
COIP 2.1	STA. 498+51, RT	1 EA	0.25

SILT FENCE (SF)		
SF 1.1	322 LF	STA. 495+71 TO 498+57, RT
SF 1.2	18 LF	STA. 498+92 TO 499+10, RT
SF 1.3	15 LF	STA. 499+29 TO 499+43, RT
SF 1.4	97 LF	STA. 500+19 TO 501+11, RT
SF 1.5	20 LF	STA. 501+23 TO 501+42, RT

NOTES:

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2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

20' 0 20' 40'
SCALE: 1" = 20'

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE — LOD —
SILT FENCE PHASE 1 — SF —
SAME DAY STABILIZATION
CURB INLET PROTECTION PHASE 1 CIP
COMBINATION INLET PROTECTION PHASE 1 COIP

PROFESSIONAL CERTIFICATION:

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LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND — MICHAEL W. MERCADO — 38931 — PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-31_SC05_MD355_INITIAL.dgn

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC-05 OF 19

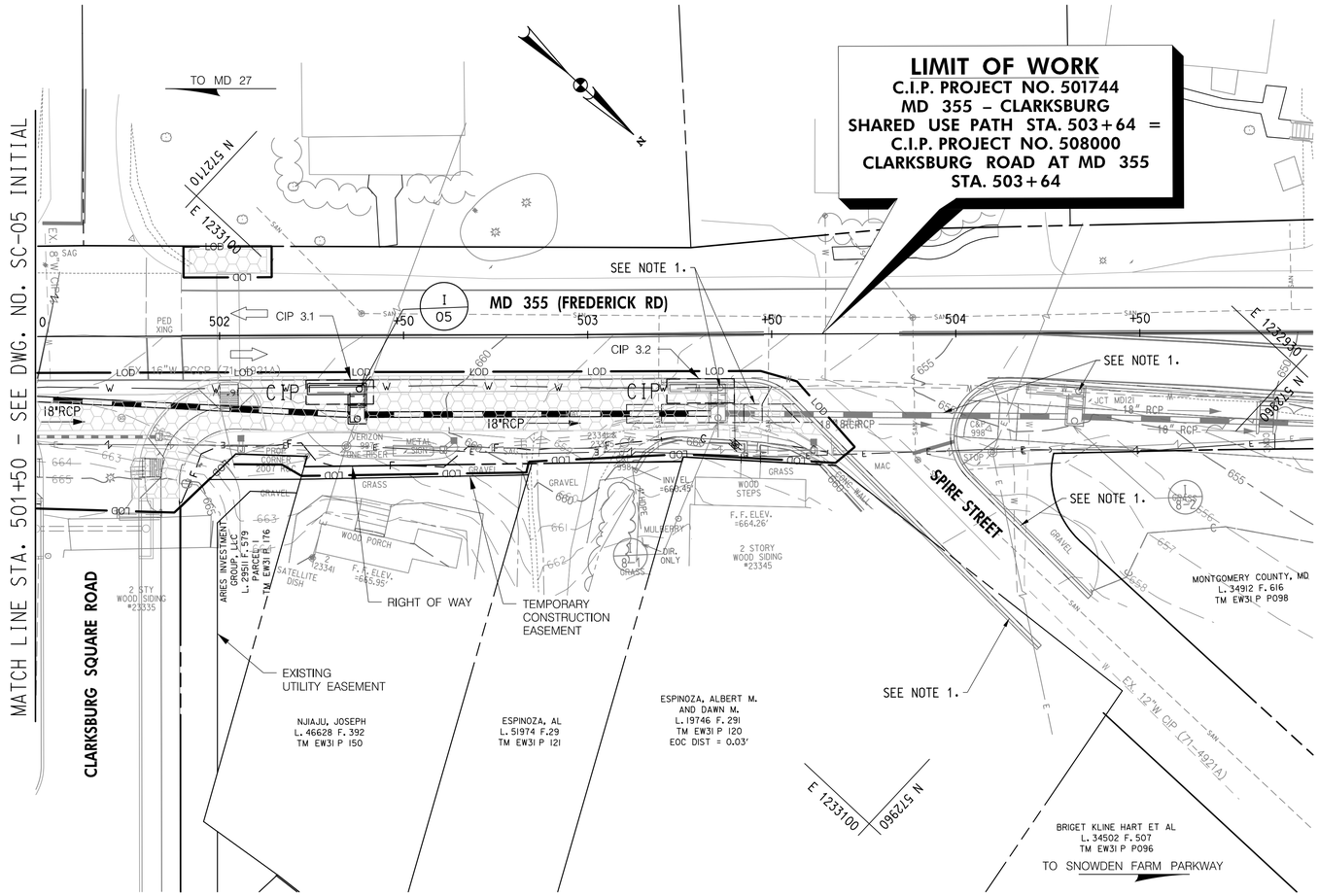
MD 355 - CLARKSBURG SHARED USE PATH

STA. 498+00 TO STA. 501+50

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 33 of 97

DPS FILE NO. SC0031 OF SC0047



INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 3.1	STA. 502+33, RT	1 EA	0.02
CIP 3.2	STA. 503+29, RT	1 EA	0.07

NOTES:

1. CURB & GUTTER, SHARED USE PATH, TEMPORARY CURB RAMP, INLETS AND STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
3. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE — LOD —

CURB INLET PROTECTION PHASE 1 CIP

SAME DAY STABILIZATION

20' 0 20' 40'

SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION:

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LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND MICHAEL W. MERCADO 38931 PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

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FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC- 06 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

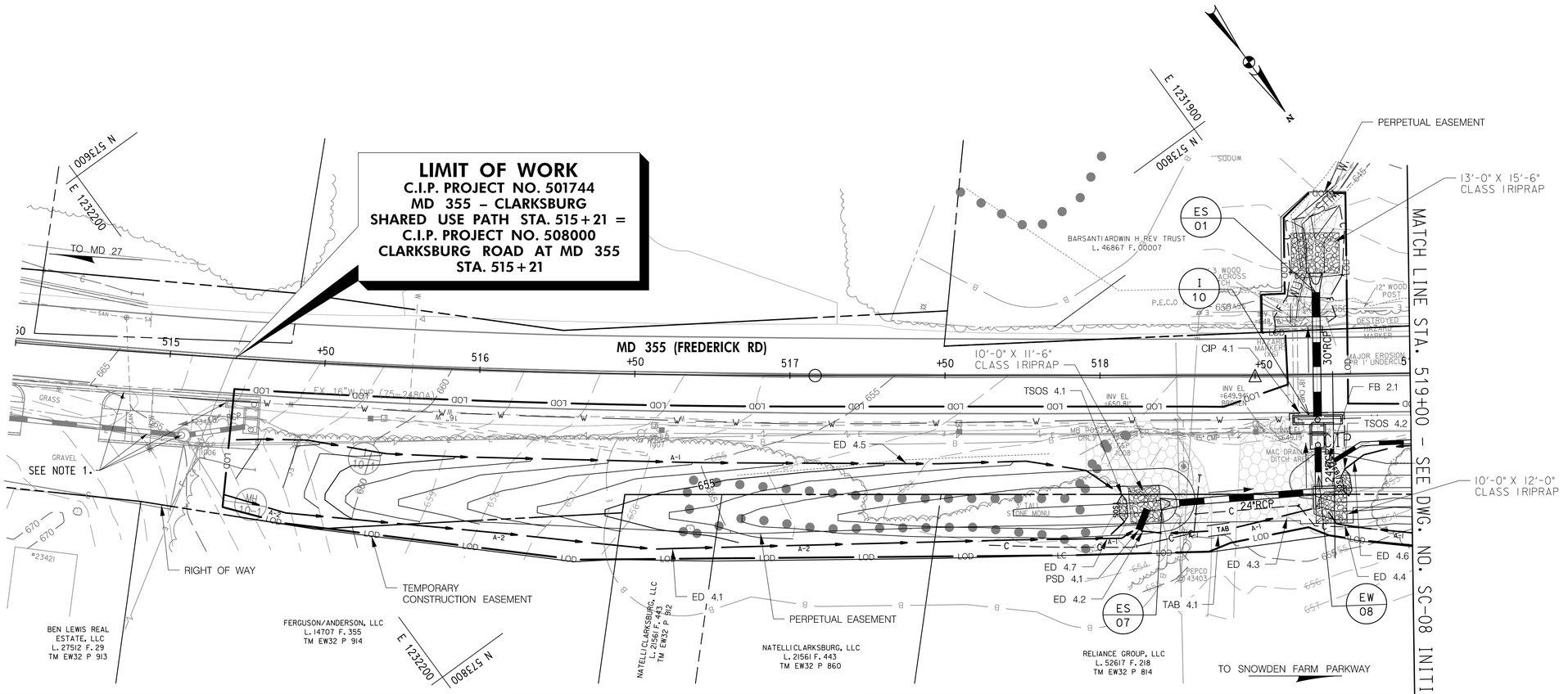
STA. 501+50 TO STA. 505+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 34 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-32_SC06_MD355_INITIAL.dgn

DPS FILE NO. SC0032 OF SC0047



EARTH DIKE (ED)				
ID NO.	LENGTH (LF)	STATION	TOP ELEV. (FT)	DRAINAGE AREA (AC)
ED 4.1	293	STA. 515+21 TO 518+10, RT	663.6	5.42
ED 4.2	21	STA. 518+13 TO 518+35, RT	657.0	0.66
ED 4.3	23	STA. 518+44 TO 518+63, RT	655.0	0.31
ED 4.4	136	STA. 518+73 TO 520+22, RT	661.5	1.09
ED 4.5	289	STA. 515+23 TO 518+07, RT	662.7	0.23
ED 4.6	115	STA. 518+78 TO 519+91, RT	654.0	0.01
ED 4.7	13	STA. 517+99 TO 518+12, RT	657.0	0.02

PIPE SLOPE DRAIN (PSD)				
ID NO.	STATION	LENGTH (FT)	DIAMETER (IN)	DRAINAGE AREA (AC)
PSD 4.1	STA. 518+11, RT	7	24	0.66

INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 4.1	STA. 518+72, RT	1 EA	0.34

TEMPORARY ASPHALT BERM (TAB)		
ID NO.	STATION	LENGTH (FT)
TAB 4.1	STA. 518+40, RT	10

FILTER BAG (FB)		
ID NO.	QUANTITY	STATION
FB 2.1	1 EA	STA. 518+75, RT

TEMPORARY STONE OUTLET STRUCTURE (TSOS)					
ID NO.	STATION	WEIR ELEV. (FT)	DRAINAGE AREA (AC)	STORAGE REQUIRED (CF)	STORAGE PROVIDED (CF)
TSOS 4.1	STA. 518+07, RT	652.5	0.19	342	501
TSOS 4.2	STA. 518+79, RT	653.5	0.10	180	568

NOTES:

1. CURB & GUTTER, SHARED USE PATH, TEMPORARY CURB RAMP, INLETS AND STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
3. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

- LIMIT OF DISTURBANCE — LOD
- EARTH DIKE PHASE 1
- PIPE SLOPE DRAIN PHASE 1
- TEMPORARY ASPHALT BERM PHASE 1 — TAB
- CURB INLET PROTECTION PHASE 1 — CIP
- TEMPORARY STONE OUTLET STRUCTURE PHASE 1 — TSOS
- SAME DAY STABILIZATION
- FILTER BAG PHASE 1 — FB

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

PROFESSIONAL CERTIFICATION:

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LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

09/2022

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC-07 OF 19

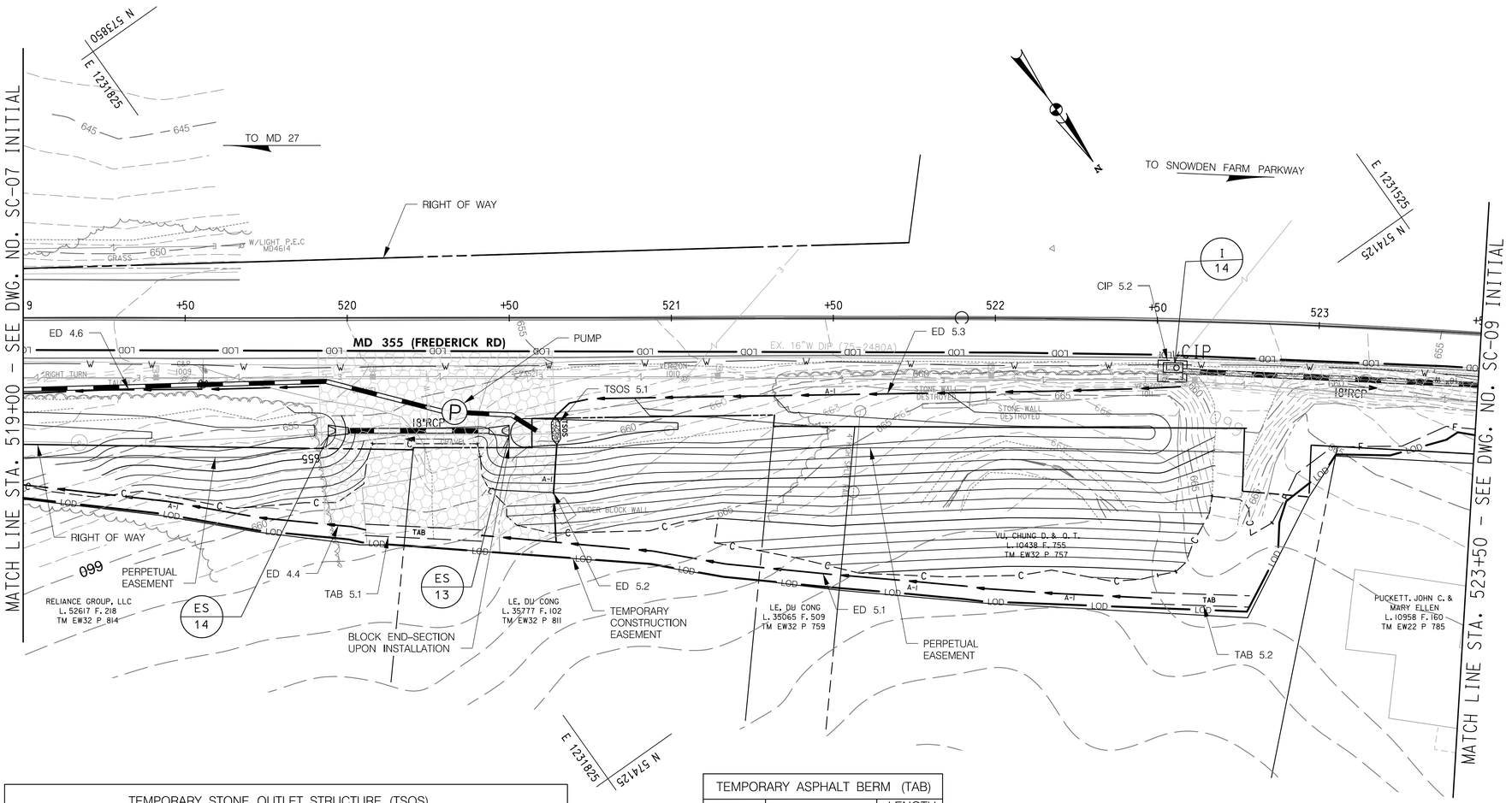
MD 355 - CLARKSBURG SHARED USE PATH

STA. 514+50 TO STA. 519+00

Project No. : C.I.P. PR. # 501744 SHEET 35 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-33_SC07_MD355_INITIAL.dgn

DPS FILE NO. SC0033 OF SC0047



TEMPORARY STONE OUTLET STRUCTURE (TSOS)					
ID NO.	STATION	WEIR ELEV. (FT)	DRAINAGE AREA (AC)	STORAGE REQUIRED (CF)	STORAGE PROVIDED (CF)
TSOS 5.1	STA. 520+64, RT	656.5	0.25	450	505

EARTH DIKE (ED)				
ID NO.	LENGTH (LF)	STATION	TOP ELEV. (FT)	DRAINAGE AREA (AC)
ED 5.1	208	STA. 520+41 TO 522+50, RT	661.5	0.96
ED 5.2	30	STA. 520+64 TO 520+65, RT	666.5	0.01
ED 5.3	195	STA. 520+64 TO 522+58, RT	666.5	0.05

TEMPORARY ASPHALT BERM (TAB)		
ID NO.	STATION	LENGTH (FT)
TAB 5.1	STA. 520+23, RT	36
TAB 5.2	STA. 522+68, RT	36

INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 5.2	STA. 522+56, RT	1 EA	0.04

NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

- LIMIT OF DISTURBANCE — LOD
- EARTH DIKE PHASE 1 — A-1
- CURB INLET PROTECTION PHASE 1 — CIP
- TEMPORARY ASPHALT BERM PHASE 1 — TAB
- SAME DAY STABILIZATION
- TEMPORARY STONE OUTLET STRUCTURE PHASE 1 — TSOS

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

PROFESSIONAL CERTIFICATION:

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LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND — JOSEPH W. MERCADO — 38931 — PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC- 08 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

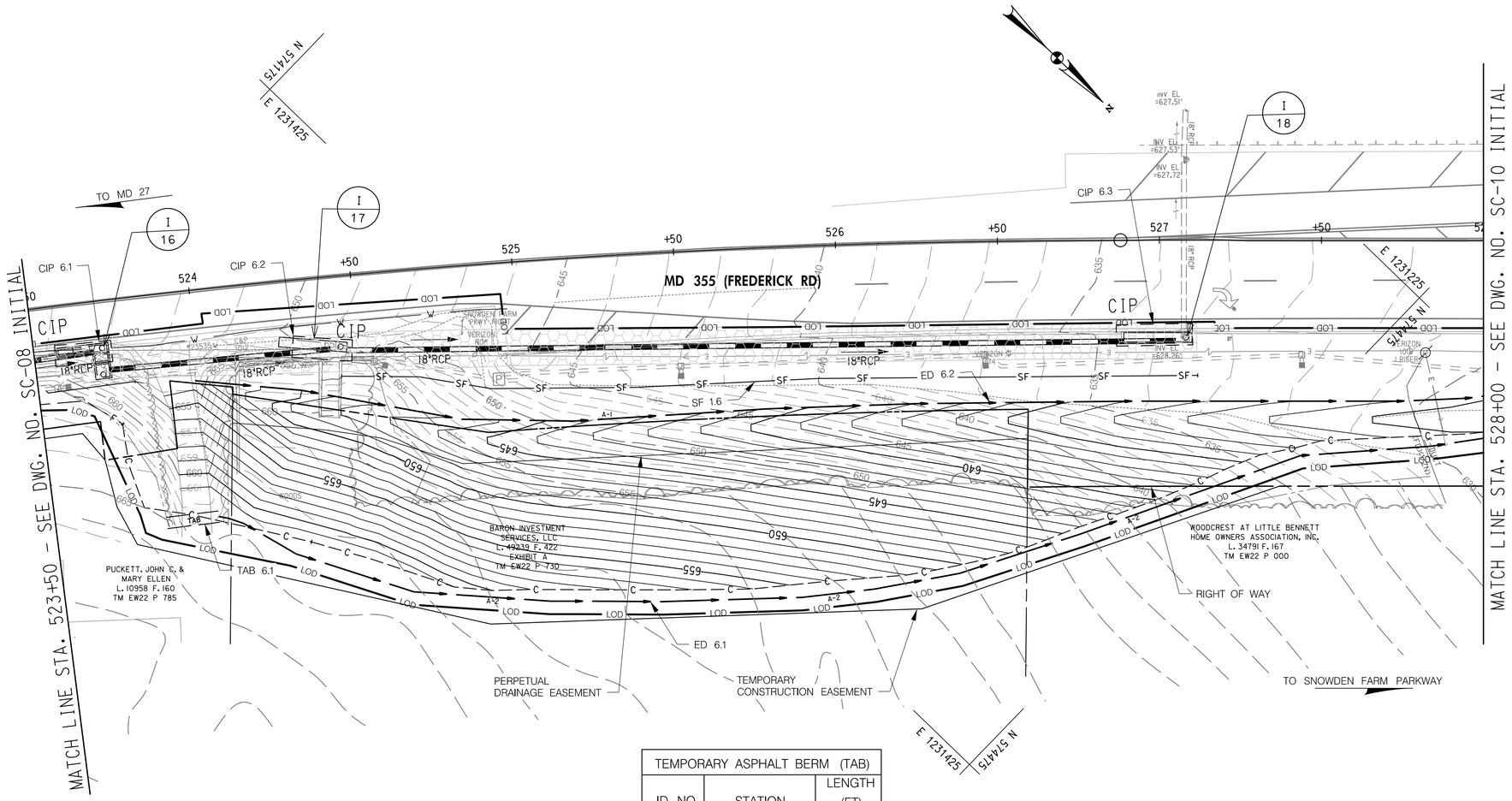
STA. 519+00 TO STA. 523+50

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 36 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-34_SC08_MD355_INITIAL.dgn

DPS FILE NO. SC0034 OF SC0047



TEMPORARY ASPHALT BERM (TAB)		
ID NO.	STATION	LENGTH (FT)
TAB 6.1	STA. 523+89, RT	16

INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 6.1	STA. 523+56, RT	1 EA	0.04
CIP 6.2	STA. 524+40, RT	1 EA	0.04
CIP 6.3	STA. 527+00, RT	1 EA	0.03

EARTH DIKE (ED)				
ID NO.	LENGTH (LF)	STATION	TOP ELEV. (FT)	DRAINAGE AREA (AC)
ED 6.1	460	STA. 524+02 TO 528+56, RT	663.0	2.97
ED 6.2	456	STA. 524+00 TO 528+56, RT	658.3	0.41

SILT FENCE (SF)			
SF 1.6	265	LF	STA. 524+44 TO 527+12, RT

NOTES:

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MERCADO CONSULTANTS, INC.

LEGEND

- LIMIT OF DISTURBANCE — LOD
- EARTH DIKE PHASE 1 — A-2
- CURB INLET PROTECTION PHASE 1 — CIP
- TEMPORARY ASPHALT BERM PHASE 1 — TAB
- SAME DAY STABILIZATION
- SILT FENCE PHASE 1 — SF

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

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LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND — MICHAEL W. MERCADO — 38931 — PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC- 09 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

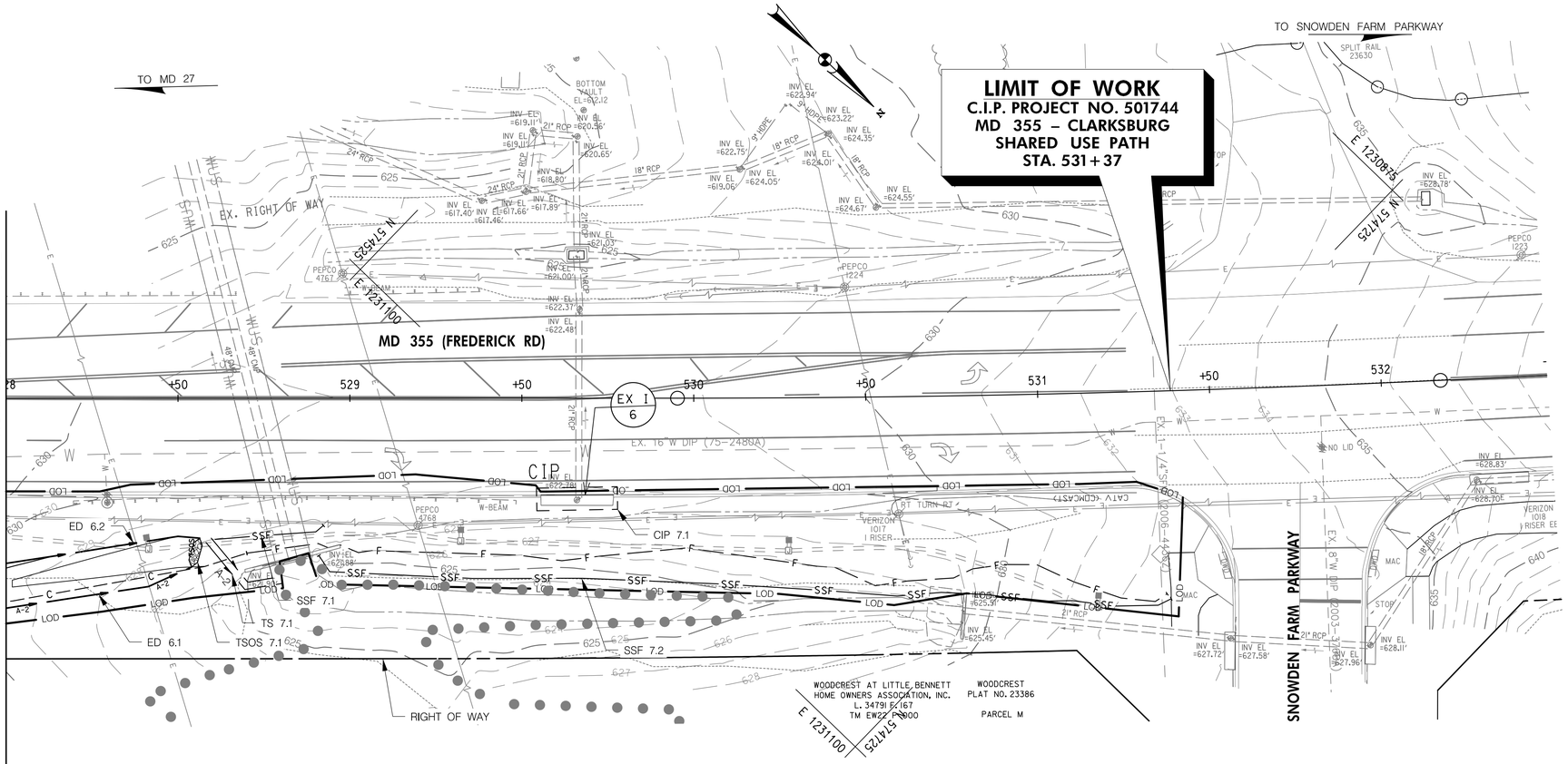
STA. 523+50 TO STA. 528+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 37 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-35_SC09_MD355_INITIAL.dgn

DPS FILE NO. SC0035 OF SC0047



SUPER SILT FENCE (SSF)		
SSF 7.1	37 LF	STA. 528+61 TO 528+92, RT
SSF 7.2	252 LF	STA. 528+91 TO 531+37, RT

INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 7.1	STA. 529+68, RT	1 EA	0.60

TEMPORARY SWALE (TS)			
ID NO.	STATION	LENGTH (FT.)	DRAINAGE AREA (AC)
TS 7.1	STA. 528+59, RT	27.65	3.38

TEMPORARY STONE OUTLET STRUCTURE (TSOS)					
ID NO.	STATION	WEIR ELEV. (FT)	DRAINAGE AREA (AC)	STORAGE REQUIRED (CF)	STORAGE PROVIDED (CF)
TSOS 7.1	STA. 528+56, RT	631.0	0.40	720	1105

NOTES:

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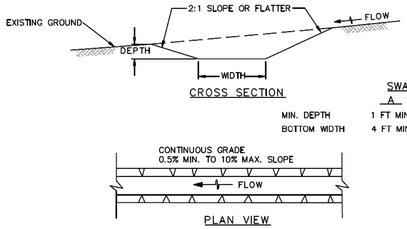
MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	SUPER SILT FENCE PHASE 1	SSF
EARTH DIKE PHASE 1	A-2	TEMPORARY STONE OUTLET STRUCTURE PHASE 1	TSOS
CURB INLET PROTECTION PHASE 1	CIP	TEMPORARY SWALE PHASE 1	A-2

DETAIL C-2 TEMPORARY SWALE

STANDARD SYMBOL A-1



SWALE TYPE	A	B
MIN. DEPTH	1 FT MIN.	1 FT MIN.
BOTTOM WIDTH	4 FT MIN.	6 FT MIN.

FLOW CHANNEL STABILIZATION

A-1	SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
A-2/B-2	SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
A-3/B-3	4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

CONSTRUCTION SPECIFICATIONS

1. REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF TEMPORARY SWALE.
2. EXCAVATE OR SHAPE TEMPORARY SWALE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
3. STABILIZE TEMPORARY SWALE WITHIN THREE DAYS OF INSTALLATION. STABILIZE SWALES USED FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
4. CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
5. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
6. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP TEMPORARY SWALE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
7. UPON REMOVAL OF TEMPORARY SWALE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

C.11

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · RACHEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC- 10 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

STA. 528+00 TO STA. 531+37

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 38 of 97

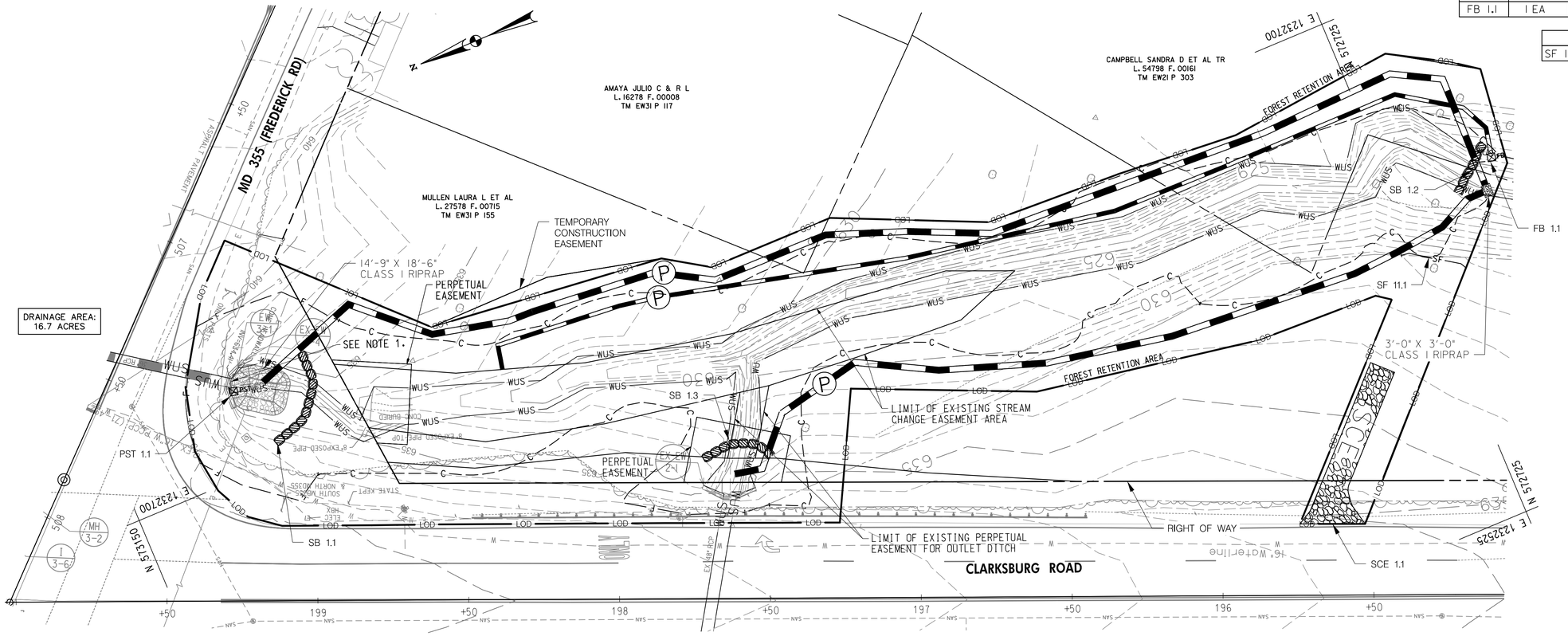
PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-36_SC10_MD355_INITIAL.dgn

DPS FILE NO. SC0036 OF SC0047

FILTER BAG (FB)		
ID NO.	QUANTITY	STATION
FB 1.1	1 EA	STA. 195+12, RT

PORTABLE SEDIMENT TANK (PST)		
ID NO.	QUANTITY	STATION
PST 1.1	1 EA	STA. 199+28, RT

SILT FENCE (SF)			
SF 11.1	22	LF	STA. 195+19 TO 195+40, LT



MGWC 1.2: PUMP-AROUND PRACTICE

DESCRIPTION

THE WORK SHOULD CONSIST OF INSTALLING A TEMPORARY PUMP AROUND AND SUPPORTING MEASURES TO DIVERT FLOW AROUND IN- STREAM CONSTRUCTION SITES.

IMPLEMENTATION SEQUENCE

THIS IS CLASSIFIED AS A USE I-P WATERSHED, WHICH PROHIBITS ANY STREAM WORK DURING THE PERIOD OF MARCH 1ST THROUGH JUNE 15TH, INCLUSIVE DURING ANY YEAR. SEDIMENT CONTROL MEASURES, PUMP-AROUND PRACTICES, AND ASSOCIATED CHANNEL AND BANK CONSTRUCTION SHOULD BE COMPLETED IN THE FOLLOWING SEQUENCE (REFER TO DETAIL 1.2):

1. CONSTRUCTION ACTIVITIES INCLUDING THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES SHOULD NOT BEGIN UNTIL ALL NECESSARY EASEMENTS AND/OR RIGHT-OF-WAYS HAVE BEEN ACQUIRED. ALL EXISTING UTILITIES SHOULD BE MARKED IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING UTILITIES THAT MAY RESULT FROM CONSTRUCTION AND SHOULD REPAIR THE DAMAGE AT HIS/HER OWN EXPENSE TO THE COUNTY'S OR UTILITY COMPANY'S SATISFACTION.

2. THE CONTRACTOR SHOULD NOTIFY THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES INSPECTOR AT LEAST 5 DAYS BEFORE BEGINNING CONSTRUCTION. ADDITIONALLY, THE CONTRACTOR SHOULD INFORM THE PROVIDER OF LOCAL UTILITIES A MINIMUM OF 48 HOURS BEFORE STARTING CONSTRUCTION.

3. A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES SEDIMENT CONTROL INSPECTOR, THE MNCPPC, PLANNING DEPARTMENT, PLANS ENFORCEMENT INSPECTOR, THE OWNERS REPRESENTATIVE, AND THE SITE ENGINEER TO REVIEW LIMITS OF DISTURBANCE, EROSION AND SEDIMENT CONTROL REQUIREMENTS, AND THE SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHOULD STAKE OUT ALL LIMITS OF DISTURBANCE PRIOR TO THE PRE-CONSTRUCTION MEETING SO THEY MAY BE REVIEWED. THE PARTICIPANTS WILL ALSO DESIGNATE THE CONTRACTOR'S STAGING AREAS AND FLAG ALL TREES WITHIN THE LIMIT OF DISTURBANCE WHICH WILL BE REMOVED FOR CONSTRUCTION ACCESS. TREES SHOULD NOT BE REMOVED WITHIN THE LIMIT OF DISTURBANCE WITHOUT APPROVAL FROM MNCPPC.

4. CONSTRUCTION SHOULD NOT BEGIN UNTIL ALL SEDIMENT AND EROSION CONTROL MEASURES HAVE BEEN INSTALLED AND APPROVED BY THE ENGINEER AND THE DPS SEDIMENT CONTROL INSPECTOR. THE CONTRACTOR SHOULD STAY WITHIN THE LIMITS OF THE DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORK AREA WHENEVER POSSIBLE.

5. UPON INSTALLATION OF ALL SEDIMENT CONTROL MEASURES AND APPROVAL BY THE DPS SEDIMENT CONTROL INSPECTOR , THE CONTRACTOR SHOULD BEGIN WORK AT THE UPSTREAM SECTION AND PROCEED DOWNSTREAM BEGINNING WITH THE ESTABLISHMENT OF STABILIZED CONSTRUCTION ENTRANCES. IN SOME CASES, WORK MAY BEGIN DOWNSTREAM IF APPROPRIATE. THE SEQUENCE OF CONSTRUCTION MUST BE FOLLOWED UNLESS THE CONTRACTOR GETS WRITTEN APPROVAL FOR DEVIATIONS FROM DPS. THE CONTRACTOR SHOULD ONLY BEGIN WORK IN AN AREA WHICH CAN BE COMPLETED BY THE END OF THE DAY INCLUDING GRADING ADJACENT TO THE CHANNEL. AT THE END OF EACH WORK DAY, THE WORK AREA MUST BE STABILIZED. WORK SHOULD NOT BE CONDUCTED IN THE CHANNEL DURING RAIN EVENTS.

6. SANDBAG DIKES SHOULD BE SITUATED AT THE UPSTREAM AND DOWNSTREAM ENDS OF THE WORK AREA AS SHOWN ON THE PLANS, AND STREAM FLOW SHOULD BE PUMPED AROUND THE WORK AREA. THE PUMP SHOULD DISCHARGE ONTO A STABLE VELOCITY DISSIPATER MADE OF RIPRAP OR SANDBAGS.

7. WATER FROM THE WORK AREA SHOULD BE PUMPED TO A SEDIMENT FILTERING MEASURE SUCH AS A DEWATERING BASIN, SEDIMENT BAG, OR OTHER APPROVED SOURCE. THE MEASURE SHOULD BE LOCATED SUCH THAT THE WATER DRAINS BACK INTO THE CHANNEL BELOW THE DOWNSTREAM SANDBAG DIKE.

8. TRAVERSING A CHANNEL REACH WITH EQUIPMENT WITHIN THE WORK AREA WHERE NO WORK IS PROPOSED SHOULD BE AVOIDED. IF EQUIPMENT HAS TO TRAVERSE SUCH A REACH FOR ACCESS TO ANOTHER AREA, THEN TIMBER MATS OR SIMILAR MEASURES SHOULD BE USED TO MINIMIZE DISTURBANCE TO THE CHANNEL. TEMPORARY STREAM CROSSINGS SHOULD BE USED ONLY WHEN NECESSARY AND ONLY WHERE NOTED ON THE PLANS OR SPECIFIED. (*SEE SECTION 4, STREAM CROSSINGS, MARYLAND GUIDELINES TO WATERWAY CONSTRUCTION*).

9. ALL STREAM RESTORATION MEASURES SHOULD BE INSTALLED AS INDICATED BY THE PLANS AND ALL BANKS GRADED IN ACCORDANCE WITH THE GRADING PLANS AND TYPICAL CROSS- SECTIONS. ALL GRADING MUST BE STABILIZED AT THE END OF EACH DAY WITH SEED AND MULCH OR SEED AND MATTING AS SPECIFIED ON THE PLANS.

10. IF DIKES AREA ARE USED: AFTER AN AREA IS COMPLETED AND STABILIZED, THE CLEAN WATER DIKE SHOULD BE REMOVED. AFTER THE FIRST SEDIMENT FLUSH, A NEW CLEAN WATER DIKE SHOULD BE ESTABLISHED UPSTREAM FROM THE OLD SEDIMENT DIKE. FINALLY, UPON ESTABLISHMENT OF A NEW SEDIMENT DIKE BELOW THE OLD ONE, THE OLD SEDIMENT DIKE SHOULD BE REMOVED.

11. A PUMP AROUND MUST BE INSTALLED ON ANY TRIBUTARY OR STORM DRAIN OUTFALL WHICH CONTRIBUTES BASEFLOW TO THE WORK AREA. THIS SHOULD BE ACCOMPLISHED BY LOCATING A SANDBAG DIKE AT THE DOWNSTREAM END OF THE TRIBUTARY OR STORM DRAIN OUTFALL AND PUMPING THE STREAM FLOW AROUND THE WORK AREA. THIS WATER SHOULD DISCHARGE ONTO THE SAME VELOCITY DISSIPATER USED FOR THE MAIN STEM PUMP AROUND.

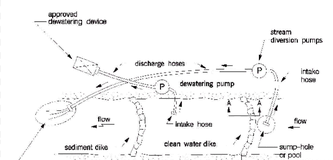
12. IF A TRIBUTARY IS TO BE RESTORED, CONSTRUCTION SHOULD TAKE PLACE ON THE TRIBUTARY BEFORE WORK ON THE MAIN STEM REACHES THE TRIBUTARY CONFLUENCE. CONSTRUCTION IN THE TRIBUTARY, INCLUDING PUMP AROUND PRACTICES, SHOULD FOLLOW THE SAME SEQUENCE AS FOR THE MAIN STEM OF THE RIVER OR STREAM. WHEN CONSTRUCTION ON THE TRIBUTARY IS COMPLETED, WORK ON THE MAIN STEM SHOULD RESUME. WATER FROM THE TRIBUTARY SHOULD CONTINUE TO BE PUMPED AROUND THE WORK AREA IN THE MAIN STEM.

13. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ACCESS TO AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL DEVICES UNTIL THE SEDIMENT CONTROL INSPECTOR APPROVES THEIR REMOVAL.

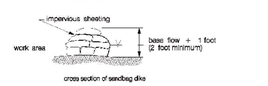
14. AFTER CONSTRUCITON, ALL DISTURBED AREAS SHOULD BE REGRADED AND REVEGETATED AS PER THE PLANTING PLAN.

Maryland's Guidelines To Waterway Construction
DETAIL 1.2: PUMP–AROUND PRACTICE

PLAN VIEW



SECTION A–A



TRIBUTARY INSTREAM CONSTRUCTION MEASURES — REVISED NOVEMBER 2000 — PAGE 1.2 – 2 — MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NOTES:

1. STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
3. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	STABILIZED CONSTRUCTION ENTRANCE	SCE
FILTER BAG PHASE 1	FB	SANDBAGS PHASE 1	
PUMP PHASE 1	P	SILT FENCE PHASE 1	SF

STABILIZED CONSTRUCTION ENTRANCE (SCE)		
ID NO.	QUANTITY	STATION
SCE 1.1	1 EA	STA. 195+62, LT

SANDBAGS (SB)				
ID NO.	QUANTITY	STATION	HEIGHT	TOP ELEV.
SB 1.1	100 EA	STA. 199+20, RT	48"	638 FT
SB 1.2	70 EA	STA. 195+15, RT	48"	639 FT
SB 1.3	70 EA	STA. 197+60, RT	48"	633 FT

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND — STEVEN W. MERCADO — 38931 — PROFESSIONAL ENGINEER

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET — Date
Chief, Design Section
APPROVED
FOR SIGNATURES SEE TITLE SHEET — Date
Chief, Division of Engineering Services

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 1 SC- 11 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

STA. 194+50 TO STA. 200+00

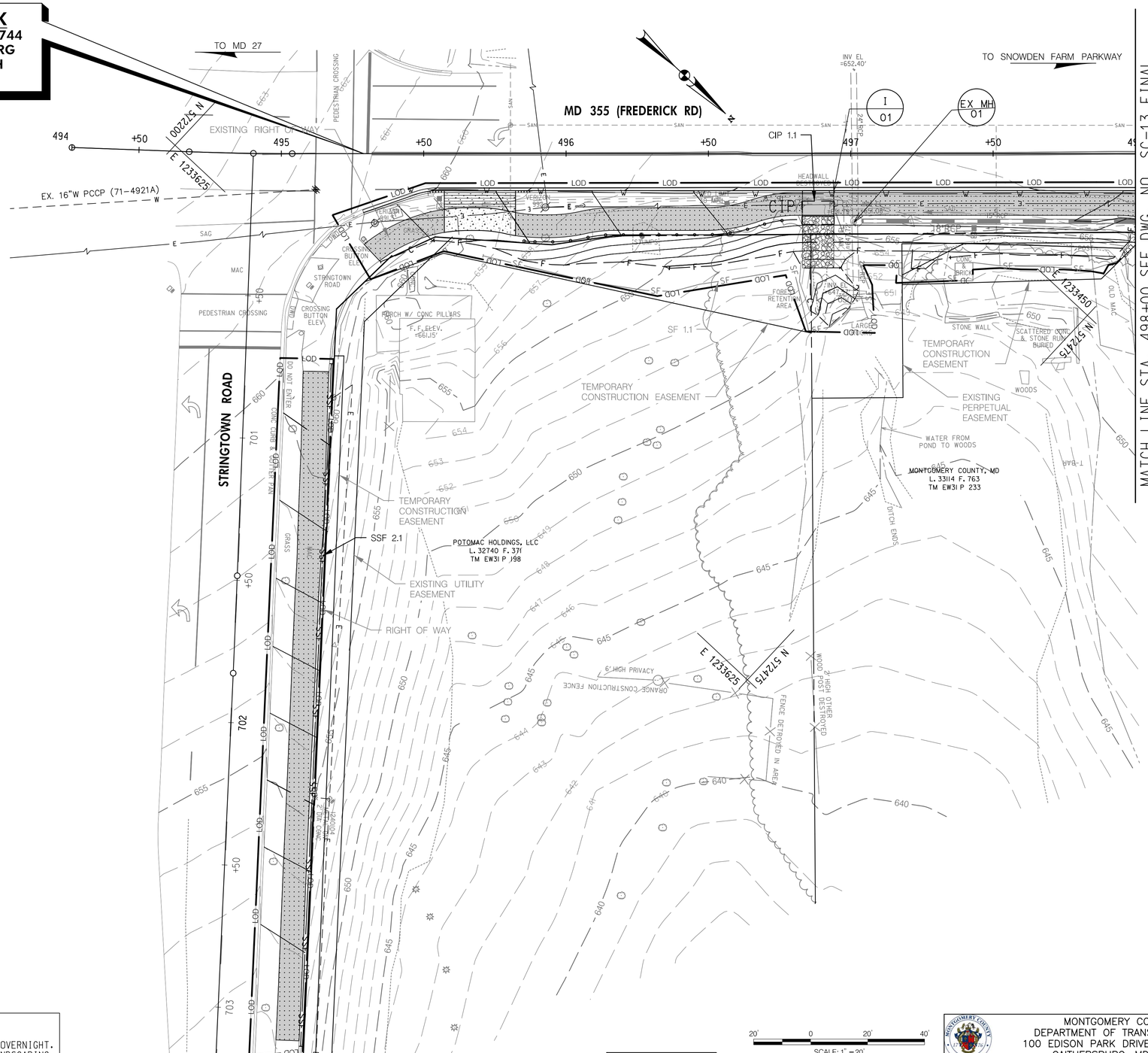
09/2022

Project No. : C.I.P. PR. # 501744 SHEET 39 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-37_SC11_MD355_INITIAL.dgn

DPS FILE NO. SC0037 OF SC0047

LIMIT OF WORK
C.I.P. PROJECT NO. 501744
MD 355 – CLARKSBURG
SHARED USE PATH
STA. 495+29



INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 1.1	STA. 496+88, RT	1 EA	0.02

SUPER SILT FENCE (SSF)		
SSF 2.1	240 LF	STA. 495+07 TO 495+18, RT

NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	CURB INLET PROTECTION PHASE 2	CIP
SILT FENCE PHASE 1	SF		
SUPER SILT FENCE PHASE 2	SSF	SAME DAY STABILIZATION	

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

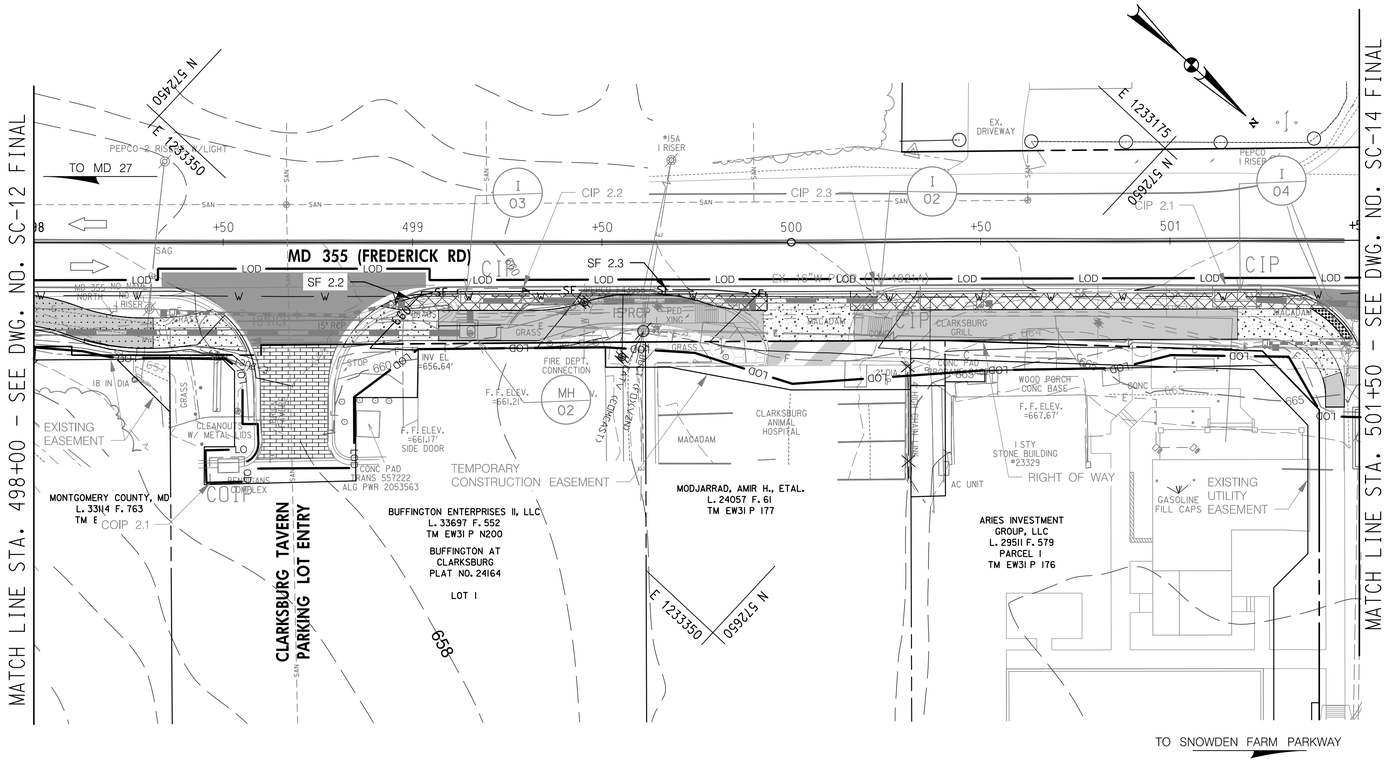
EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC- 12 OF 19
MD 355 - CLARKSBURG SHARED USE PATH
STA. 495+29 TO STA. 498+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 40 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-38_SC12_MD355_FINAL.dgn

DPS FILE NO. SC0038 OF SC0047



SILT FENCE (SF)		
SF 2.2	17 LF	STA. 498+95 TO 499+12, RT
SF 2.3	64 LF	STA. 499+29 TO 499+90, RT

NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	CURB INLET PROTECTION PHASE 1	CIP
SILT FENCE PHASE 1	SF	COMBINATION INLET PROTECTION PHASE 1	COIP
SILT FENCE PHASE 2	SF	SAME DAY STABILIZATION	

20' 0 20' 40'

SCALE: 1" = 20'

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC- 13 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

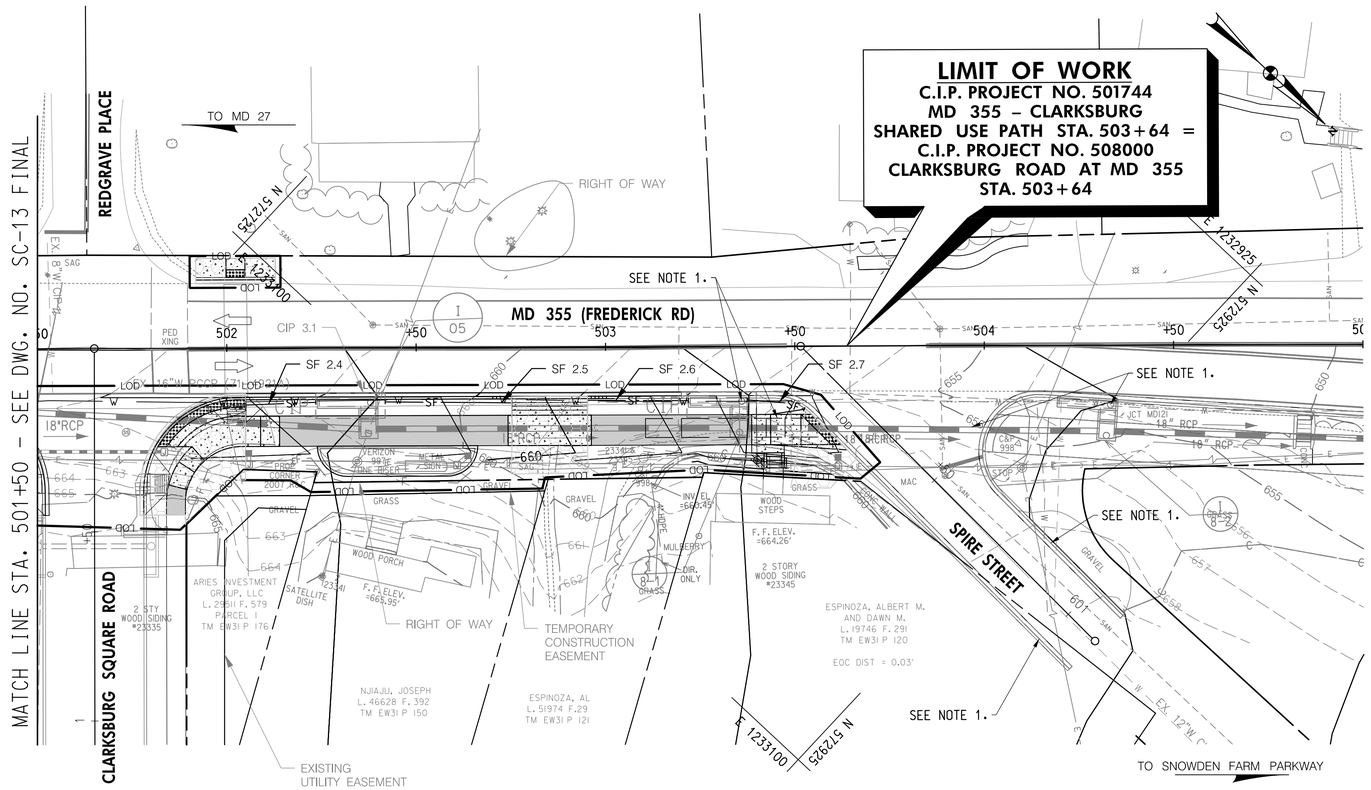
STA. 498+00 TO STA. 501+50

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 41 of 97

PLOTTED: 8/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-39_SC13_MD355_FINAL.dgn

DPS FILE NO. SC0039 OF SC0047



SILT FENCE (SF)		
SF 2.4	18 LF	STA. 502+05 TO 502+23, RT
SF 2.5	33 LF	STA. 502+42 TO 502+75, RT
SF 2.6	27 LF	STA. 502+95 TO 503+22, RT
SF 2.7	15 LF	STA. 503+32 TO 503+52, RT

NOTES:

1. CURB & GUTTER, SHARED USE PATH, TEMPORARY CURB RAMP, INLETS AND STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
3. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD
SILT FENCE PHASE 2	SF
CURB INLET PROTECTION PHASE 1	CIP
SAME DAY STABILIZATION	

20' 0 20' 40'
SCALE: 1" = 20'

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MARCUS · 38931 · PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC- 14 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

