MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

GROSVENOR IMPROVEMENTS

MD 355 (ROCKVILLE PIKE) FROM
POOKS HILL RD TO STRATHMORE AVE

CIP PROJECT NO. 501532
70% SUBMITTAL, OCT. 2020

OWNER'S CERTIFICATION

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

DATE

TIM CUPPLES, PE, DBIA
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

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

DATE

DAVID HATHORNE MARIHUGH III, P.E.
MD. REGISTRATION NO. 46328

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO 506 CUBIC YARDS OF EXCAVATION, 1271 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 50075 SQUARE FEET.

DATE

DAVID HATHORNE MARIHUGH III, P.E.
MD. REGISTRATION NO. 46328

The following standards are required for this project:

a. MD 605.03 - TYPE C TRAFFIC BARRIER END TREATMENT
b. MD 605.10 - TYPE K TRAFFIC BARRIER END TREATMENT OPTION I ANCHORAGE
c. MD 605.25 - TRAFFIC BARRIER W BEAM WITH WOOD OFFSET BLOCK
d. MD 605.41 - TRAFFIC BARRIER THRIE BEAM ANCHORAGE TO VERTICAL FACE
e. MD 620.02-01 - STANDARDS TYPES C & D CONCRETE CURB AND COMBINATION CONCRETE CURB AND GUTTER
f. MD 620.03 - DEPRESSED CURB FOR COMBINATION CURB AND GUTTER AND DEPRESSED CURB FOR SIDEWALK RAMPS
g. MD 640.02 - STANDARD CURB OPENING DETAILS FOR COMBINATION CURB & GUTTER
h. MD 645.01 - STANDARD MONOLITHIC CONCRETE MEDIAN TYPE 'A'
i. MD 655.11 - SIDEWALK RAMPS PERPENDICULAR
j. MD 655.12 - SIDEWALK RAMPS PARALLEL
k. MD 655.13 - SIDEWALK RAMPS COMBINATION
l. MD 655.40 - DETECTABLE WARNING SURFACES
m. MD 665.02 - BARRIER MARKERS
n. MD 665.03 - PLACEMENT OF DELINEATORS
o. MD 665.04 - PLACEMENT OF DELINEATORS AND MARKERS
p. MC 100.01 - COMBINATION CONCRETE CURB AND GUTTER TYPE A
q. MC 101.01 - COMBINATION CONCRETE CURB AND GUTTER TYPE C
r. MC 102.01 - DEPRESSED CURB ENTRANCE

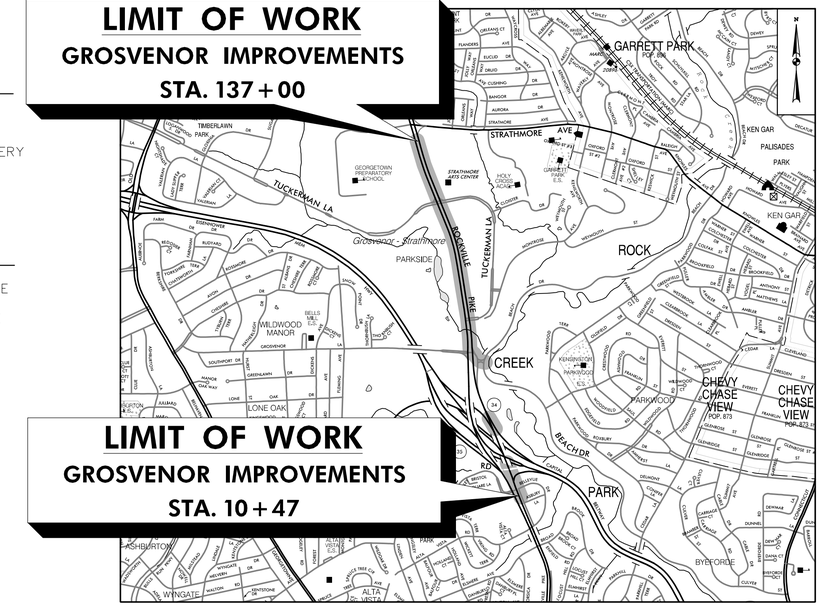
For all standards referred to on the plans the contractor must go to the MDOT SHA Book of Standards or Montgomery County design standards which will have the most current version. The Book of Standards can be accessed at:

http://apps.roads.maryland.gov/businesswithsha/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/index.asp

https://www.montgomerycountymd.gov/dot-dte/common/standards.html

LIMIT OF WORK
GROSVENOR IMPROVEMENTS
STA. 137+00

LIMIT OF WORK
GROSVENOR IMPROVEMENTS
STA. 10+47



VICINITY MAP
SCALE: 1" = 1500'

LENGTH OF PROJECT:
MD 355 = 1.50 miles

RELATED REQUIRED PERMITS

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

TYPE OF PERMIT	REQD	NOT REQD	PERMIT NO.	EXPRIATION DATE	WORK RESTRICTION DATES
MCDPS SEDIMENT CONTROL	X		285833		
MCDPS Floodplain District		X			
WATERWAY/WETLAND(S)		X			
a. Corps of Engineers		X			
b. MDE		X			
c. MDE Water Certification		X			
MDE Dam Safety		X			
DNR Roadside Tree Care Permit		X		Approval Date	
DPS Roadside Tree Protection Plan	X			Approval Date	
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED
SHA Access Permit:	X		19APM0013XX		
M-NCPPC Parks Permit:	X				

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
285833
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

Administrative Requirements:
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

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 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.

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 list the applicable exemption category below this table.

Project is subject to Chapter 22A-9 of the Mont. Co. Forest Conservation Law

Total Property Area	Total Disturbed Area
N/A square feet	XXXXX square feet
Shade Trees Required	**Shade Trees Proposed to be Planted**
XX	XX
Fee in Lieu (Trees Required - Trees Proposed) x $250	**Total Disturbed Area** $ $XXXXX

Required Number of Shade Trees

Area (sq. ft.) of the Limits of Disturbance		Number of Shade Trees Required
From	To	
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) x 15

*Please list the square footage of each proposed planting area on the first sheet of the plan set.

DESIGN TRAFFIC DATA

ROADWAY	MD 355	
CONTROLS / YEARS	2016	
AVG. ANN. DAILY TRAFFIC (A.A.D.T.)	55,120	
DESIGN HOURLY VOLUME (D.H.V.)		
DIRECTIONAL DISTRIBUTION		
% TRUCKS - A.D.T.		
% TRUCKS - D.H.V.		
DESIGN SPEED M. P. H.	45	
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	
CONTROL OF ACCESS	NONE	
INTENSITY OF DEVELOPMENT	URBAN	
TERRAIN	ROLLING	
ANTICIPATED POSTED SPEED	45	

OWNER
TIM CUPPLES, PE, DBIA
100 Edison Park Drive, 4th Floor
Gaithersburg, MD 20878
240-777-7214
tim.cupples@montgomerycountymd.gov

PROJECT MANAGER
BOB GONZALES
100 Edison Park Drive, 4th Floor
Gaithersburg, MD 20878
240-777-7296
robert.gonzales@montgomerycountymd.gov

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

TI-01

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
TITLE SHEET

SCALE: N.T.S.

SHEET 001 of 102

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:37 PM
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Baltimore, MD 21286
www.stantec.com

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
INDEX OF SHEETS

SCALE: AS SHOWN

GENERAL NOTES

1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION DATED JULY 2019, ALL ERATA AND ADDENDA THERETO, THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES, THE 2011 MARYLAND MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND THE MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION SPECIFICATIONS AND STANDARDS.
2. FOR CONSTRUCTION, HORIZONTAL CONTROL SHALL BE BASED ON NAD 83/91 DATUM AND VERTICAL CONTROL SHALL BE BASED ON NAVD 1988 DATUM.
3. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR THREE (3) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
4. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
5. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
6. CLEARING IS TO BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE PLANS.
7. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
8. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS AND WATER QUALITY SWALES SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
9. THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060.
10. THE LOCATION OF RIGHT-OF-WAY AND EASEMENT LINES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. PLEASE REFER TO THE APPROPRIATE RIGHT-OF-WAY PLATS.
11. THE CONTRACTOR SHALL INSTALL PEDESTRIAN DETECTABLE WARNING SURFACES AT ALL SIDEWALK & PEDESTRIAN CROSSINGS. LOCATIONS AS DIRECTED BY THE ENGINEER. THE WARNING SURFACES SHALL BE IN CONFORMANCE WITH ADA REQUIREMENTS AND THE PROJECT SPECIAL PROVISION.
12. THE DESIGN FOR THIS PROJECT HAS INCORPORATED FACILITIES FOR THE ELDERLY AND HANDICAPPED IN COMPLIANCE WITH STATE AND FEDERAL LEGISLATION.
13. ALL PROPOSED BUS STOPS SHALL BE ADA COMPLIANT.
14. THE CONTRACTOR SHALL ADJUST ALL UTILITY COVERS TO MEET THE PROPOSED SIDEWALK OR SHARED USE PATH.

SURVEY

1. HORIZONTAL DATUM: MARYLAND STATE PLANE COORDINATE SYSTEM NAD 83/91
   VERTICAL DATUM: NAVD 1988
   SURVEY UNIT: SURVEY FEET
2. DATE OF SURVEY: APRIL 2017, SEPTEMBER 2019
   SURVEY PERFORMED BY: MERCADO CONSULTANTS INC.
   17830 NEW HAMPSHIRE AVE. SUITE 200
   ASHTON, MD 20861
   PHONE: 301-260-0090
   FAX: 301-260-0018
3. ALL DIMENSIONS, STATIONS, AND ELEVATIONS ARE IN SURVEY FEET UNLESS OTHERWISE SHOWN.

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

   THE CONTRACTOR SHALL BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCY BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS.

   REFER TO THE EXISTING CONDITIONS PLANS FOR LIMITS OF SURVEY.
4. A BOUNDARY SURVEY WAS NOT PERFORMED RIGHT-OF-WAY LINES, PROPERTY LINES, OWNERS, AND ADDRESSES. ARE BASED ON AVAILABLE GIS DATA

UTILITES

1. DATE OF INVESTIGATION: AUGUST 2017
   UTILITY INVESIGATION PERFORMED BY: EDWARDS UTILITY MAPPING CORPORATION
   11 MARSH RUN RD
   FREDERICKSBURG, VA 22406
   PHONE: (540) 737-5141 FAX: (540) 737-5145

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

   PEPCO, ED KOVAR, 301-548-4340
   AT&T, GARY WIGFIELD, 301-865-3877
   FIBERLIGHT, ALEX POLAK, 860-995-4954
   WASHINGTON GAS LIGHT COMPANY, STEPHEN LINCOLN, 703-750-4793
   COMCAST, DWAYNE DOUTY, 301-762-7863
   WASHINGTON SUBURBAN SANITARY COMMISSION, DOUGLAS ABLEITER, 301-206-8668
   VERIZON, JON BOBEL, 301-282-2942
   VERIZON BUSINESS, ADAM RICE, 571-220-8978
5. NO MECHANIZED EQUIPMENT SHALL BE USED FOR EXCAVATION IN CLOSE PROXIMITY TO UTILITIES. CONTRACTOR SHALL HAND DIG ONLY.
6. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORTING AND PROTECTING EXISTING UTILITIES AS DIRECTED BY THE ENGINEER AND UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES DUE TO NEGLIGENCE.

GEOTECHNICAL INVESTIGATION

1. GEOTECHNICAL INVESTIGATION DATED XXXX,XX,2019, PREPARED BY:
   DMY ENGINEERING CONSULTANTS, INC.
   217 PERRY PARKWAY, SUITE #12
   GAITHERSBURG, MD 20877
   PHONE: (301) 768-4168 FAX (301) 768-4169

TRAFFIC CONTROL NOTES

1. CONTRACTOR SHALL USE TYPICAL APPLICATIONS FROM THE MDSHA BOOK OF STANDARDS CATEGORY 1 AND 2011 MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MDMUTCD).
2. DURING ALL PHASES OF CONSTRUCTION AND THE DURATION OF THE CONTRACT TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH MDSHA POLICIES AND PROCEDURES.
3. CONTRACTOR SHALL COORDINATE ACTIVITIES THROUGHOUT THE PROJECT IN THE MANNER THAT ALLOWS EMERGENCY ACCESS TO ALL AREAS OF THE JOB THAT ARE OCCUPIED BY HIS EMPLOYEES WITHOUT DELAYS TO EMERGENCY RESPONSE VEHICLES.
4. WORK WILL BE PERMITTED BETWEEN MONDAY THRU SATURDAY 7:00 AM AND 7:00 PM OR AS DIRECTED BY THE ENGINEER.

GN-01

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RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GENERAL NOTES
GROSVENOR IMPROVEMENTS

SCALE: AS SHOWN SHEET 003 of 102

Monday, October 05, 2020 AT 01:37 PM
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ABBREVIATIONS

A.A.S.H.T.O.	American Association of State Highway Transportation Officials
ABUT.	Abutment
ADT	Average Daily Traffic
AHD	Ahead
APPROX.	Approximate
℄ or BL.	Baseline
BK	Back ⁄ Book
BIT.	Bituminous
B.C.	Bituminous Concrete
B.M.	Bench Mark
B.O.F.	Bottom of Footing
BOT.	Bottom
BRG.	Bearing
C.C.	Center of Curve
CATV	Cable Television
C.B.R.	California Bearing Ratio
C.J.	Contraction Joint
℄ or CL.	Centerline
CL.	Class or Clear
CLF	Chainlink Fence
CMP	Corrugated Metal Pipe
C.O.	Cleanout
COMB.	Combination
CONC.	Concrete
CONSTR.	Construction
COR.	Corner
CORR.	Correction
C.Y.	Cubic Yard
DC	Degree of Curve
D.H.V.	Design Hourly Volume
D.I.	Drop Inlet
DIA.	Diameter
D.O.	Double Opening
D.S.	Design Speed
DWG.	Drawing
E	East
E	Electric
e	External Distance
EA.	Each
E.B.	Eastbound
E.J.	Expansion Joint
EL. or ELEV.	Elevation
E.R.C.C.P.	Elliptical Reinforced Cement Concrete Pipe
ES	End Section
EX. or EXIST.	Existing
FT.	Feet
F or FL	Flowline
F.B.D.	Flat Bottom Ditch
F.H.	Fire Hydrant
F.O.	Fiber Optic
F.O.C.	Face of Curb
F.S.	Full Super Elevation
FWD.	Forward
G.	Gas
GL	Gutterline
GP	General Purpose Roadway
G.V.	Gas Valve
H.B.	Handbox
H.D.P.	High Density Polyetheylene
HDWL.	Headwall
H.E.R.C.P.	Horizontal Elliptical Reinforced Concrete Pipe
H.P.	High Point
H.S.D.	Headlight Sight Distance
IN	Inch
I.S.T	Inlet Sediment Trap
INV.	Invert
J.B.	Junction Box
K	K Inlet
L	Length
L.F.	Linear Feet
L.L.	Liquid Limit
LOD	Limit of Disturbance
LONG.	Longitudinal
L.P.	Light Pole
LT.	Left
MAC.	Macadam
MC	Moisture Content
MAX.	Maximum
MDD	Maximum Dry Content
MOD.	Modified
MIN.	Minimum
MN.	Managed Roadway
M.S.E.	Mechanically Stablilized Earth
N	North
NB	Northbound
NE	Northeast
NO.	Number
NP	Non-Plastic
N.T.S.	Not To Scale
O.C.	On Center
OH	Overhead
OMC	Optimum Moisture
PAV'T.	Pavement
PC	Point of Curvature
PCC	Point of Compound Curvature
P⁄C	Point of Crown
P⁄GE	Profile Grade Elevation
P.G.L.	Profile Grade Line
P⁄GL	Profile Ground Line
ℙ	Plate
P⁄R	Point of Rotation
P.I.	Plasticity Index
P.I	Point of Intersection
POC	Point On Curve
POT	Point On Tangent
PR.	Proposed
PR. ROW	Proposed Right of Way
PROP.	Proposed
PRC	Point of Reverse Curve
PT.	Point
PT	Point of Tangency
PVC	Point of Vertical Curve
P.V.C.	Polyvinyl Chloride
PVI	Point of Vertical Intersection
PVRC	Point of Vertical Reverse Curve
PVT	Point of Vertical Tangency
R	Radius
REINF.	Reinforcement
REQ'D	Required
R.F.	Rock Fragments
RT.	Right
RW or R⁄W	Right of Way
R.C.P.	Reinforced Cement Pipe
R.C.C.P.	Reinforced Cement Concrete Pipe
R.Q.D.	Rock Quality Desgnation
R.M.	Rootmat
S	South
SAN.	Sanitary Sewer
SB or S⁄B	Southbound
S.D.	Storm Drain
S.D.D.	Surface Drain Ditch
SE	Super Elevation
SF	Silt Fence
S.F.	Square Feet
SHLDR.	Shoulder
SHA	State Highway Administration
SHT.	Sheet
S.P.P.	Structural Plate Pipe
S.P.T.	Standard Penetration Testing
S.S.	Stainless Steel
SSD	Stopping Sight Distance
SSF	Super Silt Fence
STD.	Standard
STA.	Station
STIFF.	Stiffener
SO.	Single Opening
S.Y.	Square Yards
SWM	Stormwater Management
T	Tangent
T	Telephone
TBR	To Be Removed
T.C.	Top of Cover
TEMP.	Temporary
T.G.	Top of Grate
T or TL	Traverse Line
T.M.	Top of Manhole
T.O.F.	Top of Footing
TRAV.	Traverse
TS	Temporary Swale
T.S.	Top of Slab
T.S.	Topsoil
TYP.	Typical
U.D.	Under Drain
U.G.	Underground
U.O.N.	Unless Otherwise Noted
U.P.	Utility Pole
USC	Unified Soil Classification
USDA	United States Department of Agriculture
VCL	Vertical Clearance
V.C.L.	Vertical Curve Length
W	Water
W	West
W.B.	Westbound
WB	Wetland Buffer
W.M.	Water Meter
W.S.	Wrapped Steel

SYMBOLS

EXISTING RIGHT OF WAY LINE

PROPOSED RIGHT OF WAY LINE

PROPOSED TRAFFIC BARRIER

EXISTING TRAFFIC BARRIER

EXISTING WOOD FENCE LINE

EXISTING CHAIN LINK FENCE LINE

BASE OR SURVEY LINE

EXISTING FIRE HYDRANT

PROPOSED STORM DRAIN

EXISTING STORM DRAIN

EXISTING INLET

EXISTING UTILITY POLE

EXISTING TREE

EXISTING TREE LINE

EXISTING TREE TO BE REMOVED

WETLAND BOUNDARY

STREAM BUFFER

WATERS OF THE US

100 YEAR FLOOD PLAIN

EXISTING UNDERGROUND ELECTRIC LINE

EXISTING UNDERGROUND TELEPHONE LINE

EXISTING UNDERGROUND FIBER OPTIC LINE

EXISTING GAS LINE

EXISTING WATER LINE

EXISTING UNDERGROUND TV LINE

EXISTING AERIAL ELECTRIC LINE

EXISTING PROPOSED WOOD FENCE

CUT SLOPE

FILL SLOPE

LIMIT OF DISTURBANCE

SILT FENCE

SUPER SILT FENCE

DIVERSION FENCE

STONE CHECK DAM

TEMPORARY STONE OUTLET STRUCTURE

TEMPORARY GABION OUTLET STRUCTURE

AT-GRADE INLET PROTECTION

CURB INLET PROTECTION

MEDIAN INLET PROTECTION

STANDARD INLET PROTECTION

STABILIZED CONSTRUCTION ENTRANCE

TEMPORARY ORANGE CONSTRUCTION FENCE

PROPOSED TREE

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BiPPA Bicycle and Pedestrian Priority Areas

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Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

AB-01

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

ABBREVIATIONS AND SYMBOLS
GROSVENOR IMPROVEMENTS

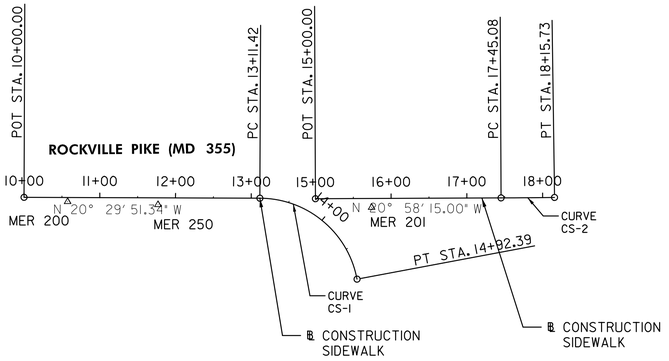
SCALE: AS SHOWN

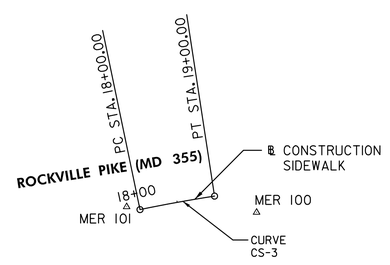
SHEET 004 of 102

EDGE OF GUTTER PAN, SIDEWALK					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POT	10+00.0000	490,913.3035	1,284,093.1328	N 20° 29' 51.3393" W
GH-1	PC	13+11.4210	491,205.0075	1,283,984.0831	N 20° 29' 51.3394" W
	PI	14+19.6971	491,906.4282	1,283,946.1683	
	PT	14+92.3877	491,362.7568	1,284,038.6388	N 58° 39' 08.0238" E
	CC		491,250.8795	1,284,106.7891	

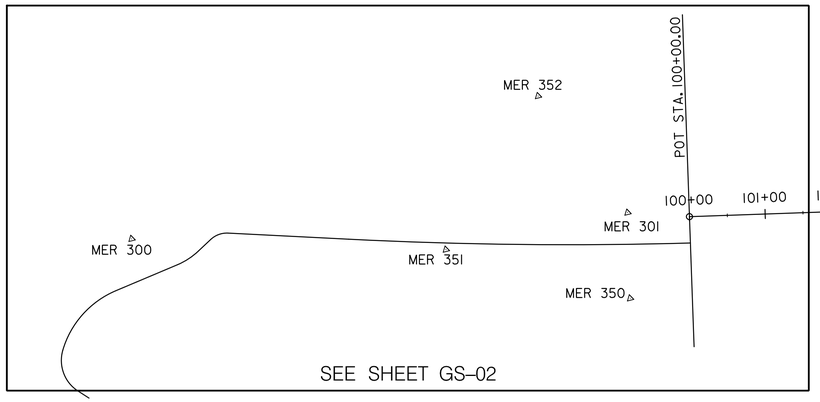
EDGE OF GUTTER PAN, SIDEWALK					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POT	15+00.0000	491,273.7664	1,283,958.7775	N 20° 58' 15.0001" W
GJ-1	PC	17+45.0775	491,502.6106	1,283,871.0661	N 20° 58' 15.0001" W
	PI	17+80.4021	491,535.5954	1,283,858.4237	
	PT	18+15.7263	491,568.4625	1,283,845.4782	N 21° 29' 53.4305" W
	CC		488,755.4265	1,276,703.5033	

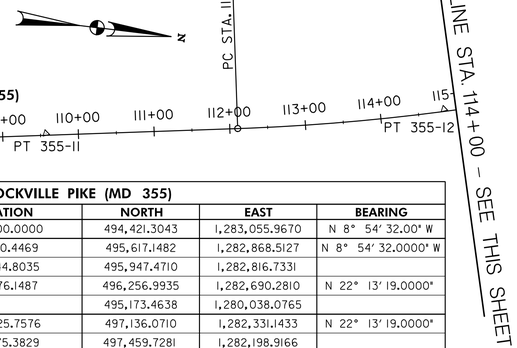
FACE OF CURB, SIDEWALK					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
GC-1	PC	18+00.0000	492,308.8598	1,283,565.6691	N 32° 29' 46.5251" W
	PI	18+50.0118	492,351.0411	1,283,538.8005	
	PT	19+00.0000	492,394.5948	1,283,514.2187	N 29° 26' 25.7367" W
	CC		493,316.1933	1,285,147.0938	





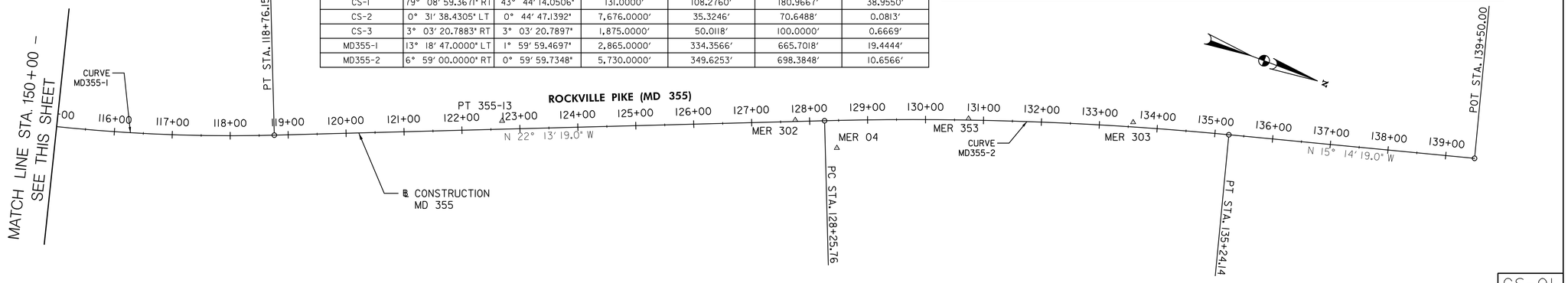
TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
MER 200	490,969.1715	1,284,078.1509	236.22'
MER 250	491,082.1445	1,284,039.6929	230.85'
MER 201	491,347.2221	1,283,943.2458	235.07'
MER 101	492,290.9953	1,283,568.4239	239.21'
MER 100	492,454.0486	1,283,514.6192	238.18'
MER 300	493,693.6913	1,283,173.5843	237.17'
MER 351	494,107.3208	1,283,137.7612	232.57'
MER 352	494,203.8165	1,282,921.9237	234.78'
MER 350	494,356.5799	1,283,172.4490	233.46'
MER 301	494,339.5830	1,283,060.5012	231.37'
PT 355-11	495,366.514	1,282,905.323	262.46'
PT 355-12	495,884.3780	1,282,810.2870	283.06'
PT 355-13	496,615.8870	1,282,528.1750	308.65'
MER 302	497,088.3591	1,282,348.0296	324.93'
MER 304	497,172.5592	1,282,367.6189	324.45'
MER 353	497,367.1404	1,282,239.7742	323.64'
MER 303	497,634.968	1,282,145.3151	315.49'





ROCKVILLE PIKE (MD 355)					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POT	100+00.0000	494,421.3043	1,283,055.9670	N 8° 54' 32.00" W
MD355-1	PC	112+10.4469	495,617.1482	1,282,868.5127	N 8° 54' 32.0000" W
	PI	115+44.8035	495,947.4710	1,282,816.7331	
	PT	118+76.1487	496,256.9935	1,282,690.2810	N 22° 13' 19.0000"
	CC		495,173.4638	1,280,038.0765	
MD355-2	PC	128+25.7576	497,136.0710	1,282,331.1433	N 22° 13' 19.0000"
	PI	131+75.3829	497,459.7281	1,282,198.9166	
	PT	135+24.1423	497,797.0605	1,282,107.0213	N 15° 14' 19.0000"
	CC		499,303.1304	1,287,635.5521	
	POT	139+50.0000	498,207.9448	1,281,995.0891	N 15° 14' 19.00" W

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
CS-1	79° 08' 59.3671" RT	43° 44' 14.0506"	131.0000'	108.2760'	180.9667'	38.9550'
CS-2	0° 31' 38.4305" LT	0° 44' 47.1392"	7,676.0000'	35.3246'	70.6488'	0.0813'
CS-3	3° 03' 20.7883" RT	3° 03' 20.7897"	1,875.0000'	50.0118'	100.0000'	0.6669'
MD355-1	13° 18' 47.0000" LT	1° 59' 59.4697"	2,865.0000'	334.3566'	665.7018'	19.4444'
MD355-2	6° 59' 00.0000" RT	0° 59' 59.7348"	5,730.0000'	349.6253'	698.3848'	10.6566'



GS-01

100' 0 100' 200'
SCALE: 1" = 100'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: JUNEE, 2020
DRAWN BY: AMA	DATE: JUNE, 2020
CHECKED BY: DHM III	DATE: JUNE, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
GEOMETRIC LAYOUT

SCALE: 1"=100' SHEET 005 of 102

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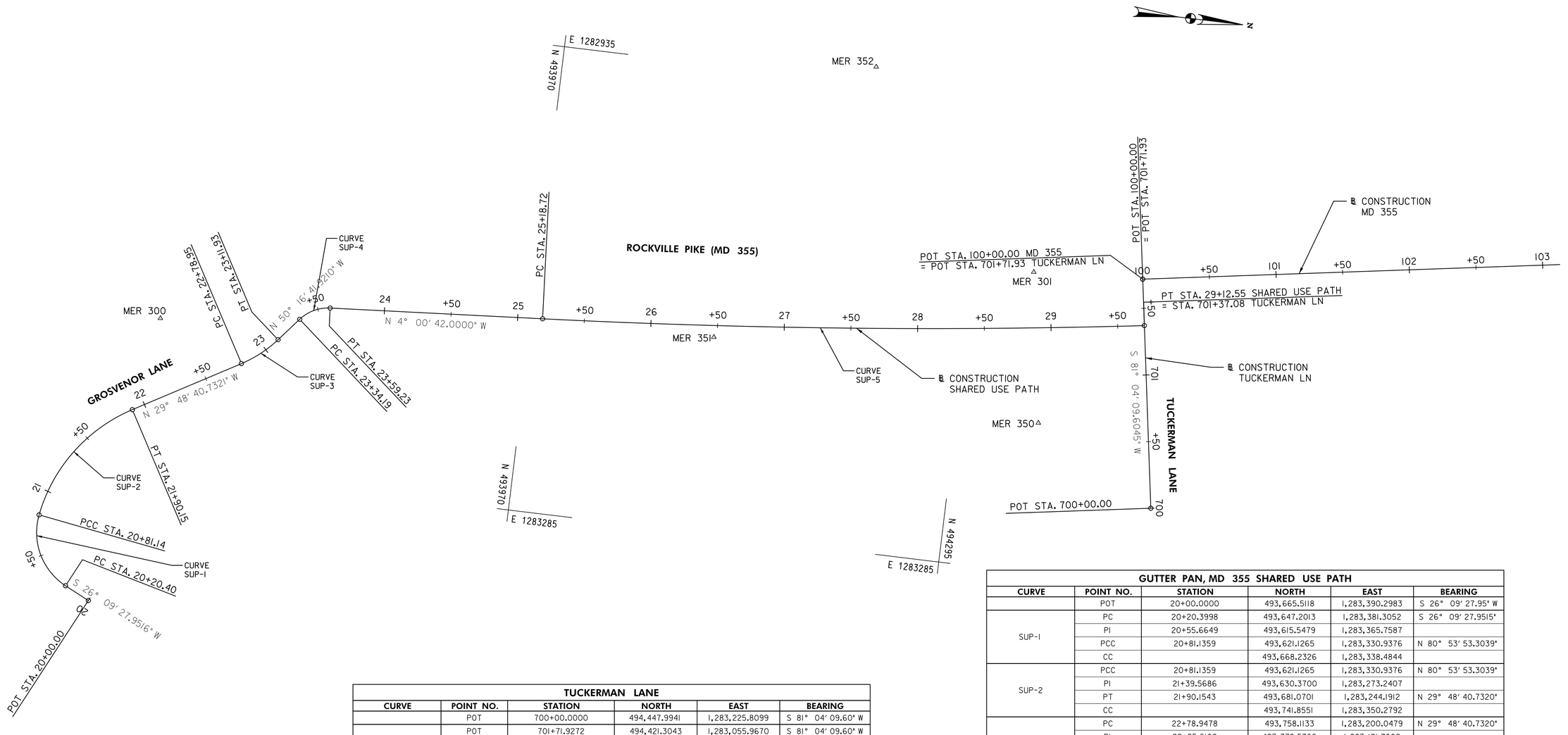

TUCKERMAN LANE					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POT	700+00.0000	494,447.9941	1,283,225.8099	S 81° 04' 09.60" W
	POT	701+71.9272	494,421.3043	1,283,055.9670	S 81° 04' 09.60" W

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
SUP-1	72° 56' 38.7446" RT	120° 05' 59.7401"	47.7068'	35.2651'	60.7362'	11.6192'
SUP-2	51° 05' 12.5719" RT	46° 51' 38.7159"	122.2682'	58.4327'	109.0184'	13.2452'
SUP-3	20° 28' 01.1891" LT	62° 03' 11.4877"	92.3333'	16.6691'	32.9830'	1.4926'
SUP-4	46° 15' 59.9211" RT	184° 49' 30.3427"	31.0000'	13.2439'	25.0327'	2.7106'
SUP-5	4° 29' 06.4278" LT	0° 59' 37.8804"	5,765.0000'	225.7577'	451.2847'	4.4186'

GUTTER PAN, MD 355 SHARED USE PATH					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POT	20+00.0000	493,665.5118	1,283,390.2983	S 26° 09' 27.95" W
SUP-1	PC	20+20.3998	493,647.2013	1,283,381.3052	S 26° 09' 27.9515"
	PI	20+55.6649	493,615.5479	1,283,365.7587	
	PCC	20+81.1359	493,621.1265	1,283,330.9376	N 80° 53' 53.3039"
	CC		493,668.2326	1,283,338.4844	
SUP-2	PCC	20+81.1359	493,621.1265	1,283,330.9376	N 80° 53' 53.3039"
	PI	21+39.5686	493,630.3700	1,283,273.2407	
	PT	21+90.1543	493,681.0701	1,283,244.1912	N 29° 48' 40.7320"
	CC		493,741.8551	1,283,350.2792	
SUP-3	PC	22+78.9478	493,758.1133	1,283,200.0479	N 29° 48' 40.7320"
	PI	22+95.6169	493,772.5766	1,283,191.7609	
	PT	23+11.9308	493,783.2291	1,283,178.9397	N 50° 16' 41.9211"
	CC		493,712.2103	1,283,119.9333	
SUP-4	PC	23+34.1925	493,797.4557	1,283,161.8169	N 50° 16' 41.9211"
	PI	23+47.4364	493,805.9194	1,283,151.6303	
	PT	23+59.2252	493,819.1308	1,283,150.7037	N 4° 00' 42.0000" W
	CC		493,821.2996	1,283,181.6278	
SUP-5	PC	25+18.7153	493,978.2302	1,283,139.5459	N 4° 00' 42.0000" W
	PI	27+44.4730	494,203.4347	1,283,123.7519	
	PT	29+70.0000	494,426.7145	1,283,090.3954	N 8° 29' 48.4279" W
	CC		493,574.9131	1,277,388.6711	

GS-02

40' 0 40' 80'
SCALE: 1" = 40'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

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Chief,
Division of Transportation Engineering — Date

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DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
GEOMETRIC LAYOUT

SCALE: 1"=40'

SHEET 006 of 102

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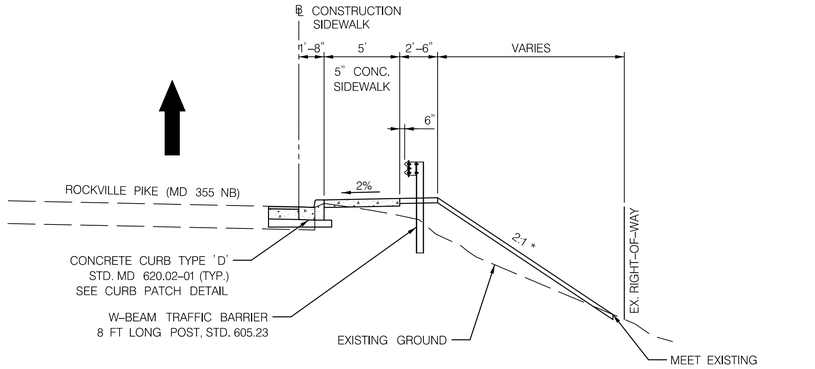
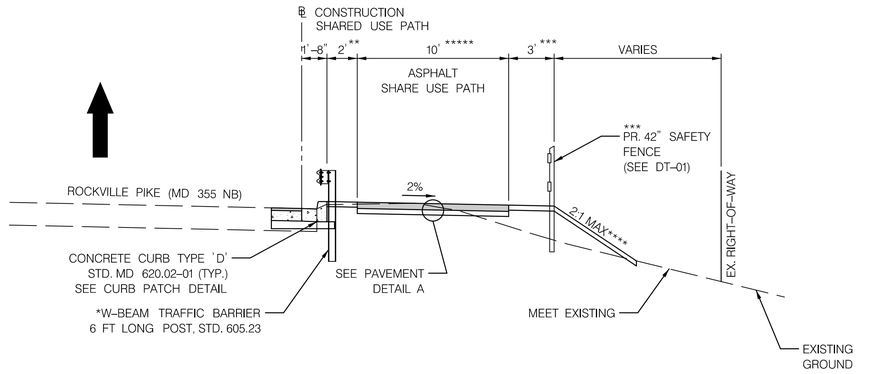


* 1.5:1 REINFORCED SLOPE STABILIZATION
STA. 11+40 TO 14+10
SEE DT-02

SIDEWALK

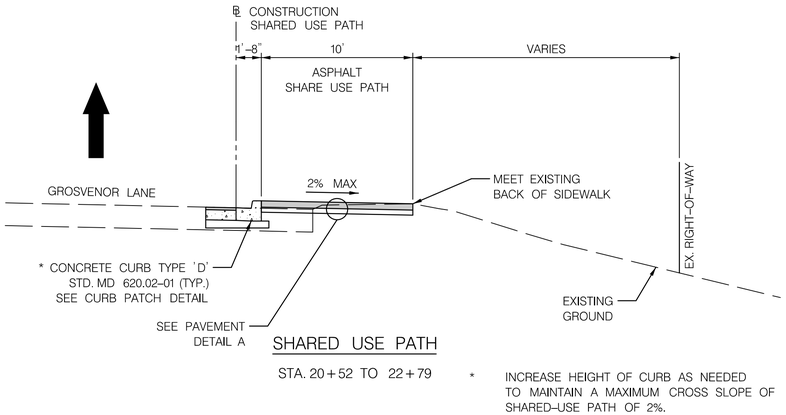
STA. 11+40 TO STA. 14+10
STA. 15+47 TO STA. 17+88



SHARED USE PATH

STA. 22+79 TO 29+22

* STA. 23+73 TO STA. 29+22
** VARIES 0 TO 5' STA. 22+79 TO STA. 24+10,
VARIES 2' TO 8.45' STA. 27+56 TO STA. 28+44
*** STA. 23+73 TO STA. STA. 28+44
**** 1.5:1 REINFORCED SLOPE STABILIZATION
STA. 26+00 TO STA. 26+25,
STA. 28+25 TO STA. 28+50,
SEE DT-02
***** VARIES 8'-8" TO 10' STA. 26+26 TO STA. 26+54



SHARED USE PATH

STA. 20+52 TO 22+79

* INCREASE HEIGHT OF CURB AS NEEDED TO MAINTAIN A MAXIMUM CROSS SLOPE OF SHARED-USE PATH OF 2%.

*SLOPES GREATER THAN 2:1 WILL REQUIRE GEOTECHNICAL REINFORCEMENT.
SLOPE STABILIZATION METHODS, SEE SHEET ST-02 FOR DETAILS.

TS-01

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

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APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
TYPICAL SECTIONS

SCALE: 1" = 5'

SHEET 007 of 102

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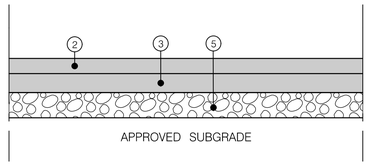
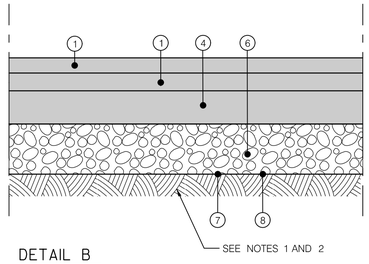
LEGEND

1. 1.5" SUPERPAVE ASPHALT MIX, 9.5 mm FOR SURFACE, HDFV PG 64S-22 LEVEL 2
2. 2" SUPERPAVE ASPHALT MIX, 9.5 mm FOR SURFACE, PG 64S-22
3. 3" SUPERPAVE ASPHALT MIX, 19 mm FOR BASE, PG 64S-22
4. 5" SUPERPAVE ASPHALT MIX, 19 mm FOR BASE, PG 64S-22, LEVEL 2
5. GRADED AGGREGATE BASE COURSE, 4 INCH
6. GRADED AGGREGATE BASE COURSE, 12 INCH (2-6 INCH LIFTS)
7. GEOTEXTILE WOVEN CLASS ST
8. LIMIT OF CLASS I EXCAVATION (ITEM NO. 201030)



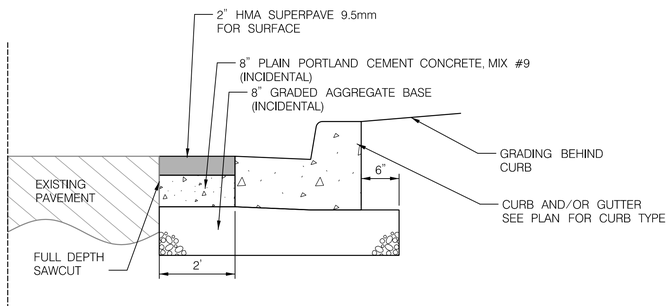
DETAIL A
SHARED-USE PATH SECTION



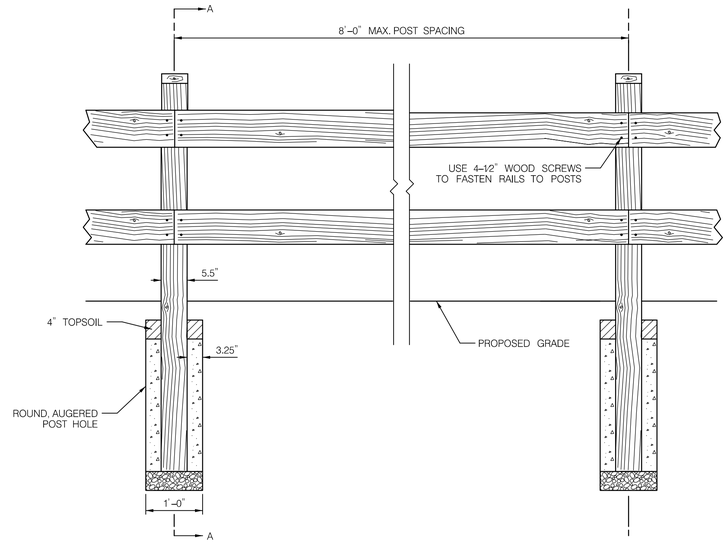
DETAIL B
FULL DEPTH ROADWAY SECTION

NOTES:

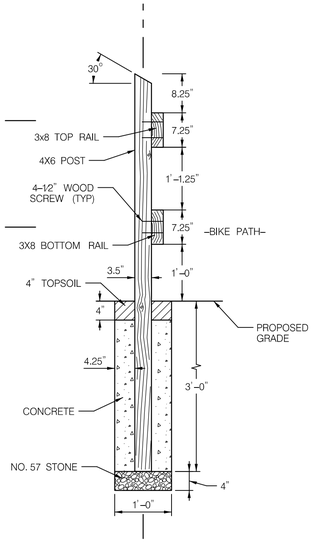
1. SUBGRADE PREPARATION SHALL BE AS PER SPECIFICATIONS; PRIOR TO PLACEMENT OF PROPOSED BASE COURSE, SUBGRADE SHALL BE PROOF-ROLLED.
2. UNDERCUT FOR REMOVAL OF SOFT AND /OR UNSUITABLE MATERIALS SHALL BE AS DIRECTED BY THE ENGINEER.



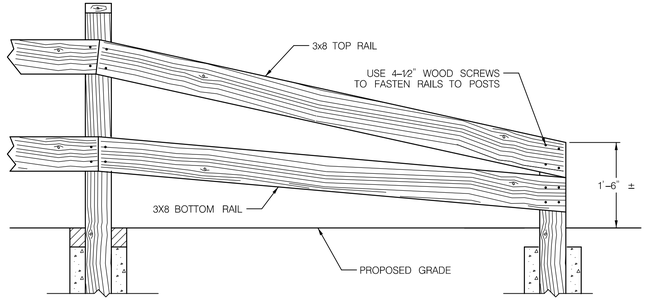
DETAIL D
CURB PATCH



STANDARD FENCE
FRONT



STANDARD FENCE
SECTION A-A



END SECTION
FRONT

DETAIL C
42" SAFETY FENCE

NOTES:
1) ALL HARDWARE TO BE EXTERIOR GRADE CORROSION RESISTANT, HOT-DIPPED GALVANIZED STEEL.
2) ALL SCREWS ARE TO BE COUNTER SUNK AND PRE-DRILLED.
3) ALL LUMBER SHALL BE PRESERVATIVE-TREATED.
4) REFER TO TRAIL PLAN FOR FENCE LOCATION AND OFFSET FROM EDGE OF TRAIL.
5) RAILS BE SHALL PARALLEL TO THE LONGITUDINAL GRADE OF THE TRAIL. POSTS SHALL BE SET 90° FROM HORIZONTAL, REGARDLESS OF THE LONGITUDINAL GRADE.

DT-01

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
DETAIL SHEET

SCALE: AS SHOWN

SHEET 008 of 102

PROFESSIONAL CERTIFICATION:
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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:38 PM
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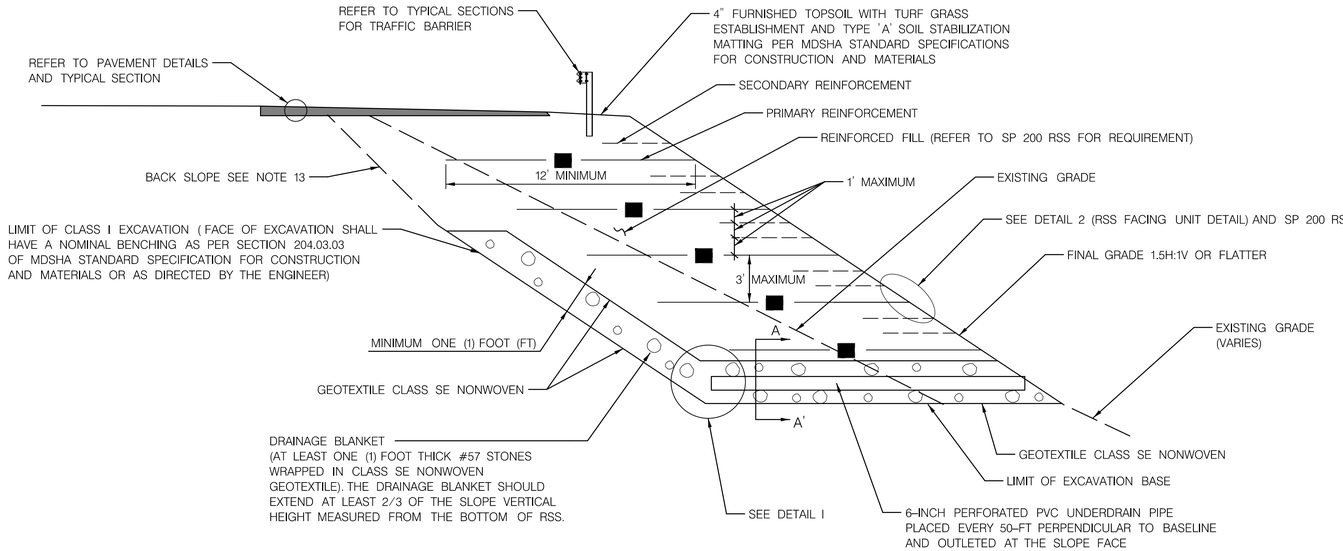
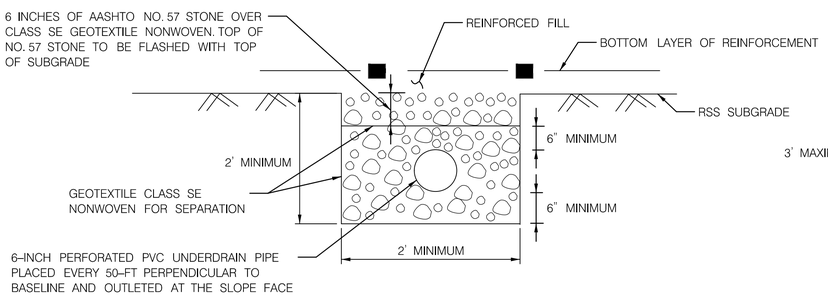
REINFORCED SOIL SLOPE (RSS) GENERAL NOTES

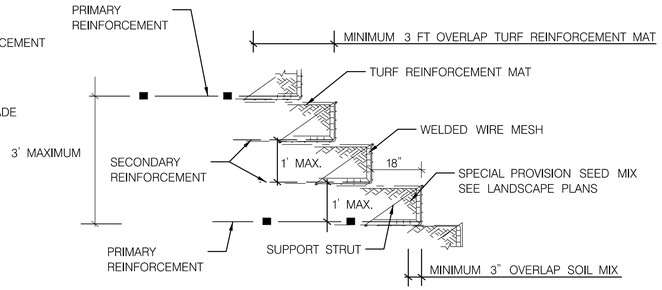
1. THE CONTRACTOR SHALL REFER TO SP 200 REINFORCED SOIL SLOPE AND SP 900 GEOSYNTHETIC REINFORCEMENT FOR REINFORCED SOIL SLOPES FOR CONSTRUCTION PROVISIONS. THE FOLLOWING NOTES SHALL ALSO BE APPLICABLE.
2. PRIOR TO THE CONSTRUCTION OF THE REINFORCED SOIL SLOPE, THE CONTRACTOR SHALL CLEAR UTILITIES, GRUB THE REINFORCED BACKFILL ZONE, AND REMOVE TOP SOILS, BRUSH, SOD OR OTHER ORGANIC AND DELETERIOUS MATERIAL. ANY UNSUITABLE SOILS SHALL BE EXCAVATED, REPLACED WITH SELECT BORROW AND COMPACTED, OR AS DIRECTED BY THE ENGINEER.
3. REINFORCED FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING EIGHT INCHES IN COMPACTED THICKNESS. FILL MATERIAL SHALL BE PLACED FROM THE FRONT OF THE SLOPE TOWARDS THE ENDS OF THE REINFORCEMENT TO ENSURE FURTHER TENSIONING.
4. REINFORCED FILL SHALL BE COMPACTED AS PER SECTION 204.03.04 OF MDSHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
5. REINFORCEMENT SHALL BE INSTALLED ON SURFACES FREE OF PROTRUSIONS INCLUDING ROCKS, STICKS, ROOTS, SHARP OBJECTS OR DEBRIS OF ANY KIND. THE SURFACE SHALL PROVIDE FOR A FIRM, UNYIELDING FOUNDATION.
6. REINFORCEMENT SHALL BE INSTALLED FROM THE TOE ELEVATION OF THE RSS AS PER THE CONSTRUCTION PLAN UP TO THE TOP OF THE PAVEMENT SUBGRADES.
7. PLACE THE REINFORCED FILL OF 6 INCHES IN COMPACTED THICKNESS BEFORE THE INSTALLATION OF THE FIRST REINFORCEMENT.
8. THE MAXIMUM VERTICAL SPACING OF THE PRIMARY REINFORCEMENT SHALL BE 3 FEET. THE MAXIMUM VERTICAL SPACING OF THE SECONDARY REINFORCEMENT SHALL BE 1 FOOT.
9. THE REINFORCEMENT (BOTH PRIMARY AND SECONDARY) SHALL BE EXTENDED UNTIL THE 1.5H:1V SLOPE TIES INTO 2H:1V SLOPE. THE TRANSITION BETWEEN THE SLOPES SHALL BE SMOOTH.
10. THE NUMBER OF REINFORCEMENT SHOWN ON THE TYPICAL DETAILS IS FOR ILLUSTRATION PURPOSE ONLY. THE ACTUAL NUMBER OF THE REINFORCEMENT SHALL BE DETERMINED BASED ON THE SLOPE HEIGHT AND THE VERTICAL SPACING OF THE REINFORCEMENT.
11. CONTRACTOR IS RESPONSIBLE FOR UTILITY CLEARANCE.
12. CONTRACTOR SHALL NOTE EXISTING AND/OR PROPOSED OBSTRUCTION TO REINFORCEMENT SUCH AS UTILITIES AND SIGN STRUCTURE FOUNDATIONS, ETC. REINFORCEMENT SHALL BE CUT AROUND THE OBSTRUCTION.
13. THE CONTRACTOR SHALL MAINTAIN A STABLE EXCAVATION PER OSHA GUIDELINES DURING CONSTRUCTION.



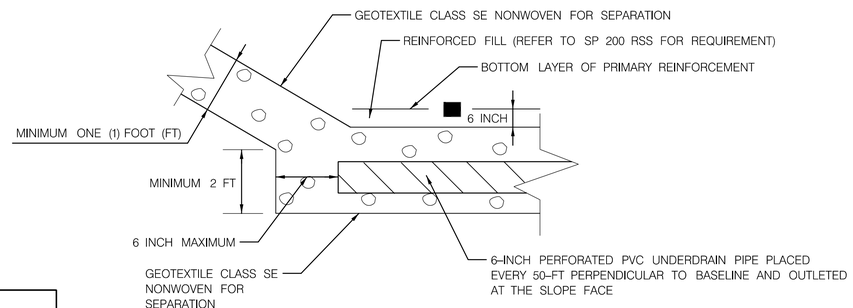
TYPICAL SECTION – REINFORCED SOIL SLOPE
(NOT TO SCALE)



SECTION A – A'
(NOT TO SCALE)



DETAIL 2 (RSS FACING UNIT DETAIL)
(NOT TO SCALE)



DETAIL I
(NOT TO SCALE)

DT-02

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
REINFORCED SOIL SLOPE DETAIL SHEET

SCALE: AS SHOWN — SHEET 009 of 102

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;
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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 02:20 PM
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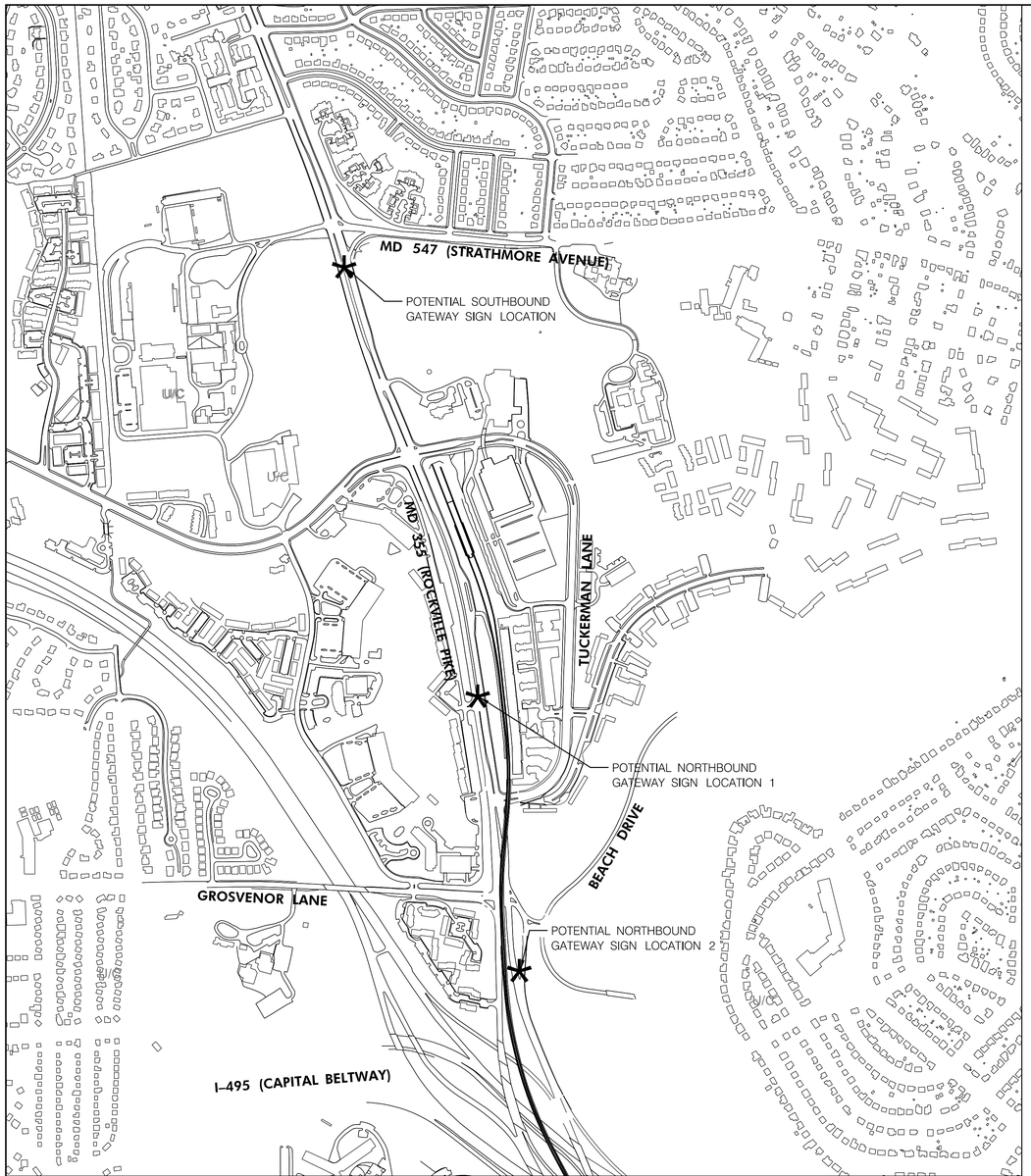

POTENTIAL GATEWAY SIGN LOCATIONS



POTENTIAL GATEWAY SIGN

DT-03

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
GATEWAY SIGN DETAILS

SCALE: AS SHOWN

SHEET 010 of 102

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.
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Monday, October 05, 2020 AT 02:21 PM
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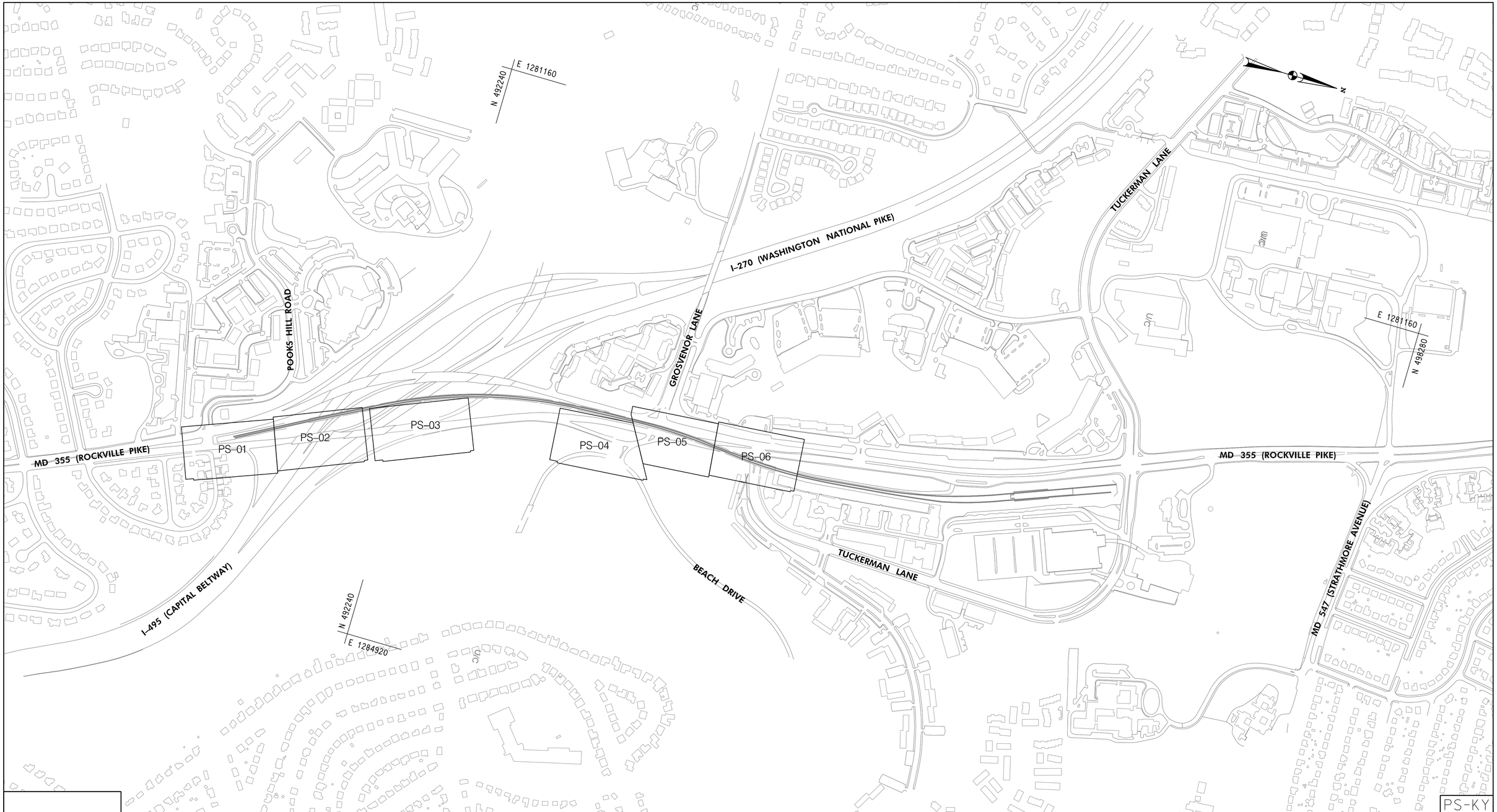

PS-KY

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY KEY PLAN

SCALE: 1"=300'

SHEET 011 of 102

Monday, October 05, 2020 AT 01:39 PM
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DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)

QTY	STATION, OFFSET	REMARKS
10 SF	STA. 10+52.70, OFF. 11.01' (RT) TO STA. 10+57.70, OFF. 10.99' (RT)	MD 655.40, YELLOW
10 SF	STA. 14+03.56, OFF. 1.67' (RT) TO STA. 14+08.83, OFF. 1.67' (RT)	MD 655.40, YELLOW
10 SF	STA. 15+26.83, OFF. 13.62' (RT) TO STA. 15+30.38, OFF. 17.15' (RT)	MD 655.40, YELLOW

REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)

QTY	STATION, OFFSET	REMARKS
326 LF	STA. 11+43.62, OFF. 3.84' (RT) TO STA. 14+73.80, OFF. 4.02' (RT)	NONE

STRUCTURE SCHEDULE - THIS SHEET ONLY

STRUCTURE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STANDARD/CAT. CODE	NOTES
JB-3	21+42.32	37.56' LT	JUNCTION BOX	234.18	229.99	MOD MD 386.11/38600	MODIFY EXISTING INLET TO JUNCTION BOX
I-4	15+54.00	2.00' RT	20' COG INLET	235.50	230.18	MD 374.31/374025	
I-5	13+13.30	2.00' RT	15' COG INLET	233.25	228.63	MD 374.31/374035	I-5 (MD 374.31) WILL REPLACE THE EX. COMBINATION INLET

NOTE: EX-I-6 AND EX-I-2 TO REMAIN IN PLACE

PIPE SCHEDULE - THIS SHEET ONLY

STRUCTURE TO STRUCTURE		SIZE	TYPE/CAT. CODE	LENGTH	INV. IN	INV. OUT
I-4	JB-3	15"	RCP/302415	10'	230.18	230.09

TRAFFIC BAFFIER W-BEAM ONE-SIDED PARELLEL END TREATMENT (TYPE C) (ITEM NO. 606016)

QTY	STATION, OFFSET	REMARKS
1 EA	STA. 11+40.14, OFF. 7.17' (RT) TO STA. 11+90.14, OFF. 7.17' (RT)	STD. MD 605.03
1 EA	STA. 15+48.27, OFF. 7.17' (RT) TO STA. 15+98.27, OFF. 7.17' (RT)	STD. MD 605.03

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)

QTY	STATION, OFFSET	REMARKS
92 SF	STA. 10+52.70, OFF. 11.01' (RT) TO STA. 10+63.70, OFF. 10.96' (RT)	STD. MD 655.12
42 SF	STA. 10+63.70, OFF. 10.96' (RT) TO STA. 10+68.70, OFF. 10.94' (RT)	NONE
1299 SF	STA. 11+40.14, OFF. 1.67' (RT) TO STA. 13+97.24, OFF. 1.67' (RT)	NONE
56 SF	STA. 13+97.24, OFF. 1.67' (RT) TO STA. 14+08.23, OFF1.67' (RT)	STD. MD 655.12
91 SF	STA. 15+22.44, OFF. 9.53' (RT) TO STA. 15+34.60, OFF. 5.82' (RT)	STD. MD 655.11
821 SF	STA. 15+34.60, OFF. 5.82' (RT) TO STA. 17+00.00, OFF. 1.67' (RT)	NONE

MONTGOMERY COUNTY CURB AND GUTTER (ITEM NO. 600000-A)

QTY	STATION, OFFSET	REMARKS
27 LF	STA. 10+47.04, OFF. 11.70' (RT) TO STA. 10+73.70, OFF. 11.59' (RT)	STD. MC 101.01

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (ITEM NO. 634146)

QTY	STATION, OFFSET	REMARKS
8 LF	STA. 10+52.70, OFF. 11.01' (RT) TO STA. 10+52.67, OFF. 2.66' (RT)	STD. MD 620.02-01
11 LF	STA. 13+97.24, OFF. 6.67' (RT) TO STA. 14+08.83, OFF. 6.67' (RT)	STD. MD 620.02-01, R=124.3'
5 LF	STA. 14+08.83, OFF. 6.67' (RT) TO STA. 14+08.83, OFF. 1.67' (RT)	STD. MD 620.02-01

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)

QTY	STATION, OFFSET	REMARKS
171 LF	STA. 11+40.14, OFF. 1.00' (RT) TO STA. 12+15.96, OFF. 1.00' (RT)	STD. MD 620.02-01
102 LF	STA. 12+15.96, OFF. 1.00' (RT) TO STA. 14+14.57, OFF. 1.00' (RT)	STD. MD 620.02-01, R=130'
31 LF	STA. 15+42.47, OFF. 32.13' (RT) TO STA. 15+21.67, OFF. 9.73' (RT)	STD. MD 620.02-01, R=164'
12 LF	STA. 15+21.67, OFF. 9.73' (RT) TO STA. 15+25.00, OFF. 1.00' (RT)	STD. MD 620.02-01, R=5'
175 LF	STA. 15+25.00, OFF. 1.00' (RT) TO STA. 17+00.00, OFF. 1.00' (RT)	STD. MD 620.02-01

TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)

QTY	STATION, OFFSET	REMARKS
121 LF	STA. 11+90.14, OFF. 7.17' (RT) TO STA. 13+11.42, OFF. 7.17' (RT)	STD. MD 605.22
93 LF	STA. 13+11.42, OFF. 7.17' (RT) TO STA. 14+09.54, OFF. 7.17' (RT)	STD. MD 605.22, R=123.8'
61 LF	STA. 14+09.54, OFF. 7.17' (RT) TO STA. 14+73.80, OFF. 4.02' (RT)	STD. MD 605.22, R=157.1'
102 LF	STA. 15+98.27, OFF. 7.17' (RT) TO STA. 17+00.00, 7.17' OFF. (RT)	STD. MD 605.22

TRAFFIC BARRIER W BEAM PANEL (ITEM NO. 660671)

QTY	STATION, OFFSET	REMARKS
1 EA	STA. 14+73.80, OFF. 4.02' (RT)	TO CONNECT EX. TO PR.

LIMIT OF WORK
CIP 501532
GROSVENOR
STA. 10+47.04

MD 355 SB (ROCKVILLE PIKE)

MD 355 NB (ROCKVILLE PIKE)

BELLEVUE DRIVE

TO MD 410

TO I-495

POT STA. 10+00.00

POT STA. 13+11.42

POT STA. 15+00.00

PC STA. 13+11.42

PT STA. 14+92.39

MATCH LINE STA. 17+00 – SEE SHEET PS-02

PARALLEL CURB RAMP (MD 655.12)

PARALLEL CURB RAMP (MD 655.12)

PERPENDICULAR CURB RAMP (MD 655.11)

R=130'

R=164'

R=5'

CONSTRUCTION SIDEWALK

EXISTING RIGHT-OF-WAY LINE

MEET EX. SIDEWALK

MEET EX. SIDEWALK

REMOVE CONCRETE SIDEWALK

W-BEAM TRAFFIC BARRIER

TRAFFIC BARRIER TYPE 'C' END TREATMENT (MD 605.03)

PROPOSED CONSTRUCTION EASEMENT

EXISTING RIGHT-OF-WAY LINE

TRAFFIC BARRIER TYPE 'C' END TREATMENT (MD 605.03)

REMOVAL AND DISPOAL OF EX. TRAFFIC BARRIER

CONNECT TO EX. TRAFFIC BARRIER

I-495 RAMP

TAX ID 07-00596860
SUZANNE BARONE TRUSTEE
L. 48242 F. 82
PLAT 2480, BLK. 9, LOT 1

TAX ID 07-00598505
KATHERINE I. PORILLES VALIENTE ETAL
L. 56795 F. 89
PLAT 2480
BLK. 7, LOT 1

TAX ID 04-00051305
MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION
L. 724 F. 440

N 491005
E 1283935
E 1284130
N 491305

LEGEND
- PROP. SHARED-USE PATH
- PROP. ROADWAY PAVEMENT
- PROP. CONCRETE
- PROP. CONCRETE REMOVAL
- PROP. DETECTABLE WARNING SURFACE

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

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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www.stantec.com

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 012 of 102

PS-01

Monday, October 05, 2020 AT 01:40 PM
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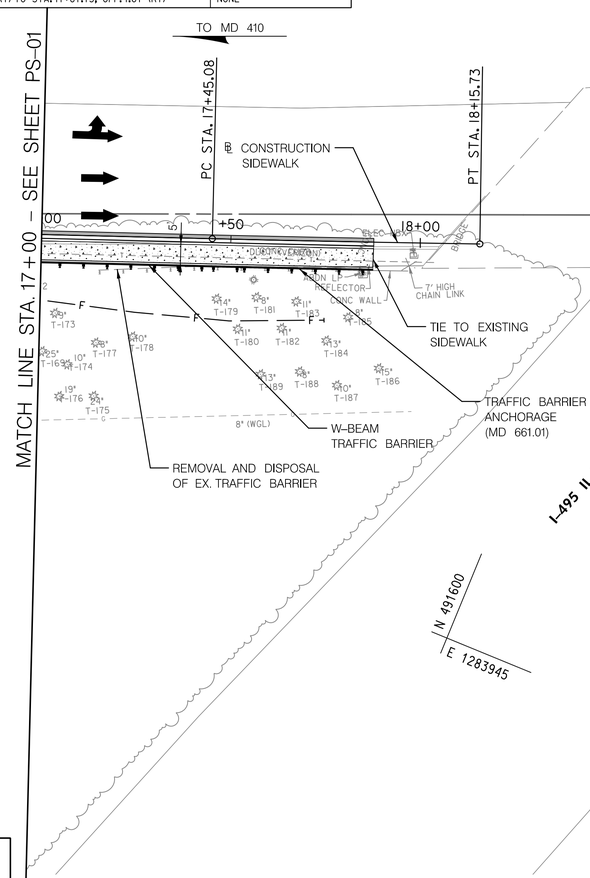
STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
45 LF	STA. 17+00.00, OFF. 1.00' (RT) TO STA. 17+45.08, OFF. 1.00' (RT)	STD. MD 620.02-01
43 LF	STA. 17+45.08, OFF. 1.00' (RT) TO STA. 17+87.73, OFF. 1.00' (RT)	STD. MD 620.02-01, R=767.7'

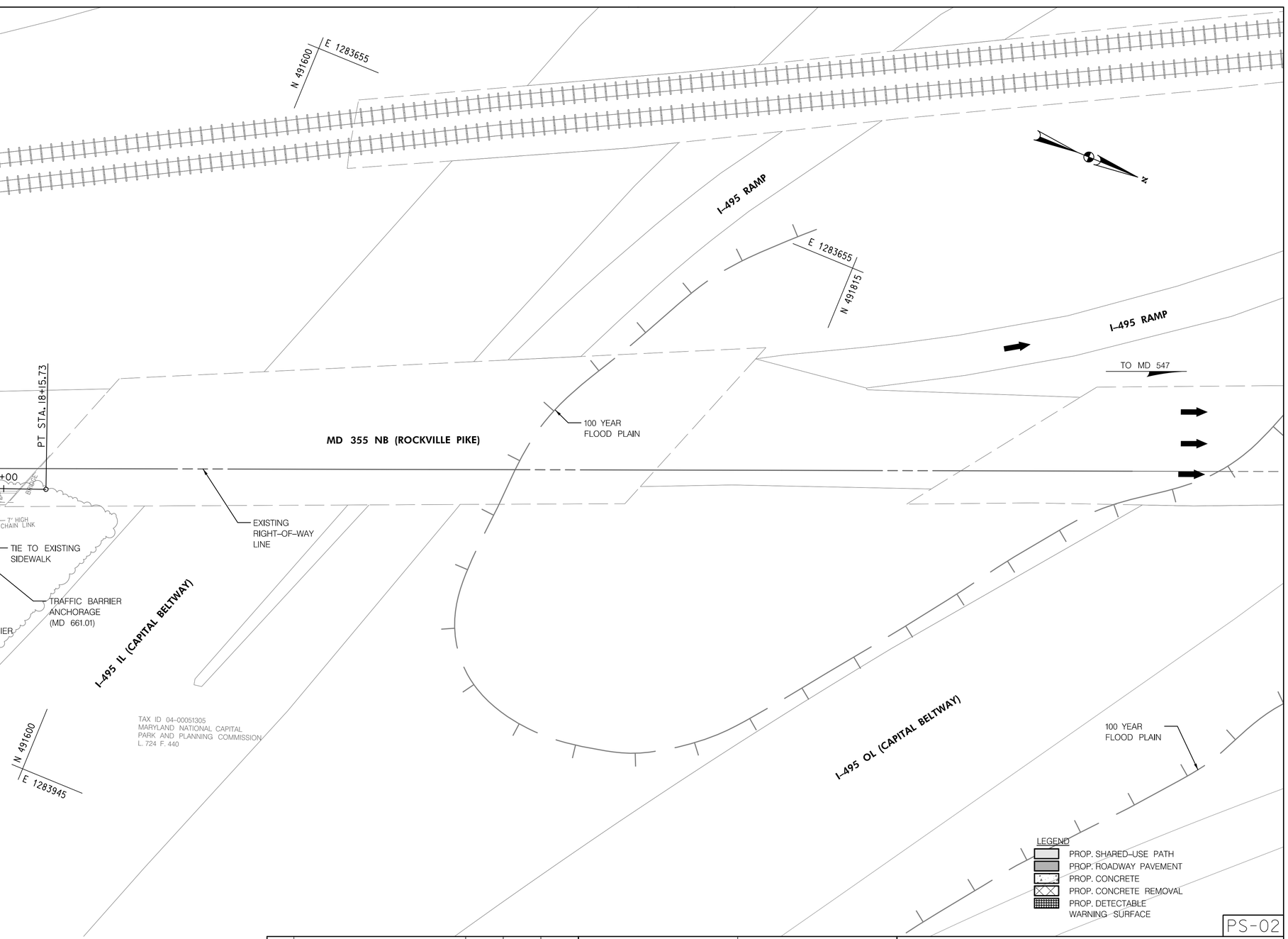
TRAFFIC BARRIER THRIE BEAM ANCHORAGE TO VERICAL FACE (ITEM NO. 661579)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 17+53.23, OFF. 7.17' (RT) TO STA. 17+87.60, OFF. 7.44' (RT)	STD. MD 661.01

REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)		
QTY	STATION, OFFSET	REMARKS
71 LF	STA. 17+15.27, OFF. 9.04' (RT) TO STA. 17+85.87, OFF. 6.40' (RT)	NONE

TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)		
QTY	STATION, OFFSET	REMARKS
45 LF	STA. 17+00.00, OFF. 7.17' (RT) TO STA. 17+45.08, OFF. 7.17' (RT)	STD. MD 620.02
8 LF	STA. 17+45.08, OFF. 7.17' (RT) TO STA. 17+53.23, OFF. 7.17' (RT)	STD. MD 620.02, R=768.32'

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
438 SF	STA. 17+00.00, OFF. 1.67' (RT) TO STA. 17+87.73, OFF. 1.67' (RT)	NONE





LEGEND
- PROP. SHARED-USE PATH
- PROP. ROADWAY PAVEMENT
- PROP. CONCRETE
- PROP. CONCRETE REMOVAL
- PROP. DETECTABLE WARNING SURFACE

PS-02

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

PROFESSIONAL CERTIFICATION:
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DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20' SHEET 013 of 102

Monday, October 05, 2020 AT 01:40 PM
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STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)

QTY	STATION, OFFSET	REMARKS
18 LF	STA. 18+48.52, OFF. 0.00' TO STA. 18+66.85, OFF. 0.00'	STD. MD 620.02-01, R=1875'
18 EA	STA. 18+48.36, OFF. 20.00' (RT) TO STA. 18+67.05, OFF. 20.00' (RT)	STD. MD 620.02-01, R=1855'

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)

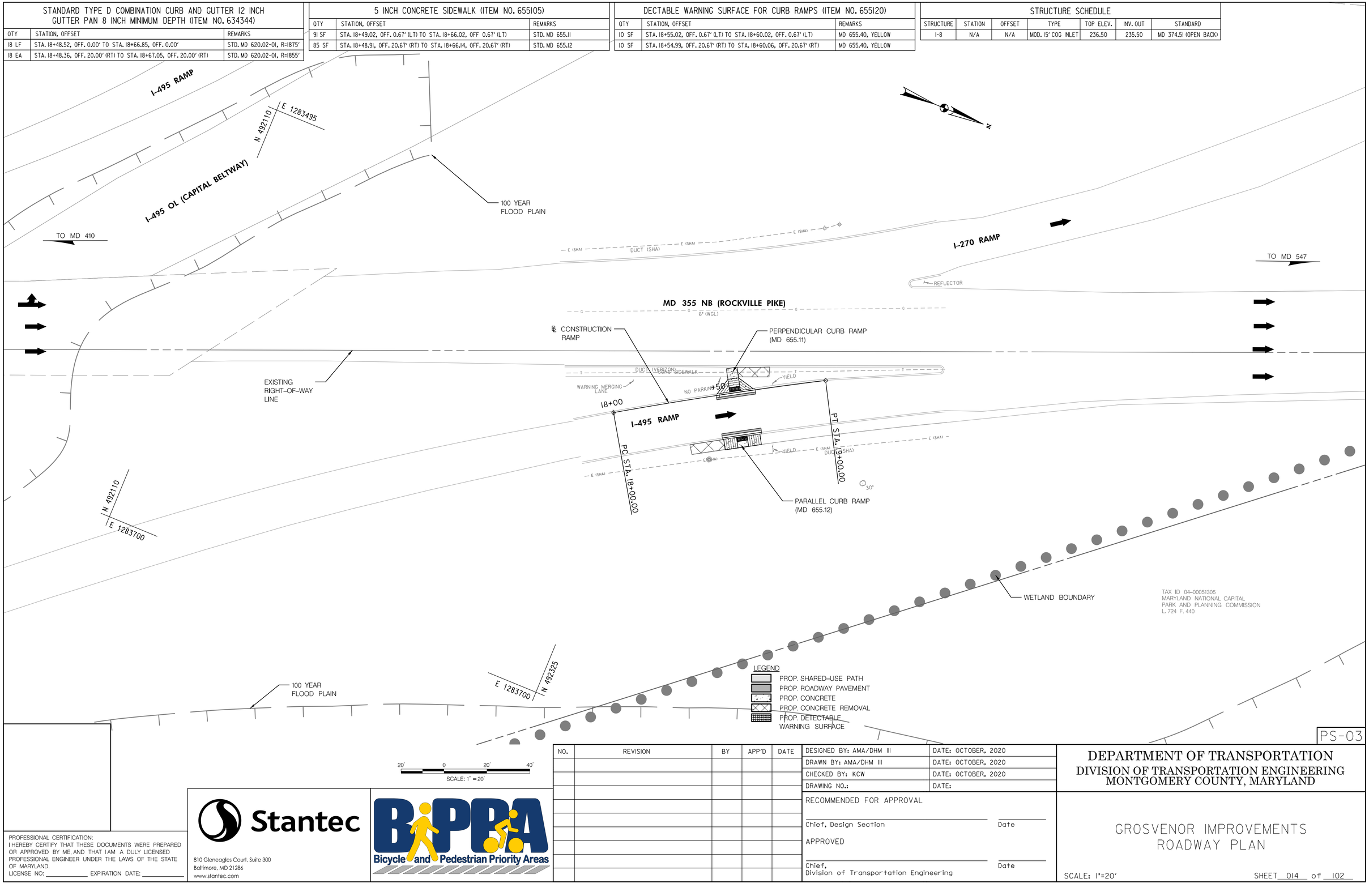
QTY	STATION, OFFSET	REMARKS
91 SF	STA. 18+49.02, OFF. 0.67' (LT) TO STA. 18+66.02, OFF 0.67' (LT)	STD. MD 655.11
85 SF	STA. 18+48.91, OFF. 20.67' (RT) TO STA. 18+66.14, OFF. 20.67' (RT)	STD. MD 655.12

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)

QTY	STATION, OFFSET	REMARKS
10 SF	STA. 18+55.02, OFF. 0.67' (LT) TO STA. 18+60.02, OFF. 0.67' (LT)	MD 655.40, YELLOW
10 SF	STA. 18+54.99, OFF. 20.67' (RT) TO STA. 18+60.06, OFF. 20.67' (RT)	MD 655.40, YELLOW

STRUCTURE SCHEDULE

STRUCTURE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STANDARD
I-8	N/A	N/A	MOD. 15' COG INLET	236.50	235.50	MD 374.51 (OPEN BACK)



PS-03

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 014 of 102

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: _____

Stantec
810 Gleneagles Court, Suite 300
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www.stantec.com

BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:40 PM
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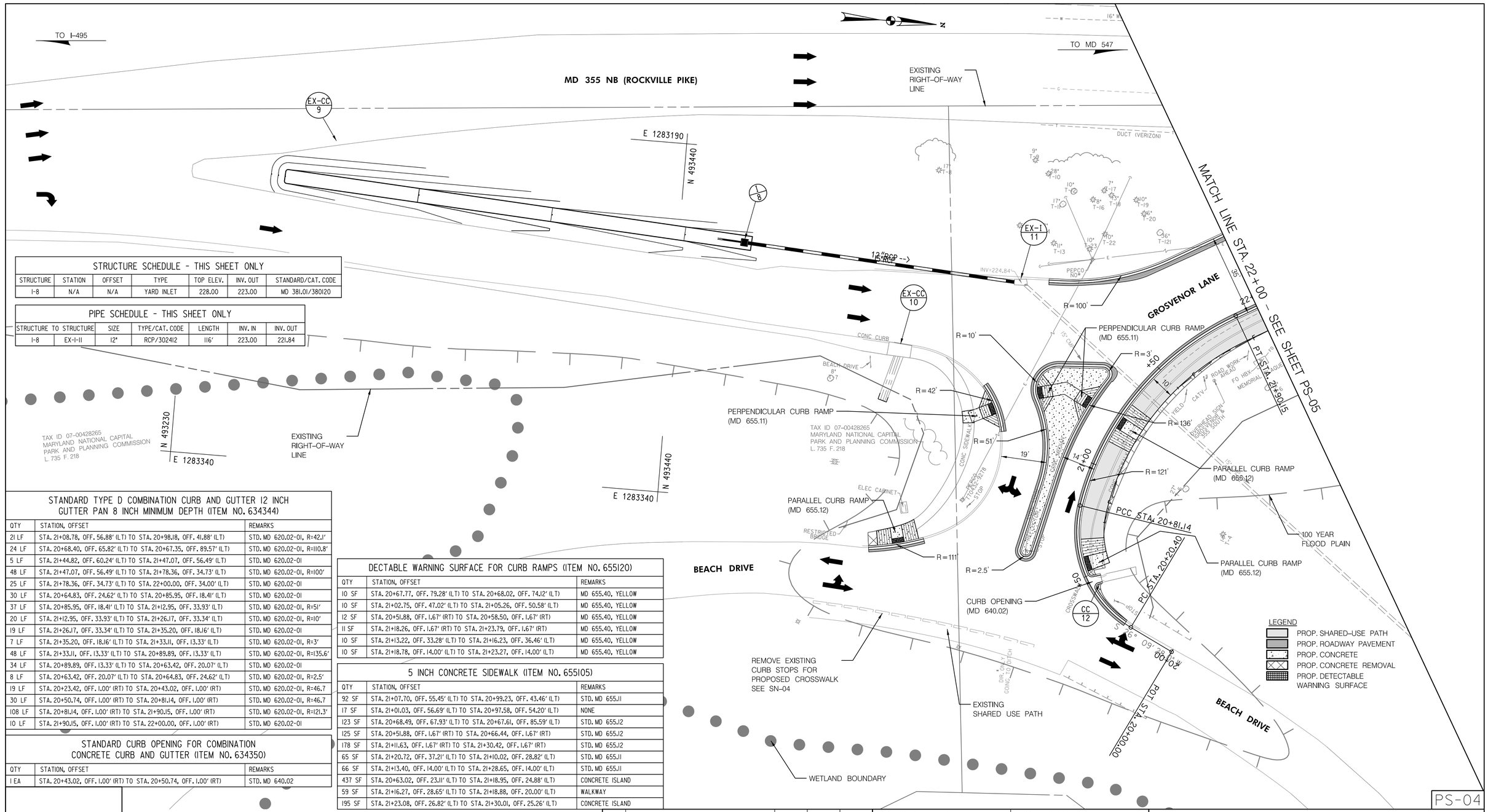

STRUCTURE SCHEDULE - THIS SHEET ONLY						
STRUCTURE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STANDARD/CAT. CODE
I-8	N/A	N/A	YARD INLET	228.00	223.00	MD 381.01/380120

PIPE SCHEDULE - THIS SHEET ONLY						
STRUCTURE	TO STRUCTURE	SIZE	TYPE/CAT. CODE	LENGTH	INV. IN	INV. OUT
I-8	EX-I-11	12"	RCP/302412	116'	223.00	221.84

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
21 LF	STA. 21+08.78, OFF. 56.88' (LT) TO STA. 20+98.18, OFF. 41.88' (LT)	STD. MD 620.02-01, R=42.1'
24 LF	STA. 20+68.40, OFF. 65.82' (LT) TO STA. 20+67.35, OFF. 89.57' (LT)	STD. MD 620.02-01, R=110.8'
5 LF	STA. 21+44.82, OFF. 60.24' (LT) TO STA. 21+47.07, OFF. 56.49' (LT)	STD. MD 620.02-01
48 LF	STA. 21+47.07, OFF. 56.49' (LT) TO STA. 21+78.36, OFF. 34.73' (LT)	STD. MD 620.02-01, R=100'
25 LF	STA. 21+78.36, OFF. 34.73' (LT) TO STA. 22+00.00, OFF. 34.00' (LT)	STD. MD 620.02-01
30 LF	STA. 20+64.83, OFF. 24.62' (LT) TO STA. 20+85.95, OFF. 18.41' (LT)	STD. MD 620.02-01
37 LF	STA. 20+85.95, OFF. 18.41' (LT) TO STA. 21+12.95, OFF. 33.93' (LT)	STD. MD 620.02-01, R=51'
20 LF	STA. 21+12.95, OFF. 33.93' (LT) TO STA. 21+26.17, OFF. 33.34' (LT)	STD. MD 620.02-01, R=10'
19 LF	STA. 21+26.17, OFF. 33.34' (LT) TO STA. 21+35.20, OFF. 18.16' (LT)	STD. MD 620.02-01
7 LF	STA. 21+35.20, OFF. 18.16' (LT) TO STA. 21+33.11, OFF. 13.33' (LT)	STD. MD 620.02-01, R=3'
48 LF	STA. 21+33.11, OFF. 13.33' (LT) TO STA. 20+89.89, OFF. 13.33' (LT)	STD. MD 620.02-01, R=135.6'
34 LF	STA. 20+89.89, OFF. 13.33' (LT) TO STA. 20+63.42, OFF. 20.07' (LT)	STD. MD 620.02-01
8 LF	STA. 20+63.42, OFF. 20.07' (LT) TO STA. 20+64.83, OFF. 24.62' (LT)	STD. MD 620.02-01, R=2.5'
19 LF	STA. 20+23.42, OFF. 1.00' (RT) TO STA. 20+43.02, OFF. 1.00' (RT)	STD. MD 620.02-01, R=46.7
30 LF	STA. 20+50.74, OFF. 1.00' (RT) TO STA. 20+81.14, OFF. 1.00' (RT)	STD. MD 620.02-01, R=46.7
108 LF	STA. 20+81.14, OFF. 1.00' (RT) TO STA. 21+90.15, OFF. 1.00' (RT)	STD. MD 620.02-01, R=121.3'
10 LF	STA. 21+90.15, OFF. 1.00' (RT) TO STA. 22+00.00, OFF. 1.00' (RT)	STD. MD 620.02-01

STANDARD CURB OPENING FOR COMBINATION CONCRETE CURB AND GUTTER (ITEM NO. 634350)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 20+43.02, OFF. 1.00' (RT) TO STA. 20+50.74, OFF. 1.00' (RT)	STD. MD 640.02

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)		
QTY	STATION, OFFSET	REMARKS
10 SF	STA. 20+67.77, OFF. 79.28' (LT) TO STA. 20+68.02, OFF. 74.12' (LT)	MD 655.40, YELLOW
10 SF	STA. 21+02.75, OFF. 47.02' (LT) TO STA. 21+05.26, OFF. 50.58' (LT)	MD 655.40, YELLOW
12 SF	STA. 20+51.88, OFF. 1.67' (RT) TO STA. 20+58.50, OFF. 1.67' (RT)	MD 655.40, YELLOW
11 SF	STA. 21+18.26, OFF. 1.67' (RT) TO STA. 21+23.79, OFF. 1.67' (RT)	MD 655.40, YELLOW
10 SF	STA. 21+13.22, OFF. 33.28' (LT) TO STA. 21+16.23, OFF. 36.46' (LT)	MD 655.40, YELLOW
10 SF	STA. 21+18.78, OFF. 14.00' (LT) TO STA. 21+23.27, OFF. 14.00' (LT)	MD 655.40, YELLOW

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
92 SF	STA. 21+07.70, OFF. 55.45' (LT) TO STA. 20+99.23, OFF. 43.46' (LT)	STD. MD 655.11
17 SF	STA. 21+01.03, OFF. 56.69' (LT) TO STA. 20+97.58, OFF. 54.20' (LT)	NONE
123 SF	STA. 20+68.49, OFF. 67.93' (LT) TO STA. 20+67.61, OFF. 85.59' (LT)	STD. MD 655.12
125 SF	STA. 20+51.88, OFF. 1.67' (RT) TO STA. 20+66.44, OFF. 1.67' (RT)	STD. MD 655.12
178 SF	STA. 21+11.63, OFF. 1.67' (RT) TO STA. 21+30.42, OFF. 1.67' (RT)	STD. MD 655.12
65 SF	STA. 21+20.72, OFF. 37.21' (LT) TO STA. 21+10.02, OFF. 28.82' (LT)	STD. MD 655.11
66 SF	STA. 21+13.40, OFF. 14.00' (LT) TO STA. 21+28.65, OFF. 14.00' (LT)	STD. MD 655.11
437 SF	STA. 20+63.02, OFF. 23.11' (LT) TO STA. 21+18.95, OFF. 24.88' (LT)	CONCRETE ISLAND
59 SF	STA. 21+16.27, OFF. 28.65' (LT) TO STA. 21+18.88, OFF. 20.00' (LT)	WALKWAY
195 SF	STA. 21+23.08, OFF. 26.82' (LT) TO STA. 21+30.01, OFF. 25.26' (LT)	CONCRETE ISLAND

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: _____ EXPIRATION DATE: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
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DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS ROADWAY PLAN

SCALE: 1"=20' SHEET 015 of 102

Monday, October 05, 2020 AT 02:25 PM
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TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)

QTY	STATION, OFFSET	REMARKS
96 LF	STA. 24+22.72, OFF. 1.00' (RT) TO STA. 25+11.18, OFF. 1.00' (RT)	STD. MD 605.22
182 LF	STA. 25+11.18, OFF. 1.00' (RT) TO STA. 27+00.00, OFF. 1.00' (RT)	STD. MD 605.22, R=5766'

TRAFFIC BAFFIER W-BEAM ONE-SIDED PARELLEL END TREATMENT (TYPE C) (ITEM NO. 60616)

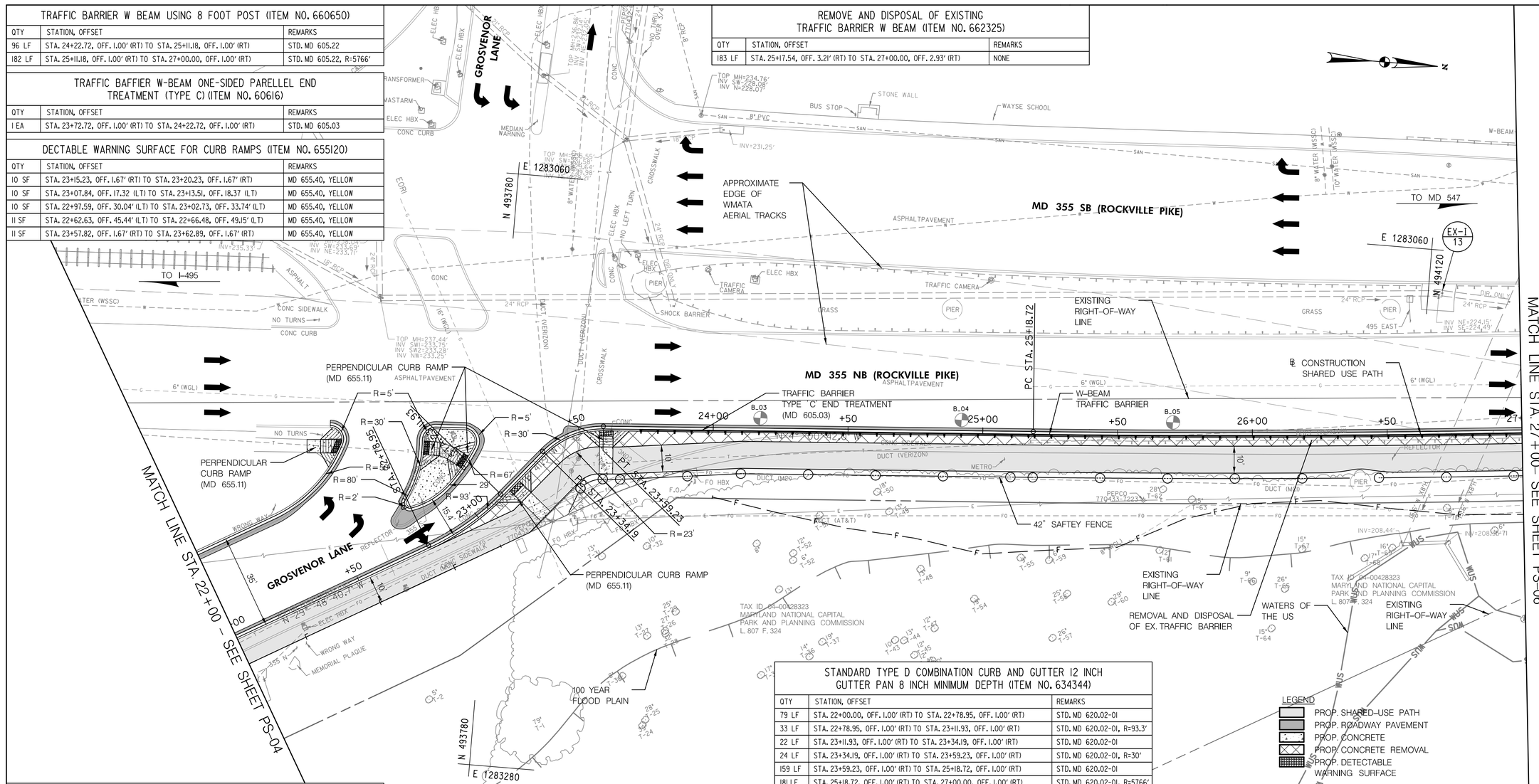
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 23+72.72, OFF. 1.00' (RT) TO STA. 24+22.72, OFF. 1.00' (RT)	STD. MD 605.03

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)

QTY	STATION, OFFSET	REMARKS
10 SF	STA. 23+15.23, OFF. 1.67' (RT) TO STA. 23+20.23, OFF. 1.67' (RT)	MD 655.40, YELLOW
10 SF	STA. 23+07.84, OFF. 17.32 (LT) TO STA. 23+13.51, OFF. 18.37 (LT)	MD 655.40, YELLOW
10 SF	STA. 22+97.59, OFF. 30.04' (LT) TO STA. 23+02.73, OFF. 33.74' (LT)	MD 655.40, YELLOW
11 SF	STA. 22+62.63, OFF. 45.44' (LT) TO STA. 22+66.48, OFF. 49.15' (LT)	MD 655.40, YELLOW
11 SF	STA. 23+57.82, OFF. 1.67' (RT) TO STA. 23+62.89, OFF. 1.67' (RT)	MD 655.40, YELLOW

REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)

QTY	STATION, OFFSET	REMARKS
183 LF	STA. 25+17.54, OFF. 3.21' (RT) TO STA. 27+00.00, OFF. 2.93' (RT)	NONE



42 INCH SAFTEY FENCE (ITEM NO. 600000-B)

QTY	STATION, OFFSET	REMARKS
10 LF	STA. 23+24.89, OFF. 22.80' (RT) TO STA. 23+34.19, OFF. 19.67' (RT)	DETAIL ON DT-01
9 LF	STA. 23+34.19, OFF. 19.67' (RT) TO STA. 23+59.23, OFF. 19.67' (RT)	DETAIL ON DT-01, R=11.3'
6 LF	STA. 23+59.23, OFF. 19.67' (RT) TO STA. 23+65.69, OFF. 19.67' (RT)	DETAIL ON DT-01
45 LF	STA. 23+65.69, OFF. 19.67' (RT) TO STA. 24+10.43, OFF. 17.00' (RT)	DETAIL ON DT-01
108 LF	STA. 24+10.43, OFF. 17.00' (RT) TO STA. 25+18.72, OFF. 17.00' (RT)	DETAIL ON DT-01
118 LF	STA. 25+18.72, OFF. 17.00' (RT) TO STA. 26+35.90, OFF. 17.00' (RT)	DETAIL ON DT-01, R=5782'
53 LF	STA. 26+46.79, OFF. 17.00' (RT) TO STA. 27+00.00, OFF. 17.00' (RT)	DETAIL ON DT-01, R=5782'

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)

QTY	STATION, OFFSET	REMARKS
79 LF	STA. 22+00.00, OFF. 1.00' (RT) TO STA. 22+78.95, OFF. 1.00' (RT)	STD. MD 620.02-01
33 LF	STA. 22+78.95, OFF. 1.00' (RT) TO STA. 23+11.93, OFF. 1.00' (RT)	STD. MD 620.02-01, R=93.3'
22 LF	STA. 23+11.93, OFF. 1.00' (RT) TO STA. 23+34.19, OFF. 1.00' (RT)	STD. MD 620.02-01
24 LF	STA. 23+34.19, OFF. 1.00' (RT) TO STA. 23+59.23, OFF. 1.00' (RT)	STD. MD 620.02-01, R=30'
159 LF	STA. 23+59.23, OFF. 1.00' (RT) TO STA. 25+18.72, OFF. 1.00' (RT)	STD. MD 620.02-01
181 LF	STA. 25+18.72, OFF. 1.00' (RT) TO STA. 27+00.00, OFF. 1.00' (RT)	STD. MD 620.02-01, R=5766'
32 LF	STA. 22+00.00, OFF. 34.00' (LT) TO STA. 22+31.72, OFF. 34.00' (LT)	STD. MD 620.02-01
38 LF	STA. 22+31.72, OFF. 34.00' (LT) TO STA. 22+66.04, OFF. 47.49' (LT)	STD. MD 620.02-01, R=50.4'
10 LF	STA. 22+66.04, OFF. 47.49' (LT) TO STA. 22+64.81, OFF. 55.65' (LT)	STD. MD 620.02-01, R=5'
4 LF	STA. 22+78.19, OFF. 18.79' (LT) TO STA. 22+81.95, OFF. 21.04' (LT)	STD. MD 620.02-01, R=80.4'
20 LF	STA. 22+81.95, OFF. 21.04' (LT) TO STA. 23+02.17, OFF. 24.35' (LT)	STD. MD 620.02-01, R=42.3'
8 LF	STA. 23+02.17, OFF. 24.35' (LT) TO STA. 23+12.95, OFF. 34.48' (LT)	STD. MD 620.02-01, R=5'
10 LF	STA. 23+12.95, OFF. 34.48' (LT) TO STA. 23+19.89, OFF. 27.00' (LT)	STD. MD 620.02-01
10 LF	STA. 23+19.89, OFF. 27.00' (LT) TO STA. 23+17.69, OFF. 18.82' (LT)	STD. MD 620.02-01, R=5'
17 LF	STA. 23+17.69, OFF. 18.82' (LT) TO STA. 22+98.81, OFF. 15.17' (LT)	STD. MD 620.02-01, R=67.1'
17 LF	STA. 22+98.81, OFF. 15.17' (LT) TO STA. 22+78.98, OFF. 15.19' (LT)	STD. MD 620.02-01, R=28.5'
5 LF	STA. 22+78.98, OFF. 15.19' (LT) TO STA. 22+78.19, OFF. 18.79' (LT)	STD. MD 620.02-01, R=2'

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)

QTY	STATION, OFFSET	REMARKS
98 SF	STA. 22+57.72, OFF. 42.00' (LT) TO STA. 22+65.31, OFF. 54.56' (LT)	STD. MD 655.11
167 SF	STA. 22+78.08, OFF. 16.72' (LT) TO STA. 23+04.94, OFF. 24.56' (LT)	CONCRETE ISLAND
65 SF	STA. 22+91.38, OFF. 25.89' (LT) TO STA. 23+11.39, OFF. 34.75' (LT)	STD. MD 655.11
22 SF	STA. 23+03.92, OFF. 25.97' (LT) TO STA. 23+05.92, OFF. 23.13' (LT)	WALKWAY
67 SF	STA. 23+00.65, OFF. 16.14' (LT) TO STA. 23+19.11, OFF. 20.37' (LT)	STD. MD 655.11
76 SF	STA. 23+10.84, OFF. 26.85' (LT) TO STA. 23+15.93, OFF. 30.29' (LT)	CONCRETE ISLAND
116 SF	STA. 23+09.24, OFF. 1.67' (RT) TO STA. 23+26.23, OFF. 1.67' (RT)	STD. MD 655.11
117 SF	STA. 23+51.48, OFF. 1.67' (RT) TO STA. 23+68.89, OFF. 1.67' (RT)	STD. MD 655.11

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)

QTY	STATION, OFFSET	REMARKS
98 SF	STA. 22+57.72, OFF. 42.00' (LT) TO STA. 22+65.31, OFF. 54.56' (LT)	STD. MD 655.11
167 SF	STA. 22+78.08, OFF. 16.72' (LT) TO STA. 23+04.94, OFF. 24.56' (LT)	CONCRETE ISLAND
65 SF	STA. 22+91.38, OFF. 25.89' (LT) TO STA. 23+11.39, OFF. 34.75' (LT)	STD. MD 655.11
22 SF	STA. 23+03.92, OFF. 25.97' (LT) TO STA. 23+05.92, OFF. 23.13' (LT)	WALKWAY
67 SF	STA. 23+00.65, OFF. 16.14' (LT) TO STA. 23+19.11, OFF. 20.37' (LT)	STD. MD 655.11
76 SF	STA. 23+10.84, OFF. 26.85' (LT) TO STA. 23+15.93, OFF. 30.29' (LT)	CONCRETE ISLAND
116 SF	STA. 23+09.24, OFF. 1.67' (RT) TO STA. 23+26.23, OFF. 1.67' (RT)	STD. MD 655.11
117 SF	STA. 23+51.48, OFF. 1.67' (RT) TO STA. 23+68.89, OFF. 1.67' (RT)	STD. MD 655.11