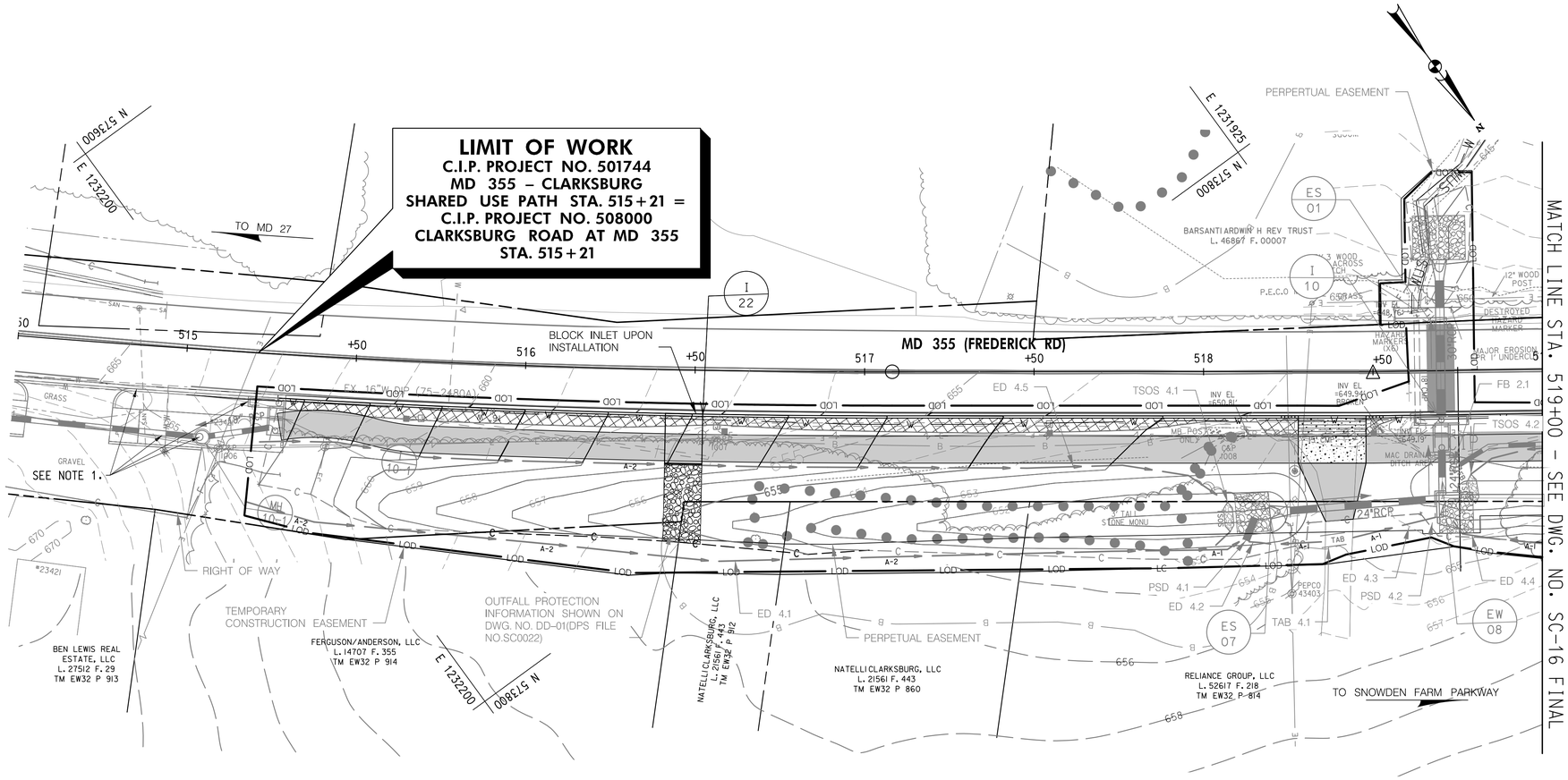
STA. 501+50 TO STA. 505+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 42 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-40_SC14_MD355_FINAL.dgn

DPS FILE NO. SC0040 OF SC0047



NOTES:

1. CURB & GUTTER, SHARED USE PATH, TEMPORARY CURB RAMP, INLETS AND STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
3. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	TEMPORARY ASPHALT BERM PHASE 1	TAB
CURB INLET PROTECTION PHASE 1	CIP	TEMPORARY STONE OUTLET STRUCTURE PHASE 1	TSOS
EARTH DIKE PHASE 1		FILTER BAG PHASE 1	FB
PIPE SLOPE DRAIN PHASE 1			

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

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LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-41_SC15_M_D355_FINAL.dgn

EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC- 15 OF 19

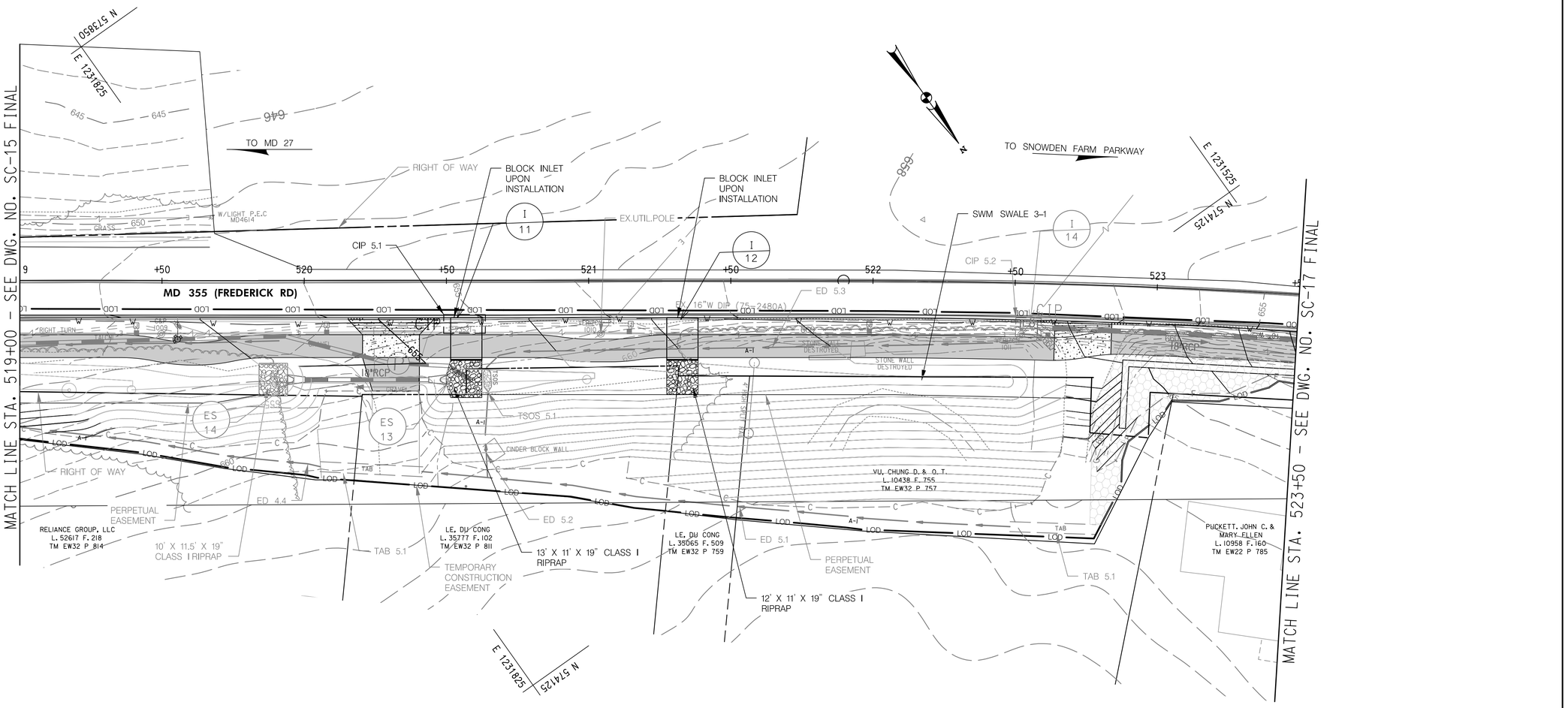
MD 355 - CLARKSBURG SHARED USE PATH

STA. 514+50 TO STA. 519+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 43 of 97

DPS FILE NO. SC0041 OF SC0047



INLET PROTECTION (IP)			
ID NO.	STATION	QUANTITY	DRAINAGE AREA (AC)
CIP 5.1	STA. 520+52, RT	1 EA	0.34

NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	TEMPORARY ASPHALT BERM PHASE 1	TAB
EARTH DIKE PHASE 1	A-1	SAME DAY STABILIZATION	
CURB INLET PROTECTION PHASE 1	CIP	CURB INLET PROTECTION PHASE 2	CIP
TEMPORARY STONE OUTLET STRUCTURE PHASE 1	TSOS		

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

PROFESSIONAL CERTIFICATION:

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LICENSE NO: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. REDDOCK · 38931 · PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-42_SC16_MD355_FINAL.dgn

EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC- 16 OF 19

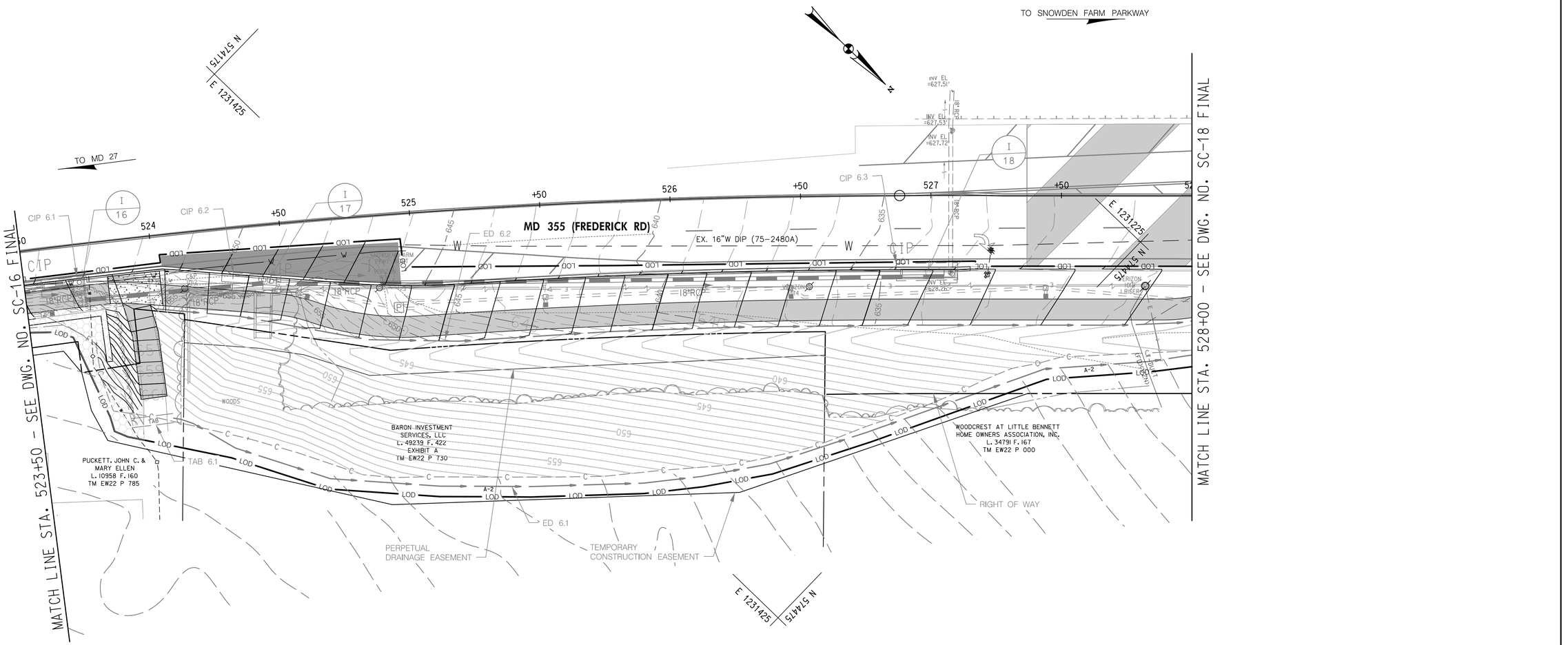
MD 355 - CLARKSBURG SHARED USE PATH

STA. 519+00 TO STA. 523+50

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 44 of 97

DPS FILE NO. SC0042 OF SC0047



NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	EARTH DIKE PHASE 1	A-1
CURB INLET PROTECTION PHASE 1	CIP	TEMPORARY ASPHALT BERM PHASE 1	TAB
		SAME DAY STABILIZATION	

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC-17 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

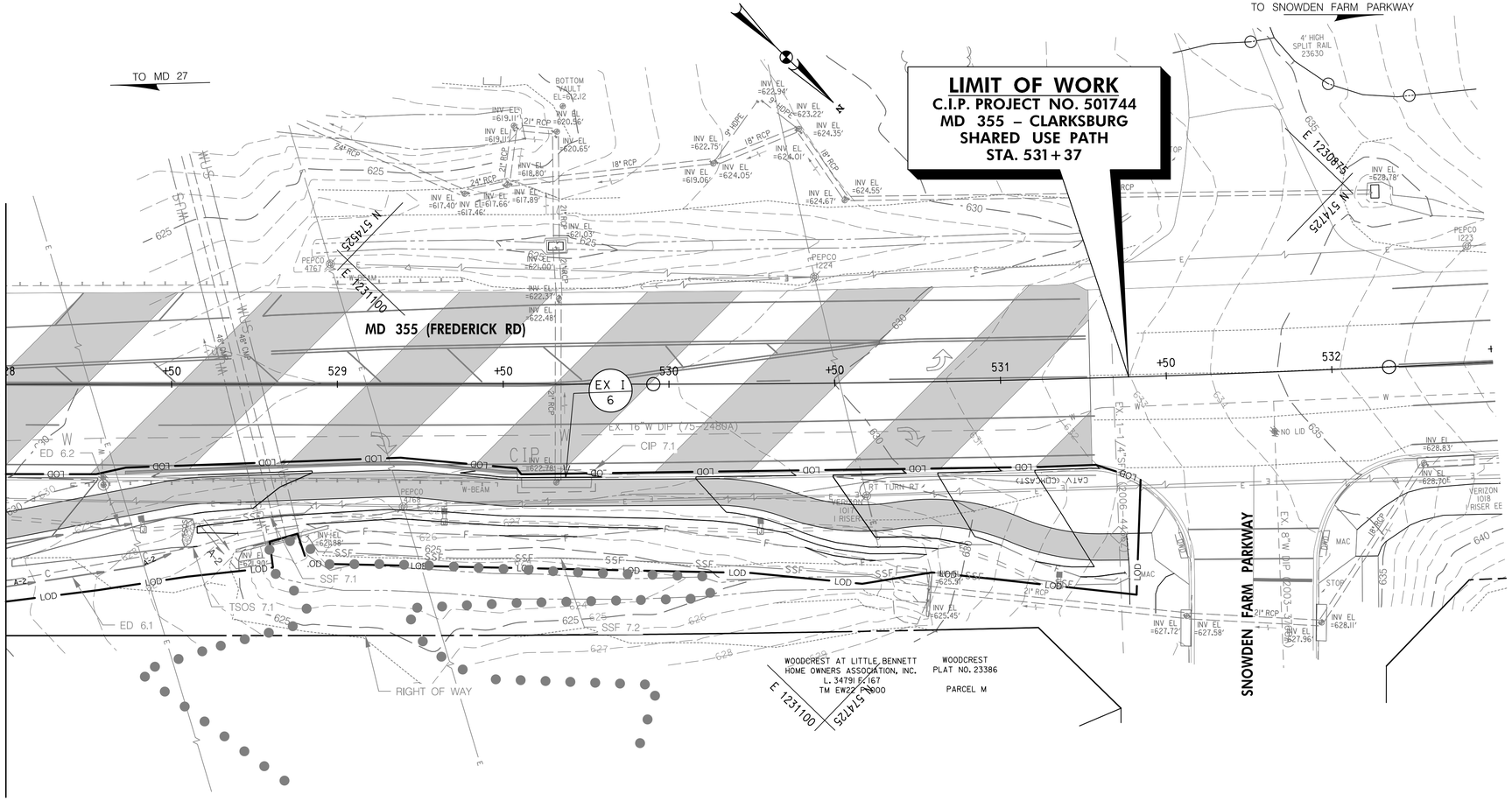
STA. 523+50 TO STA. 528+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 45 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-43_SC17_MD355_FINAL.dgn

DPS FILE NO. SC0043 OF SC0047



NOTES:

1. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
2. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	TEMPORARY STONE OUTLET STRUCTURE PHASE 1	TSOS
SUPER SILT FENCE PHASE 1	SSF	EARTH DIKE PHASE 1	A-2
CURB INLET PROTECTION PHASE 1	CIP	TEMPORARY SWALE PHASE 1	A-2

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC-18 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

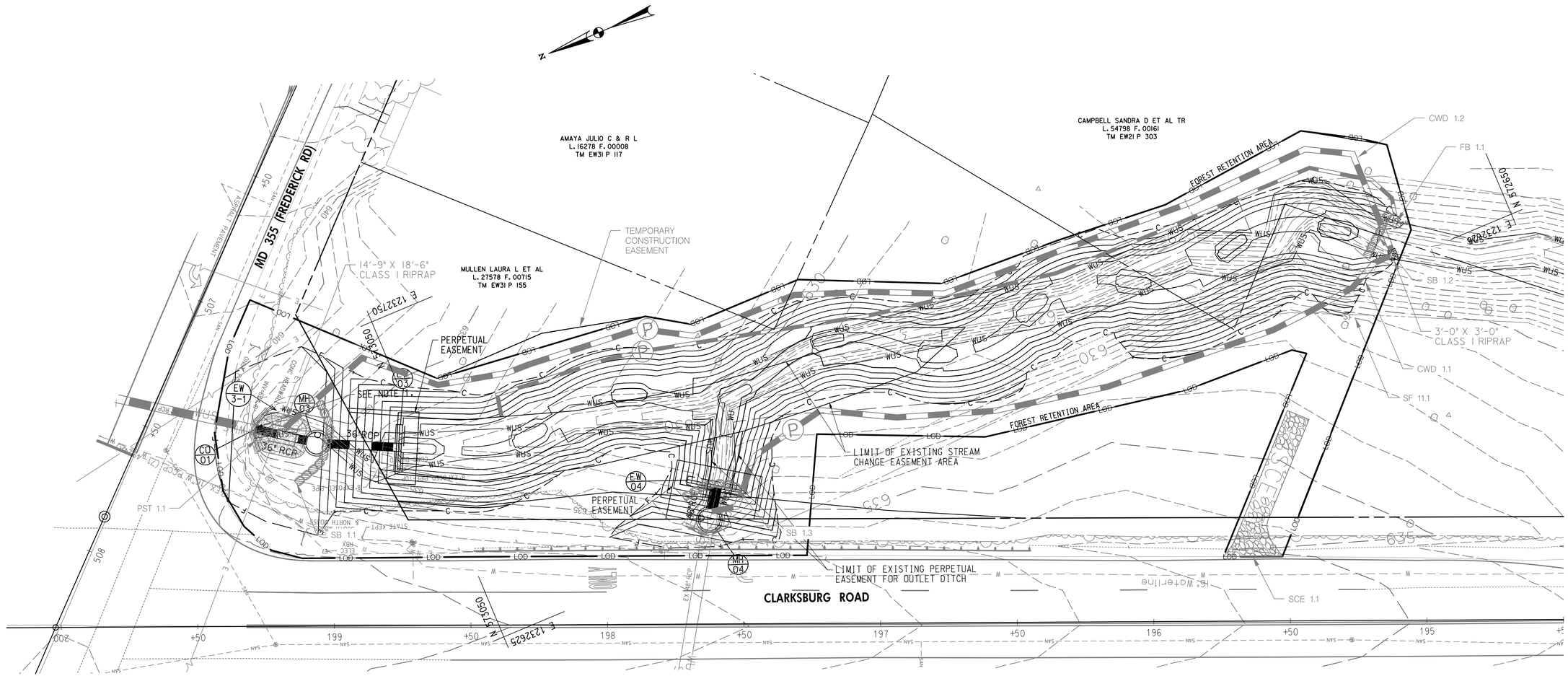
STA. 528+00 TO STA. 531+37

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 46 of 97

PLOTTED: 8/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-44_SC18_MD355_FINAL.dgn

DPS FILE NO. SC0044 OF SC0047



NOTES:

1. STORM DRAIN TO BE CONSTRUCTED BY C.I.P. PROJECT 508000 BEFORE THIS PROJECT.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT.
3. FOR FOREST CONSERVATION MEASURES, REFER TO LANDSCAPING PLANS.

MERCADO CONSULTANTS, INC.

LEGEND

LIMIT OF DISTURBANCE	LOD	STABILIZED CONSTRUCTION ENTRANCE PHASE 1	SCE
SANDBAGS PHASE 1		FILTER BAG PHASE 1	FB
PUMP PHASE 1	P	SILT FENCE PHASE 1	SF

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

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: 38931 EXPIRATION DATE: 12-22-2023

STATE OF MARYLAND · MICHAEL W. MERCADO · 38931 · PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : MWM Drawn by : NL Checked by : MWM

EROSION AND SEDIMENT CONTROL PLANS PHASE 2 SC-19 OF 19

MD 355 - CLARKSBURG SHARED USE PATH

STA. 194+50 TO STA. 200+00

09/2022

Project No. : C.I.P. PR. # 501744 SHEET 47 of 97

PLOTTED: 9/2/2022
FILE: P:\Projects\1403\1403.03\Water Resources\ESC\pES-45_SC19_MD355_FINAL.dgn

DPS FILE NO. SC0045 OF SC0047

MAINTENANCE OF TRAFFIC NOTES:

1. THE TEMPORARY TRAFFIC CONTROL PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF TRANSPORTATIONS STATE HIGHWAY ADMINISTRATION (MDOT SHA) BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES, THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MD-MUTCD), AND THE MDOT SHA DETAILS FOR TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS. THE SHADED AREAS ON THE MAINTENANCE OF TRAFFIC PLANS WILL REPRESENT THE AREA TO BE CONSTRUCTED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT SAFETY OF THE PUBLIC AND THE WORK CREW IS MAINTAINED AT ALL TIMES THROUGHOUT THE TERM OF THE CONTRACT. THE MOTORIST SHALL BE GUIDED IN A CLEAR AND POSITIVE MANNER WHILE APPROACHING AND PASSING THROUGH CONSTRUCTION WORK AND EQUIPMENT AREAS.

3. THE CONTRACTOR SHALL INSTALL (PRIOR TO BEGINNING CONSTRUCTION) AND MAINTAIN (DURING CONSTRUCTION) ALL NECESSARY TRAFFIC CONTROL DEVICES DURING HOURS OF CONSTRUCTION AND AT ALL OTHER TIMES IN ACCORDANCE WITH THE METHODS OF TRAFFIC CONTROL SHOWN ON THESE DRAWINGS, THE SPECIFICATIONS, AND THE MD MUTCD. THE WORK HOURS ARE SUBJECT TO COMPLIANCE WITH MDOT SHA SPECIFICATIONS.

4. WORK WITHIN LANE CLOSURE FLAGGING OPERATIONS ALONG 2 LANE SECTIONS SHALL BE PERFORMED DURING DAY-TIME HOURS FROM 9 AM TO 5 PM. REFER TO THE CONTRACT SPECIAL PROVISIONS FOR ALL LANE CLOSURE RESTRICTIONS AND TIMES.

5. THE CONTRACTOR AND INSPECTORS SHALL NOT PARK VEHICLES OR WORK BEHIND DRUMS WITHIN THE TAPER OR BUFFER AREAS.

6. WORK SHALL BE PERFORMED ON A BLOCK-BY-BLOCK BASIS OR 1000 FOOT MAXIMUM SEGMENTS. THE MAINTENANCE OF TRAFFIC (MOT) PLANS ARE INTENDED TO CONVEY A TYPICAL MOT LAYOUT FOR EACH ROADWAY SECTION. ALL CHANNELIZATION DEVICES AND FLAGGERS SHALL BE RE-POSITIONED ACCORDINGLY AS CONSTRUCTION PROGRESSES.

7. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 11' TRAVEL LANES. LOCATIONS OF INDIVIDUAL CHANNELING DRUMS AS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE SHOWN ONLY TO CONVEY THEIR PLACEMENT RELATIVE TO WORK ZONES AND ACTIVE TRAFFIC LANES.

8. DRUMS MUST BE REMOVED IN THE TRAVEL LANE BY THE END OF EACH CONSTRUCTION WORK PERIOD.

9. STAGING OR STOCKPILING OF MATERIAL ON-SITE SHALL BE PROHIBITED.

10. ANY DAMAGE TO EXISTING STRUCTURES, SIGNS, POSTS OR HARDWARE AS A RESULT OF OPERATIONS DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT NO ADDITIONAL COST TO THE STATE.

11. TEMPORARY SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH MDOT SHA STD NO 104.01-17A,104.01-17B, 104.01-17C AND MDOT SHA SPECIFICATIONS NOS 812.01 AND 812.04. ALL SIGNS THAT ARE NOT APPLICABLE DUE TO TEMPORARY TRAFFIC CONTROL CONDITIONS SHALL BE RELOCATED WHEN NECESSARY, COMPLETELY COVERED WITH AN OPAQUE MATERIAL, OR REMOVED WITH APPROVAL FROM THE ENGINEER. ALL APPLICABLE SIGNS SHALL BE MAINTAINED DURING CONSTRUCTION UNLESS OTHERWISE SPECIFIED BY THE ENGINEER OR AS NOTED IN THE CONTRACT DOCUMENTS. ALL SIGNS SHALL BE PROPERLY REDISPLAYED TO TRAFFIC AS SOON AS CONDITIONS WARRANT. ALL SIGN LOCATIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

12. THE ENGINEER SHALL INSPECT THE MAINTENANCE OF TRAFFIC MATERIAL AND APPLICATION ON A ROUTINE BASIS. ALL DEFICIENCIES SHALL BE CORRECTED PROMPTLY UPON NOTICE BY THE ENGINEER.

13. ACCESS SHALL BE PROVIDED TO ALL EXISTING SIDE STREETS AND DRIVEWAYS AT ALL TIMES. A FLOATING FLAGGER SHALL BE USED AT IMPACTED ACCESS POINTS AS NEEDED UNLESS OTHERWISE APPROVED BY THE ENGINEER.

14. TRAFFIC SIGNALS SHALL BE MAINTAINED BY POLICE FORCES IF DAY-TIME FLAGGING OPERATIONS IMPACT THE OPERATIONS OF A SIGNAL.

15. ALL VEHICULAR AND PEDESTRIAN TEMPORARY TRAFFIC CONTROL ACTIVITIES SHALL ADHERE TO THE MARYLAND STATE HIGHWAY ADMINISTRATION'S (MSHA) BOOK OF STANDARDS FOR HIGHWAY, INCIDENTAL STRUCTURES AND TRAFFIC CONTROL APPLICATIONS.

16. CONSTRUCTION ACTIVITIES IMPACTING VEHICULAR TRAVEL ALONG MD 355 (FREDERICK ROAD) SHALL BE PERFORMED USING DAY-TIME STANDARD SHOULDER (AUXILIARY LANE) AND LANE CLOSURE FLAGGING OPERATIONS. REFER TO THE ALLOWABLE LANE CLOSURE SCHEDULE IN THE SPECIAL PROVISIONS FOR SPECIFIC ALLOWABLE WORKING DAYS AND TIMES.

17. EXISTING BUS STOP AND DRIVEWAY ACCESS SHALL BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL COORDINATE WITH MONTGOMERY COUNTY RIDE-ON TO DETERMINE POSSIBLE TEMPORARY PROVISIONS DURING CONSTRUCTION.

18. ACCESS TO EXISTING PEDESTRIAN FACILITIES SHALL BE MAINTAINED DURING CONSTRUCTION. ONLY ONE CORNER OF AN INTERSECTION AND ONE PEDESTRIAN CROSSING ACCESS MAY BE CLOSED AT A TIME, AND PERMANENT SIDEWALK CLOSURES SHOULD BE MINIMIZED.

SEQUENCE OF CONSTRUCTION

THE INTENTION OF THE SEQUENCE OF CONSTRUCTION IS FOR THE CONTRACTOR TO WORK SECTIONS AND AVOID CLOSING THE ROADWAY DOWN COMPLETELY. ONLY ONE OF THE ZONES INDICATED BELOW SHOULD BE UNDER CONSTRUCTION AT ANY GIVEN TIME, WITHOUT EXPRESS CONSENT OF THE ENGINEER AND THE COUNTY EROSION AND SEDIMENT CONTROL INSPECTOR'S APPROVAL. THERE ARE THREE (3) ANTICIPATED ZONES:

ZONE 1 IS FROM STRINGTOWN ROAD TO SPIRE STREET
ZONE 2 IS FROM STATION 515+21 TO STATION 522+50±
ZONE 3 IS FROM STATION 522+50± TO SNOWDEN FARM PARKWAY

THE CONTRACTOR MAY REQUEST TO CONSTRUCT SMALLER SEGMENTS. THESE REQUESTS WILL REQUIRE APPROVAL FROM THE COUNTY PRIOR TO PROCEEDING.

SEQUENCE OF CONSTRUCTION FOR EACH ZONE TO PROCEED AS FOLLOWS:

PHASE 1

1. ESTABLISH THE LOD.
2. INSTALL SILT FENCE ANS SUPER SILT FENCE AS SHOWN ON PLANS. INSTALL INLET PROTECTION.
3. INSTALL STORM DRAIN SYSTEM UNDER A 3-DAY NOAA DRY WEATHER FORECAST FROM DOWNSTREAM TO UPSTREAM AS SHOWN ON PLANS. BLOCK PIPE BETWEEN ES-13 AND ES-14. USE SAME DAY STABILIZATION (SDS) TO TREAT THE AREAS. AREAS OF SDS MUST BE STABILIZED AT THE END OF EACH WORK DAY. PLACE INLET PROTECTION DEVICES AS SHOWN ON PLANS ONCE STORM DRAIN SYSTEM IS ONLINE.
4. INSTALL EARTH DIKE, TEMPORARY ASPHALT BERMS, TEMPORARY STONE OUTLET STRUCTURE, PUMP AROUND DEVICE , FILTER BAG AND PIPE SLOPE DRAIN AS SHOWN ON PLANS.
5. PROVIDE INITIAL GRADING AS SHOWN ON PLANS.
6. INSTALL STABILIZED CONSTRUCTION ENTRANCE, SILT FENCE, SANDBAGS, PUMP AROUND DEVICE, PORTABLE SEDIMENT TANK, AND FILTER BAG AS SHOWN ON PLANS.

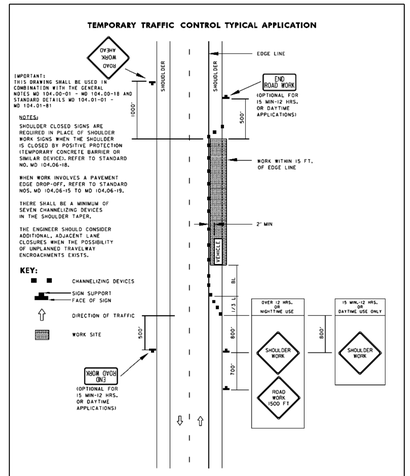
PHASE 2

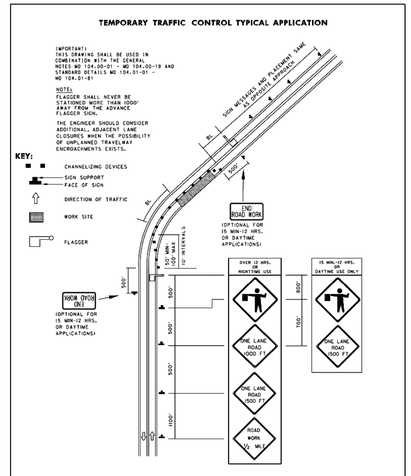
1. ESTABLISH THE LOD.
2. INSTALL INLETS AS SHOWN ON PLANS. PLACE INLET PROTECTION AND BLOCK NECESSARY INLETS.
3. PERFORM STREAM RESTORATION CONSTRUCTION AS SHOWN ON PLANS.
4. CONSTRUCT SHARED USE PATH, RETAINING WALLS, AND PEDESTRIAN LIGHTING AS SHOWN ON PLANS. REMOVE PUMP AROUND DEVICE, NECESSARY EARTH DIKES, PRIOR TO INSTALLING PATHWAY, AND FINALIZE GRADING AS EACH UPSTREAM SECTION OF PATHWAY IS CONSTRUCTED.
5. WITH WRITTEN APPROVAL FROM THE REC, REMOVE THE REST OF EROSION AND SEDIMENT CONTROLS AND STABILIZE AREAS DISTURBED BY THEIR REMOVAL, AND UNBLOCK ALL REMAINING INLETS AND PIPES.

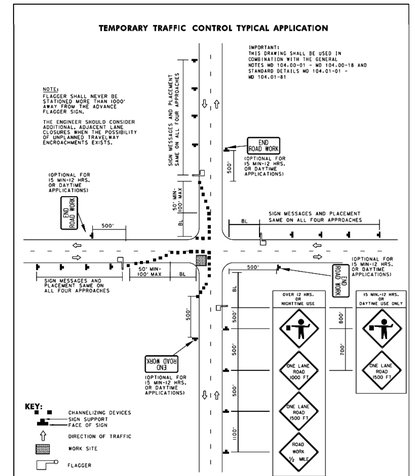
PROJECT WIDE SEQUENCE OF CONSTRUCTION ITEMS INCLUDE THE FOLLOWING:

1. THE CONTRACTOR MUST SUBMIT A DETAILED WORK PLAN WITH THE PROPOSED SEQUENCE OF CONSTRUCTION IN CONJUNCTION WITH THE PROJECT SCHEDULE. SUBMITTAL AND APPROVAL OF THIS PLAN WILL BE REQUIRED PRIOR TO THE START OF ANY WORK ON THE PROJECT. THE PLAN WILL NEED TO ADHERE TO ALL OF THE REQUIREMENTS, RESTRICTIONS, NOTES AND DETAILS INCORPORATED IN THE PLANS AND SPECIAL PROVISIONS INCLUDING A PHASED CONSTRUCTION.
2. PLACE ADVANCED PVMS 7 DAYS PRIOR TO CONSTRUCTION AND WILL REMAIN 7 DAYS AFTER CONSTRUCTION HAS BEGUN ALONG MD 355.
3. PRIOR TO STARTING ANY LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL FIELD MARK THE LIMITS OF DISTURBANCE.
4. PRIOR TO BEGINNING WORK OR NEW CONSTRUCTION STAGE, THE CONTRACTOR SHALL REFER TO THE EROSION AND SEDIMENT CONTROL PLANS FOR THE REQUIRED EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED.
5. WORK SHALL BE PERFORMED WHILE MAINTAINING A SINGLE LANE OF TRAFFIC ON A BLOCK-BY-BLOCK BASIS OR 1000 FOOT MAXIMUM SEGMENTS.
6. UTILIIZE DAY-TIME STANDARD SHOULDER CLOSURE (104.02-02) OR LANE CLOSURE FLAGGING OPERATIONS (MD 104.02-10 AND 104.02-14) FOR ALL CONSTRUCTION WORK.
7. ALL PROPOSED DRAINAGE SYSTEMS SHALL BE COMPLETED PRIOR TO MOVING TO THE NEXT WORK AREA.
8. THE FINAL STAGE OF CONSTRUCTION SHALL INCLUDE INSTALLING THE FINAL PAVEMENT SURFACE, SIGNING, PAVEMENT MARKINGS AND LANDSCAPING FOR THE ENTIRE LIMITS OF WORK.

STANDARD DETAILS







WALLACE MONTGOMERY
ENGINEERS · PLANNERS · SURVEYORS · CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com
A Limited Liability Partnership

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.
JOHN L. RECTANUS MD NO-25173 EXP-06/21/2023

SEAL
STATE OF MARYLAND
JOHN LONDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER
DATE: 02-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

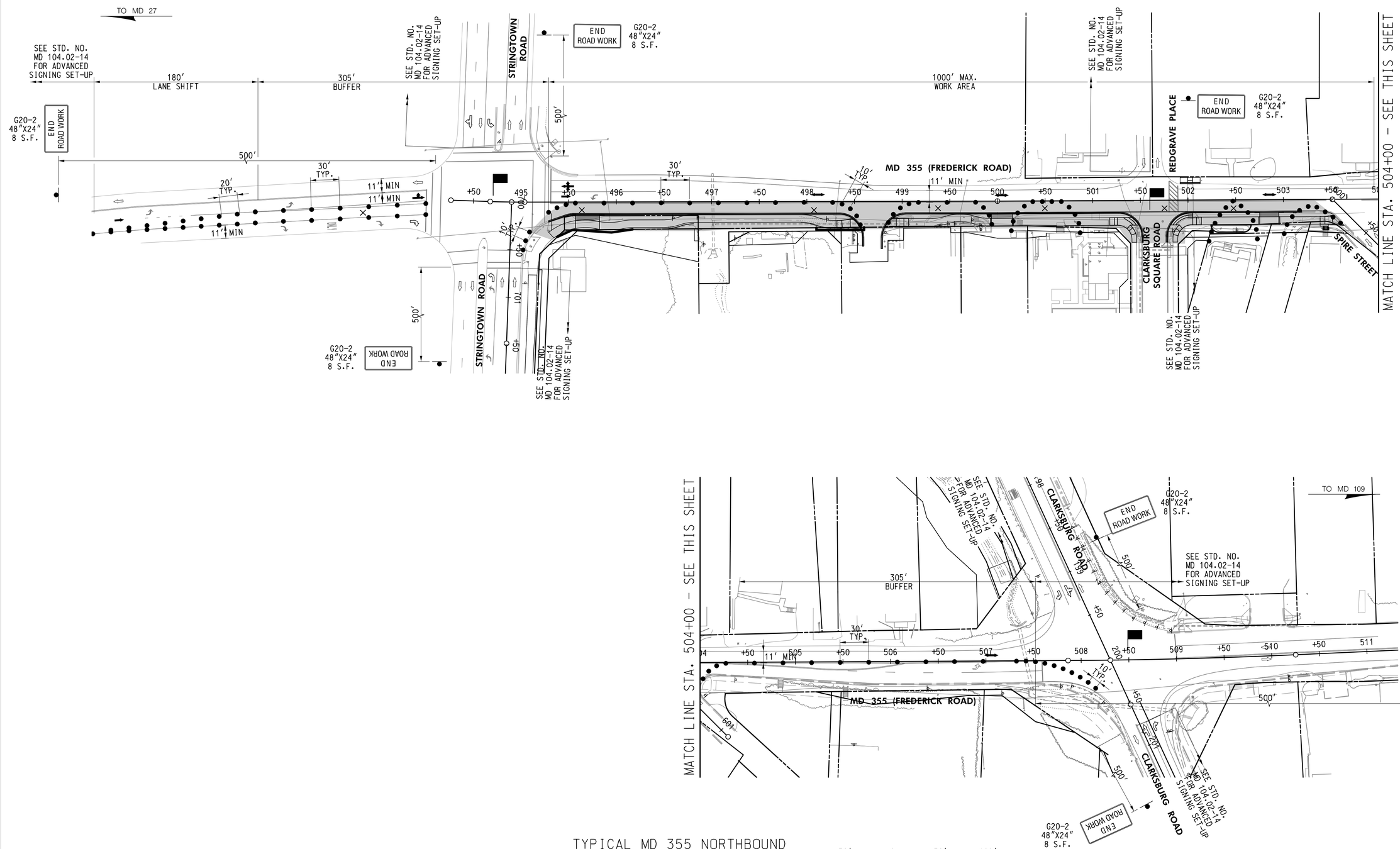
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET MT-01
MAINTENANCE OF TRAFFIC PLANS
MD 355 - CLARKSBURG SHARED USE PATH
NOTES AND DETAILS

02/2023

Project No. : C.I.P. PR. # 501744 SHEET 48 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pMT-N001_MD355.dgn



TYPICAL MD 355 NORTHBOUND FLAGGING OPERATION

50′ 0 50′ 100′
SCALE: 1"=50′

MOT LEGEND

- CURRENT STAGE WORK AREA/ PROPOSED CONSTRUCTION
- TEMPORARY TRAFFIC FLOW ARROWS
- EXISTING TRAFFIC FLOW ARROW
- CLOSED LANE
- CHANNELIZING DEVICE
- TEMPORARY SIGN & SUPPORT
- FLAGGER

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JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

SEAL
STATE OF MARYLAND · JOHN LINDON RECTANUS · No. 25173 · PROFESSIONAL ENGINEER
DATE: 06-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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FOR SIGNATURES SEE TITLE SHEET
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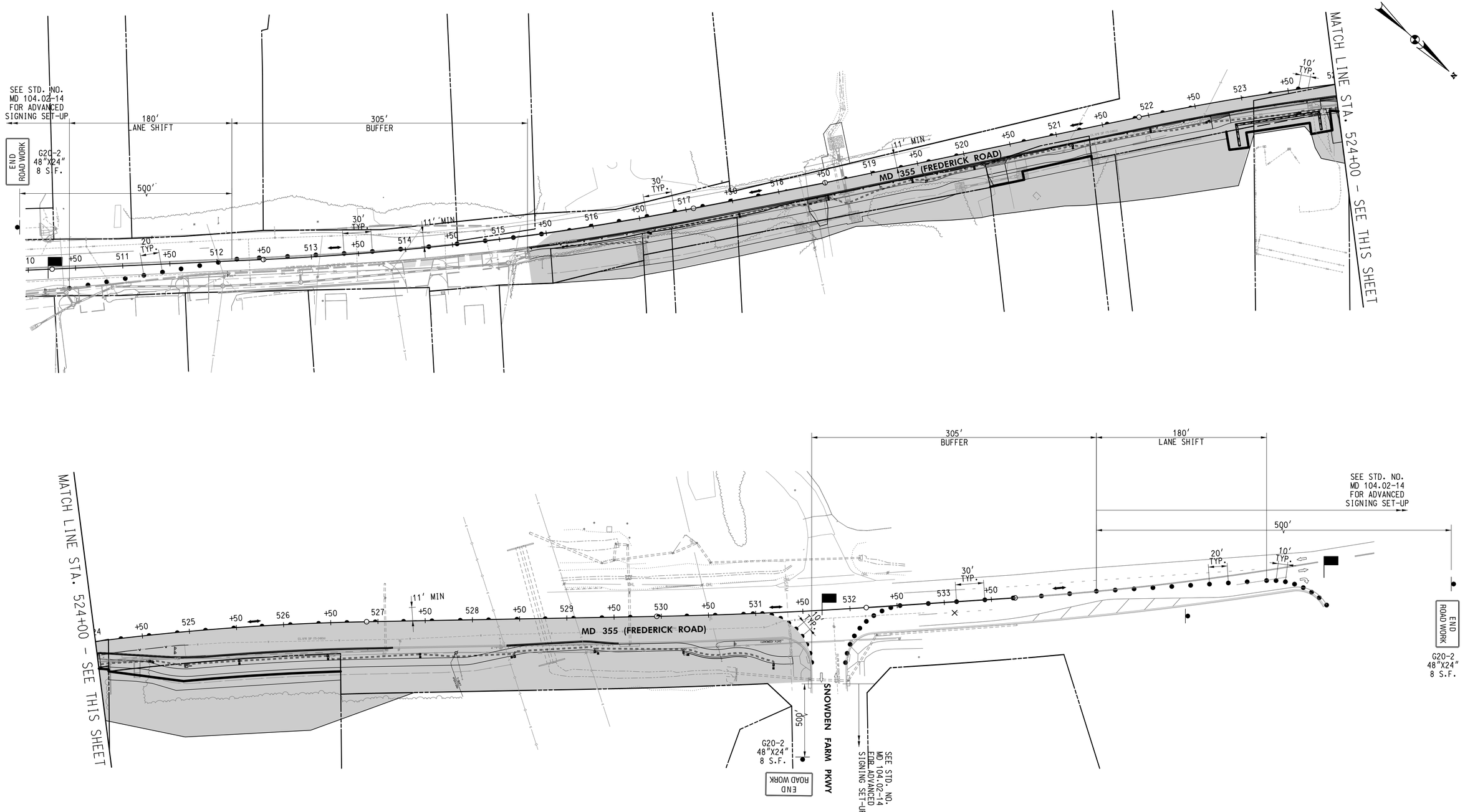
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pMT-P101_MD355.dgn

PLAN SHEET MT-02
MAINTENANCE OF TRAFFIC
MD 355 - CLARKSBURG SHARED USE PATH
TYPICAL PLAN

SCALE: 1"= 50′ 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 49 of 97



TYPICAL MD 355 NORTHBOUND FLAGGING OPERATION

50' 0 50' 100'
SCALE: 1"=50'

MOT LEGEND

- CURRENT STAGE WORK AREA/ PROPOSED CONSTRUCTION
- TEMPORARY TRAFFIC FLOW ARROWS
- EXISTING TRAFFIC FLOW ARROW
- CLOSED LANE
- CHANNELIZING DEVICE
- TEMPORARY SIGN & SUPPORT
- FLAGGER

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JOHN L. RECTANUS MD NO=25173 EXP=06.21.2023

SEAL — STATE OF MARYLAND · JOHN LINDON RECTANUS · No. 25173 · PROFESSIONAL ENGINEER

DATE: 06-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways\Cadd-MOT\pMT-P102_MD355_PH 2.dgn

PLAN SHEET MT-03
MAINTENANCE OF TRAFFIC PLANS
MD 355 - CLARKSBURG SHARED USE PATH
TYPICAL PLAN

SCALE: 1"= 50' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 50 of 97

SN-1 REV. DATE:

CRITERIA

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT:

DESIGN

MDOT SHA - "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MDMUTCD)

A A S H T O - "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" -1997

A A S H T O - "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2001 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

MATERIALS AND CONSTRUCTION

MDOT SHA - "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

MDOT SHA - "BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

DESIGN WIND

100 MPH - WOOD SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH - GROUND MOUNT SIGN STEEL SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH - OVERHEAD AND CANTILEVER STRUCTURES
50 YEAR RECURRENCE INTERVAL

} ALL DISTRICTS

DESIGN STRESS

SOIL BEARING PRESSURE - S = 3,000 P.S.F. (ASSUMED)
SEE MATERIAL & CONSTRUCTION ABOVE AND SPECIAL PROVISIONS FOR DESIGN STRESSES FOR STRUCTURAL STEEL, ALUMINUM, REINFORCING STEEL AND CONCRETE.

CHAMFER

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" X 3/4" CHAMFER.

CLASSIFICATION OF SIGNS

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

1. GUIDE SIGNS
   - A) STRUCTURAL TYPES
     - OH - OVERHEAD
     - C - CANTILEVER
     - GM - GROUND MOUNT, BREAKAWAY OR NON-BREAKWAY
     - BM - BRIDGE MOUNTED
   - B) PANELS
     - MATERIAL - EXTRUDED ALUMINUM
     - COPY - DIRECT APPLIED
       - I) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)
2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
   - A) STRUCTURAL TYPES
     - WOOD SUPPORTS
     - SQUARE TUBE
   - B) PANELS
     - MATERIAL - SHEET ALUMINUM
     - COPY - DIRECT APPLIED

IDENTIFICATION OF SIGNS AND PANELS

GUIDE SIGNS

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM-1, GM-2, GM-3, etc)
SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH-1a, OH-1b, OH-1c)

STANDARD SIGNS

STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS
- R - REGULATORY
- W - WARNING
- M - ROUTE MARKERS AND ACCESSORIES
- D - DESTINATION AND MILEAGE PANELS
- S - SCHOOL

PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK. EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN.
FOR EXAMPLE SHEET SN 2.1-101,102,103, ETC. SHEET SN 2.2-201,202,203,ETC.

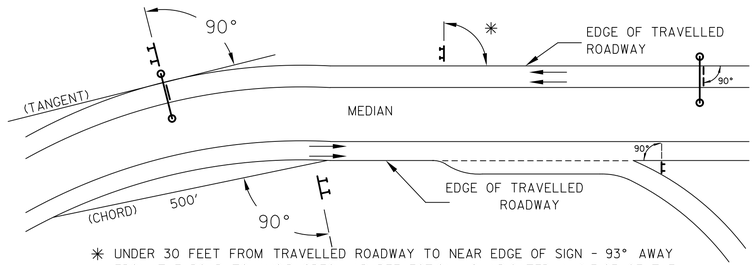
PANEL LAYOUT AND ALPHABETS

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.
2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MDMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE AT http://apps.roads.maryland.gov/businesswithsha/bizstdsspecs/desmanualstdpub/publicationsonline/oots/internet_signbook.asp

REFLECTORIZATION

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE NOTED. REFER TO PROJECT REQUIREMENTS FOR MORE DETAIL.

ORIENTATION OF SIGN FACES



* UNDER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 93° AWAY FROM THE ROAD TO AVOID SPECULAR REFLECTION AS INDICATED IN 813.03 OF THE MARYLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

OVER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 90°

SIGN LOCATIONS

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSION TO SURVEY STATIONS, OR WHEN NECESSARY, TO IDENTIFIABLE PHYSICAL FEATURES.
2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLAN SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

EXISTING UTILITIES

THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION SHOWN ON THE PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATION.

ROADSIDE SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANEL SO FACE IS PLUMB.
2. HORIZONTAL ALIGNMENT (SEE DIAGRAM ABOVE)
   - A) ON STRAIGHT ROADWAY SECTIONS, ANGLE OF SIGN FACE TO ROADWAY VARIES WITH DISTANCE FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - SEE DIAGRAM.
   - B) ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90° WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500' IN ADVANCE OF SIGN.
   - C) ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT THE SIGN LOCATION.
   - D) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

OVERHEAD SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT PANEL FACE IS PLUMB.
2. OVERHEAD SIGN STRUCTURES SHALL NOT BE ERECTED WITHOUT ATTACHING LUMINAIRES, SUPPORTS, AND/OR SIGNS.
3. HORIZONTAL ALIGNMENT
   - A) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE NORMAL EDGE OF ROADWAY, IF ON A STRAIGHT ROADWAY SECTION.
   - B) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT SIGN LOCATION, IF ON A HORIZONTAL CURVE.
   - C) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.
4. VERTICAL CLEARANCE
   - A) OVERHEAD SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 17'-9" FROM ROADWAY TO THE BOTTOM OF LIGHT FIXTURES. ALL LIGHT FIXTURES ARE TO BE AT THE SAME ELEVATION.
   - B) IF THE CONTRACTOR CANNOT OBTAIN 17'-9" (SEE 3A) CLEARANCE, HE IS TO CEASE WORK AND CONTACT THE PROJECT ENGINEER FOR FURTHER INSTRUCTIONS. THE PROJECT ENGINEER MAY CONTACT THE TRAFFIC ENGINEERING DESIGN DIVISION FOR ASSISTANCE.
   - C) ON ALL OVERHEAD SIGNS, THE MINIMUM CLEARANCE TO BOTTOM OF DESIGN SIGN: 20'-9".

PROJECT REQUIREMENTS

ALL NEW SIGNS ON THIS PROJECT SHALL BE FABRICATED FROM SHEETING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER:

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDOT SHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS JULY 2022 EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

2. LISTED ON MDOT SHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL).

PROJECT REQUIREMENTS CONT'D

3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS:

GENERAL NOTE: ALL COLORS SHALL BE RETROREFLECTIVE EXCEPT BLACK. BLACK TEXT, BORDERS, SYMBOLS OR ANY BLACK ELEMENTS OF ANY SIGN SHALL BE NON-REFLECTIVE. THIS APPLIES TO ALL MDOT SHA SIGNS AS SHOWN BELOW.

A) GUIDE, EXIT GORE, GENERAL INFORMATION, AND SERVICE SIGNS - FALL INTO TWO SUB CATEGORIES:

(I). GROUND MOUNTED:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).

(II). OVERHEAD STRUCTURE SIGNS AND OVERHEAD CANTILEVER SIGNS:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF ALL OVERHEAD SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE XI (II). (THIS SECTION DOES NOT APPLY TO OVERHEAD SIGNALIZED INTERSECTION SIGNING; MAST ARM OR SPAN WIRE. FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION FOR SIGNAL SIGNING.)

B) WARNING SIGNS - RETROREFLECTIVE SHEETING FOR WARNING SIGNS (FLUORESCENT YELLOW AND FLUORESCENT ORANGE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

C) SCHOOL SIGNS - RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (FLUORESCENT YELLOW AND FLUORESCENT YELLOW-GREEN) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

D) REGULATORY SIGNS - FALL INTO THREE SUBCATEGORIES:

(I). "RED" REGULATORY SIGNS; (SPECIFICALLY - STOP, YIELD, DO NOT ENTER AND WRONG WAY). ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).

(II). ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE REQUIREMENTS FOR ASTM TYPE IV (4).

(III). ALL OTHER REGULATORY SIGNS - ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET ASTM TYPE IV (4) INCLUDING RED ELEMENTS. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE REQUIREMENTS FOR WARNING SIGNS.

E) ROUTE MARKERS (INDEPENDENT USE AND GUIDE SIGN USE)

INDEPENDENT USE: ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET BUT NOT TO EXCEED THE REQUIREMENTS FOR ASTM TYPE IV (4).

GUIDE SIGN USE: WHEN INCORPORATED IN THE BODY OF A GUIDE SIGN, ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE SHEETING REQUIREMENTS OF THE GUIDE SIGNS FOR WHICH THEY ARE TO BE APPLIED; GROUND MOUNT ASTM TYPE IX (9) OR OVERHEAD ASTM TYPE XI (II).

F) LOGOS AND / OR GRAPHICS - WITHIN SIGNS SHALL FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.

G) SPECIFIC SERVICE (LOGO) SIGNING - ALL COPY, DIVIDER BORDERS, LOGOS AND ARROWS SHALL BE DEMOUNTABLE ALUMINUM OVERLAYS, .032 MINIMUM TO .063 MAXIMUM. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). DISTANCES ON DIRECTIONAL ARROWS WHEN SPECIFIED SHALL BE BLACK. THE OVERLAYS ARE TO BE APPLIED WITH .125 ALUMINUM POP RIVETS TO THE BODY OF THE MAIN SIGN.

H) CIVIL DEFENSE SIGNS AND OTHER SIGNS - NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE, SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.