PS-05

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
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RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20' SHEET 016 of 102

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LICENSE NO: _____ EXPIRATION DATE: _____

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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:40 PM
U:\2026\01401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pHD-P005_Grosvenor.dgn

TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)		
QTY	STATION, OFFSET	REMARKS
222 LF	STA. 27+00.00, OFF. 1.00' (RT) TO STA. 29+21.49, OFF. 1.00' (RT)	STD. MD 605.22, R=5766'

MONTGOMERY COUNTY CURB AND GUTTER (ITEM NO. 600000-A)		
QTY	STATION, OFFSET	REMARKS
50 LF	STA. 701+06.65, OFF. 19.00' (LT) TO STA. 700+56.57, OFF. 19.00' (LT)	STD. MC 100.01
4 LF	STA. 700+56.57, OFF. 19.00' (LT) TO STA. 700+53.04, OFF. 20.46' (LT)	STD. MC 100.01, R=5'
3 LF	STA. 700+53.04, OFF. 20.46' (LT) TO STA. 700+50.97, OFF. 22.54' (LT)	STD. MC 100.01
4 LF	STA. 700+50.97, OFF. 22.54' (LT) TO STA. 700+47.43, OFF. 24.00' (LT)	STD. MC 100.01, R=5'

REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)		
QTY	STATION, OFFSET	REMARKS
142 LF	STA. 27+00.00, OFF. 2.93' (RT) TO STA. 28+41.28, OFF. 10.42' (RT)	NONE

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
100 SF	STA. 701+32.41, OFF. 34.96' (LT) TO STA. 701+20.51, OFF. 23.14' (LT)	STD. MD 655.11
328 SF	STA. 701+21.24, OFF. 30.76' (LT) TO STA. 700+53.02, OFF. 26.09' (LT)	NONE
50 SF	STA. 28+43.36, OFF. 16.67' (RT) TO STA. 28+57.80, 16.67' (RT)	NONE

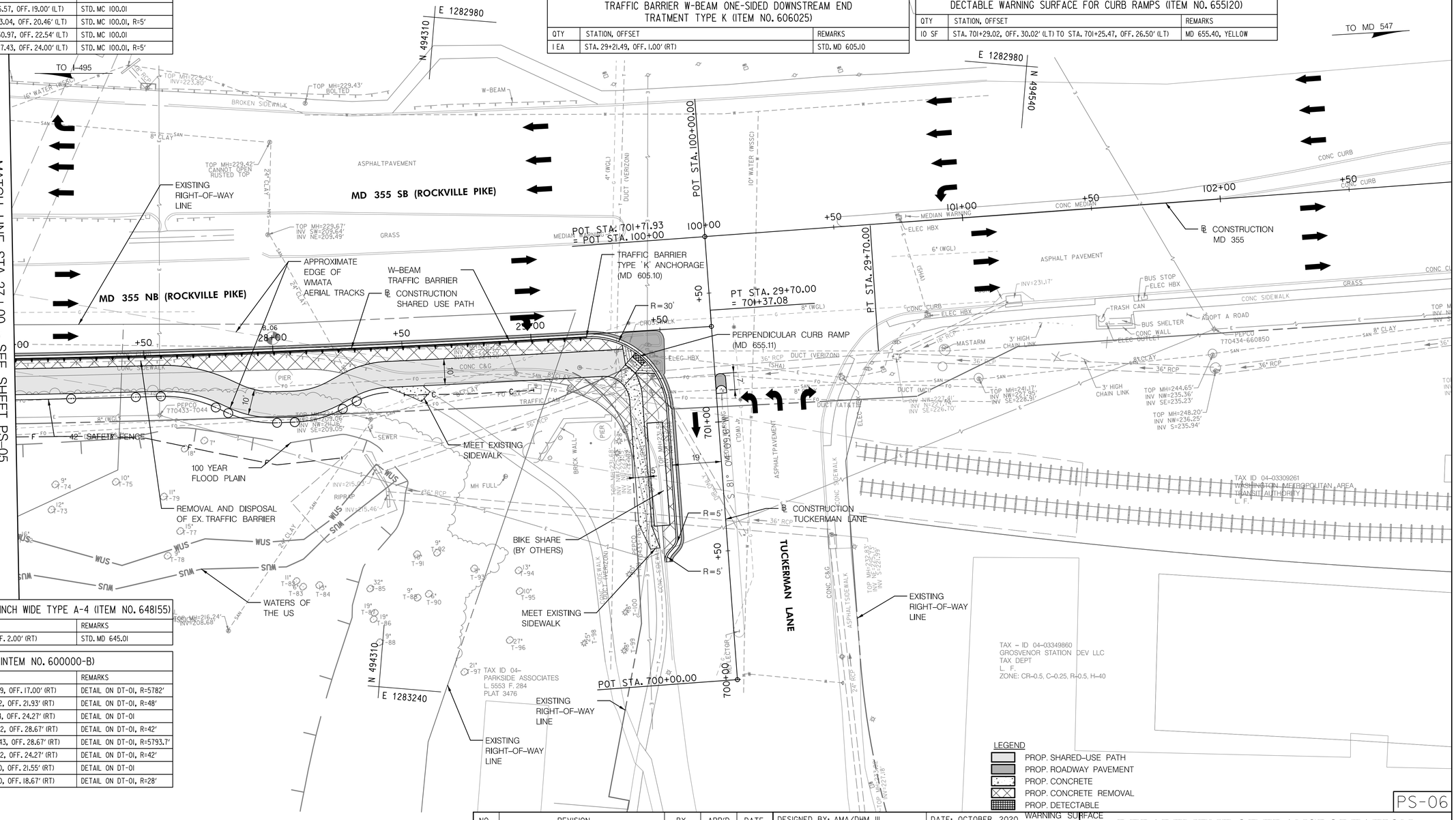
TRAFFIC BARRIER W-BEAM ONE-SIDED DOWNSTREAM END TRATMENT TYPE K (ITEM NO. 606025)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 29+21.49, OFF. 1.00' (RT)	STD. MD 605.10

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
222 LF	STA. 27+00.00, OFF. 1.00' (RT) TO STA. 29+21.49, OFF. 1.00' (RT)	STD. MD 620.02-01, R=5766'
47 LF	STA. 29+21.49, OFF. 1.00' (RT) TO STA. 29+51.33, OFF. 30.32' (RT)	STD. MD 620.02-01, R=30'

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)		
QTY	STATION, OFFSET	REMARKS
10 SF	STA. 701+29.02, OFF. 30.02' (LT) TO STA. 701+25.47, OFF. 26.50' (LT)	MD 655.40, YELLOW

MONOLITHIC CONCRETE MEDIAN 4 FEET 0 INCH WIDE TYPE A-4 (ITEM NO. 648155)		
QTY	STATION, OFFSET	REMARKS
3 LF	STA. 701+13.97, 2.00' (RT) TO STA. 701+11.04, OFF. 2.00' (RT)	STD. MD 645.01

42 INCH SAFTEY FENCE (INTEM NO. 600000-B)		
QTY	STATION, OFFSET	REMARKS
56 LF	STA. 27+00.00, OFF. 17.00' (RT) TO STA. 27+56.19, OFF. 17.00' (RT)	DETAIL ON DT-01, R=5782'
22 LF	STA. 27+56.19, OFF. 17.00' (RT) TO STA. 27+77.22, OFF. 21.93' (RT)	DETAIL ON DT-01, R=48'
5 LF	STA. 27+77.22, OFF. 21.93' (RT) TO STA. 27+81.94, OFF. 24.27' (RT)	DETAIL ON DT-01
19 LF	STA. 27+81.94, OFF. 24.27' (RT) TO STA. 28+00.62, OFF. 28.67' (RT)	DETAIL ON DT-01, R=42'
7 LF	STA. 28+00.62, OFF. 28.67' (RT) TO STA. 28+07.43, OFF. 28.67' (RT)	DETAIL ON DT-01, R=5793.7'
19 LF	STA. 28+07.43, OFF. 28.67' (RT) TO STA. 28+26.12, OFF. 24.27' (RT)	DETAIL ON DT-01, R=42'
6 LF	STA. 28+26.12, OFF. 24.27' (RT) TO STA. 28+31.60, OFF. 21.55' (RT)	DETAIL ON DT-01
13 LF	STA. 28+31.60, OFF. 21.55' (RT) TO STA. 28+43.90, OFF. 18.67' (RT)	DETAIL ON DT-01, R=28'



MATCH LINE STA. 27+00 - SEE SHEET PS-05

LEGEND

- PROP. SHARED-USE PATH
- PROP. ROADWAY PAVEMENT
- PROP. CONCRETE
- PROP. CONCRETE REMOVAL
- PROP. DETECTABLE WARNING SURFACE

20' 0 20' 40'

SCALE: 1" = 20'

PS-06

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.
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 017 of 102

Monday, October 05, 2020 AT 01:40 PM
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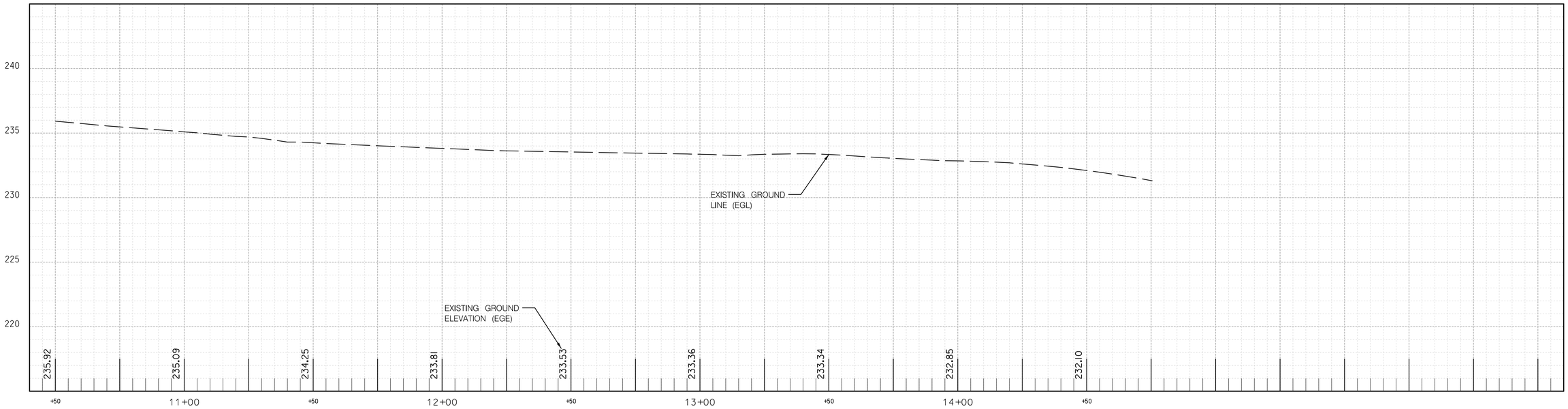

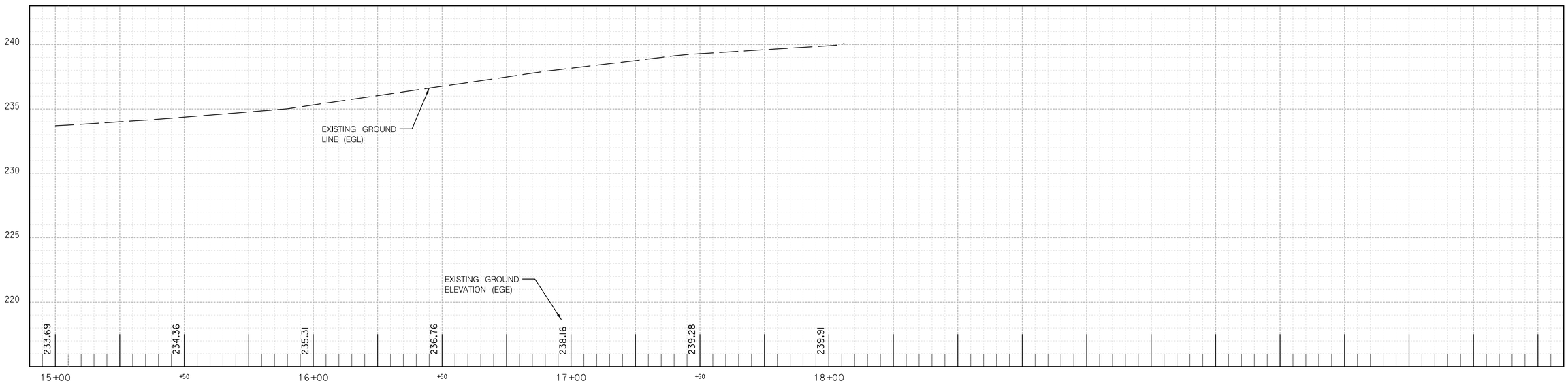

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HP-01

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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BiPPA Bicycle and Pedestrian Priority Areas

4' 0 4' 8'
HORIZONTAL SCALE: 1" = 4'
20' 0 20' 40'
HORIZONTAL SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

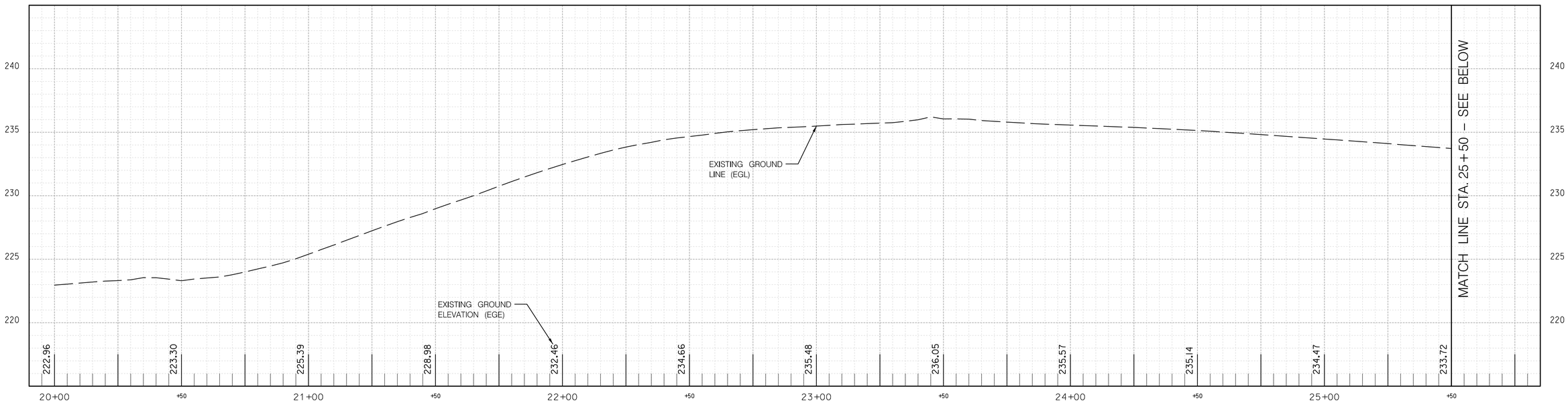
_____ _____
Chief,
Division of Transportation Engineering Date

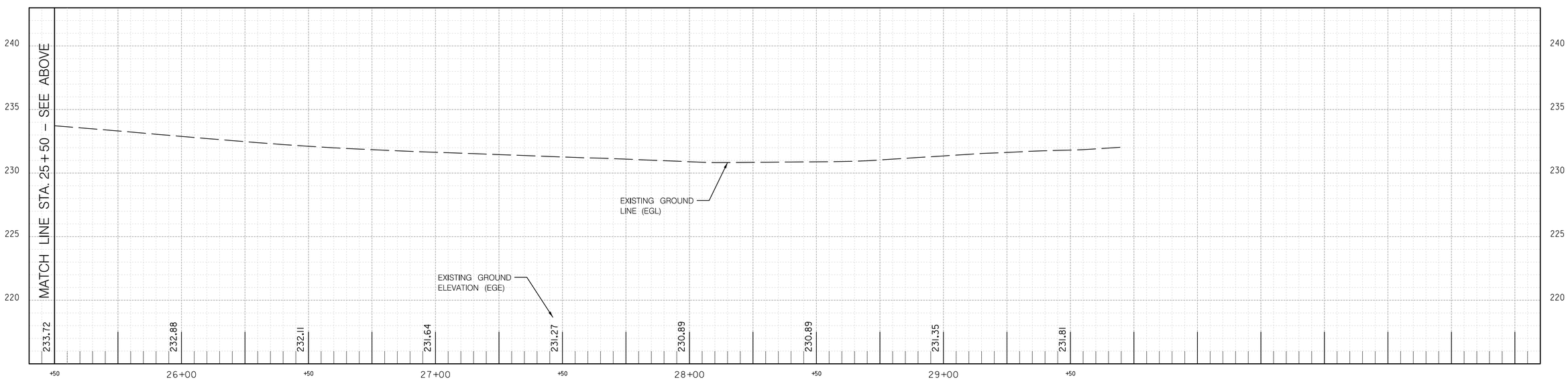
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS SIDEWALK PROFILES

SCALE: H 1"=20' : V 1"=4'

SHEET 018 of 102





HP-02

4' 0 4' 8'
HORIZONTAL SCALE: 1" = 4'

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SHARED-USE PATH PROFILE

SCALE: H 1"=20' : V 1"=4'

SHEET $HP02$ of 102

PROFESSIONAL CERTIFICATION:
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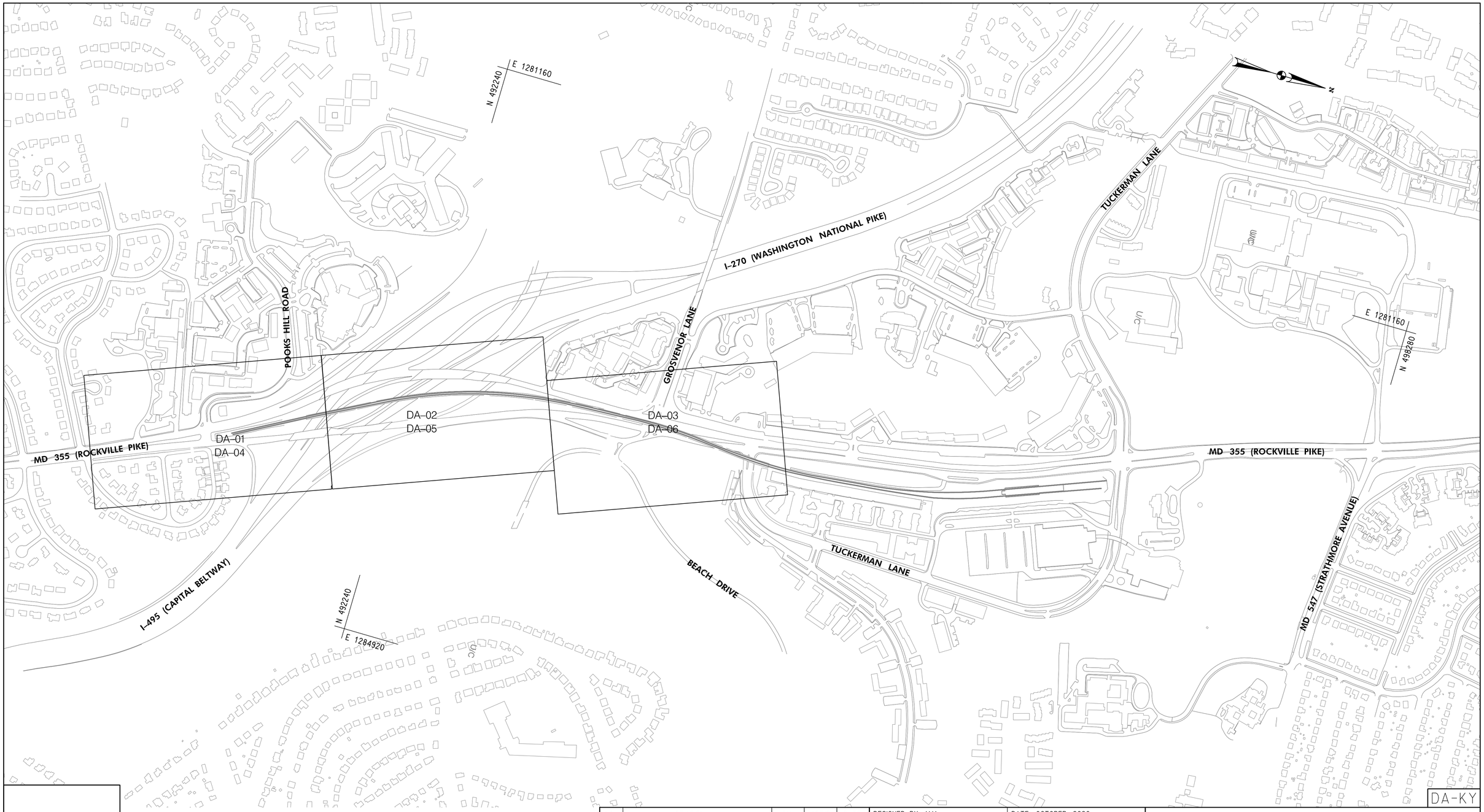

DA-KY

300' 0 300' 600'

SCALE: 1" = 300'

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.
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NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
DRAINAGE AREA MAP
KEY PLAN

SCALE: 1"=300'

SHEET 020 of 102

Monday, October 05, 2020 AT 01:40 PM
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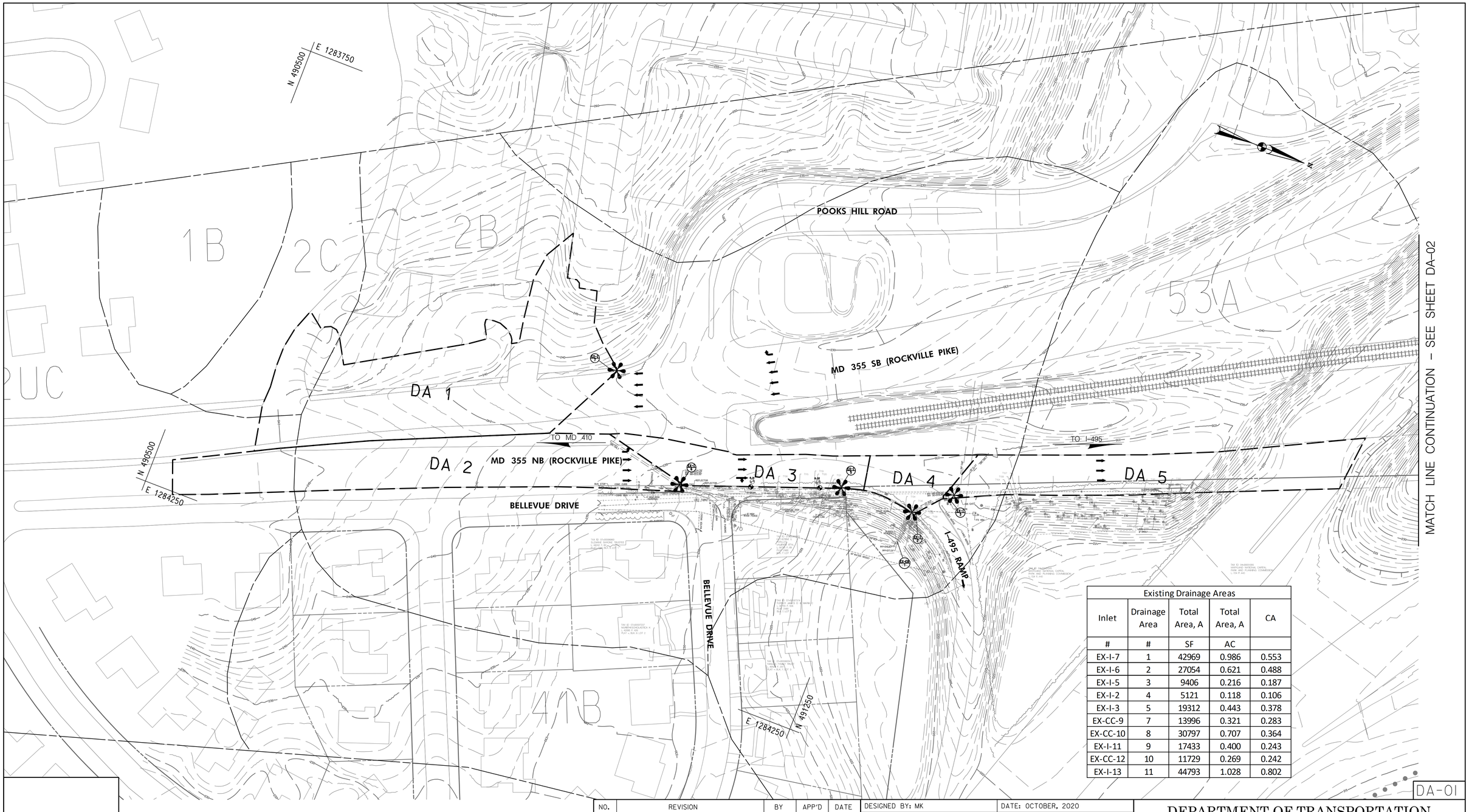

Existing Drainage Areas				
Inlet	Drainage Area	Total Area, A	Total Area, A	CA
#	#	SF	AC	
EX-I-7	1	42969	0.986	0.553
EX-I-6	2	27054	0.621	0.488
EX-I-5	3	9406	0.216	0.187
EX-I-2	4	5121	0.118	0.106
EX-I-3	5	19312	0.443	0.378
EX-CC-9	7	13996	0.321	0.283
EX-CC-10	8	30797	0.707	0.364
EX-I-11	9	17433	0.400	0.243
EX-CC-12	10	11729	0.269	0.242
EX-I-13	11	44793	1.028	0.802

50' 0 50' 100'
SCALE: 1" = 50'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK — DATE: OCTOBER, 2020
DRAWN BY: MK — DATE: OCTOBER, 2020
CHECKED BY: DHM III — DATE: OCTOBER, 2020
DRAWING NO.: — DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EXISTING DRAINAGE AREA MAP

SCALE: 1"=50'

SHEET 021 of 102

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.
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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:41 PM
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Existing Drainage Areas				
Inlet	Drainage Area	Total Area, A	Total Area, A	CA
#	#	SF	AC	
EX-I-7	1	42969	0.986	0.553
EX-I-6	2	27054	0.621	0.488
EX-I-5	3	9406	0.216	0.187
EX-I-2	4	5121	0.118	0.106
EX-I-3	5	19312	0.443	0.378
EX-CC-9	7	13996	0.321	0.283
EX-CC-10	8	30797	0.707	0.364
EX-I-11	9	17433	0.400	0.243
EX-CC-12	10	11729	0.269	0.242
EX-I-13	11	44793	1.028	0.802

MATCH LINE CONTINUATION – SEE SHEET DA-01

MATCH LINE CONTINUATION – SEE SHEET DA-03

MD 270 RAMP

N 492060

E 1283310

I-495 RAMP

I-495 OL (CAPITAL BELTWAY)

TO MD 410

I-270 RAMP

MD 355 NB (ROCKVILLE PIKE)

TO MD 547

E 1283310

N 492970

N 492060

E 1283810

53A

N

50' 0 50' 100'

SCALE: 1" = 50'

DA-02

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.
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EXISTING DRAINAGE AREA MAP

SCALE: 1"=50'

SHEET 022 of 102

Monday, October 05, 2020 AT 01:41 PM
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MATCH LINE CONTINUATION – SEE SHEET DA-02

E 1283000
N 493250
TO I-495
GROSVENOR LANE
MD 355 NB (ROCKVILLE PIKE)
DA 7
DA 8
DA 9
DA 10
DA 11
GROSVENOR LANE
BEACH DRIVE
TO MD 547
MD 355 SB (ROCKVILLE PIKE)
MD 355 NB (ROCKVILLE PIKE)
N 493250
E 1283500
BEACH DRIVE
E 1283500
N 494000
DA-03

Existing Drainage Areas				
Inlet	Drainage Area	Total Area, A	Total Area, A	CA
#	#	SF	AC	
EX-I-7	1	42969	0.986	0.553
EX-I-6	2	27054	0.621	0.488
EX-I-5	3	9406	0.216	0.187
EX-I-2	4	5121	0.118	0.106
EX-I-3	5	19312	0.443	0.378
EX-CC-9	7	13996	0.321	0.283
EX-CC-10	8	30797	0.707	0.364
EX-I-11	9	17433	0.400	0.243
EX-CC-12	10	11729	0.269	0.242
EX-I-13	11	44793	1.028	0.802

50' 0 50' 100'
SCALE: 1" = 50'

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

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NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EXISTING DRAINAGE AREA MAP

SCALE: 1"=50' SHEET 023 of 102

Monday, October 05, 2020 AT 01:41 PM
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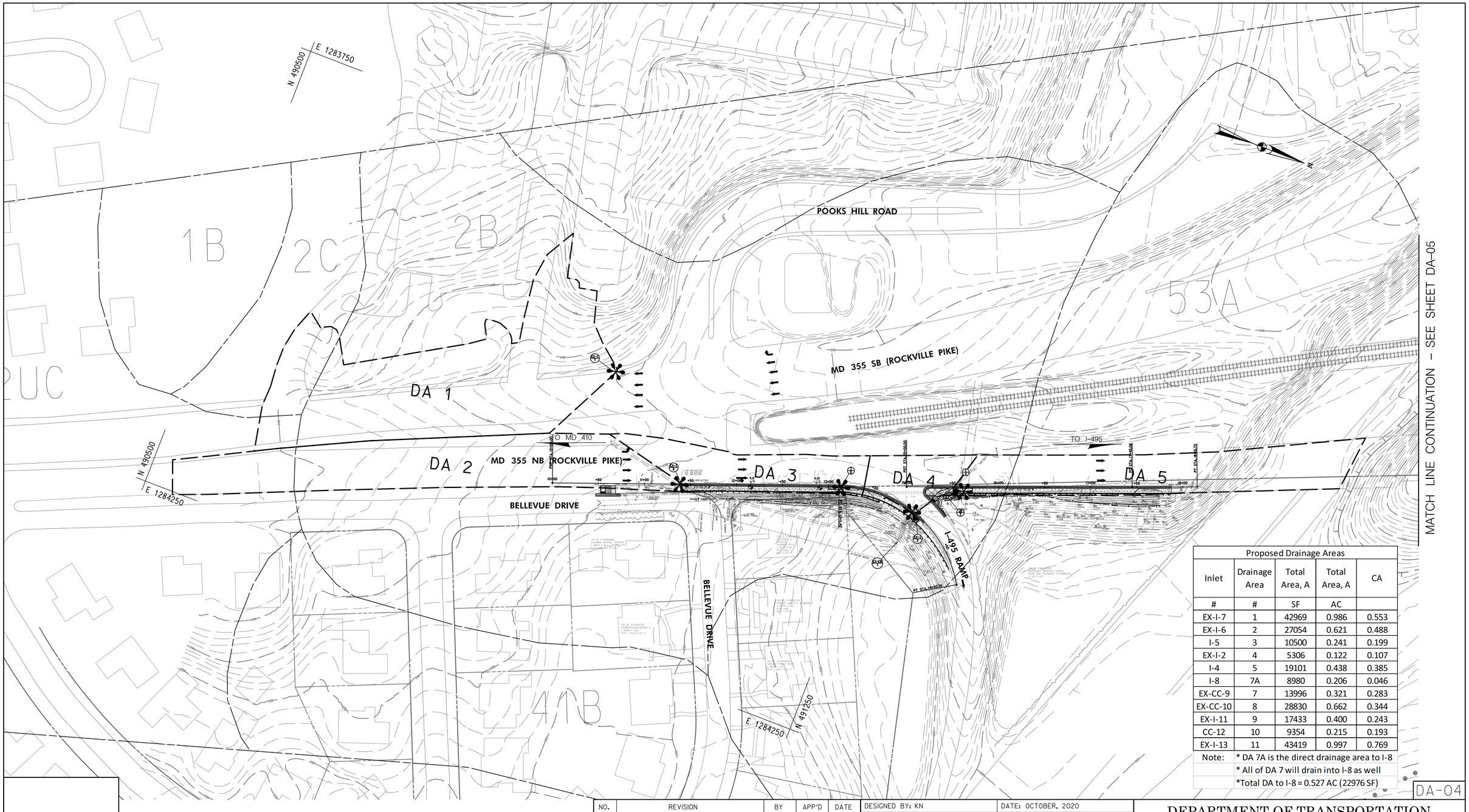

Proposed Drainage Areas				
Inlet	Drainage Area	Total Area, A	Total Area, A	CA
#	#	SF	AC	
EX-I-7	1	42969	0.986	0.553
EX-I-6	2	27054	0.621	0.488
I-5	3	10500	0.241	0.199
EX-I-2	4	5306	0.122	0.107
I-4	5	19101	0.438	0.385
I-8	7A	8980	0.206	0.046
EX-CC-9	7	13996	0.321	0.283
EX-CC-10	8	28830	0.662	0.344
EX-I-11	9	17433	0.400	0.243
CC-12	10	9354	0.215	0.193
EX-I-13	11	43419	0.997	0.769
Note:	* DA 7A is the direct drainage area to I-8			
	* All of DA 7 will drain into I-8 as well			
	*Total DA to I-8 = 0.527 AC (22976 SF)			

DA-04

50' 0 50' 100'
SCALE: 1" = 50'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KM	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
PROPOSED DRAINAGE AREA MAP

SCALE: 1"=50'

SHEET 024 of 102

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:42 PM
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Proposed Drainage Areas				
Inlet	Drainage Area	Total Area, A	Total Area, A	CA
#	#	SF	AC	
EX-I-7	1	42969	0.986	0.553
EX-I-6	2	27054	0.621	0.488
I-5	3	10500	0.241	0.199
EX-I-2	4	5306	0.122	0.107
I-4	5	19101	0.438	0.385
I-8	7A	8980	0.206	0.046
EX-CC-9	7	13996	0.321	0.283
EX-CC-10	8	28830	0.662	0.344
EX-I-11	9	17433	0.400	0.243
CC-12	10	9354	0.215	0.193
EX-I-13	11	43419	0.997	0.769
Note:	* DA 7A is the direct drainage area to I-8			
	* All of DA 7 will drain into I-8 as well			
	*Total DA to I-8 = 0.527 AC (22976 SF)			

MATCH LINE CONTINUATION – SEE SHEET DA-04

MATCH LINE CONTINUATION – SEE SHEET DA-06

MD 270 RAMP

N 492010

E 1283350

I-495 RAMP

I-495 OL (CAPITAL BELTWAY)

TO MD 410

I-270 RAMP

TO MD 547

MD 355 NB (ROCKVILLE PIKE)

18+00

PC STA 18+00.00

PT STA 18+50.00

N 492010

E 1283860

E 1283350

N 493020

53A

N

50' 0 50' 100'

SCALE: 1" = 50'

DA-05

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

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KM	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
PROPOSED DRAINAGE AREA MAP

SCALE: 1"=50'

SHEET 025 of 102

Monday, October 05, 2020 AT 01:42 PM
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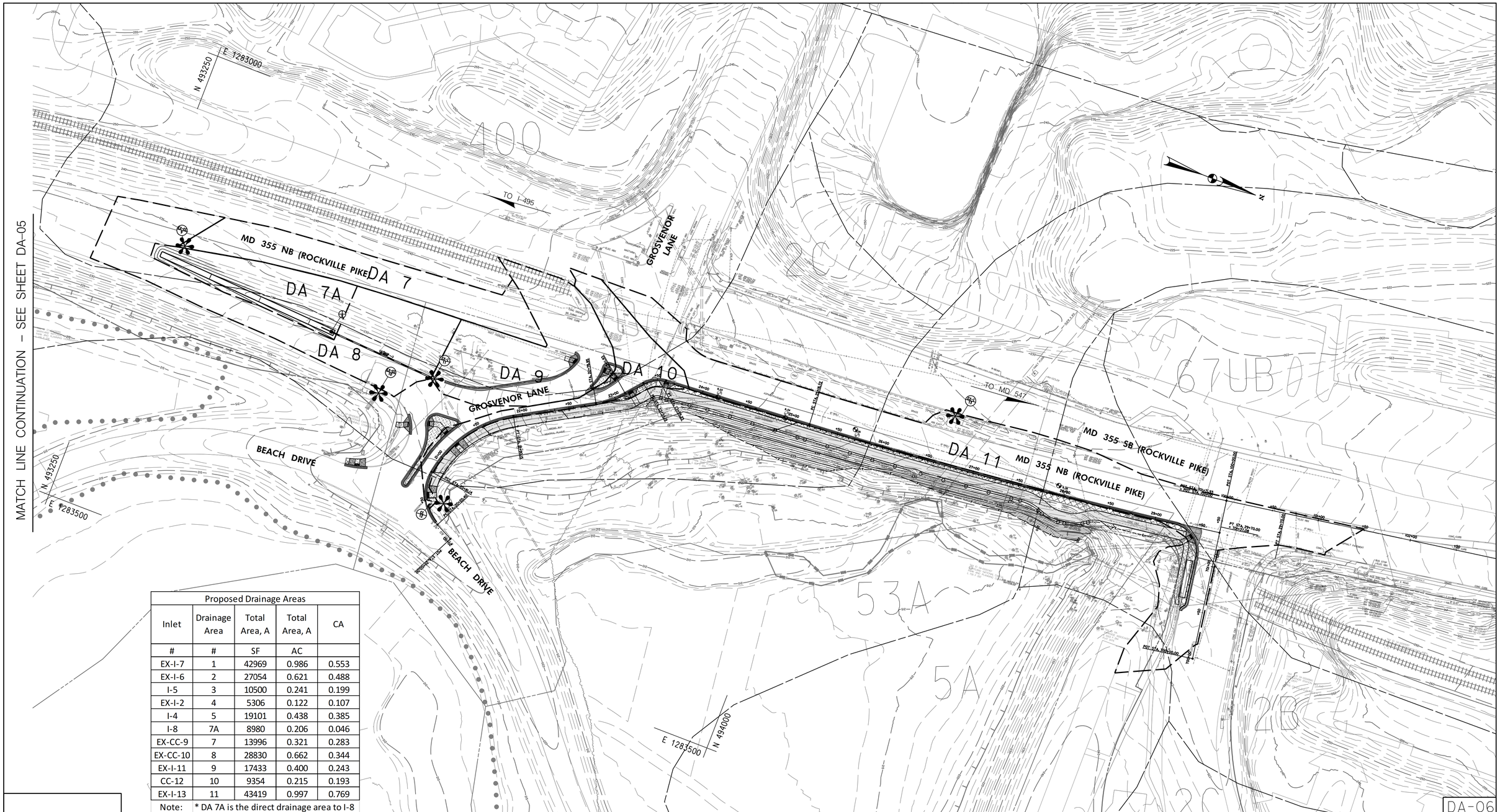

Proposed Drainage Areas				
Inlet	Drainage Area	Total Area, A	Total Area, A	CA
#	#	SF	AC	
EX-I-7	1	42969	0.986	0.553
EX-I-6	2	27054	0.621	0.488
I-5	3	10500	0.241	0.199
EX-I-2	4	5306	0.122	0.107
I-4	5	19101	0.438	0.385
I-8	7A	8980	0.206	0.046
EX-CC-9	7	13996	0.321	0.283
EX-CC-10	8	28830	0.662	0.344
EX-I-11	9	17433	0.400	0.243
CC-12	10	9354	0.215	0.193
EX-I-13	11	43419	0.997	0.769
Note:	* DA 7A is the direct drainage area to I-8			
	* All of DA 7 will drain into I-8 as well			
	*Total DA to I-8 = 0.527 AC (22976 SF)			

50' 0 50' 100'
SCALE: 1" = 50'

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

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Baltimore, MD 21286
www.stantec.com

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KM	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
PROPOSED DRAINAGE AREA MAP

SCALE: 1"=50'

SHEET 026 of 102

Monday, October 05, 2020 AT 01:42 PM
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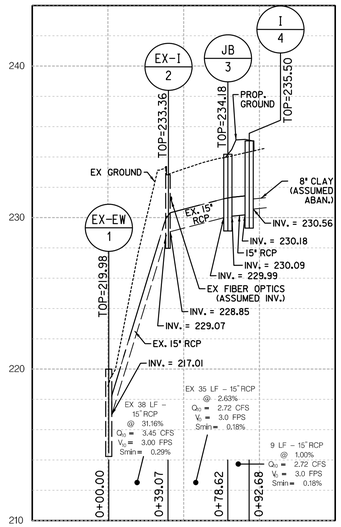
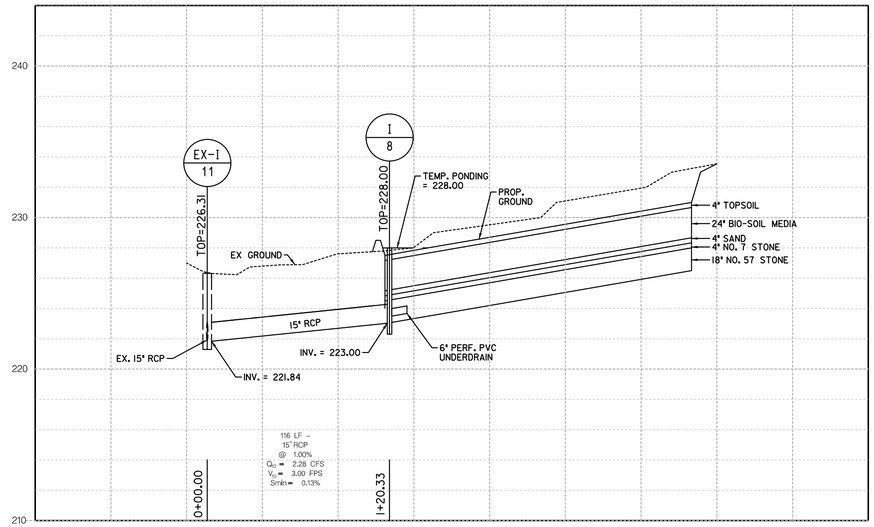


PIPE PROFILE FROM I-4 TO EX-EW-1



PIPE PROFILE FROM I-8 TO EX-I-11

PROPOSED STORM DRAIN COMPUTATION SHEET

COMPUTED BY: KHN — DATE: 10/2/2020 — REGION: Montgomery County
CHECKED BY: — DATE: — SECTION: Grosvenor
SHA CHART: 61.1-403.01A thru E

STORM FREQUENCY: 10 Year
MANNINGS "n" = 0.013 RCP, 0.024 CMP
NOTE: use multiplier of 1 for intensity

DRAINAGE AREA	STRUCTURE		DRAINAGE AREA		RUNOFF COEFF	(AREA) X (C)		TIME OF CONCENTRATION		RAINFALL INTENSITY	RUNOFF (Q10)	PIPE DIA	PIPE CAPACITY	INVERT ELEVATION		PIPE LENGTH	MINIMUM PIPE (Smin)	ACTUAL PIPE	VELOCITY (V10)		TIME IN PIPE	NOTES
ID	FROM	TO	INC (ac)	TOTAL (ac)	"C"	INC (ac)	Σ A*C (ac)	INLET (min)	SYSTEM (min)	"I_{15}" (in/hr)	"Q_{10}" (cfs)	(in)	(cfs)	IN (ft)	OUT (ft)	(ft)	SLOPE (ft/ft)	SLOPE (ft/ft)	DESIGN (fps)	FULL (fps)	(min)	
DA-5	I-4	JB-3	0.438	0.438	0.88	0.385	0.385	5.0	5.00	7.07	2.72	15	6.46	230.18	230.09	9	0.18%	1.00%	3.00	5.26	0.05	RCP
	JB-3	EX-I-2	0.000	0.438	0.00	0.000	0.385		5.05	7.06	2.72	15	10.47	229.99	229.07	35	0.18%	2.63%	3.00	8.53	0.19	RCP
DA-4	EX-I-2	EX-EW-1	0.122	0.560	0.88	0.107	0.493	5.0	5.24	7.00	3.45	15	36.05	228.85	217.01	38	0.29%	31.16%	3.00	29.37	0.21	RCP
DA-7 & DA-7A	I-8	EX-I-11	0.527	0.527	0.62	0.329	0.329	5.0	5.46	6.94	2.28	15	6.46	223.00	221.84	116	0.13%	1.00%	3.00	5.26	0.64	RCP

If design velocity less than 3 fps, assume 3 fps.

PROPOSED HYDRAULIC GRADIENT

COMPUTED BY: KHN — DATE: 10/2/2020 — REGION: Montgomery County
CHECKED BY: — DATE: — SECTION: Grosvenor

STORM FREQUENCY: 10 Year
MANNING'S "N" = 0.013 RCP

	FROM	TO	Q (cfs) Design	Q (cfs) Full	SIZE (in)	Area (ft2)	"n" Mannings	R Hydraulic Radius Full	Sf (friction) (ft/ft) Minimum	V (fps) Design	Vf (fps) Full	Length (ft)	Depth (ft)	Friction Loss (Sf * Lgth) Design	Angle	Kb (Kb*Vf²/64.4)	Hb Structure Design	LOWER PIPE ELEV	UPPER PIPE ELV.	HGL LOWER ELEV	HGL UPPER ELV.	HGL Structure	TOP Structure	Diff. Top. Elev. HGL	Check Top Elevation	
	EX-EW-1	EX-I-2	3.45	36.05	15	1.23	0.013	0.313	0.28%	3.00	29.37	38	1.25	0.11	42.00	1.05	0.147	217.01	228.85	218.26	230.10	**230.25**	**233.36**	**3.11**	Ok!	PR. RCP
	EX-I-2	JB-3	2.72	10.47	15	1.23	0.013	0.313	0.18%	3.00	8.53	35	1.25	0.062	2.00	0.52	0.073	229.07	229.99	230.25	231.24	**231.24**	**234.18**	**2.94**	Ok!	PR. RCP
	JB-3	I-4	2.72	6.46	15	1.23	0.013	0.313	0.18%	3.00	5.26	9	1.25	0.02	0.00	0.50	0.070	230.09	230.18	231.31	231.43	**231.43**	**235.50**	**4.07**	Ok!	PR. RCP
	EX-I-11	I-8	2.28	6.46	15	1.23	0.013	0.313	0.12%	3.00	5.26	116	1.25	0.14	0.00	0.50	0.070	221.84	223.00	223.09	224.25	**224.25**	**228.00**	**3.75**	Ok!	PR. RCP

4' 0 4' 8'
VERTICAL SCALE: 1" = 4'
20' 0 20' 40'
HORIZONTAL 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: _____ EXPIRATION DATE: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section — Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering — Date

DP-01

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
PIPE PROFILES AND COMPUTATIONS

SCALE: H: 1"=20' - V: 1"=4'

SHEET 027 of 102

Monday, October 05, 2020 AT 01:42 PM
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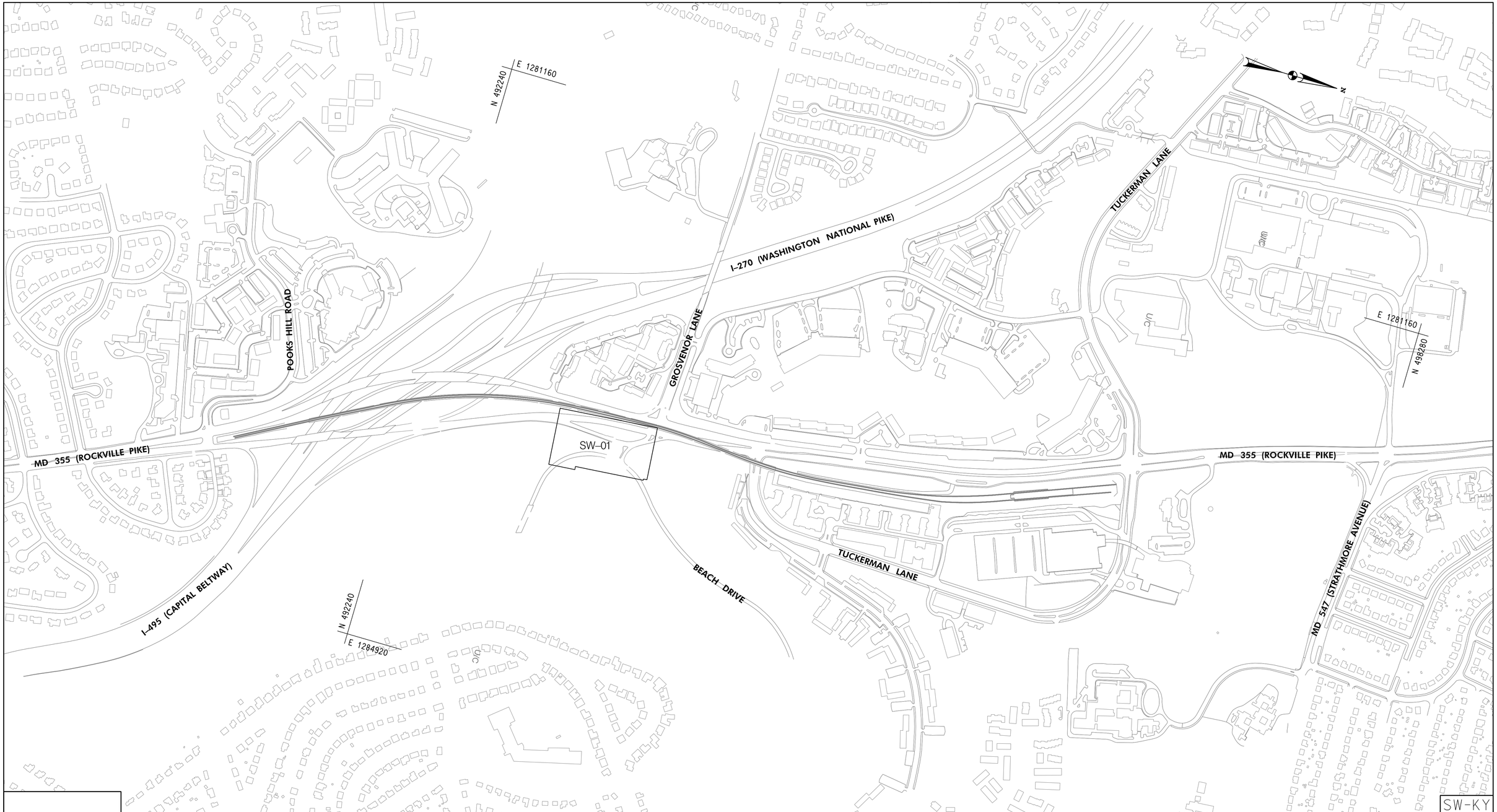

SW-KY

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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Baltimore, MD 21286
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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
STORMWATER KEY PLAN

SCALE: 1"=300'

SHEET 028 of 102

Monday, October 05, 2020 AT 01:43 PM
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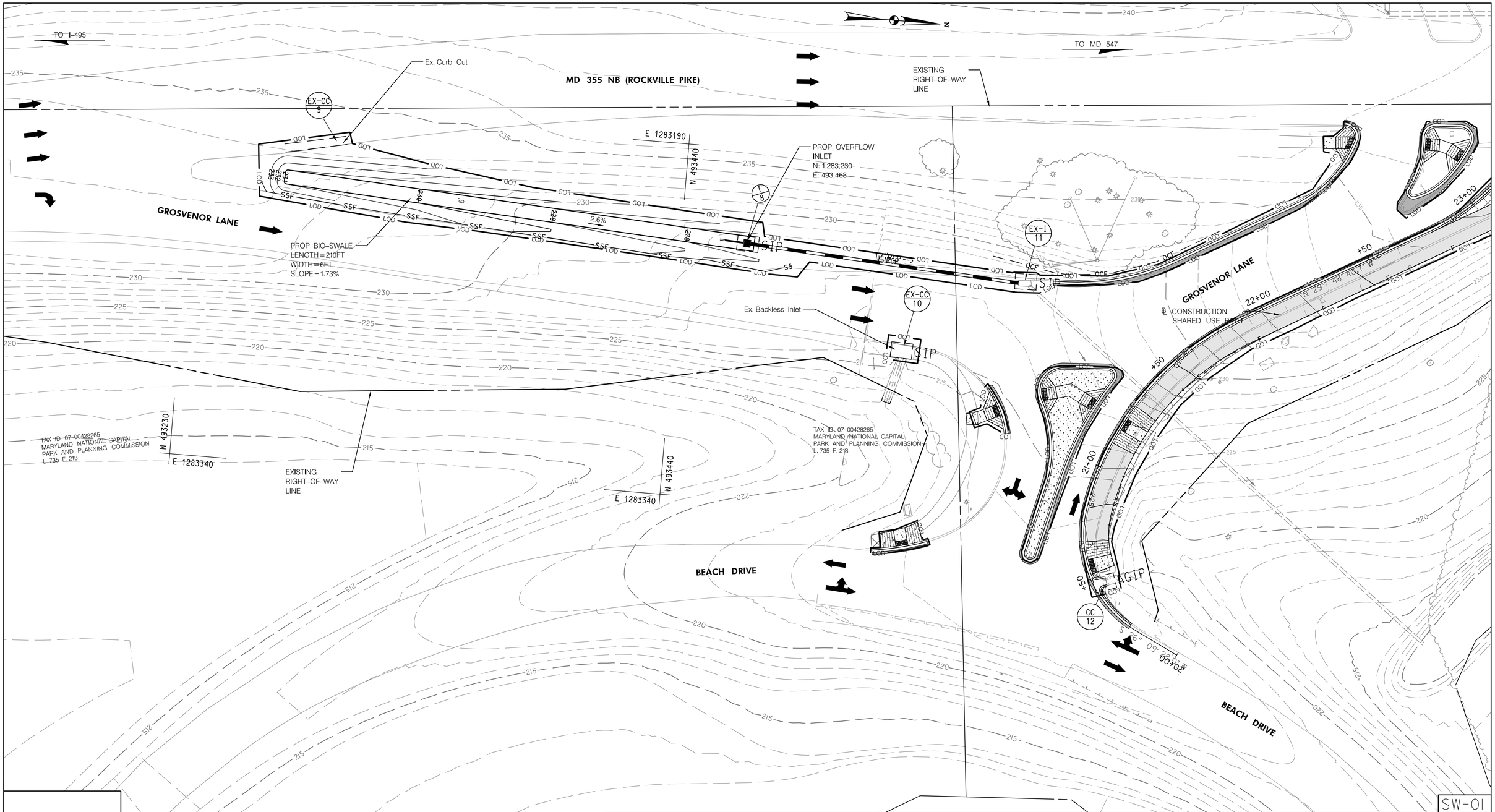

20' 0 20' 40'
SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MH	DATE: OCTOBER, 2020
DRAWN BY: MH	DATE: OCTOBER, 2020
CHECKED BY: SR	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS STORMWATER MANAGEMENT PLAN

SCALE: 1"=20' SHEET 029 of 102

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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Baltimore, MD 21286
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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:43 PM
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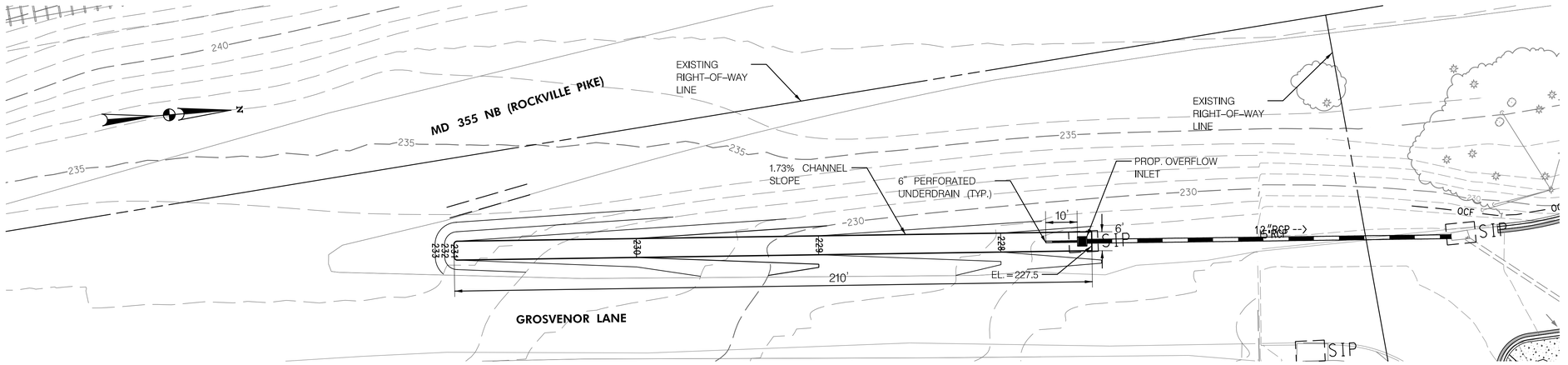
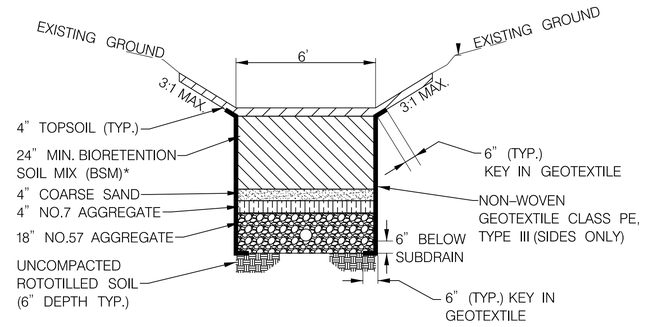


BIOSWALE DESIGN SUMMARY

DRAINAGE AREA (AC)	IMPERVIOUS AREA AC (%)	SOIL TYPE	PE REQUIRED (R.O.W.)	PE TREATED	ESDv PROVIDED (CF)	LENGTH (FT)	WIDTH (FT)
0.884	38.6	C	1.80"	1.12"	1,426	210	6



BIO-SWALE TYPICAL SECTION

NOT TO SCALE

SW-02

20' 0 20' 40'

SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MH	DATE: OCTOBER, 2020
DRAWN BY: MH	DATE: OCTOBER, 2020
CHECKED BY: SR	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
STORMWATER MANAGEMENT PROFILE

SCALE: 1"=20'

SHEET 030 of 102

Monday, October 05, 2020 AT 01:44 PM
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As-Built Inspection Tabulations/Checklist for BMP Number: MDE No.:
Accepted by MDE: _____ _____ Name Date

WET/DRY SWALE MDE TABULATIONS

ACTIVITY	DESIGNED	AS-BUILT	DIFFERENCE	INSPECTOR INITIALS	ACCEPTANCE DATE
As-Built Survey	N/A				
WQ Storage Elevation	227.60				
WQ Storage Volume	133 cf				
Number of check dams/weirs	0				
2 Year Discharge Elevation	227.61				
2 Year Freeboard Elevation	228.50				
2 Year Freeboard Dimension	0.89				
10 Year Discharge Elevation	227.72				
10 Year Freeboard Elevation	228.50				
10 Year Freeboard Dimension	0.78				

WET/DRY SWALE CONSTRUCTION CHECKLIST

ACTIVITY	ON SITE INSPECTION DATE	INSPECTOR INITIALS	ACCEPTANCE DATE
Runoff diverted			
Drainage area stabilized prior to installation			
Facility area cleared/subgrade prepared			
Facility location staked out			
Excavated to proper size and location*			
Stable side slopes			
Lateral slopes finished a per plans			
Subsoils not compacted during construction			
Topsoil adequate in composition and placement (50% loam, 50% sand, k=0.5 ft/day)			
Check dams constructed to proper dimensions and spacing*			
Diaphragms or weirs installed as designed, if applicable*			
Bottom width, 2 ft. min., 8 ft. max.			
Underdrain installed correctly (dry swale only)*			
Proper fill material and compaction constructed for embankment*			
Inflow installed as designed			
Soil permeability tested (documentation checked)			
Pretreatment facilities in place			
Maintenance access installed according to plans and details			
Final grading and permanent stabilization completed*			
As-built documentation			

*** AB Inspector required to perform inspection on site for these steps as required by COMAR 26.17.02.10**

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: _____ EXPIRATION DATE: _____

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Baltimore, MD 21286
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MH	DATE: OCTOBER, 2020
DRAWN BY: MH	DATE: OCTOBER, 2020
CHECKED BY: SR	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

SW-03

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
STORMWATER MANAGEMENT NOTES

SCALE: 1"=20'

SHEET 031 of 102

Monday, October 05, 2020 AT 01:44 PM
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As-Built Inspection Tabulations/Checklist for BMP Number: MDE No.:
Accepted by MDE: Name _____ Date _____

WET/DRY SWALE MDE TABULATIONS

ACTIVITY	DESIGNED	AS-BUILT	DIFFERENCE	INSPECTOR INITIALS	ACCEPTANCE DATE
As-Built Survey	N/A				
WQ Storage Elevation	227.60				
WQ Storage Volume	133 cf				
Number of check dams/weirs	0				
2 Year Discharge Elevation	227.61				
2 Year Freeboard Elevation	228.50				
2 Year Freeboard Dimension	0.89				
10 Year Discharge Elevation	227.72				
10 Year Freeboard Elevation	228.50				
10 Year Freeboard Dimension	0.78				

WET/DRY SWALE CONSTRUCTION CHECKLIST

ACTIVITY	ON SITE INSPECTION DATE	INSPECTOR INITIALS	ACCEPTANCE DATE
Runoff diverted			
Drainage area stabilized prior to installation			
Facility area cleared/subgrade prepared			
Facility location staked out			
Excavated to proper size and location*			
Stable side slopes			
Lateral slopes finished a per plans			
Subsoils not compacted during construction			
Topsoil adequate in composition and placement (50% loam, 50% sand, k=0.5 ft/day)			
Check dams constructed to proper dimensions and spacing*			
Diaphragms or weirs installed as designed, if applicable*			
Bottom width, 2 ft. min., 8 ft. max.			
Underdrain installed correctly (dry swale only)*			
Proper fill material and compaction constructed for embankment*			
Inflow installed as designed			
Soil permeability tested (documentation checked)			
Pretreatment facilities in place			
Maintenance access installed according to plans and details			
Final grading and permanent stabilization completed*			
As-built documentation			

*** AB Inspector required to perform inspection on site for these steps as required by COMAR 26.17.02.10**

Monday, October 05, 2020 AT 01:44 PM
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PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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BPPA Bicycle and Pedestrian Priority Areas

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MH	DATE: OCTOBER, 2020
DRAWN BY: MH	DATE: OCTOBER, 2020
CHECKED BY: SR	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

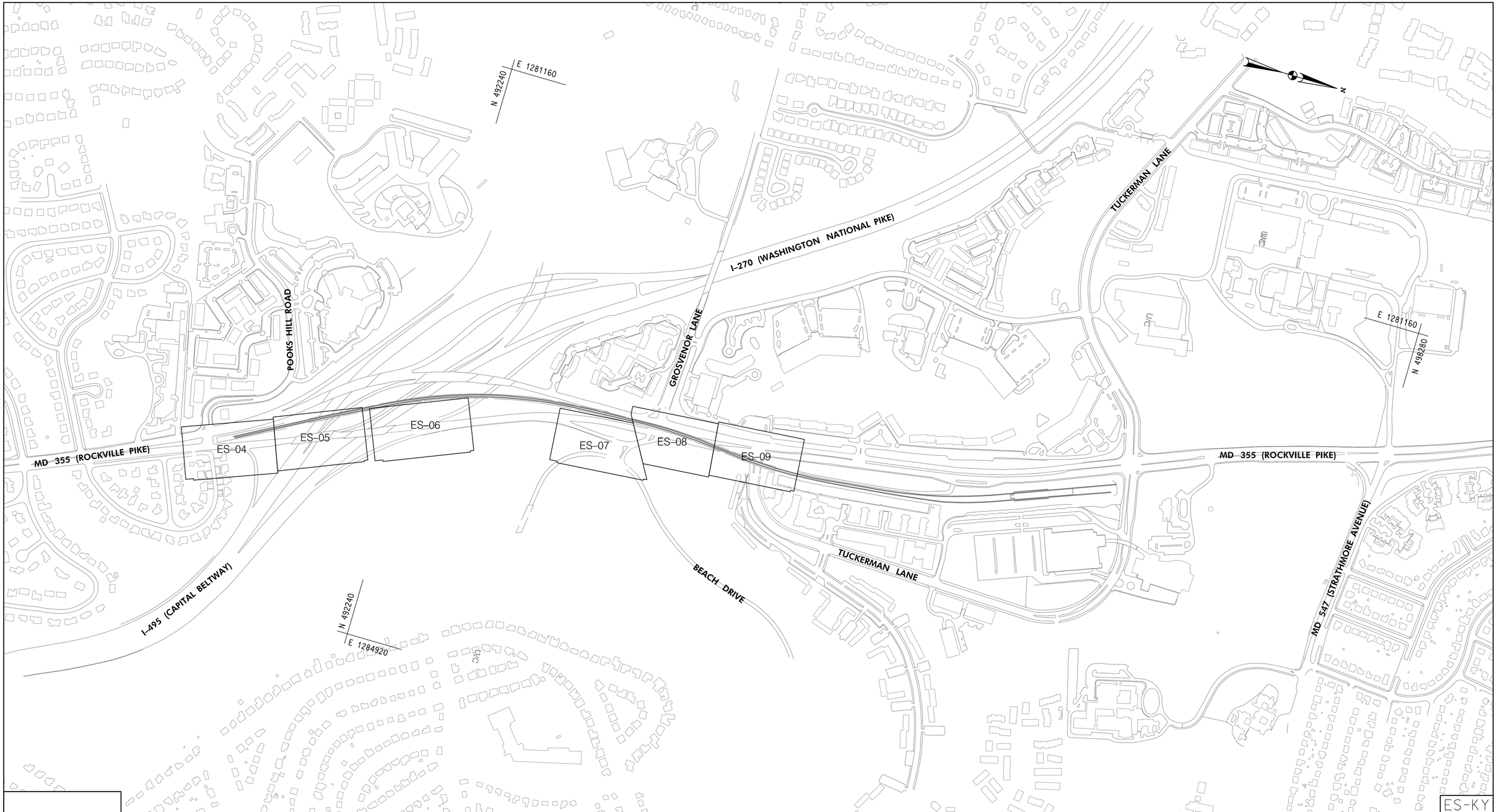
SW-03

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
STORMWATER MANAGEMENT NOTES

SCALE: 1"=20'

SHEET 032 of 102



ES-KY

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

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT CONTROL
KEY PLAN

SCALE: 1"=300'

SHEET 033 of 102

Monday, October 05, 2020 AT 01:44 PM
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MONTGOMERY COUNTY GOVERNMENT
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 and prior to any other land disturbing activity.
   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 thoroughfare(s). 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 times 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. All sediment basins, trap embankments, perimeter dikes, and all disturbed slopes steeper or equal to 3:1 shall be stabilized with sod, seed, and anchored straw mulch, or other approved stabilization measures, within seven (7) calendar days of establishment. 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 fourteen (14) 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 fourteen (14) 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 7 calendar days of establishment with sod or seed with an approved erosion control matting or by other approved stabilization measures.

12. Temporary 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. Temporary sediment trap(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 volume of the trap or when required by the sediment control inspector.

22. Sediment removed from traps 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 Montgomery County standards and specifications for topsoiling.

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
AT
1-800-257-7777
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

STANDARD SYMBOLS

AT-GRADE INLET PROTECTION	AGIP	ROCK OUTLET PROTECTION II	ROPII
BAFFLE BOARDS	BB	ROCK OUTLET PROTECTION III	ROPIII
CATCH BASIN INSERT	CBI	SILT FENCE	SF
CLEAR WATER DIVERSION PIPE	CWD - 12 (NOTE: DESIGNATION CWD-12 REFERS TO CLEAR WATER DIVERSION WITH 12 INCH PIPE.)	SILT FENCE ON PAVEMENT	SFOP
COMBINATION INLET PROTECTION	COIP	SOD	
CURB INLET PROTECTION	CIP	STABILIZED CONSTRUCTION ENTRANCE	SCE
DIVERSION FENCE	DF	STANDARD INLET PROTECTION	SIP
EARTH DIKE	A-1 (PLACE DESIGNATION (A-1, B-2, ETC.) ON FLOW CHANNEL SIDE OF DIKE.)	STOCKPILE AREA	
EMERGENCY SPILLWAY	ES	STONE CHECK DAM	CD
FILTER BAG	FB	STONE/RIPRAP OUTLET SEDIMENT TRAP ST II	ST-II
FILTER BERM	FB-A / FB-B	SUBSURFACE DRAINS	SSD
FILTER LOG	FL-18 (NOTE: DESIGNATION FL-18 REFERS TO FILTER LOG WITH 18 INCH DIAMETER.)	SUMP PIT	SP
GABION INFLOW PROTECTION	GP	SUPER SILT FENCE	SSF
GABION INLET PROTECTION	GIP	TEMPORARY ACCESS CULVERT	
LIMIT OF DISTURBANCE	LOD	TEMPORARY ASPHALT BERM	TAB
MEDIAN INLET PROTECTION	MIP	TEMPORARY BARRIER DIVERSION	TBD
MEDIAN SUMP INLET PROTECTION	MSIP	TEMPORARY GABION OUTLET STRUCTURE	TGOS
MOUNTABLE BERM	MB	TEMPORARY SOIL STABILIZATION MATTING-TYPE A	
PERIMETER DIKE/SWALE	PDS-I	TEMPORARY SOIL STABILIZATION MATTING-TYPE E	
PERMANENT SOIL STABILIZATION MATTING-TYPE B		TEMPORARY SOIL STABILIZATION MATTING-TYPE D	
PERMANENT SOIL STABILIZATION MATTING-TYPE C		TEMPORARY STONE OUTLET STRUCTURE	TSOS
PIPE OUTLET SEDIMENT TRAP ST I	ST-I	TEMPORARY SWALE	A-1 (PLACE DESIGNATION (A-1, B-2, ETC.) ON FLOW CHANNEL SIDE OF SWALE.)
PIPE SLOPE DRAIN	PSD - 12 (NOTE: DESIGNATION PSD-12 REFERS TO PIPE SLOPE DRAIN WITH 12 IN PIPE.)	WASH RACK OPTION	WR
PLUNGE POOL	PP	CHESAPEAKE BAY CRITICAL AREA	CBCA
PORTABLE SEDIMENT TANK	PST	DRAINAGE BOUNDARY	DA
REMOVABLE PUMPING STATION	RPS	EXISTING CONTOURS	100
RIPRAP INFLOW PROTECTION	RRP	PROPOSED CONTOURS	100
RIPRAP OUTLET SEDIMENT TRAP ST III	ST-III	TREE PROTECTION FENCE	TPF
ROCK OUTLET PROTECTION I	ROPI	WETLAND	
		WETLAND BUFFER	B
		100-YEAR FLOODPLAIN	

ES-01

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: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL
_____ _____
Chief, Design Section Date

APPROVED
_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT
CONTROL NOTES

SCALE: AS SHOWN SHEET 034 of 102

Monday, October 05, 2020 AT 01:45 PM
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GENERAL NOTES

1. Prior to clearing of 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 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 the 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 tocommencing 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. Clear and grade for installation of sediment control devices.
3. Install sediment control devices.
4. Once the sediment control devices are installed, the permittee to obtain written approval from the MCDPS inspector before proceeding with any additional clearing, grubbing, or grading.
5. Construction can occur coincidentally or any order the contractor chooses as long as approvals are in place.
6. Remove water that pools within any area of excavation with sump pit, pump, and filter bag.
7. Weather should be monitored to ensure construction of proposed drainage facilities are done in a day with no expected rainfall. Proposed drainage facilities should be constructed within one work day.
8. Site should be stabilized at the end of each work day.
9. Obtain written approval from MCDPS inspector, prior to the removal of any sediment control devices for each sequence.
10. Root pruning and tree protection fencing are shown off set from limit of disturbance (LOD) line for graphic reasons only. Root pruning and tree protection fence placement are to be executed at the lod line.
11. Plant and vegetate site as shown on Landscape Plan.
12. Stabilize site and get written approval from MCDPS inspector to remove remaining sediment control devices.

NOTE 1:
All sequences should call for the permittee to obtain written approval from MCDPS inspector, prior to the removal of any sediment control device.

NOTE 2:
Any site that has a proposed storm drain diversion proposed should have its Sequence of Construction state the following:

1) The construction of the diversion in the storm drain construction step; and

2) once the drainage area is stabilized, the storm drain system must be flushed, any temporary pipes removed, and the construction or unblocking of any permanent pipes.

M-NCPPC CONSTRUCTION NOTES

Removal of Existing Pavement within a Tree's Critical Root Zone:

1. The contractor shall meet with the M-NCPPC Urban Forester and Construction Inspector prior to removal of the pavement to discuss methods to be used to remove pavement. Removal of pavement may be required to be done by hand depending on site conditions.
2. The existing top layer of pavement shall be peeled away without disturbing the ground or material beneath. If a base course of rock is beneath the pavement the rock shall be left in place.
3. During the removal of the pavement layer great care shall be taken to not disturb existing tree roots along or under existing pavement. Existing tree roots greater than 1.5" in diameter encountered during the removal process shall not be cut unless approved by the M-NCPPC Urban Forester.
4. Equipment should remain on existing pavement during the removal process. Equipment shall not traverse over areas where pavement was removed in order to protect exposed tree roots.
5. Ground protection such as a 12" mulch layer will be required if equipment is needed to be operated within the critical root zone.
6. Removal of the existing pavement shall be done under supervision of the M-NCPPC Urban Forester and the Construction Inspector.
7. Stabilize area per approved plan or as directed by Construction Inspector.

SEQUENCE OF CONSTRUCTION

Phase 1:

1. Prior to clearing of 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 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 the 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 tocommencing 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 any tree protection measures are correctly marked and installed piror to commencing and clearing.
4. Clear and grade for installation of sediment control devices.
5. Install sediment control devices for Phase 1.
6. Once the sediment control devices are installed the permitee must obtain written approval from the MCDPS inspector before proceeding with any addition clearing, grubbing, or grading.
7. Construct roadway and and storm drain improvements for Rockville Pike near the I-495 ramp as shown on the ESC plans.
8. Construct proposed curb, sidewalk, and pedestrian curb ramps near the I-495 ramp as shown on the ESC plans.
9. Permanently stabilize disturbed roadside areas with topsoil, seed and mulch as indiicated on the typical sections.
10. Upon final stabilization and written approval from MCDPS inspector, the permittee shall remove any Phase 1 sediment control devices that will not be used in the subsequent ESC phases.

Phase 2:

1. Prior to clearing of 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 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 the 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 tocommencing 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 any tree protection measures are correctly marked and installed piror to commencing and clearing.
4. Clear and grade for installation of sediment control devices.
5. Install sediment control devices for Phase 2.
6. Once the sediment control devices are installed the permittee must obtain written approval from the MCDPS inspector before proceeding with any addition clearing, grubbing, or grading.
7. Construct the proposed storm drain impovements for Rockville Pike as shown on the ESC plans.
8. Install proposed SWM BMPs. BMPs can only be constructed after contributing drainage areas have been completely stabilized.
9. Construct sidewalk and pedestrian curb ramps for Rockville Pike as shown on the ESC plans.
10. Permanently stabilize disturbed roadside areas with topsoil, seed and mulch as indiicated on the typical sections.
11. Upon final stabilization and written approval from MCDPS inspector, the permittee shall remove any Phase 2 sediment control devices that will not be used in the subsequent ESC phases.

Phase 3:

1. Prior to clearing of 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 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 the 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 tocommencing 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 any tree protection measures are correctly marked and installed piror to commencing and clearing.
4. Clear and grade for installation of sediment control devices.
5. Install sediment control devices for Phase 3.
6. Once the sediment control devices are installed the permittee must obtain written approval from the MCDPS inspector before proceeding with any addition clearing, grubbing, or grading.
7. Construct roadway and storm drain improvements for Rockville Pike, Grosvenor Lane, and Tuckerman Lane as shown on the ESC plans.
8. Construct proposed curb, sidewalk, and pedestrian curb ramps for Rockville Pike, Grosvenor Lane, and Tuckerman Lane as shown on the ESC plans.
9. Permanently stabilize disturbed roadside areas with topsoil, seed and mulch as indiicated on the typical sections.
10. Upon final stabilization and written approval from MCDPS inspector, the permittee shall remove the sediment control devices.
11. The permittee shall submit as-built plans for review and approval by MCPDS.

ES-02

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: _____

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS EROSION AND SEDIMENT CONTROL NOTES

SCALE: AS SHOWN SHEET 035 of 102

Monday, October 05, 2020 AT 01:45 PM
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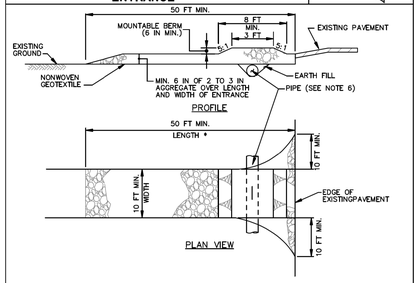
DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*150 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

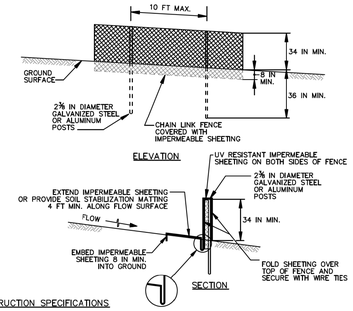
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL: DF

MAXIMUM DRAINAGE AREA = 2 ACRES



CONSTRUCTION SPECIFICATIONS

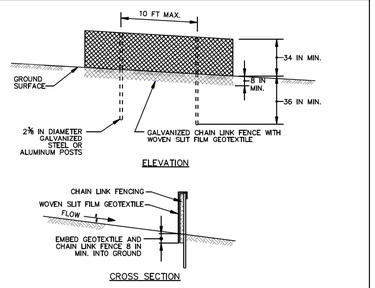
1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

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



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2⅜ 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 (2⅜ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG 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.

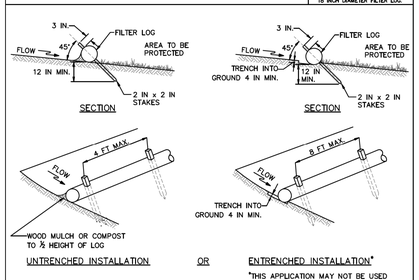
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-6 FILTER LOG

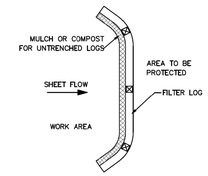
STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG



UNTRENCHED INSTALLATION OR ENTRENCHED INSTALLATION*

*THIS APPLICATION MAY NOT BE USED WITH LOGS SMALLER THAN 12 IN.



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-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG

CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

2 OF 2

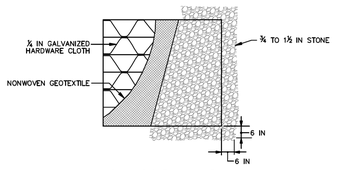
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

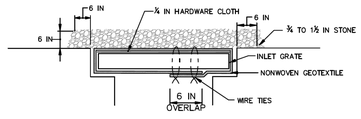
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE





CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. 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.

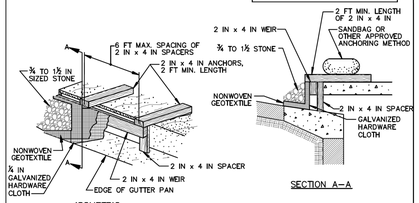
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = ¾ ACRE



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 ¾ 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

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: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: NK	DATE: OCTOBER, 2020
DRAWN BY: NK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

ES-03

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT
CONTROL DETAILS

SCALE: N.T.S.

SHEET 036 of 102

Monday, October 05, 2020 AT 01:45 PM
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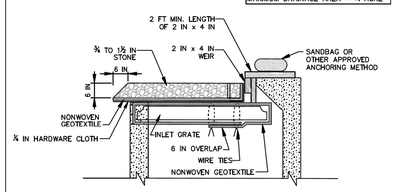
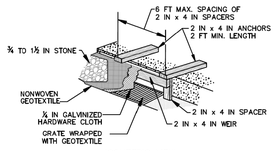
DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

MAXIMUM DRAINAGE AREA = ¾ 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 ½ 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.

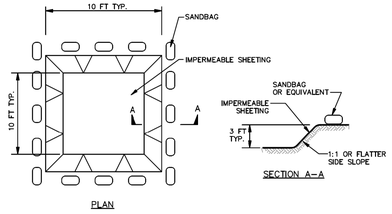
2 OF 2

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 H-6 ONSITE CONCRETE WASHOUT STRUCTURE

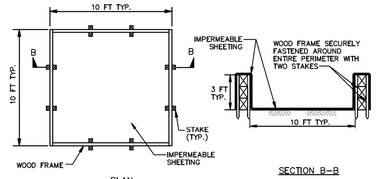
STANDARD SYMBOL: CWS



PLAN

SECTION A–A

EXCAVATED WASHOUT STRUCTURE



PLAN

SECTION B–B

WASHOUT STRUCTURE WITH WOOD PLANKS

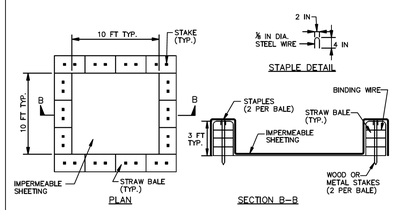
1 OF 2

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

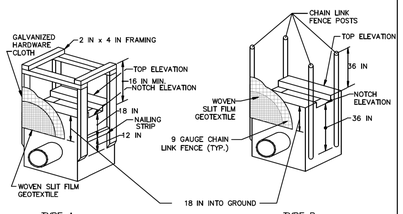
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

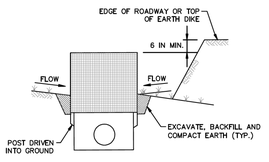
TYPE A MAXIMUM DRAINAGE AREA = ¾ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE



TYPE A

TYPE B

ISOMETRIC VIEW



SECTION FOR TYPE A AND 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-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ¼ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. 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.

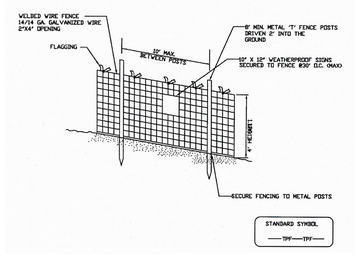
2 OF 2

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

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.

Monday, October 05, 2020 AT 01:46 PM
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ES-04

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: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: NK	DATE: OCTOBER, 2020
DRAWN BY: NK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

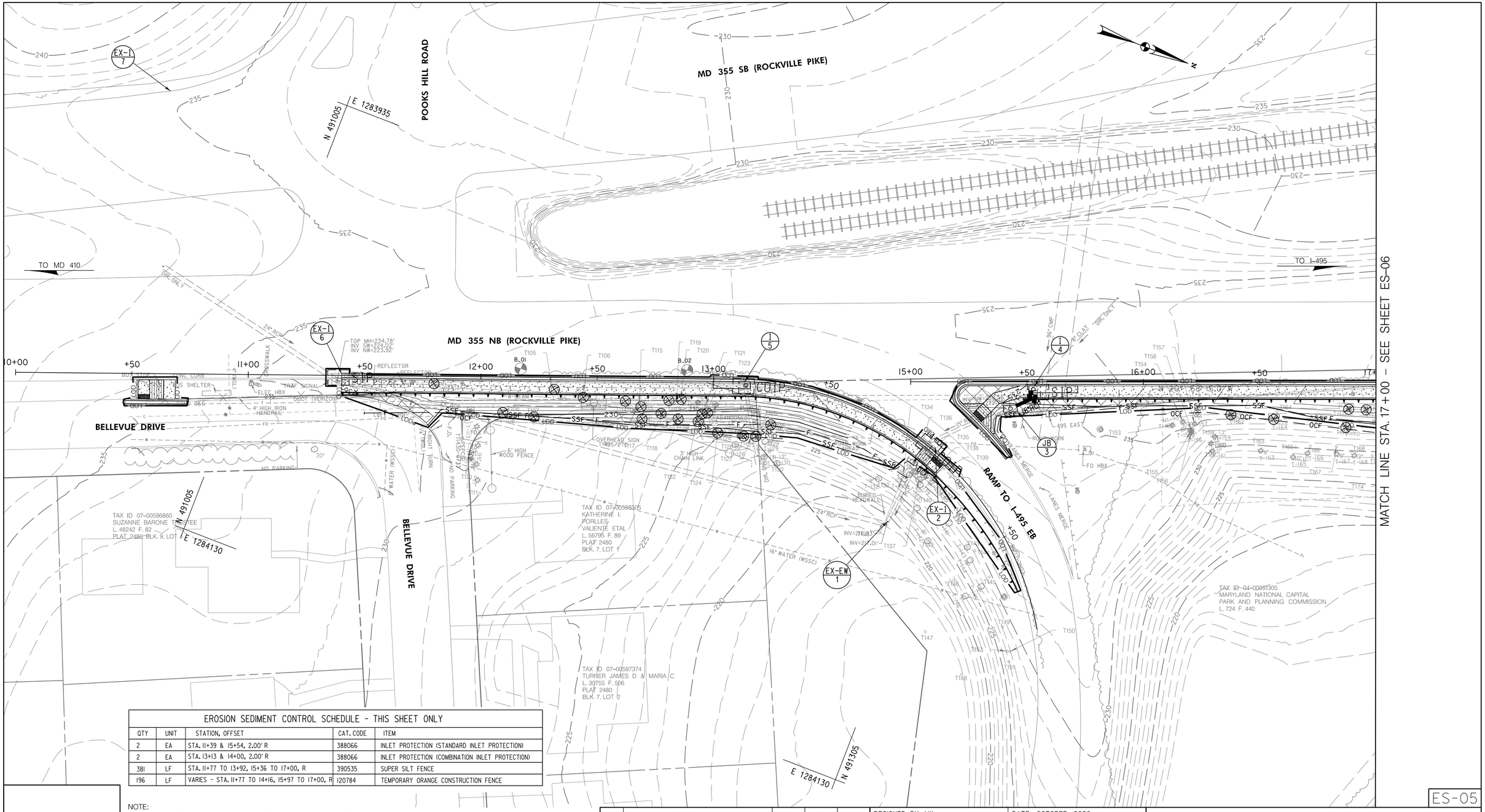
_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT CONTROL DETAILS

SCALE: N.T.S.

SHEET 037 of 102



EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
2	EA	STA. 11+39 & 15+54, 2.00' R	388066	INLET PROTECTION (STANDARD INLET PROTECTION)
2	EA	STA. 13+13 & 14+00, 2.00' R	388066	INLET PROTECTION (COMBINATION INLET PROTECTION)
381	LF	STA. 11+77 TO 13+92, 15+36 TO 17+00, R	390535	SUPER SILT FENCE
196	LF	VARIES - STA. 11+77 TO 14+16, 15+97 TO 17+00, R	120784	TEMPORARY ORANGE CONSTRUCTION FENCE

NOTE:
ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

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.
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BiPPA Bicycle and Pedestrian Priority Areas

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DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE I CONTROL PLAN

SCALE: 1"=20'

SHEET 038 of 102

ES-05

Monday, October 05, 2020 AT 01:48 PM
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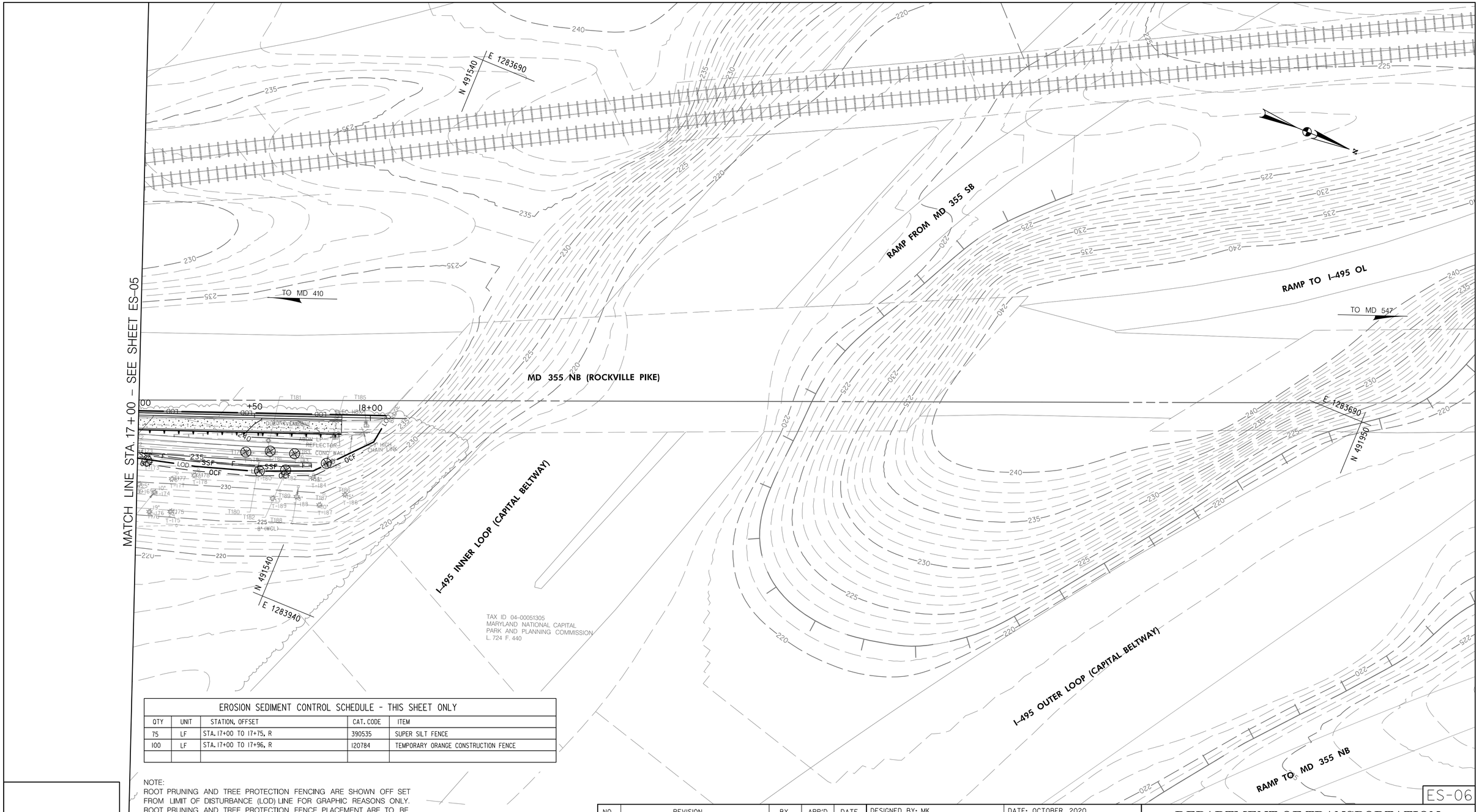

EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
75	LF	STA. 17+00 TO 17+75, R	390535	SUPER SILT FENCE
100	LF	STA. 17+00 TO 17+96, R	120784	TEMPORARY ORANGE CONSTRUCTION FENCE

NOTE:
ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

ES-06

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

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www.stantec.com

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE I CONTROL PLAN

SCALE: 1"=20' SHEET_____ of __102__

039

Monday, October 05, 2020 AT 01:48 PM
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I-495 RAMP

I-495 OL (CAPITAL BELTWAY)

N 492110
E 1283495

TO MD 410

I-270 RAMP

TO MD 547

REFLECTOR

MD 355 NB (ROCKVILLE PIKE)

6" (WGL)

CONSTRUCTION RAMP

DUCT (VERIZON)

CONC SIDEWALK

WARNING MERGING LANE

NO PARKING

YIELD

18+00

I-495 RAMP

E (SHA)

DUCT (SHA)

N 492110
E 1283700

N 492325
E 1283700

TAX ID: 04-00051305
MARYLAND NATIONAL CAPITAL
PARK AND PLANNING COMMISSION
L. 724 F. 440

EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
20	LF	STA. 18+47 TO 18+67, R	390535	SUPER SILT FENCE

ES-07

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN | DATE: OCTOBER, 2020
DRAWN BY: KN | DATE: OCTOBER, 2020
CHECKED BY: DHM III | DATE: OCTOBER, 2020
DRAWING NO.: | DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — 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.
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BiPPA Bicycle and Pedestrian Priority Areas

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE 2 CONTROL PLAN

SCALE: 1"=20'

SHEET 040 of 102

Monday, October 05, 2020 AT 01:48 PM
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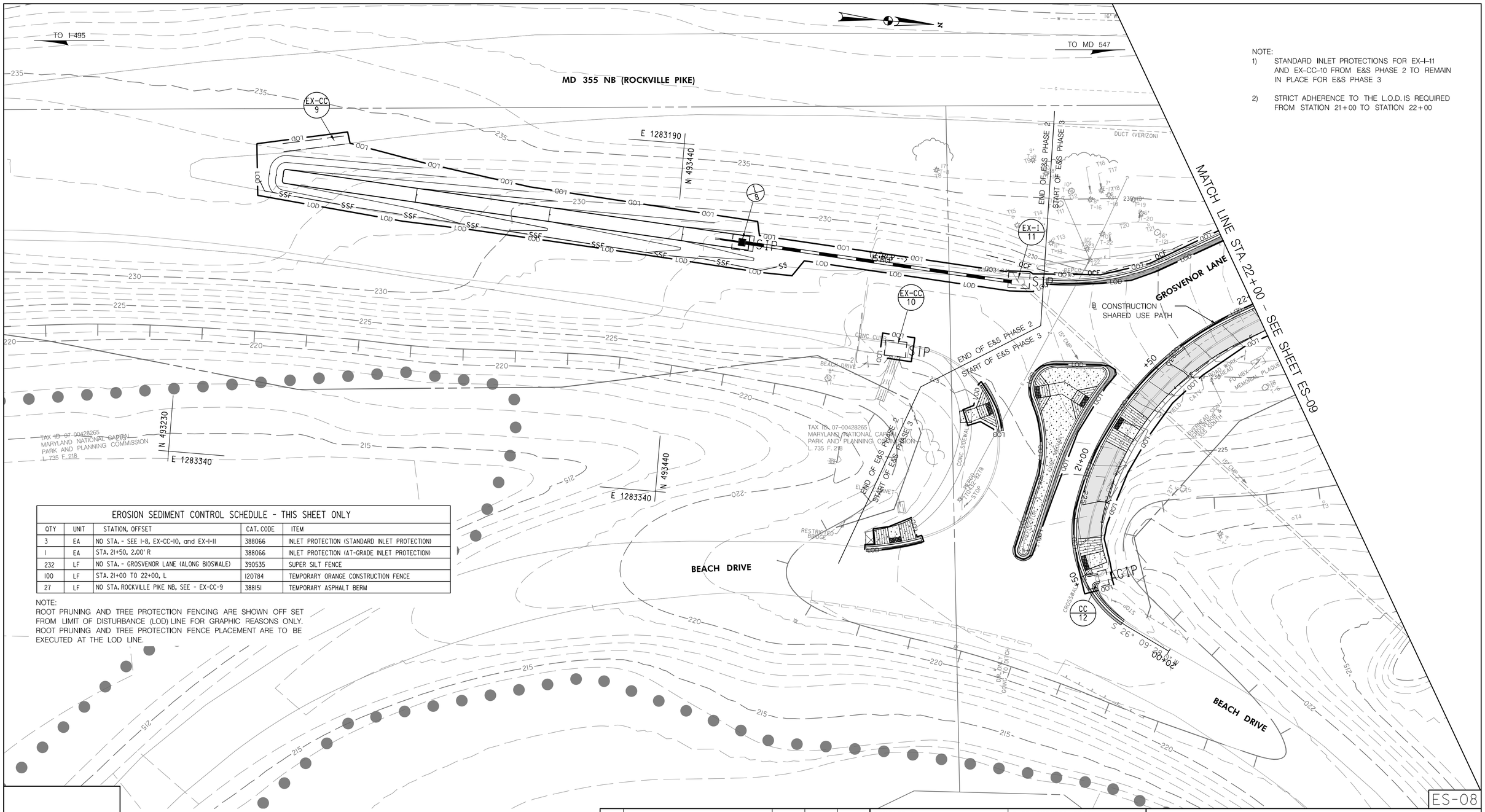

NOTE:
1) STANDARD INLET PROTECTIONS FOR EX-I-11 AND EX-CC-10 FROM E&S PHASE 2 TO REMAIN IN PLACE FOR E&S PHASE 3

2) STRICT ADHERENCE TO THE L.O.D. IS REQUIRED FROM STATION 21+00 TO STATION 22+00

EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
3	EA	NO STA. - SEE I-8, EX-CC-10, and EX-I-11	388066	INLET PROTECTION (STANDARD INLET PROTECTION)
1	EA	STA. 21+50, 2.00' R	388066	INLET PROTECTION (AT-GRADE INLET PROTECTION)
232	LF	NO STA. - GROSVENOR LANE (ALONG BIOSWALE)	390535	SUPER SILT FENCE
100	LF	STA. 21+00 TO 22+00, L	120784	TEMPORARY ORANGE CONSTRUCTION FENCE
27	LF	NO STA. ROCKVILLE PIKE NB, SEE - EX-CC-9	388151	TEMPORARY ASPHALT BERM

NOTE:
ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE 2 & 3 CONTROL PLAN

SCALE: 1"=20' SHEET 041 of 102

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: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:48 PM
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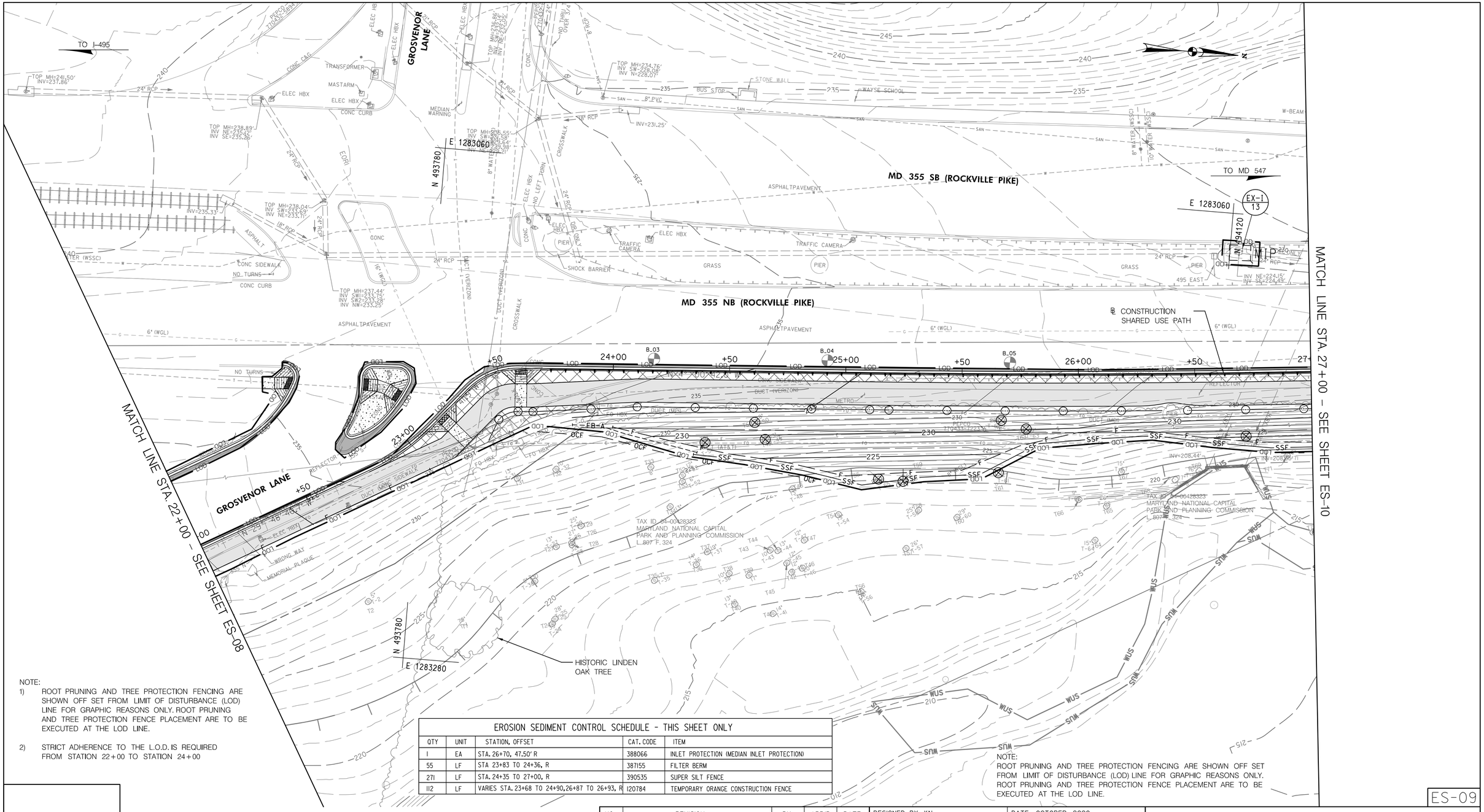


NOTE:
1) ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

2) STRICT ADHERENCE TO THE L.O.D. IS REQUIRED FROM STATION 22+00 TO STATION 24+00

NOTE:
ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
1	EA	STA. 26+70, 47.50' R	388066	INLET PROTECTION (MEDIAN INLET PROTECTION)
55	LF	STA 23+83 TO 24+36, R	387155	FILTER BERM
271	LF	STA. 24+35 TO 27+00, R	390535	SUPER SILT FENCE
112	LF	VARIES STA. 23+68 TO 24+90,26+87 TO 26+93, R	120784	TEMPORARY ORANGE CONSTRUCTION FENCE

SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS EROSION AND SEDIMENT- PHASE 3 CONTROL PLAN

SCALE: 1"=20'

SHEET 042 of 102

ES-09

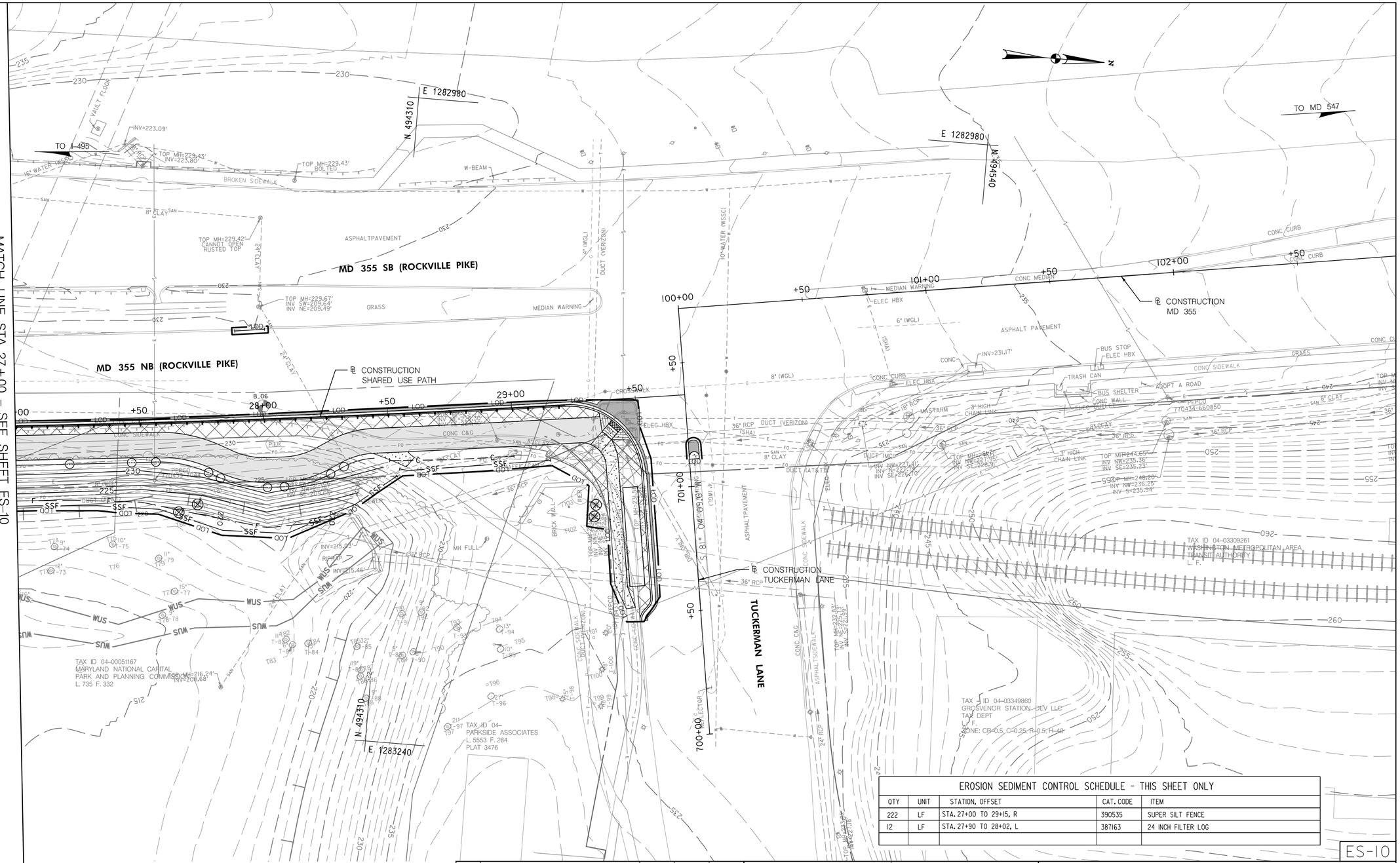
PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:48 PM
U:\2026011401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pES-P005_Grosvenor.dgn

MATCH LINE STA. 27+00 - SEE SHEET ES-10



EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
222	LF	STA. 27+00 TO 29+15, R	390535	SUPER SILT FENCE
12	LF	STA. 27+90 TO 28+02, L	387163	24 INCH FILTER LOG

ES-10

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT- PHASE 3 CONTROL PLAN

SCALE: 1"=20'

SHEET 043 of 102

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: _____

Stantec
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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:48 PM
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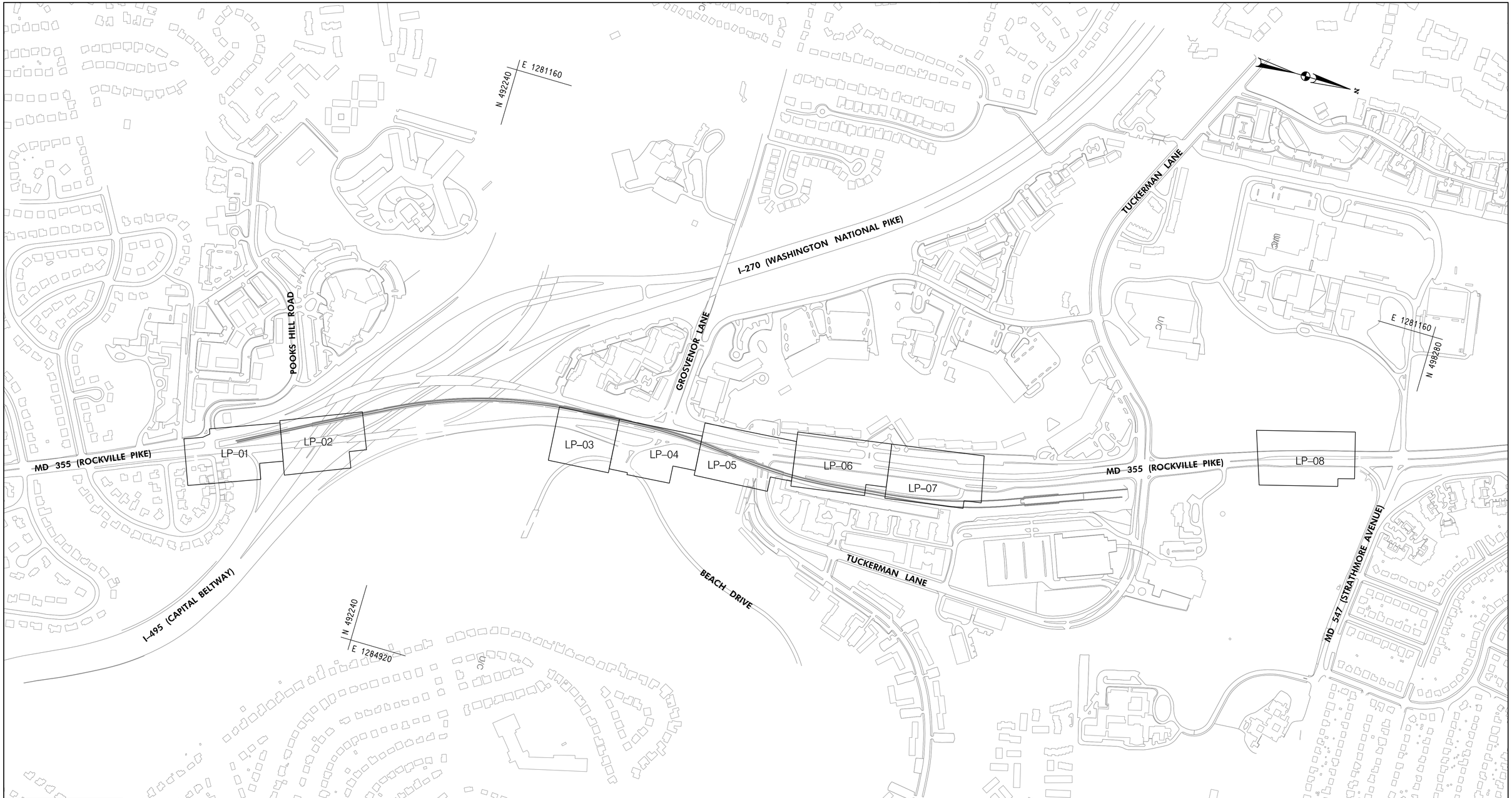

LP-KY

300' 0 300' 600'
SCALE: 1" = 300'

LANDSCAPE ARCHITECT
3199
KATHLEEN RENDEL DAHILL
STATE OF MARYLAND

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: 3190 EXPIRATION DATE: 05072021

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION
KEY PLAN

SCALE: 1"=300'

SHEET 044 of 102

Monday, October 05, 2020 AT 01:48 PM
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NOTES:

1. REFER TO EROSION AND SEDIMENT CONTROL /SWM PLAN FOR TREE PROTECTION FENCE (TOCF) & BIORETENTION SOIL MIX ITEMS AND QUANTITIES.
2. LOCATION OF TEMPORARY ORANGE CONSTRUCTION FENCE AND ROOT PRUING ARE SHOWN ON THE PLAN AS AN OFFSET FROM THE LIMIT OF DISTRUBANCE (LOD) FOR GRAPHIC PURPOSES ONLY, FENCE AND ROOT PRUING OPERATIONS SHALL BE LOCATED AT LOD LINE.
3. THIS IS A LINEAR PROJECT LOCATED ON MD 355 AND M-NCPPC PROPERTIES. THE LIMIT OF DISTURBANCE (LOD) IS 1.15 ACRES. LOD WITHIN SHA ROW IS 0.87 ACRES, AND 0.28 ACRES ON M-NCPPC PROPERTY. REFER TO FOREST CONSERVATION PLAN GROVESNOR IMPROVEMENTS #PFCP-SC2020015 FOR FOREST REMOVED AND REFORESTATION ON M-NCPPC PROPERTY.
4. FOREST REMOVAL WITHIN SHA MD 355 ROW IS 0.12 ACRES AND WILL BE MITIGATED WITH A ROADSIDE TREE PERMIT. THIS PLAN PROPOSES 0.054 ACRES OF UPLAND REFORESTATION.
5. SUBSOIL AND TOPSOIL QUANTITIES ARE INCREASED BY 10% TO PROVIDE FOR SHRINKAGE.