4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS:

LONGEST DIMENSION	MINIMUM THICKNESS
UP TO 12"	0.040"
GREATER THAN 12" TO 24"	0.063"
GREATER THAN 24" TO 36"	0.080"
GREATER THAN 36" TO 48"	0.100"
OVER 48"	0.125"

DEPARTMENT OF TRANSPORTATION DIVISION OF TRAFFIC ENGINEER AND OPERATIONS MONTGOMERY COUNTY, MD	
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For	SIGNING AND MARKING
BY	
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JOHN L. RECTANUS MD NO-25173 EXP-06/21/2023

SEAL
STATE OF MARYLAND JOHN LONDON RECTANUS No. 25173 PROFESSIONAL ENGINEER
DATE 03-2023

APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

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Chief, Design Section — Date
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Chief, Division of Engineering Services — Date

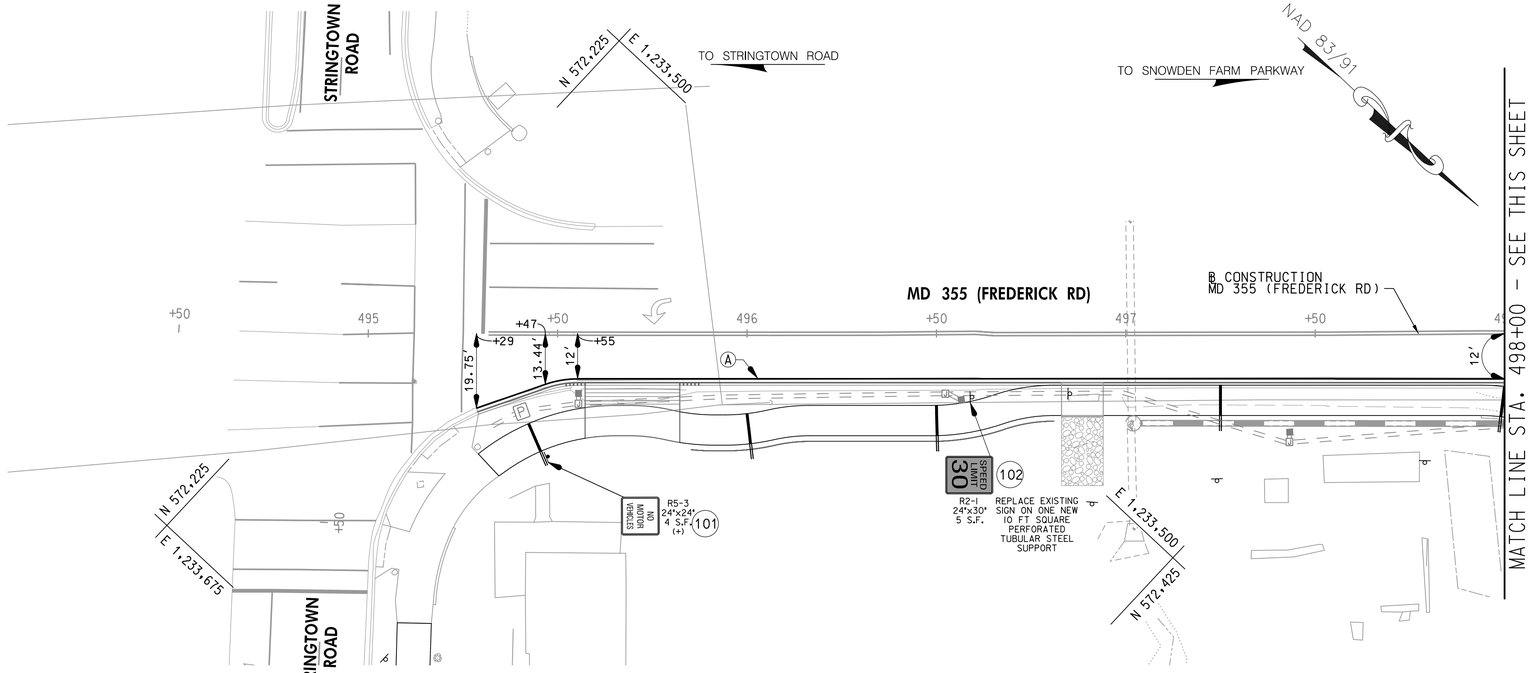
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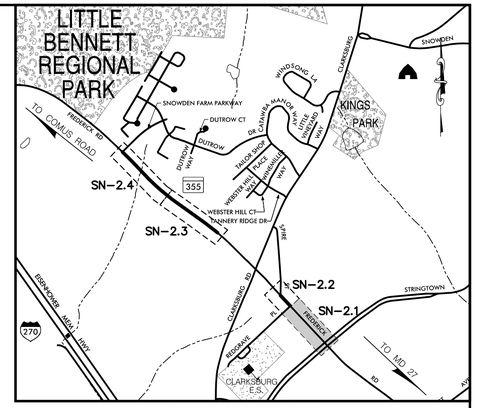
PLAN SHEET SN-01
SIGNING & PAVEMENT MARKING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
GENERAL NOTES

SCALE: N.T.S. 02/2023

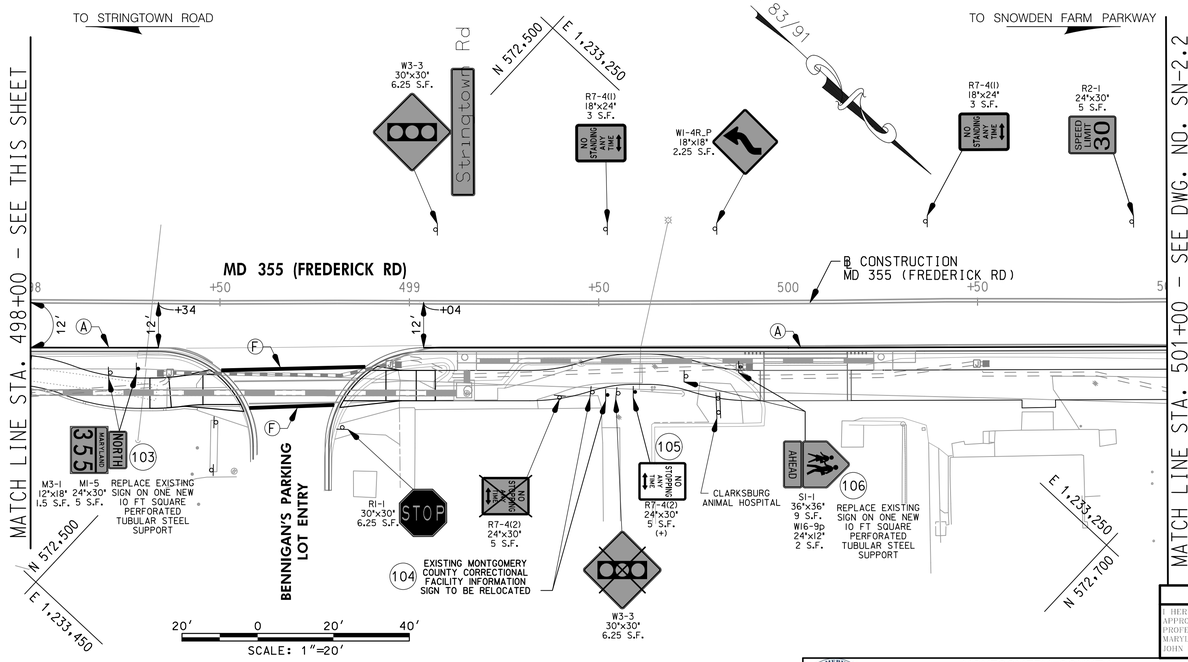
Project No. : C.I.P. PR. # 501744 SHEET 51 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pSN-1001_MD355.dgn





LOCATION MAP
SCALE 1"=1000'



LEGEND

- PROPOSED SIGN & SUPPORT
- EXISTING SIGN & SUPPORT
- EXISTING SIGN & SUPPORT TO BE REMOVED
- LANE USE ARROW

- (A) 5" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
- (B) 5" SOLID YELLOW THERMOPLASTIC PAVEMENT MARKINGS
- (C) 5" DASHED WHITE THERMOPLASTIC PAVEMENT MARKINGS (3' LINE, 9' SPACE)
- (D) 5" SOLID DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKINGS
- (E) 10" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
- (F) 12" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
- (G) 24 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS
- (H) THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (I) EXISTING PAVEMENT MARKINGS TO REMAIN
- (J) EXISTING PAVEMENT MARKINGS TO BE REMOVED
- + INSTALL ON ONE SQUARE PERFORATED TUBULAR STEEL SUPPORT

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TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

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DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

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DIVISION OF TRAFFIC ENGINEER AND OPERATIONS
MONTGOMERY COUNTY, MD

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For: SIGNING AND MARKING

BY:

DATE:

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JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

SEAL — STATE OF MARYLAND — JOHN LONDON RECTANUS — No. 25173 — PROFESSIONAL ENGINEER

DATE 02/01/2023

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
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FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

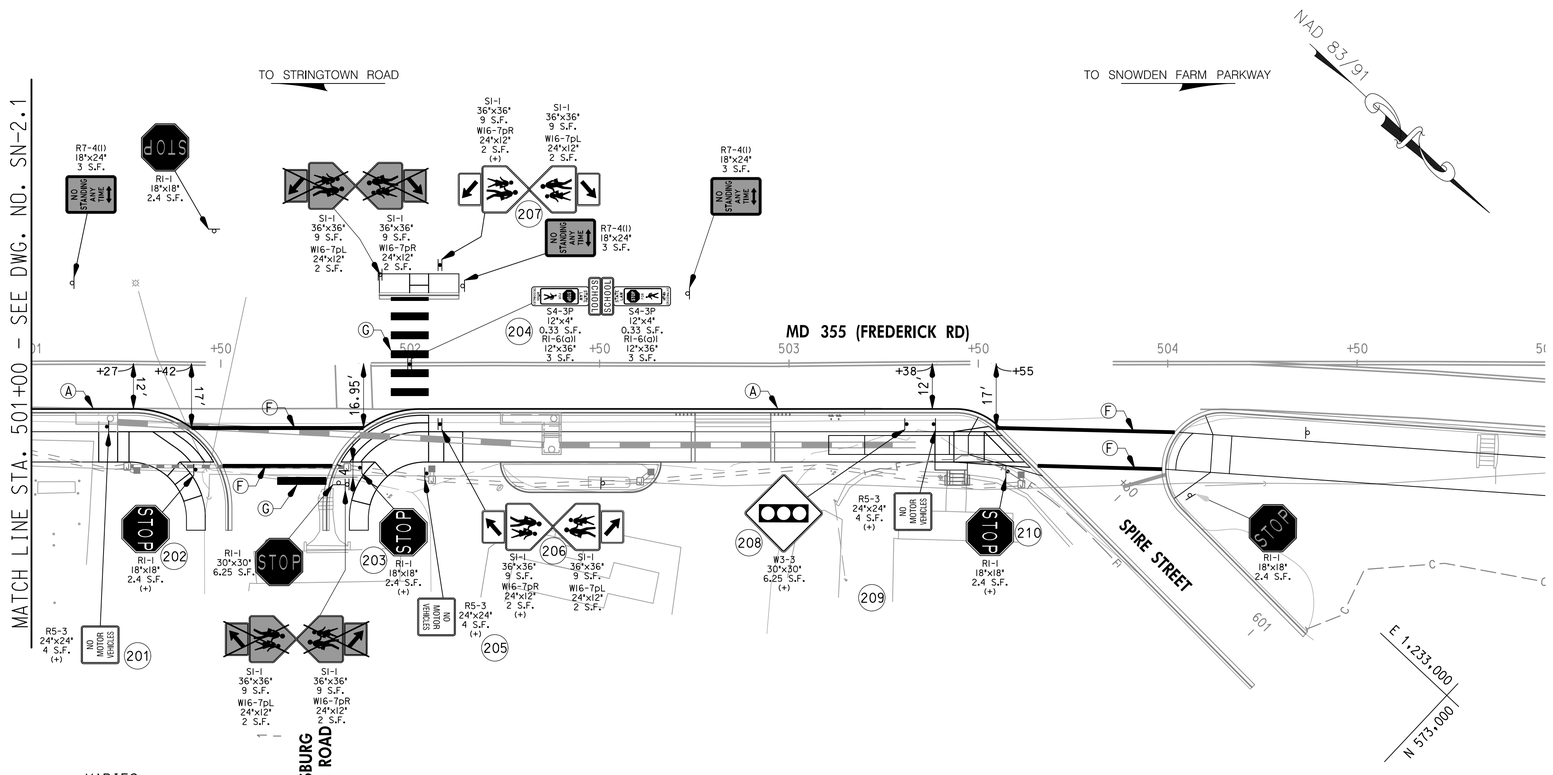
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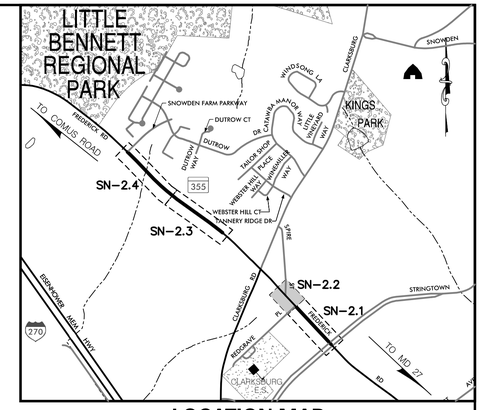
PLAN SHEET SN-2.1
SIGNING & PAVEMENT MARKING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 495+29 TO STA. 501+00

SCALE: 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 52 of 97

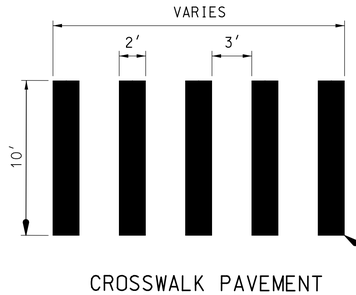
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LOCATION MAP
SCALE 1"=1000'

CROSSWALK PAVEMENT MARKING DETAIL
SCALE: NOT TO SCALE



LEGEND

- PROPOSED SIGN & SUPPORT
- EXISTING SIGN & SUPPORT
- EXISTING SIGN & SUPPORT TO BE REMOVED
- LANE USE ARROW

A	5" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
B	5" SOLID YELLOW THERMOPLASTIC PAVEMENT MARKINGS
C	5" DASHED WHITE THERMOPLASTIC PAVEMENT MARKINGS (3' LINE, 9' SPACE)
D	5" SOLID DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKINGS
E	10" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
F	12" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
G	24 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS
H	THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
I	EXISTING PAVEMENT MARKINGS TO REMAIN
J	EXISTING PAVEMENT MARKINGS TO BE REMOVED
+	INSTALL ON ONE SQUARE PERFORATED TUBULAR STEEL SUPPORT

20' 0 20' 40'
SCALE: 1" = 20'

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ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

DATUM: NAD 83/91 HORIZONTAL
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DIVISION OF TRAFFIC ENGINEER AND OPERATIONS
MONTGOMERY COUNTY, MD

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SEAL
STATE OF MARYLAND
JOHN LENDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER

DATE 02-1-2023

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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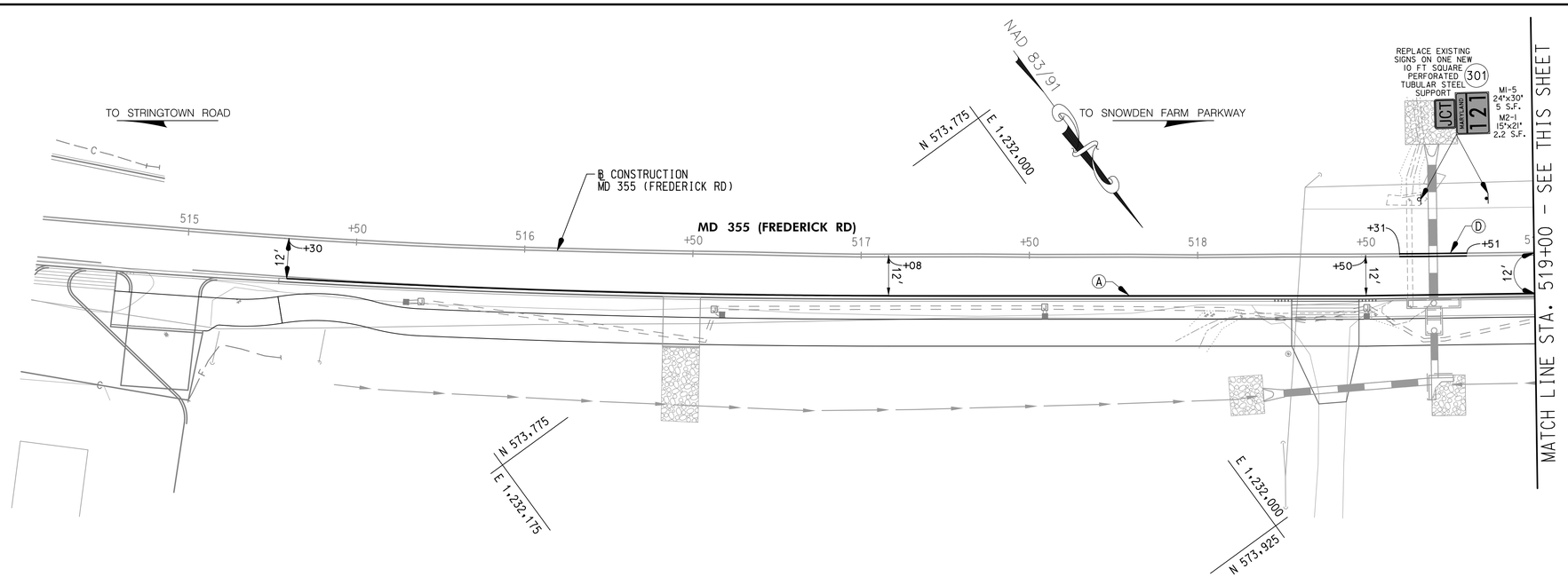
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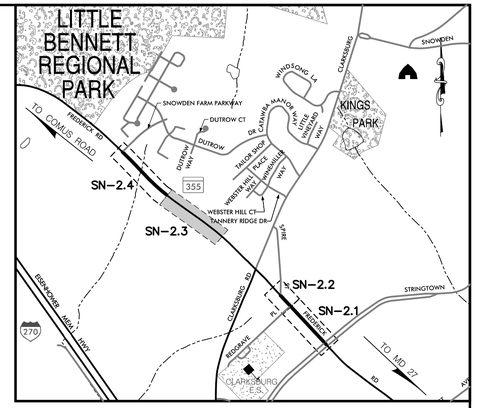
PLAN SHEET SN-2.2
SIGNING & PAVEMENT MARKING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 501+00 TO STA. 505+00

SCALE: 1"= 20' 02/2023

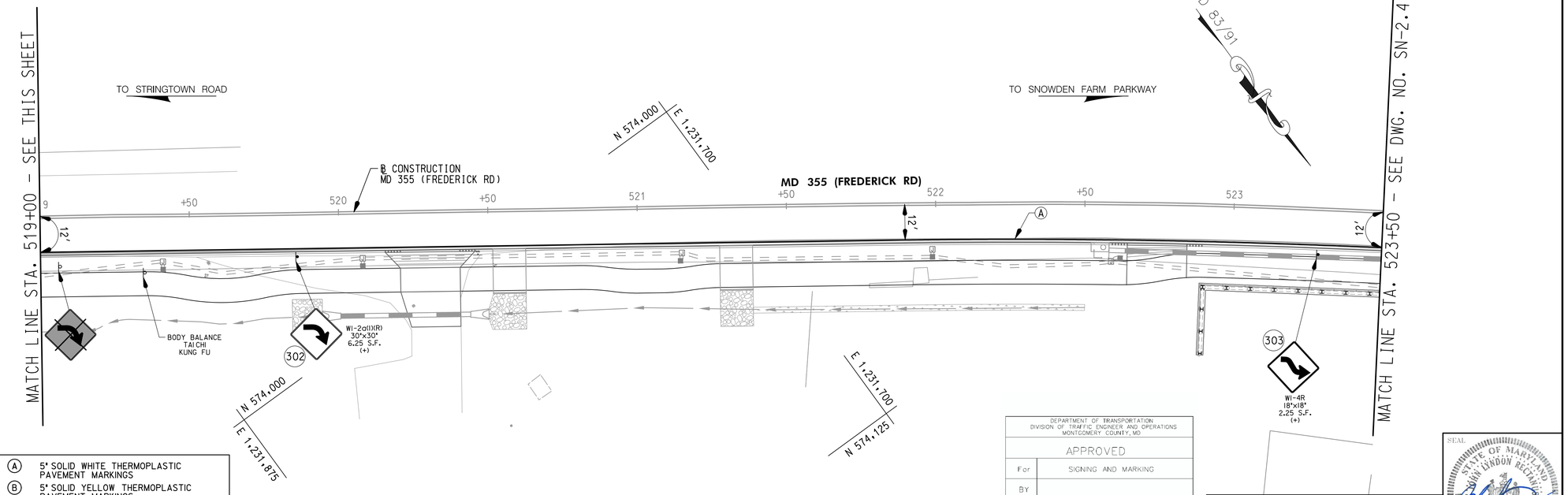
Project No. : C.I.P. PR. # 501744 SHEET 53 of 97

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FILE: M:\PROJ\214013.0010\Highways_Cadd_\pSN-2002_MD355.dgn





LOCATION MAP
SCALE 1"=1000'



20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

	PROPOSED SIGN & SUPPORT	(A) 5" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
		(B) 5" SOLID YELLOW THERMOPLASTIC PAVEMENT MARKINGS
		(C) 5" DASHED WHITE THERMOPLASTIC PAVEMENT MARKINGS (3' LINE, 9' SPACE)
		(D) 5" SOLID DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKINGS
		(E) 10" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
	EXISTING SIGN & SUPPORT	(F) 12" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
		(G) 24 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS
		(H) THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
	EXISTING SIGN & SUPPORT TO BE REMOVED	(I) EXISTING PAVEMENT MARKINGS TO REMAIN
		(J) EXISTING PAVEMENT MARKINGS TO BE REMOVED
	LANE USE ARROW	+ INSTALL ON ONE SQUARE PERFORATED TUBULAR STEEL SUPPORT

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

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No. 25173
PROFESSIONAL ENGINEER

DATE 03-2023

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DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

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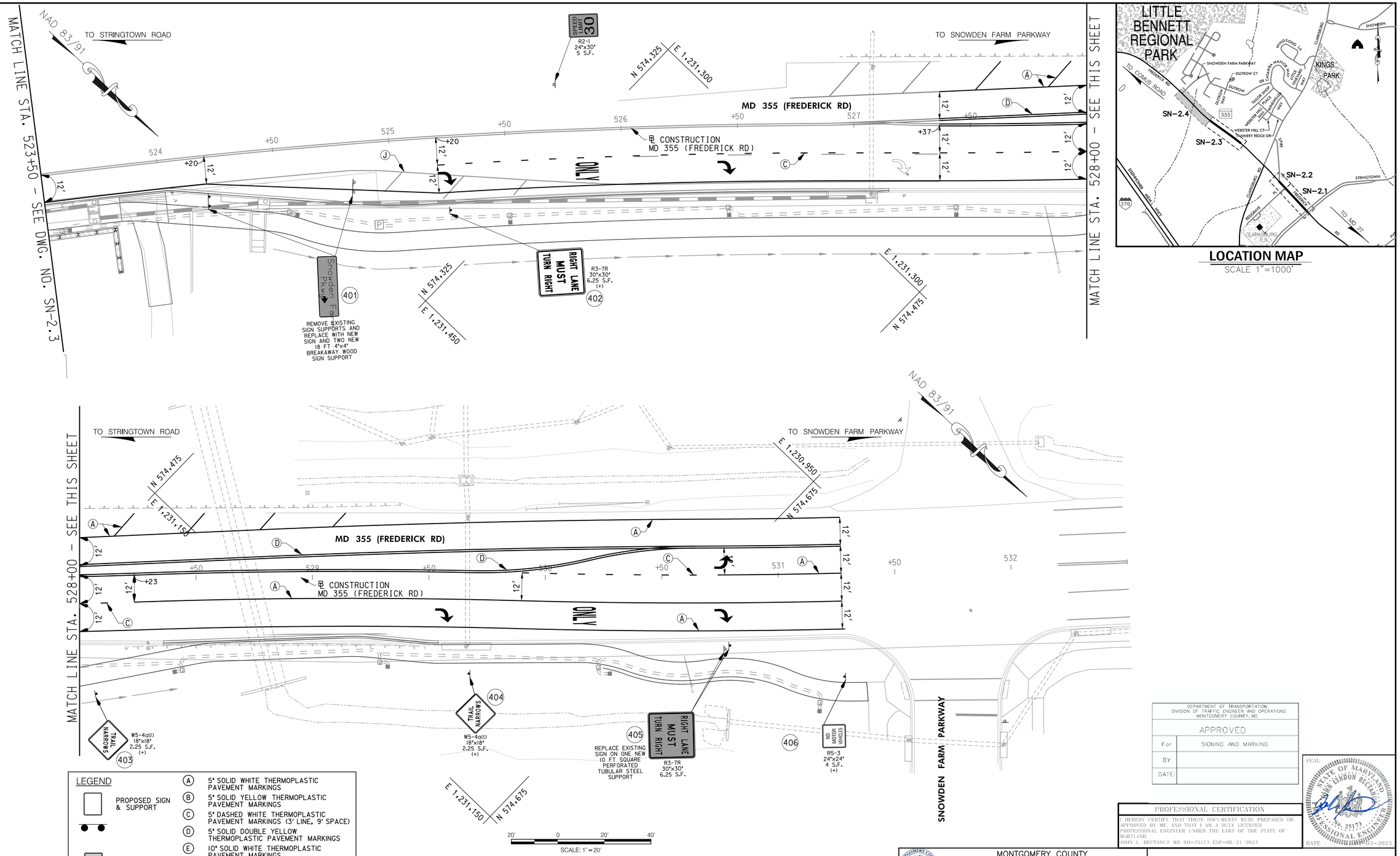
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PLAN SHEET SN-2.3
SIGNING & PAVEMENT MARKING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 514+50 TO STA. 523+50

SCALE: 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 54 of 97

PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pSN-2003_MD355.dgn



LEGEND

- PROPOSED SIGN & SUPPORT
- EXISTING SIGN & SUPPORT
- EXISTING SIGN & SUPPORT TO BE REMOVED
- LANE USE ARROW

(A) 5" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
(B) 5" SOLID YELLOW THERMOPLASTIC PAVEMENT MARKINGS
(C) 5" DASHED WHITE THERMOPLASTIC PAVEMENT MARKINGS (3' LINE, 9' SPACE)
(D) 5" SOLID DOUBLE YELLOW THERMOPLASTIC PAVEMENT MARKINGS
(E) 10" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
(F) 12" SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
(G) 24 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS
(H) THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
(I) EXISTING PAVEMENT MARKINGS TO REMAIN
(J) EXISTING PAVEMENT MARKINGS TO BE REMOVED
(+) INSTALL ON ONE SQUARE PERFORATED TUBULAR STEEL SUPPORT

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

APPROVED

For SIGNING AND MARKING

BY

DATE:

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JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

SEAL
STATE OF MARYLAND
JOHN LONDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER

DATE 02/01/2023

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TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

NO.	REVISION	DATE	BY

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FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET SN-2.4
SIGNING & PAVEMENT MARKING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 523+50 TO STA. 532+50

SCALE: 1" = 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 55 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pSN-2004_MD355.dgn

SIGN NO.	REMARKS		CODE NUMBERS*												
			1	2	3	4	5	6	7	8	9	10	11	12	13
101	R5-3 (24"x24") 'NO MOTOR VEHICLES'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	4	1	1										
102	RELOCATE R2-1 (24"x30") 'SPEED LIMIT 30'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT		1	1	5									
103	RELOCATE M3-1 (12"x18") 'NORTH', M1-5 (24"x30") 'MARYLAND 355'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT		1	1	6.5									
104	RELOCATE MONTGOMERY COUNTY CORRECTIONAL FACILITY SIGN	ONE SQ PERFORATED TUBULAR STEEL SUPPORT		1	1	2									
105	R7-4(2) (24"x30") 'NO STOPPING ANY TIME'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	5	1	1										
106	RELOCATE W16-9 (24"x12") 'AHEAD', S1-1 (36"x36") SCHOOL	ONE SQ PERFORATED TUBULAR STEEL SUPPORT		1	1	5									
	REMOVE EXISTING SIGNS AND SUPPORTS						11.25								
	PAVEMENT MARKINGS							503		61					
201	R5-3 (24"x24") 'NO MOTOR VEHICLES'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	4	1	1										
202	R1-1 (18"x18") 'STOP'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	2.25	1	1										
203	R1-1 (18"x18") 'STOP'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	2.25	1	1										
204	S4-3P (12"x4") 'SCHOOL' (2), R1-6(a)1 (12"x36") IN-STREET PEDESTRIAN CROSSING (2)		6.67												
205	R5-3 (24"x24") 'NO MOTOR VEHICLES'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	4	1	1										
206	S1-1 (36"x36") SCHOOL (2), W16-7pR (24"x12") ARROW PLAQUE, W16-7pL (24"x12") ARROW PLAQUE	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	22	1	1										
207	S1-1 (36"x36") SCHOOL (2), W16-7pR (24"x12") ARROW PLAQUE, W16-7pL (24"x12") ARROW PLAQUE	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	22	1	1										
208	W3-3 (30"x30") SIGNAL AHEAD	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	6.25	1	1										
209	R5-3 (24"x24") 'NO MOTOR VEHICLES'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	4	1	1										
210	R1-1 (18"x18") 'STOP'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	2.25	1	1										
	REMOVE EXISTING SIGNS AND SUPPORTS						44								
	PAVEMENT MARKINGS							212		154		63			
301	RELOCATE M2-1 (15"x21") 'JCT', M1-5 (24"x30"), 'MARYLAND 121'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT		1	1	7.19									
302	W1-2a(1)(R) (30"x30") CURVE	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	6.25	1	1										
303	W1-4R (18"x18") REVERSE CURVE	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	2.25	1	1										
	REMOVE EXISTING SIGNS AND SUPPORTS						6.25								
	PAVEMENT MARKINGS							820	40						
401	RELOCATE EXISTING SIGN	TWO 4"x4" WOOD SUPPORT													36
402	R3-7R (30"x30") 'RIGHT LANE MUST TURN RIGHT'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	6.25	1	1										
403	W5-4a(1) (18"x18") 'TRAIL NARROWS'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	2.25	1	1										
404	W5-4a(1) (18"x18") 'TRAIL NARROWS'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	2.25	1	1										
405	R3-7R (30"x30") 'RIGHT LANE MUST TURN RIGHT'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	6.25	1	1										
406	R5-3 (24"x24") 'NO MOTOR VEHICLES'	ONE SQ PERFORATED TUBULAR STEEL SUPPORT	4	1	1										
	PAVEMENT MARKINGS							1722	1436				126		
	SUBTOTAL THIS SHEET		114.17	23	23	25.69	61.5	3590	1630	240		70	140		36

* CODE NUMBER DESCRIPTION & UNIT

CODE NUMBERS	DESCRIPTION	UNIT
1	SHEET ALUMINUM SIGNS	SF
2	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS	EA
3	SQUARE TUBULAR STEEL ANCHOR BASES	EA
4	RELOCATE EXISTING GROUND MOUNTED SIGNS	SF
5	REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS	SF
6	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKING LINES	LF
7	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKING LINES	LF
8	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF
9	16 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF
10	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF
11	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	SF
12	BIKE LANE PREFORMED THERMOPLASTIC PAVEMENT MARKING WITH ARROW	SF
13	4"x4" WOOD SUPPORT	LF

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEER AND OPERATIONS
MONTGOMERY COUNTY, MD.

APPROVED

For SIGNING AND MARKING

BY

DATE:

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.
JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

SEAL
STATE OF MARYLAND
JOHN LONDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER

DATE 5-31-2023

REVISIONS

NO.	REVISION	DATE	BY

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET SN-11.1
SIGNING & PAVEMENT MARKING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
INDEX OF QUANTITIES

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 56 of 97

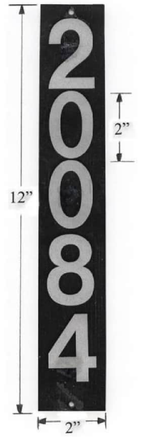
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10150 York Road, Suite 200
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410.494.9093 Tel / 410.667.0925 Fax
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PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pSN-1101_MD355.dgn

POLE SCHEDULE

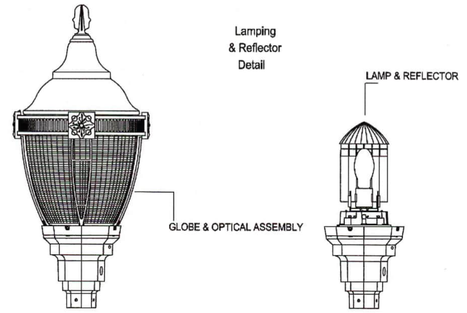
POLE NUMBER	TYPE OF POLE	POLE OFFSET FROM TRAVEL LANE **	STATION AND OFFSET	LUMINAIRE / WATTAGE	TYPE OF BASE	DRAWING NUMBER
22243	12' DECORATIVE POLE	6'	495+64, 17' RT	LED/53W	Breakaway	LT-02
22245	12' DECORATIVE POLE	5'	496+57, 16' RT	LED/53W	Breakaway	LT-02
22247	12' DECORATIVE POLE	14'	497+43, 26' RT	LED/53W	Breakaway	LT-02
22249	12' DECORATIVE POLE	5'	498+35, 16' RT	LED/53W	Breakaway	LT-03
22251	12' DECORATIVE POLE	6'	498+97, 17' RT	LED/53W	Breakaway	LT-03
22253	12' DECORATIVE POLE	6'	499+90, 17' RT	LED/53W	Breakaway	LT-03
22255	12' DECORATIVE POLE	6'	500+52, 17' RT	LED/53W	Breakaway	LT-03
22257	12' DECORATIVE POLE	16'	501+28, 28' RT	LED/53W	Breakaway	LT-03
22259	12' DECORATIVE POLE	16'	502+06, 28' RT	LED/53W	Breakaway	LT-04
22261	12' DECORATIVE POLE	17'	502+64, 29' RT	LED/53W	Breakaway	LT-04
22263	12' DECORATIVE POLE	18'	503+61, 29' RT	LED/53W	Breakaway	LT-04
22265	12' DECORATIVE POLE	6'	515+65, 17' RT	LED/53W	Breakaway	LT-05
22267	12' DECORATIVE POLE	6'	516+59, 18' RT	LED/53W	Breakaway	LT-05
22269	12' DECORATIVE POLE	7'	517+55, 18' RT	LED/53W	Breakaway	LT-05
22271	12' DECORATIVE POLE	6'	518+50, 18' RT	LED/53W	Breakaway	LT-05
22273	12' DECORATIVE POLE	7'	519+41, 19' RT	LED/53W	Breakaway	LT-06
22275	12' DECORATIVE POLE	7'	520+08, 18' RT	LED/53W	Breakaway	LT-06
22277	12' DECORATIVE POLE	7'	521+14, 18' RT	LED/53W	Breakaway	LT-06
22279	12' DECORATIVE POLE	7'	521+99, 18' RT	LED/53W	Breakaway	LT-06
22281	12' DECORATIVE POLE	7'	522+62, 18' RT	LED/53W	Breakaway	LT-06
22283	12' DECORATIVE POLE	7'	523+59, 18' RT	LED/53W	Breakaway	LT-07
22285	12' DECORATIVE POLE	6'	524+57, 28' RT	LED/53W	Breakaway	LT-07
22287	12' DECORATIVE POLE	8'	525+50, 36' RT	LED/53W	Breakaway	LT-07
22289	12' DECORATIVE POLE	8'	526+45, 35' RT	LED/53W	Breakaway	LT-07
22291	12' DECORATIVE POLE	10'	527+44, 36' RT	LED/53W	Breakaway	LT-07
22293	12' DECORATIVE POLE	17'	528+41, 44' RT	LED/53W	Breakaway	LT-08
22295	12' DECORATIVE POLE	16'	529+32, 43' RT	LED/53W	Breakaway	LT-08
22297	12' DECORATIVE POLE	15'	530+27' 42' RT	LED/53W	Breakaway	LT-08
22299	12' DECORATIVE POLE	33'	531+16, 59' RT	LED/53W	Breakaway	LT-08

** - POLE OFFSET MEASURED TO THE CENTER OF THE POLE



STREETLIGHT POST NUMBERING TAG

NOT TO SCALE



GLOBE:
X TYPE V, ACRYLIC

FASTENERS:
X HEX HEAD BOLTS

REFLECTOR:
X SMALL TOP W/ HSS

SOCKET:
X MOGUL

LAMP: 40WATT LED
VOLTAGE: 208V, 1Ø

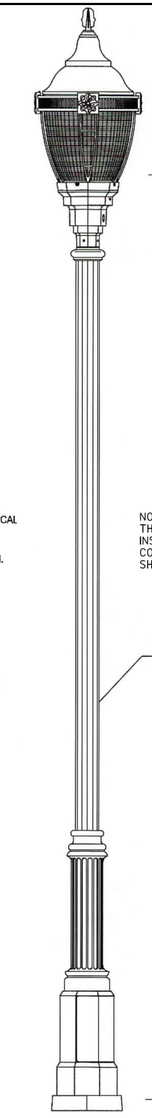
TYPICAL REQUIREMENTS
HOUSING;
- ☐ ALL HARDWARE SHALL BE STAINLESS STEEL & CAPTIVE
- ☐ OCTAGONAL STYLE FITTER IS CONSTRUCTED WITH 360 ALUMINUM ALLOY WITH BOTTOM HINGED DOOR FOR EASY ACCESS TO ELECTRICAL COMPONENTS
- ☐ WIRING BLOCK TO ACCEPT #8 STRANDED OR SOLID WIRES
- ☐ HEAVY CAST ALUMINUM POST FITTER UTILIZES 5/16-18 BLACK CADMIUM 4-STAINLESS STEEL SCREWS FOR MOUNT 3" O.D POST TENON.
- ☐ GLOBE HOLDER HAS INTERNAL WATER TO PREVENT WATER INSIDE OF GLOBE & BALLAST COMPARTMENT
- ☐ GLOBE IS HELD BY UTILIZING 5/16-18 BLACK CADMIUM 4-STAINLESS STEEL FASTENERS
- ☐ FINISH IS POLYESTER THERMOSET POWDERCOAT.

GLOBE & OPTICAL ASSEMBLY
- ☐ TYPE V WIDE BODY GLOBE IS CONSTRUCTED OF CLEAR INJECTION MOLDED U.V. STABILIZED ACRYLIC

FINISH
- ☐ THERMOSTAT POLYESTER POWDERCOAT IS ELECTROSTATICALLY APPLIED AFTER FIVE STAGE CONVERSION CLEANING PROCESS AND BONDED BY HEAT FUSION THERMOSETTING.
- ☐ LAB TESTED FOR FADE RESISTANCE AND WEATHERABLITY IN ACCORDANCE WITH ASTM B117.

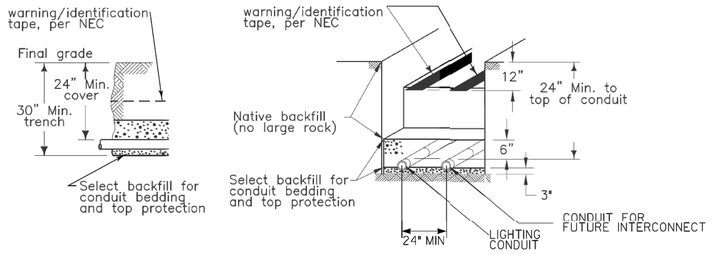
TYPICAL LUMINAIRE AND ASSOCIATED REQUIREMENTS

NOT TO SCALE



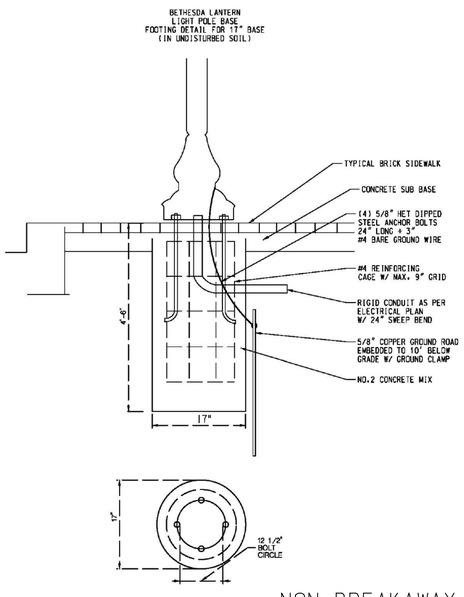
NOTE:
THE LIGHT POLE SHALL BE INSTALLED ON BREAKAWAY COUPLINGS (REFER TO SHEET LT-03)

12' POLE:
4" ROUND STRAIGHT FLUTED ALUMINUM W/ 3 O.D. TENON, 0.125" WALL THICKNESS, CAST ALUMINUM BASE W/ ACCESS COVER



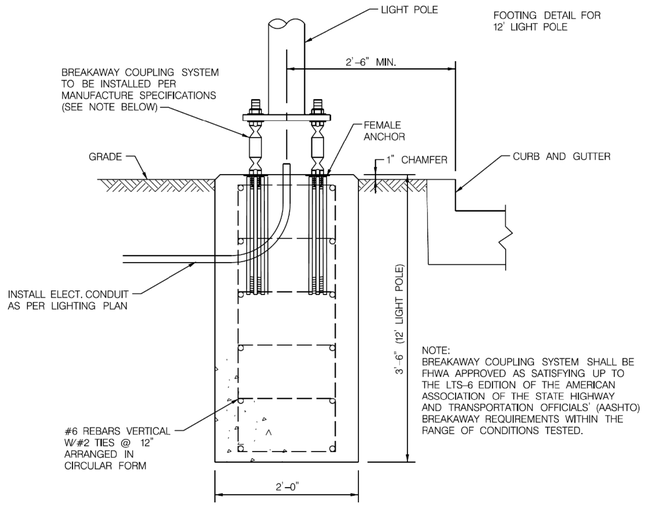
TRENCH CONDUIT BEDDING AND TOP PROTECTION DETAIL

NOT TO SCALE



NON-BREAKAWAY TYPICAL LIGTING POLE FOUNDATION

NOT TO SCALE



NOTE:
BREAKAWAY COUPLING SYSTEM SHALL BE FHWA APPROVED AS SATISFYING UP TO THE LTS-6 EDITION OF THE AMERICAN ASSOCIATION OF THE STATE HIGHWAY AND TRANSPORTATION OFFICIALS' (AASHTO) BREAKAWAY REQUIREMENTS WITHIN THE RANGE OF CONDITIONS TESTED.

BREAKAWAY TYPICAL LIGTING POLE FOUNDATION

NOT TO SCALE

CATEGORY CODE NO.	DESCRIPTION	UNIT	QUANTITY
800000	FURNISH AND INSTALL POST TOP DECORATIVE POLE AND LUMINAIRE	EA	29
800000	BASE MOUNTED METERED SERVICE PEDESTAL W/ PHOTOCELL 120/240V, 200 AMP	EA	2
801003	CONCRETE FOR LIGHT FOUNDATION	CY	16
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	2400
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT - BORED	LF	120
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED	LF	2270
821002	BREAKAWAY BASE SUPPORT SYSTEM FOR LIGHTING STRUCTURE	EA	29
832016	CABLE - 1 CONDUCTOR, NO 6 AWG, TYPE USE, 600V	LF	8890
832019	CABLE - 1 CONDUCTOR, NO 10 AWG, TYPE THWN/THHN, 600V	LF	1400
834002	CONNECTOR KIT - TYPE II	EA	18
834003	CONNECTOR KIT - TYPE III	EA	40
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	EA	29

TYPICAL REQUIREMENTS
- ☐ ALL HARDWARE SHALL BE STAINLESS STEEL & CAPTIVE
- ☐ COLOR:
  COORDINATE POLE COLOR WITH ARCHITECT
- ☐ NOTICE:
  THIS DRAWING IS FOR REFERENCE ONLY.

PREFFERED DESIGN

SUGGESTED MANUFACTURERS;
PHILLIPS HADCO
GLOBE & POLE BY SAME MANUFACTURER

TYPICAL LIGHT STANDARD

NOT TO SCALE

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.
JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

SEAL
STATE OF MARYLAND
JOHN LINDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER
DATE 03-2023

APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

PAY ITEMS

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
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www.WallaceMontgomery.com A Limited Liability Partnership

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

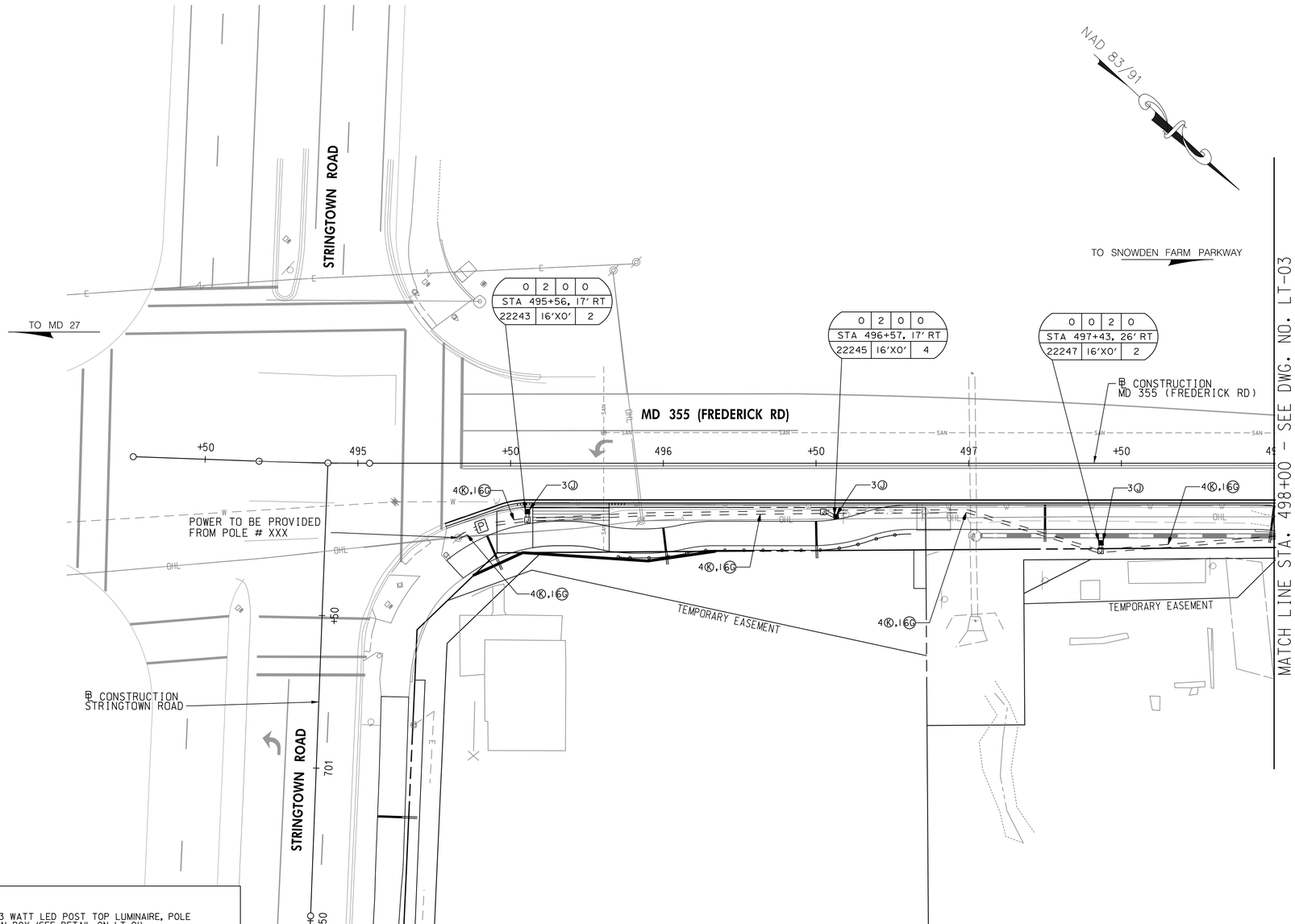
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET LT-01
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
DETAILS AND SCHEDULES

02/2023

Project No. : C.I.P. PR. # 501744 SHEET 57 of 97

PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pLT-D001_MD355.dgn



NOTES:

1. SEE DWG. NO. LT-01 FOR LIGHT INSTALLATION DETAIL.
2. NO UTILITY RELOCATIONS ARE INCLUDED IN THIS PROJECT.
3. FOR RECOMENDED UTILITY RELOCATIONS, SEE DWG. NO. PS-01 THRU PS-07.

LEGEND

- PROPOSED 53 WATT LED POST TOP LUMINAIRE, POLE AND JUNCTION BOX (SEE DETAIL ON LT-01)
- 3 INCH SCHEDULE 80 PVC CONDUIT (TRENCHED)
- 4 INCH SCHEDULE 80 PVC CONDUIT (BORED)
- GROUND ROD
- [H] ELECTRICAL HANDHOLE (STD. NO. MD 811.02)
- [P] BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- 6Ⓒ #6 AWG STRANDED BARE COPPER GROUND WIRE
- Ⓙ I/C NO. 10 AWG. ELECTRICAL CABLE, 600V
- Ⓚ I/C NO. 6 AWG. ELECTRICAL CABLE 600V
- Ⓛ I CONDUCTOR 250 KCMIL

SIGN & LIGHT POLE IDENTIFICATION TAG

STATION
POL MH×AL CIRCS

- QUANTITY OF CONNECTOR KITS; TYPES I, II, III, IV
- LOCATION OF POLE
- CIRCUIT NUMBERS AND PANEL
- POLE HEIGHT AND MAST ARM LENGTH
- POLE OR SIGN IDENTIFICATION NUMBER

ELECTRICAL MANHOLE/HANDHOLE TAG

STATION

- ELECTRICAL MANHOLE/HANDHOLE NUMBER
- LOCATION
- QUANTITY OF CONNECTOR KITS; TYPES I, IV

*Ⓧ,Ⓒ

- TYPE & SIZE OF CONDUCTORS IN CONDUIT OR TRENCH (SEE CONVENTION BELOW)
- NUMBER OF CABLES

WALLACE MONTGOMERY
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www.WallaceMontgomery.com A Limited Liability Partnership

SCALE: 1" = 20'

REVISIONS

NO.	REVISION	DATE	BY

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

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JOHN L. RECTANUS MD NO-25173 EXP=06/21/2023

SEAL — STATE OF MARYLAND — JOHN LONDON RECTANUS — No. 25173 — PROFESSIONAL ENGINEER

DATE 5-31-2023

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

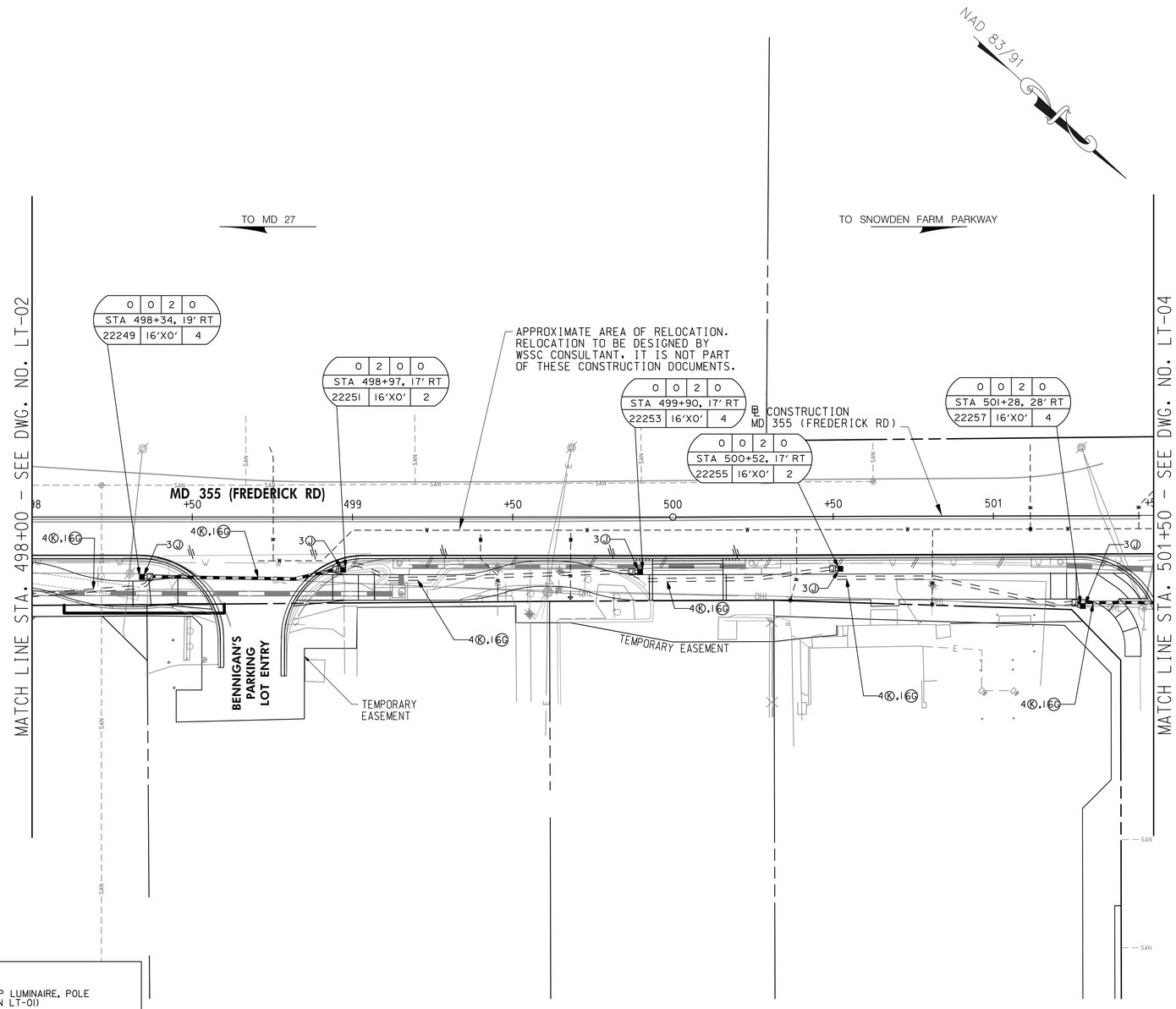
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET LT-02
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 495+29 TO STA. 498+00

SCALE: 1" = 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 58 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pLT-P001_MD355.dgn



LEGEND

- PROPOSED 53 WATT LED POST TOP LUMINAIRE, POLE AND JUNCTION BOX (SEE DETAIL ON LT-01)
- 3 INCH SCHEDULE 80 PVC CONDUIT (TRENCHED)
- 4 INCH SCHEDULE 80 PVC CONDUIT (BORED)
- GROUND ROD
- [H] ELECTRICAL HANDHOLE (STD. NO. MD 811.02)
- [P] BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- 6Ⓖ #6 AWG STRANDED BARE COPPER GROUND WIRE
- Ⓙ I/C NO. 10 AWG. ELECTRICAL CABLE, 600V
- Ⓚ I/C NO. 6 AWG. ELECTRICAL CABLE 600V
- Ⓛ I CONDUCTOR 250 KCMIL

SIGN & LIGHT POLE IDENTIFICATION TAG

#	#	#	#
STATION			
POL	MH	×AL	CIRCS

- QUANTITY OF CONNECTOR KITS; TYPES I, II, III, IV
- LOCATION OF POLE
- CIRCUIT NUMBERS AND PANEL
- POLE HEIGHT AND MAST ARM LENGTH
- POLE OR SIGN IDENTIFICATION NUMBER

ELECTRICAL MANHOLE/HANDHOLE TAG

#
STATION
# #

- ELECTRICAL MANHOLE/HANDHOLE NUMBER
- LOCATION
- QUANTITY OF CONNECTOR KITS; TYPES I, IV

Ⓧ,Ⓖ

- TYPE & SIZE OF CONDUCTORS IN CONDUIT OR TRENCH (SEE CONVENTION BELOW)
- NUMBER OF CABLES

NOTES:

1. SEE DWG. NO. LT-01 FOR LIGHT INSTALLATION DETAIL.
2. NO UTILITY RELOCATIONS ARE INCLUDED IN THIS PROJECT.
3. FOR RECOMENDED UTILITY RELOCATIONS, SEE DWG. NO. PS-01 THRU PS-07.