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
337	SY	STA. 11+60 TO STA. 14+00 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
306	SY	STA. 11+60 TO STA. 14+00 R	705405	TEMPORARY SEED	704
306	SY	STA. 11+60 TO STA. 14+00 R	705412	TEMPORARY MULCH	704
306	SY	STA. 11+60 TO STA. 14+00 R	705500	TURFGRASS ESTABLISHMENT	705
306	SY	STA. 11+60 TO STA. 14+00 R	709100	TYPE A SOIL STABILIZATION MATTING	709
248	LF	STA. 13+00 TO STA. 14+20 R	715050	TREE ROOT PRUNING	715

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
190	SY	STA. 15+00 R TO STA. 17+00 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
173	SY	STA. 15+00 R TO STA. 17+00 R	705405	TEMPORARY SEED	704
173	SY	STA. 15+00 R TO STA. 17+00 R	705412	TEMPORARY MULCH	704
173	SY	STA. 15+00 R TO STA. 17+00 R	705500	TURFGRASS ESTABLISHMENT	705
173	SY	STA. 15+00 R TO STA. 17+00 R	709100	TYPE A SOIL STABILIZATION MATTING	709
129	LF	STA. 15+00 R TO STA. 17+00 R	715050	TREE ROOT PRUNING	715

POOKS HILL ROAD

E 1283935
N 491105

TO MD 410

POT STA. 10+00.00

CRITICAL ROOT ZONE (TYP.)

MD 355 NB (ROCKVILLE PIKE)

SHA ROW FOREST REMOVAL

TURFGRASS ESTABLISHMENT

POT STA. 15+00.00

TO I-495

TURFGRASS ESTABLISHMENT

BELLEVUE DRIVE

RAMP TO I-495 EB

TREE ROOT PRUNING

TREE ROOT PRUNING

TREE ROOT PRUNING

TREE ROOT PRUNING

MATCH LINE STA. 17+00 - SEE SHEET LP-02

TAX ID 07-00596860
SUZANNE BARONE TRUSTEE
L. 48242 F. 82
PLAT 2480, BLK. 9, LOT 1

E 1284130
N 491005

TAX ID 07-00598505
KATHERINE I. PORILLES/ VALIENTE ETAL
L. 56795 F. 89
PLAT 2480
BLK. 7, LOT 1

TAX ID 07-00597374
TURNER JAMES D & MARIA C
L. 30755 F. 506
PLAT 2480
BLK. 7, LOT 2

TAX ID 07-00597237
MURIITHI SCHOLASTICA K
L. 42095 F. 426
PLAT -, BLK. 9, LOT 2

TAX ID 04-00051305
MARYLAND NATIONAL CAPITAL PARK AND PLANNING COMMISSION
L. 724 F. 440

PT STA. 14+92.39

E 1284130
N 491305

LANDSCAPE LEGEND

- **TURFGRASS ESTABLISHMENT**
- **SHA ROW FOREST REMOVAL 950.3 SF OR 0.02 ACRES**
- **TREE ROOT PRUNING**

LP-01

SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

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

BiPPA Bicycle and Pedestrian Priority Areas

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 045 of 102

Monday, October 05, 2020 AT 01:50 PM
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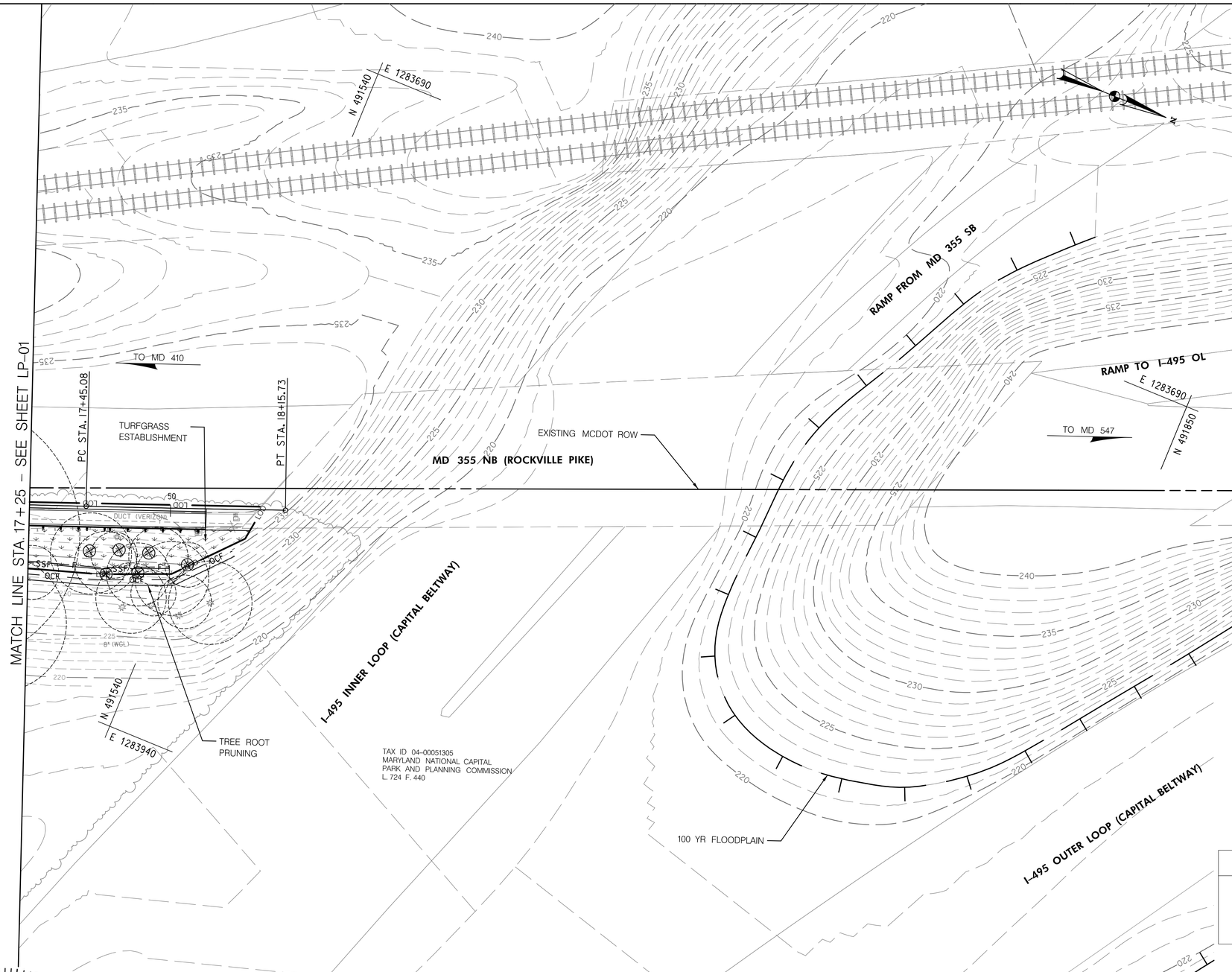
LANDSCAPE 700 ITEMS - THIS SHEET ONLY					
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
130	SY	STA. 17+25 TO STA. 18+10 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
118	SY	STA. 17+25 TO STA. 18+10 R	705405	TEMPORARY SEED	704
118	SY	STA. 17+25 TO STA. 18+10 R	705412	TEMPORARY MULCH	704
118	SY	STA. 17+25 TO STA. 18+10 R	705500	TURFGRASS ESTABLISHMENT	705
118	SY	STA. 17+25 TO STA. 18+10 R	709100	TYPE A SOIL STABILIZATION MATTING	709
93	LF	STA. 17+25 TO STA. 18+10 R	715050	TREE ROOT PRUNING	715



LANDSCAPE LEGEND

TURFGRASS ESTABLISHMENT

TREE ROOT PRUNING

LP-02

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

LANDSCAPE ARCHITECT
3199
KATHLEEN RENDEL DAHILL
STATE OF MARYLAND

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

BiPPA
Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 046 of 102

Monday, October 05, 2020 AT 01:50 PM
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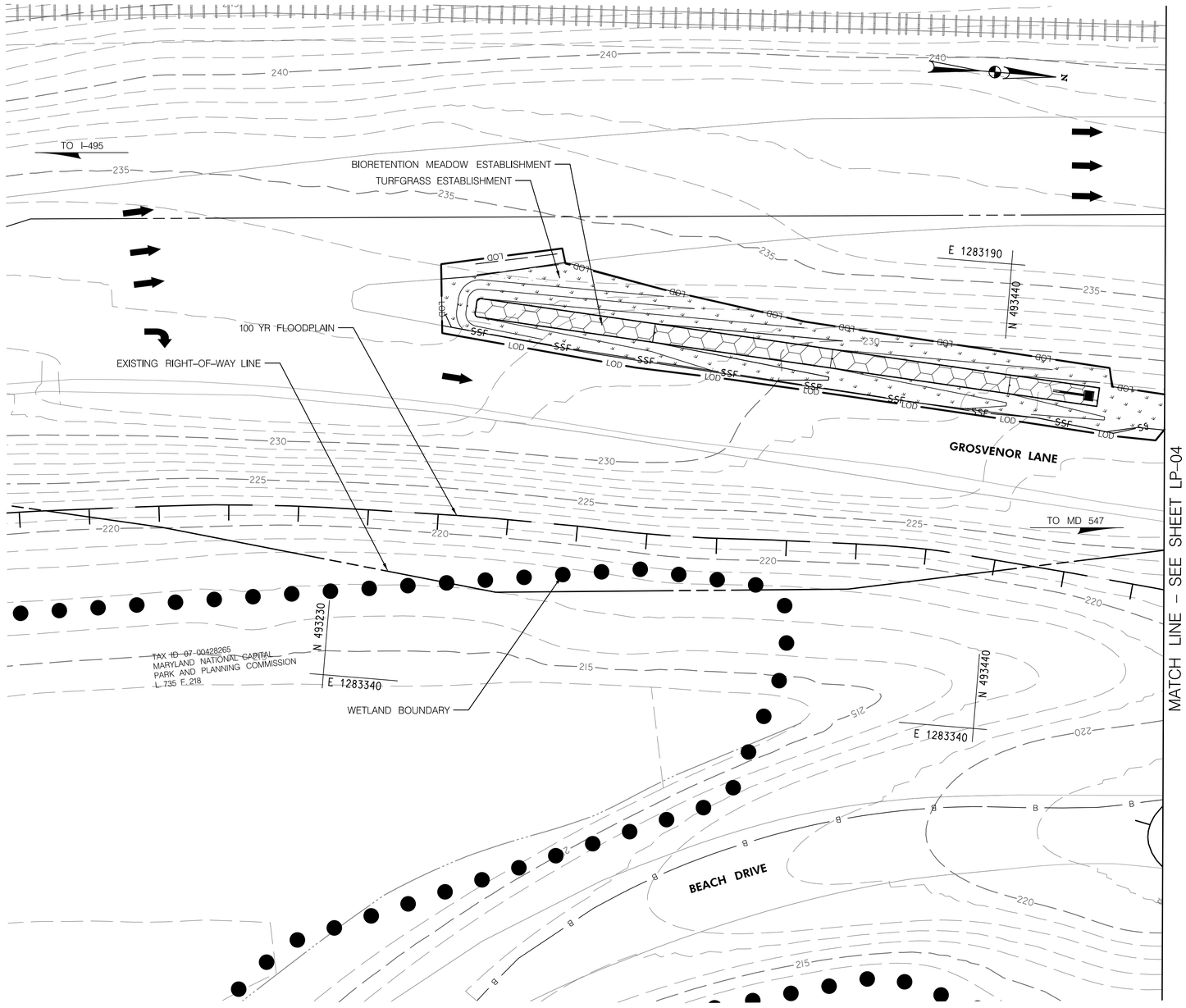
LANDSCAPE 700 ITEMS - THIS SHEET ONLY					
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
451	SY	SWM SWALE LOD AS SHOWN	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
410	SY	SWM SWALE LOD AS SHOWN	705405	TEMPORARY SEED	704
410	SY	SWM SWALE LOD AS SHOWN	705412	TEMPORARY MULCH	704
410	SY	SWM SWALE LOD AS SHOWN	705500	TURFGRASS ESTABLISHMENT	705
410	SY	SWM SWALE LOD AS SHOWN	709100	TYPE A SOIL STABILIZATION MATTING	709
135	SY	SWM SWALE LOD AS SHOWN	709110	TYPE B SOIL STABILIZATION MATTING	709
135	SY	SWM SWALE LOD AS SHOWN	707415	BIORETENTION MEADOW ESTABLISHMENT	700.02



LANDSCAPE LEGEND

TURFGRASS ESTABLISHMENT

BIORETENTION MEADOW ESTABLISHMENT

20' 0 20' 40'

SCALE: 1" = 20'

LANDSCAPE ARCHITECT
3199
KATHLEEN RENDEL DAHILL
STATE OF MARYLAND

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

LP-03

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 047 of 102

Monday, October 05, 2020 AT 01:51 PM
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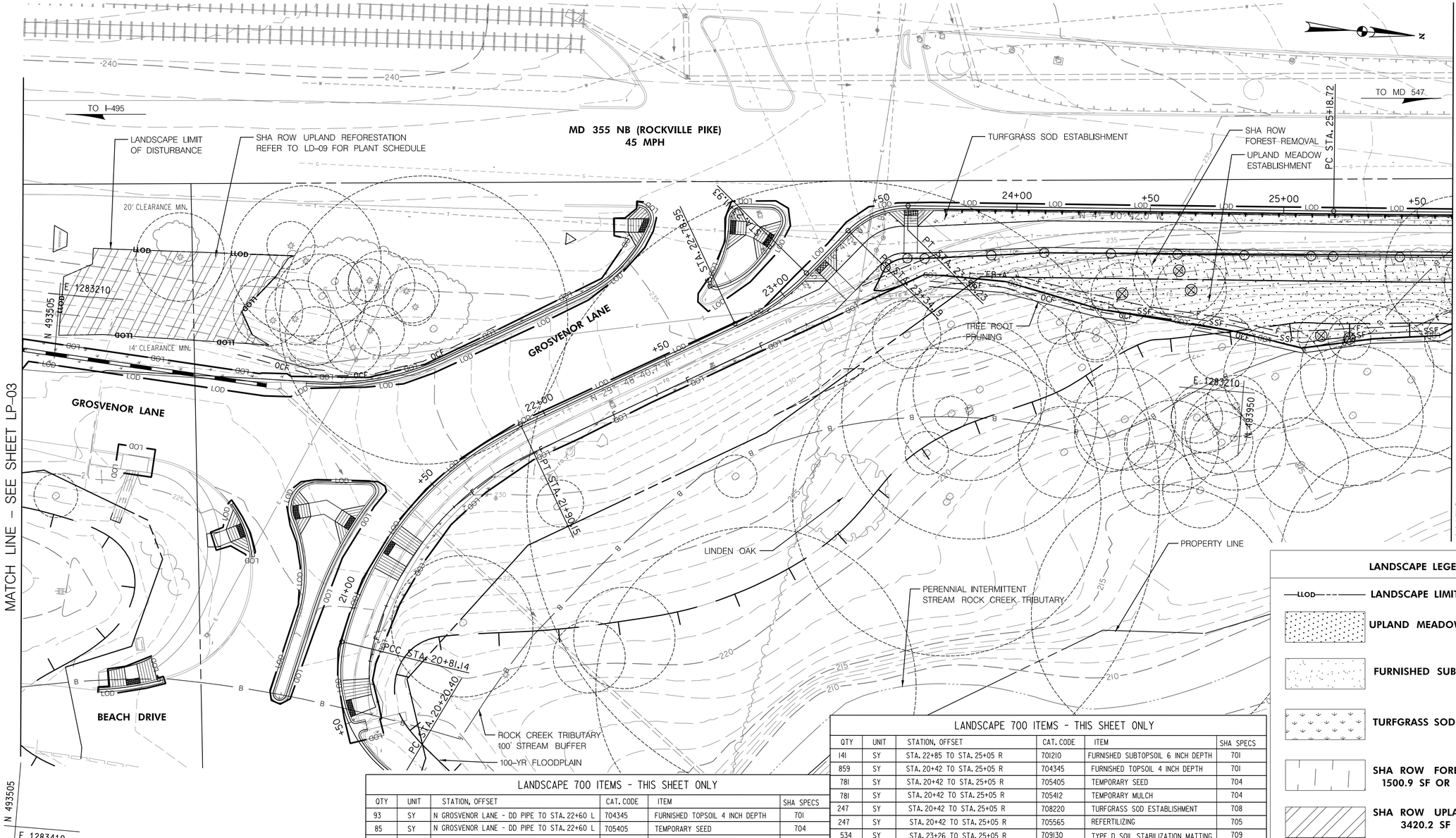

NOTE:
LANDSCAPE LIMIT OF DISTURBANCE (LLOD) DELINEATED FOR LANDSCAPE ACTIVITIES BEYOND THE LIMIT OF DISTURBANCE (LOD). THE LLOD IS 2,366 SQUARE FEET AS SHOWN. THE LLOD WORK TO INCLUDE INSTALLATION OF TREES AND SHRUBS IN INDIVIDUAL PLANTING PITS. GRADING, CLEARING AND GRUBBING, PLACEMENT OF SOIL LAYERS OR STORAGE OF EQUIPMENT OR MATERIALS ARE PROHIBITED IN THE LLOD.

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
93	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	705405	TEMPORARY SEED	704
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	705412	TEMPORARY MULCH	704
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	708220	TURFGRASS SOD ESTABLISHMENT	708
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	705565	REFERTILIZING	705
100	LF	N GROSVENOR LANE - EX. TREES L	715050	TREE ROOT PRUNING	715

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
141	SY	STA. 22+85 TO STA. 25+05 R	701210	FURNISHED SUBTOPSOIL 6 INCH DEPTH	701
859	SY	STA. 20+42 TO STA. 25+05 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
781	SY	STA. 20+42 TO STA. 25+05 R	705405	TEMPORARY SEED	704
781	SY	STA. 20+42 TO STA. 25+05 R	705412	TEMPORARY MULCH	704
247	SY	STA. 20+42 TO STA. 25+05 R	708220	TURFGRASS SOD ESTABLISHMENT	708
247	SY	STA. 20+42 TO STA. 25+05 R	705565	REFERTILIZING	705
534	SY	STA. 23+26 TO STA. 25+05 R	709130	TYPE D SOIL STABILIZATION MATTING	709
534	SY	STA. 23+26 TO STA. 25+05 R	707400	UPLAND MEADOW ESTABLISHMENT	707
185.0	LF	STA. 23+80 TO STA. 25+05 R	715050	TREE ROOT PRUNING	715
0.08	AC	LLOD (3420.2 SF)	710150	UPLAND REFORESTATION TREE, SHRUB, AND PERENNIAL INSTALLATION & ESTB.	710
1	LS				

LANDSCAPE LEGEND

- LLOD — LANDSCAPE LIMIT OF DISTURBANCE
- UPLAND MEADOW ESTABLISHMENT
- FURNISHED SUBSOIL 6" DEPTH
- TURFGRASS SOD ESTABLISHMENT
- SHA ROW FOREST REMOVAL 1500.9 SF OR 0.03 ACRES
- SHA ROW UPLAND REFORESTATION 3420.2 SF OR 0.08 ACRES
- TREE ROOT PRUNING

LP-04

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

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

BiPPA Bicycle and Pedestrian Priority Areas

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 048 of 102

Monday, October 05, 2020 AT 01:52 PM
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MATCH LINE STA. 25+05 – SEE SHEE LP-04

MATCH LINE STA. 102+00 – SEE SHEE LP-06

E 1282980
N 494145

E 1282980
N 494570

MD 355 SB (ROCKVILLE PIKE)

MD 355 NB (ROCKVILLE PIKE)

TO MD 547

TO I-495

POT STA. 100+00.00

POT STA. 701+71.93
= POT STA. 100+00

PT STA. 29+70.00
= 701+37.08

PT STA. 29+70.00

POT STA. 700+00.00

TUCKERMAN LANE

UPLAND MEADOW ESTBLISHMENT

TURFGRASS SOD ESTABLISHMENT

SHA ROW FOREST REMOVAL

TREE ROOT PRUNING

TAX ID 04-00428323
MARYLAND NATIONAL CAPITAL
PARK AND PLANNING COMMISSION
L. 807 F. 324

TAX ID 04-00051167
MARYLAND NATIONAL CAPITAL
PARK AND PLANNING COMMISSION
L. 735 F. 332

TAX ID 04-
PARKSIDE ASSOCIATES
L. 5553 F. 284
PLAT 3476

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
235	SY	STA. 25+05 TO STA. 29+50 R	701210	FURNISHED SUBTOPSOIL 6 INCH DEPTH	701
944	SY	STA. 25+05 TO STA. 29+50 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
858.0	SY	STA. 25+05 TO STA. 29+50 R	705405	TEMPORARY SEED	704
858.0	SY	STA. 25+05 TO STA. 29+50 R	705412	TEMPORARY MULCH	704
269	SY	STA. 25+05 TO STA. 29+50 R	708220	TURFGRASS SOD ESTABLISHMENT	708
269	SY	STA. 25+05 TO STA. 29+50 R	705565	REFERTILIZING	705
590	SY	STA. 25+05 TO STA. 28+50 R	709130	TYPE D SOIL STABILIZATION MATTING	709
590	SY	STA. 25+05 TO STA. 28+50 R	707400	UPLAND MEADOW ESTABLISHMENT	707
300	LF	STA. 25+05 TO STA. 28+50 R	715050	TREE ROOT PRUNING	715

LANDSCAPE LEGEND

- LLOD — LANDSCAPE LIMIT OF DISTURBANCE
- UPLAND MEADOW ESTABLISHMENT
- FURNISHED SUBSOIL 6" DEPTH
- TURFGRASS SOD ESTABLISHMENT
- SHA ROW FOREST REMOVAL 2671.4 SF OR 0.06 ACRES
- TREE ROOT PRUNING

LP-05

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

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

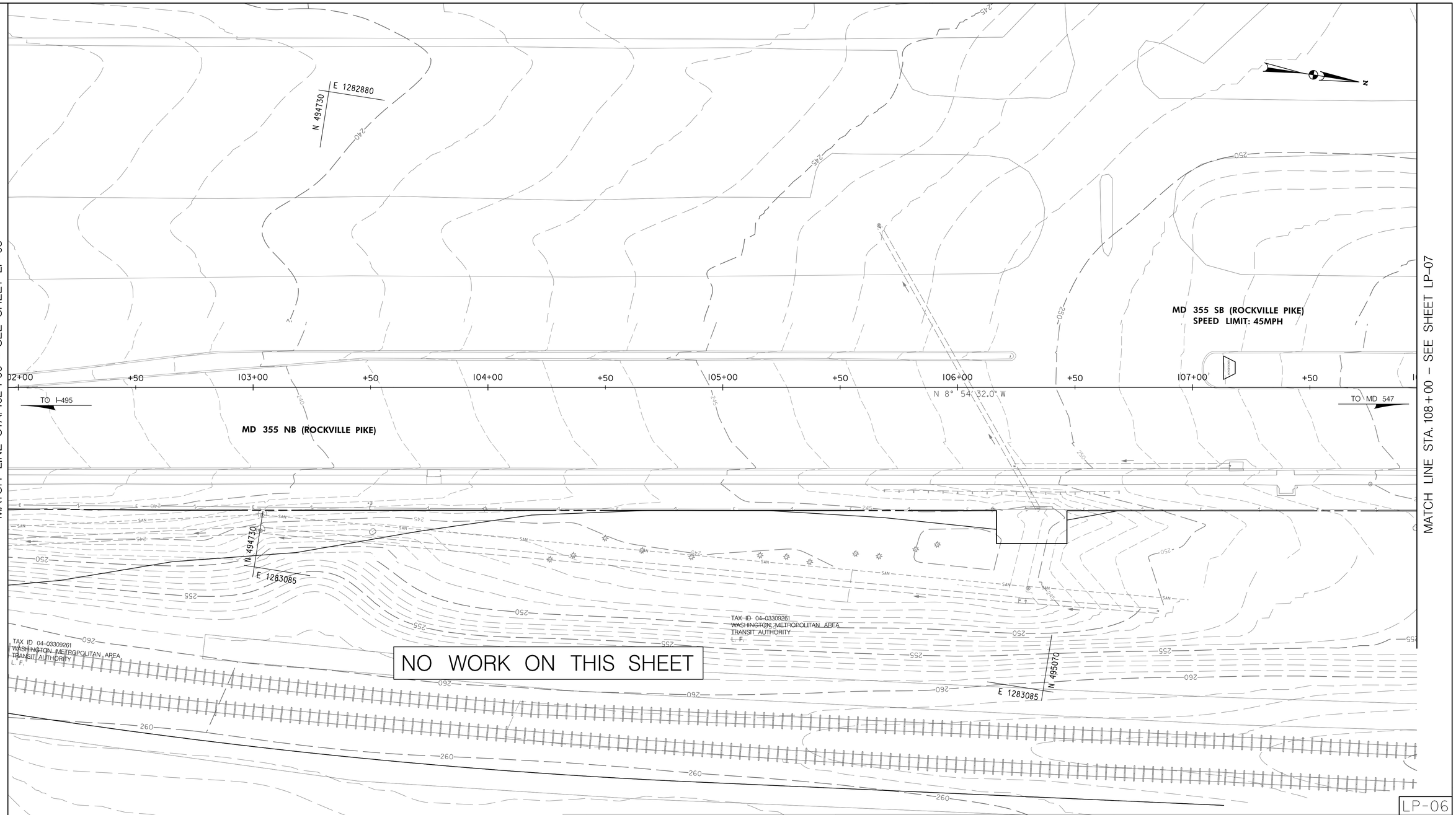
SCALE: 1"=20'

SHEET 049 of 102

Monday, October 05, 2020 AT 01:52 PM
U:\2026011401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pLP-P005_Grosvenor.dgn

MATCH LINE STA. 102+00 – SEE SHEET LP–05

MATCH LINE STA. 108+00 – SEE SHEET LP–07



LP-06

NO LANDSCAPE ITEMS THIS SHEET

SCALE: 1" = 20'

LANDSCAPE ARCHITECT
3199
KATHLEEN RENDEL DAHILL
STATE OF MARYLAND

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Baltimore, MD 21286
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BiPPA
Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 050 of 102

Monday, October 05, 2020 AT 01:54 PM
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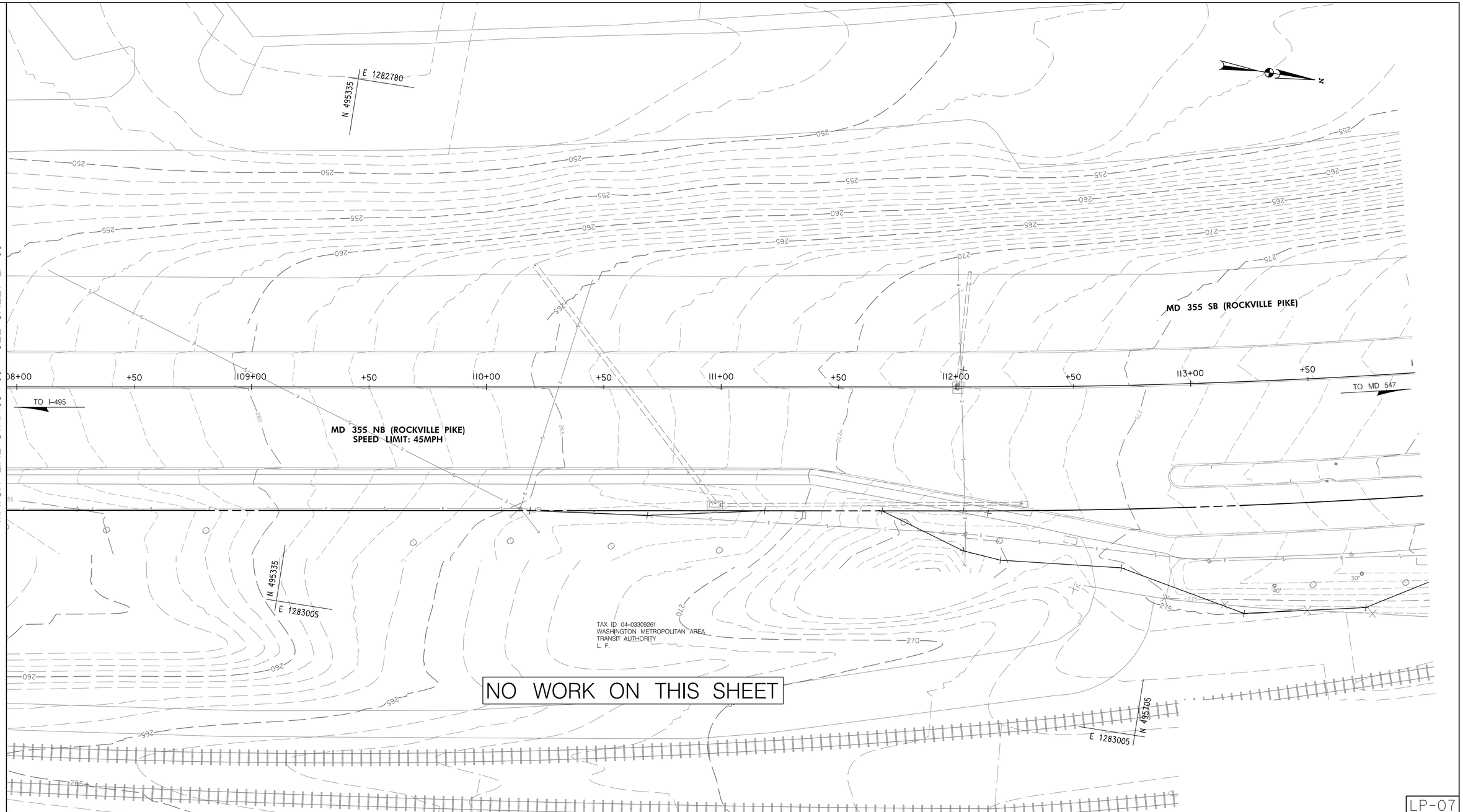
MATCH LINE STA. 108+00 – SEE SHEET LP-06



LP-07

NO LANDSCAPE ITEMS THIS SHEET

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

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APPROVED

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Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 052 of 102

Monday, October 05, 2020 AT 01:54 PM
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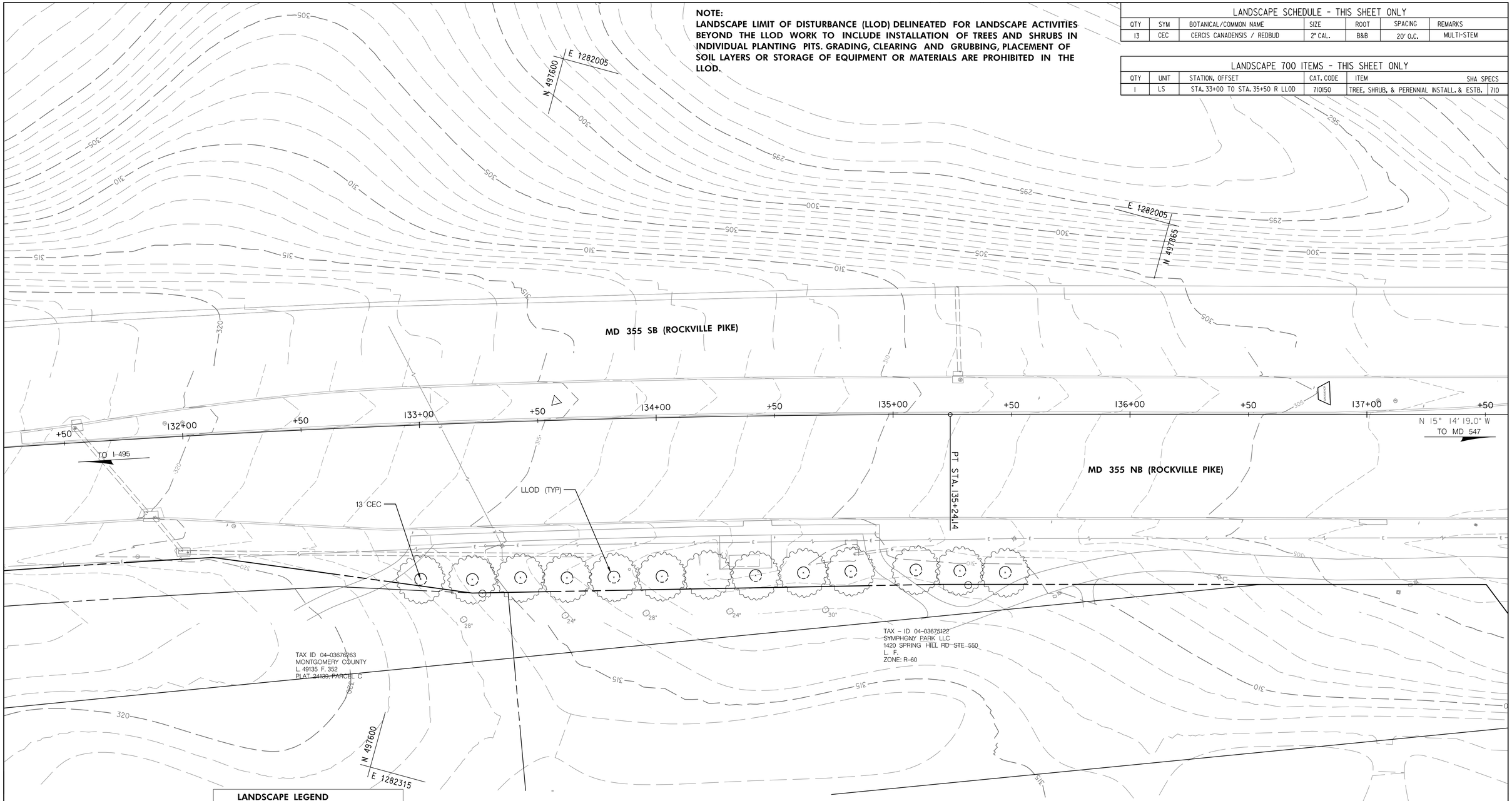
NOTE:
LANDSCAPE LIMIT OF DISTURBANCE (LLOD) DELINEATED FOR LANDSCAPE ACTIVITIES BEYOND THE LLOD WORK TO INCLUDE INSTALLATION OF TREES AND SHRUBS IN INDIVIDUAL PLANTING PITS. GRADING, CLEARING AND GRUBBING, PLACEMENT OF SOIL LAYERS OR STORAGE OF EQUIPMENT OR MATERIALS ARE PROHIBITED IN THE LLOD.

LANDSCAPE SCHEDULE - THIS SHEET ONLY						
QTY	SYM	BOTANICAL/COMMON NAME	SIZE	ROOT	SPACING	REMARKS
13	CEC	CERCIS CANADENSIS / REDBUD	2" CAL.	B&B	20' O.C.	MULTI-STEM

LANDSCAPE 700 ITEMS - THIS SHEET ONLY					
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
1	LS	STA. 33+00 TO STA. 35+50 R LLOD	710150	TREE, SHRUB, & PERENNIAL INSTALL. & ESTB.	710



LANDSCAPE LEGEND

ORNAMENTAL TREES

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

LP-08

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
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RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

LANDSCAPE ARCHITECT
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STATE OF MARYLAND

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GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 052 of 102

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

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 A HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=44

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

7.4 SHA STANDARD DETAILS FOR TREES, SHRUBS AND PLANTING BEDS. THE INSTALLATION OF TREES, SHRUBS, PLANTING BEDS AND OTHER LANDSCAPE CONSTRUCTION RELATED TO SECTION 710 OF THE SHA STANDARD SPECIFICATIONS SHALL CONFORM TO THE "SHA BOOK OF STANDARDS FOR HIGHWAY & INCIDENTAL STRUCTURES - CATEGORY 7" AT HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZSTDSSPECS/DESMANUALSTDPUB/PUBLICATIONSONLINE/OHD/BOOKSTD/TOCCAT7.ASP

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.

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

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 WITIN 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.

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

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

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

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

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

7.11 SOIL STABILIZATION MATTING SHALL BE INSTALLED IN CONFORMATCE WITH SECTION 709 OF THE SAHA STANDARD SPECIFICATIONS, IN CONJUCTION WITH TRUFGRASS 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 CONJUCTION WITH TURFGRASS ESTABLISHMENT.
2. AREAS STEEEPER THAN 6:1 AND FLATTER THAN 4:1. TYPE A OR TYPE E MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDORMULCH BINDER IN CONJUCTION 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 BINDR IN CONJUCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE.
4. IN AREA OF MEADOW ESTABLISHMENT WITH TYPE D SOIL STABILLIZATION MATTING, THE MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.
5. IN HIGH VELOCITY CHANNELS WITH TURFGRASS ESTABLISHMENT, TYPE B SOIL STABILIZTION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.

7.12 MEADOW ESTABLISHMENT OF SHRUB SEDDING ESTABLISHMENT SHALL BE PERFORMED IN AREAS AS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTIONS 706 AND 707 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRES.

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

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

1. A COPY OF THE RTP OR FCP SHALL BE SUBMITTED TO THE SHA OFFICE OF ENVIRONMENTAL DESIGN BEFORE WORK IS PERFORMED, AND A COPY OF THE RTP OR FCP SHALL BE REPRODUCED IN THE PLANS OR BE IN POSSESSION OF THE APPLICANT AT THE PROJECT SITE WHEN THE PERMITTED WORK IS PERFORMED.
2. A MARYLAND LICENSED TREE EXPERT SHALL PERFORM THE SPECIFIED TREE OPERATIONS IN CONFORMANCE WITH THE SHA STANDARD SPECIFICATIONS AND ANSI A300 STANDARDS FOR TREE CARE OPERATIONS.

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

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

UPLAND REFORESTATION PLANT SCHEDULE FOR MCDOT-ROW

UPLAND REFORESTATION PLANTINGS (UR)

OVERALL QTY. TREES / SHRUBS PER ACRE: 200 / 150
TOTAL TREES / SHRUBS PER ZONE: 11 / 9
TOTAL ZONE SIZE (ACRES): 0.05

QUANTITY	LD-05 QTY	DESCRIPTION		ROOT TYPE	MINIMUM CONTAINER SIZE [1]	SIZE OR HEIGHT	MAXIMUM SPACING	NOTES
		BOTANICAL NAME	COMMON NAME [3]					
60%		**OVERSTORY TREES 1.25"**						
2	2	*Quercus alba*	White Oak	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
2	2	*Quercus velutina*	Black Oak	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
2	2	*Liriodendron tulipifera*	Tuliptree	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
2	2	*Nyssa sylvatica*	Blackgum	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
30%		**UNDERSTORY TREES**						
1	1	*Cercis canadensis*	Eastern Redbud	CONT.	B&B	1.5" CAL	17 FT. ON CENTER	Multi-stem
1	1	*Amelanchier arborea*	Downy Serviceberry	CONT.	B&B	1.5" CAL	17 FT. ON CENTER	Tree form or multi-stem
10%		**EVERGREEN TREES 1.25"**						
1	1	*Pinus strobus*	White Pine	CONT.	B&B	6 FT. HT.	20 FT. ON CENTER	Central Leader
100% of 200		**SHRUBS 24" HT**						
3	3	*Hammemelis virginiana*	Witchhazel	CONT.	#3	24 IN. HT.	5 FT. ON CENTER	
3	3	*Rhus glabra*	Smooth Sumac	CONT.	#3	24 IN. HT.	5 FT. ON CENTER	Edge Planting
3	3	*Viburnum acerifolium*	Mapleleaf Viburnum	CONT.	#3	24 IN. HT.	5 FT. ON CENTER	

TABLE OF FOREST REMOVAL AND REFORESTATION
FOREST REMOVAL (CLEARING AND GRUBBING)
FOREST REMOVAL 5122.6 SF OR 0.12 ACRES
REFORESTATION (TREES, SHRUBS, AND PERENNIAL INSTALLATION AND ESTABLISHMENT)
REFORESTATION SHA ROW 2366 SF OR 0.054 ACRES

MASTER LANDSCAPE SCHEDULE						
QTY	SYM	BOTANICAL/COMMON NAME	SIZE	ROOT	SPACING	REMARKS
13	CEC	CERCIS CANADENSIS / REDBUD	2" CAL.	B&B	20' O.C.	MULTI-STEM

MASTER LANDSCAPE 700 ITEMS				
QTY	UNIT	CAT. CODE	ITEM	SHA SPECS
376	SY	701210	FURNISHED SUBTOPSOIL 6 INCH DEPTH	701
3003	SY	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
2731	SY	705405	TEMPORARY SEED	704
2731	SY	705412	TEMPORARY MULCH	704
601	SY	708220	TURFGRASS SOD ESTABLISHMENT	708
601	SY	705565	REFERTILIZING	705
1007	SY	705500	TURFGRASS ESTABLISHMENT	705
1092	SY	709100	TYPE A SOIL STABILIZATION MATTING	709
135	SY	709110	TYPE B SOIL STABILIZATION MATTING	709
1124	SY	709130	TYPE D SOIL STABILIZATION MATTING	709
1124	SY	707400	UPLAND MEADOW ESTABLISHMENT	707
135	SY	707415	BIORETENTION MEADOW ESTABLISHMENT	700.02
1055	LF	715050	TREE ROOT PRUNING	715
1	LS	710150	TREE, SHRUB, & PERENNIAL INSTALL.& ESTB.	710

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

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

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Baltimore, MD 21286
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK — DATE: OCTOBER, 2020
DRAWN BY: MK — DATE: OCTOBER, 2020
CHECKED BY: DHM III — DATE: OCTOBER, 2020
DRAWING NO.: — DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

LP-09

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 053 of 102

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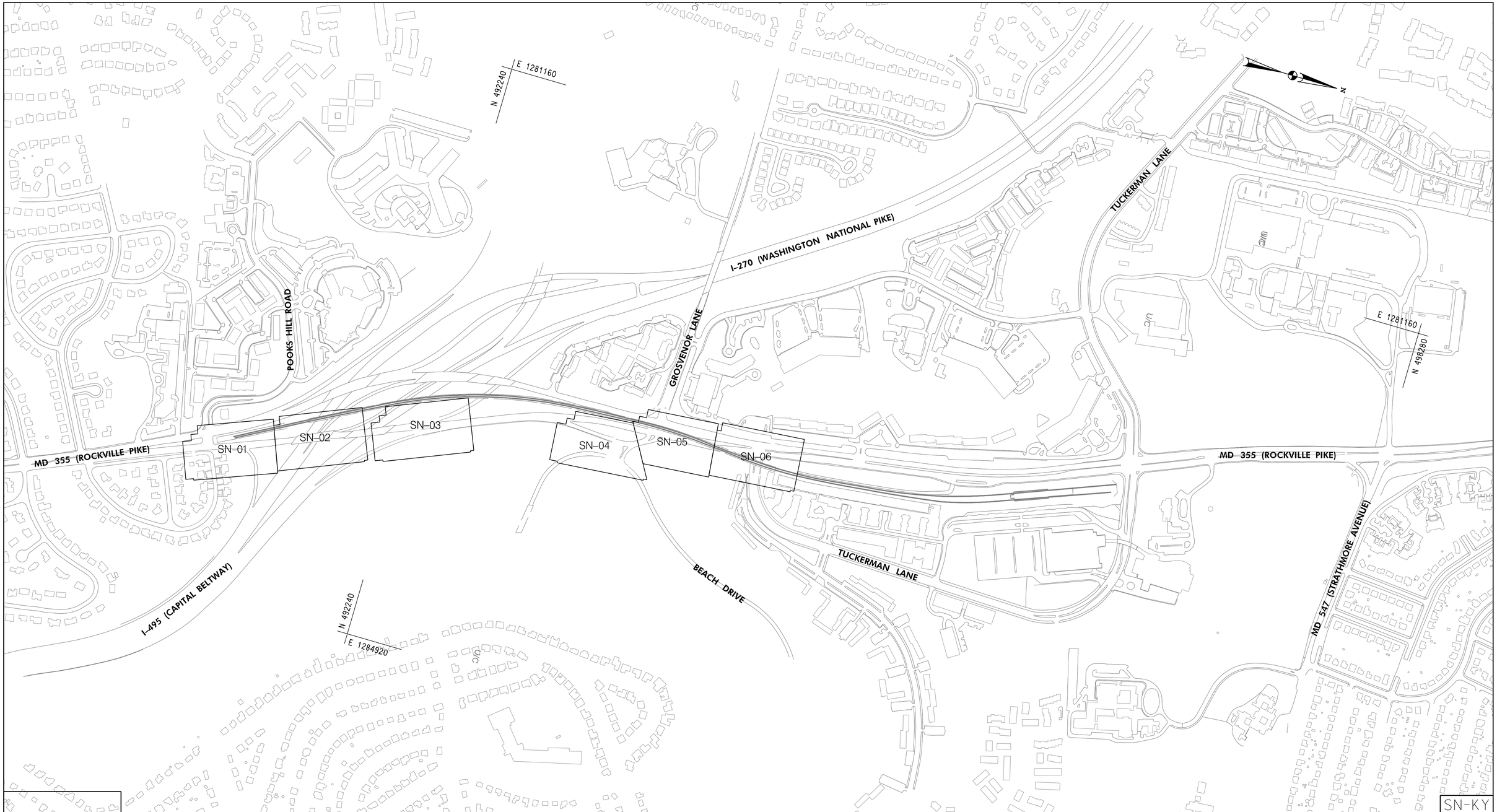

300' 0 300' 600'

SCALE: 1" = 300'

Monday, October 05, 2020 AT 01:55 PM
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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.
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CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SIGNING & PAVEMENT MARKING
KEY PLAN

SCALE: 1"=300'

SHEET 054 of 102

PAVEMENT MARKING LEGEND

(A) INSTALL 5 INCH YELLOW PAVEMENT MARKING
(B) INSTALL 5 INCH WHITE PAVEMENT MARKING
(C) INSTALL 5 INCH WHITE PAVEMENT MARKING, 10–30–10 SKIP
(D) INSTALL 5 INCH WHITE PAVEMENT MARKING, 3–9–3 SKIP
(E) INSTALL 10 INCH WHITE PAVEMENT MARKING,
(F) INSTALL 12 INCH WHITE PAVEMENT MARKING
(G) INSTALL 24 INCH WHITE PAVEMENT MARKING
(H) REMOVE EXISTING PAVEMENT MARKING

SIGN LEGEND

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

POOKS HILL ROAD
MD 355 SB (ROCKVILLE PIKE)
MD 355 NB (ROCKVILLE PIKE)
BELLEVUE DRIVE
TO MD 410
TO I–495
CONSTRUCTION SIDEWALK
RAMP TO I–495 EB
N 491005
E 1283935
E 1284130
N 491305
N 20° 29' 51.3" W
N 20° 58' 15.0" W
10+00
11+00
12+00
13+00
14+00
15+00
16+00
17+
+50
RIDE ON BUS
ACROSS RAMP
W13–4(1) 36" x 24" 6.0 SF
W11–2 36" x 36" 9.0 SF
W16–7pL 24" x 12" 2.0 SF
W16–7pR 24" x 12" 2.0 SF
2.2 SF
5.0 SF
2.0 SF
M3–2 (INTERSTATE) 24" x 12" 2.0 SF
M6–2R (INTERSTATE) 21" x 15" 2.2 SF
M1–1 30" x 24" 5.0 SF
495 EAST
495 Beltway EAST Baltimore Silver Spring
SECOND LEFT NORTH
NEXT LEFT WEST
MATCH LINE STA. 17+00 – SEE SHEET SN–02

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

SN–01

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.
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RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SIGNING & PAVEMENT MARKING PLAN

SCALE: 1"=20'

SHEET 055 of 102

Monday, October 05, 2020 AT 01:55 PM
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PAVEMENT MARKING LEGEND

(A) INSTALL 5 INCH YELLOW PAVEMENT MARKING
(B) INSTALL 5 INCH WHITE PAVEMENT MARKING
(C) INSTALL 5 INCH WHITE PAVEMENT MARKING, 10–30–10 SKIP
(D) INSTALL 5 INCH WHITE PAVEMENT MARKING, 3–9–3 SKIP
(E) INSTALL 10 INCH WHITE PAVEMENT MARKING,
(F) INSTALL 12 INCH WHITE PAVEMENT MARKING
(G) INSTALL 24 INCH WHITE PAVEMENT MARKING
(H) REMOVE EXISTING PAVEMENT MARKING

SIGN LEGEND

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

N 491540
E 1283690
N
RAMP FROM MD 355 SB
TO MD 410
RAMP TO I-495 OL
TO MD 547
℄ CONSTRUCTION SIDEWALK
MD 355 NB (ROCKVILLE PIKE)
00
+50
18+00
E 1283690
N 491950
MATCH LINE STA. 17+00 – SEE SHEET SN-01
I-495 INNER LOOP (CAPITAL BELTWAY)
N 491540
E 1283940
495 Beltway EAST Northern Virginia
270 NORTH Frederick
I-495 OUTER LOOP (CAPITAL BELTWAY)
RAMP TO MD 355 NB

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

SN-02

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: _____

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

BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SIGNING & PAVEMENT MARKING PLAN

SCALE: 1"=20'

SHEET 056 of 102

Monday, October 05, 2020 AT 01:55 PM
U:\2026011401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pSN-P002_Grosvenor.dgn

PAVEMENT MARKING LEGEND

(A) INSTALL 5 INCH YELLOW PAVEMENT MARKING
(B) INSTALL 5 INCH WHITE PAVEMENT MARKING
(C) INSTALL 5 INCH WHITE PAVEMENT MARKING, 10–30–10 SKIP
(D) INSTALL 5 INCH WHITE PAVEMENT MARKING, 3–9–3 SKIP
(E) INSTALL 10 INCH WHITE PAVEMENT MARKING,
(F) INSTALL 12 INCH WHITE PAVEMENT MARKING
(G) INSTALL 24 INCH WHITE PAVEMENT MARKING
(H) REMOVE EXISTING PAVEMENT MARKING

SIGN LEGEND

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

I–495 RAMP

N 492110
E 1283495

I–495 OL (CAPITAL BELTWAY)

TO MD 410

I–270 RAMP

TO MD 547

MD. 355 NB (ROCKVILLE PIKE)

℄ CONSTRUCTION RAMP

18+00

+50

I–495 RAMP

G

H

W11–2
36" x 36"
9.0 SF

W16–7pR
24" x 12"
2.0 SF

W11–2
36" x 36"
9.0 SF

W16–7pL
24" x 12"
2.0 SF

W11–2
36" x 36"
9.0 SF

ACROSS RAMP

W13–4(1)
36" x 24"
6.0 SF

N 492110
E 1283700

ACROSS RAMP

W13–4(1)
36" x 24"
6.0 SF

W11–2
36" x 36"
9.0 SF

270 Frederick

355 Rockville

E 1283700
N 492325

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

SN-03

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 057 of 102

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

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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:55 PM
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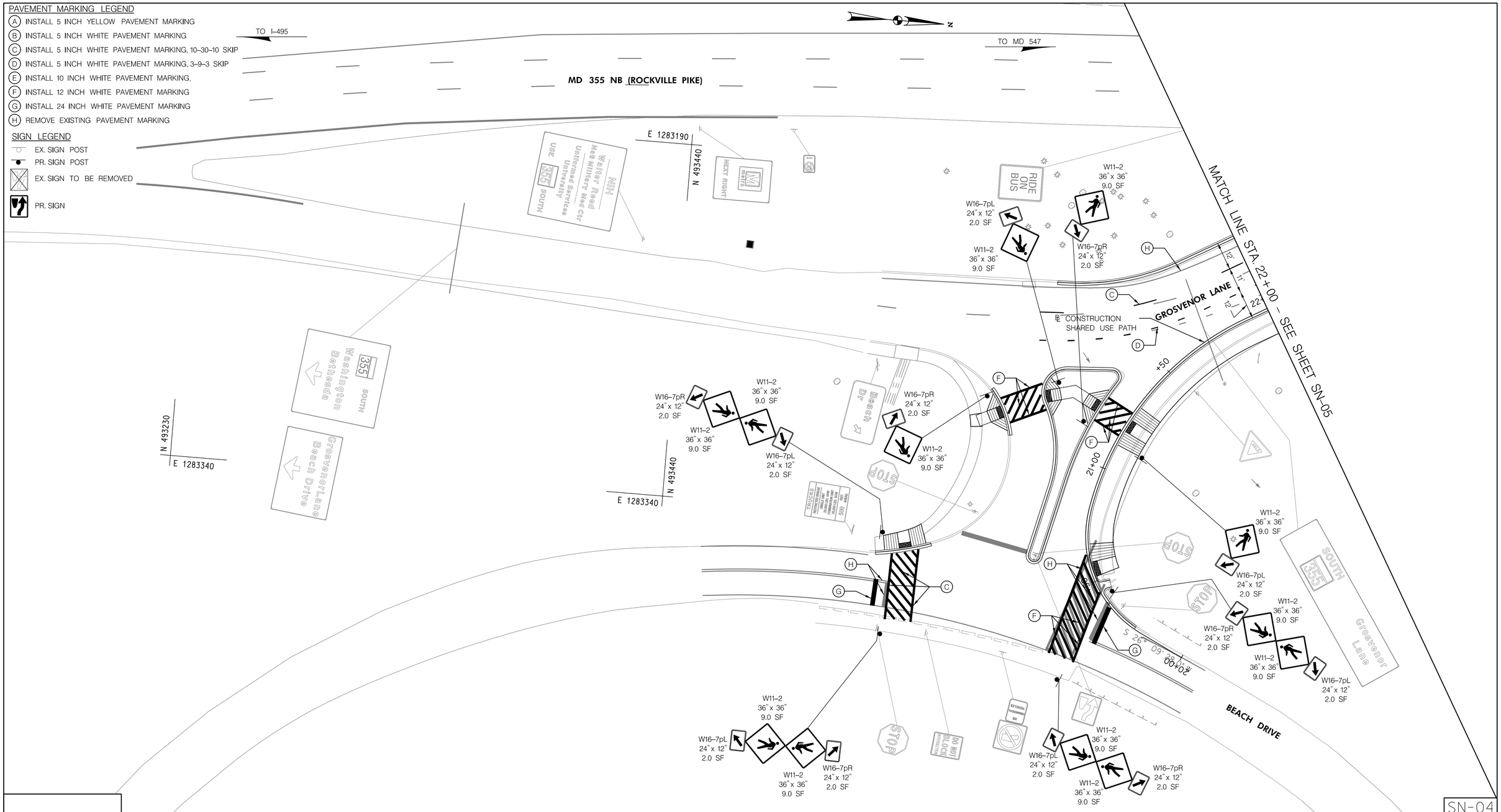
PAVEMENT MARKING LEGEND

- (A) INSTALL 5 INCH YELLOW PAVEMENT MARKING
- (B) INSTALL 5 INCH WHITE PAVEMENT MARKING
- (C) INSTALL 5 INCH WHITE PAVEMENT MARKING, 10–30–10 SKIP
- (D) INSTALL 5 INCH WHITE PAVEMENT MARKING, 3–9–3 SKIP
- (E) INSTALL 10 INCH WHITE PAVEMENT MARKING,
- (F) INSTALL 12 INCH WHITE PAVEMENT MARKING
- (G) INSTALL 24 INCH WHITE PAVEMENT MARKING
- (H) REMOVE EXISTING PAVEMENT MARKING

SIGN LEGEND

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



SN-04

SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS SIGNING & PAVEMENT MARKING PLAN

SCALE: 1"=20'

SHEET 058 of 102

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

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BIPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:56 PM
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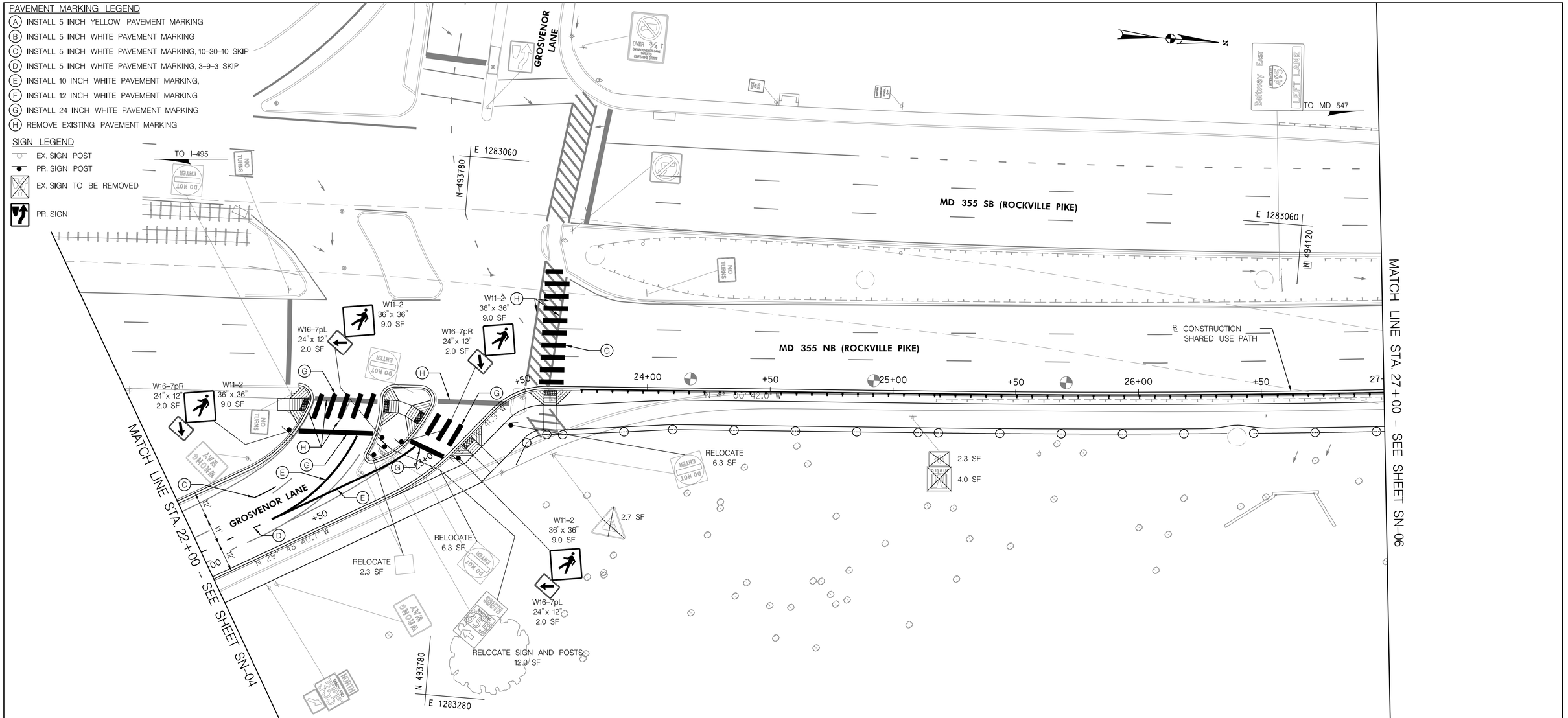
PAVEMENT MARKING LEGEND

(A) INSTALL 5 INCH YELLOW PAVEMENT MARKING
(B) INSTALL 5 INCH WHITE PAVEMENT MARKING
(C) INSTALL 5 INCH WHITE PAVEMENT MARKING, 10–30–10 SKIP
(D) INSTALL 5 INCH WHITE PAVEMENT MARKING, 3–9–3 SKIP
(E) INSTALL 10 INCH WHITE PAVEMENT MARKING,
(F) INSTALL 12 INCH WHITE PAVEMENT MARKING
(G) INSTALL 24 INCH WHITE PAVEMENT MARKING
(H) REMOVE EXISTING PAVEMENT MARKING

SIGN LEGEND

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



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: _____ EXPIRATION DATE: _____

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SIGNING & PAVEMENT MARKING PLAN

SCALE: 1"=20'

SHEET 059 of 102

SN-05

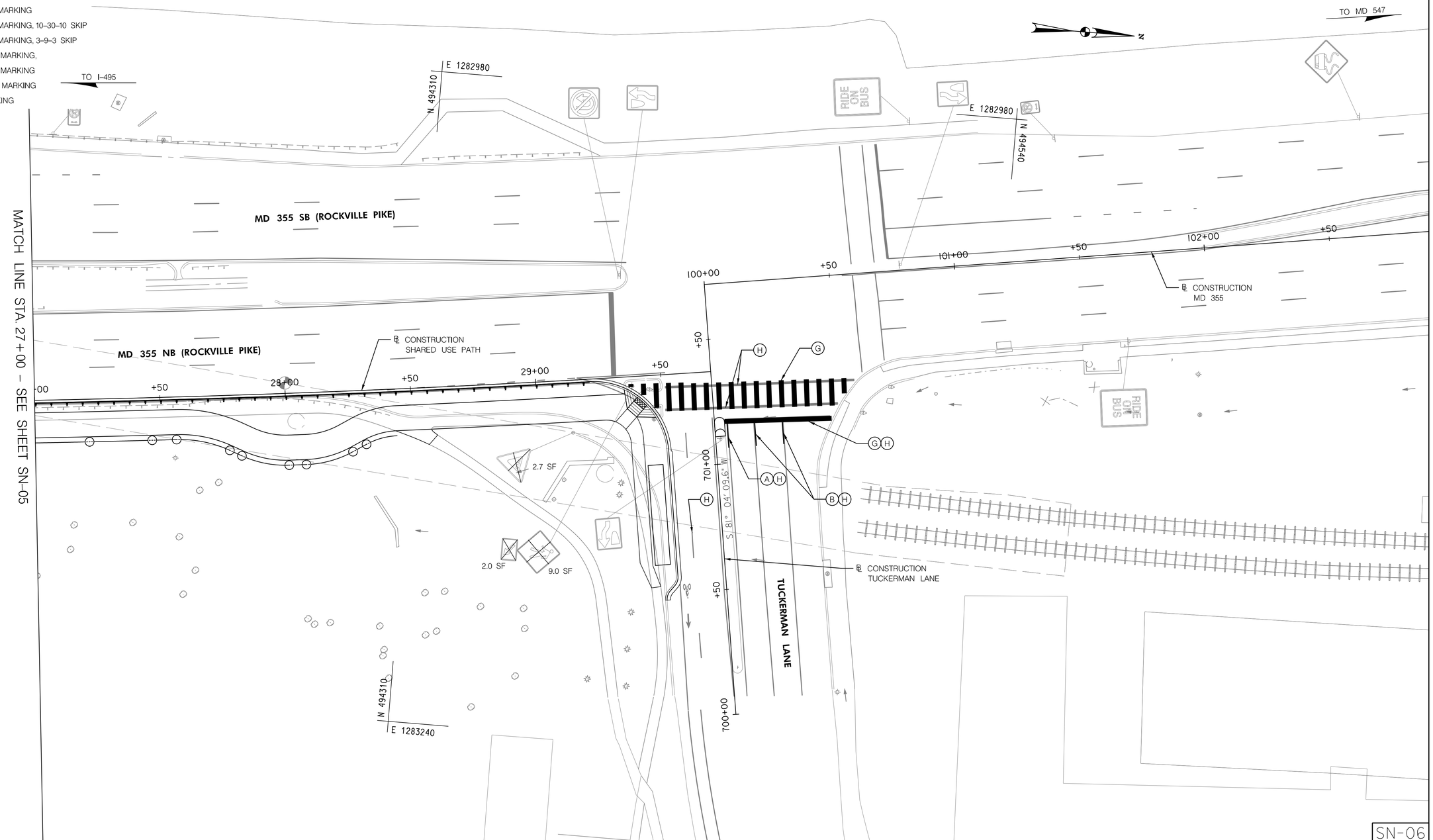
Monday, October 05, 2020 AT 01:56 PM
U:\2026101\01\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pSN-P005_Grosvenor.dgn

PAVEMENT MARKING LEGEND

(A) INSTALL 5 INCH YELLOW PAVEMENT MARKING
(B) INSTALL 5 INCH WHITE PAVEMENT MARKING
(C) INSTALL 5 INCH WHITE PAVEMENT MARKING, 10-30-10 SKIP
(D) INSTALL 5 INCH WHITE PAVEMENT MARKING, 3-9-3 SKIP
(E) INSTALL 10 INCH WHITE PAVEMENT MARKING,
(F) INSTALL 12 INCH WHITE PAVEMENT MARKING
(G) INSTALL 24 INCH WHITE PAVEMENT MARKING
(H) REMOVE EXISTING PAVEMENT MARKING

SIGN LEGEND

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



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

SN-06

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SIGNING & PAVEMENT MARKING PLAN

SCALE: 1"=20'

SHEET 060 of 102

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

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BiPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:56 PM
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SHEET NO.	REMARKS	CODE NUMBERS •										
		1	2	3	4	5	6	7	8	9	10	11
SN-01	(3) W11-2, (1) W16-7pL, (1) W16-7pR, (1) W13-4(1), (1) M1-1, (1) M3-2 INT., (1) M6-2R INT.	46.2	4	4	9.2						44	14
SN-02	NONE											
SN-03	(4) W11-2, (1) W16-7pL, (1) W16-7pR, (2) W13-4(1)	52.0	4	4							44	24
SN-04	(12) W11-2, (6) W16-7pL, (6) W16-7pR	132.0	8	8			50			596	34	250
SN-05	(4) W11-2, (2) W16-7pL, (2) W16-7pR	44.0	6	6	9.0	26.9	28		127		249	500
SN-06	NONE				13.7		24	12			240	200
	TOTAL	274.2	22	22	31.9	26.9	102	12	127	596	611	988

• CODE NUMBER DESCRIPTION & UNIT		
CODE NUMBERS	DESCRIPTION	UNIT
1	SHEET ALUMINUM SIGNS	S.F.
2	FURNISH AND INSTALL PERFORATED TUBULAR STEEL SIGN SUPPORTS	EACH
3	FURNISH AND INSTALL ANCHOR BASES FOR SQUARE TUBULAR STEEL POST	EACH
4	REMOVE EXISTING SIGNS	S.F.
5	RELOCATE EXISTING SIGNS	S.F.
6	5" WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.
7	5" YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.
8	10" WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	
9	12" WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.
10	24" WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS	L.F.
11	REMOVAL OF EXISTING PAVEMENT MARKING LINE, ANY WITH, BY GRINDING	L.F.

SN-07

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

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SIGNING & PAVEMENT MARKING SCHEDULE

SCALE: AS SHOWN

SHEET 061 of 102

Monday, October 05, 2020 AT 01:56 PM
U:\2026101401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pSN-P007_Grosvenor.dgn

MD 355 (ROCKVILLE PIKE) IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION

EXISTING SIGNS TO REMAIN

31 Grosvenor Ln — D-3(1) (VAR.x16")

33,34, 40,41 — R3-5(L) (30"x36") — ONLY

23 — TRAVELERS ADVISORY 590 AM

29,30,32, 35 — R3-2 (30"x30")

43,44 — R5-1 36"x 36" — DO NOT ENTER

47 — R5-1a 42"x 30" — WRONG WAY

20,21,22, 28 — R3-3 24"x 24" — NO TURNS

36 — R4-7 (24"x30")

EXISTING SIGNS TO BE REMOVED

37,42 — R10-3d MOD. 9" x 15"

PROPOSED SIGNS

45 — PUSH BUTTON TO CROSS TUCKERMAN LANE — R10-3(1) 9" x 15"

38,39,46 — PUSH BUTTON TO CROSS GROSVENOR LANE — R10-3(1) 9" x 15"

24,26 — PUSH BUTTON TO CROSS ROCKVILLE PIKE — R10-3(1) 9" x 15"

25,27 — PUSH BUTTON TO CROSS ROCKVILLE PIKE — R10-3(1) 9" x 15"

(Each: START CROSSING · WATCH FOR TURNING CARS · DON'T START/FINISH CROSSING IF STARTED · TIME REMAINING TO FINISH CROSSING · PEDESTRIANS SHOULD NOT BE IN CROSSWALK · STREET NAME IN BRAILLE TYPE 2)

EXISTING SIGNALS TO BE REMOVED

12a,13a,14a, 15a,16a,17a — 12"

PROPOSED SIGNALS

12,13,14,15, 16,17,18,19 — 16" LED COUNTDOWN PEDESTRIAN SIGNAL

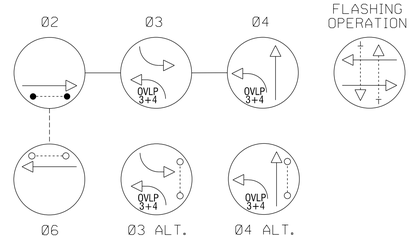
EXISTING SIGNALS TO REMAIN

5 — 12" — R, Y, G

6,7, 10,11 — 12" — R, Y, G

1,2,3, 4,8,9 — 12" — R, Y, G

NEMA PHASING



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

CONSTRUCTION DETAILS:

- (A) INSTALL 10' PEDESTAL POLE WITH BREAKAWAY COUPLINGS (MD 818.16-01), MODIFIED BASE (MD 801.01-01), COUNTDOWN PEDESTRIAN SIGNALS, AUDIBLE TACTILE PUSHBUTTON AND SIGN. (NOTE: ONE 2 IN. PVC SCHEDULE 80 CONDUIT BEND).
- (B) INSTALL HANDHOLE.
- (C) INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT – BORED.
- (D) INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT – TRENCHED.
- (E) REMOVE EXISTING PEDESTRIAN SIGNALS, PUSHBUTTON(S) AND SIGN(S). INSTALL COUNTDOWN PEDESTRIAN SIGNAL(S), AUDIBLE TACTILE PUSHBUTTON AND SIGN.
- (F) USE EXISTING HANDHOLE.
- (G) USE EXISTING CONDUIT.
- (H) REMOVE EXISTING PEDESTRIAN POLE AND ASSOCIATED EQUIPMENT. REMOVE FOUNDATION 12 IN. BELOW GRADE.
- (J) CAP AND ABANDON EXISTING CONDUIT, REMOVE ALL SIGNAL WIRES.
- (K) REMOVE EXISTING PEDESTRIAN SIGNAL.

SG-01

GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO INSTALLING PROPOSED SIGNAL EQUIPMENT. IF ANY UTILITY CONFLICTS SHOULD ARISE THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER.
3. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS, HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS, TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
4. THE CONTRACTOR SHALL CONTACT MONTGOMERY COUNTY SIGNAL SHOP AT 301-279-1291 TO DELIVER APS EQUIPMENT FOR TESTING THREE WEEKS PRIOR TO BEGINNING WORK.
5. THE CONTRACTOR SHALL WORK ONE QUADRANT AT A TIME AND MAINTAIN PEDESTRIAN ACCESSIBILITY TO ALL OTHER QUADRANTS.
6. CONTACT TIM SULLIVAN BEFORE CONSTRUCTION BEGINS. (540) 760-8467, TSULLIVAN@UDR.COM

GEOMETRIC LEGEND

EXISTING
PROPOSED

UTILITY LEGEND

SD — STORM DRAIN
G — GAS MAIN
W — WATER MAIN
S — SEWER MAIN
E — ELECTRIC CABLES
A — AERIAL CABLES
T — TELEPHONE CABLES
F — FIBER-OPTIC

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APPROVALS

TEAM LEADER
ASST. DIV. CHIEF
DIVISION CHIEF
OFFICE DIRECTOR

ORIGINAL ON FILE

REVISIONS

F	MODIFY SIGNAL DUE TO NEW GEOMETRICS TIMS#	MAY, 2018
RJM		
E	RED LIGHT CAMERA INSTALLATION TIMS L447	JUN. 6, 2012
C	REPLACE EXISTING SIGNALS WITH BLACK FACE SIGNALS TIMS F36B	NOV. 16, 2004

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 355 (ROCKVILLE PIKE)
AT GROSVENOR LN.

SIGNALIZATION PLAN SHEET

SCALE 1" = 20' ADVERTISED DATE : CONTRACT NO.

DESIGNED BY . COUNTY
DRAWN BY . LOGMILE
CHECKED BY . TIMS NO.
MDE/PRD TOD NO.

TS NO. 2365F | DRAWING SG-01 OF 4 | SHEET NO. 062 OF 102

BY: dmarihugh

PLOTTED: Monday, October 05, 2020 AT 01:57 PM

PROJECT DESCRIPTION

I. GENERAL
THIS PROJECT INVOLVES CONSTRUCTING A SHARED-USE PATH TO THE EAST OF MD 355 TO INBETWEEN GROSVENOR LANE AND TUCKERMAN LANE. THE MODIFICATION OF THE TRAFFIC SIGNAL AT THE INTERSECTION OF MD 355 (ROCKVILLE PIKE) AT GROSVENOR LANE IN MONTGOMERY COUNTY WILL REQUIRE NEW APS/CPS ON THE EAST, WEST AND SOUTH APPROACHES.
MD 355 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION
THIS INTERSECTION OPERATES IN A NEMA FOUR-PHASE SEMI-TRAFFIC-ACTUATED MODE. THE MD 355 APPROACHES OPERATE CONCURRENTLY. THE GROSVENOR LANE APPROACHES OPERATE AS SPLIT PHASES WITH OVERLAP PHASING PROVIDED FOR THE EAST APPROACH LEFT TURN PHASE (SPECIAL GEOMETRICS CHANNELIZE AN "ENGLISH" MOVEMENT). CONCURRENT PEDESTRIAN PHASING IS PROVIDED ACROSS THE WEST LEG OF THE INTERSECTION. ALTERNATE PEDESTRIAN PHASING IS PROVIDED ACROSS THE SOUTHBOUND SIDE OF THE MD 355 (NORTH LEG) UNDER PHASE 3. A SEPARATE ALTERNATE PEDESTRIAN PHASE IS PROVIDED ACCROSS THE NORTHBOUND SIDE OF MD 355 (NORTH LEG) PHASE. AN ALTERNATE PEDESTRIAN PHASE IS PROVIDED ACROSS THE NORTH LEG OF THE INTERSECTION.

III. PEDESTRIAN OPERATION
NAVIGATOR AUDIBLE PEDESTRIAN PUSHBUTTONS TO CROSS THE NORTH, EAST AND WEST LEGS OF THE INTERSECTION ARE TO BE PROVIDED. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:

NORTH: "WAIT TO CROSS ROCKVILLE AT GROSVENOR, WAIT."
EAST: "WAIT TO CROSS GROSVENOR AT ROCKVILLE, WAIT."
WEST: "WAIT TO CROSS GROSVENOR AT ROCKVILLE, WAIT."

WHEN THE WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

DISTRICT 3

MR. DEREK GUNN (MO)
ASSISTANT DISTRICT ENGINEER - TRAFFIC
301-513-7498

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

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

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

MONTGOMERY COUNTY

MR. KAMAL HAMUD
MONTGOMERY COUNTY-TRAFFIC ENGINEERING
PHONE NUMBER 301-777-8761

OOTS CONTACTS:

VIVIAN BERRA-FIGUEREO, P.E.
CHIEF TRAFFIC OPERATION DIVISION
PHONE: (410)-787-7650

REBECCA LICHTENSTEIN, P.E.
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410)-787-7625

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
PHONE: (410)-787-7652

MR. MICHAEL BOYLE
SUPPLY OFFICER
PHONE: (410)-787-7673

PEPCO

MR. PAUL WILSON
PHONE 202-833-7500

MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: MD 104.03-11, MD 104.04-13 THROUGH MD 104.04-16.

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
NONE			

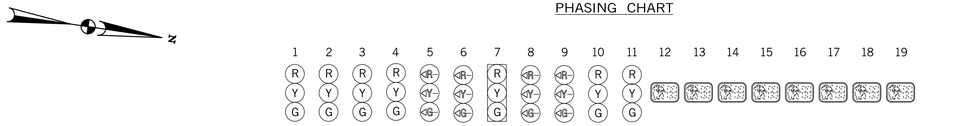
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

CATEGORY CODE NO.	QUANTITY	UNIT	DESCRIPTION
818101	6	EA	6 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLING, FOUNDATION AND GROUND ROD
873003	1	EA	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)
805121	100	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED OR SLOTTED
805125	80	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
802501	90	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
811001	2	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
861105	1105	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	1140	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
865210	8	EA	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS
865300	1	EA	2-WIRE APS CENTRAL CONTROL UNIT
860285	8	EA	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD

C. EQUIPMENT TO BE RETURNED TO SHA.

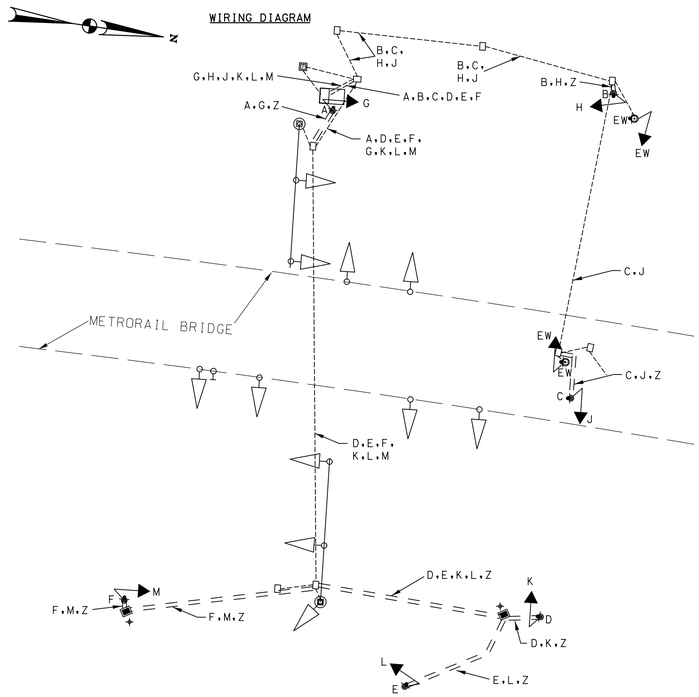
NONE

PHASING CHART



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
PHASE 2 & 6	G	G	G	G	R	◁R▷	◁R▷	◁R▷	◁R▷	R	R	WK	WK	DW	DW	DW	DW	WK	WK
PED CLEARANCE	G	G	G	G	R	◁R▷	◁R▷	◁R▷	◁R▷	R	R	FL/DW	FL/DW	DW	DW	DW	DW	FL/DW	FL/DW
2 & 6 CHANGE	Y	Y	Y	Y	R	◁R▷	◁R▷	◁R▷	◁R▷	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 3	R	R	R	R	G	◁G▷	◁G▷	◁G▷	◁G▷	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	R	Y	◁Y▷	◁G▷	◁G▷	◁G▷	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE ALT 3	R	R	R	R	G	◁G▷	◁G▷	◁G▷	◁G▷	R	R	DW	DW	WK	WK	DW	DW	DW	DW
PED CLEARANCE	R	R	R	R	G	◁G▷	◁G▷	◁G▷	◁G▷	R	R	DW	DW	FL/DW	FL/DW	DW	DW	DW	DW
ALT 3 CHANGE	R	R	R	R	Y	◁Y▷	◁G▷	◁G▷	◁G▷	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	◁R▷	◁G▷	◁G▷	◁G▷	G	G	DW	DW	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	◁R▷	◁Y▷	◁Y▷	◁Y▷	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE ALT 4	R	R	R	R	R	◁R▷	◁R▷	◁R▷	◁R▷	G	G	DW	DW	DW	DW	WK	WK	DW	DW
PED CLEARANCE	R	R	R	R	R	◁R▷	◁R▷	◁R▷	◁R▷	G	G	DW	DW	DW	DW	FL/DW	FL/DW	DW	DW
ALT 4 CHANGE	R	R	R	R	R	◁R▷	◁Y▷	◁Y▷	◁Y▷	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/ R	FL/◁R▷	FL/◁R▷	FL/◁R▷	FL/◁R▷	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A,B,C,D,E,F - ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
G,H,J,K,L,M - ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
Z - NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
EW - EXISTING WIRE
+ - GROUND ROD

SG-02

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BY: dmarihugh -

PLOTTED: Monday, October 05, 2020 AT 01:58 PM

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 355 (ROCKVILLE PIKE) AT
GROSVENOR LANE
TRAFFIC SIGNAL DESIGN
NORTH BETHESDA, MD

GENERAL INFORMATION SHEET

SCALE NTS ADVERTISED DATE _____ CONTRACT NO. _____

DESIGNED BY RJM
DRAWN BY RJM
CHECKED BY DM
MDE/PRD _____

COUNTY MONTGOMERY
LOGMILE 15035504.50
TIMS NO. _____
TOD NO. _____

TS NO. 2365F | DRAWING **SG-02** OF **04** | SHEET NO. 063 OF 102

EXISTING VIDEO DETECTION TO REMAIN

a,b

MD 355 (ROCKVILLE PIKE) IS ASSUMED TO RUN IN A NORTH/SOUTH DIRECTION

EXISTING SIGNALS TO REMAIN

1,2, 5,6,7 — 12" LED

3,4 — 12" LED

8,9,11 — 16" LED COUNTDOWN PEDESTRIAN SIGNAL

EXISTING SIGNS TO REMAIN

16b — Tuckerman LN — D-3(1) DUAL-FACED (VAR.x16")

16c — Tuckerman LN — D-3(1) DUAL-FACED (VAR.x16")

21 — NORTH MARYLAND 355 — SHIELD ASSEMBLY (30"x51")

22 — SOUTH MARYLAND 355 — SHIELD ASSEMBLY (48"x75")

20 — Rockville Pike — D-3(1) (VAR.x16")

12, 13, 15 — PUSH BUTTON TO CROSS ROCKVILLE PIKE / TUCKERMAN LANE — R10-3(1) 9" x 15"

17,18 — ONLY — R3-5(L) (30"x36")

19 — ONLY — R3-5(R) (30"x36")

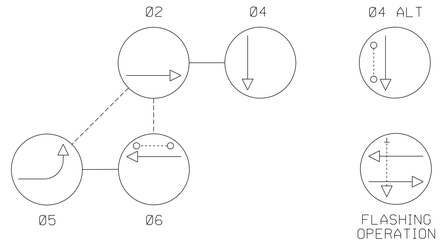
EXISTING SIGN TO BE RELOCATED

14 — PUSH BUTTON TO CROSS TUCKERMAN LANE — R10-3(1) 9" x 15"

EXISTING SIGNAL TO BE RELOCATED

10 — 16" LED COUNTDOWN PEDESTRIAN SIGNAL

NEMA PHASING



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

CONSTRUCTION DETAILS:

(A) RELOCATE EXISTING 10' PEDESTAL POLE WITH BREAKAWAY COUPLINGS (MD 818.16-01), MODIFIED BASE (MD 801.01-01), COUNTDOWN PEDESTRIAN SIGNAL, AUDIBLE TACTILE PUSHBUTTON AND SIGN. (NOTE: ONE 2 IN. PVC SCHEDULE 80 CONDUIT BEND).
(B) INSTALL HANDHOLE.
(C) INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT – BORED.
(D) INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT – TRENCHED.
(E) USE EXISTING HANDHOLE.
(F) USE EXISTING CONDUIT.
(G) REMOVE FOUNDATION 12' BELOW GRADE.
(H) CAP AND ABANDON EXISTING CONDUIT, REMOVE ALL SIGNAL WIRES.
(J) REMOVE EXISTING HANDHOLE.

GEOMETRIC LEGEND

EXISTING
PROPOSED

UTILITY LEGEND

SD — STORM DRAIN
G — GAS MAIN
W — WATER MAIN
S — SEWER MAIN
E — ELECTRIC CABLES
A — AERIAL CABLES
T — TELEPHONE CABLES
F — FIBER-OPTIC

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APPROVALS

TEAM LEADER
ASST. DIV. CHIEF
DIVISION CHIEF
OFFICE DIRECTOR
ORIGINAL ON FILE

REVISIONS

C	MODIFY SIGNAL DUE TO NEW ADA RAMP TIMS#				MAY, 2018	
DH/MR/JM						
B	SIGNAL RECONSTRUCTION, APS/CPS UPGRADES SHA NO. XY1325185 TIMS NO. L734				04/2014	
KCI						
A.	REPLACE LOOP DETECTION WITH VIDEO CAMERAS SHA NO. AT7245185 TIMS NO. G589				6/2005	
JWA	JAH	KHR	DAZ			

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

MD 355 (ROCKVILLE PIKE) AT TUCKERMAN LANE (SOUTH)
TRAFFIC SIGNAL DESIGN
NORTH BETHESDA, MD

SIGNALIZATION PLAN SHEET

SCALE 1" = 20' ADVERTISED DATE 08/09/02 CONTRACT NO. BW996M82

DESIGNED BY
DRAWN BY WT
CHECKED BY CA
MDE/PRD

COUNTY MONTGOMERY
LOGMILE 15035504.50
TIMS NO.
TOD NO.

TS NO. 4388C | DRAWING SG-03 OF 4 | SHEET NO. 064 OF 102

BY: dmarihugh - 10

PLOTTED: Monday, October 05, 2020 AT 01:59 PM

PROJECT DESCRIPTION

I. GENERAL
THIS PROJECT INVOLVES THE MODIFICATION OF THE TRAFFIC SIGNAL ON THE EAST LEG OF THE INTERSECTION OF MD 355 (ROCKVILLE PIKE) AT TUCKERMAN LANE (SOUTH) IN MONTGOMERY COUNTY. MD 355 IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION
THIS INTERSECTION OPERATES IN A NEMA FOUR-PHASE SEMI-TRAFFIC-ACTUATED MODE. THERE IS AN EXCLUSIVE/ PERMISSIVE LEFT-TURN PHASE FOR SOUTHBOUND MD 355. A CONCURRENT PEDESTRIAN PHASE IS PROVIDED ACROSS THE EAST LEG OF THE INTERSECTION. AN ALTERNATE PEDESTRIAN PHASE IS PROVIDED ACROSS THE NORTH LEG OF THE INTERSECTION.

III. PEDESTRIAN OPERATION
NAVIGATOR AUDIBLE PEDESTRIAN PUSHBUTTONS TO CROSS THE NORTH AND EAST LEGS OF THE INTERSECTION ARE TO BE PROVIDED. WHEN THE PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE:

NORTH: "WAIT TO CROSS ROCKVILLE AT TUCKERMAN, WAIT."
EAST: "WAIT TO CROSS TUCKERMAN AT ROCKVILLE, WAIT."

WHEN THE WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

CONTACT PERSONS

THE CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

DISTRICT 3

MR. DEREK GUNN (MO)
ASSISTANT DISTRICT ENGINEER - TRAFFIC
301-513-7498

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

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

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

MONTGOMERY COUNTY

MR. KAMAL HAMUD
MONTGOMERY COUNTY-TRAFFIC ENGINEERING
PHONE NUMBER 301-777-8761

OOTS CONTACTS:

VIVIAN BERRA-FIGUEREO, P.E.
CHIEF TRAFFIC OPERATION DIVISION
PHONE: (410)-787-7650

REBECCA LICHTENSTEIN, P.E.
ASSISTANT DIVISION CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410)-787-7625

MR. ED RODENHIZER
CHIEF, SIGNAL OPERATIONS
PHONE: (410)-787-7652

MR. MICHAEL BOYLE
SUPPLY OFFICER
PHONE: (410)-787-7673

PEPCO

MR. PAUL WILSON
PHONE 202-833-7500

MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING THE FOLLOWING STANDARD PLATES FOR TRAFFIC CONTROL: MD 104.03-11, MD 104.04-13 THROUGH MD 104.04-16.

EQUIPMENT LIST

A. EQUIPMENT TO BE FURNISHED BY STATE HIGHWAY ADMINISTRATION

ITEM NO.	QUANTITY	UNIT	DESCRIPTION
NONE			

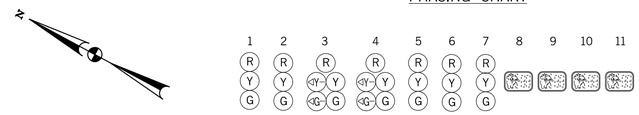
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY CONTRACTOR

CATEGORY CODE NO.	QUANTITY	UNIT	DESCRIPTION
818007	1	EA	INSTALL BREAKAWAY PEDESTAL POLE (ANY SIZE WITH FOUNDATION AND GROUND ROD
873003	1	EA	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)
805121	75	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED OR SLOTTED
805125	10	LF	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED
802501	85	LF	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
811001	1	EA	FURNISH AND INSTALL ELECTRICAL HANDHOLE
861105	300	LF	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
861107	300	LF	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)

C. EQUIPMENT TO BE RETURNED TO SHA.

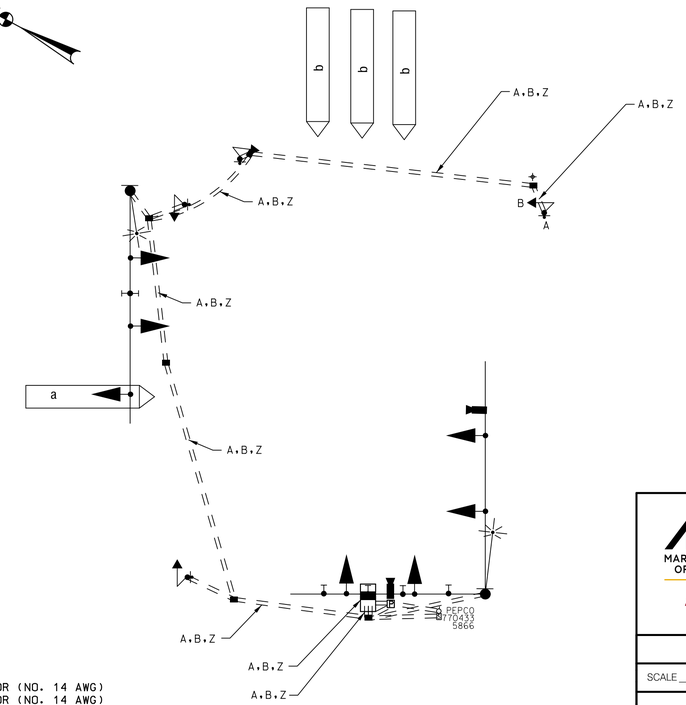
NONE

PHASING CHART



	1	2	3	4	5	6	7	8	9	10	11
PHASE 2 & 5	R	R	←G→/G	←G→/G	G	R	R	DW	DW	DW	DW
2 & 5 CHANGE	R	R	←Y→/G	←Y→/G	Y	R	R	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	G	G	R	R	DW	DW	WK	WK
PED CLEARANCE	G	G	G	G	G	R	R	DW	DW	FL/DW	FL/DW
2 & 6 CHANGE	Y	Y	Y	Y	Y	R	R	DW	DW	DW	DW
PHASE 4	R	R	R	R	R	G	G	DW	DW	DW	DW
4 CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE ALT 4	R	R	R	R	R	G	G	WK	WK	DW	DW
PED CLEARANCE	R	R	R	R	R	G	G	FL/DW	FL/DW	DW	DW
ALT 4 CHANGE	R	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A - ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
B - ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
Z - NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
+ - GROUND ROD

SG-04

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BY: dmarihugh -

PLOTTED: Monday, October 05, 2020 AT 01:59 PM

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

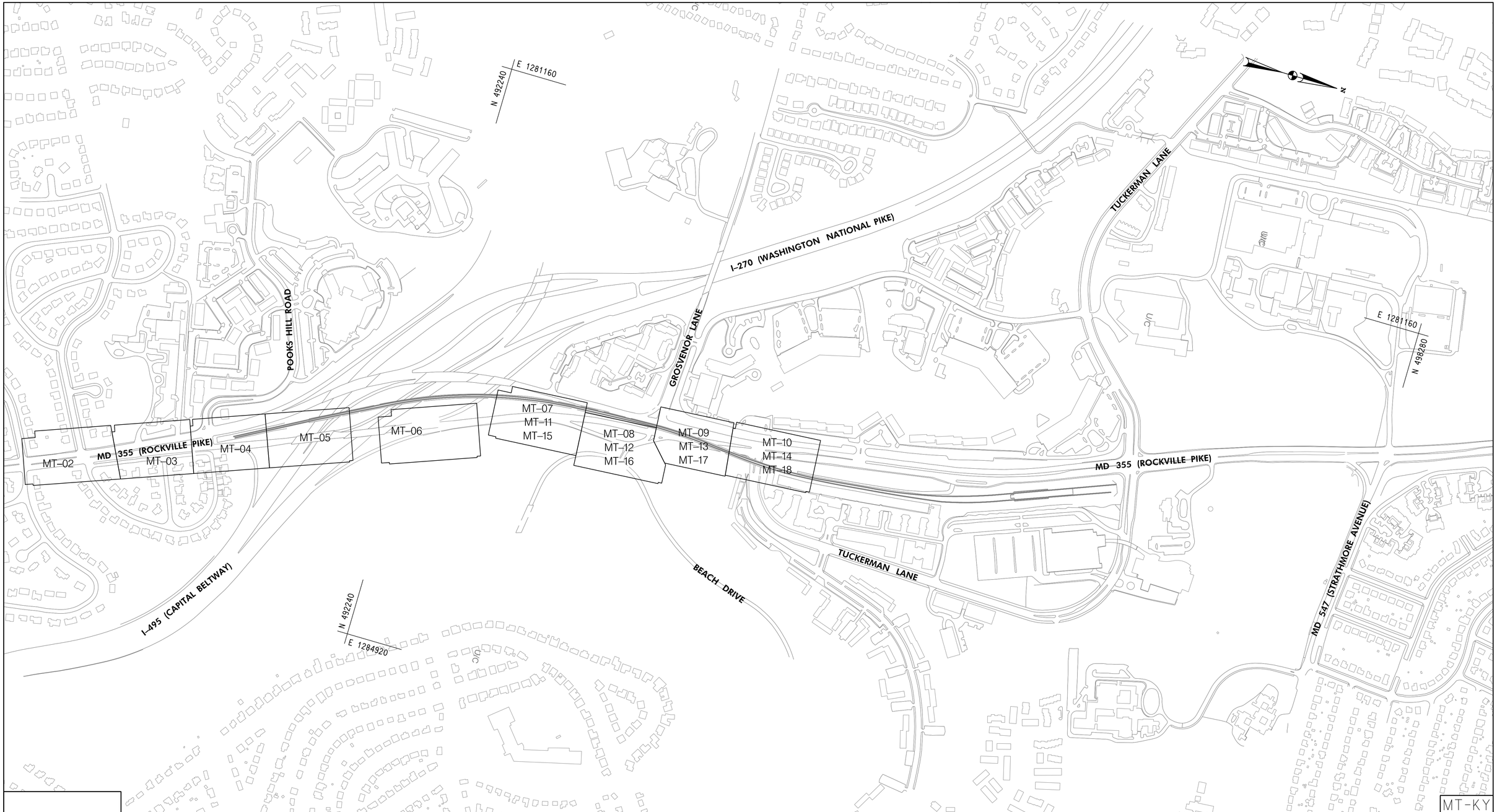
MD 355 (ROCKVILLE PIKE) AT
TUCKERMAN LANE (SOUTH)
TRAFFIC SIGNAL DESIGN
NORTH BETHESDA, MD

GENERAL INFORMATION SHEET

SCALE NTS ADVERTISED DATE . . CONTRACT NO.

DESIGNED BY RJM . COUNTY MONTGOMERY
DRAWN BY RJM . LOGMILE 15035504.50
CHECKED BY DM . TIMS NO. .
MDE/PRD TOD NO. .

TS NO. 4388C | DRAWING SG-04 OF 04 | SHEET NO. 065 OF 102



MT-KY

300' 0 300' 600'
SCALE: 1" = 300'

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

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTEANCE OF TRAFFIC
KEY PLAN

SCALE: 1"=300'

SHEET 066 of 102

Monday, October 05, 2020 AT 01:59 PM
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MAINTENANCE OF TRAFFIC GENERAL NOTES:

1. STANDARDS

All work shall be conducted in accordance with the latest versions of the Maryland State Highway Administrations (MDOT SHA) Standard Specifications and Book of Standards for Highway and Incidental Structures. All signs, channelizing devices, and other traffic control devices shall conform with the latest version of the Maryland Manual on Uniform Traffic Control Devices (MUTCD).

2. PRECONSTRUCTION

The contractor shall arrange and host a preconstruction meeting at least two weeks prior to starting construction and establishing the work zone. The following offices shall be notified of this preconstruction meeting:

* Montgomery County Division of Transportation Engineering at 240-777-7220
* Montgomery County Division of Traffic Engineering and Operations at 240-777-6000
* Montgomery County Transit at 240-777-5800
* Montgomery County Public Schools, Local Depot Manager
* Montgomery County Fire and Rescue, Local Fire Department Captain
* Montgomery County Police, Local Traffic Sergeant.
* Montgomery County Department of Permitting Services, Permit Inspection at 240-777-6300

Maryland State Highway Administration (MDOT SHA) Offices:

* Derek Gunn
  Acting Assistant District Engineer - Traffic (Montgomery County)
  dgunn@sha.state.md.us, (301) 513-7498

* Tom Fountain
  Assistant District Engineer - Maintenance
  tfountain2@sha.state.md.us, (301) 513-7304

* Victor Grafton
  Assistant District Engineer - Construction
  vgrafton@sha.state.md.us, (301) 513-7350

* Erica Rigby
  Assistant District Engineer - Utilities
  erigby@sha.state.md.us, (301) 513-7304

Contact the MCDOT Transportation Management Center at 240-777-2100 between 5:00 AM and 11:00 PM to inform them of temporary lane closures in the vicinity of any traffic signals.