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

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JOHN L. RECTANUS MD NO. 25173 EXP. 06/21/2023

SEAL
STATE OF MARYLAND
JOHN LINDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER
DATE 02-03-2023

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date

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FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

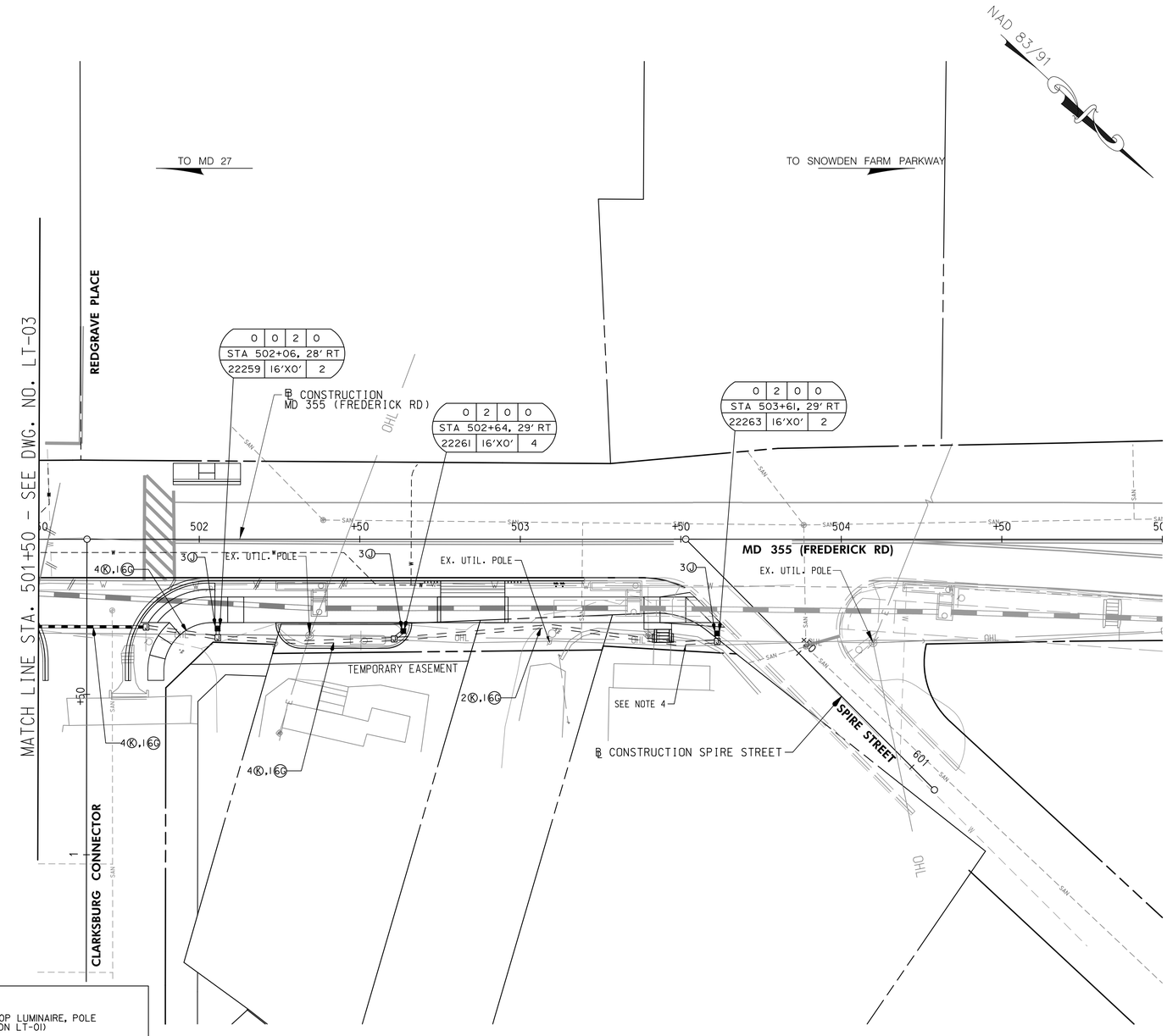
PLAN SHEET LT-03
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 498+00 TO STA. 501+50

SCALE: 1" = 20" 02/2023

Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

Project No. : C.I.P. PR. # 501744 SHEET 59 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\21013.0010\Traffic_Cadd_\pLT-P002_MD355.dgn



NOTES:

1. SEE DWG. NO. LT-01 FOR LIGHT INSTALLATION DETAIL.
2. NO UTILITY RELOCATIONS ARE INCLUDED IN THIS PROJECT.
3. FOR RECOMENDED UTILITY RELOCATIONS, SEE DWG. NO. PS-01 THRU PS-07.
4. INSTALLATION OF PROPOSED CONDUIT TO BE COMPLETED AFTER REMOVAL OF EXISTING SITE WALL AND PRIOR TO INSTALLATION OF PROPOSED SITE WALL. WHERE PROPOSED CONDUIT CROSSES PROPOSED SITE WALL, PROPOSED CONDUIT SHOULD BE INSTALLED AT A DEPTH BELOW PROPOSED SITE WALL FOUNDATION.

LEGEND

- PROPOSED 53 WATT LED POST TOP LUMINAIRE, POLE AND JUNCTION BOX (SEE DETAIL ON LT-01)
- 3 INCH SCHEDULE 80 PVC CONDUIT (TRENCHED)
- 4 INCH SCHEDULE 80 PVC CONDUIT (BORED)
- GROUND ROD
- [H] ELECTRICAL HANDHOLE (STD. NO. MD 811.02)
- [P] BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- 6G #6 AWG STRANDED BARE COPPER GROUND WIRE
- (J) I/C NO. 10 AWG. ELECTRICAL CABLE, 600V
- (K) I/C NO. 6 AWG. ELECTRICAL CABLE 600V
- (L) I CONDUCTOR 250 KCMIL

SIGN & LIGHT POLE IDENTIFICATION TAG

STATION
POL | MH×AL | CIRCS

- QUANTITY OF CONNECTOR KITS; TYPES I, II, III, IV
- LOCATION OF POLE
- CIRCUIT NUMBERS AND PANEL
- POLE HEIGHT AND MAST ARM LENGTH
- POLE OR SIGN IDENTIFICATION NUMBER

ELECTRICAL MANHOLE/HANDHOLE TAG

STATION

- ELECTRICAL MANHOLE/HANDHOLE NUMBER
- LOCATION
- QUANTITY OF CONNECTOR KITS; TYPES I, IV

*(K),(G)

- TYPE & SIZE OF CONDUCTORS IN CONDUIT OR TRENCH (SEE CONVENTION BELOW)
- NUMBER OF CABLES

WALLACE MONTGOMERY
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APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

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.
JOHN L. RECTANUS MD NO-25173 EXP=06/21/2023

SEAL
STATE OF MARYLAND
JOHN LINDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER
DATE 02/01/2023

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

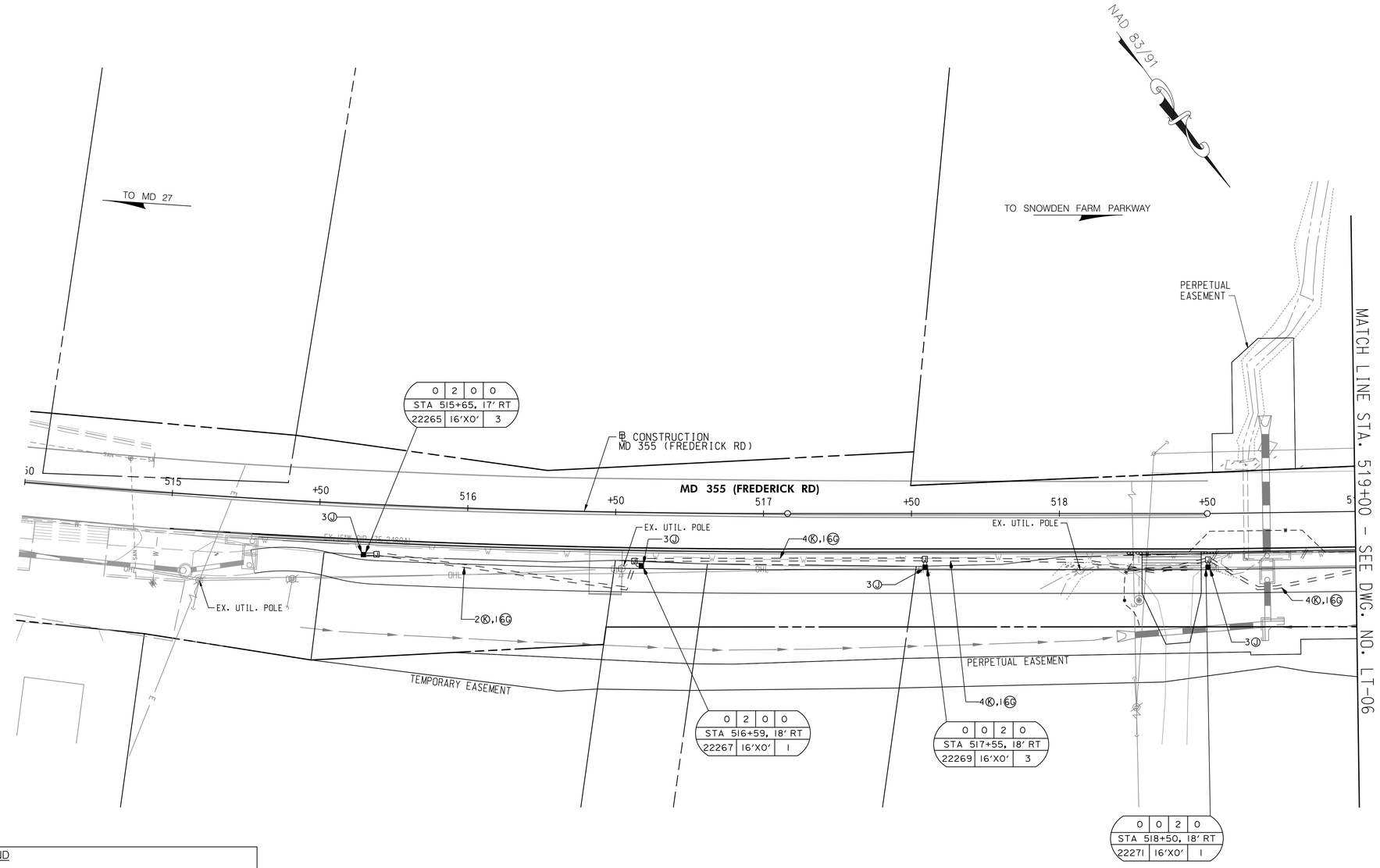
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET LT-04
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 501+50 TO STA. 505+50

SCALE: 1" = 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 60 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pLT-P003_MD355.dgn



NOTES:

1.SEE DWG. NO. LT-01 FOR LIGHT INSTALLATION DETAIL.
2.NO UTILITY RELOCATIONS ARE INCLUDED IN THIS PROJECT.
3.FOR RECOMENDED UTILITY RELOCATIONS, SEE DWG. NO. PS-01 THRU PS-07.

LEGEND

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- [P] BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
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- Ⓚ I/C NO. 6 AWG. ELECTRICAL CABLE 600V
- Ⓛ I CONDUCTOR 250 KCMIL

SIGN & LIGHT POLE IDENTIFICATION TAG

STATION
POL MH×AL CIRCS

- QUANTITY OF CONNECTOR KITS; TYPES I, II, III, IV
- LOCATION OF POLE
- CIRCUIT NUMBERS AND PANEL
- POLE HEIGHT AND MAST ARM LENGTH
- POLE OR SIGN IDENTIFICATION NUMBER

ELECTRICAL MANHOLE/HANDHOLE TAG

STATION

- ELECTRICAL MANHOLE/HANDHOLE NUMBER
- LOCATION
- QUANTITY OF CONNECTOR KITS; TYPES I, IV

#Ⓧ,Ⓖ

- TYPE & SIZE OF CONDUCTORS IN CONDUIT OR TRENCH (SEE CONVENTION BELOW)
- NUMBER OF CABLES

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TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

PROFESSIONAL CERTIFICATION

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JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023
DATE 02-2023

SEAL
STATE OF MARYLAND
JOHN LINDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

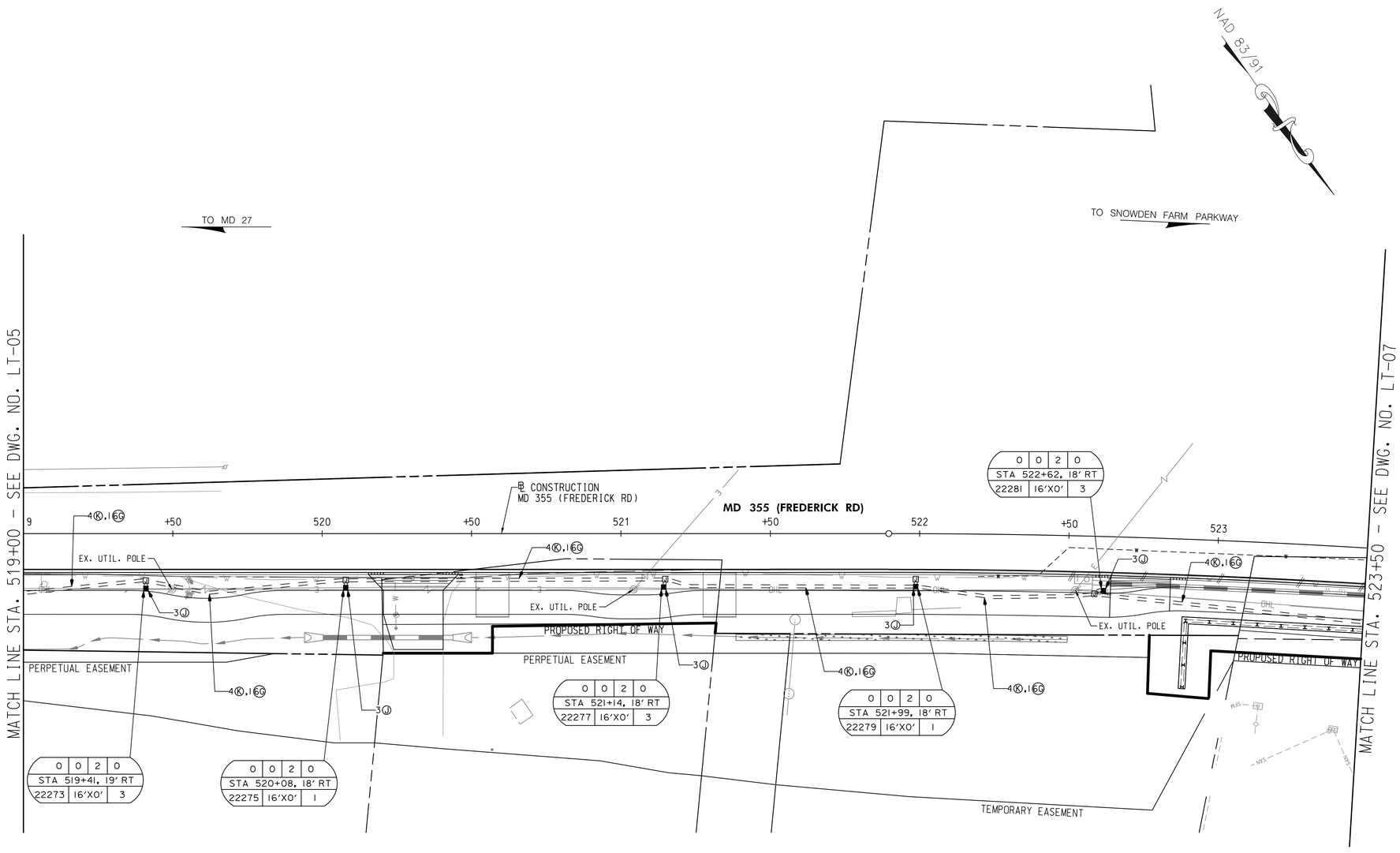
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET LT-05
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 514+50 TO STA. 519+00

SCALE : 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 61 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\21413.0010\Traffic_Cadd_\pLT-P004_MD355.dgn



NOTES:

1.SEE DWG. NO. LT-01 FOR LIGHT INSTALLATION DETAIL.
2.NO UTILITY RELOCATIONS ARE INCLUDED IN THIS PROJECT.
3.FOR RECOMENDED UTILITY RELOCATIONS, SEE DWG. NO. PS-01 THRU PS-07.

LEGEND

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- GROUND ROD
- [H] ELECTRICAL HANDHOLE (STD. NO. MD 811.02)
- [P] BASE MOUNTED METERED SERVICE PEDESTAL WITH PHOTOCELL
- 6Ⓖ #6 AWG STRANDED BARE COPPER GROUND WIRE
- Ⓙ I/C NO. 10 AWG. ELECTRICAL CABLE, 600V
- Ⓚ I/C NO. 6 AWG. ELECTRICAL CABLE 600V
- Ⓛ 1 CONDUCTOR 250 KCMIL

SIGN & LIGHT POLE IDENTIFICATION TAG

#	#	#
STATION		
POL	MH×AL	CIRCS
#	#	

- QUANTITY OF CONNECTOR KITS; TYPES I, II, III, IV
- LOCATION OF POLE
- CIRCUIT NUMBERS AND PANEL
- POLE HEIGHT AND MAST ARM LENGTH
- POLE OR SIGN IDENTIFICATION NUMBER

ELECTRICAL MANHOLE/HANDHOLE TAG

#
STATION
#

- ELECTRICAL MANHOLE/HANDHOLE NUMBER
- LOCATION
- QUANTITY OF CONNECTOR KITS; TYPES I, IV

*Ⓧ,Ⓖ
- TYPE & SIZE OF CONDUCTORS IN CONDUIT OR TRENCH (SEE CONVENTION BELOW)
- NUMBER OF CABLES

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APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

SEAL
STATE OF MARYLAND
JOHN LONDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER
DATE 06/21/2023

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.
JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

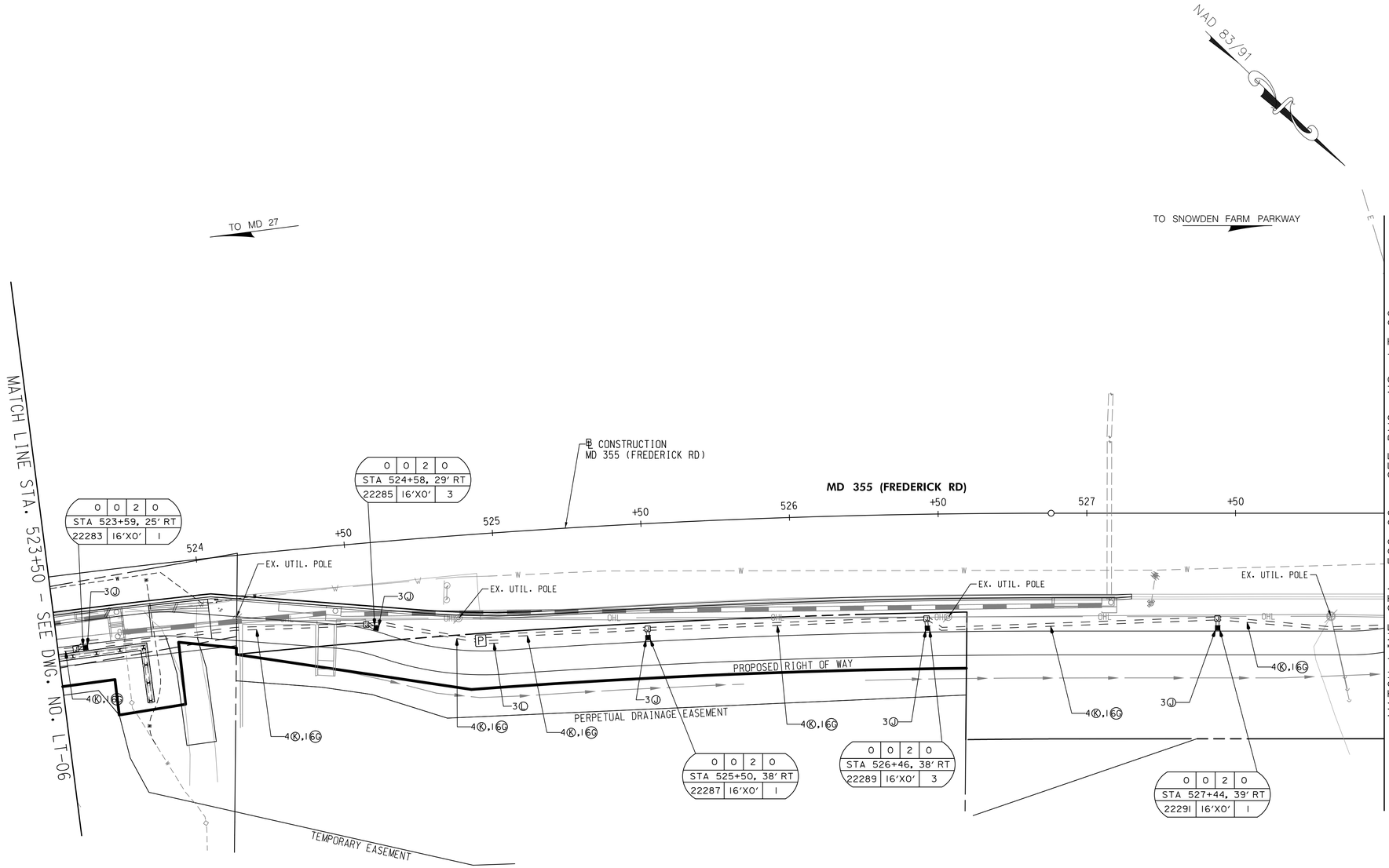
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLAN SHEET LT-06
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 519+00 TO STA. 523+50

SCALE : 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 62 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pLT-P005_MD355.dgn



NOTES:

1.SEE DWG. NO. LT-01 FOR LIGHT INSTALLATION DETAIL.
2.NO UTILITY RELOCATIONS ARE INCLUDED IN THIS PROJECT.
3.FOR RECOMENDED UTILITY RELOCATIONS, SEE DWG. NO. PS-01 THRU PS-07.

LEGEND

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- Ⓙ I/C NO. 10 AWG. ELECTRICAL CABLE, 600V
- Ⓚ I/C NO. 6 AWG. ELECTRICAL CABLE 600V
- Ⓛ I CONDUCTOR 250 KCMIL

SIGN & LIGHT POLE IDENTIFICATION TAG

STATION
POL MH×AL CIRCS

- QUANTITY OF CONNECTOR KITS; TYPES I, II, III, IV
- LOCATION OF POLE
- CIRCUIT NUMBERS AND PANEL
- POLE HEIGHT AND MAST ARM LENGTH
- POLE OR SIGN IDENTIFICATION NUMBER

ELECTRICAL MANHOLE/HANDHOLE TAG

STATION

- ELECTRICAL MANHOLE/HANDHOLE NUMBER
- LOCATION
- QUANTITY OF CONNECTOR KITS; TYPES I, IV

*Ⓧ,Ⓖ

TYPE & SIZE OF CONDUCTORS IN CONDUIT OR TRENCH (SEE CONVENTION BELOW)
NUMBER OF CABLES

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APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

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JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

SEAL
STATE OF MARYLAND
JOHN LINDON RECTANUS
No. 25173
PROFESSIONAL ENGINEER
DATE 02-03-2023

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date
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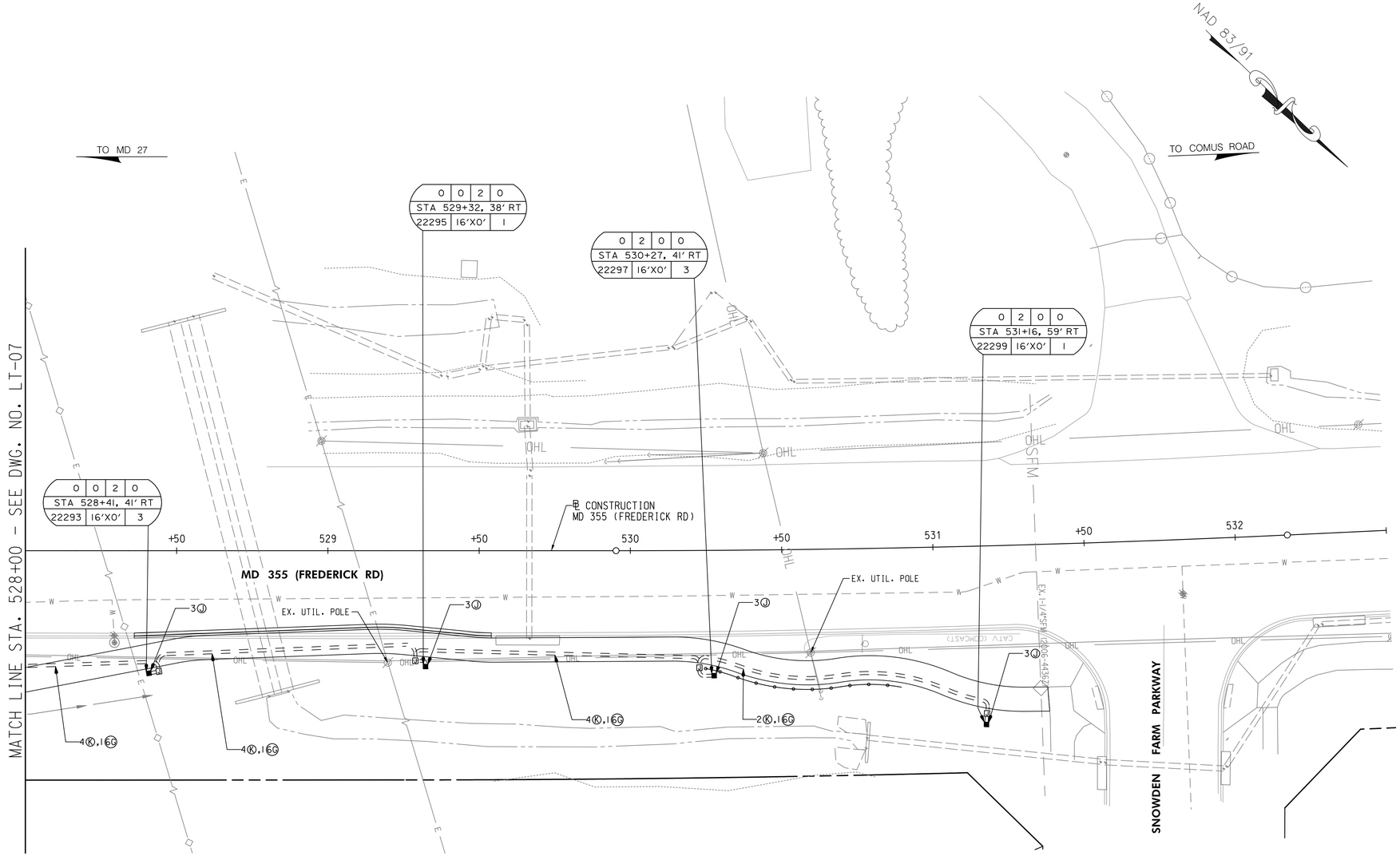
Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pLT-P006_MD355.dgn

PLAN SHEET LT-07
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 523+50 TO STA. 528+00

SCALE : 1"= 20' 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 63 of 97



NOTES:

1.SEE DWG. NO. LT-01 FOR LIGHT INSTALLATION DETAIL.
2.NO UTILITY RELOCATIONS ARE INCLUDED IN THIS PROJECT.
3.FOR RECOMENDED UTILITY RELOCATIONS, SEE DWG. NO. PS-01 THRU PS-07.

LEGEND

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- GROUND ROD
- [H] ELECTRICAL HANDHOLE (STD. NO. MD 811.02)
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- Ⓙ I/C NO. 10 AWG. ELECTRICAL CABLE, 600V
- Ⓚ I/C NO. 6 AWG. ELECTRICAL CABLE 600V
- Ⓛ I CONDUCTOR 250 KCMIL

SIGN & LIGHT POLE IDENTIFICATION TAG

#	#	#	#
STATION			
POL	MH	AL	CIRCS

- QUANTITY OF CONNECTOR KITS; TYPES I, II, III, IV
- LOCATION OF POLE
- CIRCUIT NUMBERS AND PANEL
- POLE HEIGHT AND MAST ARM LENGTH
- POLE OR SIGN IDENTIFICATION NUMBER

ELECTRICAL MANHOLE/HANDHOLE TAG

#
STATION
#	#

- ELECTRICAL MANHOLE/HANDHOLE NUMBER
- LOCATION
- QUANTITY OF CONNECTOR KITS; TYPES I, IV

Ⓧ,Ⓒ
- TYPE & SIZE OF CONDUCTORS IN CONDUIT OR TRENCH (SEE CONVENTION BELOW)
- NUMBER OF CABLES

SCALE: 1"=20'

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

APPROVALS	REVISIONS
TEAM LEADER	
ASST. DIV. CHIEF	
DIVISION CHIEF	
OFFICE DIRECTOR	

NO.	REVISION	DATE	BY

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.
JOHN L. RECTANUS MD NO=25173 EXP=06/21/2023

SEAL — STATE OF MARYLAND — JOHN LONDON RECTANUS — No. 25173 — PROFESSIONAL ENGINEER

DATE 2-01-2023

WALLACE MONTGOMERY
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100 EDISON PARK DRIVE, 4TH FLOOR
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RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : D.M.J. Drawn by : D.M.J. Checked by : J.L.R. 02/2023

PLAN SHEET LT-08
LIGHTING PLANS
MD 355 - CLARKSBURG SHARED USE PATH
STA. 528+00 TO STA. 531+37

SCALE : 1"= 20'

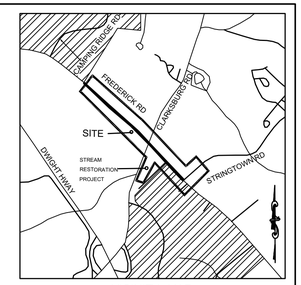
Project No. : C.I.P. PR. # 501744 SHEET 64 of 97

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Traffic_Cadd_\pLT-P007_MD355.dgn

MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Certified Plan - MR2020018
APPROVAL
10/28/22

DRILL HOLES

CLARKSBURG SHARED USE PATH
FINAL FOREST CONSERVATION PLAN - RESOLUTION PAGE



VICINITY MAP
1"=2000'

MONTGOMERY COUNTY PLANNING BOARD
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB No. 20-078
Forest Conservation Plan No. MR2020018
Project Name: MD-355 Clarksburg Shared Use Path
Date of Hearing: July 30, 2020

AUG 17 2020

RESOLUTION

WHEREAS, under Montgomery County Code Chapter 22A, the Montgomery County Planning Board is authorized to review forest conservation plan applications; and

WHEREAS, on April 9, 2020, the Montgomery County Department of Transportation ("Applicant"), filed for approval of a forest conservation plan and a Mandatory Referral application for Construction of a shared use path along the east side of Frederick Road (MD 355) extending from Stringtown Road to Spire Street and then 467 feet north of Clarksburg Road (MD 121) to Snowden Farm Parkway, Clarksburg; 3.58 acres ("Subject Property"); CRT and R-200 Zones and Clarksburg East Environmental Overlay Zone; *Clarksburg Master Plan & Hyattstown Special Study Area* (1994) and *10 Mile Creek Area Limited Amendment Master Plan* (2014) ("Master Plan") area; and

WHEREAS, Applicant's forest conservation plan application was designated Forest Conservation Plan No. MR2020018, MD-355 Clarksburg Shared Use Path ("Forest Conservation Plan" or "Application");[1] and

WHEREAS, following review and analysis of the Application by Planning Board Staff ("Staff") and other governmental agencies, Staff issued a memorandum to the Planning Board dated July 17, 2020 setting forth its analysis and recommendation for approval of the Application, subject to certain conditions ("Staff Report"); and

WHEREAS, on July 30, 2020, the Planning Board held a public hearing on the Application, and at the hearing the Planning Board heard testimony and received evidence submitted for the record on the Application; and

[1] Unless specifically indicated otherwise, the Board has reviewed the preliminary Forest Conservation Plan and set forth conditions under which the Staff can approve the final Forest Conservation Plan without further Board action. Therefore, for purposes of this Resolution, whether or not indicated, the Board's action is with regard to the preliminary Forest Conservation Plan.

Approved as to
Legal Sufficiency: 8787 Georgia Avenue, Silver Spring, Maryland 20910 Phone: 301.495.4605 Fax: 301.495.1320
www.montgomeryplanningboard.org E-Mail: mcp-chair@mncppc.org
M-NCPPC Office of the General Counsel

WHEREAS, at the hearing, the Planning Board voted to approve the Application subject to certain conditions, by the vote as certified below.

NOW, THEREFORE, BE IT RESOLVED that the Planning Board APPROVED Forest Conservation Plan No. MR2020018 on the Subject Property, subject to the following conditions:[2]

1. Applicant must submit a Final Forest Conservation Plan ("FFCP") to M-NCPPC Staff for review prior to issuance of a Sediment Control Permit.
2. The FFCP must be consistent with the final approved PFCP.
3. Prior to the initial planting acceptance inspection by the M-NCPPC Forest Conservation Inspection Staff, the Applicant must install permanent conservation easement signage along the perimeter of the conservation easements as shown on the FCP or as determined by the Forest Conservation Inspection Staff.
4. The Applicant must record a Category I Conservation Easement over all areas of forest planting as specified on the approved Forest Conservation Plan. The Category I Conservation Easement approved by the M-NCPPC Office of the General Counsel must be recorded in the Montgomery County Land Records by deed prior to the start of any demolition, clearing, or grading on the Subject Property. If the Applicant cannot provide a long-term protective agreement, they must provide the 0.48-acre planting requirement onsite as part of the SPA requirements and take the 0.48-acre forest conservation requirement to an offsite mitigation bank.
5. The Applicant must install the Afforestation/Reforestation plantings as shown on the approved FCP, within the first planting season following the release of the Sediment and Erosion Control Permit from the Montgomery County Department of Permitting Services for the Subject Property, or as directed by the M-NCPPC Forest Conservation Inspection Staff.
6. Within the first planting season following the release of the Sediment and Erosion Control Permit from the Montgomery County Department of Permitting Services for the Subject Property, or as directed by the M-NCPPC Forest Conservation Inspection Staff, the Applicant must install the variance tree mitigation plantings as shown on the FCP.
7. The Applicant must provide mitigation for the loss of trees per the approved variance in the form of Twenty-nine (29) native canopy trees with a minimum size of three (3) caliper inches. The trees must be clearly shown and labelled on the Final Forest Conservation Plan. The mitigation trees must be planted outside of any right-of-way, or utility easements, including stormwater management easements and not counted as part of the screening requirement under Division 6.5 of the Montgomery County Zoning Ordinance. The

[2] For the purpose of these conditions, the term "Applicant" shall also mean the developer, the owner, or any successor in interest to the terms of this approval.

mitigation trees must be installed and accepted by M-NCPPC within one year of construction completion.
8. Prior to any demolition, clearing, grading or construction for this development Application, the Applicant must submit a five-year Maintenance and Management Agreement ("MMA") approved by the M-NCPPC Office of General Counsel. The MMA is required for all forest planting areas and landscape plantings credited toward meeting the requirements of the FCP.
9. Prior to any demolition, clearing, grading or construction for this development Application, the Applicant must record in the Land Records an M-NCPPC approved Certificate of Compliance to use an M-NCPPC approved off-site forest bank within the same watershed to satisfy the reforestation requirement for a total of 1.07 acres of mitigation credit. The offsite requirement may be met by purchasing from a mitigation bank elsewhere in the County, subject to Staff approval, if forest is unavailable for purchase within the same watershed.
10. The limits of disturbance shown on the final Sediment Control Plan must be consistent with the limits of disturbance shown on the Final Forest Conservation Plan.
11. The Applicant must comply with all tree protection and tree save measures shown on the approved Final Forest Conservation Plan. Tree save measures not specified on the Final Forest Conservation Plan may be required by the M-NCPPC forest conservation inspector.

BE IT FURTHER RESOLVED, that having given full consideration to the recommendations and findings of its Staff as presented at the hearing and as set forth in the Staff Report, which the Board hereby adopts and incorporates by reference (except as modified herein), and upon consideration of the entire record, the Planning Board FINDS, with the conditions of approval, that:

1. The Application satisfies all the applicable requirements of the Forest Conservation Law, Montgomery County Code, Chapter 22A and the protection of environmentally sensitive features.

A. Forest Conservation

The Board finds that as conditioned, the Forest Conservation Plan complies with the requirements of the Forest Conservation Law.

A Natural Resources Inventory and Forest Stand Delineation (NRI/FSD 420182000) was approved by Staff on February 8, 2019 and a Forest Conservation Plan for the Subject Property was submitted as part of the Mandatory Referral application. The Subject Property contains approximately 1.18 acres of forest. The Application proposes to remove approximately 1.18 acres of forest and retain no forest, which results in a forest planting requirement of 1.55 acres, which will be met as conditioned.

B. Forest Conservation Variance

Section 22A-12(b)(3) of the Forest Conservation Law identifies certain individual trees as high priority for retention and protection ("Protected Trees"). Any impact to these Protected Trees, including removal or any disturbance within a Protected Tree's critical root zone ("CRZ"), requires a variance under Section 22A-12(b)(3) ("Variance"). Otherwise such resources must be left in an undisturbed condition.

This Application will require the removal or CRZ impact to 104 Protected Trees as identified in the Staff Report. In accordance with Section 22A-21(a), the Applicant has requested a Variance and the Board agreed that the Applicant would suffer unwarranted hardship by being denied reasonable and significant use of the Subject Property without the Variance.

The Board made the following findings necessary to grant the Variance:

1. Granting the Variance will not confer on the Applicant a special privilege that would be denied to other applicants.
Granting the variance will not confer a special privilege on the Applicant as the removal of the seventy-three trees is due to the location of the trees and necessary site design requirement. Therefore, Staff believes that the granting of this variance is not a special privilege that would be denied to other applicants.

2. The need for the Variance is not based on conditions or circumstances which are the result of the actions by the Applicant.
The requested variance is not based on conditions or circumstances which are the result of actions by the Applicant. The requested variance is based upon the existing site conditions and necessary design requirements of this project.

3. The need for the Variance is not based on a condition related to land or building use, either permitted or non-conforming, on a neighboring property.
The requested variance is a result of the existing conditions and not as a result of land or building use on a neighboring property.

4. Granting the Variance will not violate State water quality standards or cause measurable degradation in water quality.
The variance will not violate State water quality standards or cause measurable degradation in water quality. The Application proposes mitigation for the removal of these seventy-three trees by planting larger caliper trees on-site. Additionally, stormwater requirements

to the maximum extent possible are being met through the stream restoration project, improving stream health and allowing for improved ecological benefits in the area. Therefore, The Planning Board concurs that the project will not violate State water quality standards or cause measurable degradation in water quality.

Mitigation for the Variance is at a rate that approximates the form and function of the Protected Tree removed. The Board approved replacement of the Protected Tree at a ratio of approximately one inch for every four inches removed. This results in a total mitigation of 85 inches of replanted trees. In this case, the Applicant proposes to plant 29 3" caliper overstory trees native to the Piedmont Region of Maryland on the Property outside of any rights-of-way and outside of any utility easements. Additionally, no mitigation is required for the thirty-one trees that are impacted, but retained.

BE IT FURTHER RESOLVED, that this Resolution constitutes the written opinion of the Planning Board in this matter, and the date of this Resolution is AUG 17 2020 (which is the date that this Resolution is mailed to all parties of record); and

BE IT FURTHER RESOLVED, that any party authorized by law to take an administrative appeal must initiate such an appeal within thirty days of the date of this Resolution, consistent with the procedural rules for the judicial review of administrative agency decisions in Circuit Court (Rule 7-203, Maryland Rules).

* * * * * * * * * * *

CERTIFICATION

This is to certify that the foregoing is a true and correct copy of a resolution adopted by the Montgomery County Planning Board of the Maryland-National Capital Park and Planning Commission on motion of Commissioner Verma, seconded by Vice Chair Fani-González, with Chair Anderson, Vice Chair Fani-González, and Commissioners Patterson and Verma voting in favor, and Commissioner Cichy temporarily absent at its regular meeting held on Thursday, July 30, 2020, in Silver Spring, Maryland.

Casey Anderson, Chair
Montgomery County Planning Board

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. MR2020018 including, financial bonding, forest planting, maintenance, and all other applicable agreements.

Developer's Name: MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION (Printed Company Name)
Contact Person or Owner: YASAMIN ESMAILI - PROJECT MANAGER (Printed Name)
Address: DEPT. OF TRANSPORTATION, DIVISION OF TRANSPORTATION ENGINEERING - 100 EDISON PARK DRIVE, 4TH FLOOR, GAITHERSBURG, MD 20878
Phone and Email: 240-777-7226 Yasamin.Esmaili@MontgomeryCountyMD.gov
Signature: Yasamin Esmaili

CERTIFICATION OF QUALIFIED PROFESSIONAL

I HEREBY CERTIFY THAT THE PLAN SHOWN HEREON HAS BEEN PREPARED IN ACCORDANCE WITH MARYLAND STATE, MNCP&PC AND MONTGOMERY COUNTY FOREST CONSERVATION LAWS.

9.2.2022
DATE

MICHAEL A. NORTON
MDNR / COMAR 08.19.06.01
QUALIFIED PROFESSIONAL

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.1A
FINAL FOREST CONSERVATION PLAN OVERALL
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 65 of 97

NORTON LAND DESIGN
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5146 DORSEY HALL DRIVE, 2ND FLOOR ELLICOTT CITY, MD 21042
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WATER CLASS I,P/IV,P	WATERSHED LITTLE SENECA CREEK	FEMA FLOODPLAIN MAP PANEL # 24031C 0160D	
TRIBUTARY ROCK CREEK			
TAX MAP EW341,EW121	200 SHEET 232NW13,233NW13,232NW14,233NW14	ADC MAP PAGE 9	B-3 GRID C-3,4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-1.0

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

DRILL HOLES

DRILL HOLES

DRILL HOLES

MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Certified Plan - MR2020018

APPROVAL

10/28/22

Sequence of Events for Properties Required to Comply With Forest Conservation Plans, Exemptions from Submitting Forest Conservation Plans, and Tree Save Plans

The property owner is responsible for ensuring all tree protection measures are performed in accordance with the approved final forest conservation plan or tree save plan, and as modified in the field by a Planning Department Forest Conservation Inspector. The measures must meet or exceed the most recent standards published by the American National Standards Institute (ANSI A300).

Pre-Construction

1. An on-site pre-construction meeting is required after the limits of disturbance have been staked and flagged and before any land disturbance.

2. The property owner must arrange for the meeting and following people ~~should~~ must participate at the pre-construction meeting: the property owner or their representative, construction superintendent, International Society of Arboriculture (ISA) certified arborist/Maryland Licensed Tree Expert (representing owner) that will implement the tree protection measures, The Planning Department Forest Conservation Inspector, and Montgomery County Department of Permitting Services (DPS) Sediment Control Inspector. The purpose of this meeting is verify the limits of disturbance and discuss specific tree protection and tree care measures shown on the approved plan. No land disturbance shall begin before tree protection and stress-reduction measures have been implemented and approved by the Planning Department's Forest Conservation Inspector.
   a. Typical tree protection devices include:
      i. Chain link fence (four feet high)
      ii. Super silt fence with wire strung between the support poles (minimum 4 feet high) with high visibility flagging.
      iii. 14 gauge, 2 inch x 4 inch welded wire fencing supported by steel T-bar posts (minimum 4 feet high) with high visibility flagging.
   b. Typical stress reduction measures may include, but are not limited to:
      i. Root pruning with a root cutter or vibratory plow designed for that purpose. Trenchers are not allowed, unless approved by the Forest Conservation Inspector
      ii. Crown Reduction or pruning
      iii. Watering
      iv. Fertilizing
      v. Vertical mulching
      vi. Root aeration systems

   Measures not specified on the Forest Conservation Plan may be required as determined by the Forest Conservation Inspector in coordination with the property owner's arborist.

3. A Maryland Licensed Tree expert must perform, or directly supervise, the implementation of all stress reduction measures. Documentation of the process (including

photographs) may be required by the Forest Conservation Inspector, and will be determined at the pre-construction meeting.

4. Temporary tree protection devices must be installed per the approved Forest Conservation Plan, Exemption Plan, or Tree Save Plan and prior to any land disturbance. The Forest Conservation Inspector, in coordination with the DPS Sediment Control Inspector, may make field adjustments to increase the survivability of trees and forest shown as saved on the approved plan.

5. Tree protection fencing must be installed and maintained by the property owner for the duration of construction project and must not be altered without prior approval from the Forest Conservation Inspector. All construction activity within protected tree and forest areas is prohibited. This includes the following activities:
   a. Parking or driving of equipment, machinery or vehicles of any type.
   b. Storage of any construction materials, equipment, stockpiling, fill, debris, etc.
   c. Dumping of any chemicals (i.e., paint thinner), mortar or concrete remainder, trash, garbage, or debris of any kind.
   d. Felling of trees into a protected area.
   e. Trenching or grading for utilities, irrigation, drainage, etc.

6. Forest and tree protection signs must be installed as required by the Forest Conservation Inspector. The signs must be waterproof and wording provided in both English and Spanish.

During Construction

7. Periodic inspections will be made by the Forest Conservation Inspector. Corrections and repairs to tree protection devices must be completed within the timeframe given by the Inspector.

8. The property owner must immediately notify the Forest Conservation Inspector of any damage to trees, forests, understory, ground cover, and any other undisturbed areas shown on the approved plan. Remedial actions, and the relative timeframes to restore these areas, will be determined by the Forest Conservation Inspector.

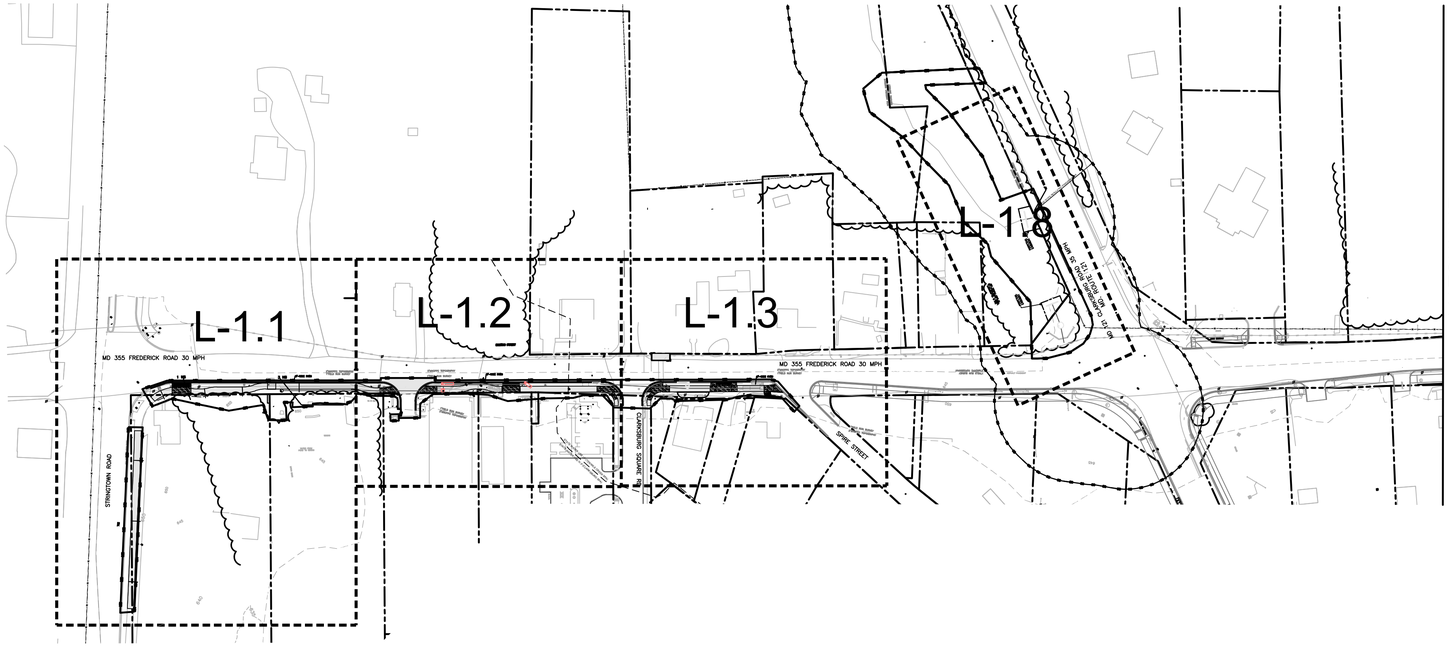
Post-Construction

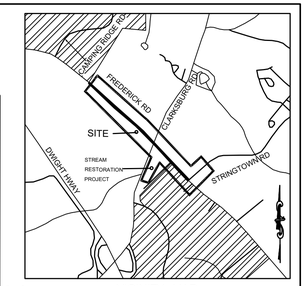
9. After construction is completed, but before tree protection devices have been removed, the property owner must request a final inspection with the Forest Conservation Inspector. At the final inspection, the Forest Conservation Inspector may require additional corrective measures, which may include:
   a. Removal, and possible replacement, of dead, dying, or hazardous trees
   b. Pruning of dead or declining limbs
   c. Soil aeration
   d. Fertilization
   e. Watering
   f. Wound repair

   g. Clean up of retention areas, including trash removal

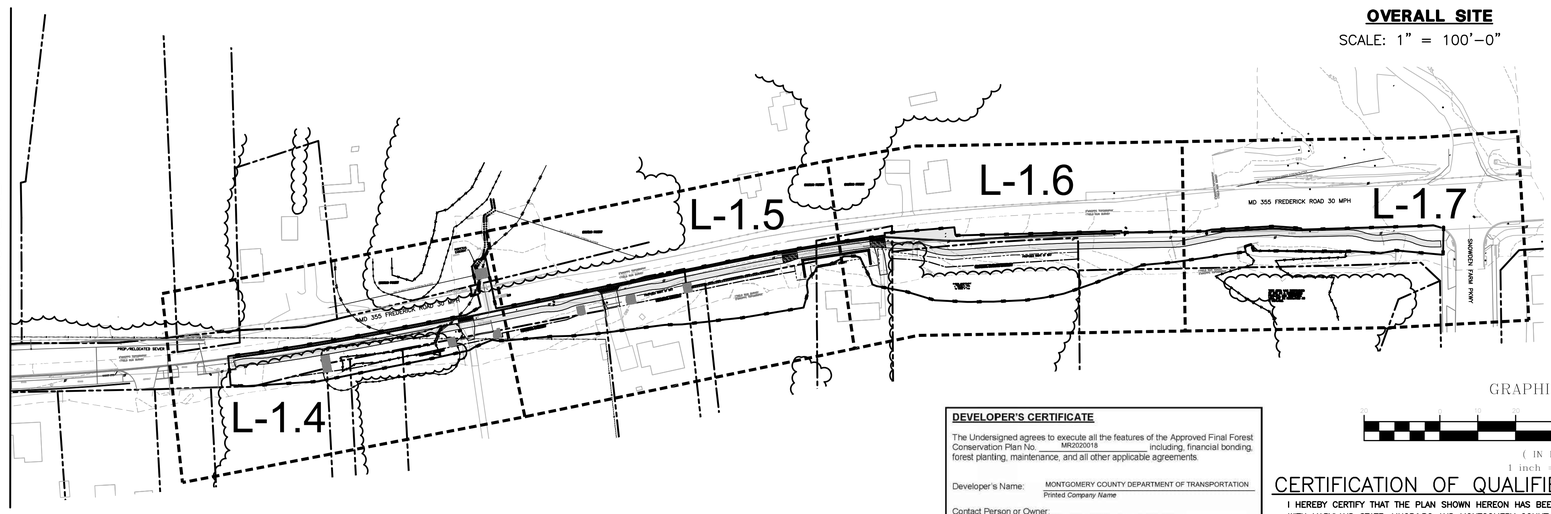
10. After the final inspection and completion of all corrective measures the Forest Conservation Inspector will request all temporary tree and forest protection devices be removed from the site. Removal of tree protection devices that also operate for erosion and sediment control must be coordinated with both DPS and the Forest Conservation Inspector and cannot be removed without permission of the Forest Conservation Inspector. No additional grading, sodding, or burial may take place after the tree protection fencing is removed.

11. Long-term protection measures, including permanent signage, must be installed per the approved plan. Installation will occur at the appropriate time during the construction project. Refer to the approved plan drawing for the long-term protection measures to be installed.





VICINITY MAP
1"=2000'



OVERALL SITE
SCALE: 1" = 100'-0"

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GRAPHIC SCALE
0 5 10 20 30 40
(IN FEET)
1 inch = 20 ft.

LEGEND

FOREST TREELINE	
SCRUB AREA/SCREENING TREES/ NON-FOREST CANOPY	PROPOSED SHARED USE PATH
LIMITS OF DISTURBANCE (LOD — LOD — LOD)	
PROPERTY BOUNDARY	WETLANDS
EX. CONTOUR (390)	125' STREAM BUFFER
EXISTING STREAM	
EXISTING EASEMENT (H — H)	HISTORIC DISTRICT

WATER CLASS I,P/IV,P	WATERSHED LITTLE SENECA CREEK	FEMA FLOODPLAIN MAP PANEL # 24031C 0160D	
TRIBUTARY ROCK CREEK			
TAX MAP EW341,EW121	200 SHEET 232NW13,233NW13 232NW14,233NW14	ADC MAP PAGE 9	GRID B-3 C-3,4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-1.1A

DATUM: NAD 83/91 HORIZONTAL
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NO.	REVISION	DATE	BY

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Contact Person or Owner: YASAMIN ESMAILI - PROJECT MANAGER (Printed Name)

Address: DEPT. OF TRANSPORTATION, DIVISION OF TRANSPORTATION ENGINEERING - 100 EDISON PARK DRIVE, 4TH FLOOR, GAITHERSBURG, MD 20878

Phone and Email: 240-777-7226 Yasamin.Esmaili@MontgomeryCountyMD.gov

Signature: Yasamin Esmaili

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9.2.2022
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MDNR / COMAR 08.19.06.01
QUALIFIED PROFESSIONAL

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL

Chief, Design Section Date

APPROVED

Chief, Division of Engineering Services Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.1A
FINAL FOREST CONSERVATION PLAN OVERALL
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 66 of 97

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DRILL HOLES

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DRILL HOLES

MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Certified Plan - MR2020018
APPROVAL
10/28/22

FOREST CONSERVATION WORKSHEET
MD 355 - CLARKSBURG SHARED USE PATH

5-Aug-02

NET TRACT AREA:

A. Total tract area ...		3.48
B. Land dedication acres (parks, county facility, etc.) ...		0.00
C. Land dedication for roads or utilities (not being constructed by this plan) ...		0.00
D. Area to remain in commercial agricultural production/use ...		0.00
E. Other deductions (specify)		0.00
F. Net Tract Area	=	3.48

LAND USE CATEGORY: (from *Trees Technical Manual*)
Input the number "1" under the appropriate land use, limit to only one entry.