The permittee shall contact the Transportation Systems Engineering Team at 240-777-2100 at least two weeks in advance to coordinate any minor traffic signal work. Major traffic signal work shall be coordinated a minimum of thirty (30) days in advance of the project. The permittee shall contact the Montgomery County Transportation Management Center at 240-777-2100 a minimum of 72 hours prior to beginning work to have existing traffic signal equipment marked.

The permittee shall contact the Traffic Engineering Design & Operations Section (TEDD) at 240-777-6000 at least ten (10) working days in advance of the final paving operation to schedule the installation of permanent pavement markings and signs.

The permittee shall contact the Director at 301-565-7300 of the Silver Spring Regional Services Center and the Silver Spring Traffic Sergeant at 301-565-7740 of the Montgomery County Police Department, a minimum of one week prior to the beginning of any work activities within the Silver Spring Business District.

3. SIGNS

a) ROAD WORK AHEAD signs shall be installed on all side streets that intersect roads within the work zone. The signing shall be placed along the intersection approach to the right of the travel lane. Refer to Standard Detail 104.01-02 for guidance on sign placement.

b) Warning signs mounted on wood posts, and those mounted on approved portable supports, shall be mounted in conformance with Standard No. MD 104.01-17.

c) The contractor shall cover temporary signs that are not applicable during non-working hours.

d) The contractor shall cover existing traffic signs in conflict with the work zone traffic control.

4. PORTABLE VARIABLE MESSAGE SIGNS

a) No more than two displays shall be used within any message cycle unless approved by the Engineer.

b) For a list of standard messages/abbreviations, contact the Engineer. All customized messages shall be approved by the Engineer.

c) Refer to Standard Detail MD 104.00-08 and -09 for more info.

d) Refer to Standard Detail MD 104.01-22 for traffic control devices associated with PVMS.

5. CHANNELIZING DEVICES

a) Taper formulas:

L = WS for speeds greater than (>) 40 mph.
L = WS²/60 for speeds equal to or less than (<) 40 mph.
Where L = minimum length of taper;
S = prevailing travel speed or speed limit (MPH), whichever is higher, prior to work starting.
W = width of offset (ft)

b) Maximum spacing between channelizing devices

Taper channelization - Shall be equal in feet to the posted speed limit for posted speeds eq/less than 40 mph and 40 feet for posted speeds greater than 40 mph.

Tangent channelization - Shall be equal in feet to twice the posted speed limit in the buffer and equal in feet to the posted speed adjacent to the work area for posted speeds eq/less than 40 mph. Spacing shall be 80 feet in the buffer and 40 feet adjacent to the work area for posted speeds greater than 40 mph.

6. PAVEMENT MARKINGS

a) Temporary pavement markings should be installed according to Section 104.02-03(f).

b) Pavement markings that are no longer necessary shall be completely removed or obliterated using grinding method.

7. FLAGGING OPERATIONS

a) Radio communication shall be required between flaggers at the discretion of the County Inspector or under the following conditions
-If the flaggers cannot see each other
-If the lane closure exceeds 200 feet.

b) Flaggers shall be Maryland State Highway Administration or AATSA approved flaggers and shall be used at the discretion of the County Inspector. Flaggers shall use STOP/SLOW paddles to direct traffic.

8. VEHICLES

a) Non-essential work vehicles are to be pulled as far off the road as possible or be otherwise parked in a manner that does not inhibit the movement of traffic.

b) All work zone vehicles entering/exiting or operating within the work zone shall display flashing safety lights (amber in color) as specified in Standard MD 104.01-18A & B.

c) Coordinate deliveries of materials with proposed lane/shoulder closures, preferably when traffic volumes are low.

9. WORK HOUR RESTRICTIONS

a) Unless permitted by the Engineer, work within a lane, or within 2 feet of the face of curb (closed section roadway), is prohibited during peak hours 6 am - 9 am and 3 pm - 7 pm, Monday - Friday. Also, such work is not permitted on weekends, National/State holidays, or days preceding and following holidays.

b) Nighttime work will be not be permitted, unless approved by the Engineer.

10. RESIDENTIAL/COMMERCIAL ACCESS

a) Contractor shall maintain access to residences including mail delivery and trash/pick up at all times during construction. For driveways requiring temporary closure to vehicular access due to proposed improvements, the contractor shall notify impacted property owner at least 2 weeks in advance of planned construction dates/times, confirm 24 hours in advance, and coordinate closely for the duration of construction activities. The contractor shall take all reasonable measures to provide access during construction activities.

11. POSTED SPEED LIMITS

MD 355 (Rockville Pike) is classified as an arterial,

Posted speed limit - 45 mph

The posted speed limits will be maintained during the construction.

12. TEMPORARY IMPACTS TO TRANSIT SERVICE

The contractor shall coordinate temporary bus stop relocations with Montgomery County Transit Service. Contact Phil McLaughlin (240-777-5800) at least 2 weeks in advance of construction.

Existing bus stop locations:

MD 355 (Rockville Pike) @ Pooks Hill Road
MD 355 (Rockville Pike) @ Grosvenor Lane

SEQUENCE OF CONSTRUCTION:

Pre-Construction:

1. Install all erosion and sediment control devices.

Stage 1 - Sta. 10+47 to Sta. 17+63 (3 weeks)

1. Install all Maintenance of Traffic control devices associated with Stage 1.
2. Construct the sidewalk from Sta. 10+47 to Sta. 17+63.
3. Remove Maintenace of Traffic control devices associated with Stage 1.

Stage 2 - Sta. 18+33 to Sta. 18+67 (1 week)

1. Install all Maintenance of Traffic control devices associated with Stage 2.
2. Reconstruct the sidewalks curb ramps on the I-495 Ramp to MD 355 NB.
3. Remove Maintenace of Traffic control devices associated with Stage 2.

Stage 3a - Sta. 20+23 to Sta. 23+28 (3 weeks)

1. Install all Maintenance of Traffic control devices associated with Stage 3a.
2. Construct the shared-use path from Sta. 20+23 to Sta. 23+28.
3. Concrete islands.
4. Remove Maintenace of Traffic control devices associated with Stage 3a.

Stage 3b - Sta. 23+28 to Sta. 23+71 (2 weeks)

1. Install all Maintenance of Traffic control devices associated with Stage 3b.
2. Construct the shared-use path from Sta. 23+28 to Sta. 23+71.
3. Complete construction of the concrete island.
4. Construct the conrete curb and gutter on the south side of Grosvenor Lane.
5. Remove Maintenace of Traffic control devices associated with Stage 3b.

Stage 3b - Sta. 23+71 to Sta. 700+53 (5 weeks)

1. Install all Maintenance of Traffic control devices associated with Stage 3c.
2. Construct the shared-use path from Sta. 23+71 to Sta. 29+35.
3. Construct the sidewalk from Sta. 700+21 to Sta, 700+53
4. Reconstuct the median nose on Tuckeman Lane.
5. Remove Maintenace of Traffic control devices associated with Stage 3c.

Monday, October 05, 2020 AT 01:59 PM
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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.
LICENSE NO: _____ EXPIRATION DATE: _____

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC NOTES

SCALE: NTS

MT-01

LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

N

ALTA VISTA ROAD

N 490160
E 1284220

E 1284220
N 490320

TO I-495

MATCH LINE - SEE SHEET MT-03

TO MD 410

MD 355 SB (ROCKVILLE PIKE)

MD 355 NB (ROCKVILLE PIKE)

40' (TYP.)

500'

500'

500'

540' TAPER

BELLVUE DRIVE

ROAD WORK AHEAD
W20-1(1)
(48" x 48")

RIGHT LANE CLOSED 1000 FT
W20-5(1)
(48" x 48")

W4-2R
(48" x 48")

N 490160
E 1284480

BELLVUE DRIVE

MT-02

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

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BiPPA Bicycle and Pedestrian Priority Areas

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Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE I

SCALE: 1"=20'

SHEET 068 of 102

Monday, October 05, 2020 AT 02:00 PM
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LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

N 490600
E 1284010
E 1284010
N 490770
N
TO I-495
TO MD 410
MATCH LINE - SEE SHEET MT-02
MD 355 SB (ROCKVILLE PIKE)
MD 355 NB (ROCKVILLE PIKE)
40' (TYP.)
10+00
MATCH LINE STA. 10+50 - SEE SHEET MT-04
BUFFER LENGTH 360'
540' TAPER
BELLVUE DRIVE
E 1284210
N 490770
ASBURY LANE

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

MT-03

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Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE I

SCALE: 1"=20'

SHEET 069 of 102

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LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

MATCH LINE STA. 11+50 – SEE SHEET MT-03

MATCH LINE STA. 16+50 – SEE SHEET MT-05

POOKS HILL ROAD

TO MD 410

MD 355 SB (ROCKVILLE PIKE)

TO I-495

N 491010 E 1283930

E 1283930 N 491180

MD 355 NB (ROCKVILLE PIKE)

40' (TYP.)

11+00 +50 12+00 +50 13+00 +50 14+00 15+00 +50 16+00

N 20° 29' 51.3" W

N 20° 58' 15.0" W

OCF

360' BUFFER LENGTH

BELLVUE DRIVE

SIDEWALK CLOSED

R9-9 (30" x 18")

SIDEWALK CLOSED

R9-9 (30" x 18")

BELLVUE DRIVE

N 491010 E 1284160

I-495 RAMP

MT-04

20' 0 20' 40'

SCALE: 1" = 20'

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APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE I

SCALE: 1"=20'

SHEET 070 of 102

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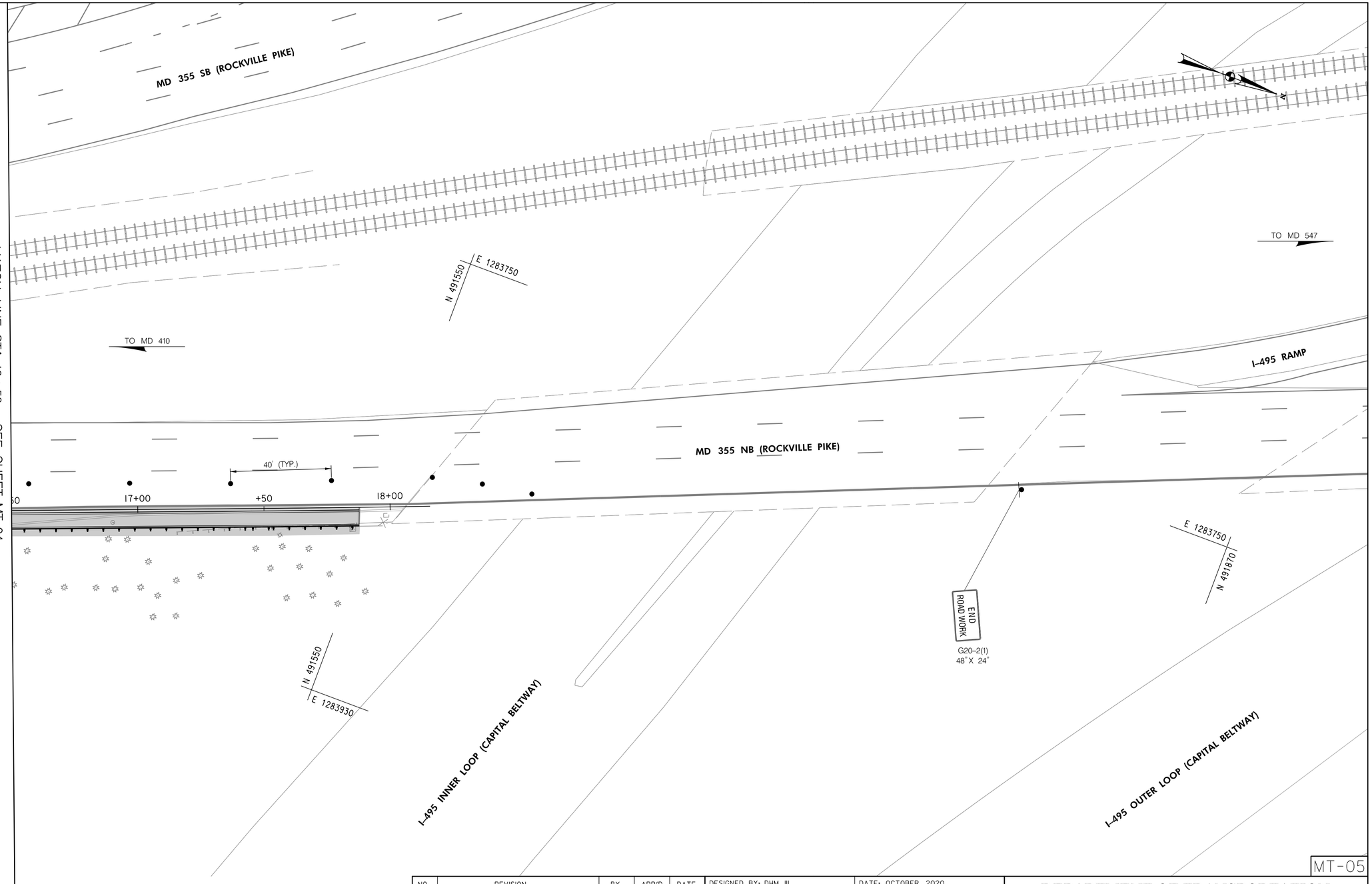
LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION



MATCH LINE STA. 16+50 - SEE SHEET MT-04

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

MT-05

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APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE I

SCALE: 1"=20'

SHEET 071 of 102

PROFESSIONAL CERTIFICATION:
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LEGEND
- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

I-495 OUTER LOOP (CAPITAL BELTWAY)

N 492220
E 1283460

I-270 RAMP

N

TO MD 547

TO I-495

MD 355 NB (ROCKVILLE PIKE)

50'

18+00

I-495 RAMP

OCF

OCF

40' (TYP.)

500'

END ROAD WORK
G20-2(1)
(48" x 24")

E 1283460
N 492680

ROAD WORK 500 FT
W20-1(1)
(48" x 48")

N 492220
E 1283750

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

MT-06

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.
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DEPARTMENT OF TRANSPORTATION
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MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 2

SCALE: 1"=20'

SHEET 072 of 102

Monday, October 05, 2020 AT 02:01 PM
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LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

N

TO MD 547

E 1283200

N 492840

540' TAPER

40' (TYP.)

MD 355 NB (ROCKVILLE PIKE)

MD 355 RAMP

TO I-495

500'

500'

500'

W4-2R
(48" x 48")

RIGHT LANE CLOSED 1000 FT

W20-5(1)
(48" x 48")

ROAD WORK AHEAD

W20-1(1)
(48" x 48")

N 492840

E 1283410

N 493150

E 1283410

MATCH LINE - SEE SHEET MT-08

MT-07

20' 0 20' 40'

SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION:
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Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3A

SCALE: 1"=20'

SHEET 073 of 102

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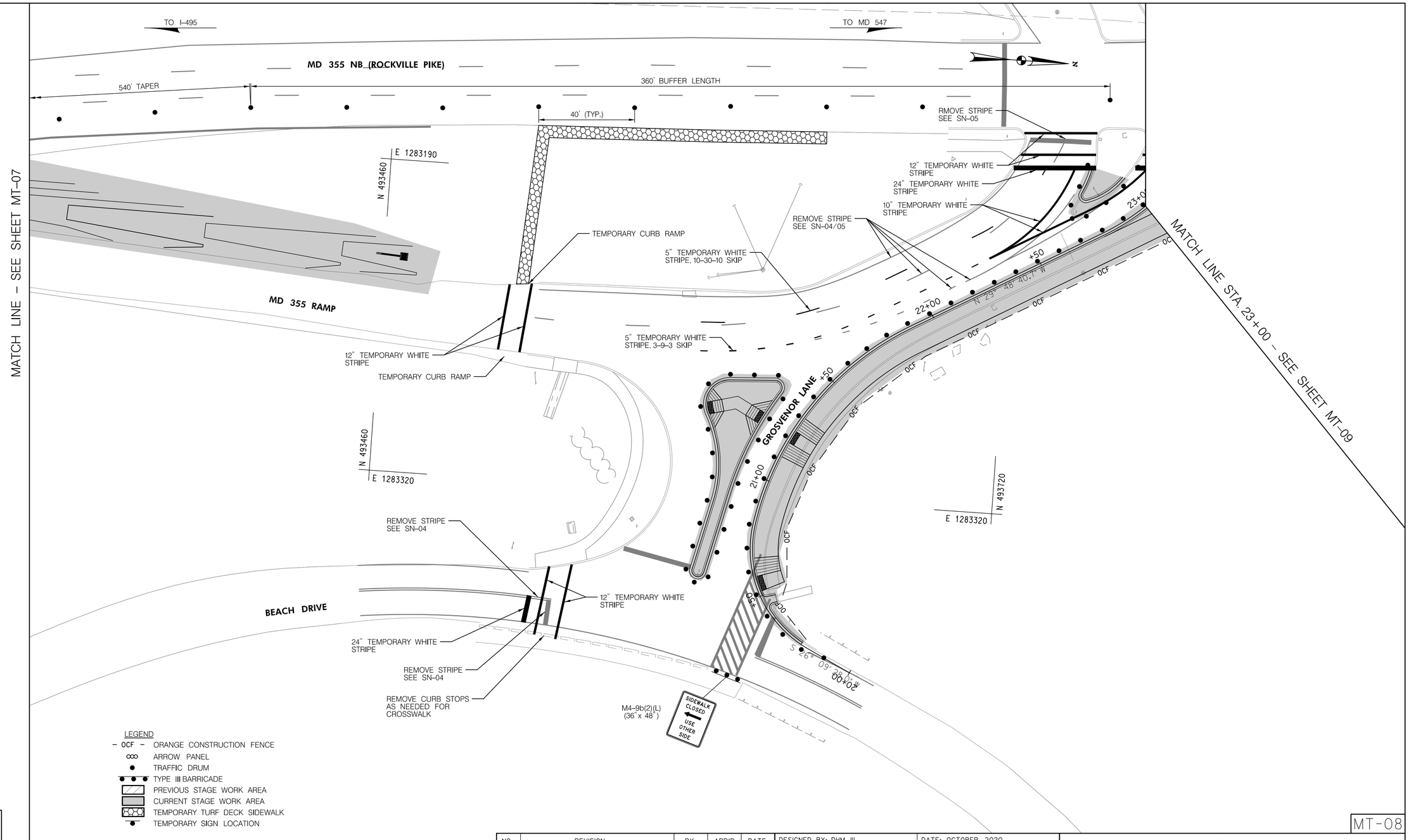

LEGEND

- OCF – ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

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

MT-08

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Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3A

SCALE: 1"=20'

SHEET 074 of 102

PROFESSIONAL CERTIFICATION:
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GROSVENOR LANE

TO I-495

N 493940

E 1282990

TO MD 547

MD 355 SB (ROCKVILLE PIKE)

MD 355 NB (ROCKVILLE PIKE)

24" TEMPORARY WHITE STRIPE

12" TEMPORARY WHITE STRIPE

REMOVE STRIPE SEE SN-05

40' (TYP.)

24+00 +50 25+00 +50 26+00 +50 27+00 +50 28

N 4° 00' 42.0" W

OCF

M4-9b(2)(R) (36" x 48")

SPEAK LOUDER USE 30% GRADE

N 493940

E 1283210

N 494210

E 1283210

MATCH LINE STA. 23+00 - SEE SHEET MT-08

MATCH LINE STA. 28+00 - SEE SHEET MT-10

LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

20' 0 20' 40'

SCALE: 1" = 20'

MT-09

NO.	REVISION	BY	APP'D	DATE

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Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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BPPA Bicycle and Pedestrian Priority Areas

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3A

SCALE: 1"=20'

SHEET 075 of 102

Monday, October 05, 2020 AT 02:01 PM
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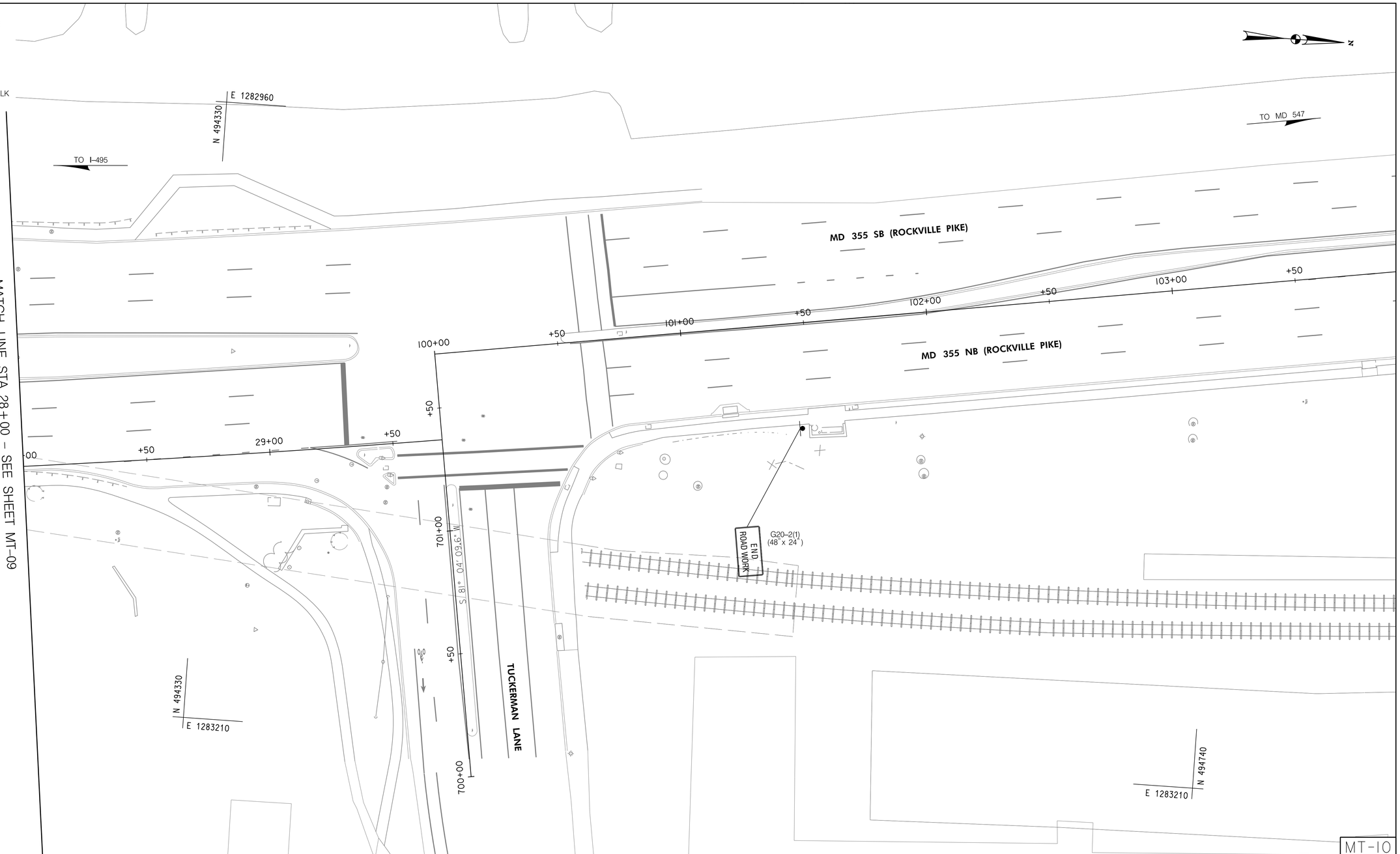
LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION



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

MT-10

PROFESSIONAL CERTIFICATION:
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BPPA Bicycle and Pedestrian Priority Areas

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Chief, Design Section Date

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_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3A

SCALE: 1"=20'

SHEET 076 of 102

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LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

N

TO MD 547

E 1283200

N 492840

MD 355 NB (ROCKVILLE PIKE)

MD 355 RAMP

TO I-495

FROM STAGE 3A

FROM STAGE 3A

ROAD WORK AHEAD

FROM STAGE 3A

RIGHT LANE CLOSED 1000 FT

FROM STAGE 3A

N 492840

E 1283410

N 493150

E 1283410

MATCH LINE - SEE SHEET MT-12

MT-11

20' 0 20' 40'

SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION:
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BPPA Bicycle and Pedestrian Priority Areas

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_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3B

SCALE: 1"=20'

SHEET 077 of 102

Monday, October 05, 2020 AT 02:01 PM
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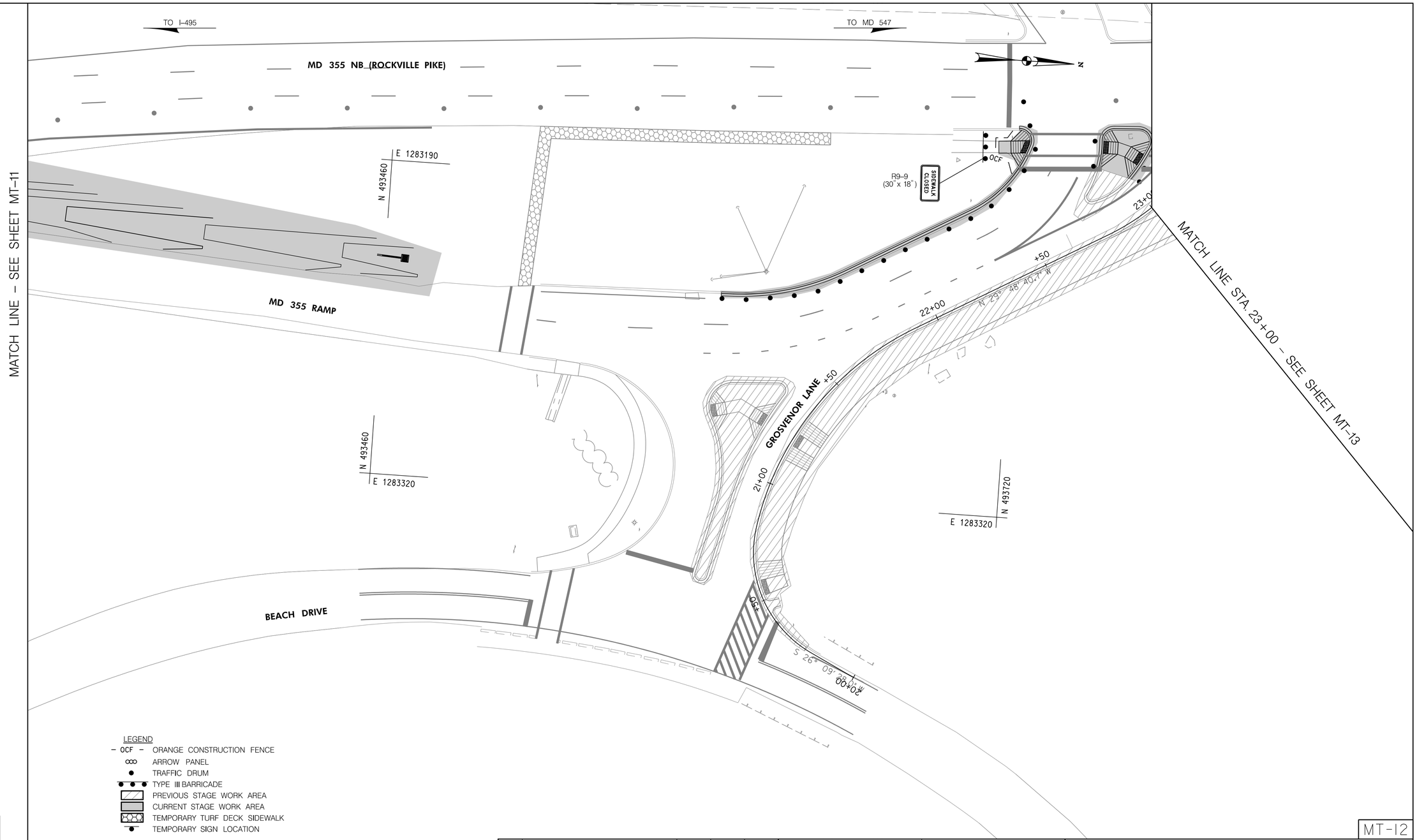

LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

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

MT-12

NO.	REVISION	BY	APP'D	DATE

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APPROVED

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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3B

SCALE: 1"=20'

SHEET 078 of 102

PROFESSIONAL CERTIFICATION:
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BPPA Bicycle and Pedestrian Priority Areas

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GROSVENOR LANE

M4-9b(2)
(36" x 48")

SIDEWALK CLOSED USE OTHER SIDE

TO I-495

E 1282990

N 493940

TO MD 547

MD 355 SB (ROCKVILLE PIKE)

MD 355 NB (ROCKVILLE PIKE)

REMOVE TRAFFIC STRIPE

24+00 +50 25+00 +50 26+00 +50 27+00 +50 28

N 4° 00' 42.0" W

N 39°55'16" W 95.00'

MATCH LINE STA. 23+00 - SEE SHEET MT-12

MATCH LINE STA. 28+00 - SEE SHEET MT-14

N 493940
E 1283210

N 494210
E 1283210

LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

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

MT-13

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.
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APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

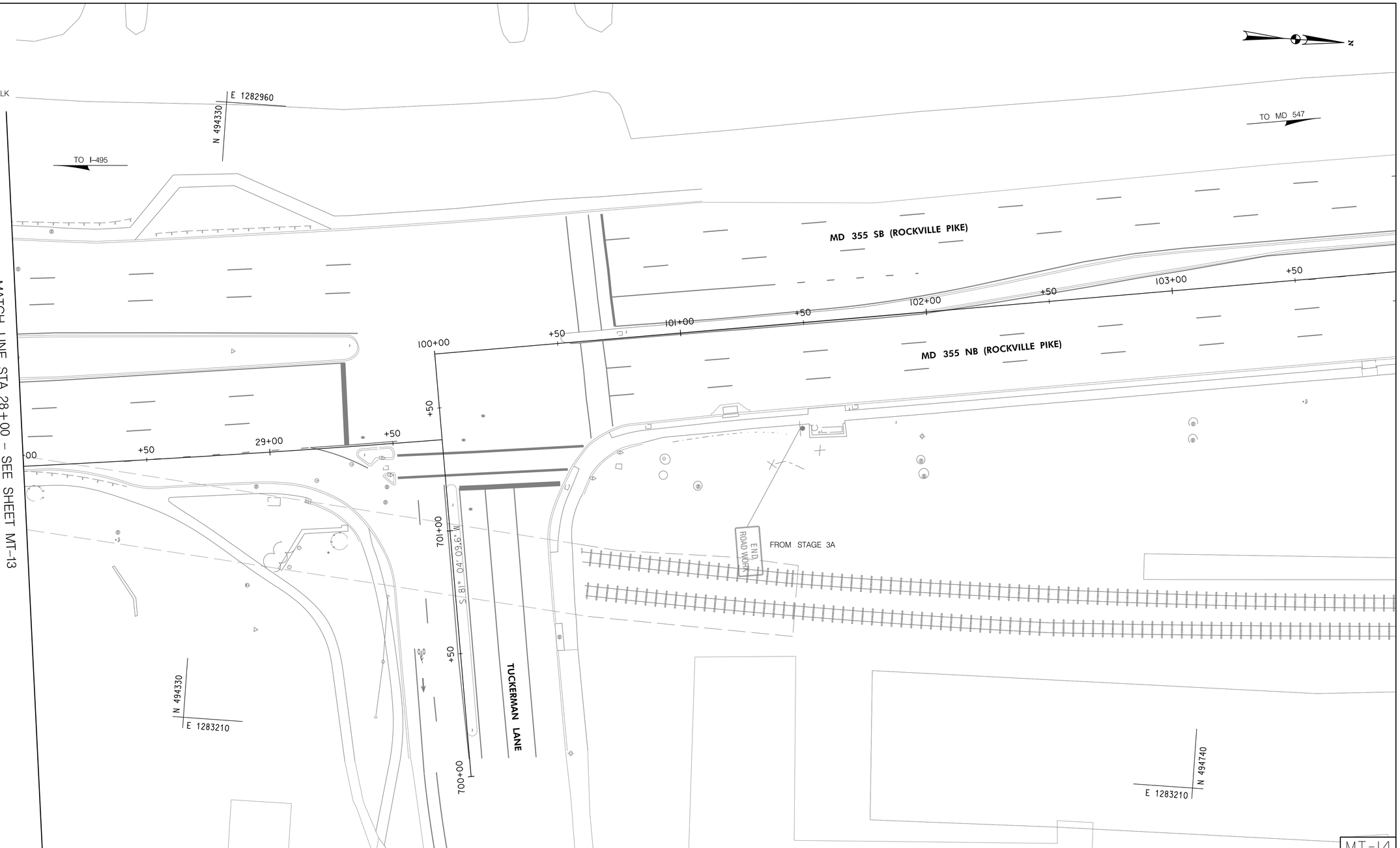
GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3B

SCALE: 1"=20'

SHEET 079 of 102

Monday, October 05, 2020 AT 02:01 PM
\\US0525-PPFSS01\shared_projects\202601140\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pMT-P3b03_Grosvenor.dgn

LEGEND
- OCF - ORANGE CONSTRUCTION FENCE
ARROW PANEL
TRAFFIC DRUM
TYPE III BARRICADE
PREVIOUS STAGE WORK AREA
CURRENT STAGE WORK AREA
TEMPORARY TURF DECK SIDEWALK
TEMPORARY SIGN LOCATION



NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3B

SCALE: 1"=20'

SHEET 080 of 102

PROFESSIONAL CERTIFICATION:
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BiPPA Bicycle and Pedestrian Priority Areas

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LEGEND

- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

N

TO MD 547

E 1283200

N 492840

MD 355 NB (ROCKVILLE PIKE)

MD 355 RAMP

TO I-495

FROM STAGE 3A

FROM STAGE 3A

ROAD WORK AHEAD

FROM STAGE 3A

RIGHT LANE CLOSED 1000 FT

FROM STAGE 3A

N 492840

E 1283410

N 493150

E 1283410

MATCH LINE - SEE SHEET MT-16

MT-15

20' 0 20' 40'

SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3C

SCALE: 1"=20'

SHEET 081 of 102

PROFESSIONAL CERTIFICATION:
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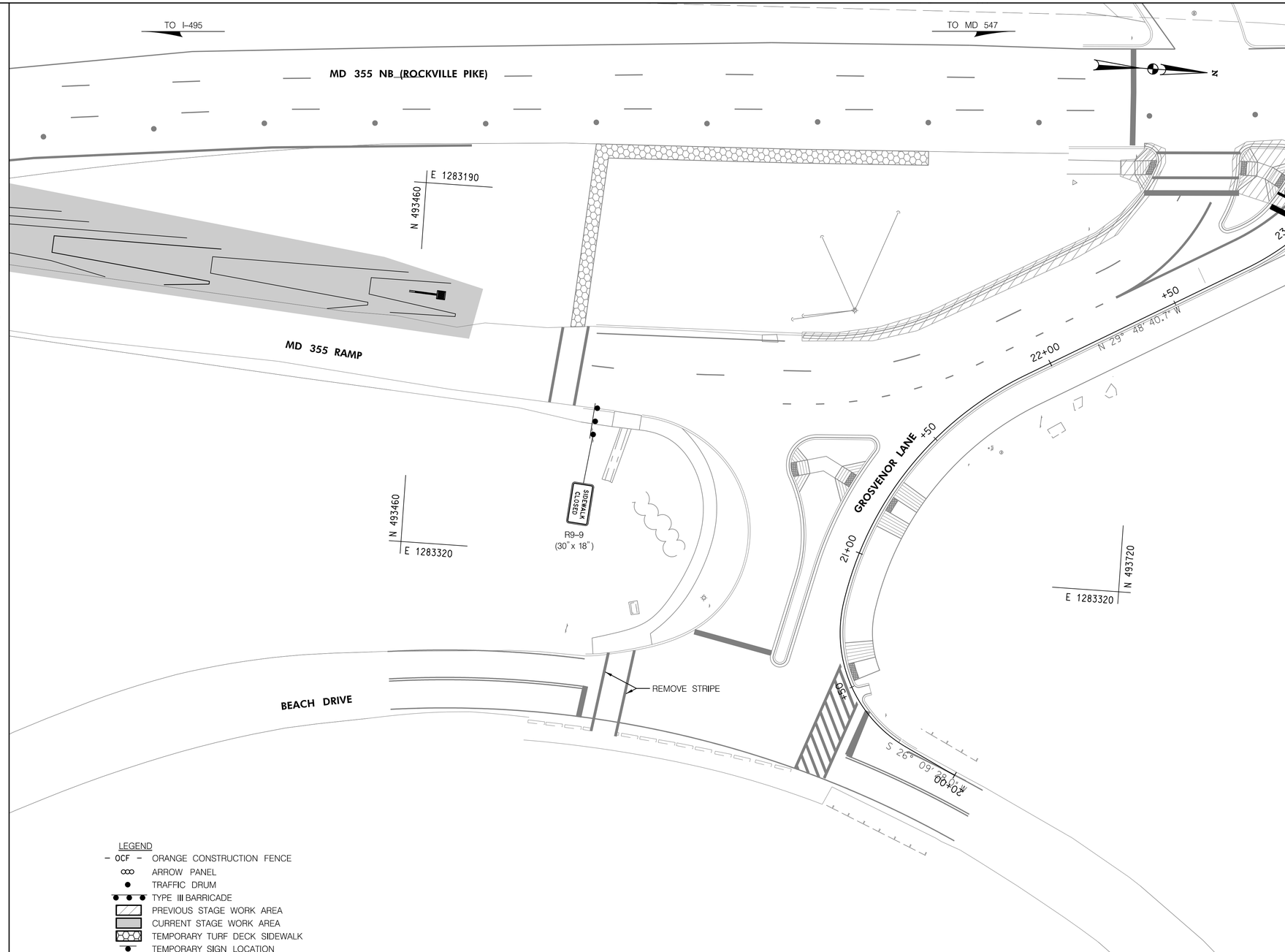

MT-16

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3C

SCALE: 1"=20'

SHEET 082 of 102

PROFESSIONAL CERTIFICATION:
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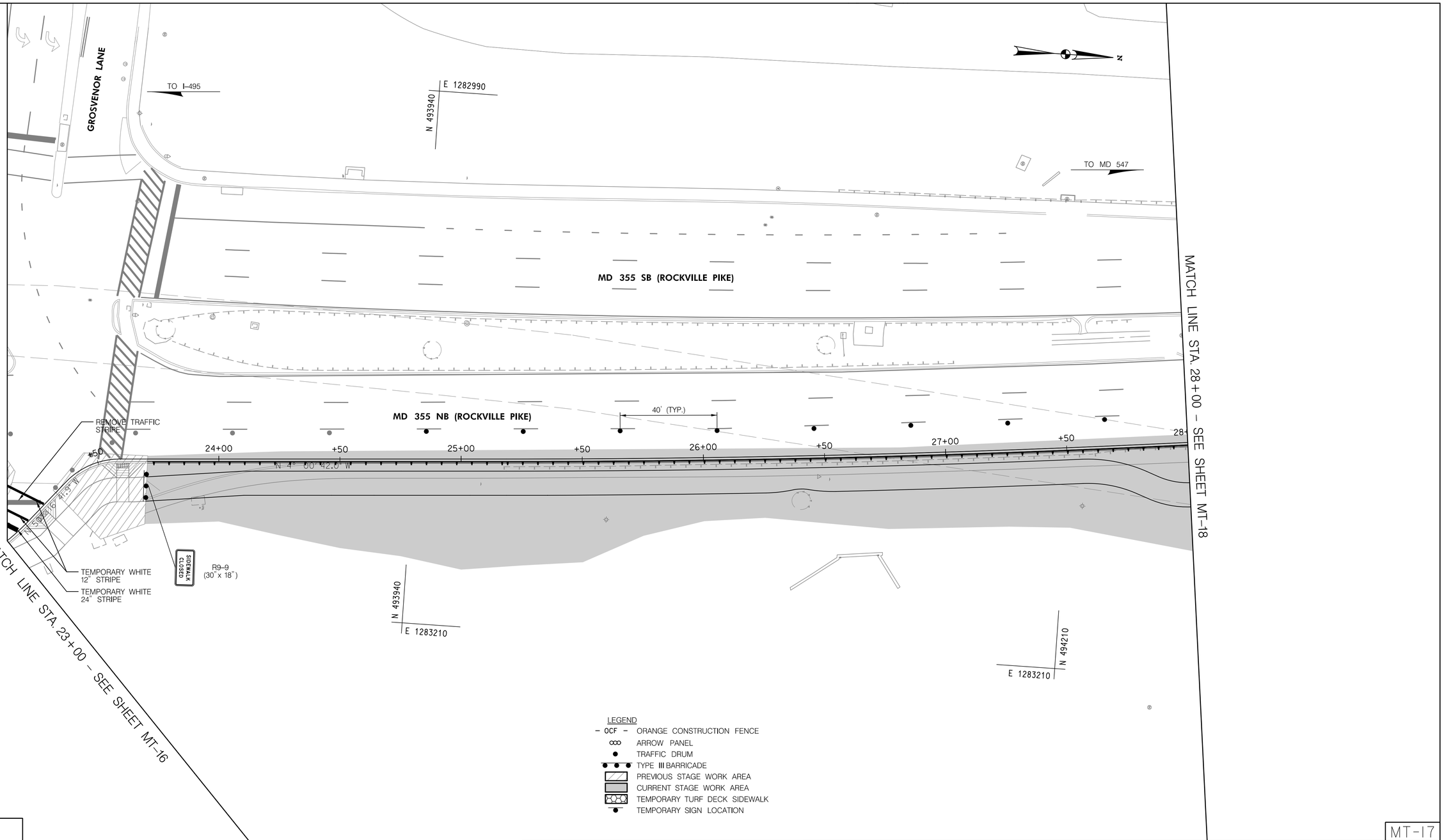

20' 0 20' 40'
SCALE: 1" = 20'

MT-17

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3C

SCALE: 1"=20'

SHEET 083 of 102

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LEGEND
- OCF - ORANGE CONSTRUCTION FENCE
- ARROW PANEL
- TRAFFIC DRUM
- TYPE III BARRICADE
- PREVIOUS STAGE WORK AREA
- CURRENT STAGE WORK AREA
- TEMPORARY TURF DECK SIDEWALK
- TEMPORARY SIGN LOCATION

N

E 1282960
N 494330
TO I-495
TO MD 547
MD 355 SB (ROCKVILLE PIKE)
MD 355 NB (ROCKVILLE PIKE)
MATCH LINE STA. 28+00 - SEE SHEET MT-17
40' (TYP.)
100+00
101+00
102+00
103+00
+50
29+00
OCF
25' (TYP.)
701+00
S 81° 04' 09.6" W
850'
700+00
TUCKERMAN LANE
SIDEWALK CLOSED
R9-9 (30" x 18")
M4-9b(2)(R) (36" x 48")
USE OTHER SIDE
ROAD WORK END
FROM STAGE 3A
N 494330
E 1283210
M4-9b(2)(R) (36" x 48")
NE CORNER OF TRUCKERMAN LN. AND STATHMORE HALL ST.
N 494740
E 1283210
MT-18

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

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

PROFESSIONAL CERTIFICATION:
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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MAINTENANCE OF TRAFFIC PLAN
STAGE 3C

SCALE: 1"=20'

SHEET 084 of 102

Monday, October 05, 2020 AT 02:03 PM
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B-1

PROJECT NAME: Grosvenor Improvements
PROJECT NO.: 03.04273.01
LOCATION: Montgomery County, Maryland
CLIENT: Stantec

PAGE 1 OF 1

FIELD DATA

DATE(S) DRILLED:8/22/2019
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME 45
DRILLER: M.B. Zamorano LOGGER: J. Yao
SURFACE ELEVATION: 233.8 ft
NORTH: 491115.3386
EAST: 1284013.693

GROUND WATER WAS NOT ENCOUNTERED DURING DRILLING

NO LONG TERM MEASUREMENTS TAKEN.

LAB DATA

MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)	% Finer than #200
0.0 / 233.8 ASPHALT **Asph** -4 in; 0.3 / 233.5 CONCRETE **Conc** -8 in				
1.0 / 232.8 Brown, fine silty sand with gravel FILL, contains mica, loose to medium dense, moist **FL-SM** SAME, trace gravel				
6.0 / 227.8 Brown, sandy LEAN CLAY, contains mica, firm, moist **CL**	34	15	20.0	54.4
8.5 / 225.3 Brown, fine SILTY SAND, contains mica, loose to dense, moist **SM**				
23.5 / 210.3 Brown, fine SILTY SAND, contains mica, very dense, moist **SM**				
28.8 / 205.0 Auger Refusal				

REMARKS: Cave-in depth = 23.5ft.

PAGE 1 OF 1
B-1

DMY ENGINEERING CONSULTANTS INC.
45662 Terminal Drive, Suite 110
Dulles, Virginia 20166
tel: (703) 665-0586 fax: (301) 768-4169

B-2

PROJECT NAME: Grosvenor Improvements
PROJECT NO.: 03.04273.01
LOCATION: Montgomery County, Maryland
CLIENT: Stantec

PAGE 1 OF 1

FIELD DATA

DATE(S) DRILLED:8/22/2019
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME 45
DRILLER: M.B. Zamorano LOGGER: J. Yao
SURFACE ELEVATION: 233.6 ft
NORTH: 491182.3299
EAST: 1283988.6807

▽ GROUND WATER FIRST ENCOUNTERED AT: 33.5 ft
▼ AT END OF DRILLING: 27.0 ft

NO LONG TERM MEASUREMENTS TAKEN.

LAB DATA

MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)	% Finer than #200
0.0 / 233.6 ASPHALT **Asph** -4 in; 0.3 / 233.3 CONCRETE **Conc** -8 in				
1.0 / 232.6 Brown, fine silty sand FILL, contains mica, loose to medium dense, moist **FL-SM** SAME, contains trace roots				
13.5 / 220.1 Brown, sandy SILT, contains mica, stiff, moist **ML**	NP	NP	19.0	52.2
28.5 / 205.1 Brown, fine SILTY SAND, contains mica and rock fragments, dense to very dense, moist **SM**				
35.0 / 198.6 Boring Terminated				

REMARKS: Cave-in depth = 31ft.

PAGE 1 OF 1
B-2

DMY ENGINEERING CONSULTANTS INC.
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B-3

PROJECT NAME: Grosvenor Improvements
PROJECT NO.: 03.04273.01
LOCATION: Montgomery County, Maryland
CLIENT: Stantec

PAGE 1 OF 1

FIELD DATA

DATE(S) DRILLED:8/26/2019
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME 45
DRILLER: M.B. Zamorano LOGGER: J. Yao
SURFACE ELEVATION: 235.5 ft
NORTH: 493876.9578
EAST: 1283142.8899

GROUND WATER WAS NOT ENCOUNTERED DURING DRILLING

NO LONG TERM MEASUREMENTS TAKEN.

LAB DATA

MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)	% Finer than #200
0.0 / 235.5 ASPHALT **Asph** -4 in; 0.3 / 235.2 CONCRETE **Conc** -8 in				
1.0 / 234.5 Brown, fine silty sand with gravel FILL, contains mica, loose, moist **FL-SM** 3.5 / 232.0 Brown, fine silty sand FILL, contains mica, loose to medium dense, moist **FL-SM**	39	9	17.9	49.7
13.5 / 222.0 Brown, fine SILTY SAND, contains mica, dense to very dense, moist **SM**				
23.8 / 211.7 Boring Terminated	NP	NP	11.9	45.3

REMARKS: Cave-in depth = 19ft.

PAGE 1 OF 1
B-3

DMY ENGINEERING CONSULTANTS INC.
45662 Terminal Drive, Suite 110
Dulles, Virginia 20166
tel: (703) 665-0586 fax: (301) 768-4169

B-4

PROJECT NAME: Grosvenor Improvements
PROJECT NO.: 03.04273.01
LOCATION: Montgomery County, Maryland
CLIENT: Stantec

PAGE 1 OF 1

FIELD DATA

DATE(S) DRILLED:8/27/2019
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME 45
DRILLER: D. Pao LOGGER: J. Yao
SURFACE ELEVATION: 234.6 ft
NORTH: 493951.416
EAST: 1283137.462

GROUND WATER WAS NOT ENCOUNTERED DURING DRILLING

NO LONG TERM MEASUREMENTS TAKEN.

LAB DATA

MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)	% Finer than #200
0.0 / 234.6 ASPHALT **Asph** -5 in; 0.4 / 234.3 CONCRETE **Conc** -8 in				
1.0 / 233.6 Brown, sandy silt FILL, contains mica, stiff to very stiff, moist **FL-ML** SAME, trace gravel				
13.5 / 221.1 Gray, fine SILTY SAND, contains mica, very dense, moist **SM**	NP	NP	4.0	16.9
17.1 / 217.5 Auger Refusal				

REMARKS: Cave-in depth = 14ft.

PAGE 1 OF 1
B-4

DMY ENGINEERING CONSULTANTS INC.
45662 Terminal Drive, Suite 110
Dulles, Virginia 20166
tel: (703) 665-0586 fax: (301) 768-4169

B-5

PROJECT NAME: Grosvenor Improvements
PROJECT NO.: 03.04273.01
LOCATION: Montgomery County, Maryland
CLIENT: Stantec

PAGE 1 OF 1

FIELD DATA

DATE(S) DRILLED:8/27/2019
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME 45
DRILLER: D. Pao LOGGER: J. Yao
SURFACE ELEVATION: 233.4 ft
NORTH: 494029.6346
EAST: 1283131.8882

GROUND WATER WAS NOT ENCOUNTERED DURING DRILLING

NO LONG TERM MEASUREMENTS TAKEN.

LAB DATA

MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)	% Finer than #200
0.0 / 233.4 ASPHALT **Asph** -4 in; 0.3 / 233.1 CONCRETE **Conc** -8 in				
1.0 / 232.4 Brown, fine silty sand FILL, trace gravel, contains mica, medium dense, moist **FL-SM**	37	4	15.8	38.9
13.5 / 219.9 Red and brown, sandy lean clay FILL, trace gravel, very stiff, moist **FL-CL**	39	14	22.9	67.7
18.5 / 214.9 Brown, fine SILTY SAND, contains mica, medium dense, moist **SM**				
23.6 / 209.8 Boring Terminated				

REMARKS: Cave-in depth = 21ft.

PAGE 1 OF 1
B-5

DMY ENGINEERING CONSULTANTS INC.
45662 Terminal Drive, Suite 110
Dulles, Virginia 20166
tel: (703) 665-0586 fax: (301) 768-4169

B-6

PROJECT NAME: Grosvenor Improvements
PROJECT NO.: 03.04273.01
LOCATION: Montgomery County, Maryland
CLIENT: Stantec

PAGE 1 OF 1

FIELD DATA

DATE(S) DRILLED:8/27/2019
DRILLING METHOD(S): 3.25 in HSA
DRILLING EQUIPMENT: CME 45
DRILLER: D. Pao LOGGER: J. Yao
SURFACE ELEVATION: 230.9 ft
NORTH: 494257.7657
EAST: 1283108.9099

▽ GROUND WATER FIRST ENCOUNTERED AT: 19.0 ft
▼ AT END OF DRILLING: 16.0 ft

NO LONG TERM MEASUREMENTS TAKEN.

LAB DATA

MATERIAL DESCRIPTION OF STRATA	LIQUID LIMIT (LL)	PLASTICITY INDEX (PI)	MOISTURE CONTENT (%)	% Finer than #200
0.0 / 230.9 ASPHALT **Asph** -4 in; 0.3 / 230.6 CONCRETE **Conc** -10 in				
1.2 / 229.7 Brown and gray, fine silty sand FILL, trace gravel, contains mica, loose to medium dense, moist **FL-SM**	33	3	18.9	50.7
SAME, contains wood				
20.5 / 210.4 White, medium to coarse SILTY SAND WITH GRAVEL, contains quartz gravel, loose to very dense, moist **SM**	NP	NP	25.0	39.4
20.6 / 210.3 Auger Refusal				

REMARKS: Cave-in depth = 20ft.

PAGE 1 OF 1
B-6

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PROFESSIONAL CERTIFICATION:
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

SB-01

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
SOIL BORING LOGS

SCALE: N.T.S.