ARA	MDR	IDA	HDR	MPD	CIA
0	0	1	0	0	0

G. Afforestation Threshold ...	15%	x F =	0.52
H. Conservation Threshold ...	20%	x F =	0.70

EXISTING FOREST COVER:

I. Existing forest cover .....=		1.15
J. Area of forest above afforestation threshold .....=		0.63
K. Area of forest above conservation threshold .....=		0.45

BREAK EVEN POINT:

L. Forest retention above threshold with no mitigation ....=		0.79
M. Clearing permitted without mitigation .....=		0.36

PROPOSED FOREST CLEARING:

N. Total area of forest to be cleared .....=		1.15
O. Total area of forest to be retained .....=		0.00

PLANTING REQUIREMENTS:

P. Reforestation for clearing above conservation threshold ....=		0.11
Q. Reforestation for clearing below conservation threshold ....=		1.39
R. Credit for retention above conservation threshold .....=		0.00
S. Total reforestation required .....=		1.51
T. Total afforestation required .....=		0.00
U. Credit for landscaping (may not exceed 20% of "S") .....=		0.00
V. Total reforestation and afforestation required .....=		1.51 *

*1.51 AC FORESTATION REQUIRED
– 0.46 AC AFFORESTATION PROVIDED

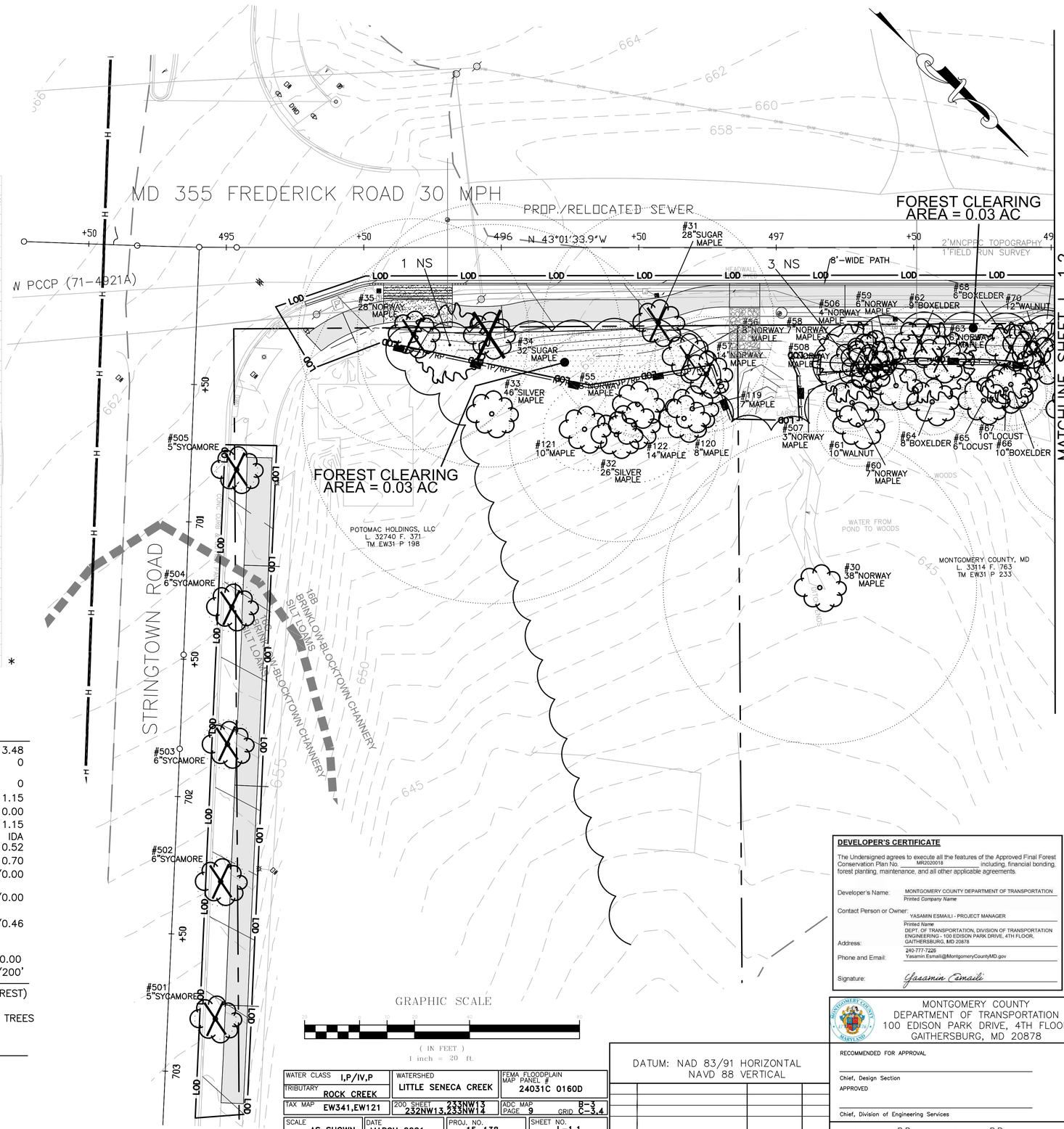
1.05 AC FOREST BANKING WILL BE PURCHASED

SITE TABULATIONS:

ACREAGE OF TRACT:	3.48
ACREAGE OF TRACT REMAINING IN AGRICULTURE:	0
ACREAGE OF ROAD AND UTILITY R/W WHICH WILL NOT BE IMPROVED AS PART OF DEV. APPLICATION:	0
ACREAGE OF EX. FOREST:	1.15
ACREAGE OF TOTAL FOREST RETENTION:	0.00
ACREAGE OF TOTAL FOREST CLEARED:	1.15
LAND USE CATEGORY:	IDA
AFFORESTATION THRESHOLD	0.52
CONSERVATION THRESHOLD	0.70
ACREAGE OF FOREST RETAINED, CLEARED, AND PLANTED WITHIN WETLANDS	0.00/0.07/0.00
ACREAGE OF FOREST RETAINED, CLEARED, AND PLANTED WITHIN 100–YEAR FLOODPLAIN	0.00/0.00/0.00
ACREAGE OF FOREST RETAINED, CLEARED, AND PLANTED WITHIN STREAM BUFFERS	0.00/0.60/0.46
ACREAGE OF FOREST RETAINED, CLEARED, AND PLANTED WITH PRIORITY AREAS	0.00/0.00/0.00
LINEAR EXTENT & AVERAGE WIDTH OF STREAM BUFFER	342'/200'

TOTAL DBH INCHES OF SPECIMEN TREES REMOVED (OUTSIDE FOREST)
339 X 0.25 = 85 REQUIRED CALIPER INCHES MITIGATION
TOTAL DBH INCHES OF SPECIMEN TREE REMOVED ÷ 3" CALIPER TREES = TOTAL TREES REQUIRED TO BE PLANTED
29 TOTAL 3" CALIPER TREES REQUIRED TO BE PLANTED

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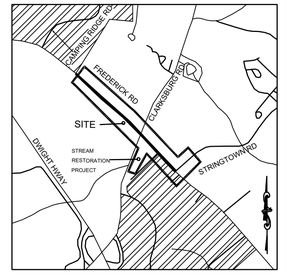
GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

WATER CLASS I,P/IV,P	WATERSHED LITTLE SENECA CREEK	FEMA FLOODPLAIN MAP PANEL # 24031C 0160D	
TRIBUTARY ROCK CREEK			
TAX MAP EW341,EW121	200 SHEET 232NW13,233NW14	ADC MAP PAGE 9	B-3 GRID C-3.4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-1.1

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NO.	REVISION	DATE	BY

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VICINITY MAP
1"=2000'

LEGEND

- 14"RED OAK — EXISTING TREE >6" AND <24"DBH AND CRITICAL ROOT ZONE
- #1 26"RED OAK — EXISTING SIGNIFICANT TREE ≥24" AND <30"DBH WITH TAG NUMBER
- #2 32"RED OAK — EXISTING SPECIMEN TREE ≥30"DBH WITH TAG NUMBER
- FOREST TREELINE
- SCRUB AREA/SCREENING TREES/ NON–FOREST CANOPY
- LOD LOD LOD — LIMITS OF DISTURBANCE
- 652 — PROPOSED GRADE
- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- 390 — EX. CONTOUR
- EXISTING STREAM
- EXISTING EASEMENT
- H H — HISTORIC DISTRICT
- X — TREE TO BE REMOVED
- TREE PROTECTION FENCE (TEMPORARY)
- TP/RP TP/RP — TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE
- TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)
- FOREST CLEARING AREA
- PROPOSED SHARED USE PATH
- PROPOSED LIGHT POLES
- 16D BRINKLOW 2UB GLENELG — SOIL BOUNDARY
- PROPOSED MITIGATION TREE

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

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

MATCHLINE SHEET L-1.2

PLAN SHEET L-1.1
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MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 67 of 97

DRILL HOLES

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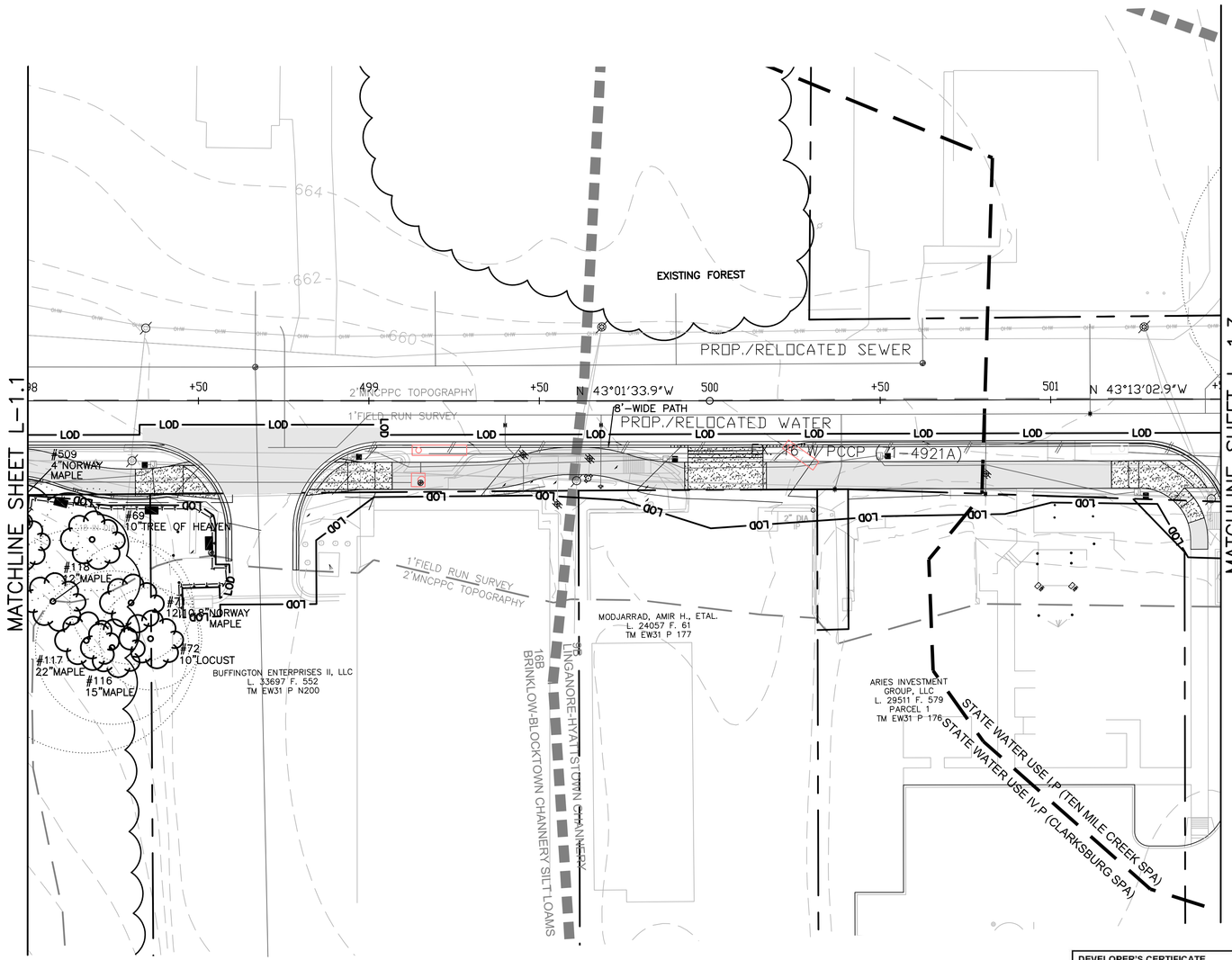
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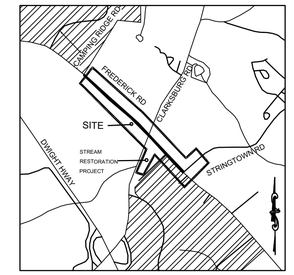
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THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Certified Plan - MR2020018

APPROVAL

10/28/22





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Phone and Email: 240-777-7226 Yasamin.Esmaili@MontgomeryCountyMD.gov

Signature: Yasamin Esmaili

CERTIFICATION OF QUALIFIED PROFESSIONAL

I HEREBY CERTIFY THAT THE PLAN SHOWN HEREON HAS BEEN PREPARED IN ACCORDANCE WITH MARYLAND STATE, MNCP&PC AND MONTGOMERY COUNTY FOREST CONSERVATION LAWS.

9.2.2022
DATE

MICHAEL A. NORTON
MDNR / COMAR 08.19.06.01
QUALIFIED PROFESSIONAL

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

WATER CLASS I,P/IV,P	WATERSHED LITTLE SENECA CREEK	FEMA FLOODPLAIN MAP PANEL # 24031C 0160D	
TRIBUTARY ROCK CREEK			
TAX MAP EW341,EW121	200' SHEET 232NW13,233NW14	ADC MAP PAGE 9	B-3 GRID C-3,4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-1.2

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Engineering Services — Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.2
FINAL FOREST CONSERVATION PLAN
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 68 of 97

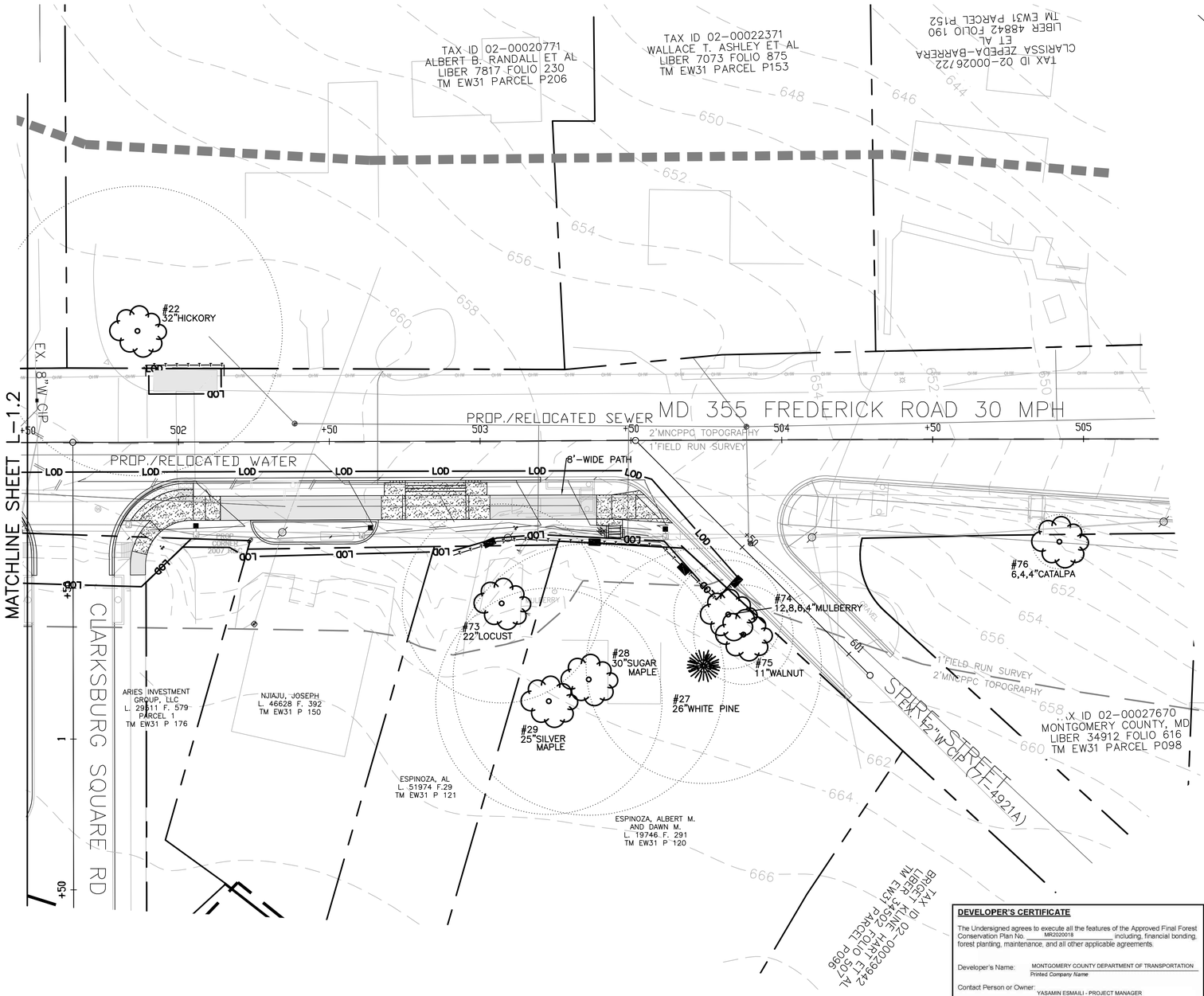
NORTON LAND DESIGN
LANDSCAPE ARCHITECTURE + ENVIRONMENTAL PLANNING
5146 DORSEY HALL DRIVE, 2ND FLOOR ELLICOTT CITY, MD 21042
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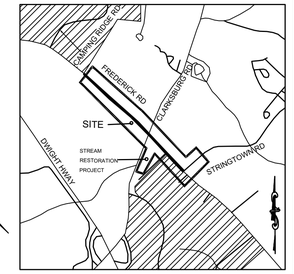
MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Certified Plan - MR2020018
APPROVAL
10/28/22

DRILL HOLES

DRILL HOLES

DRILL HOLES





VICINITY MAP
1"=2000'

LEGEND

- EXISTING TREE >6" AND <24"DBH AND CRITICAL ROOT ZONE (14"RED OAK)
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- LOD — LOD — LOD — LIMITS OF DISTURBANCE
- 652 — PROPOSED GRADE
- PROPERTY BOUNDARY
- PROPOSED RIGHT-OF-WAY
- 390 — EX. CONTOUR
- EXISTING STREAM
- EXISTING EASEMENT
- H — H — HISTORIC DISTRICT
- X — TREE TO BE REMOVED
- T—T—T—T—T—T—T— TREE PROTECTION FENCE (TEMPORARY)
- TP/RP — TP/RP — TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE
- TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)
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- PROPOSED LIGHT POLES
- 16D BRINKLOW 2UB GLENELG — SOIL BOUNDARY
- PROPOSED MITIGATION TREE

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TAX MAP EW341,EW121	200 SHEET 232NW13,233NW13 232NW14,233NW14	ADC MAP PAGE 9	GRID B-3 C-3,4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-1.3

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.3
FINAL FOREST CONSERVATION PLAN
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 69 of 97

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DRILL HOLES

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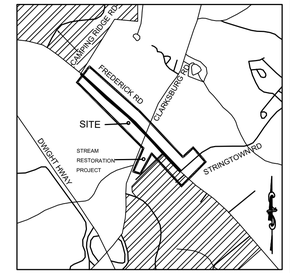
DRILL HOLES

MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Certified Plan - MR2020018
APPROVAL
10/28/22

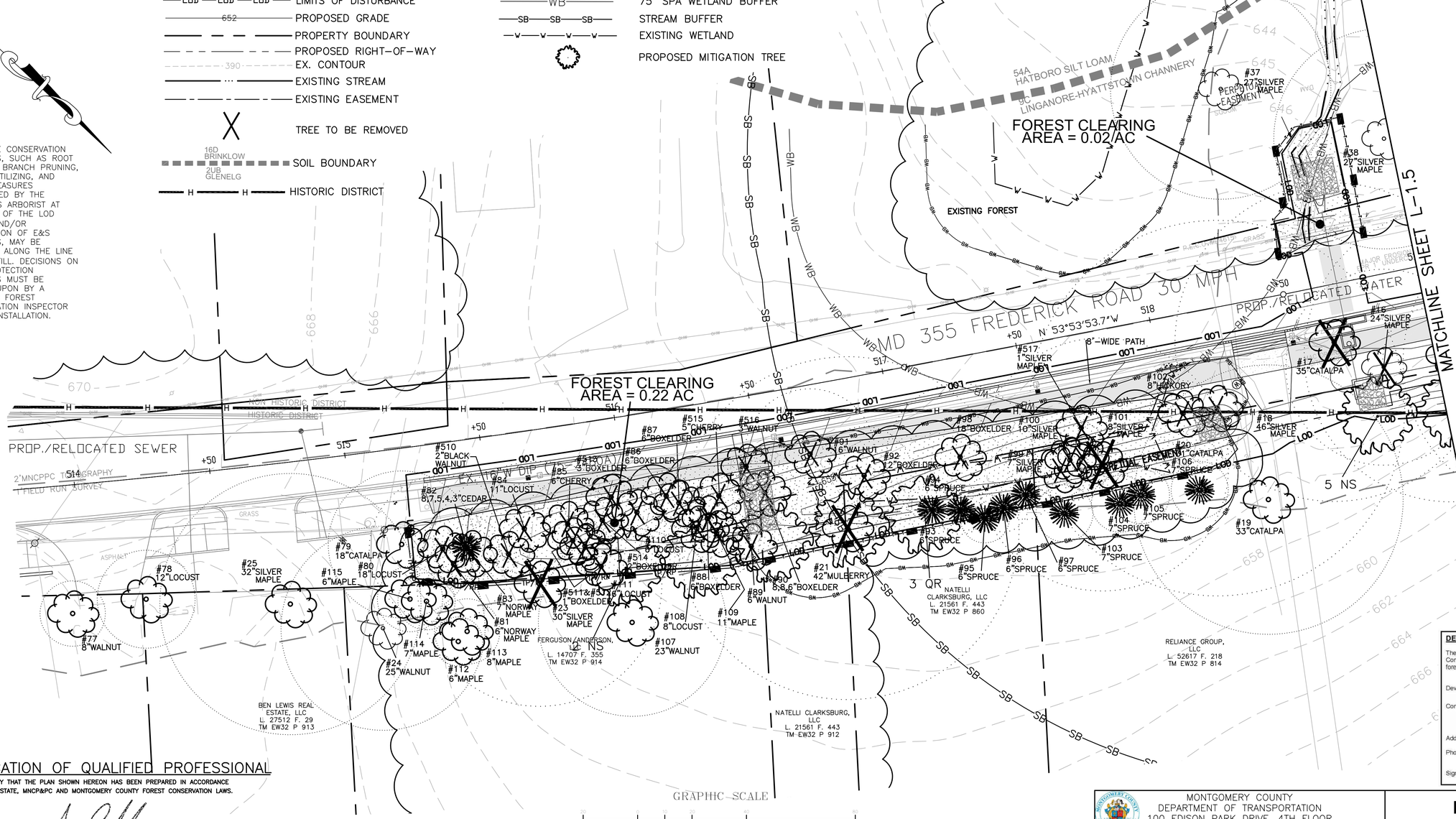
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VICINITY MAP
1"=2000'



GRAPHIC SCALE
(IN FEET)
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SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-1.4

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NO.	REVISION	DATE	BY

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Signature: Yasamin Esmaili

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.4
FINAL FOREST CONSERVATION PLAN
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

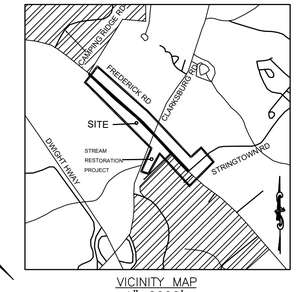
Project No. : C.I.P. PR. #501744 SHEET 70 of 97

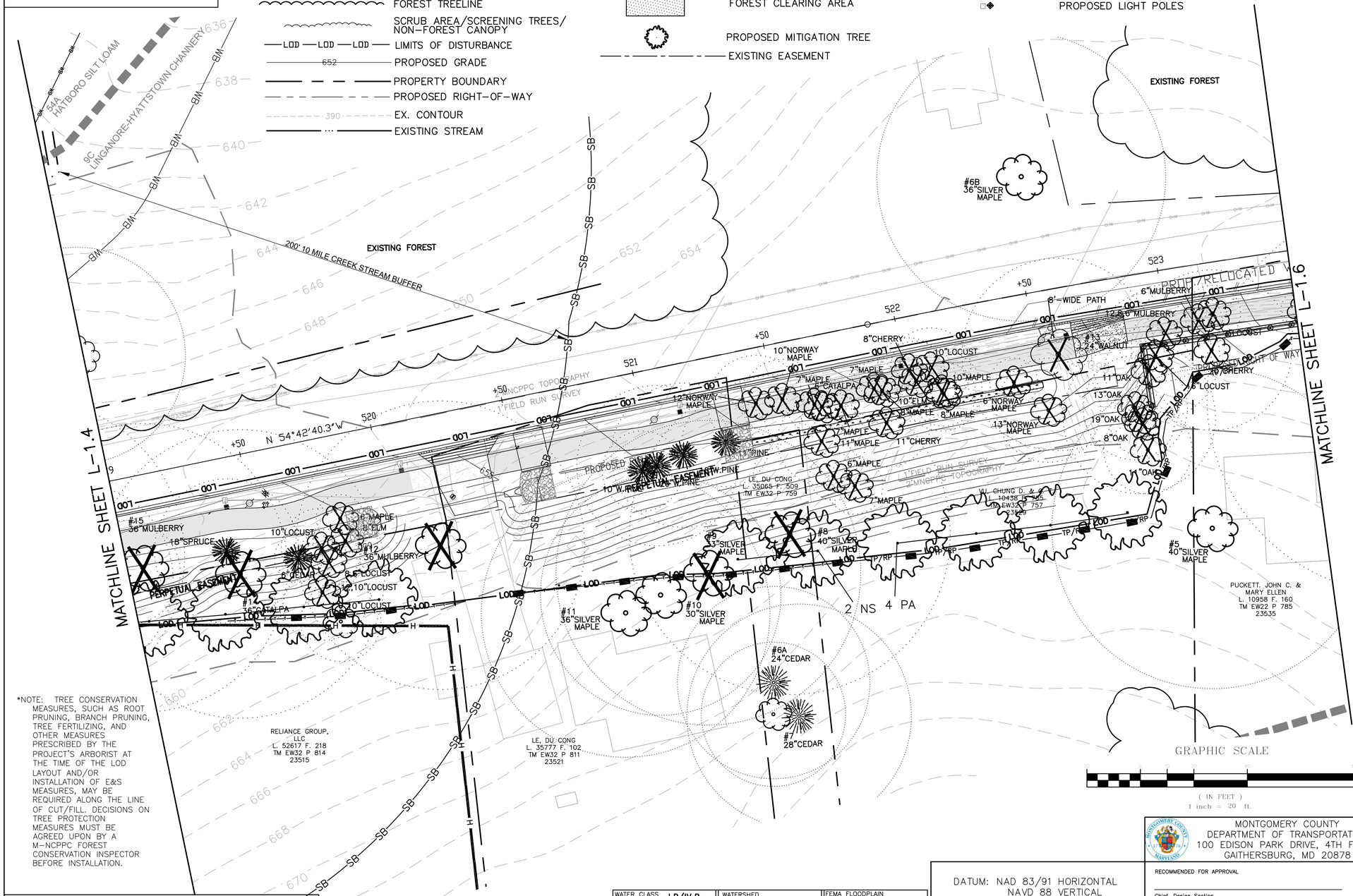
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VICINITY MAP
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GRAPHIC SCALE
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SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-1.5

DATUM: NAD 83/91 HORIZONTAL
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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
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Chief, Design Section — Date
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Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.5
FINAL FOREST CONSERVATION PLAN
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 71 of 97

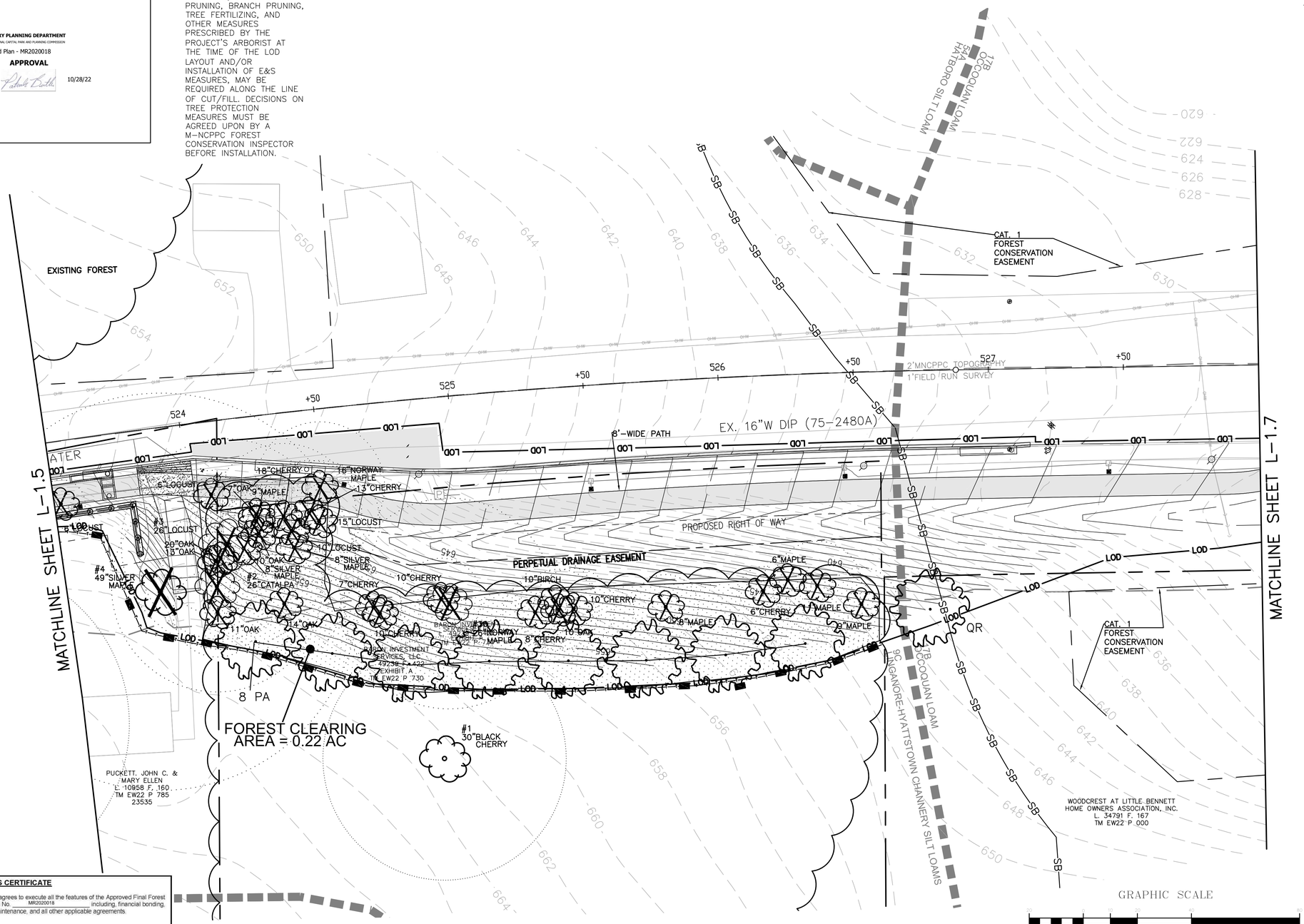
DRILL HOLES

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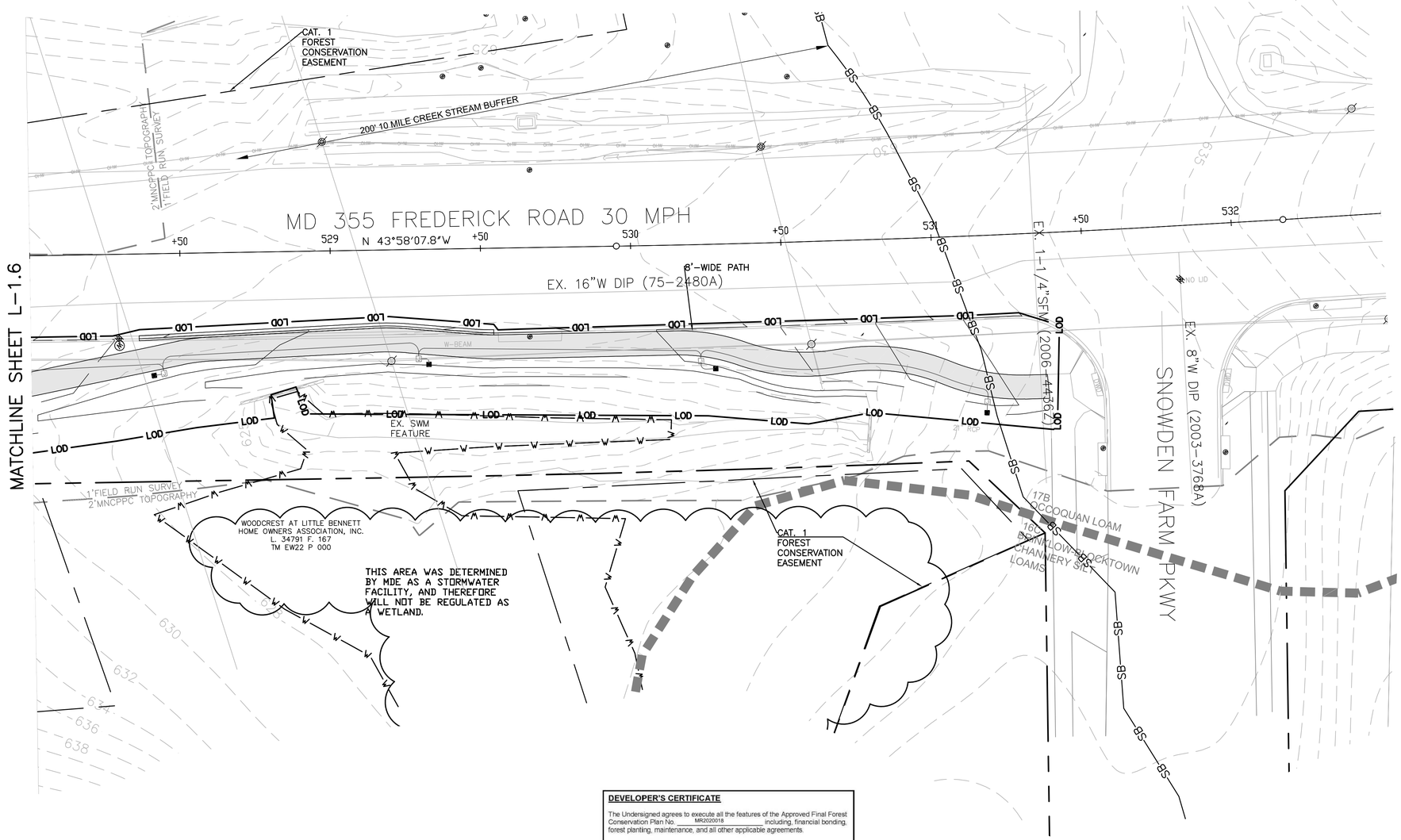
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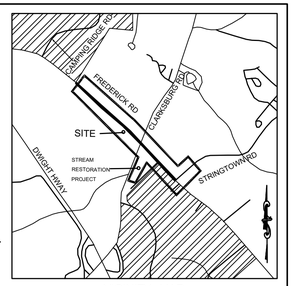
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MD 355 - CLARKSBURG SHARED USE PATH

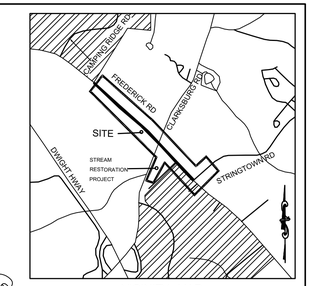
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Project No. : C.I.P. PR. #501744 SHEET 73 of 97

MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Certified Plan - MR2020018
APPROVAL
10/28/22

*HISTORIC TREE NOTES:
–ALL TREES WITHIN THE LOD SHALL BE REMOVED, "X'S" NOT SHOWN ON ALL TREES FOR GRAPHICAL CLARITY.
–SEE TREE TABLE ON L–1.9 FOR SPECIES INFORMATION FOR CORRESPONDING TREE NUMBERS.

GRAPHIC SCALE
(IN FEET)
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VICINITY MAP
1"=2000'

#26 28"ELM
#123 20"ELM
#124 15"ELM
#125 7.5"ELM
#40 34"SILVER MAPLE
#42 25"SILVER MAPLE
#41 29"WALNUT
#44 42"TREE OF HEAVEN
#45 32"SILVER MAPLE
#46 40"SILVER MAPLE
#47 37"SILVER MAPLE
#48 28"LOCUST
#50 34"SILVER MAPLE
#51 33"SILVER MAPLE
#52 31"SILVER MAPLE
#54 36"TREE OF HEAVEN
#43 27"SILVER MAPLE
2 BOXELDER

TAX ID 02–00026128
KENT M. MILES, KATHRYN PATRICIA MILES, KENDALL M. LUPARI, KIM M. MCLAUGHLIN & KAREN ANNE MILES
LIBER 43394 FOLIO 375
TM EW21 PARCEL P503

TAX ID 02–00026697
LAURA J. MULLEN ET AL
LIBER 17678 FOLIO 178
TM EW31 PARCEL 155

TAX ID 02–00030677
JULIO C. AMAYA ET AL
LIBER 16278 FOLIO 008
TM EW31 PARCEL 217

PROP. RELOCATED SEWER
EX. 16"W PCCP (71+492LA)
PERPETUAL EASEMENT
TYFIELD RUN SURREY
GREAT SENECA HIGHWAY
LUNGMORE-HYATTSTOWN CHANNERY SILT LOAMS
BALTIMORE-HYATTSTOWN CHANNERY SILT LOAMS
BALTIMORE SILT LOAM
HISTORIC DISTRICT
NON HISTORIC DISTRICT
100' STATE REGULATED STREAM BUFFER

FOREST CLEARING AREA = 0.46 AC
REFORESTATION AREA 'A' =0.46 AC
CAT. 1 CONSERVATION EASEMENT AREA =0.46 AC
10' WIDE STREAM

MD 121 CLARKSBURG ROAD 35 MPH
MD. ROUTE 121
N 22°26'59.2"E

*NOTE: TREE CONSERVATION MEASURES, SUCH AS ROOT PRUNING, BRANCH PRUNING, TREE FERTILIZING, AND OTHER MEASURES PRESCRIBED BY THE PROJECT'S ARBORIST AT THE TIME OF THE LOD LAYOUT AND/OR INSTALLATION OF E&S MEASURES, MAY BE REQUIRED ALONG THE LINE OF CUT/FILL. DECISIONS ON TREE PROTECTION MEASURES MUST BE AGREED UPON BY A M–NCPPC FOREST CONSERVATION INSPECTOR BEFORE INSTALLATION.

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. MR2020018 including, financial bonding, forest planting, maintenance, and all other applicable agreements.

Developer's Name: MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION (Printed Company Name)
Contact Person or Owner: YASAMIN ESMAILI - PROJECT MANAGER (Printed Name)
Address: DEPT. OF TRANSPORTATION, DIVISION OF TRANSPORTATION ENGINEERING - 100 EDISON PARK DRIVE, 4TH FLOOR, GAITHERSBURG, MD 20878
Phone and Email: 240-777-7226 Yasamin.Esmaili@MontgomeryCountyMD.gov
Signature: Yasamin Esmaili

CERTIFICATION OF QUALIFIED PROFESSIONAL

I HEREBY CERTIFY THAT THE PLAN SHOWN HEREON HAS BEEN PREPARED IN ACCORDANCE WITH MARYLAND STATE, MNCP&PC AND MONTGOMERY COUNTY FOREST CONSERVATION LAWS.

MICHAEL A. NORTON
MDNR / COMAR 08.19.06.01
QUALIFIED PROFESSIONAL

9.2.2022
DATE

LEGEND

- X — TREE TO BE REMOVED
- —T—T—T—T—T— TREE PROTECTION FENCE (TEMPORARY)
- —TP/RP— TP/RP — TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE
- TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)
- FOREST CLEARING AREA
- REFORESTATION AREA
- PROPOSED SHARED USE PATH
- —WB—WB— 25' STATE REGULATED WETLAND BUFFER
- —WB— 75' SPA WETLAND BUFFER
- —SB—SB—SB— STREAM BUFFER
- —W—W—W—W— EXISTING WETLAND
- PROPOSED LIGHT POLES
- —H—H— HISTORIC DISTRICT
- 16D BRINKLOW / 2UB GLENELG — SOIL BOUNDARY
- PROPOSED MITIGATION TREE
- CAT. 1 EASEMENT W/ POSTS
- 14"RED OAK — EXISTING TREE >6" AND <24"DBH AND CRITICAL ROOT ZONE
- #1 26"RED OAK — EXISTING SIGNIFICANT TREE ≥24" AND <30"DBH WITH TAG NUMBER
- #2 32"RED OAK — EXISTING SPECIMEN TREE ≥30"DBH WITH TAG NUMBER
- FOREST TREELINE
- SCRUB AREA/SCREENING TREES/ NON–FOREST CANOPY
- —LOD—LOD—LOD— LIMITS OF DISTURBANCE
- 652 — PROPOSED GRADE
- PROPERTY BOUNDARY
- PROPOSED RIGHT–OF–WAY
- 390 — EX. CONTOUR
- EXISTING STREAM
- EXISTING EASEMENT

WATER CLASS	I,P/IV,P
TRIBUTARY	ROCK CREEK
WATERSHED	LITTLE SENECA CREEK
FEMA FLOODPLAIN MAP PANEL #	24031C 0160D
TAX MAP	EW341,EW121
200 SHEET	232NW13, 232NW14
ADC MAP PAGE	B–3
GRID	C–3.4
SCALE	AS SHOWN
DATE	MARCH 2021
PROJ. NO.	15–138
SHEET NO.	L–1.8

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.8
FINAL FOREST CONSERVATION PLAN
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 74 of 97

NORTON LAND DESIGN
LANDSCAPE ARCHITECTURE + ENVIRONMENTAL PLANNING
5146 DORSEY HALL DRIVE, 2ND FLOOR ELLICOTT CITY, MD 21042
BALT.443.542.9199 x101 DC 240.342.2329x101 WWW.NORTONLANDDESIGN.COM

DRILL HOLES
DRILL HOLES
DRILL HOLES

DRILL HOLES

DRILL HOLES

DRILL HOLES

MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Certified Plan - MR2020018

APPROVAL

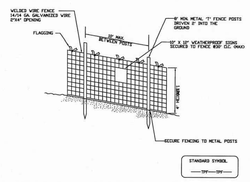
10/28/22

Significant/SpecimenTree Summary 24" +

Tree #	Species Scientific Name	Species Common Name	D.B.H (inches)	Critical Root Zone (Sq.Ft)	Critical Root Zone Impacts	Percent of CRZ Impacted (SF)	Tree Condition	Comments	Status	Variance
1	PRUNUS SEROTINA	BLACK CHERRY	30	6362	937	15%	POOR	VINE, BROKEN BRANCHES/ SPLIT @ 2'	SAVE AND PROTECT	YES
2	CATALPA SPECIOSA	CATALPA	26	4778	4778	100%	POOR	VINE COVERED, DEAD BRANCHES	TO BE REMOVED	N/A
3	ROBINIA PSEUDOACACIA	BLACK LOCUST	26	4778	4778	100%	POOR	VINE COVERED, DEAD BRANCHES	TO BE REMOVED	N/A
4	ACER SACCHARINUM	SILVER MAPLE	49	16972	16972	100%	FAIR	VINE COVERED	TO BE REMOVED	YES
5	ACER SACCHARINUM	SILVER MAPLE	40	11310	3300	29%	GOOD		SAVE AND PROTECT	YES
5A	JUNIPERUS SP.	CEDAR SP.	24	4072	0	0%	FAIR		SAVE AND PROTECT	N/A
6B	ACER SACCHARINUM	SILVER MAPLE	36	9161	292	0%	FAIR		SAVE AND PROTECT	NO
7	JUNIPERUS SP.	CEDAR SP.	28	5542	0	0%	GOOD	SPLIT @ 3'	SAVE AND PROTECT	N/A
8	ACER SACCHARINUM	SILVER MAPLE	40	11310	11310	100%	POOR	VINE COVERED, DEAD BRANCHES	TO BE REMOVED	YES
9	ACER SACCHARINUM	SILVER MAPLE	33	7698	7698	100%	GOOD	SPLIT @ 5'	TO BE REMOVED	YES
10	ACER SACCHARINUM	SILVER MAPLE	30	6362	2570	40%	GOOD		SAVE AND PROTECT	YES
11	ACER SACCHARINUM	SILVER MAPLE	36	9161	3275	36%	GOOD		SAVE AND PROTECT	YES
12	MORUS SP.	MULBERRY SP.	36	9161	9161	100%	POOR	TRUNK DAMAGED	TO BE REMOVED	YES
13	JUGLANS NIGRA	BLACK WALNUT	24	4072	4072	100%	FAIR	MAJOR PRUNING, OHW	TO BE REMOVED	N/A
14	CATALPA SPECIOSA	CATALPA	36	9161	9161	100%	FAIR	18" LEADER SPLITS @ 2'	TO BE REMOVED	YES
15	MORUS SP.	MULBERRY SP.	36	9161	9161	100%	POOR	PRUNED LEADER, VINES	TO BE REMOVED	YES
16	ACER SACCHARINUM	SILVER MAPLE	24	4072	4072	100%	POOR	TRUNK DAMAGED, BROKEN LEADER, DEAD BRANCHES	TO BE REMOVED	N/A
17	CATALPA SPECIOSA	CATALPA	35	8659	8659	100%	POOR	VINE COVERED, PRUNING, OHW	TO BE REMOVED	YES
18	ACER SACCHARINUM	SILVER MAPLE	46	14957	14957	100%	POOR	MAJOR PRUNING, OHW	TO BE REMOVED	YES
19	CATALPA SPECIOSA	CATALPA	33	7698	2104	27%	FAIR	MAIN LEADER PRUNED, HEAVY PRUNING OHW	SAVE AND PROTECT	YES
20	CATALPA SPECIOSA	CATALPA	31	6793	6793	100%	FAIR		TO BE REMOVED	YES
21	MORUS SP.	MULBERRY SP.	42	12469	12469	100%	FAIR	SPLIT @ 3', 30" LEADER, 42" LEADER	TO BE REMOVED	YES
22	CARYA SP.	HICKORY SP.	32	7238	16	<1%	GOOD	OFFSITE	SAVE AND PROTECT	YES
23	ACER SACCHARINUM	SILVER MAPLE	30	6362	6362	100%	POOR	TRUNK DAMAGED, VINE, BROKEN BRANCHES	TO BE REMOVED	YES
24	JUGLANS NIGRA	BLACK WALNUT	25	4418	264	6%	FAIR	VINES	SAVE AND PROTECT	YES
25	ACER SACCHARINUM	SILVER MAPLE	32	7238	4	0%	FAIR	MIDDLE LEADER PRUNED 10' UP, OHW	SAVE AND PROTECT	NO
26	ULMUS SP.	ELM	28	5542	0	0%	GOOD	OHW	SAVE AND PROTECT	NO
27	PINUS STROBUS	WHITE PINE	26	4778	235	5%	FAIR	VINES, BROKEN BRANCHES	SAVE AND PROTECT	YES
28	ACER SACCHARUM	SUGAR MAPLE	30	6362	87	1%	GOOD	SPLITS @ 5'	SAVE AND PROTECT	NO
29	ACER SACCHARINUM	SILVER MAPLE	25	4418	0	0%	GOOD		SAVE AND PROTECT	NO
30	ACER PLATANOIDES	NORWAY MAPLE	38	10207	0	0%	POOR	SPLITS @ 5', BROKEN BRANCHES, VINES, LITTLE GROWTH	SAVE AND PROTECT	NO
31	ACER SACCHARUM	SUGAR MAPLE	28	5542	5542	100%	POOR	VINE/OHW	TO BE REMOVED	YES
32	ACER SACCHARINUM	SILVER MAPLE	26	4778	829	17%	FAIR	SPLITS @ 5'	SAVE AND PROTECT	YES
33	ACER SACCHARINUM	SILVER MAPLE	46	14957	5054	34%	POOR	COVERED IN VINES, BROKEN BRANCHES	SAVE AND PROTECT	YES
34	ACER SACCHARUM	SUGAR MAPLE	32	7238	7238	100%	FAIR	BROKEN BRANCHES, OHW, VINES	TO BE REMOVED	YES
35	ACER PLATANOIDES	NORWAY MAPLE	28	5542	5542	100%	POOR	DEAD LIMBS	TO BE REMOVED	YES
36	ACER PLATANOIDES	NORWAY MAPLE	26	4778	4778	100%	FAIR	SPLIT @ 4', 14", 12"	TO BE REMOVED	NO
37	ACER SACCHARINUM	SILVER MAPLE	27	5153	153	3%	GOOD	SPLIT @ 2', 8", 17"	SAVE AND PROTECT	N/A
38	ACER SACCHARINUM	SILVER MAPLE	27	5153	732	14%	GOOD	VINE, SPLIT @ 4', 12" 12"	SAVE AND PROTECT	N/A
39	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID	VOID
40	ACER SACCHARINUM	SILVER MAPLE	34	8171	0	0%	GOOD		SAVE AND PROTECT	NO
41	JUGLANS NIGRA	BLACK WALNUT	29	5945	2547	43%	POOR	VINE	TO BE REMOVED	YES
42	ACER SACCHARINUM	SILVER MAPLE	25	4418	0	0%	GOOD		SAVE AND PROTECT	NO
43	ACER SACCHARINUM	SILVER MAPLE	28	5542	5542	100%	POOR		TO BE REMOVED	YES
44	AILANTHUS ALTISSIMA	TREE OF HEAVEN	42	12469	12469	100%	POOR	MISSING BARK, VINE	TO BE REMOVED	YES
45	ACER SACCHARINUM	SILVER MAPLE	32	7238	3200	44%	GOOD		TO BE REMOVED	YES
46	ACER SACCHARINUM	SILVER MAPLE	40	11310	1056	9%	GOOD	SPLIT @ 4', 18", 20"	SAVE AND PROTECT	YES
47	ACER SACCHARINUM	SILVER MAPLE	37	9677	2829	29%	GOOD		SAVE AND PROTECT	YES
48	ROBINIA PSEUDOACACIA	BLACK LOCUST	28	5542	542	10%	GOOD		SAVE AND PROTECT	YES
49	ACER NEGUNDO	BOXELDER	32	7238	7238	100%	GOOD		TO BE REMOVED	YES
50	ACER SACCHARINUM	SILVER MAPLE	34	8171	1736	21%	GOOD	SPLIT @ 1', 17", 19"	SAVE AND PROTECT	YES
51	ACER SACCHARINUM	SILVER MAPLE	33	7698	7698	100%	GOOD		TO BE REMOVED	YES
52	ACER SACCHARINUM	SILVER MAPLE	31	6793	6793	100%	GOOD		TO BE REMOVED	YES
53	ACER SACCHARINUM	SILVER MAPLE	35	8659	8659	100%	POOR	MISSING BARK	TO BE REMOVED	YES
54	AILANTHUS ALTISSIMA	TREE OF HEAVEN	26	4778	564	12%	GOOD		SAVE AND PROTECT	YES
55	ACER SACCHARINUM	NORWAY MAPLE	8	452	20	4%	GOOD		SAVE AND PROTECT	YES
56	ACER SACCHARINUM	NORWAY MAPLE	8	452	452	100%	GOOD		TO BE REMOVED	YES
57	ACER SACCHARINUM	NORWAY MAPLE	14	1385	848	61%	GOOD		TO BE REMOVED	YES
58	ACER SACCHARINUM	NORWAY MAPLE	7	346	346	100%	GOOD		TO BE REMOVED	YES
59	ACER SACCHARINUM	NORWAY MAPLE	6	254	30	12%	GOOD		SAVE AND PROTECT	YES
60	ACER SACCHARINUM	NORWAY MAPLE	7	346	0	0%	GOOD		SAVE AND PROTECT	NO
61	JUGLANS NIGRA	BLACK WALNUT	10	707	0	0%	GOOD		SAVE AND PROTECT	NO
62	ACER NEGUNDO	BOXELDER	9	573	573	100%	GOOD		TO BE REMOVED	YES
63	ACER NEGUNDO	BOXELDER	6	254	254	100%	GOOD		TO BE REMOVED	YES
64	ACER NEGUNDO	BOXELDER	8	452	0	0%	GOOD		SAVE AND PROTECT	NO
65	ROBINIA PSEUDOACACIA	BLACK LOCUST	6	254	0	0%	GOOD		SAVE AND PROTECT	NO
66	ACER NEGUNDO	BOXELDER	10	707	158	22%	GOOD		SAVE AND PROTECT	YES
67	ROBINIA PSEUDOACACIA	BLACK LOCUST	10	707	120	17%	GOOD		SAVE AND PROTECT	YES
68	ACER NEGUNDO	BOXELDER	6	254	254	100%	GOOD		TO BE REMOVED	YES
69	AILANTHUS ALTISSIMA	TREE OF HEAVEN	10	707	231	33%	GOOD		SAVE AND PROTECT	YES
70	JUGLANS NIGRA	BLACK WALNUT	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
71	ACER SACCHARINUM	NORWAY MAPLE	12	1018	0	0%	GOOD		SAVE AND PROTECT	NO
72	ROBINIA PSEUDOACACIA	BLACK LOCUST	10	707	0	0%	GOOD		SAVE AND PROTECT	NO
73	ROBINIA PSEUDOACACIA	BLACK LOCUST	22	3421	719	21%	GOOD		SAVE AND PROTECT	YES
74	MORUS SP.	MULBERRY SP.	12	1018	126	12%	GOOD		SAVE AND PROTECT	YES
75	JUGLANS NIGRA	BLACK WALNUT	11	855	5	1%	GOOD		SAVE AND PROTECT	YES
76	CATALPA SPECIOSA	CATALPA	6	254	0	0%	GOOD		SAVE AND PROTECT	NO
77	JUGLANS NIGRA	BLACK WALNUT	8	452	0	0%	GOOD		SAVE AND PROTECT	NO
78	ROBINIA PSEUDOACACIA	BLACK LOCUST	12	1018	0	0%	GOOD		SAVE AND PROTECT	NO
79	CATALPA SPECIOSA	CATALPA	18	2290	783	34%	GOOD		SAVE AND PROTECT	YES
80	ROBINIA PSEUDOACACIA	BLACK LOCUST	18	2290	2290	100%	GOOD		TO BE REMOVED	YES
81	ACER SACCHARINUM	NORWAY MAPLE	6	254	254	100%	GOOD		TO BE REMOVED	YES
82	JUNIPERUS SP.	CEDAR SP.	8	452	452	100%	GOOD		TO BE REMOVED	YES
83	ACER SACCHARINUM	NORWAY MAPLE	7	346	346	100%	GOOD		TO BE REMOVED	YES
84	ROBINIA PSEUDOACACIA	BLACK LOCUST	11	855	855	100%	GOOD		TO BE REMOVED	YES
85	PRUNUS SP.	CHERRY SP.	6	254	254	100%	GOOD		TO BE REMOVED	YES
86	ACER NEGUNDO	BOXELDER	6	254	254	100%	GOOD		TO BE REMOVED	YES
87	ACER NEGUNDO	BOXELDER	6	254	254	100%	GOOD		TO BE REMOVED	YES
88	ACER NEGUNDO	BOXELDER	6	254	254	100%	GOOD		TO BE REMOVED	YES
89	JUGLANS NIGRA	BLACK WALNUT	6	254	254	100%	GOOD		TO BE REMOVED	YES
90	ACER NEGUNDO	BOXELDER	8	452	452	100%	GOOD		TO BE REMOVED	YES
91	JUGLANS NIGRA	BLACK WALNUT	16	1810	1810	100%	GOOD		TO BE REMOVED	YES
92	ACER NEGUNDO	BOXELDER	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
93	PICEA SP.	SPRUCE	6	254	254	100%	GOOD		TO BE REMOVED	YES
94	PICEA SP.	SPRUCE	6	254	254	100%	GOOD		TO BE REMOVED	YES
95	PICEA SP.	SPRUCE	6	254	99	39%	GOOD		TO BE REMOVED	YES
96	PICEA SP.	SPRUCE	6	254	254	100%	GOOD		TO BE REMOVED	YES
97	PICEA SP.	SPRUCE	6	254	254	100%	GOOD		TO BE REMOVED	YES
98	ACER NEGUNDO	BOXELDER	18	2290	2290	100%	GOOD		TO BE REMOVED	YES
99	ACER SACCHARINUM	SILVER MAPLE	7	346	346	100%	GOOD		TO BE REMOVED	YES
100	ACER SACCHARINUM	SILVER MAPLE	10	707	707	100%	GOOD		TO BE REMOVED	YES
101	ACER SACCHARINUM	SILVER MAPLE	8	452	452	100%	GOOD		TO BE REMOVED	YES
102	CARYA SP.	HICKORY SP.	8	452	452	100%	GOOD		TO BE REMOVED	YES
103	PICEA SP.	SPRUCE	7	346	62	18%	GOOD		SAVE AND PROTECT	YES
104	PICEA SP.	SPRUCE	7	346	53	15%	GOOD		SAVE AND PROTECT	YES
105	PICEA SP.	SPRUCE	7	346	80	23%	GOOD		SAVE AND PROTECT	YES
106	PICEA SP.	SPRUCE	7	346	35	10%	GOOD		SAVE AND PROTECT	YES
107	JUGLANS NIGRA	BLACK WALNUT	23	3739	668	18%	GOOD		SAVE AND PROTECT	YES
108	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	452	452	100%	GOOD		TO BE REMOVED	YES
109	ACER SP.	MAPLE SP.	11	855	855	100%	GOOD		TO BE REMOVED	YES
110	ROBINIA PSEUDOACACIA	BLACK LOCUST	6	254	254	100%	GOOD		TO BE REMOVED	YES
111	ROBINIA PSEUDOACACIA	BLCK LOCUST	6	254	254	100%	GOOD		TO BE REMOVED	YES
112	ACER SP.	MAPLE SP.	7	346	0	0%	GOOD		SAVE AND PROTECT	NO
113	ACER SP.	MAPLE SP.	8	452	0	0%	GOOD		SAVE AND PROTECT	NO
114	ACER SP.	MAPLE SP.	7	346	24	7%	GOOD		SAVE AND PROTECT	YES
115	ACER SP.	MAPLE SP.	6	254	24	9%	GOOD		SAVE AND PROTECT	NO
116	ACER SP.	MAPLE SP.	15	1590	0	0%	GOOD		SAVE AND PROTECT	NO
117	ACER SP.	MAPLE SP.	22	3421	0	0%	GOOD		SAVE AND PROTECT	NO
118	ACER SP.	MAPLE SP.	12	1018	0	0%	GOOD		SAVE AND PROTECT	NO
119	ACER SP.	MAPLE SP.	7	346	0	0%	GOOD		SAVE AND PROTECT	NO
120	ACER SP.	MAPLE SP.	8	452	0	0%	GOOD		SAVE AND PROTECT	NO
121	ACER SP.	MAPLE SP.	10	707	0	0%	GOOD		SAVE AND PROTECT	NO
122	ACER SP.	MAPLE SP.	14	1385	68	5%	GOOD		SAVE AND PROTECT	YES
123	ULMUS SP.	ELM	20	2827	0	0%	GOOD		SAVE AND PROTECT	NO
124	ULMUS SP.	ELM	15	1590	0	0%	GOOD		SAVE AND PROTECT	NO
125	ULMUS SP.	ELM	7	346	0	0%	GOOD		SAVE AND PROTECT	NO
501	PLATANUS OCCIDENTALIS	SYCAMORE	5	177	177	100%	GOOD		TO BE REMOVED	YES
502	PLATANUS OCCIDENTALIS	SYCAMORE	6	254	254	100%	GOOD		TO BE REMOVED	YES
503	PLATANUS OCCIDENTALIS	SYCAMORE	6	254	254	100%	GOOD		TO BE REMOVED	YES
504	PLATANUS OCCIDENTALIS	SYCAMORE	6	254	254	100%	GOOD		TO BE REMOVED	YES
505	PLATANUS OCCIDENTALIS	SYCAMORE	5	177	177	100%	GOOD		TO BE REMOVED	YES
506	ACER PLATANOIDES	NORWAY MAPLE	4	113	113	100%	GOOD		TO BE REMOVED	YES
507	ACER PLATANOIDES	NORWAY MAPLE	3	64	64	100%	GOOD		TO BE REMOVED	YES
508	ACER PLATANOIDES	NORWAY MAPLE	2	28	28	100%	GOOD		TO BE REMOVED	YES
509	ACER PLATANOIDES	NORWAY MAPLE	4	113	113	100%	GOOD		TO BE REMOVED	YES
510	JUGLANS NIGRA	BLACK WALNUT	2	28	28	100%	GOOD		TO BE REMOVED	YES
511	ACER NEGUNDO	BOXELDER	1	7	7	100%	GOOD		TO BE REMOVED	YES
512	ACER NEGUNDO	BOXELDER	1	7	7	100%	GOOD		TO BE REMOVED	YES
513	ACER NEGUNDO	BOXELDER	3	64	64	100%	GOOD		TO BE REMOVED	YES
514	ACER NEGUNDO	BOXELDER	2	28	28	100%	GOOD		TO BE REMOVED	YES
515	PRUNUS SP.	CHERRY SP.	5	177	177	100%	GOOD		TO BE REMOVED	YES
516	JUGLANS NIGRA	BLACK WALNUT	3	64	64	100%	GOOD		TO BE REMOVED	YES
517	ACER SACCHARINUM	SILVER MAPLE	1	7	7	100%	GOOD		TO BE REMOVED	YES
518	JUGLANS NIGRA	BLACK WALNUT	10	707	707	100%	GOOD		TO BE REMOVED	YES
519	JUGLANS NIGRA	BLACK WALNUT	10	707	707	100%	GOOD		TO BE REMOVED	YES
520	AILANTHUS ALTISSIMA	TREE OF HEAVEN	4	113	113	100%	GOOD		TO BE REMOVED	YES

Tree Protection Fence Detail

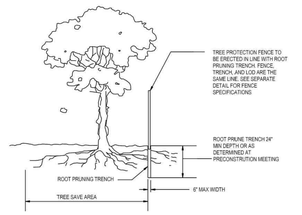
Not to scale



NOTES

1. Practice may be combined with sediment control fencing.
2. Location and limits of fencing should be coordinated in field with arborist.
3. Boundaries of protection area should be staked prior to installing protective device.
4. Root damage should be avoided.
5. Protection signage is required.
6. Fencing shall be maintained throughout construction.

Montgomery County Planning Department • M-NCPPC
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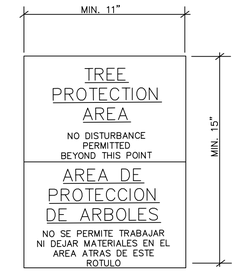


NOTES:
1. RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS AND PRECONSTRUCTION MEETING.
2. BOUNDARIES OF RETENTION AREAS MUST BE STAKED AT THE PRECONSTRUCTION MEETING AND FLAGGED PRIOR TO TRENCHING.
3. EXACT LOCATION OF TRENCH SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FOREST CONSERVATION (FC) INPECTOR .
4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH EXCAVATED SOIL OR OTHER ORGANIC SOIL AS SPECIFIED PER PLAN OR BY THE FC INSPECTOR.
5. ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
6. ALL PRUNING MUST BE EXECUTED WITH LOD SHOWN ON PLANS OR AS AUTHORIZED IN WRITING BY THE FC INSPECTOR.

ROOT PRUNING DETAIL

NTS

FOREST RETENTION AREA SIGNAGE



NOTE:
SIGNAGE FOR FOREST RETENTION AREA TO BE PLACED 30' O.C. WHEN PLACED ON FENCE
1. Attachment of signs to trees is prohibited.
2. Signs should be properly maintained.
3. Avoid injury to roots when placing posts for the signs.

SITE PLANTING & REFORESTATION GENERAL NOTES

1. DRAWINGS ARE FOR TREE CONSERVATION AND REFORESTATION PURPOSES ONLY. AS–BUILT CONDITIONS MAY VARY. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND UTILITY LOCATIONS SHOWN AND DESCRIBED ON THE DRAWINGS, AND SHALL INFORM NORTON LAND DESIGN, TEL NO. 240–342–2329 OF ANY DISCREPANCIES OR POTENTIAL PROBLEMS PRIOR TO COMMENCING WORK.

2. IN REFORESTATION AREAS ALL BRANCHED DECIDUOUS TREES SHALL BE PLANTED WITH RANDOM SPACING 20.9' ON CENTER. SHRUBS AND CONTAINER GROWN EVERGREENS NOT IN PLANTING BEDS SHALL BE PLANTED IN RANDOM SPACING 33.0' ON CENTER.

3. DO NOT PLANT TREES OR SHRUBS WITHIN 3'–0" OF THE CENTERLINE OF SWALES OR DITCHES.

4. "MISS UTILITY" (1–800–257–7777) MUST BE CONTACTED A MINIMUM OF 48 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION FOR PLANT MATERIAL INSTALLATION.

5. NO PLANT MATERIAL SHALL BE PLANTED DIRECTLY IN FRONT OF ROADWAY SIGN SIGHT LINES.

6. PLANT MATERIALS AND PLANTING MEASURES SHALL CONFORM WITH THE "LANDSCAPE SPECIFICATION GUIDELINES FOR THE BALTIMORE–WASHINGTON METROPOLITAN AREAS", LATEST EDITION.

7. ALL PLANTS SHALL BE WATERED FOR A TWO YEAR PERIOD AS REQUIRED. THE CONTRACTOR SHALL PROVIDE SUFFICIENT MANPOWER AND EQUIPMENT TO COMPLETE THE WATERING AS REQUIRED.

8. THE FOLLOWING LIST OF PLANTS SHALL BE PLANTED ONLY DURING THE SPRING PLANTING SEASON: ACER RUBRUM AND QUERCUS SPP. (ALL OAK SPECIES).

9. ALL EXISTING TRASH AND IMPERVIOUS AREAS SHOWN ON THE PLAN TO BE REMOVED MUST BE REMOVED AND ANY DISTURBED SOIL MUST BE STABILIZED AND SEEDED. IT MAY BE NECESSARY TO SCARIFY AND/OR AERATE THE SOIL.

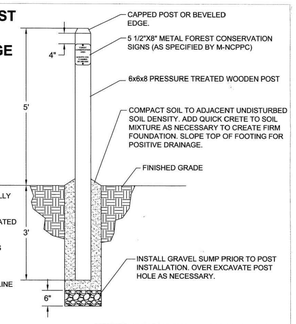
10. PLANTS SHALL BE INSPECTED BY THE CONTRACTOR AND ANY MATERIAL THAT IS EITHER DAMAGED OR WHICH HAS ROOT BALL COMPACTION, J–ROOTED OR KINKED ROOT SYSTEMS WILL BE REPLACED. NO PLANTS WILL BE STORED ON SITE. PLANTS WILL BE PLANTED IMMEDIATELY ONCE RECEIVED FROM THE NURSERY.

11. STOCK WILL BE PLANTED IN RANDOM ORDER TO REFLECT NATURAL GROWTH OF THE FOREST.

12. PLANTING FIELD SHOULD BE 2X ROOT BALL DIAMETER. NATIVE SOIL MATERIAL WILL BE USED TO BACKFILL PLANT SITE AND AREA WILL BE PACKED TO REMOVE AIR POCKETS. RAKE SOIL EVENLY OVER THE PLANTING FIELD AND COVER HOLE WITH THREE INCHES OF MULCH. WATER TO SETTLE SOIL AND PROVIDE MOISTURE AS NEEDED.

13. DEER PROTECTION MEASURES TO BE PROVIDED FOR ALL PLANTED TREES. SPECIFIC MEASURES TO BE DETERMINED AS PART OF THE PRE–PLANTING MEETING.

PERMANENT FOREST CONSERVATION EASEMENT SIGNAGE



NOTES:
POST TO BE INSTALLED IN A VERTICALLY PLUMB POSITION.

ALL WOOD SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE OR CEDAR.

ALL FASTENERS SHALL BE STAINLESS STEEL 1-½" IN LENGTH.

ALL POSTS TO BE INSTALLED ALONG FOREST CONSERVATION EASEMENT LINE AS SPECIFIED PER APPROVED FINAL FOREST CONSERVATION PLAN OR M-NCPPC FIELD INSPECTOR'S INSTRUCTIONS.

MONTGOMERY COUNTY PLANNING DEPT. 12/23/2008

CERTIFICATION OF QUALIFIED PROFESSIONAL

I HEREBY CERTIFY THAT THE PLAN SHOWN HEREON HAS BEEN PREPARED IN ACCORDANCE WITH MARYLAND STATE, MNCP&PC AND MONTGOMERY COUNTY FOREST CONSERVATION LAWS.

9.2.2022
DATE

MICHAEL A. NORTON
MDNR / COMAR 08.19.06.01
QUALIFIED PROFESSIONAL

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. MR2020018 including, financial bonding, forest planting, maintenance, and all other applicable agreements.

Developer's Name: MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
Printed Company Name

Contact Person or Owner: YASAMIN ESMAILI - PROJECT MANAGER
Printed Name

Address: DEPT. OF TRANSPORTATION, DIVISION OF TRANSPORTATION ENGINEERING - 100 EDISON PARK DRIVE, 4TH FLOOR, GAITHERSBURG, MD 20878

Phone and Email: 240-777-7226 Yasamin.Esmaili@MontgomeryCountyMD.gov

Signature: Yasamin Esmaili

PROPOSED LANDSCAPE PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	QUANTITY
	TREES					
NS	NYSSA SYLVATICA	BLACKGUM	2" CAL.	B&B	SHOWN	13
PA	PLATANUS X ACERIFOLIA	LONDON PLANETREE	2" CAL.	B&B	SHOWN	12
QR	QUERCUS RUBRA	NORTHERN RED OAK	2" CAL	B&B	SHOWN	4

NO.	REVISION	DATE	BY

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Engineering Services — Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-1.9
FINAL FOREST CONSERVATION PLAN NOTES
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 75 of 97

DRILL HOLES

DRILL HOLES

DRILL HOLES

MONTGOMERY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Certified Plan - MR2020018
APPROVAL
10/28/22

521	JUGLANS NIGRA	BLACK WALNUT	5	177	117	100%	GOOD		TO BE REMOVED	YES
522	JUGLANS NIGRA	BLACK WALNUT	1	7	7	100%	GOOD		TO BE REMOVED	YES
523	FRAXINUS SP.	ASH SP.	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
524	ACER NEGUNDO	BOXELDER	10	707	707	100%	GOOD		TO BE REMOVED	YES
525	ACER NEGUNDO	BOXELDER	6	254	254	100%	GOOD		TO BE REMOVED	YES
526	PRUNUS SP.	CHERRY SP.	8	452	452	100%	GOOD		TO BE REMOVED	YES
527	ACER NEGUNDO	BOXELDER	8	452	452	100%	GOOD		TO BE REMOVED	YES
528	CARYA SP.	HICKORY SP.	4	113	113	100%	GOOD		TO BE REMOVED	YES
529	JUGLANS NIGRA	BLACK WALNUT	3	64	64	100%	GOOD		TO BE REMOVED	YES
530	CARYA SP.	HICKORY SP.	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
531	CARYA SP.	HICKORY SP.	8	452	452	100%	GOOD		TO BE REMOVED	YES
532	ACER NEGUNDO	BOXELDER	11	855	855	100%	GOOD		TO BE REMOVED	YES
533	CARYA SP.	HICKORY SP.	6	254	254	100%	FAIR	THINNING	TO BE REMOVED	YES
534	CARYA SP.	HICKORY SP.	4	113	113	100%	FAIR	THINNING	TO BE REMOVED	YES
535	CARYA SP.	HICKORY SP.	5	177	177	100%	FAIR	THINNING	TO BE REMOVED	YES
536	ACER NEGUNDO	BOXELDER	7	346	346	100%	GOOD		TO BE REMOVED	YES
537	CARYA SP.	HICKORY SP.	13	1195	1195	100%	FAIR	THINNING	TO BE REMOVED	YES
538	CARYA SP.	HICKORY SP.	10	707	707	100%	FAIR	THINNING	TO BE REMOVED	YES
539	CARYA SP.	HICKORY SP.	7	346	346	100%	FAIR	THINNING	TO BE REMOVED	YES
540	CARYA SP.	HICKORY SP.	15	1590	463	29%	GOOD		SAVE AND PROTECT	YES
541	CARYA SP.	HICKORY SP.	4	113	113	100%	GOOD		TO BE REMOVED	YES
542	ACER NEGUNDO	BOXELDER	5	177	177	100%	GOOD		TO BE REMOVED	YES
543	ACER NEGUNDO	BOXELDER	3	64	64	100%	GOOD		TO BE REMOVED	YES
544	CARYA SP.	HICKORY SP.	2	28	0	0%	GOOD		SAVE AND PROTECT	NO
545	ACER NEGUNDO	BOXELDER	8	452	452	100%	GOOD		TO BE REMOVED	YES
546	ACER SACCHARINUM	SILVER MAPLE	20	2827	1052	37%	GOOD		TO BE REMOVED	YES
547	ACER SACCHARINUM	SILVER MAPLE	25	4418	4418	100%	GOOD		TO BE REMOVED	YES
548	ACER SACCHARINUM	SILVER MAPLE	7	346	346	100%	GOOD		TO BE REMOVED	YES
549	AILANTHUS ALTISSIMA	TREE OF HEAVEN	3	64	64	100%	GOOD		TO BE REMOVED	YES
550	ACER NEGUNDO	BOXELDER	10	707	707	100%	GOOD		TO BE REMOVED	YES
551	ACER NEGUNDO	BOXELDER	3	64	64	100%	GOOD		TO BE REMOVED	YES
552	ACER NEGUNDO	BOXELDER	10	707	707	100%	GOOD		TO BE REMOVED	YES
553	ACER SACCHARINUM	SILVER MAPLE	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
554	ACER NEGUNDO	BOXELDER	1	7	7	100%	GOOD		TO BE REMOVED	YES
555	CARYA SP.	HICKORY SP.	14	1385	1385	100%	FAIR	THINNING	TO BE REMOVED	YES
556	CARYA SP.	HICKORY SP.	24	4072	4072	100%	FAIR	THINNING	TO BE REMOVED	YES
557	ACER NEGUNDO	BOXELDER	4	113	113	100%	GOOD		TO BE REMOVED	YES
558	CARYA SP.	HICKORY SP.	18	2290	2290	100%	FAIR	THINNING	TO BE REMOVED	YES
559	CARYA SP.	HICKORY SP.	14	1385	486	35%	FAIR	THINNING	TO BE REMOVED	YES
560	ACER RUBRUM	RED MAPLE	5	177	21	12%	GOOD		SAVE AND PROTECT	YES
561	ACER SACCHARINUM	SILVER MAPLE	6	254	7	0%	GOOD		SAVE AND PROTECT	NO
562	CARYA SP.	HICKORY SP.	12	1018	55	5%	GOOD		SAVE AND PROTECT	YES
563	CARYA SP.	HICKORY SP.	18	2290	346	15%	POOR	VERY THN CANOPY	SAVE AND PROTECT	NO
564	ACER NEGUNDO	BOXELDER	13	1195	1195	100%	GOOD		TO BE REMOVED	YES
565	ACER NEGUNDO	BOXELDER	24	4072	4072	100%	GOOD		TO BE REMOVED	YES
566	ACER SACCHARINUM	SILVER MAPLE	30	6362	3106	49%	GOOD		TO BE REMOVED	YES
567	CARYA SP.	HICKORY SP.	1	7	7	100%	GOOD		TO BE REMOVED	YES
568	POPULUS DELTOIDES	COTTONWOOD	2	28	28	100%	GOOD		TO BE REMOVED	YES
569	POPULUS DELTOIDES	COTTONWOOD	2	28	28	100%	GOOD		TO BE REMOVED	YES
570	ACER SACCHARINUM	SILVER MAPLE	30	6362	2079	33%	GOOD		TO BE REMOVED	YES
571	ACER NEGUNDO	BOXELDER	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
572	FRAXINUS SP.	ASH SP.	20	2827	2827	100%	POOR	MAJOR DEADSPACE	TO BE REMOVED	NO
573	FRAXINUS SP.	ASH SP.	14	1385	1385	100%	POOR	VERY THN CANOPY	TO BE REMOVED	NO
574	ACER SACCHARINUM	SILVER MAPLE	2	28	28	100%	GOOD		TO BE REMOVED	YES
575	FRAXINUS SP.	ASH SP.	13	1195	1195	100%	POOR	VERY THN CANOPY	TO BE REMOVED	NO
576	ACER NEGUNDO	BOXELDER	5	177	177	100%	GOOD		TO BE REMOVED	YES
577	ACER NEGUNDO	BOXELDER	7	346	346	100%	GOOD		TO BE REMOVED	YES
578	ACER NEGUNDO	BOXELDER	1	7	7	100%	GOOD		TO BE REMOVED	YES
579	CELTIS OCCIDENTALIS	HACKBERRY	1	7	7	100%	GOOD		TO BE REMOVED	YES
580	CARYA SP.	HICKORY SP.	2	28	28	100%	GOOD		TO BE REMOVED	YES
581	ACER NEGUNDO	BOXELDER	3	64	64	100%	GOOD		TO BE REMOVED	YES
582	ACER NEGUNDO	BOXELDER	2	28	28	100%	GOOD		TO BE REMOVED	YES
583	CERCIS CANADENSIS	REDBUD	2	28	28	100%	GOOD		TO BE REMOVED	YES
584	CARYA SP.	HICKORY SP.	10	707	707	100%	FAIR	THINNING	TO BE REMOVED	YES
585	FRAXINUS SP.	ASH SP.	8	452	452	100%	POOR	VERY THN CANOPY	TO BE REMOVED	NO
586	FRAXINUS SP.	ASH SP.	9	573	573	100%	FAIR	THINNING	TO BE REMOVED	YES
587	CERCIS CANADENSIS	REDBUD	1	7	7	100%	GOOD		TO BE REMOVED	YES
588	CERCIS CANADENSIS	REDBUD	2	28	28	100%	GOOD		TO BE REMOVED	YES
589	ACER NEGUNDO	BOXELDER	2	28	28	100%	GOOD		TO BE REMOVED	YES
590	FRAXINUS SP.	ASH SP.	6	254	254	100%	POOR	VERY THN CANOPY	TO BE REMOVED	NO
591	ACER NEGUNDO	BOXELDER	2	28	28	100%	GOOD		TO BE REMOVED	YES
592	CERCIS CANADENSIS	REDBUD	3	64	64	100%	GOOD		TO BE REMOVED	YES
593	CARYA SP.	HICKORY SP.	1	7	7	100%	GOOD		TO BE REMOVED	YES
594	CARYA SP.	HICKORY SP.	4	113	113	100%	GOOD		TO BE REMOVED	YES
595	ACER NEGUNDO	BOXELDER	2	28	28	100%	GOOD		TO BE REMOVED	YES
596	SKIPPED IN FIELD									
597	CARYA SP.	HICKORY SP.	6	254	254	100%	FAIR	THINNING	TO BE REMOVED	YES
598	CARYA SP.	HICKORY SP.	16	1810	1810	100%	FAIR	THINNING	TO BE REMOVED	YES
599	ACER NEGUNDO	BOXELDER	3	64	64	100%	GOOD		TO BE REMOVED	YES
600	CERCIS CANADENSIS	REDBUD	1	7	7	100%	GOOD		TO BE REMOVED	YES
601	CARYA SP.	HICKORY SP.	2	28	28	100%	FAIR	THINNING	TO BE REMOVED	YES
602	CARYA SP.	HICKORY SP.	4	113	113	100%	FAIR	THINNING	TO BE REMOVED	YES
603	FRAXINUS SP.	ASH SP.	5	177	177	100%	FAIR	THINNING	TO BE REMOVED	YES
604	FRAXINUS SP.	ASH SP.	2	28	28	100%	FAIR	THINNING	TO BE REMOVED	YES
605	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	254	254	100%	FAIR	THINNING	TO BE REMOVED	YES
606	AILANTHUS ALTISSIMA	TREE OF HEAVEN	10	707	707	100%	GOOD		TO BE REMOVED	YES
607	AILANTHUS ALTISSIMA	TREE OF HEAVEN	8	452	452	100%	GOOD		TO BE REMOVED	YES
608	AILANTHUS ALTISSIMA	TREE OF HEAVEN	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
609	AILANTHUS ALTISSIMA	TREE OF HEAVEN	14	1385	1385	100%	GOOD		TO BE REMOVED	YES
610	AILANTHUS ALTISSIMA	TREE OF HEAVEN	15	1590	1590	100%	GOOD		TO BE REMOVED	YES
611	AILANTHUS ALTISSIMA	TREE OF HEAVEN	12	1018	1018	100%	GOOD		TO BE REMOVED	YES
612	PRUNUS SP.	CHERRY SP.	13	1195	1195	100%	GOOD		TO BE REMOVED	YES
613	ROBINIA PSEUDOACACIA	BLACK LOCUST	16	1810	1810	100%	GOOD		TO BE REMOVED	YES

* BOLD TYPE DENOTES SPECIMEN TREES

Condition Scoring System	
No Apparent Problems	Excellent
Minor Problems	Good
Major Problems	Fair
Extreme Problems	Poor

AFFORESTATION PLANT MATERIALS

AREA 1			TOTAL	BOTANICAL NAME	COMMON NAME	SIZE	UNIT/ROOT	SPACING	FORM
0.46AC			0.46AC						
6			6	Acer rubrum	Red Maple	3" Caliper	B&B	Randomly 23.5' O.C.	Tree
8			8	Amelanchier canadensis	Serviceberry	36" Height	Cont.	Randomly 33' O.C.	Shrub
6			6	Fagus grandifolia	American Beech	3" Caliper	B&B	Randomly 23.5' O.C.	Tree
8			8	Hamamelis virginiana	Witch Hazel	36" Height	Cont.	Randomly 33' O.C.	Shrub
5			5	Ilex opaca	American Holly	6-7' Height	B&B	Randomly 23.5' O.C.	Tree
6			6	Liriodendron tulipifera	Yellow Poplar	3" Caliper	B&B	Randomly 23.5' O.C.	Tree
6			6	Nyssa sylvatica	Black Gum	3" Caliper	B&B	Randomly 23.5' O.C.	Tree
5			5	Carpinus caroliniana	Musclewood	2" Caliper	B&B	Randomly 23.5' O.C.	Tree
6			6	Platanus occidentalis	American Sycamore	3" Caliper	B&B	Randomly 23.5' O.C.	Tree
6			6	Quercus rubra	Red Oak	3" Caliper	B&B	Randomly 23.5' O.C.	Tree
8			8	Vaccinium corymbosum	Highbush Bluberry	18" Height	Cont.	Randomly 33' O.C.	Shrub
46			46						
37 LBS			37 LBS	-	Slyva Field and Forest Mix or Earnst Native Upland Wildlife Forage and Cover Meadow Mix: or equivalent	-	-	80 LBS. PER ACRE	SEED
16 LBS			16 LBS	-	Companion Seed Mix of 50% Annual Rye Grass 25% Redtop Grass 25% sheep Fescue	-	-	8 LBS. PER 10,000 SF	SEED

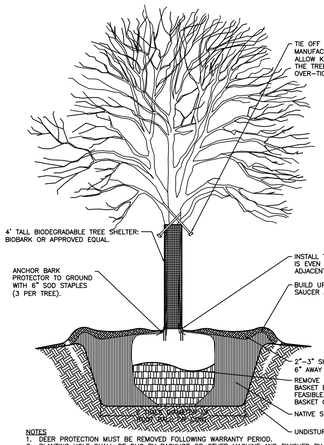
PLANTING SCHEDULE

TASKS	MONTHS	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
TRANSPLANT OF 2" DBH OR GREATER													
PLANTING SEEDINGS, WHIPS													
MINIMUM MONITORING			*					*				*	
FERTILIZER * (IF NEEDED)													
WATER **													
PRUNING													

KEY

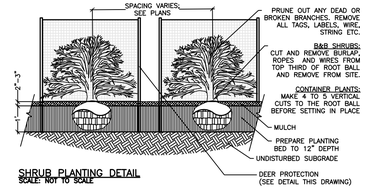
*	ACTIVITIES DURING THESE MONTHS ARE DEPENDENT UPON GROUND CONDITIONS
	GREATLY RECOMMENDED
	RECOMMENDED WITH ADDITIONAL CARE
	RECOMMENDED
*	DEPENDENT UPON SITE CONDITIONS
**	DEPENDENT UPON SITE CONDITIONS; WEEKLY WATERING IS GREATLY RECOMMENDED FROM MAY THROUGH OCTOBER UNLESS WEEKLY RAINFALL EQUALS 1"

NOTES:
The planting and care of trees is most successful when coordinated with the local climatic conditions. This calendar summarizes some of the recommended time frames for basic reforestation and stress reduction activities.

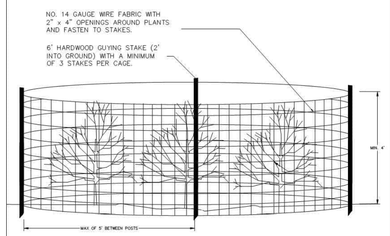


NOTES
1. DEER PROTECTION MUST BE REMOVED FOLLOWING WARRANTY PERIOD.
2. PLANTING HOLE SHALL BE DUG BY BACKHOE OR OTHER MACHINE AND FINISHED BY HAND.
3. IF SURROUNDING SOIL IS COMPACTED AS DETERMINED BY M-NCPPC CONSTRUCTION MANAGER, AN AREA UP TO 5 TIMES THE DIAMETER OF THE ROOT MASS SHALL BE EXCAVATED OR ROTOTILLED TO A 1' DEPTH AND SOIL SHALL BE AMENDED.
4. PRUNE ONLY DEAD, DECAYING, BROKEN, CROSSING OR INWARD GROWING BRANCHES. NEVER DAMAGE OR CUT LEADER.

DECIDUOUS TREE PLANTING DETAIL
SCALE: NOT TO SCALE



SHRUB PLANTING DETAIL
SCALE: NOT TO SCALE



NOTES:
1. THIS DETAIL IS TO BE USED FOR INDIVIDUAL SHRUBS, EVERGREEN TREES, SHRUB BEDS, AND MULTI-STEM TREES.
2. CAGE SHALL BE FASTENED TO STAKE WITH THREE (MIN.) TWIST TIES WITH ONE AT TOP AND ONE 6" (MIN.) ABOVE THE GROUND.
3. CAGE SHALL SURROUND ALL SHRUBS WITH A 1 FOOT (MIN.) SPACING FROM THE OUTSIDE OF THE SHRUB.
4. CAGES TO BE REMOVED AT DIRECTION OF M-NCPPC CONSTRUCTION MANAGER.
6. HARDWOOD MULCH SHALL BE PLACED TO 2-3 INCH DEPTH WITHIN FENCING KEEPING 6 INCHES FROM TRUNK OF PLANTS.

THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION
Department of Park and Planning, Montgomery County, Maryland

PARK DEVELOPMENT DIVISION
8787 GEORGIA AVENUE
SILVER SPRING, MD 20901

DATE APPROVED
CHIEF, ENGINEER
DIRECTOR OF PARKS

Deer Protection for Shrubs and Trees

REVISED	DATE	STANDARD NO.

DEVELOPER'S CERTIFICATE

The Undersigned agrees to execute all the features of the Approved Final Forest Conservation Plan No. MR2020018 including, financial bonding, forest planting, maintenance, and all other applicable agreements.

Developer's Name: MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
Printed Company Name

Contact Person or Owner: YASAMIN ESMAILI - PROJECT MANAGER
Printed Name

Address: DEPT. OF TRANSPORTATION, DIVISION OF TRANSPORTATION ENGINEERING - 100 EDISON PARK DRIVE, 4TH FLOOR, GAITHERSBURG, MD 20878

Phone and Email: 240-777-7226 Yasamin.Esmaili@MontgomeryCountyMD.gov

Signature: Yasamin Esmaili

CERTIFICATION OF QUALIFIED PROFESSIONAL

I HEREBY CERTIFY THAT THE PLAN SHOWN HEREON HAS BEEN PREPARED IN ACCORDANCE WITH MARYLAND STATE, MNCP&PC AND MONTGOMERY COUNTY FOREST CONSERVATION LAWS.

9.2.2022
DATE

MICHAEL A. NORTON
MDNR / COMAR 08.19.06.01
QUALIFIED PROFESSIONAL

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L -1.10
FINAL FOREST CONSERVATION PLAN NOTES
MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 76 of 97

DRILL HOLES

DRILL HOLES

DRILL HOLES



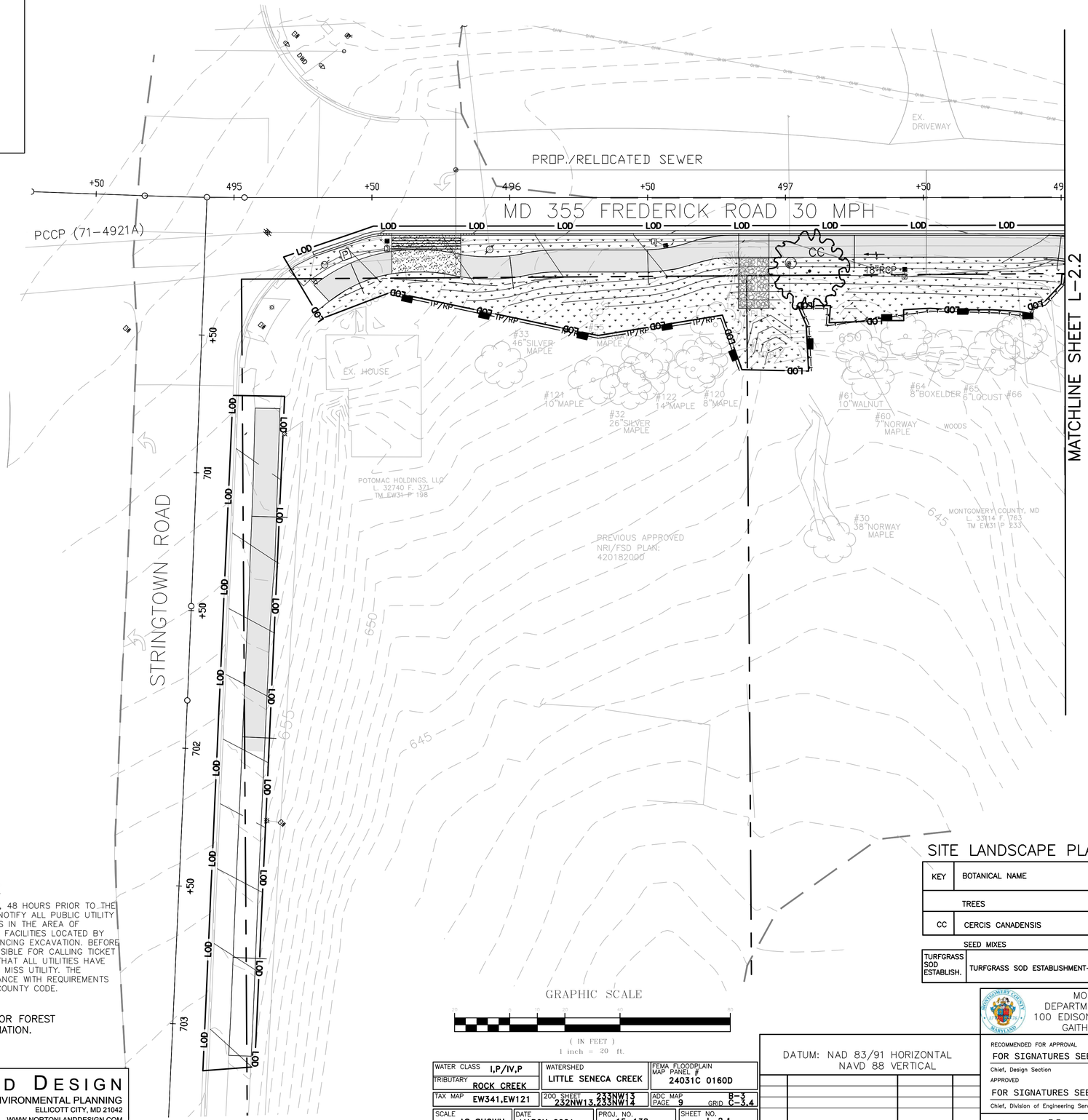
*NOTE: TREE CONSERVATION MEASURES, SUCH AS ROOT PRUNING, BRANCH PRUNING, TREE FERTILIZING, AND OTHER MEASURES PRESCRIBED BY THE PROJECT'S ARBORIST AT THE TIME OF THE LOD LAYOUT AND/OR INSTALLATION OF E&S MEASURES, MAY BE REQUIRED ALONG THE LINE OF CUT/FILL. DECISIONS ON TREE PROTECTION MEASURES MUST BE AGREED UPON BY A M-NCPPC FOREST CONSERVATION INSPECTOR BEFORE INSTALLATION.

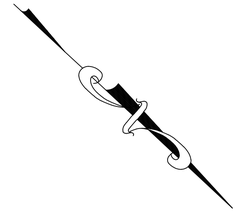
MISS UTILITY

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NORTON LAND DESIGN
LANDSCAPE ARCHITECTURE + ENVIRONMENTAL PLANNING
5146 DORSEY HALL DRIVE, 2ND FLOOR ELLICOTT CITY, MD 21042
BALT.443.542.9199 x101 DC 240.342.2329x101 WWW.NORTONLANDDESIGN.COM





VICINITY MAP
1"=2000'

LEGEND

- 14"RED OAK — EXISTING TREE
- QP — PROPOSED CANOPY TREE
- LOD — LIMITS OF DISTURBANCE
- 652 — PROPOSED GRADE
- EXISTING PROPERTY BOUNDARY
- PROPOSED RIGHT-OF-WAY
- STORM DITCH W/ FLOWLINE
- 390 — EX. CONTOUR
- EXISTING STREAM
- W — EXISTING WETLAND BOUNDARY
- VB — 25' WETLAND BOUNDARY
- WB — 75' WETLAND BOUNDARY
- EXISTING EASEMENT
- PROPOSED SHARED USE PATH
- TURFGRASS SOD ESTABLISHMENT
- PROPOSED LIGHT POLES
- T — TREE PROTECTION FENCE (TEMPORARY)
- TP/RP — TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE
- TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)

GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

SITE LANDSCAPE PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	QUANTITY	COMMENTS
	TREES						
CC	CERCIS CANADENSIS	EASTERN REDBUD	5-6' HT.	B&B	20' O.C.	1	
	SEED MIXES						
TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISHMENT- TALL FESCUE/KENTUCKY BLUGRASS	TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISH.	SQUARE YARD	671	STABILIZATION	

WATER CLASS I,P/IV,P	WATERSHED LITTLE SENECA CREEK	FEMA FLOODPLAIN MAP PANEL # 24031C 0160D	
TRIBUTARY ROCK CREEK			
TAX MAP EW341,EW121	200 SHEET 233NW13 232NW13,233NW14	ADC MAP B-3 PAGE 9 GRID C-3,4	
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-2.1

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PLAN SHEET L-2.1
LANDSCAPE PLAN

MD 355 - CLARKSBURG SHARED USE PATH

Project No. : C.I.P. PR. #501744 SHEET 77 of 97

DRILL HOLES

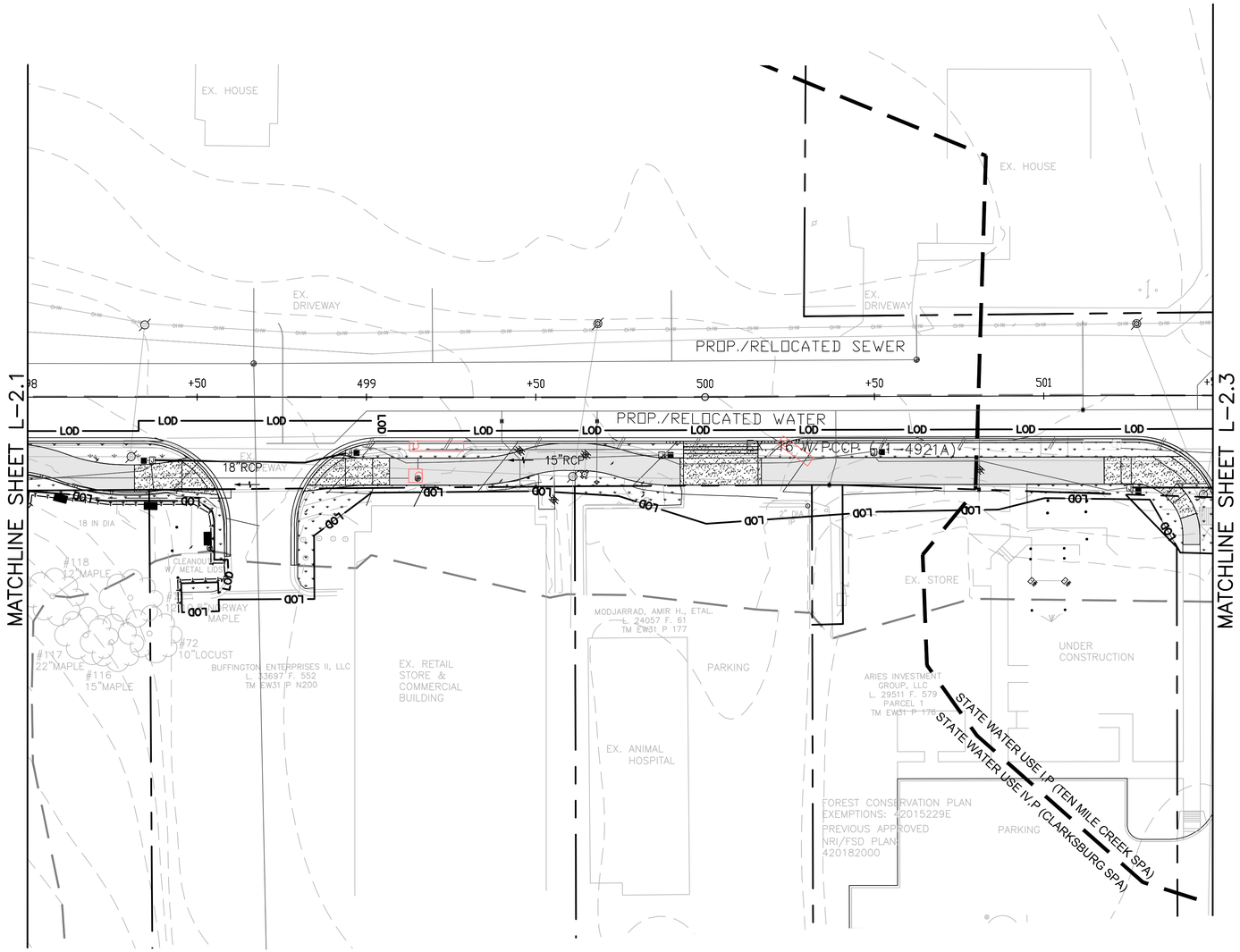
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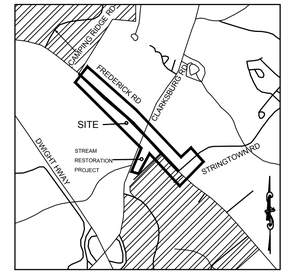
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TRIBUTARY ROCK CREEK			
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SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15–138	SHEET NO. L–2.2

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Chief, Design Section Date

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Chief, Division of Engineering Services Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

LANDSCAPE ARCHITECT 3310 STATE OF MARYLAND AARON M. NORTON
9.2.2022

PLAN SHEET L-2.2
LANDSCAPE PLAN

MD 355 - CLARKSBURG SHARED USE PATH

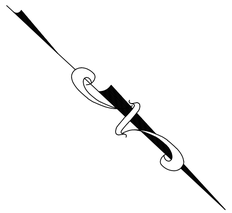
09/2021

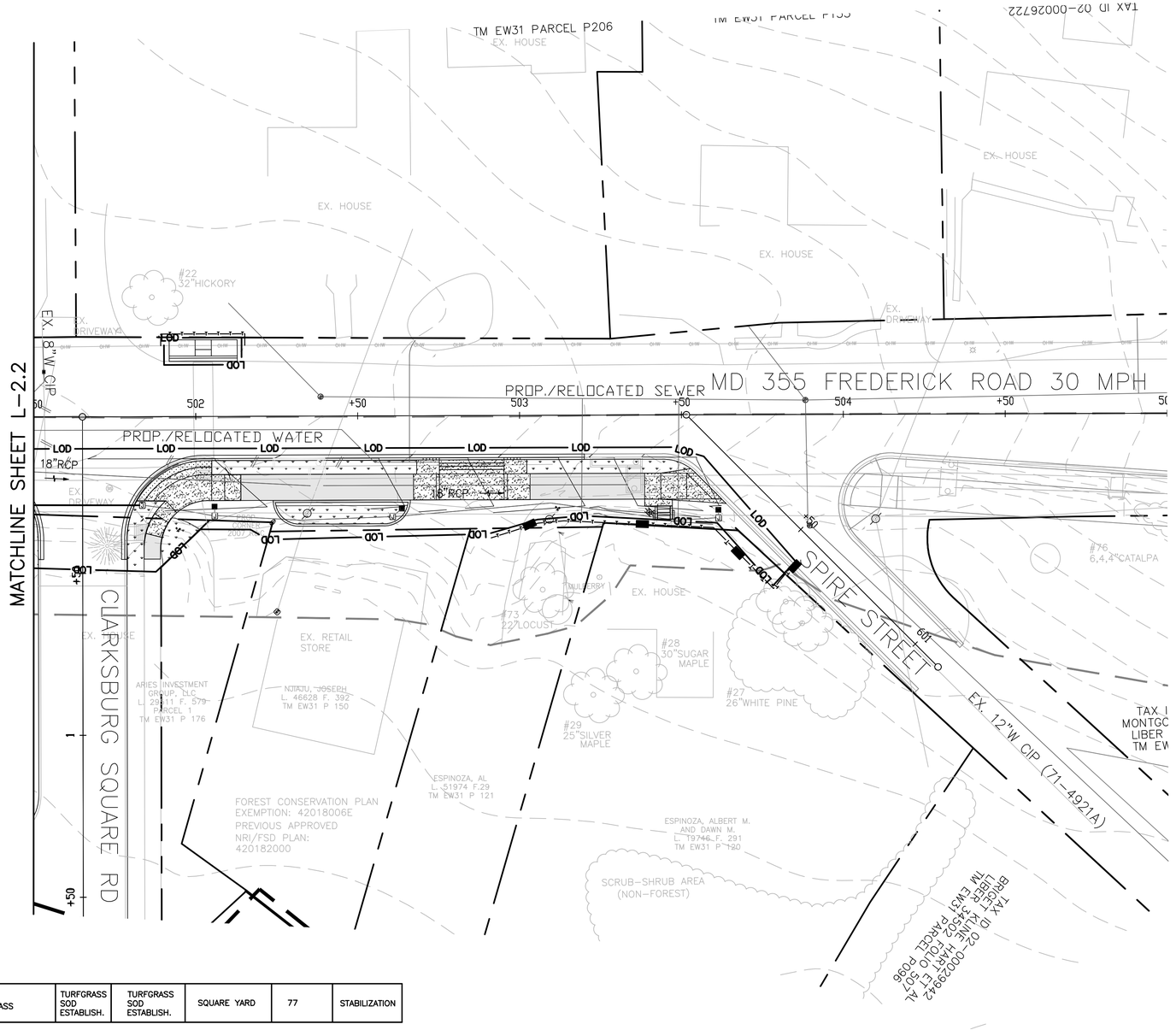
Project No. : C.I.P. PR. #501744 SHEET 78 of 97

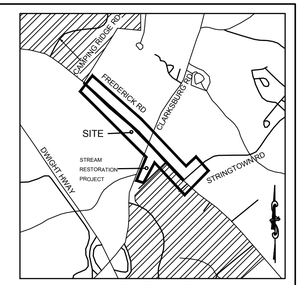
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100 EDISON PARK DRIVE, 4TH FLOOR
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09/2021

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-2.3
LANDSCAPE PLAN

MD 355 - CLARKSBURG SHARED USE PATH

Project No. : C.I.P. PR. #501744 SHEET 79 of 97

LANDSCAPE ARCHITECT 3370 STATE OF MARYLAND
9.2.2022

DRILL HOLES

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DRILL HOLES

SITE LANDSCAPE PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	QUANTITY	COMMENTS
	TREES						
CC	CERCIS CANADENSIS	EASTERN REDBUD	5–6' HT.	B&B	20' O.C.	7	
AL	AMELANCHIER LAEVIS 'SNOWCLOUD'	SNOWCLOUD SERVICEBERRY	5–6' HT.	B&B	20' O.C.	6	
	SEED MIXES						
TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISHMENT– TALL FESCUE/KENTUCKY BLUGRASS		TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISH.	SQUARE YARD	1,227	STABILIZATION

LEGEND

14"RED OAK

QP

EXISTING TREE

PROPOSED CANOPY TREE

LOD LOD LOD

652

LIMITS OF DISTURBANCE

PROPOSED GRADE

EXISTING PROPERTY BOUNDARY

PROPOSED RIGHT–OF–WAY

STORM DITCH W/ FLOWLINE

390

EX. CONTOUR

EXISTING STREAM

W W W

EXISTING WETLAND BOUNDARY

VB VB VB VB

25' WETLAND BOUNDARY

WB WB

75' WETLAND BOUNDARY

EXISTING EASEMENT

TP/RP TP/RP

TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE

TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)

PROPOSED SHARED USE PATH

TURFGRASS SOD ESTABLISHMENT

PROPOSED LIGHT POLES

TREE PROTECTION FENCE (TEMPORARY)

MATCHLINE SHEET L-2.5

MD 355 FREDERICK ROAD 30 MPH

PROP./RELOCATED SEWER

PROP./RELOCATED WATER

EX. DRIVEWAY

EX. 16" W. DIP (VS-24BOA)

EX. HOUSE

DRIVEWAY

#78 12"LOCUST

#25 32"SILVER MAPLE

#3 18"CATALPA

#77 8"WALNUT

#24 25"WALNUT

#107 23"WALNUT

#37 SILVER MAPLE

#38 "SILVER MAPLE

#104 7"SPRUCE

#105 7"SPRUCE

#103 7"SPRUCE

#19 33"CATALPA

PERPETUAL EASEMENT

30"RCP

MAJOR EROSION OF T UNDERS

FERGUSON/ANDERSON, LLC L. 14707 F. 355 TM EW32 P 914

NATELLI CLARKSBURG, LLC L. 21561 F. 443 TM EW32 P 860

NATELLI CLARKSBURG, LLC L. 21561 F. 443 TM EW32 P 912

RELIANCE GROUP, LLC L. 52617 F. 218 TM EW32 P 814

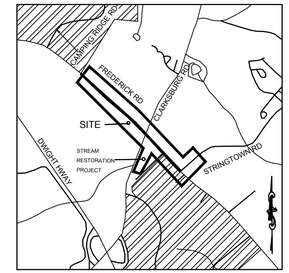
BEN LEWIS REAL ESTATE, LLC L. 27512 F. 29 TM EW32 P 913

OPEN FIELD

FOREST CONSERVATION PLAN EXEMPTION: 420180065

GRAPHIC SCALE

(IN FEET)
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VICINITY MAP
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LANDSCAPE ARCHITECT 3370 MICHAEL A. NORTON STATE OF MARYLAND

9.2.2022

MONTGOMERY COUNTY
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PLAN SHEET L-2.4
LANDSCAPE PLAN

MD 355 - CLARKSBURG SHARED USE PATH

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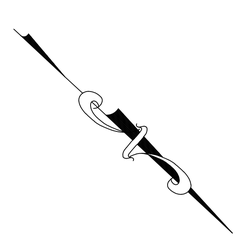
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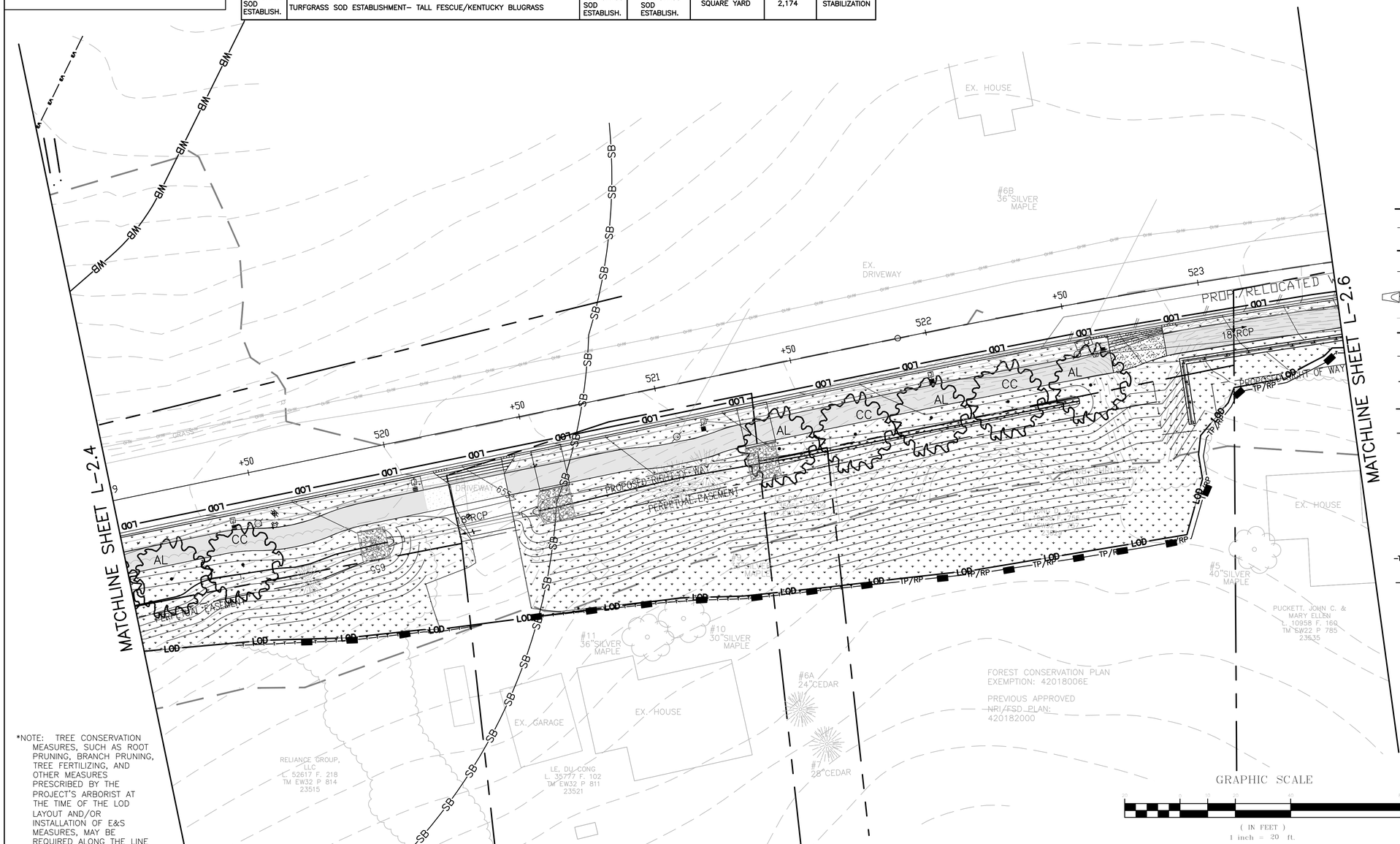
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LANDSCAPE ARCHITECT 3370 STATE OF MARYLAND AARON M. BOWMAN 9.2.2022

NORTON LAND DESIGN
LANDSCAPE ARCHITECTURE + ENVIRONMENTAL PLANNING
5146 DORSEY HALL DRIVE, 2ND FLOOR ELLICOTT CITY, MD 21042
BALT.443.542.9199 x101 DC 240.342.2329x101 WWW.NORTONLANDDESIGN.COM

WATER CLASS	I,P/IV,P
TRIBUTARY	ROCK CREEK
WATERSHED	LITTLE SENECA CREEK
FEMA FLOODPLAIN MAP PANEL #	24031C 0160D
TAX MAP	EW341,EW121
200' SHEET	233NW13 232NW13,233NW14
ADC MAP PAGE	B-3 9 GRID C-3,4
SCALE	AS SHOWN
DATE	MARCH 2021
PROJ. NO.	15-138
SHEET NO.	L-2.5

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-2.5
LANDSCAPE PLAN

MD 355 - CLARKSBURG SHARED USE PATH

09/2021

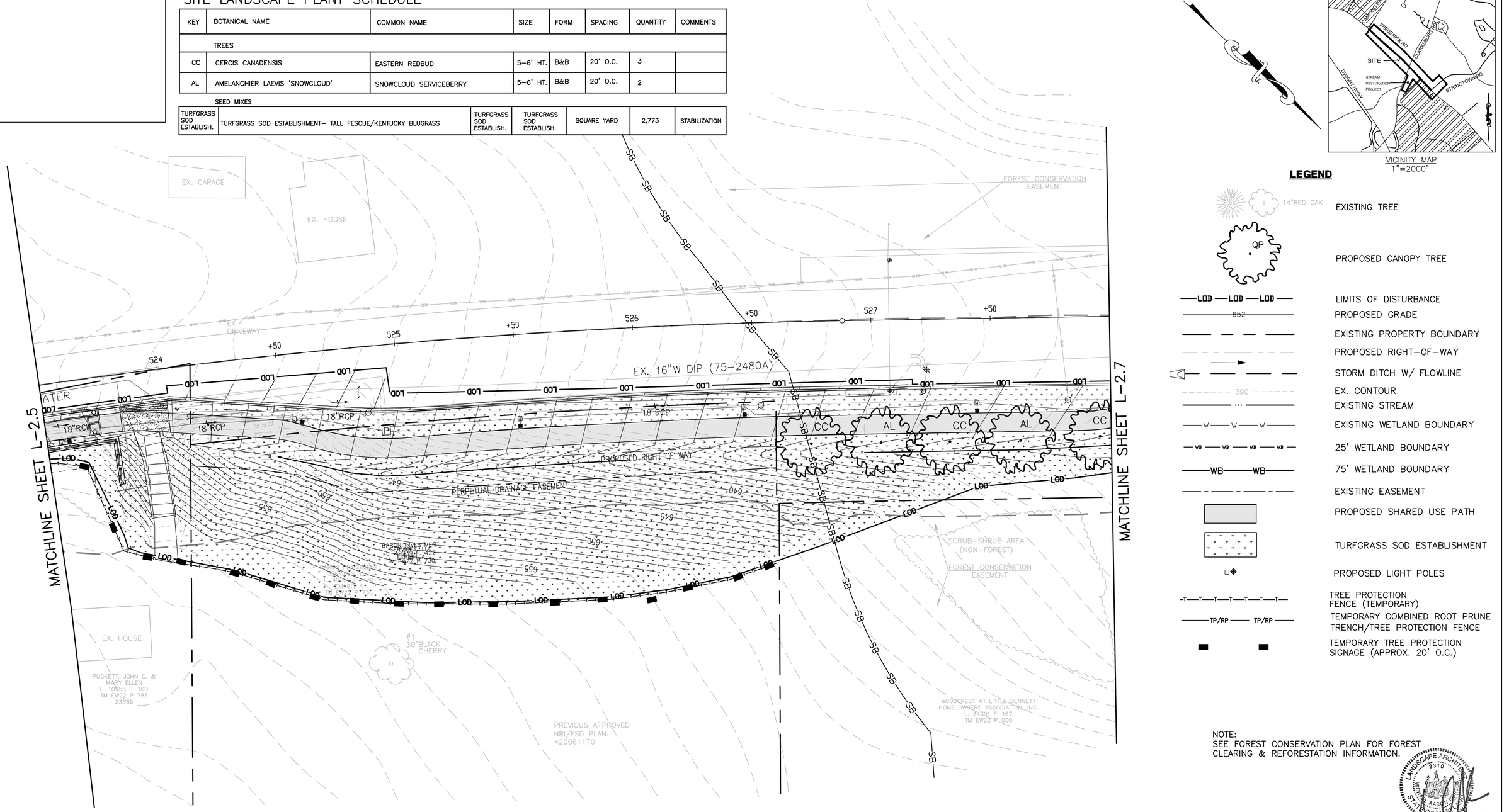
Project No. : C.I.P. PR. #501744 SHEET 81 of 97

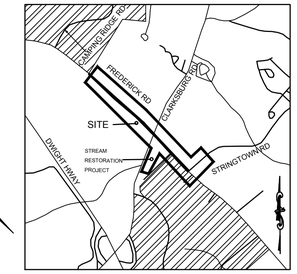
SITE LANDSCAPE PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	QUANTITY	COMMENTS
	TREES						
CC	CERCIS CANADENSIS	EASTERN REDBUD	5–6' HT.	B&B	20' O.C.	3	
AL	AMELANCHIER LAEVIS 'SNOWCLOUD'	SNOWCLOUD SERVICEBERRY	5–6' HT.	B&B	20' O.C.	2	

SEED MIXES

TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISHMENT– TALL FESCUE/KENTUCKY BLUGRASS	TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISH.	SQUARE YARD	2,773	STABILIZATION





VICINITY MAP
1"=2000'

LEGEND

- 14"RED OAK — EXISTING TREE
- QP — PROPOSED CANOPY TREE
- LOD LOD LOD — LIMITS OF DISTURBANCE
- 652 — PROPOSED GRADE
- EXISTING PROPERTY BOUNDARY
- PROPOSED RIGHT-OF-WAY
- STORM DITCH W/ FLOWLINE
- 390 — EX. CONTOUR
- EXISTING STREAM
- W W W — EXISTING WETLAND BOUNDARY
- VB VB VB VB — 25' WETLAND BOUNDARY
- WB WB — 75' WETLAND BOUNDARY
- EXISTING EASEMENT
- PROPOSED SHARED USE PATH
- TURFGRASS SOD ESTABLISHMENT
- PROPOSED LIGHT POLES
- T T T T T T T — TREE PROTECTION FENCE (TEMPORARY)
- TP/RP TP/RP — TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE
- TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)

NOTE:
SEE FOREST CONSERVATION PLAN FOR FOREST CLEARING & REFORESTATION INFORMATION.

LANDSCAPE ARCHITECT 3370 STATE OF MARYLAND AARON M. NORTON
9.2.2022

MISS UTILITY

CALL "MISS UTILITY AT 1–800–257–7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. BEFORE EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CALLING TICKET CHECK AT 1–866–821–4226 TO VERIFY THAT ALL UTILITIES HAVE BEEN MARKED, 48 HOURS AFTER CALLING MISS UTILITY. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

*NOTE: TREE CONSERVATION MEASURES, SUCH AS ROOT PRUNING, BRANCH PRUNING, TREE FERTILIZING, AND OTHER MEASURES PRESCRIBED BY THE PROJECT'S ARBORIST AT THE TIME OF THE LOD LAYOUT AND/OR INSTALLATION OF E&S MEASURES, MAY BE REQUIRED ALONG THE LINE OF CUT/FILL. DECISIONS ON TREE PROTECTION MEASURES MUST BE AGREED UPON BY A M–NCPPC FOREST CONSERVATION INSPECTOR BEFORE INSTALLATION.

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WATER CLASS I,P/IV,P	WATERSHED LITTLE SENECA CREEK	FEMA FLOODPLAIN MAP PANEL # 24031C 0160D	
TRIBUTARY ROCK CREEK			
TAX MAP EW341,EW121	200 SHEET 233NW13 232NW13,233NW14	ADC MAP PAGE 9	B-3 GRID C-3,4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15–138	SHEET NO. L–2.6

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-2.6
LANDSCAPE PLAN

MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 82 of 97

DRILL HOLES
DRILL HOLES
DRILL HOLES

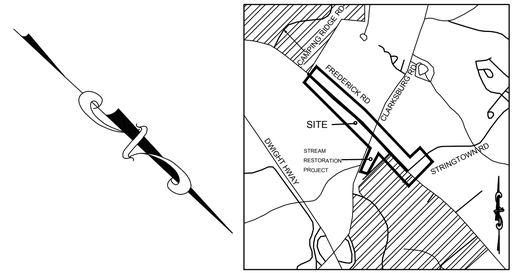
DRILL HOLES

DRILL HOLES

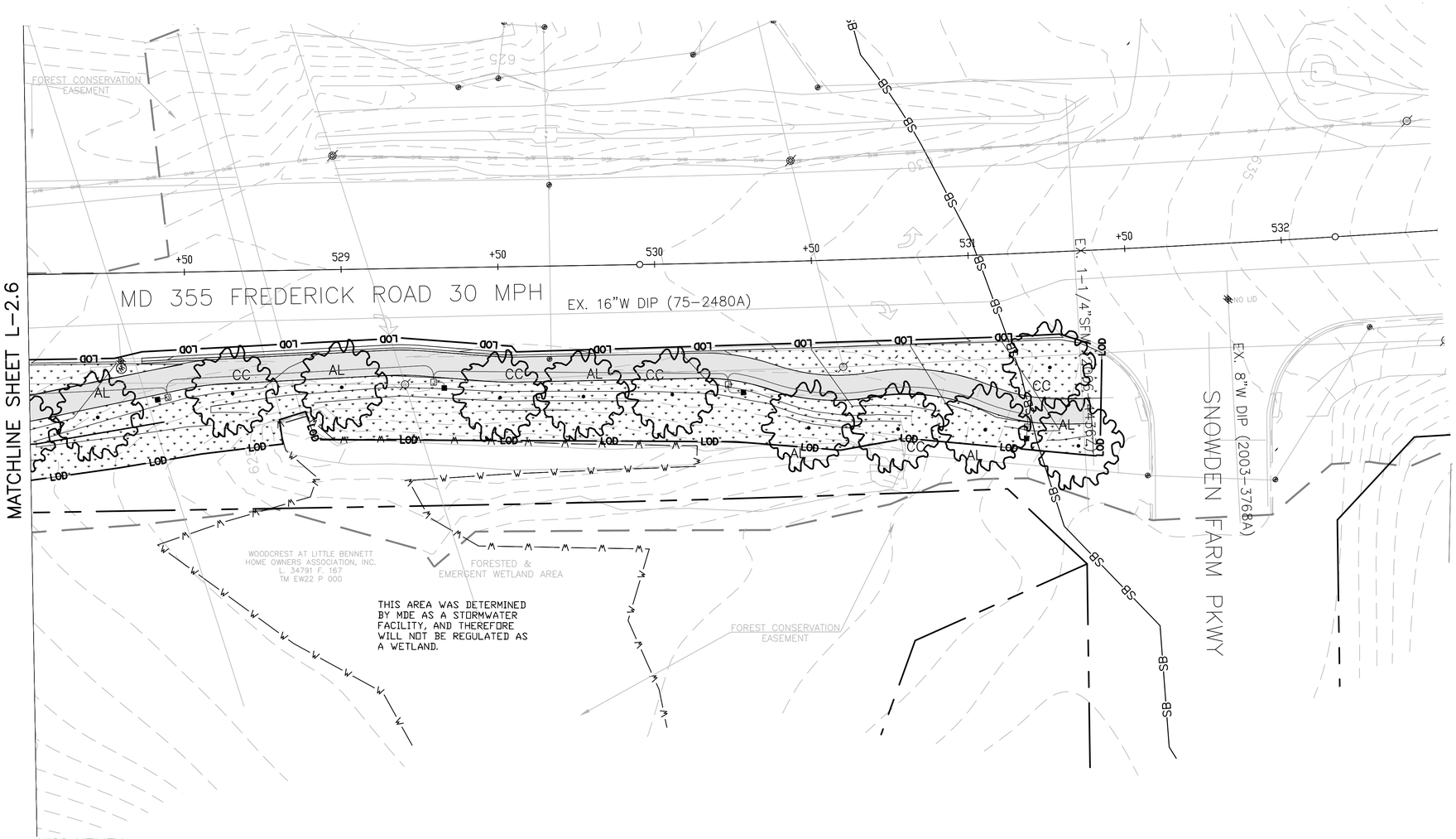
DRILL HOLES

SITE LANDSCAPE PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	QUANTITY	COMMENTS
	TREES						
CC	CERCIS CANADENSIS	EASTERN REDBUD	5–6' HT.	B&B	20' O.C.	5	
AL	AMELANCHIER LAEVIS 'SNOWCLOUD'	SNOWCLOUD SERVICEBERRY	5–6' HT.	B&B	20' O.C.	6	
	SEED MIXES						
TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISHMENT– TALL FESCUE/KENTUCKY BLUGRASS	TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISH.	SQUARE YARD	1,286	STABILIZATION	



VICINITY MAP
1"=2000'



LEGEND

- 14"RED OAK — EXISTING TREE
- QP — PROPOSED CANOPY TREE
- LOD — LIMITS OF DISTURBANCE
- 652 — PROPOSED GRADE
- EXISTING PROPERTY BOUNDARY
- PROPOSED RIGHT-OF-WAY
- STORM DITCH W/ FLOWLINE
- 390 — EX. CONTOUR
- EXISTING STREAM
- W — EXISTING WETLAND BOUNDARY
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- EXISTING EASEMENT
- PROPOSED SHARED USE PATH
- TURFGRASS SOD ESTABLISHMENT
- PROPOSED LIGHT POLES
- TP/RP — TREE PROTECTION FENCE (TEMPORARY)
- TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE
- TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)

NOTE:
SEE FOREST CONSERVATION PLAN FOR FOREST CLEARING & REFORESTATION INFORMATION.

LANDSCAPE ARCHITECT 3310 STATE OF MARYLAND
9.2.2022

MISS UTILITY

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GRAPHIC SCALE
(IN FEET)
1 inch = 20 ft.

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TRIBUTARY ROCK CREEK			
TAX MAP EW341,EW121	200 SHEET 233NW13 232NW13,233NW14	ADC MAP PAGE 9	B-3 GRID C-3,4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-2.7

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-2.7
LANDSCAPE PLAN

MD 355 - CLARKSBURG SHARED USE PATH

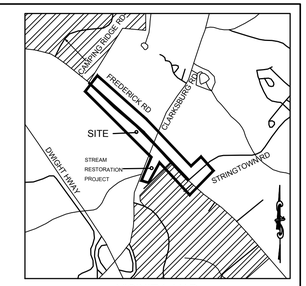
09/2021

Project No. : C.I.P. PR. #501744 SHEET 83 of 97

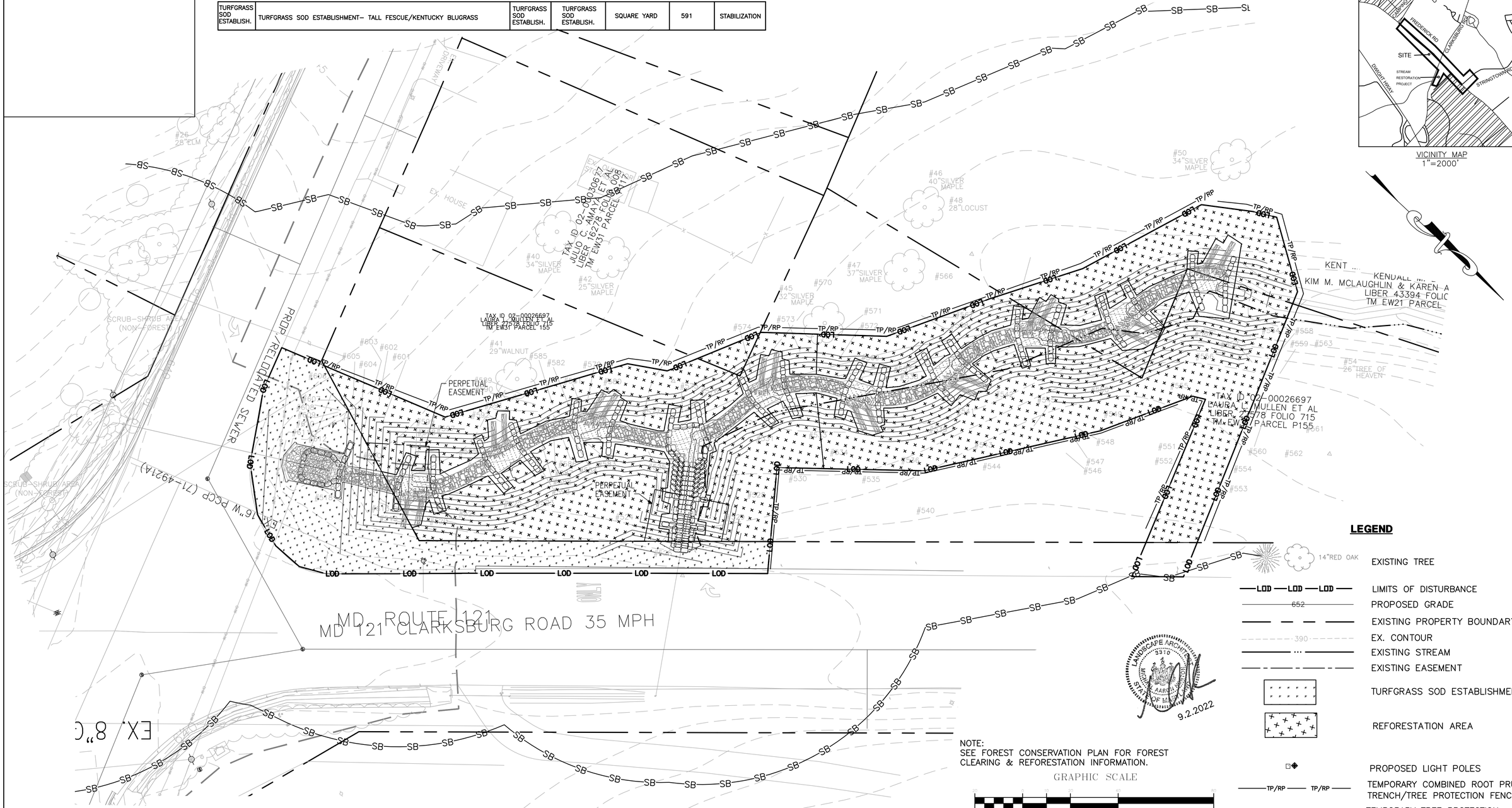
SITE LANDSCAPE PLANT SCHEDULE

SEED MIXES

TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISHMENT– TALL FESCUE/KENTUCKY BLUGRASS	TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISH.	SQUARE YARD	591	STABILIZATION



VICINITY MAP
1"=2000'



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SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. L-2.8

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

LEGEND

- 14"RED OAK — EXISTING TREE
- LOD LOD LOD — LIMITS OF DISTURBANCE
- 652 — PROPOSED GRADE
- EXISTING PROPERTY BOUNDARY
- 390 — EX. CONTOUR
- EXISTING STREAM
- EXISTING EASEMENT
- TURFGRASS SOD ESTABLISHMENT
- REFORESTATION AREA
- PROPOSED LIGHT POLES
- TP/RP TP/RP — TEMPORARY COMBINED ROOT PRUNE TRENCH/TREE PROTECTION FENCE
- TEMPORARY TREE PROTECTION SIGNAGE (APPROX. 20' O.C.)

LANDSCAPE ARCHITECT 3316 STATE OF MARYLAND AARON J. KAUFMAN
9.2.2022

NOTE:
SEE FOREST CONSERVATION PLAN FOR FOREST CLEARING & REFORESTATION INFORMATION.

GRAPHIC SCALE
30 0 10 20 40 80
(IN FEET)
1 inch = 20 ft.

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

09/2021

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-2.8
LANDSCAPE PLAN - MD 121

MD 355 - CLARKSBURG SHARED USE PATH

Project No. : C.I.P. PR. #501744 SHEET 84 of 97

DRILL HOLES
DRILL HOLES
DRILL HOLES

DRILL HOLES

DRILL HOLES

DRILL HOLES

7.1 SHA LANDSCAPE NOTES:
Landscape construction within rights of way of the Maryland State Highway Administration (SHA) and within SHA property, easement areas and lands to be conveyed to SHA 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

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. All SHA specifications for landscaping and landscape materials published in 2008 have been replaced. Current Specifications are at 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/tocc at7.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 within 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 pavement removal shall be excavated to remove pavements, aggregate base, and compacted soil to a minimum depth of 10 inches below the pavement surface, or as necessary to remove all materials unsuitable for landscaping. The excavated 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 of at least a 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 of at least a 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 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.

7.11 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 as Tree Preservation Areas (TPA) 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, per 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) issued by the Maryland Department of Natural Resources, or the approved Forest Conservation Plan (FCP) 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

7.21 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 on 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 construction adjacent to trees to be preserved.

7.23 Tree Fertilizing:
Shall be performed in conformance with Operation 3 – Broadcast Fertilizing per Section 716. 20–16–12 fertilizer shall be applied to the soil surface under the dripline of trees at the rate of 200 lbs. per acre.

7.25 Future Maintenance:
Additional maintenance that may be required after hardscape, street furniture or plant materials are installed and accepted by SHA such as replacement, watering, weeding, mulching or pest control may be provided by the applicant when a permit for the proposed work is issued by the SHA District Office.

MASTER SITE LANDSCAPE PLANT SCHEDULE

KEY	BOTANICAL NAME	COMMON NAME	SIZE	FORM	SPACING	QUANTITY	COMMENTS
	TREES						
CC	CERCIS CANADENSIS	EASTERN REDBUD	5–6' HT.	B&B	20' O.C.	19	
AL	AMELANCHIER LAEVIS 'SNOWCLOUD'	SNOWCLOUD SERVICEBERRY	5–6' HT.	B&B	20' O.C.	18	
	SEED MIXES						
TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISHMENT– TALL FESCUE/KENTUCKY BLUGRASS	TURFGRASS SOD ESTABLISH.	TURFGRASS SOD ESTABLISH.	SQUARE YARD	9,042	STABILIZATION	

MISS UTILITY

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		SHEET NO. LS-2.9

LANDSCAPE ARCHITECT 3310 STATE OF MARYLAND
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NAVD 88 VERTICAL

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

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Chief, Design Section Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L -2.9
LANDSCAPE - NOTES

MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 85 of 97

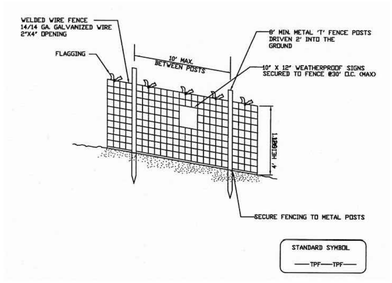
DRILL HOLES

DRILL HOLES

DRILL HOLES

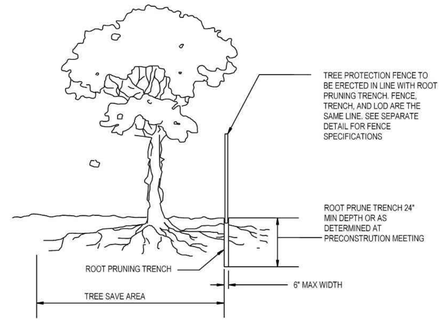
Tree Protection Fence Detail

Not to scale



NOTES

1. Practice may be combined with sediment control fencing.
2. Location and limits of fencing should be coordinated in field with arborist.
3. Boundaries of protection area should be staked prior to installing protective device.
4. Root damage should be avoided.
5. Protection signage is required.
6. Fencing shall be maintained throughout construction.



NOTES:

1. RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS AND PRECONSTRUCTION MEETING.
2. BOUNDARIES OF RETENTION AREAS MUST BE STAKED AT THE PRECONSTRUCTION MEETING AND FLAGGED PRIOR TO TRENCHING.
3. EXACT LOCATION OF TRENCH SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FOREST CONSERVATION (FC) INPECTOR .
4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH EXCAVATED SOIL OR OTHER ORGANIC SOIL AS SPECIFIED PER PLAN OR BY THE FC INSPECTOR.
5. ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
6. ALL PRUNING MUST BE EXECUTED WITH LOD SHOWN ON PLANS OR AS AUTHORIZED IN WRITING BY THE FC INSPECTOR.

ROOT PRUNING DETAIL

NTS

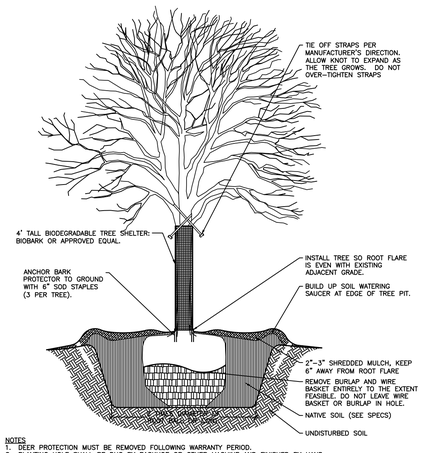
FOREST RETENTION AREA SIGNAGE



NOTE:

SIGNAGE FOR FOREST RETENTION AREA TO BE PLACED 30' O.C. WHEN PLACED ON FENCE

1. Attachment of signs to trees is prohibited.
2. Signs should be properly maintained.
3. Avoid injury to roots when placing posts for the signs.



NOTES

1. DEER PROTECTION MUST BE REMOVED FOLLOWING WARRANTY PERIOD.
2. PLANTING HOLE SHALL BE DUG BY BACKHOE OR OTHER MACHINE AND FINISHED BY HAND.
3. IF SURROUNDING SOIL IS COMPACTED AS DETERMINED BY M-NCPPC CONSTRUCTION MANAGER, AN AREA UP TO 5 TIMES THE DIAMETER OF THE ROOT MASS SHALL BE EXCAVATED OR ROTOTILLED TO A 1' DEPTH AND SOIL SHALL BE AMENDED.
4. PRUNE ONLY DEAD, DECAYING, BROKEN, CROSSING OR INWARD GROWING BRANCHES. NEVER DAMAGE OR CUT LEADER.
5. DEER PROTECTION SHALL BE INCIDENTAL TO THE TREE PLANTING ITEM.

DECIDUOUS TREE PLANTING DETAIL
SCALE: NOT TO SCALE



MISS UTILITY

CALL "MISS UTILITY AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. BEFORE EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR CALLING TICKET CHECK AT 1-866-821-4226 TO VERIFY THAT ALL UTILITIES HAVE BEEN MARKED, 48 HOURS AFTER CALLING MISS UTILITY. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

NORTON LAND DESIGN
LANDSCAPE ARCHITECTURE + ENVIRONMENTAL PLANNING
5146 DORSEY HALL DRIVE, 2ND FLOOR ELLICOTT CITY, MD 21042
BALT.443.542.9199 x101 DC 240.342.2329x101 WWW.NORTONLANDDESIGN.COM

*NOTE: TREE CONSERVATION MEASURES, SUCH AS ROOT PRUNING, BRANCH PRUNING, TREE FERTILIZING, AND OTHER MEASURES PRESCRIBED BY THE PROJECT'S ARBORIST AT THE TIME OF THE LOD LAYOUT AND/OR INSTALLATION OF E&S MEASURES, MAY BE REQUIRED ALONG THE LINE OF CUT/FILL. DECISIONS ON TREE PROTECTION MEASURES MUST BE AGREED UPON BY A M-NCPPC FOREST CONSERVATION INSPECTOR BEFORE INSTALLATION.

WATER CLASS I,P/IV,P	WATERSHED LITTLE SENECA CREEK	FEMA FLOODPLAIN MAP PANEL # 24031C 0160D
TRIBUTARY ROCK CREEK		
TAX MAP EW341,EW121	200 SHEET 232NW13,233NW13,233NW14	ADC MAP B-3 PAGE 9 GRID C-3,4
SCALE AS SHOWN	DATE MARCH 2021	PROJ. NO. 15-138	SHEET NO. LS-2.10

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date

APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : B.P. Drawn by : B.P. Checked by : M.N.

PLAN SHEET L-2.10
LANDSCAPE - DETAILS

MD 355 - CLARKSBURG SHARED USE PATH

09/2021

Project No. : C.I.P. PR. #501744 SHEET 86 of 97

GRADING TABLE

ROADWAY	STATIONS FROM	STATIONS TO	EXCAVATION: CLASS 2: CUT FROM XSECTS	CLASS 2: TOPSOIL CUT	CLASS 2: TOPSOIL FILL	CLASS 2: ROOTMAT CUT	CLASS 2: ROOTMAT FILL	CLASS 2: TOTAL	CLASS 2: SUITABLE FOR EMBANK.	CLASS 2: LOSS DUE TO HANDLING	CLASS 2: AVAIL. FOR EMBANK.	CLASS 1: TOTAL FROM XSECS	CLASS 1: SHRINK/SWELL FACTOR (%)	CLASS 1: AVAIL. FOR EMBANK.	EROSION & SEDIMENT: ORIGINAL EXCAVATION	EROSION & SEDIMENT: CLEAN-OUT EXCAVATION	EMBANKMENT: FILL FROM XSECT	EMBANKMENT: FILL TOT., REQ. BEFORE DENSIFICATION	EMBANKMENT: CAPPING BORROW CAPPING	EMBANKMENT: CAPPING BORROW TOT., REQ. AFTER DENSIFICATION	EMBANKMENT: SELECT BORROW FROM XSECT	EMBANKMENT: SELECT BORROW TOT., REQ. AFTER DENSIFICATION
STAGE 1	PS-01																					
	494+26	498+00	46	3	110	0	0	156	43	9	34	0	0.85	0	0	0	217	326	0	0	0	0
	700+75	703+10	112	0	0	0	0	112	112	22	90	0	0.85	0	0	0	6	6	0	0	0	0
	PS-02																					
	498+00	501+50	87	0	49	0	0	136	87	17	70	0	0.85	0	0	0	63	111	0	0	0	0
	PS-03																					
	501+50	505+00	48	0	0	0	0	48	48	10	38	0	0.85	0	0	0	41	41	0	0	0	0
	STAGE 1 - TOTAL		293	3	159	0	0	452	290	58	232	0		0	0	0	327	484	0	0	0	0

ROADWAY	STATIONS FROM	STATIONS TO	EXCAVATION: CLASS 1: CUT FROM XSECTS	CLASS 1: TOPSOIL CUT	CLASS 1: TOPSOIL FILL	CLASS 1: ROOTMAT CUT	CLASS 1: ROOTMAT FILL	CLASS 1: TOTAL	CLASS 1: SUITABLE FOR EMBANK.	CLASS 1: SHRINK/SWELL FACTOR (%)	CLASS 1: AVAIL. FOR EMBANK.	CLASS 2: TOTAL FROM XSECS	CLASS 2: LOSS DUE TO HANDLING	CLASS 2: AVAIL. FOR EMBANK.	EROSION & SEDIMENT: ORIGINAL EXCAVATION	EROSION & SEDIMENT: CLEAN-OUT EXCAVATION	EMBANKMENT: FILL FROM XSECT	EMBANKMENT: FILL TOT., REQ. BEFORE DENSIFICATION	EMBANKMENT: CAPPING BORROW CAPPING	EMBANKMENT: CAPPING BORROW TOT., REQ. AFTER DENSIFICATION	EMBANKMENT: SELECT BORROW FROM XSECT	EMBANKMENT: SELECT BORROW TOT., REQ. AFTER DENSIFICATION
STAGE 2	PS-04																					
	514+50	519+00	229	0	0	85	142	371	144	0.85	123	0	0	0	0	0	146	289	0	0	0	0
	PS-05																					
	519+00	523+50	2,618	0	0	333	45	2,663	2,284	0.85	1,942	0	0	0	0	0	25	70	0	0	0	0
	PS-06																					
	523+50	528+00	3,588	364	70	40	7	3,665	3,183	0.85	2,706	0	0	0	0	0	20	98	0	0	0	0
	PS-07																					
	528+00	532+50	48	0	72	0	0	120	47	0.85	40	0	0	0	0	0	73	145	0	0	0	0
	STAGE 2 - TOTAL		6,483	364	142	458	194	6,819	5,658		4,811	0	0	0	0	0	264	602	0	0	0	0

ROADWAY	STATIONS FROM	STATIONS TO	EXCAVATION: CLASS 1: CUT FROM XSECTS	CLASS 1: TOPSOIL CUT	CLASS 1: TOPSOIL FILL	CLASS 1: ROOTMAT CUT	CLASS 1: ROOTMAT FILL	CLASS 1: TOTAL	CLASS 1: SUITABLE FOR EMBANK.	CLASS 1: SHRINK/SWELL FACTOR (%)	CLASS 1: AVAIL. FOR EMBANK.	CLASS 5: TOTAL	CLASS 5: LOSS DUE TO HANDLING	CLASS 5: AVAIL. FOR EMBANK.	EROSION & SEDIMENT: ORIGINAL EXCAVATION	EROSION & SEDIMENT: CLEAN-OUT EXCAVATION	EMBANKMENT: FILL FROM XSECT	EMBANKMENT: FILL TOT., REQ. BEFORE DENSIFICATION	EMBANKMENT: CAPPING BORROW CAPPING	EMBANKMENT: CAPPING BORROW TOT., REQ. AFTER DENSIFICATION	EMBANKMENT: SELECT BORROW FROM XSECT	EMBANKMENT: SELECT BORROW TOT., REQ. AFTER DENSIFICATION
STREAM RESTORATION	SR-01																					
	199+20	196+80	0	0	0	0	0	0	0	0.85	0	1,380	207	1,173	0	0	205	205	0	0	0	0
	TOTAL		0	0	0	0	0	0	0	0.85	0	1,380	207	1,173	0	0	205	205	0	0	0	0

STAGE 1 SHARED USE PATH CONSTRUCTION

EXCAVATION

TOTAL CLASS 1 EXCAVATION	0	C.Y.
TOTAL CLASS 2 EXCAVATION	452	C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	232	C.Y.
TOTAL EROSION & SEDIMENT CONTROL EXCAVATION	0	C.Y.

EMBANKMENT

TOTAL COMMON BORROW REQUIRED	484	C.Y.
TOTAL CAPPING BORROW REQUIRED	0	C.Y.
TOTAL SELECT BORROW REQUIRED	0	C.Y.
WASTE	0	C.Y.
COMMON BORROW REQUIRED	252	C.Y.
BORROW DENSIFIED (20%)	50	C.Y.
TOTAL COMMON BORROW REQUIRED	302	C.Y.

STAGE 2 SHARED USE PATH CONSTRUCTION

EXCAVATION

TOTAL CLASS 1 EXCAVATION	6,819	C.Y.
TOTAL CLASS 2 EXCAVATION	0	C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	4,811	C.Y.
TOTAL EROSION & SEDIMENT CONTROL EXCAVATION	0	C.Y.

EMBANKMENT

TOTAL COMMON BORROW REQUIRED	602	C.Y.
TOTAL CAPPING BORROW REQUIRED	0	C.Y.
TOTAL SELECT BORROW REQUIRED	0	C.Y.
WASTE	4,209	C.Y.
COMMON BORROW REQUIRED	0	C.Y.
BORROW DENSIFIED (20%)	0	C.Y.
TOTAL COMMON BORROW REQUIRED	0	C.Y.

STREAM RESTORATION

EXCAVATION

TOTAL CLASS 1 EXCAVATION	0	C.Y.
TOTAL CLASS 2 EXCAVATION	0	C.Y.
TOTAL CLASS 5 EXCAVATION	1,380	C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	1,173	C.Y.
TOTAL EROSION & SEDIMENT CONTROL EXCAVATION	0	C.Y.

EMBANKMENT

TOTAL COMMON BORROW REQUIRED	205	C.Y.
TOTAL CAPPING BORROW REQUIRED	0	C.Y.
TOTAL SELECT BORROW REQUIRED	0	C.Y.
WASTE	968	C.Y.
COMMON BORROW REQUIRED	0	C.Y.
BORROW DENSIFIED (20%)	0	C.Y.
TOTAL COMMON BORROW REQUIRED	0	C.Y.

SUMMARY OF EARTHWORK

EXCAVATION

TOTAL CLASS 1 EXCAVATION	6,819	C.Y.
TOTAL CLASS 2 EXCAVATION	452	C.Y.
TOTAL CLASS 5 EXCAVATION	1,380	C.Y.
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	6,216	C.Y.
TOTAL EROSION & SEDIMENT CONTROL EXCAVATION	0	C.Y.

EMBANKMENT

TOTAL COMMON BORROW REQUIRED	1,291	C.Y.
TOTAL CAPPING BORROW REQUIRED	0	C.Y.
TOTAL SELECT BORROW REQUIRED	0	C.Y.
WASTE	5,177	C.Y.
COMMON BORROW REQUIRED	252	C.Y.
BORROW DENSIFIED (20%)	50	C.Y.
TOTAL COMMON BORROW REQUIRED	302	C.Y.

PROPOSAL QUANTITIES

CLASS 1 EXCAVATION	6,900	C.Y.
CLASS 1-A EXCAVATION	690	C.Y.
CLASS 2 EXCAVATION	460	C.Y.
CLASS 5 EXCAVATION	1,400	C.Y.
COMMON BORROW	400	C.Y.
GEOSYNTHETIC STABILIZED SUBGRADE USING GRADED AGGREGATE BASE	690	C.Y.
CAPPING BORROW	0	C.Y.
SELECT BORROW	0	C.Y.

WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com A Limited Liability Partnership

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.
ROBERT J. HUDSON MD NO-26238 EXP-08/17/2023

SEAL — STATE OF MARYLAND — ROBERT JOSEPH HUDSON — 26238 — PROFESSIONAL ENGINEER

DATE 8-3-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

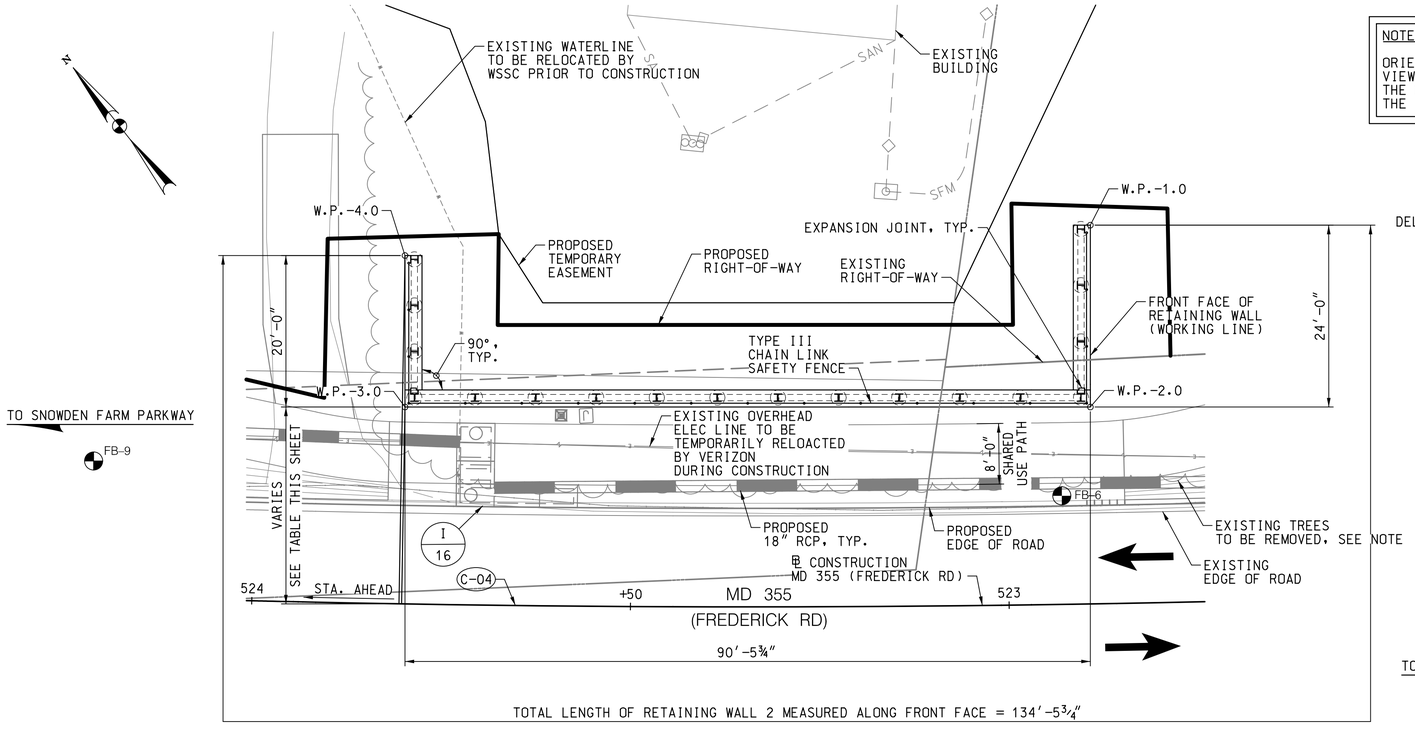
Designed by : N.D.K. Drawn by : S.A.T. Checked by : S.H.D.

PLAN SHEET GR-01
GRADING TABLE & SUMMARY OF EARTHWORK
MD 355 - CLARKSBURG
SHARED USE PATH

SCALE: N.T.S. 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 87 of 97

PLOTTED: 2/8/2023
FILE: M:\PROJ\214013.0010\Highways_Cadd_\pGR-S001_MD355.dgn



NOTE:

ORIENTATION OF THIS VIEW DOES NOT MATCH THE ORIENTATION OF THE HIGHWAY PLANS.

(C-04)

CURVE DATA

DELTA = 10°44'32.5" RT.
D_C = 2°09'20.6"
R = 2,658.00'
L = 498.35'
T = 249.91'
CH = 497.62'
E = 11.72'

TO MD 27

NOTE:

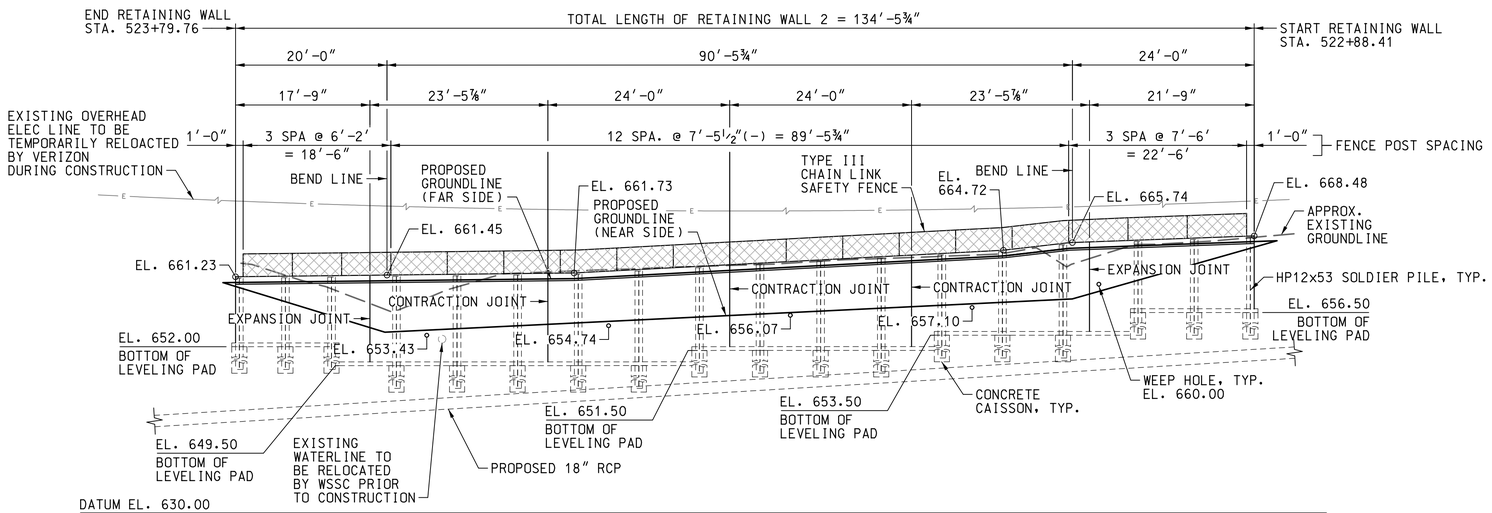
EXISTING TREES WITHIN THE LIMIT OF DISTURBANCE WILL BE REMOVED TO PERFORM CONSTRUCTION. REFER TO DWG. NOS. L-1.5 AND L-1.6 FOR DETAILS.

GENERAL NOTES:

SPECIFICATIONS:	MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JULY 2022.
DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2017.
CONCRETE:	CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE f'c = 3000 PSI FOR ELEMENTS USING MIX NO. 3. CONCRETE FACING SHALL BE MIX NO. 3 (3500 PSI). CONCRETE CAISSONS SHALL BE MIX NO. 4 (3500 PSI). PRECAST CONCRETE LAGGING SHALL BE MIX NO. 6 (4500 PSI).
REINFORCING STEEL:	REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, WITH A YIELD STRENGTH FOR DESIGN OF fy = 60000 PSI. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. REINFORCING STEEL SHALL BE EPOXY COATED AS NOTED WITH AN EP IN THE PLANS. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2" FOR REINFORCED CONCRETE OR 1½" FOR PRESTRESSED CONCRETE, UNLESS OTHERWISE NOTED. FOR TIES AND STIRRUPS, STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCES.
STRUCTURAL STEEL:	NEW STRUCTURAL STEEL SHALL CONFORM TO A709, GRADE 50. INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF M270, FOR PRIMARY LOAD CARRYING MEMBERS. REFER TO SECTION 909.01. ALL PILES SHALL BE GALVANIZED FOLLOWING ASTM A123 FOR THEIR ENTIRE LENGTH.

PLAN

SCALE: 1" = 10'



ELEVATION

SCALE: 1" = 10'
(DEVELOPED ALONG FRONT FACE OF WALL)

WORKING POINT DATA				
MARK	STATION	OFFSET	NORTHING	EASTING
W.P.-1.0	522+88.41	49.99' RT.	574,170.2520	1,231,604.5600
W.P.-2.0	522+88.83	25.99' RT.	574,151.4458	1,231,589.6494
W.P.-3.0	523+80.21	25.99' RT.	574,207.6598	1,231,518.7486
W.P.-4.0	523+80.56	45.98' RT.	574,223.3517	1,231,531.1741

NOTES:

1. FOR GEOMETRIC AND FOOTING LAYOUT, SEE DRAWING RW1-2.
2. FOR RETAINING WALL TYPICAL SECTION, SEE DRAWING RW1-3.

WALLACE MONTGOMERY
ENGINEERS·PLANNERS·SURVEYORS·CONSTRUCTION MANAGERS
10150 York Road, Suite 200
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www.WallaceMontgomery.com
A Limited Liability Partnership

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.
DAVID A. LABELLA MD NO-22185 EXP-12/06/2024

SEAL
STATE OF MARYLAND
22185
DAVID A. LABELLA
REGISTERED
PROFESSIONAL ENGINEER
DATE: 08-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : P.F.E. Drawn by : P.F.E. Checked by : M.E.D.

PLAN SHEET RW1-1
STRUCTURE NO. 150497R02
GENERAL PLAN AND ELEVATION
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: AS NOTED 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 88 of 97

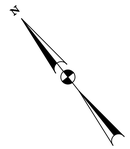
STRUCTURE INVENTORY NO. 150497R02

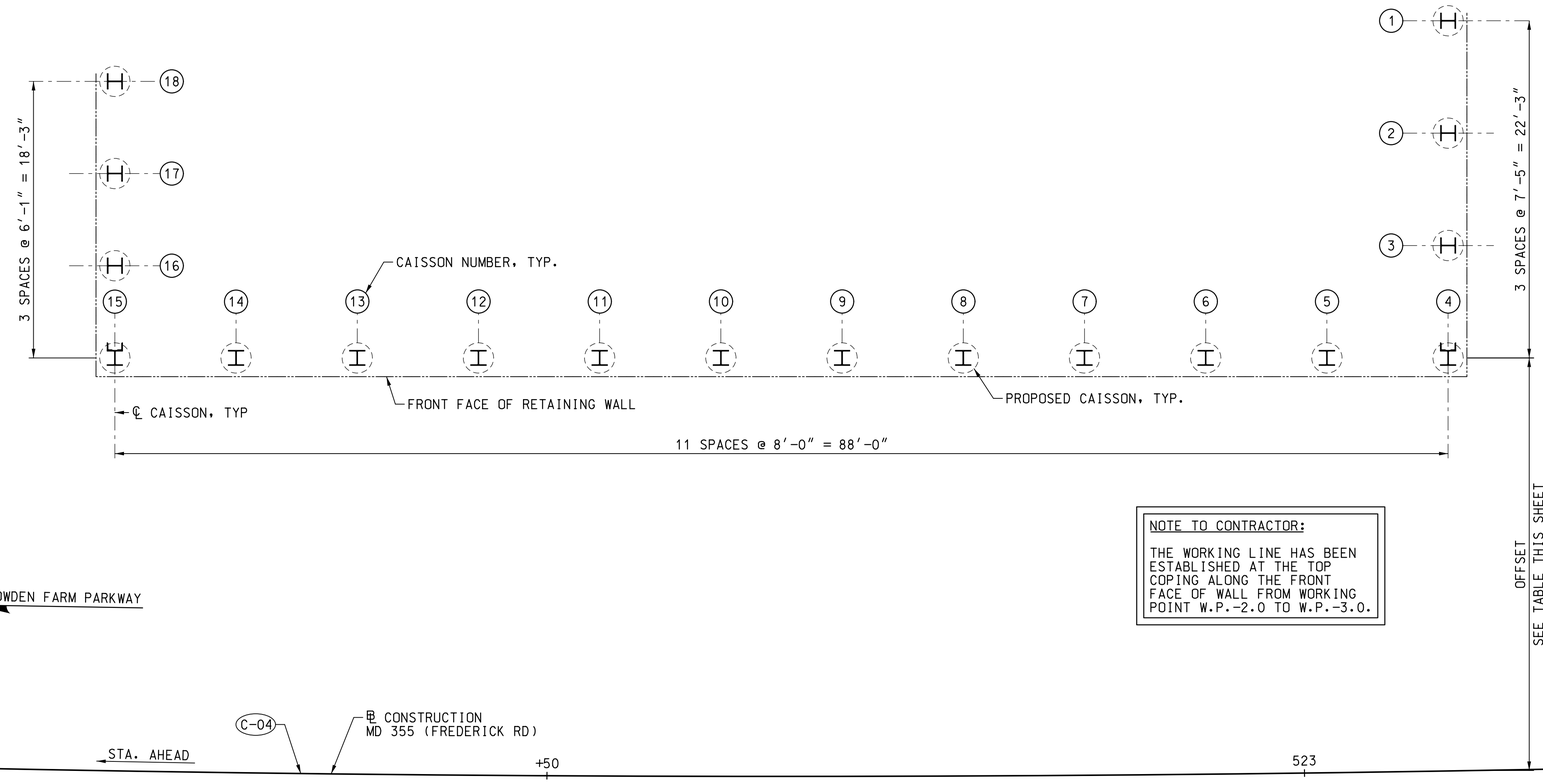
SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Structures_Cadd_\pBR-GP01_M355.dgn

NOTE:

ORIENTATION OF THIS VIEW DOES NOT MATCH THE ORIENTATION OF THE HIGHWAY PLANS.





NOTE TO CONTRACTOR:

THE WORKING LINE HAS BEEN ESTABLISHED AT THE TOP COPING ALONG THE FRONT FACE OF WALL FROM WORKING POINT W.P.-2.0 TO W.P.-3.0.

GEOMETRIC AND FOOTING LAYOUT

SCALE: 1" = 5'

C-04

CURVE DATA

DELTA = 10°44'32.5" RT.
Dc = 2°09'20.6"
R = 2,658.00'
L = 498.35'
T = 249.91'
CH = 497.62'
E = 11.72'

CAISSON SCHEDULE					
CAISSON NUMBER	STATION	OFFSET	WALL SECTION	TOP OF CAISSON ELEV.	BOTTOM OF CAISSON ELEV.
1	522+89.69	49.50 RT.	HP12x53	656.50	644.50
2	522+89.81	42.09 RT.	HP12x53	656.50	644.50
3	522+89.94	34.67 RT.	HP12x53	656.50	644.50
4	522+90.06	27.25 RT.	HP12x53	653.50	641.50
5	522+98.15	27.37 RT.	HP12x53	653.50	641.50
6	523+06.23	27.47 RT.	HP12x53	653.50	641.50
7	523+14.31	27.54 RT.	HP12x53	651.50	639.50
8	523+22.40	27.59 RT.	HP12x53	651.50	639.50
9	523+30.48	27.62 RT.	HP12x53	651.50	639.50
10	523+38.56	27.62 RT.	HP12x53	651.50	639.50
11	523+46.65	27.59 RT.	HP12x53	649.50	637.50
12	523+54.73	27.54 RT.	HP12x53	649.50	637.50
13	523+62.82	27.47 RT.	HP12x53	649.50	637.50
14	523+70.90	27.37 RT.	HP12x53	649.50	637.50
15	523+78.98	27.25 RT.	HP12x53	649.50	637.50
16	523+79.11	33.33 RT.	HP12x53	652.00	640.00
17	523+79.24	39.42 RT.	HP12x53	652.00	640.00
18	523+79.38	45.50 RT.	HP12x53	652.00	640.00

CAISSON INSTALLATION NOTES:

1. EXCAVATED SHAFTS FOR CAISSONS BY AUGURING TO THE MINIMUM ELEVATION SPECIFIED IN THE TABLE ON THIS SHEET. IF SUBSURFACE MATERIAL CANNOT BE DRILLED USING HOLLOW STEM AUGURS, THEN CORE DRILLING PROCEDURES WILL BE REQUIRED.
2. INSTALL STEEL CASINGS AS EXCAVATION PROCEEDS. CASINGS SHALL BE FULL LENGTH AND WATER TIGHT AND SHALL BE SUFFICIENT TO WITHSTAND ALL STRESSES AND MAINTAIN THE SHAFT WALLS.
3. WITHDRAW CASINGS AS CONCRETE IS PLACED.
4. PERFORM DRILLING AND PLACEMENT OF CONCRETE FOR CAISSONS IN A STAGGERED PATTERN SUCH THAT THE ADJACENT CAISSONS ARE NOT OPEN SIMULTANEOUSLY.
5. DRILLED SHAFT TOLERANCES SHALL BE IN ACCORDANCE WITH SECTION 412 OF MDOT SHA STANDARD SPECIFICATIONS.

NOTE:

FOR GENERAL PLAN AND ELEVATION, SEE DRAWING RW1-1

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Hunt Valley, Maryland 21030
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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.
DAVID A. LABELLA MD NO-22185 EXP-12/06/2024

SEAL
STATE OF MARYLAND · DAVID A. LaBELLA · 22185 · REGISTERED PROFESSIONAL ENGINEER

DATE: 02-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services Date

Designed by : P.F.E. Drawn by : P.F.E. Checked by : M.E.D.

PLAN SHEET RW1-2
STRUCTURE NO. 150497R02
GEOMETRIC AND FOOTING LAYOUT
MD 355 - CLARKSBURG SHARED USE PATH

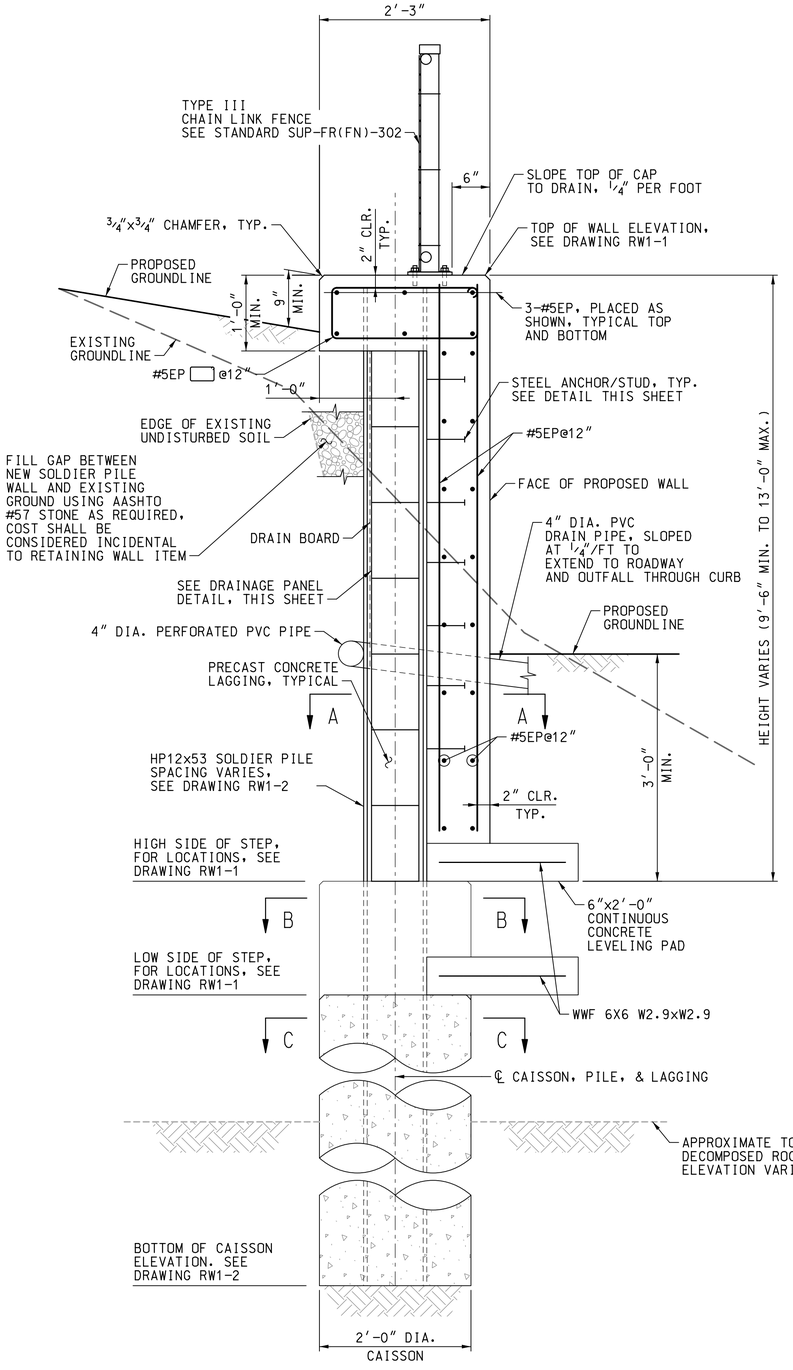
SCALE: AS NOTED 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 89 of 97

STRUCTURE INVENTORY NO. 150497R02

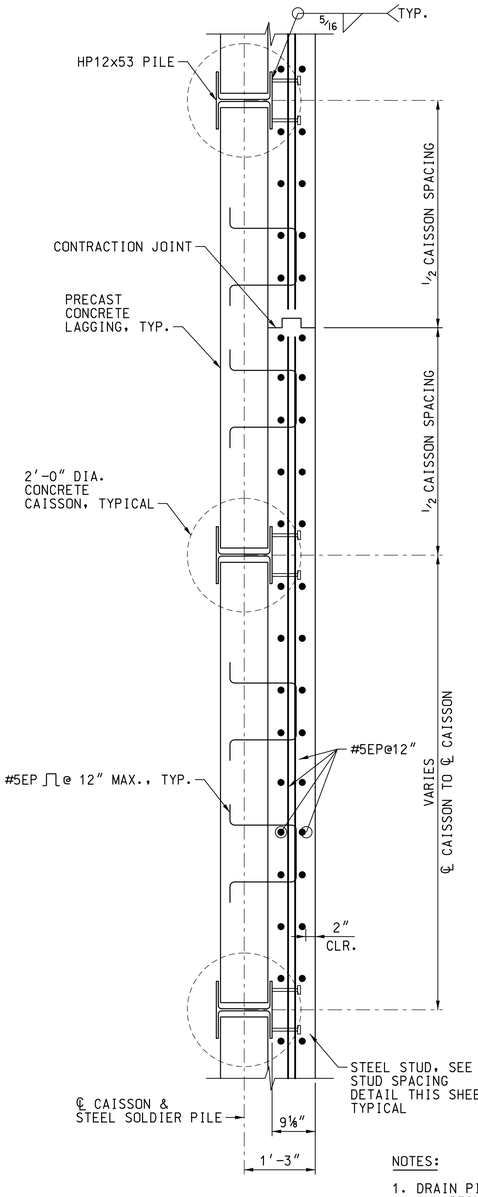
SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\21\4013.0010\Structures_Cadd_\pBR-GL01_M355.dgn



SOLDIER PILE RETAINING WALL TYPICAL SECTION

SCALE: 1″ = 1′-0″



SECTION A–A

SCALE: 3/4″ = 1′-0″

NOTES:

1. DRAIN PIPES NOT SHOWN FOR CLARITY. ALL REINFORCING IN FASCIA SHALL BE PLACED TO MISS DRAIN PIPES.
2. FOR PRECAST LAGGING DETAILS, SEE SHEET RW1-5.

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PLAN SHEET RW1-3
STRUCTURE NO. 150497R02
TYPICAL SECTION

MD 355 - CLARKSBURG SHARED USE PATH

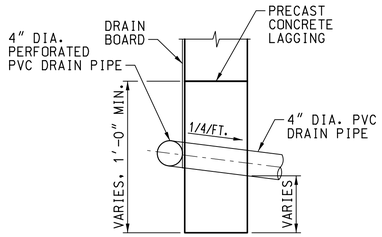
SCALE: AS NOTED 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 90 of 97

STRUCTURE INVENTORY NO. 150497R02

SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Structures_Cadd_\pBR-TP01_M355.dgn

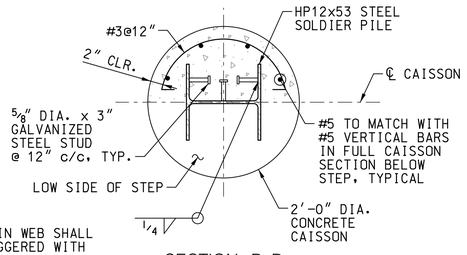


DRAINAGE PANEL DETAIL

SCALE: 1" = 1'-0"

NOTE:

DETAILS FOR ATTACHING DRAIN BOARD TO PVC DRAIN SHALL BE PREPARED BY CONTRACTOR AND SUBMITTED FOR APPROVAL.



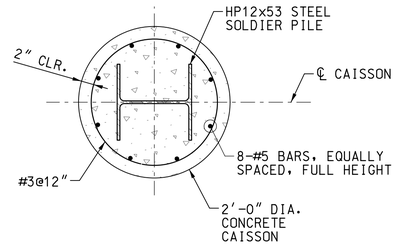
NOTE:

STUDS IN WEB SHALL BE STAGGERED WITH THE STUDS IN THE FLANGE.

SECTION B-B

CAISSON STEP REINFORCEMENT

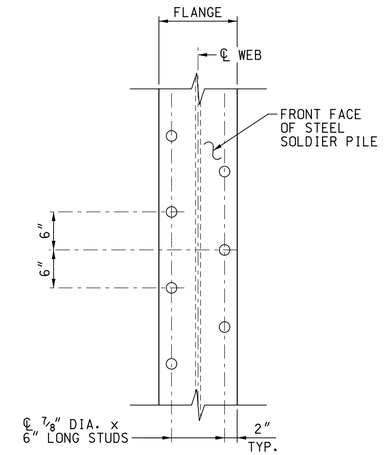
SCALE: 1" = 1'-0"



SECTION C-C

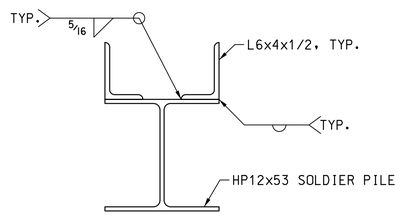
CAISSON REINFORCEMENT DETAIL

SCALE: 1" = 1'-0"



STUD SPACING DETAIL

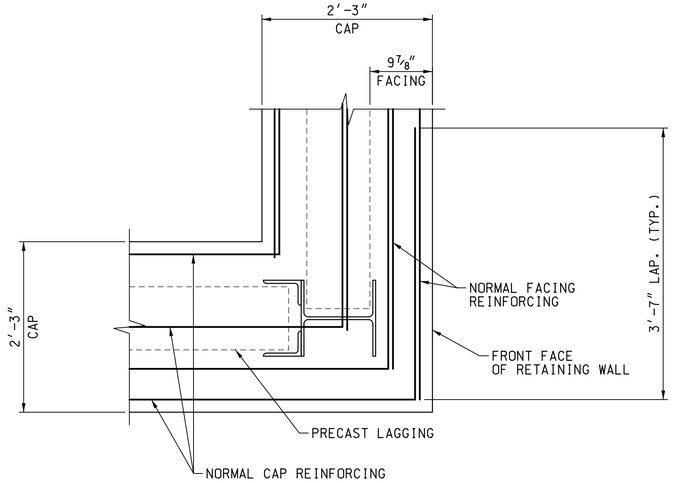
SCALE: 1" = 1'-0"



PILES 4 AND 15 ONLY

LAGGING CONNECTION DETAIL

SCALE: 1 1/2" = 1'-0"



PLAN

WALL CORNER REINFORCING DETAIL

SCALE: 1" = 1'-0"

RETAINING WALL SEQUENCE OF CONSTRUCTION:

1. AUGUR HOLES FOR PROPOSED CAISSONS.SEE CAISSON INSTALLATION NOTES ON SHEET RW1-2.
2. INSTALL STEEL SOLDIER PILES AND PLACE CONCRETE IN CAISSON TO THE SPECIFIED ELEVATION.
3. INSTALL PRECAST LAGGING AND BACKFILL BEHIND WALL.
4. POUR REMAINDER OF CONCRETE FACING AND CAP FOR THE WALL.
5. INSTALL NEW CHAIN LINK FENCE ON TOP OF RETAINING WALL.

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No. 22185
REGISTERED
PROFESSIONAL ENGINEER
DATE: 02-03-2023

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Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : M.E.P. Drawn by : B.R.W. Checked by : D.L.D.

PLAN SHEET RW1-4
STRUCTURE NO. 150497R02
DETAILS

MD 355 - CLARKSBURG SHARED USE PATH

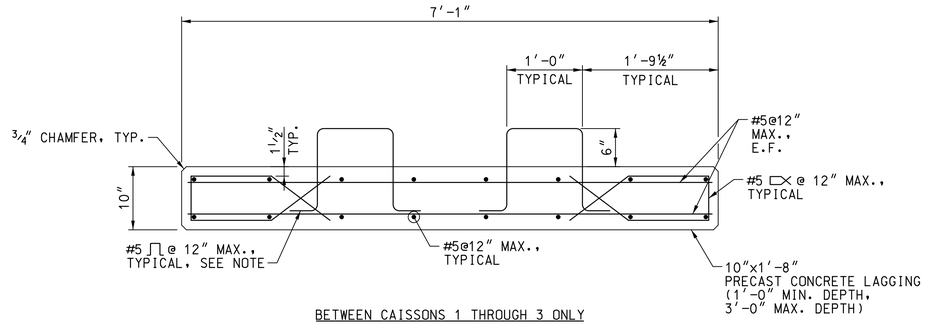
02/2023

Project No. : C.I.P. PR. # 501744 SHEET 91 of 97

STRUCTURE INVENTORY NO. 150497R02

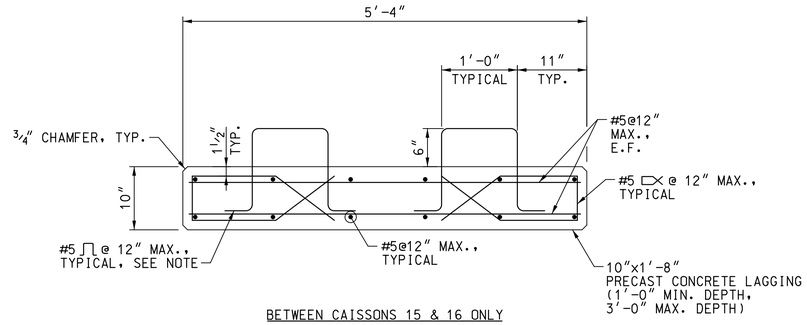
SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Structures_Cadd_\pBR-DE02_M355.dgn



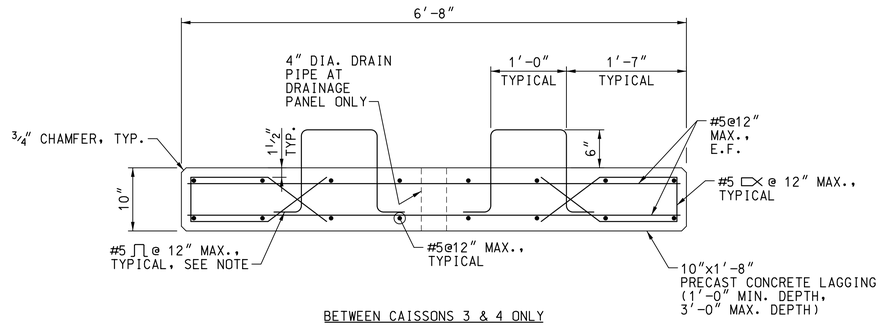
BETWEEN CAISSONS 1 THROUGH 3 ONLY

PLAN
CONCRETE LAGGING DETAIL
SCALE: 1″=1′-0″



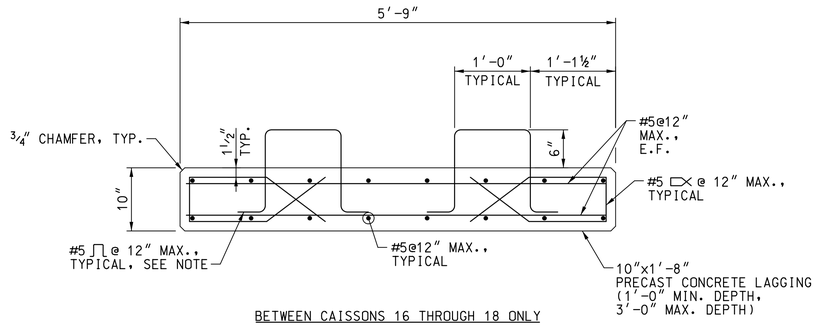
BETWEEN CAISSONS 15 & 16 ONLY

PLAN
CONCRETE LAGGING DETAIL
SCALE: 1″=1′-0″



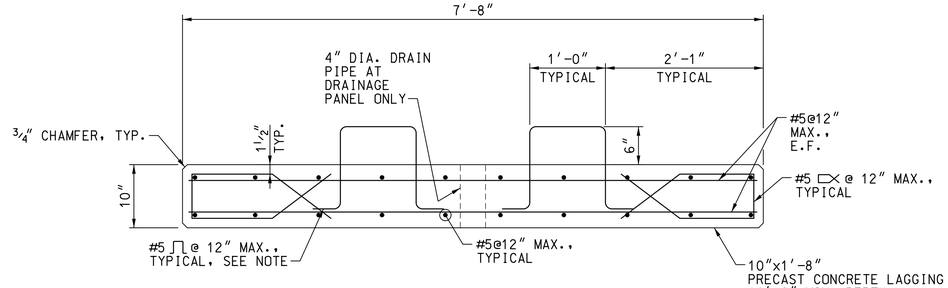
BETWEEN CAISSONS 3 & 4 ONLY

PLAN
CONCRETE LAGGING DETAIL
SCALE: 1″=1′-0″



BETWEEN CAISSONS 16 THROUGH 18 ONLY

PLAN
CONCRETE LAGGING DETAIL
SCALE: 1″=1′-0″



BETWEEN CAISSONS 4 THROUGH 15 ONLY

PLAN
CONCRETE LAGGING DETAIL
SCALE: 1″=1′-0″

NOTE:

1. STIRRUPS SHALL NOT BE USED IN LAGGING AT CONTRACTION AND EXPANSION JOINT LOCATIONS.
2. FABRICATOR SHALL PROVIDE LIFTING DEVICES FOR EACH LAGGING PANEL. LIFTING DEVICES SHALL NOT BE LOCATED AT DRAIN HOLES. TYPE AND SIZE SHALL BE APPROVED BY THE ENGINEER.
3. ALL REINFORCING STEEL IN PRECAST LAGGING SHALL BE EPOXY COATED.

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STATE OF MARYLAND · DAVID A. LABELLA · No. 22185 · REGISTERED PROFESSIONAL ENGINEER
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NO.	REVISION	DATE	BY

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100 EDISON PARK DRIVE, 4TH FLOOR
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APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : P.F.E. Drawn by : P.F.E. Checked by : M.E.D.

PLAN SHEET RW1-5
STRUCTURE NO. 150497R02
LAGGING DETAILS

MD 355 - CLARKSBURG SHARED USE PATH

02/2023

Project No. : C.I.P. PR. # 501744 SHEET 92 of 97

STRUCTURE INVENTORY NO. 150497R02

SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PRO\I\214013.0010\Structures_Cadd_\pBR-DE01_M355.dgn

BOTTOM OF CAISSON EL. VARIES
SEE CAISSON SCHEDULE ON SHEET RW1-2

SPECIALIZED ENGINEERING
Construction Quality Control•Environmental Consulting
Geotechnical & Forensic Engineering

BORING NUMBER FB-6
PAGE 1 OF 1

CLIENT Wallace Montgomery & Associates
PROJECT NAME Clarksburg Shared Use Path
PROJECT NUMBER 167030
PROJECT LOCATION Route 355 and Stringtown Road
DATE STARTED 7/27/18 **COMPLETED** 7/27/18
GROUND ELEVATION 660 ft **HOLE SIZE** 3.25 in.
DRILLING CONTRACTOR Connelly and Associates, Inc.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING Dry
LOGGED BY H. Mathew **CHECKED BY** I. Helms
AT END OF DRILLING Dry
NOTES Cave-In Depth: 14.7'
AFTER DRILLING ---

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft)	RECOVERY %	BLOW COUNTS (N VALUE)	% < #4 SIEVE	% < #200 SIEVE	▲ SPT N VALUE ▲ PL MC LL 20 40 60 80
			TOPSOIL (3")	SS S-1	0.0 1.5	39	3-7-7 (14)			
			FILL: dark brown clayey silt, little concrete pieces, little organics, moist, medium dense							
			SILT AND SAND TO DECOMPOSED ROCK: reddish brown, sandy, some weathered rock, some mica, moist, medium dense, (ML & SM)	SS S-2	2.5 4.0	94	6-5-7 (12)			
655	5			SS S-3	5.0 6.5	100	2-5-6 (11)	68.7	20	
650	10		**DECOMPOSED ROCK**: reddish brown and gray, little silt, some mica, slightly moist to dry, very dense	SS S-4	8.5 9.4	100	23-50/5"	88.1	22.3	>>
645	15			SS S-5	13.5 15.0	100	18-22-27 (49)			
640	20			SS S-6	18.5 19.1	100	27-50/1"			>>
			End of boring at 23.5 feet.	SS S-7	23.5 23.5		50/0"			>>

GEOTECH BH PLOTS 167030 BORING LOGS.GPJ GINT US.GDT 8/7/18

7504 Connelly Drive, Suite G, Hanover, Maryland 21076 (410) 768-4800 / (410) 768-4803 fax

BORING FB-6

DATUM EL. 620.00

BOTTOM OF CAISSON EL. VARIES
SEE CAISSON SCHEDULE ON SHEET RW1-2

SPECIALIZED ENGINEERING
Construction Quality Control•Environmental Consulting
Geotechnical & Forensic Engineering

BORING NUMBER FB-9
PAGE 1 OF 1

CLIENT Wallace Montgomery & Associates
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DRILLING CONTRACTOR Connelly and Associates, Inc.
GROUND WATER LEVELS:
DRILLING METHOD HSA
AT TIME OF DRILLING Dry
LOGGED BY H. Mathew **CHECKED BY** I. Helms
AT END OF DRILLING Dry
NOTES Cave-In Depth: 11.6'
AFTER DRILLING ---

ELEVATION (ft)	DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	SAMPLE DEPTH (ft)	RECOVERY %	BLOW COUNTS (N VALUE)	% < #4 SIEVE	% < #200 SIEVE	▲ SPT N VALUE ▲ PL MC LL 20 40 60 80
			TOPSOIL (4")	SS S-1	0.0 1.5	78	2-5-7 (12)			
			POSSIBLE FILL - SILT AND SAND reddish brown, sandy, some mica, slightly moist, medium dense,(SM)	SS S-2	2.5 4.0	89	4-6-7 (13)			
655	5			SS S-3	5.0 6.5	100	6-8-11 (19)	78.8	23.8	
650	10		**SILT AND SAND TO DECOMPOSED ROCK**: brown and gray with black, sandy, some mica, slightly moist, loose, (ML & SM)	SS S-4	8.5 10.0	100	4-5-5 (10)			
645	15		**DECOMPOSED ROCK**: gray, some silt, little mica, dry, very dense	SS S-5	13.5 13.8	100	50/3"			>>
640	20			SS S-6	18.5 18.6	100	50/1"			>>
			End of boring at 23.8 feet.	SS S-7	23.5 23.8	100	50/3"			>>

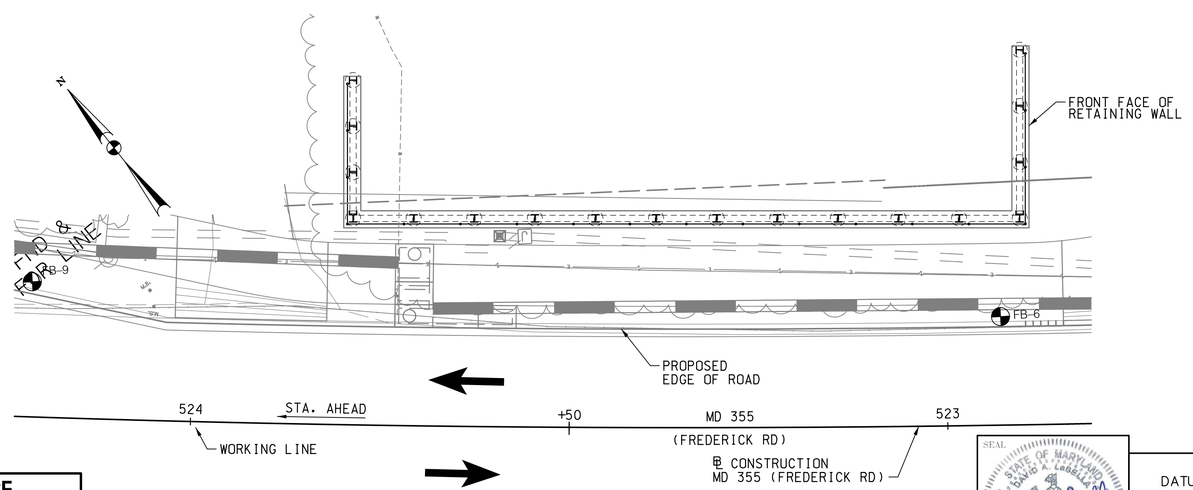
GEOTECH BH PLOTS 167030 BORING LOGS.GPJ GINT US.GDT 8/7/18

7504 Connelly Drive, Suite G, Hanover, Maryland 21076 (410) 768-4800 / (410) 768-4803 fax

BORING FB-9

DATUM EL. 620.00

BORINGS AND DRIVE TESTS
SCALE: 1" = 5'



BORING LOCATION PLAN
SCALE: 1" = 10'

BORING LOCATION DATA					
BORING NUMBER	STATION	OFFSET	NORTHING	EASTING	DEPTH (FT)
FB-6	522+92.83	14.33' RT.	574,144.6029	1,231,579.4088	25.00
FB-9	524+21.47	17.84' RT.	574,227.6146	1,231,482.1133	25.00

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Chief, Division of Engineering Services — Date

Designed by : P.F.E. Drawn by : P.F.E. Checked by : M.E.D.

PLAN SHEET RW1-6
STRUCTURE NO. 150497R02
BORING LOCATION PLAN
MD 355 - CLARKSBURG SHARED USE PATH

SCALE: AS NOTED 02/2023

Project No. : C.I.P. PR. # 501744 SHEET 93 of 97

STRUCTURE INVENTORY NO. 150497R02

SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\J14013.0010\Structures_Cadd_\pBR-BL01_M355.dgn

GENERAL NOTES

Specifications: Latest SHA Specifications and Special Provisions for materials and construction. Latest AASHTO Standard Specifications for Highway Bridges for design.

Materials: Posts and rails shall conform to ASTM F-1083, Schedule 80. Fabric shall be 6 gauge, 2" PVC coated mesh conforming to 914.01.

All posts, braces, fittings and hardware shall be PVC coated. Coating shall conform to 914.03 except that nuts, bolts and washers shall also be PVC coated and touched up after installation.

All plates shall be steel conforming to ASTM A 709 Grade 36.

Anchor studs or anchor bolts shall conform to ASTM A 276, Type 430 or Type 304 stainless steel annealed, hot-finished, ultimate strength 70 000 psi min., 20% min. elongation. Threads may be rolled or cut.

Epoxy grout for anchor studs in cored holes shall conform to 902.11(d).

PVC color for all elements of fence shall be black unless otherwise noted.

Construction: All longitudinal rails shall be parallel to top of wall.

All posts shall be set normal to top of wall for roadway grades 6% or less. For grades over 6% posts shall be set plumb.

The chain link fence shall be true to line, taut, tight fit to top of wall (1½" maximum gap) and shall comply with the best practice for fence construction of this type.

Post and rails shall be permanently positioned before fabric is placed.

For post spacing see pertinent structure sheets.

Precoated longitudinal rails, if cut, shall have the cut end coated with PVC touch up material supplied by the manufacturer prior to erection.

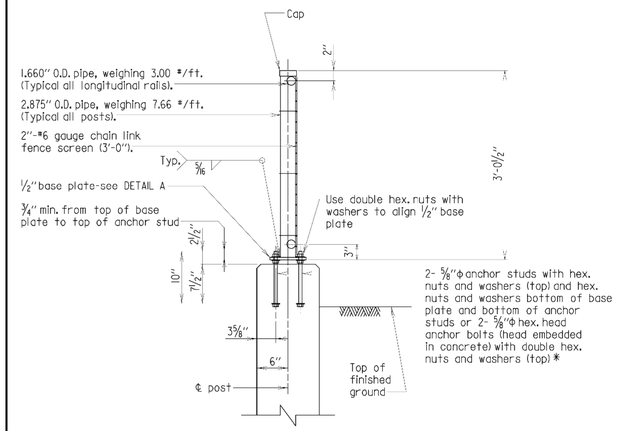
If Contractor elects to place anchor studs after placing concrete wall, newly placed rebars shall be located so that coring does not damage same, all holes shall be cored (not drilled) and the diameter of the cored holes for the anchor studs shall be ⅞".

Measurement and Payment: The furnishing, fabricating, erecting, etc., of all new chain link fence on the retaining wall or culvert headwalls and wing walls, complete in place, will not be measured for payment but all costs thereof shall be included in the Contract lump sum prices for the pertinent Retaining Wall or Box Culvert Items).

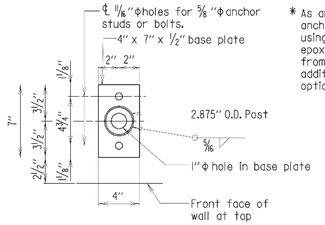
Any defects uncovered by the inspection of welds on base plates and poles shall be repaired or replaced by new members at no additional cost to the Administration.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.S. Fowler, DIRECTOR OFFICE OF STRUCTURES DATE: 01/24/2008	CHAIN LINK SAFETY FENCE RETAINING WALLS AND BOX CULVERTS GENERAL NOTES
VERSION: 1.0	DETAIL NO. SUP-FR(FN)-301 SHEET 1 OF 1

SUPER FENCE/RAILING



TYPICAL SECTION
Scale: ¾" = 1'-0"



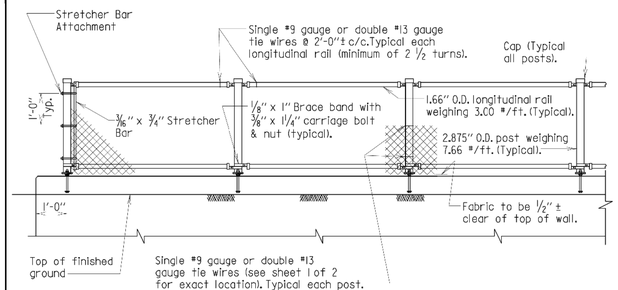
DETAIL A
Scale: 1½" = 1'-0"

* As an option, the Contractor may set the anchor studs after placing concrete wall using ⅞" dia. cored holes and an approved epoxy grout. Nuts and washers shall be omitted from the embedded ends of anchor studs. No additional compensation will be allowed for this option.

Note:
This fence shall be used on box culverts with headwalls located at the bottom of fill slopes.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.S. Fowler, DIRECTOR OFFICE OF STRUCTURES DATE: 01/14/2014	TYPE III CHAIN LINK SAFETY FENCE RETAINING WALLS AND BOX CULVERTS
VERSION: 1.0	DETAIL NO. SUP-FR(FN)-302 SHEET 1 OF 2

SUPER FENCE/RAILING



ELEVATION
Scale: ⅜" = 1'-0"

Note:
For additional details see Std. No. SUP-FR(FN)-204

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
E.S. Fowler, DIRECTOR OFFICE OF STRUCTURES DATE: 01/14/2014	TYPE III CHAIN LINK SAFETY FENCE RETAINING WALLS AND BOX CULVERTS
VERSION: 1.0	DETAIL NO. SUP-FR(FN)-302 SHEET 2 OF 2

SUPER FENCE/RAILING

WALLACE MONTGOMERY
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10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
www.WallaceMontgomery.com A Limited Liability Partnership

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.
DAVID A. LABELLA MD NO=22185 EXP=12/06/2024
DATE: 02-03-2023

SEAL — STATE OF MARYLAND · DAVID A. LABELLA · REGISTERED PROFESSIONAL ENGINEER

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : P.F.E. Drawn by : P.F.E. Checked by : M.E.D.

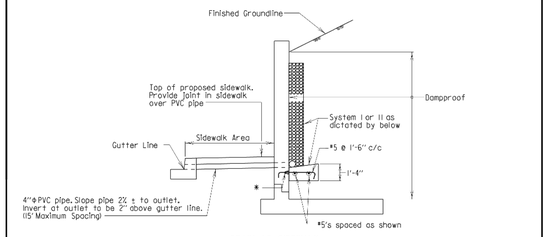
PLAN SHEET RW1-7
FENCE DETAILS
STRUCTURE NO. 150497R02
MD 355 - CLARKSBURG SHARED USE PATH
02/2023

Project No. : C.I.P. PR. # 501744 SHEET 94 of 97

STRUCTURE INVENTORY NO. 150497R02

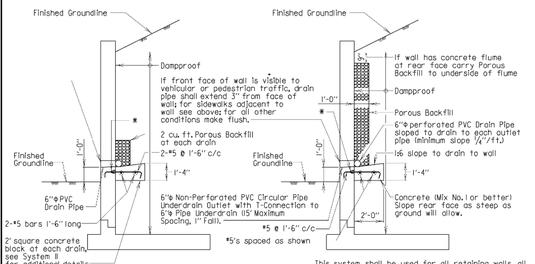
SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Structures_Cadd_\pBR-SD01_M355.dgn



DRAIN AT SIDEWALK
Scale : None

* *5 Threaded Rebar Dowel Coupler at 1'-6" c/c.



This system shall be used for all box culvert wing walls and other wing walls that are both less than 30' long and less than 16' high (height of wall from bottom of footing to top of highest section). One drain shall be placed at ℄ of wall for all walls less than 15' long. For walls between 15' and 30' long, two drains shall be placed, one at each third point.

SYSTEM I
Scale : None

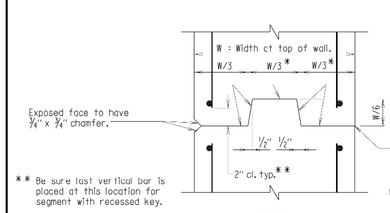
This system shall be used for all retaining walls, all wing walls (not in System I).

SYSTEM II
Scale : None

Note:
1. Exact elevation of drain to be determined by Engineer in field.
2. Porous backfill (refer to Section 469).
3. Use this detail for bridges with wing walls that are not parallel to the highway. For bridges with wing walls parallel to the highway see Detail No. SUB-DR-203 sheet 5 of 5 for details.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 01/22/2001	RETAINING WALL AND WING WALL DRAINAGE SYSTEMS
VERSION 1.0	DETAIL NO. RW-301 SHEET __ OF __

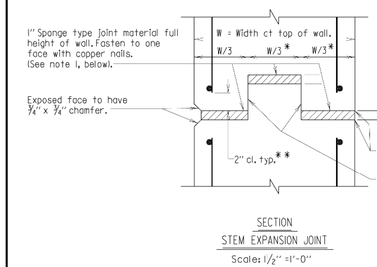
RETAINING WALLS



** Be sure last vertical bar is placed at this location for segment with recessed key.

* This dimension will vary on battered walls.

SECTION
STEM CONTRACTION JOINT
Scale: 1/2" = 1'-0"



SECTION
STEM EXPANSION JOINT
Scale: 1/2" = 1'-0"

Notes:
1. Joint locations shall be as shown on contract drawing. If no locations are given concrete retaining walls shall have contraction joints a maximum of every 30'-0"; and expansion joints, with 1" sponge type material (see 911.02), a maximum of every 90'-0"
2. Stop key 9" below top of wall.
3. Reinforcing steel shall not pass through contraction or expansion joint.
4. For battered walls, with stems greater than 12 feet height, key dimensions noted thus *, shall be based on wall thickness at mid height.
5. All keys are nominal size.
6. Only place contraction and expansion joints in stems (no joint in footer).

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 05/04/2006	CONCRETE RETAINING WALL CONTRACTION AND EXPANSION JOINTS
VERSION 1.0	DETAIL NO. RW-401 SHEET __ OF __

RETAINING WALLS

BAR SIZE	LOCATION CATEGORY A CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	2'-5"	3'-1"	2'-5"	2'-10"	2'-5"	2'-10"	2'-5"	2'-10"
#5	3'-1"	4'-0"	3'-0"	3'-10"	3'-0"	3'-7"	3'-0"	3'-7"
#6	4'-5"	5'-9"	3'-7"	4'-8"	3'-7"	4'-8"	3'-7"	4'-8"
#7	6'-0"	7'-10"	4'-6"	5'-11"	4'-2"	5'-5"	4'-2"	5'-5"
#8	7'-10"	10'-3"	5'-11"	7'-8"	4'-9"	6'-2"	4'-9"	6'-2"
#9	10'-0"	13'-0"	7'-6"	9'-9"	6'-0"	7'-10"	5'-10"	7'-8"
#10	-	-	9'-6"	12'-5"	7'-7"	9'-11"	7'-2"	9'-5"
#11	-	-	11'-8"	15'-3"	9'-4"	12'-3"	8'-8"	11'-4"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

BAR SIZE	LOCATION CATEGORY B CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-9"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-7"	2'-4"	3'-5"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	5'-1"	2'-9"	4'-1"	2'-9"	4'-1"	2'-9"	4'-1"
#7	4'-8"	6'-11"	3'-6"	5'-3"	3'-2"	4'-9"	3'-2"	4'-9"
#8	6'-1"	9'-1"	4'-7"	6'-10"	3'-8"	5'-5"	3'-8"	5'-5"
#9	7'-8"	11'-6"	5'-9"	8'-8"	4'-8"	6'-11"	4'-6"	6'-9"
#10	-	-	7'-4"	10'-11"	5'-10"	8'-9"	5'-7"	8'-4"
#11	-	-	9'-0"	13'-6"	7'-2"	10'-9"	6'-8"	10'-0"

Location Category B - All bars not in Location Category A.

= Non-epoxy coated = Epoxy coated

Note:
1. When bar lap is not specified on the Plans, the above dimensions shall be used.
2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These bar laps only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These bar laps assume cover of 2". Greater lap lengths will be required for cover less than 2".
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-101. Class B splices are 1.3 times the development length.
6. Class A splices may be used when (a) the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (b) one-half or less of the total reinforcement is spliced within the required lap splice length. Class A splices are 1.0 times the development length.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 03/21/2017	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE
VERSION 1.0	DETAIL NO. REBAR-BL-101 SHEET __ OF __

REBAR - BAR LAP

BAR SIZE	LOCATION CATEGORY A CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-5"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-1"	2'-4"	3'-0"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	4'-5"	2'-9"	3'-7"	2'-9"	3'-7"	2'-9"	3'-7"
#7	4'-8"	6'-1"	3'-6"	4'-7"	3'-2"	4'-2"	3'-2"	4'-2"
#8	6'-1"	7'-11"	4'-7"	5'-11"	3'-8"	4'-9"	3'-8"	4'-9"
#9	7'-8"	10'-0"	5'-9"	7'-6"	4'-8"	6'-0"	4'-6"	5'-11"
#10	-	-	7'-4"	9'-6"	5'-10"	7'-8"	5'-7"	7'-3"
#11	-	-	9'-0"	11'-9"	7'-2"	9'-5"	6'-8"	8'-8"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

BAR SIZE	LOCATION CATEGORY B CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-5"	2'-1"	1'-5"	1'-8"	1'-5"	1'-8"	1'-5"	1'-8"
#5	1'-10"	2'-9"	1'-9"	2'-8"	1'-9"	2'-1"	1'-9"	2'-1"
#6	2'-8"	3'-11"	2'-1"	3'-2"	2'-1"	3'-2"	2'-1"	3'-2"
#7	3'-7"	5'-4"	2'-8"	4'-0"	2'-6"	3'-8"	2'-6"	3'-8"
#8	4'-8"	7'-0"	3'-6"	5'-3"	2'-10"	4'-2"	2'-10"	4'-2"
#9	5'-11"	8'-10"	4'-5"	6'-8"	3'-7"	5'-4"	3'-6"	5'-2"
#10	-	-	5'-8"	8'-5"	4'-6"	6'-9"	4'-3"	6'-5"
#11	-	-	6'-11"	10'-4"	5'-7"	8'-4"	5'-2"	7'-8"

Location Category B - All bars not in Location Category A.

= Non-epoxy coated = Epoxy coated

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These development lengths assume cover of 2". Greater development lengths will be required for cover less than 2".
5. The Excess Reinforcement Factor was assumed to be 1.0 when calculating these dimensions.
6. Atr was assumed to be 0 when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B, then hooks shall be added to all bars not conforming, as per D, E, and F per Det. No. REBAR-DL-201.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 03/21/2017	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE
VERSION 1.0	DETAIL NO. REBAR-DL-101 SHEET __ OF __

REBAR - DEVELOPMENT LENGTH

WALLACE MONTGOMERY
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10150 York Road, Suite 200
Hunt Valley, Maryland 21030
410.494.9093 Tel / 410.667.0925 Fax
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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.
DAVID A. LABELLA MD NO=22185 EXP=12/06/2024

SEAL
STATE OF MARYLAND
DAVID A. LABELLA
No. 22185
REGISTERED PROFESSIONAL ENGINEER

DATE: 02-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : P.F.E. Drawn by : P.F.E. Checked by : M.E.D.

PLAN SHEET RW1-8
DETAILS
STRUCTURE NO. 150497R02
MD 355 - CLARKSBURG SHARED USE PATH
02/2023

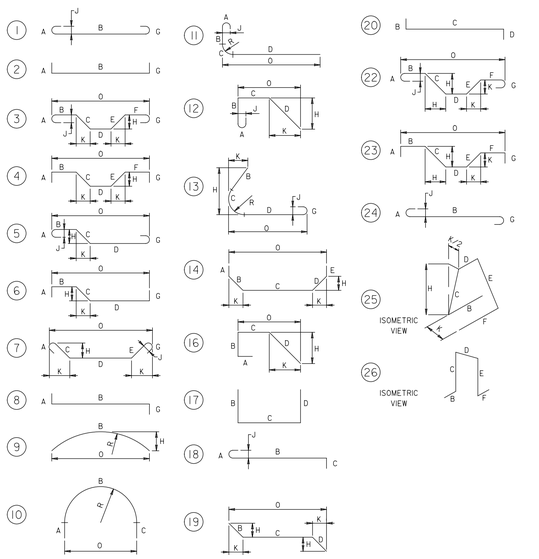
Project No. : C.I.P. PR. # 501744 SHEET 95 of 97

STRUCTURE INVENTORY NO. 150497R02

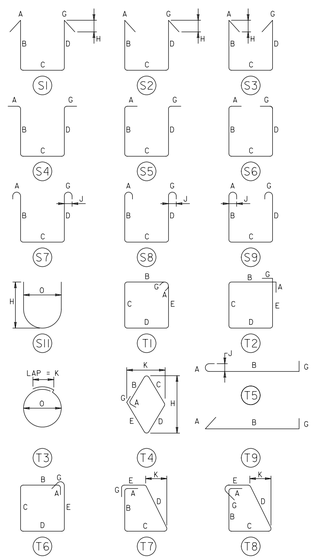
SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Structures_Cadd_\pBR-SD02_M355.dgn

ACI TYPICAL BAR BENDS



STANDARD PIN BENDING



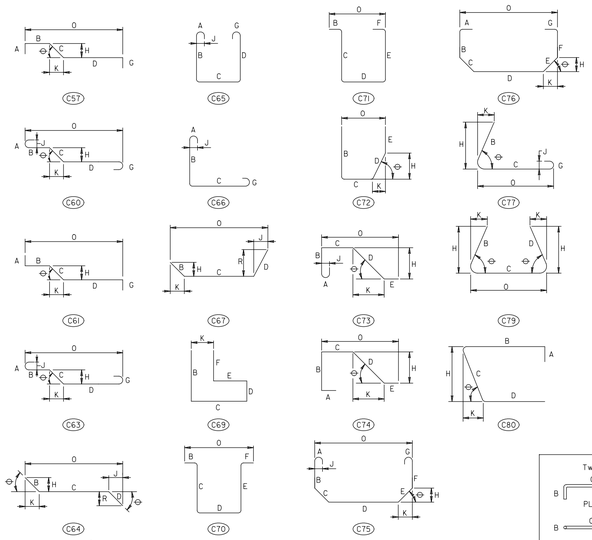
NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

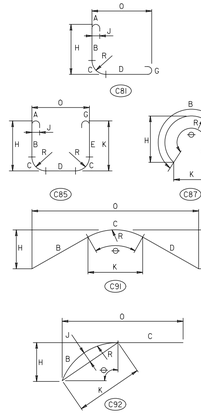
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

TIES AND STIRRUPS

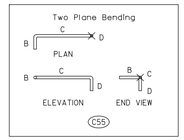
SHA TYPICAL BAR BENDS

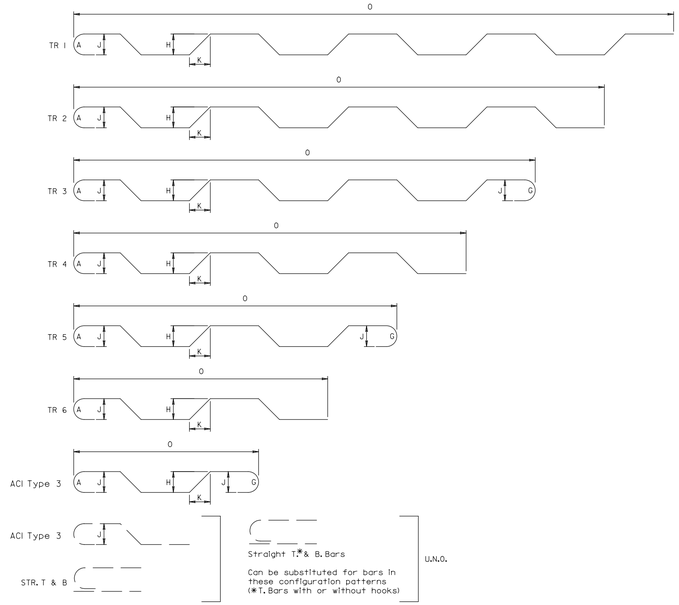


STANDARD PIN BENDING

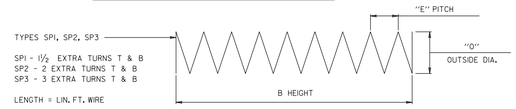


RADIUS BENDING

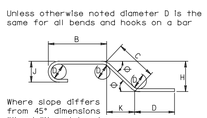




TRUSS BAR CONFIGURATION



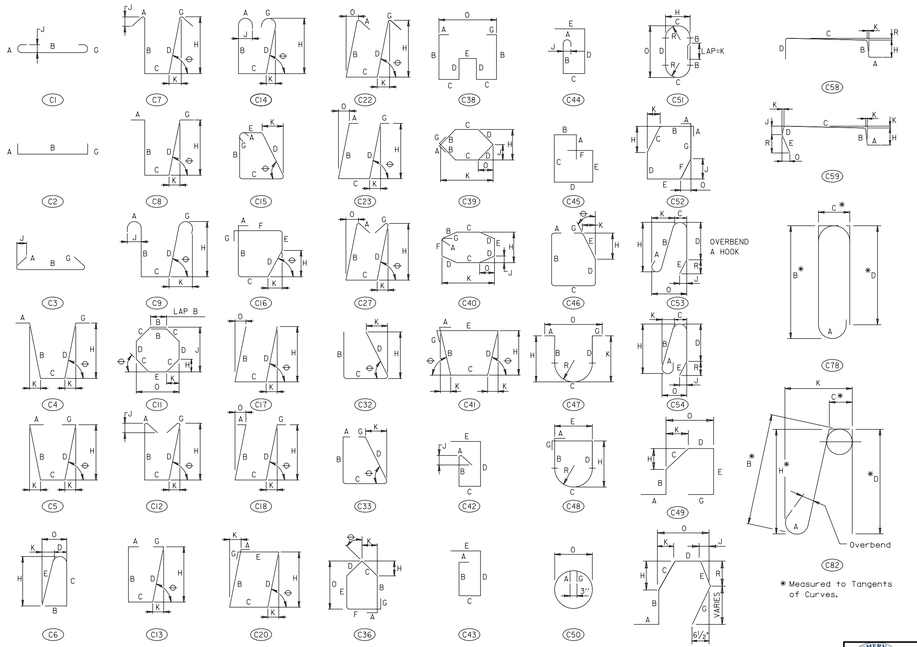
SPIRAL



ENLARGED VIEW SHOWING BAR BENDING DETAILS

Notes:
1. All dimensions are out to out of bar or to tangent points for 135° and 180° hooks.
2. 'J' dimensions on 180° hooks to be shown only where necessary to restrict hook size. Otherwise standard hooks are to be used.
3. Where 'J' is not shown, 'J' will be kept equal to or less than 'H' on truss bars. Where 'J' can exceed 'H' it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to fit within concrete.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.

GENERAL NOTES



TIES AND STIRRUPS

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

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DAVID A. LABELLA MD NO-22185 EXP-12/06/2024

SEAL — STATE OF MARYLAND — DAVID ANTHONY LABELLA — REG. NO. 22185 — PROFESSIONAL ENGINEER

DATE: 02-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : M.E.P. Drawn by : B.R.W. Checked by : M.A.D.

PLAN SHEET RW1-9
REINFORCING DETAILS
STRUCTURE NO. 150497R02
MD 355 - CLARKSBURG
SHARED USE PATH

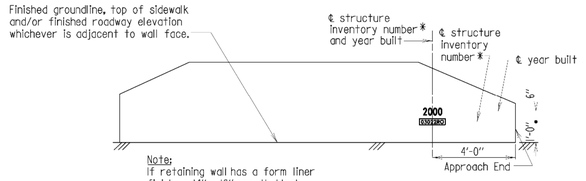
02/2023

Project No. : C.I.P. PR. # 501744 SHEET 96 of 97

STRUCTURE INVENTORY NO. 150497R02

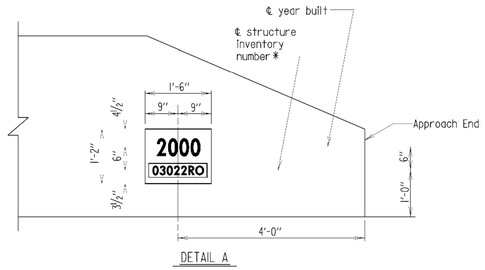
SURVEY BOOK NO.

PLOTTED: 2/6/2023
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Note:
If retaining wall has a form liner finish, a 14" x 18" smooth block shall be formed for placement of the numbers. See Detail A below for dimensions. See Plans for location of block.

RETAINING WALLS



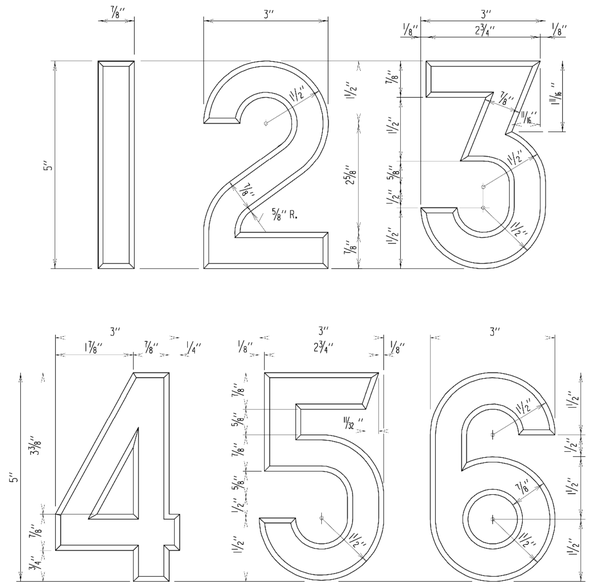
DETAIL A

Notes:
1. For existing structures, where a year built is shown on the structure and structure is to be rehabilitated, the marking should read 1942-2000 (old year first - new year).
2. For existing structures with no year built contact the Office of Structures for old year.
3. For Year Built Numerals refer to Standard No. SI-201.
4. For retaining walls that are not visible from the approach roadway, refer to Standard No. SI-102.

*Black numbers 3" high on a painted white background, (5" x 17").

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 10-17-2013	LOCATION OF YEAR BUILT MARKING AND STRUCTURE INVENTORY NUMBER ON RETAINING WALLS
VERSION 1.0	DETAIL NO. SI-104 SHEET 1 OF 1

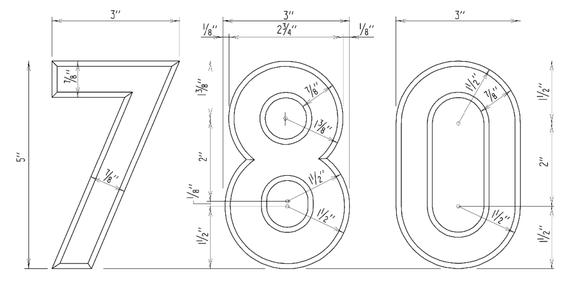
STRUCTURE INVENTORY

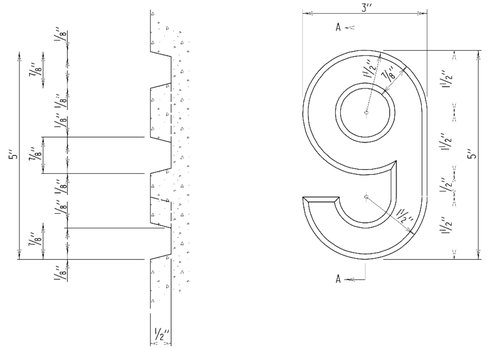


Note:
Year built numerals to be indented into concrete (unpainted) - as indicated on Standard Nos. SI-101, SI-103 and SI-104.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 9/14/99	NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
VERSION 1.0	DETAIL NO. SI-201 SHEET 1 OF 2

STRUCTURE INVENTORY





SECTION A-A

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 9/14/99	NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
VERSION 1.0	DETAIL NO. SI-201 SHEET 2 OF 2

STRUCTURE INVENTORY

WALLACE MONTGOMERY
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www.WallaceMontgomery.com A Limited Liability Partnership

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.
DAVID A. LABELLA MD NO-22185 EXP-12/06/2024

SEAL
STATE OF MARYLAND
DAVID A. LABELLA
22185
REGISTERED
PROFESSIONAL ENGINEER
DATE 02-03-2023

DATUM: NAD 83/91 HORIZONTAL
NAVD 88 VERTICAL

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878

RECOMMENDED FOR APPROVAL
FOR SIGNATURES SEE TITLE SHEET
Chief, Design Section — Date
APPROVED
FOR SIGNATURES SEE TITLE SHEET
Chief, Division of Engineering Services — Date

Designed by : P.F.E. Drawn by : P.F.E. Checked by : M.E.D.

PLAN SHEET RW1-10
INVENTORY DETAILS
STRUCTURE NO. 150497R02
MD 355 - CLARKSBURG SHARED USE PATH

02/2023

Project No. : C.I.P. PR. # 501744 SHEET 97 of 97

STRUCTURE INVENTORY NO. 150497R02

SURVEY BOOK NO.

PLOTTED: 2/6/2023
FILE: M:\PROJ\214013.0010\Structures_Cadd_\pBR-SD04_M355.dgn