SHEET 085 of 102

Monday, October 05, 2020 AT 02:04 PM
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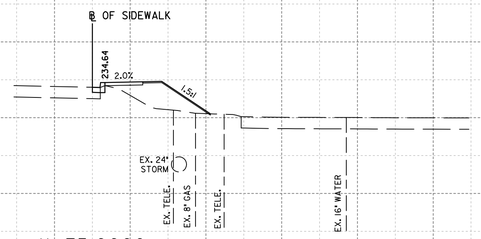

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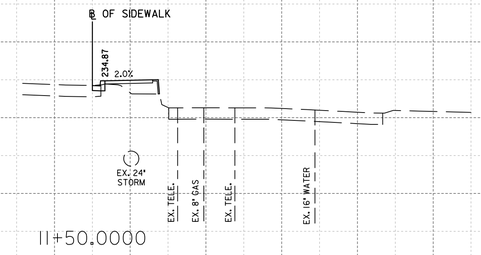

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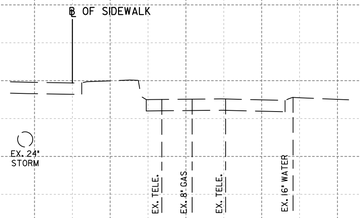

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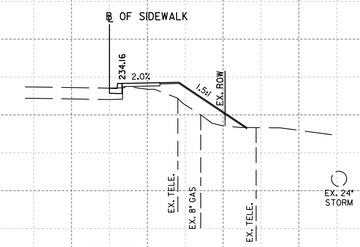

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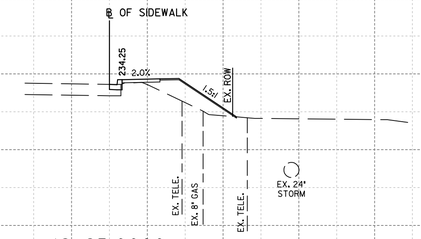

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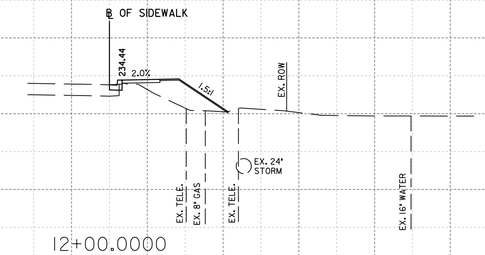

12+00.0000

50 40 30 20 10 0 10 20 30 40 50

XS-01

10' 0 10' 20'
SCALE: 1" = 10'

PROFESSIONAL CERTIFICATION:
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NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 086 of 102

Monday, October 05, 2020 AT 02:33 PM
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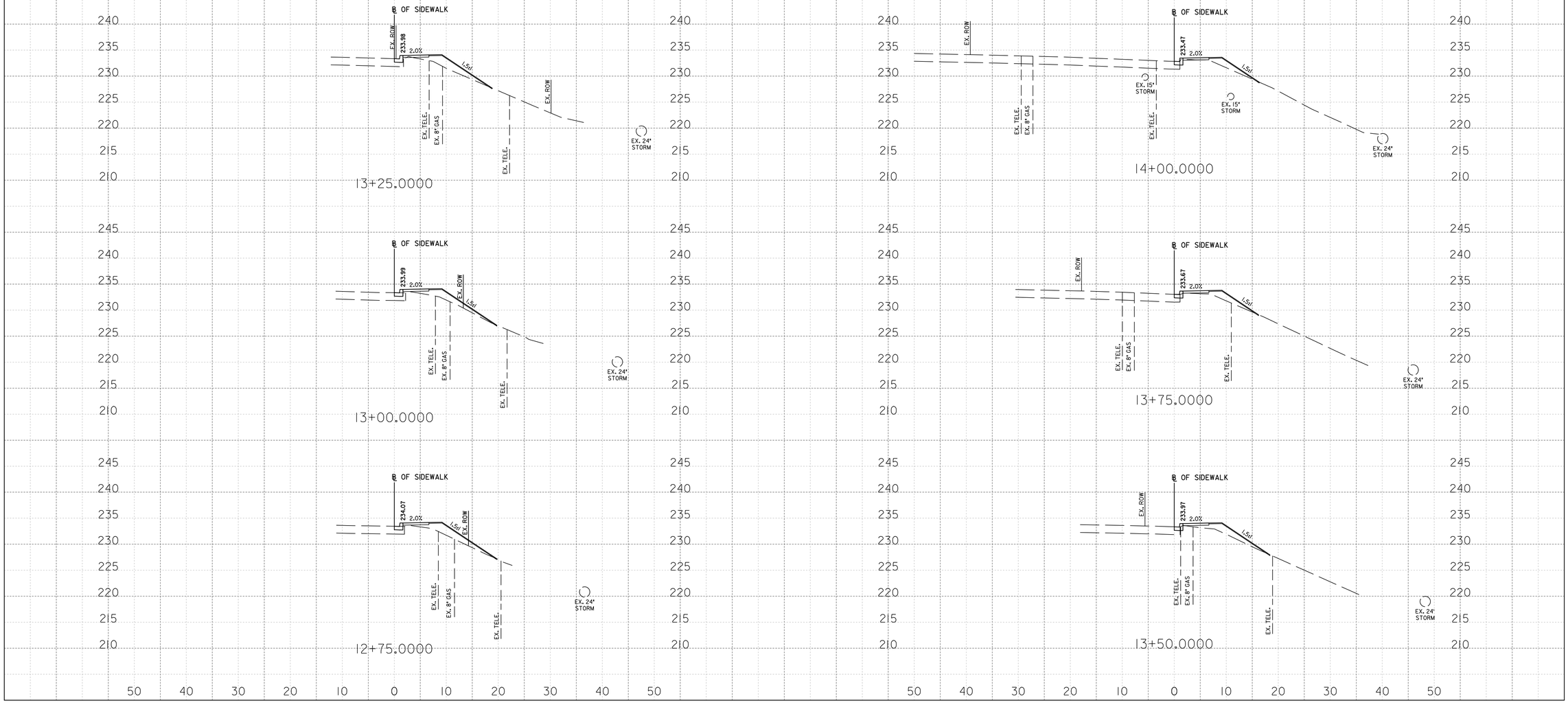

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XS-02

10' 0 10' 20'
SCALE: 1" = 10'

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

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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

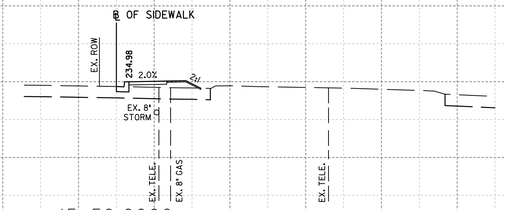
_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 087 of 102



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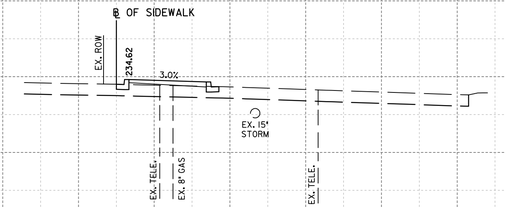

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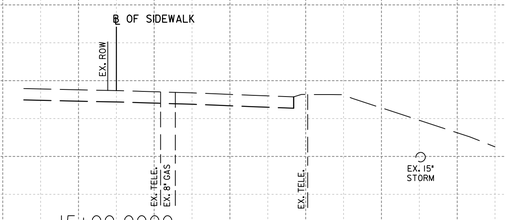

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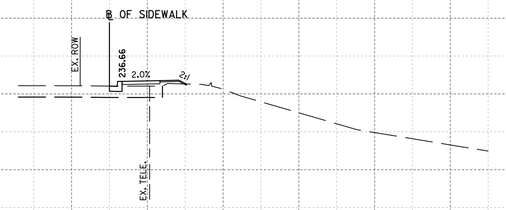

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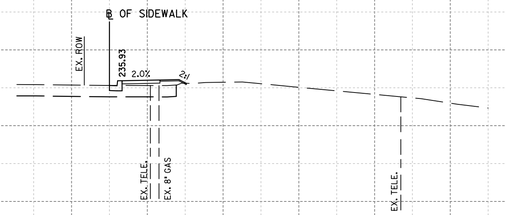
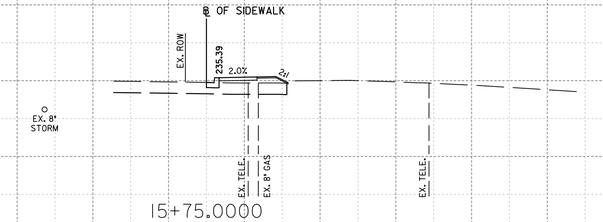


16+00.0000



15+75.0000

XS-03

10' 0 10' 20'
SCALE: 1" = 10'

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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

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Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 088 of 102

Monday, October 05, 2020 AT 02:33 PM
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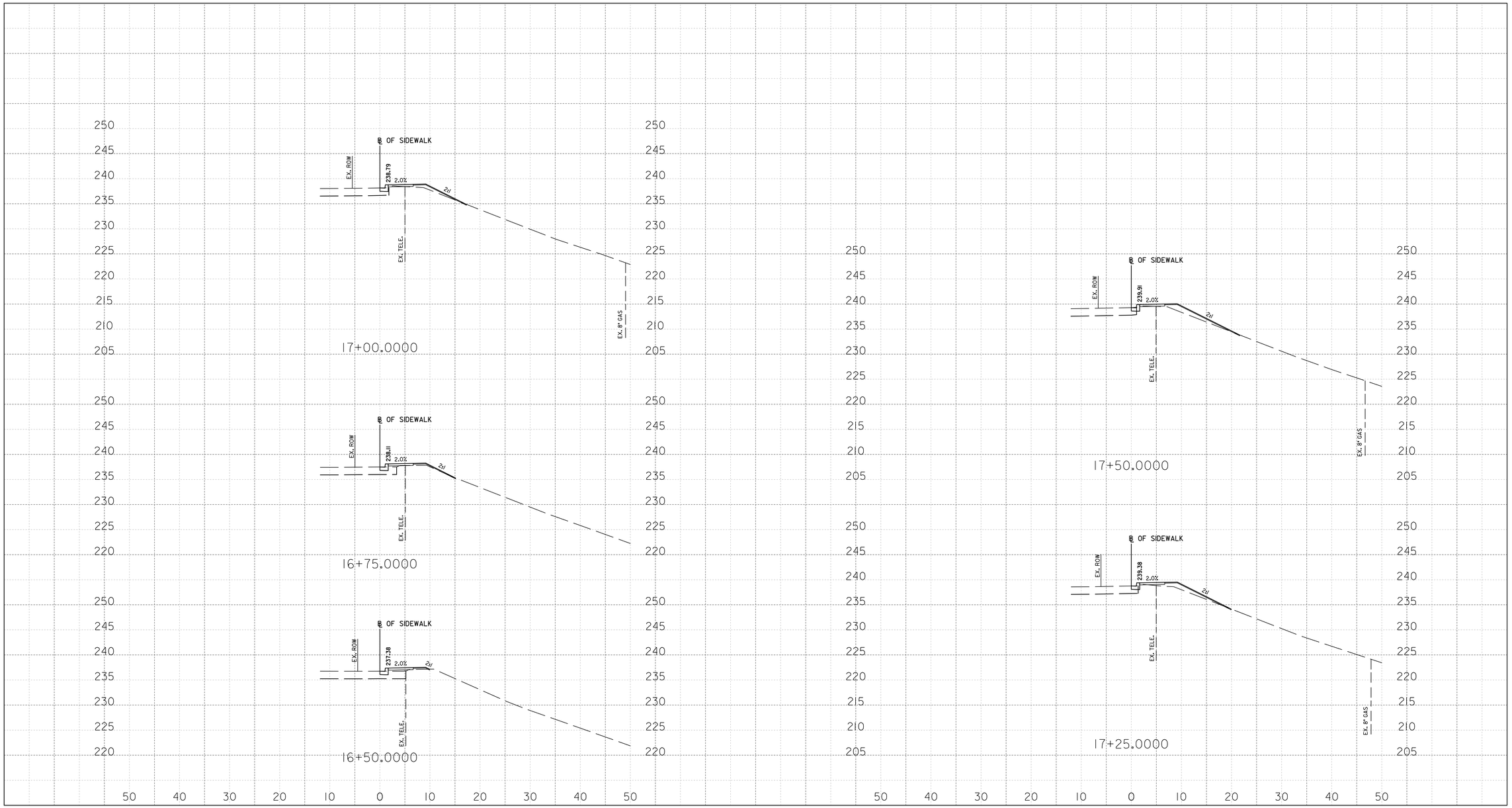

XS-04

10' 0 10' 20'
SCALE: 1" = 10'

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.
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_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 089 of 102

Monday, October 05, 2020 AT 02:33 PM
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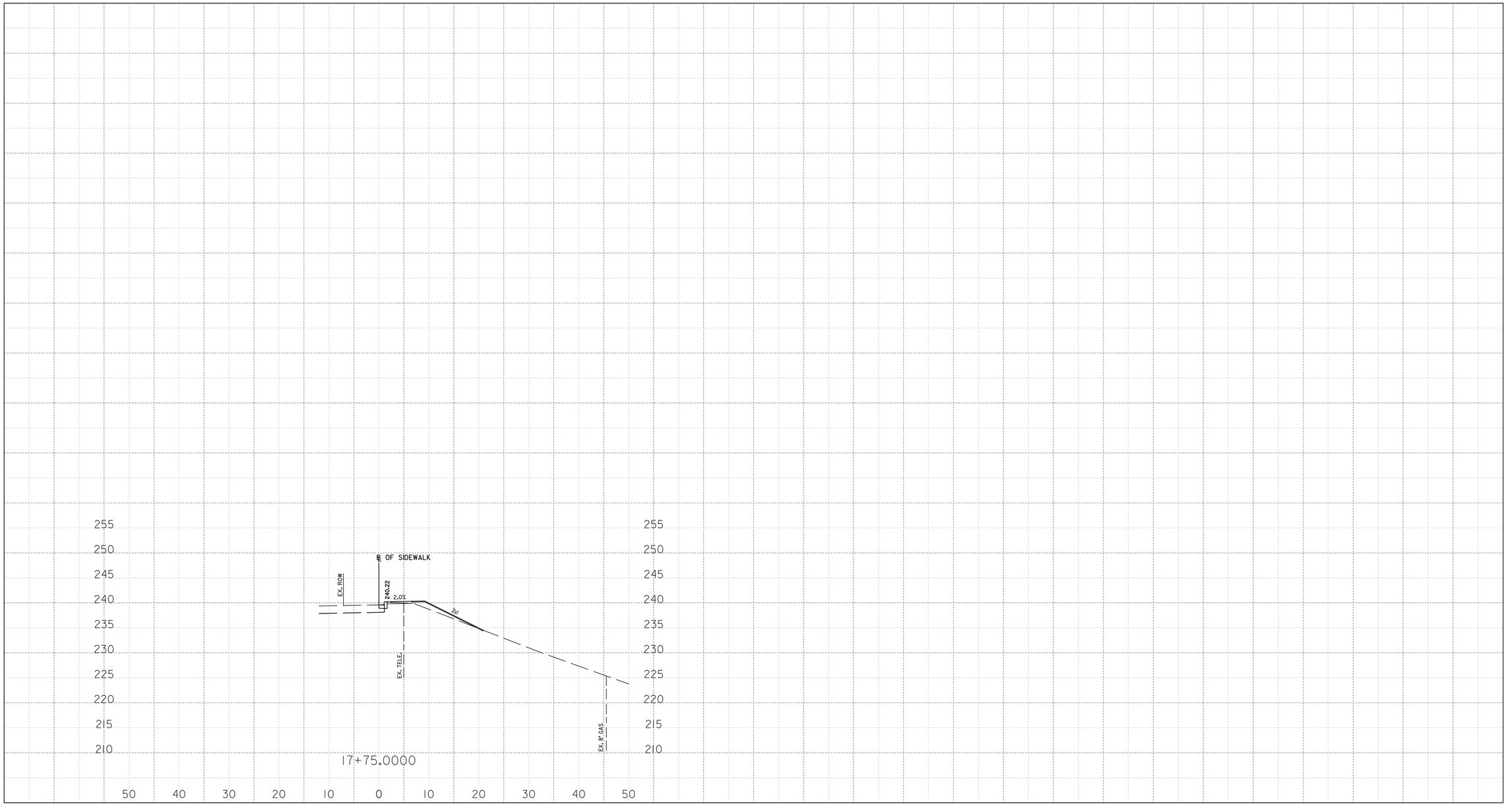

XS-05

10' 0 10' 20'
SCALE: 1" = 10'

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.
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_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 090 of 102

Monday, October 05, 2020 AT 02:33 PM
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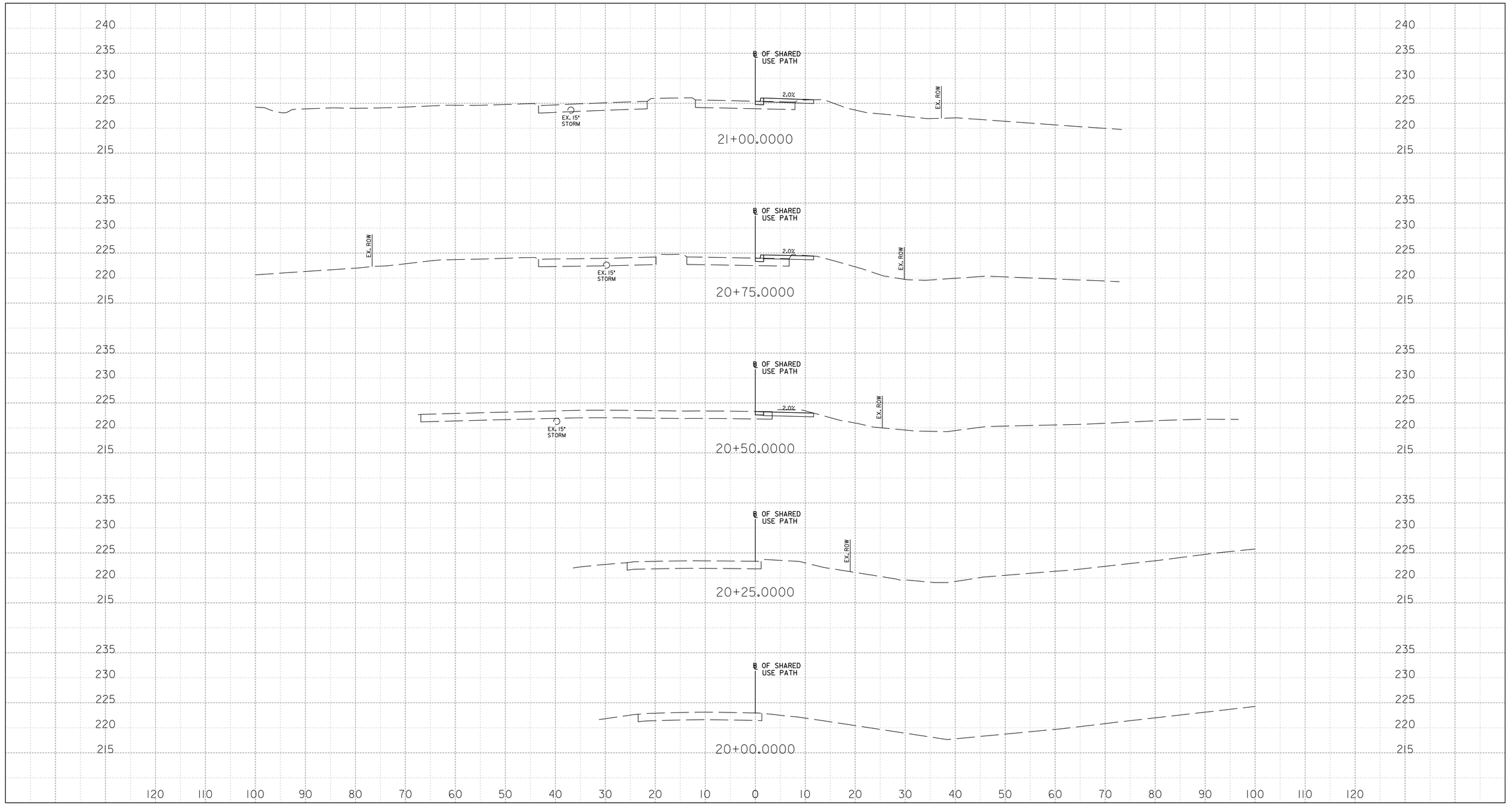

XS-06

10' 0 10' 20'
SCALE: 1" = 10'

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.
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NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
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RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 091 of 102

Monday, October 05, 2020 AT 02:33 PM
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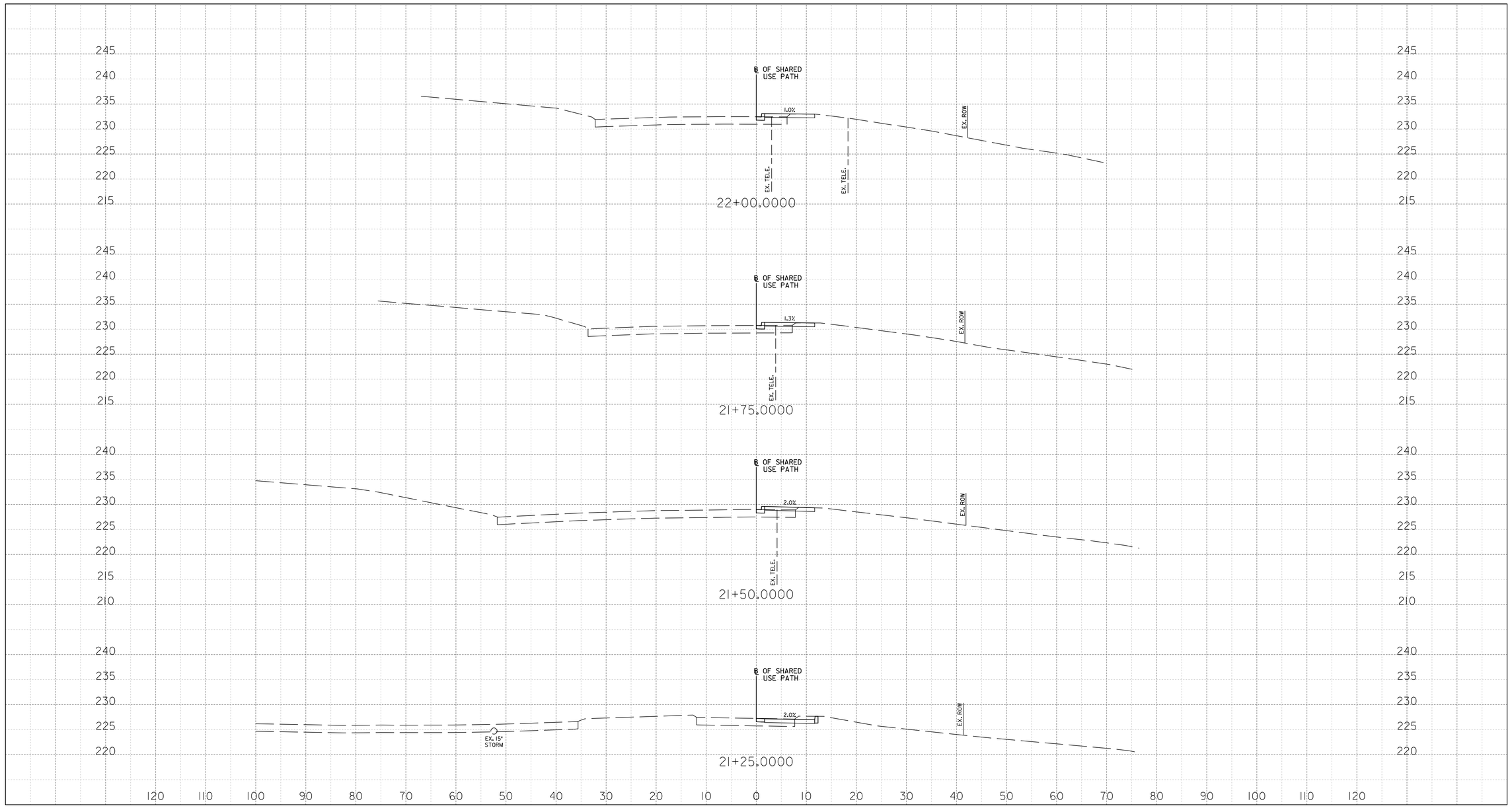

XS-07

10' 0 10' 20'
SCALE: 1" = 10'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
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APPROVED

Chief, Division of Transportation Engineering — Date

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DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 092 of 102

PROFESSIONAL CERTIFICATION:
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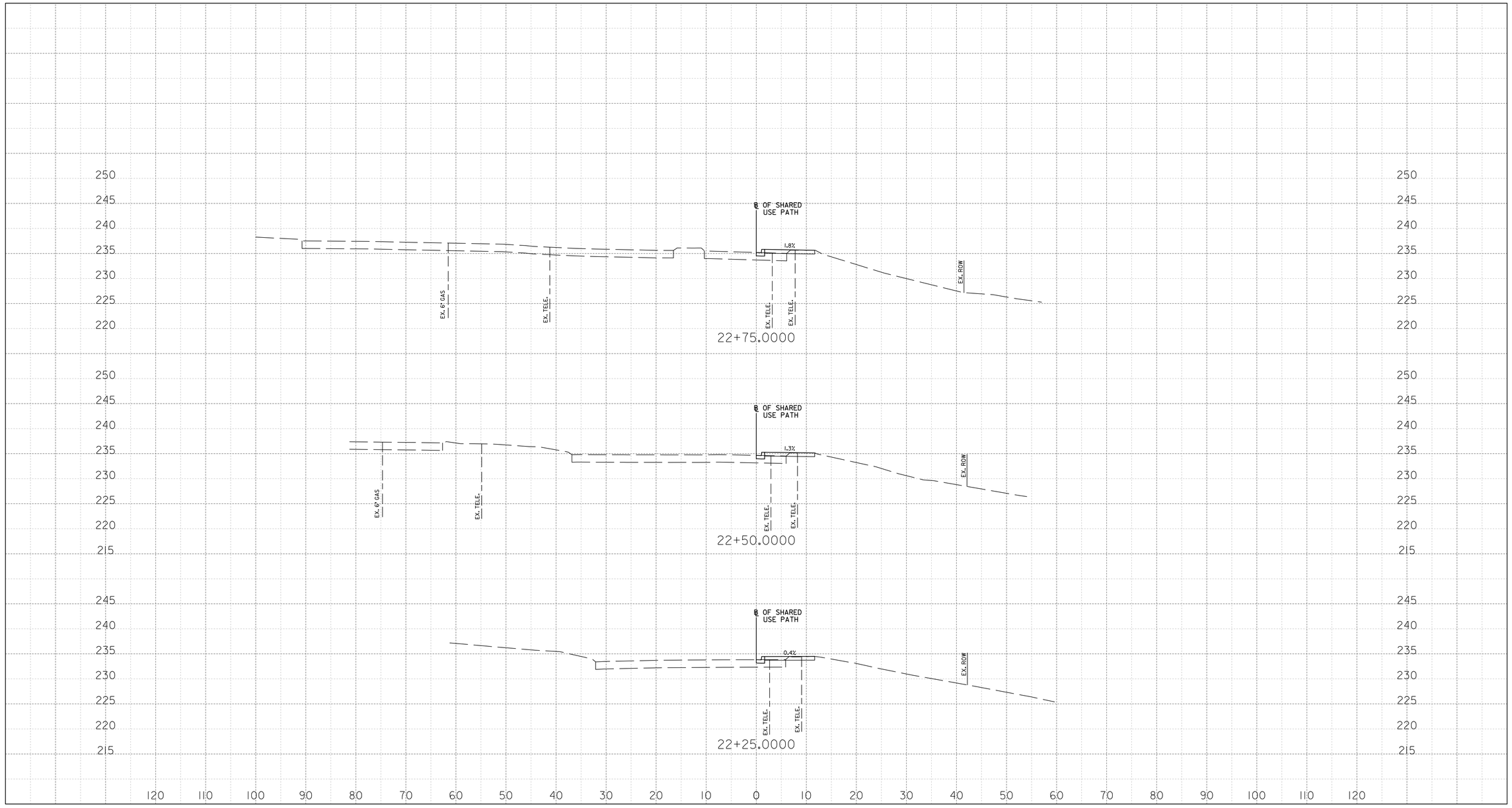

XS-08

10' 0 10' 20'
SCALE: 1" = 10'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

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APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 093 of 102

PROFESSIONAL CERTIFICATION:
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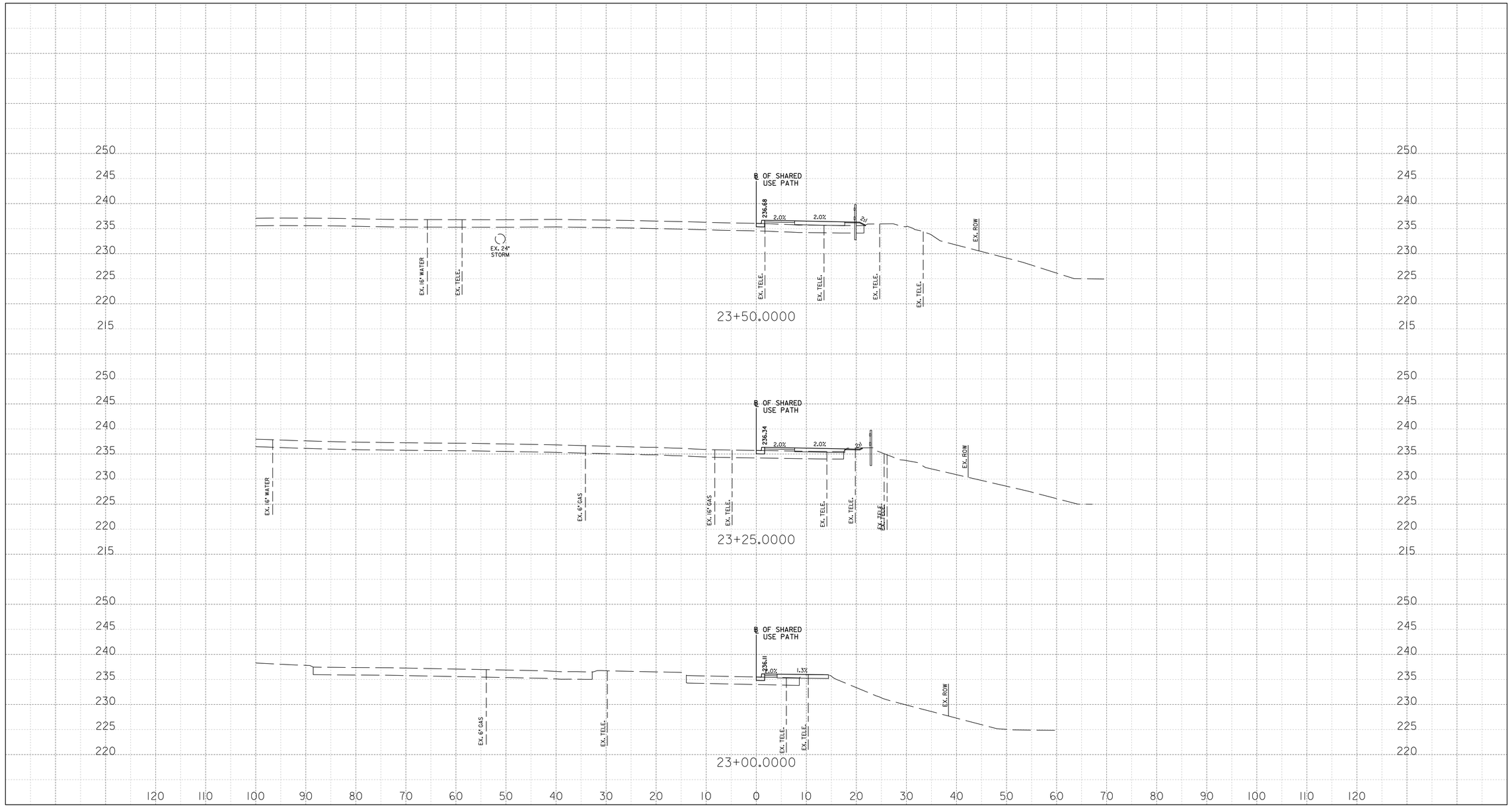

10' 0 10' 20'
SCALE: 1" = 10'

XS-09

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
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Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 094 of 102

PROFESSIONAL CERTIFICATION:
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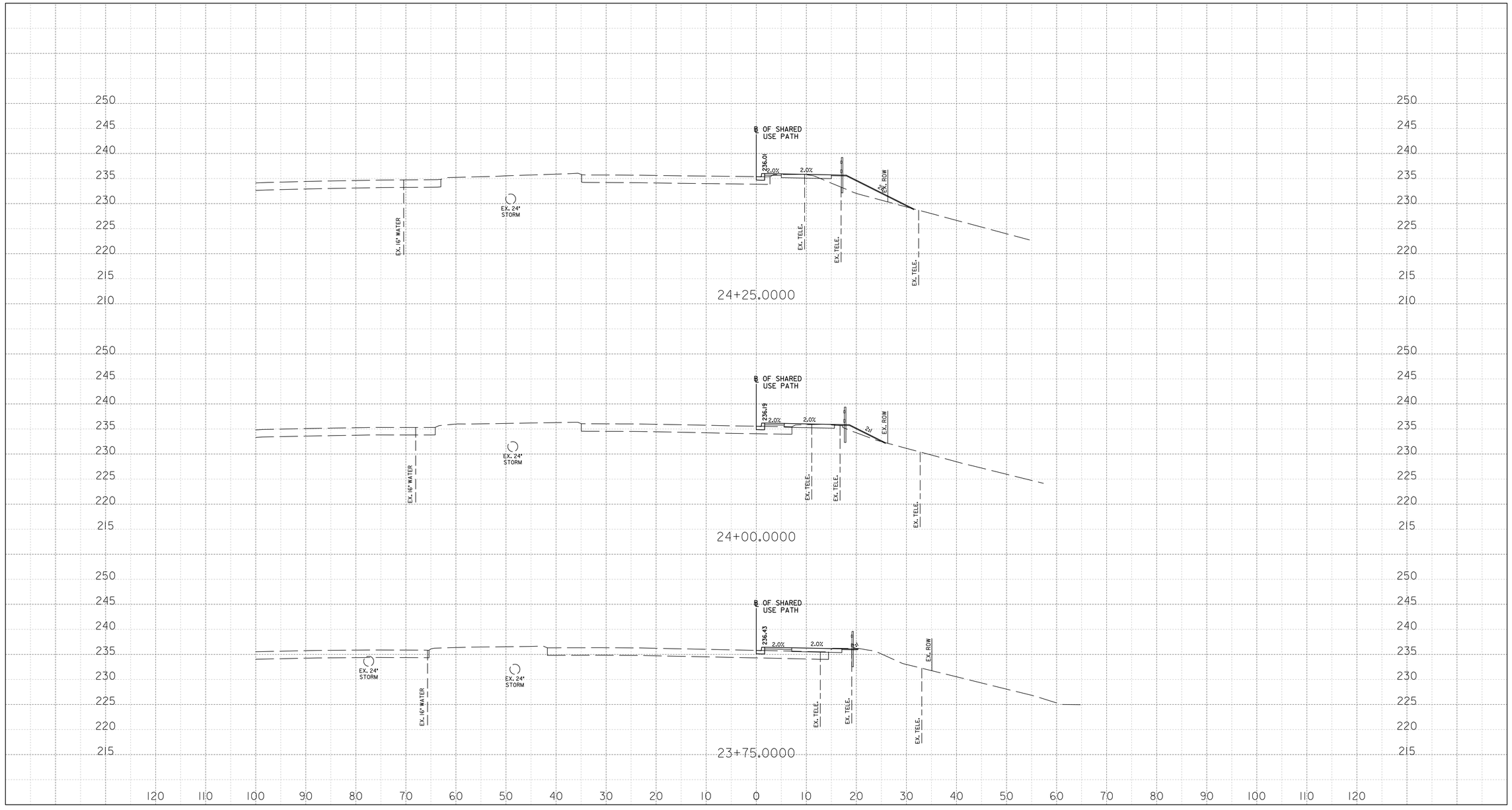

XS-10

10' 0 10' 20'
SCALE: 1" = 10'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
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APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 095 of 102

PROFESSIONAL CERTIFICATION:
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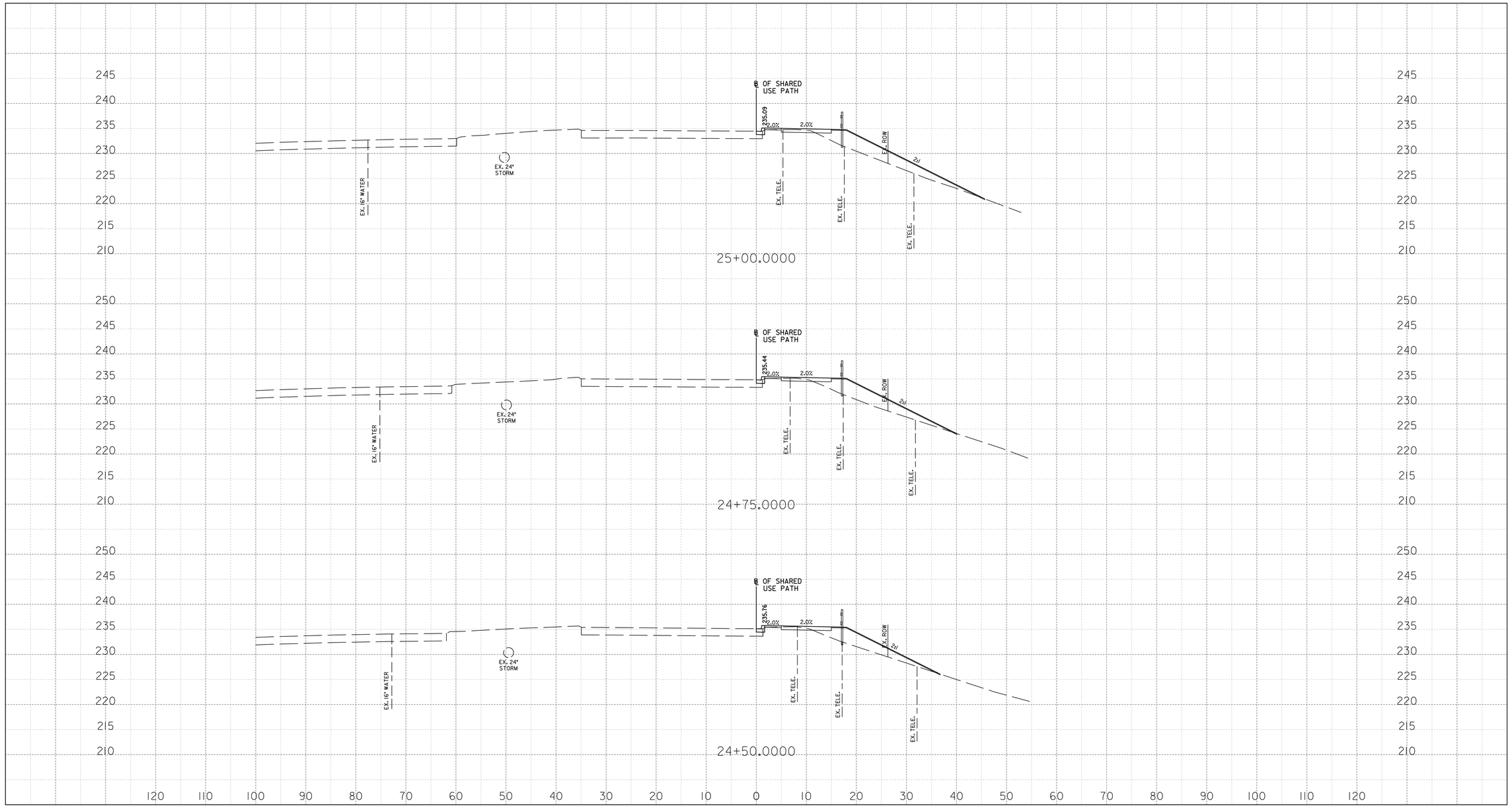

XS-11

10' 0 10' 20'
SCALE: 1" = 10'

NO.	REVISION	BY	APP'D	DATE

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DRAWN BY: AMA	DATE: OCTOBER, 2020
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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 096 of 102

PROFESSIONAL CERTIFICATION:
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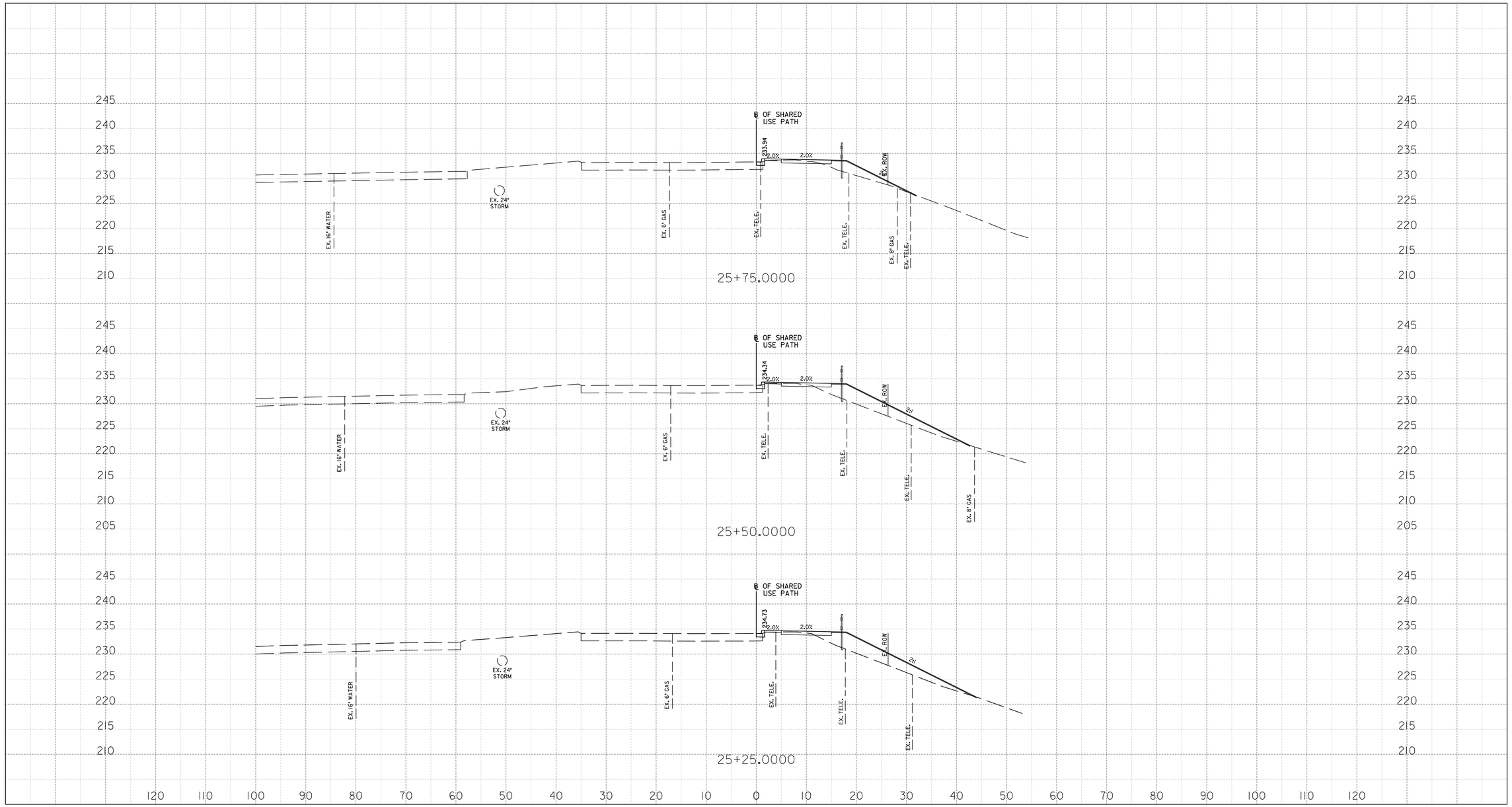

XS-12

10' 0 10' 20'
SCALE: 1" = 10'

NO.	REVISION	BY	APP'D	DATE

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DRAWN BY: AMA	DATE: OCTOBER, 2020
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Chief, Design Section — Date

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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 097 of 102

PROFESSIONAL CERTIFICATION:
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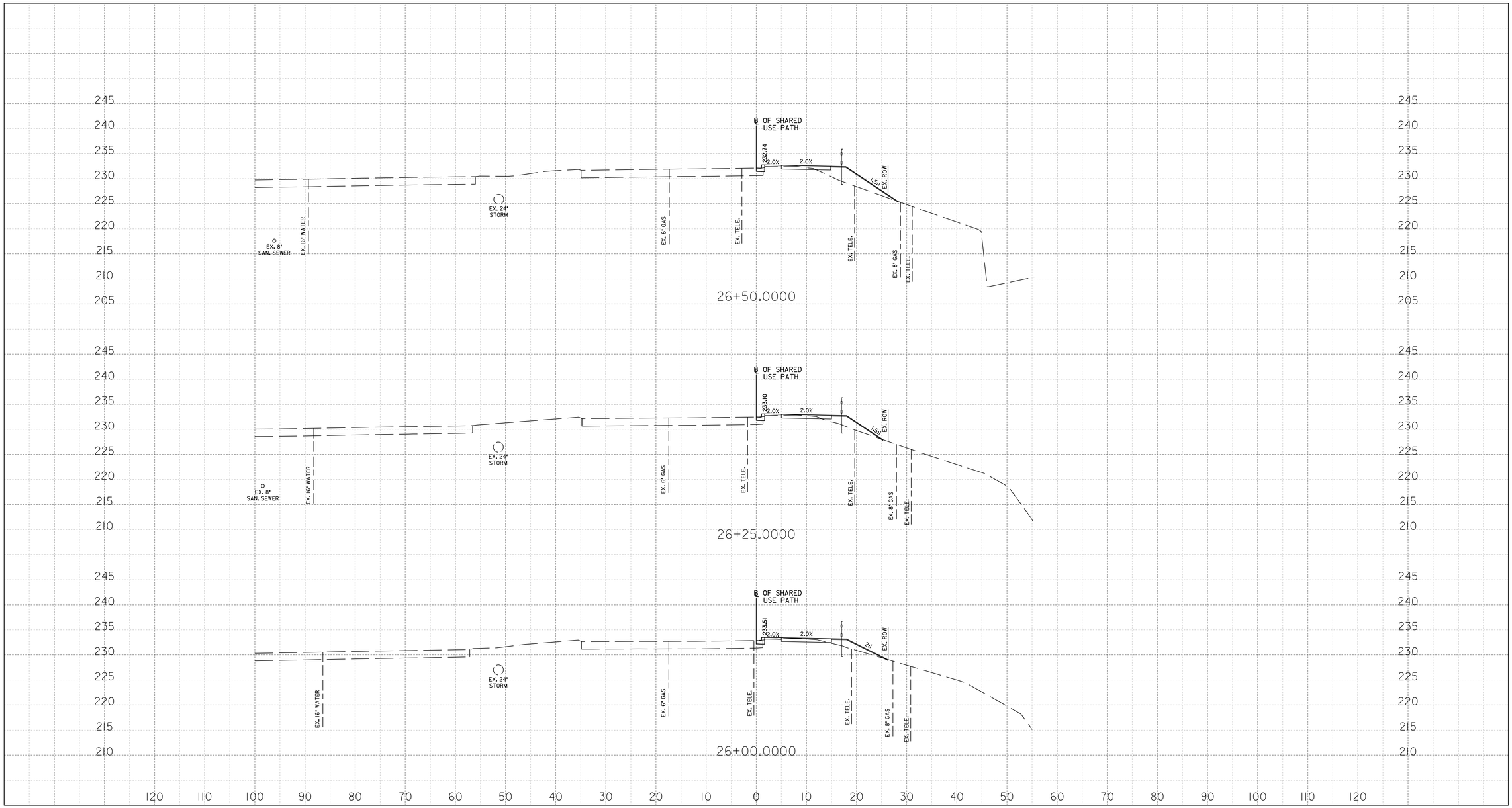

XS-13

10' 0 10' 20'
SCALE: 1" = 10'

PROFESSIONAL CERTIFICATION:
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Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 098 of 102

Monday, October 05, 2020 AT 02:34 PM
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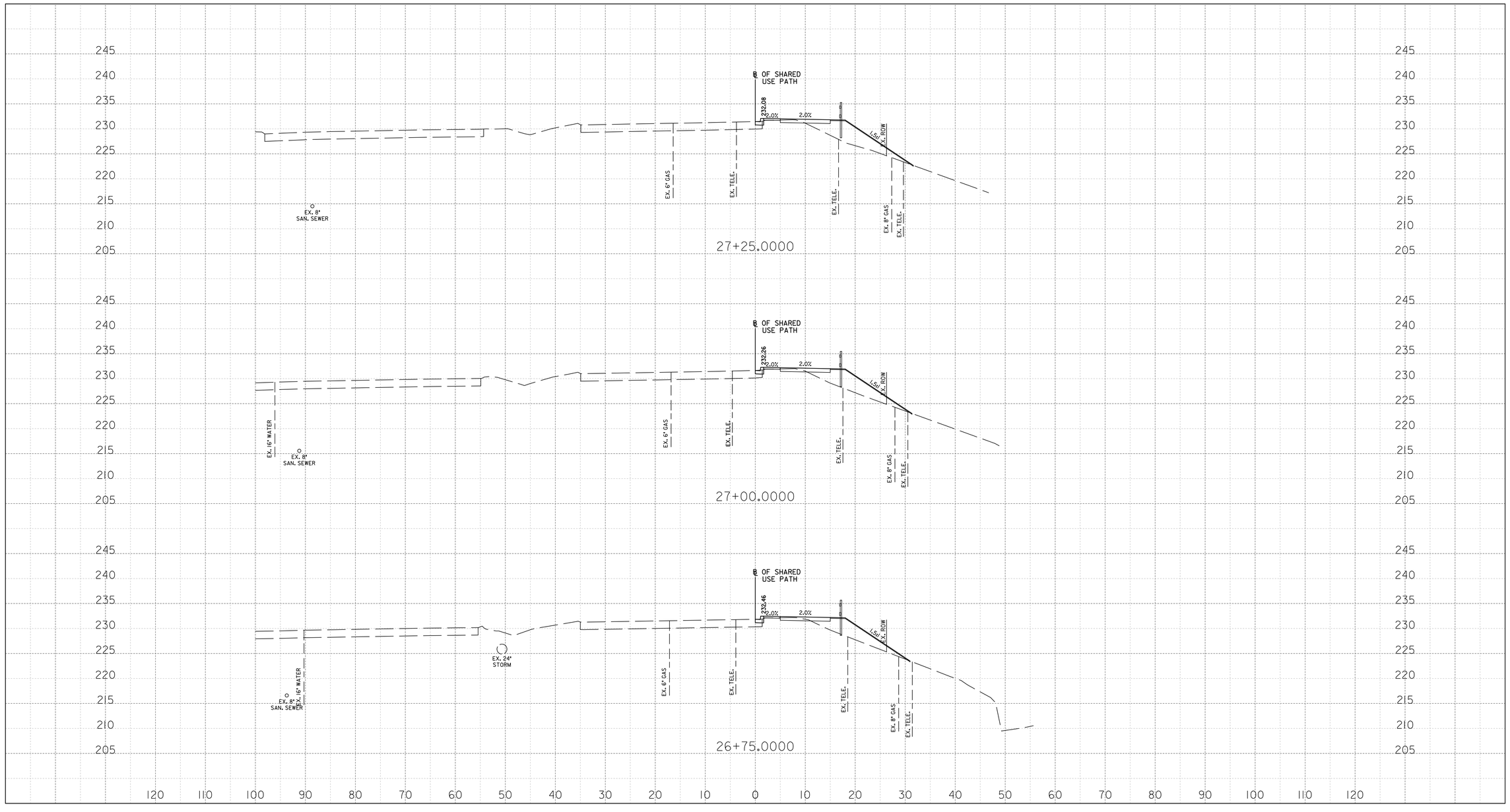

XS-14

10' 0 10' 20'
SCALE: 1" = 10'

NO.	REVISION	BY	APP'D	DATE

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MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 099 of 102

PROFESSIONAL CERTIFICATION:
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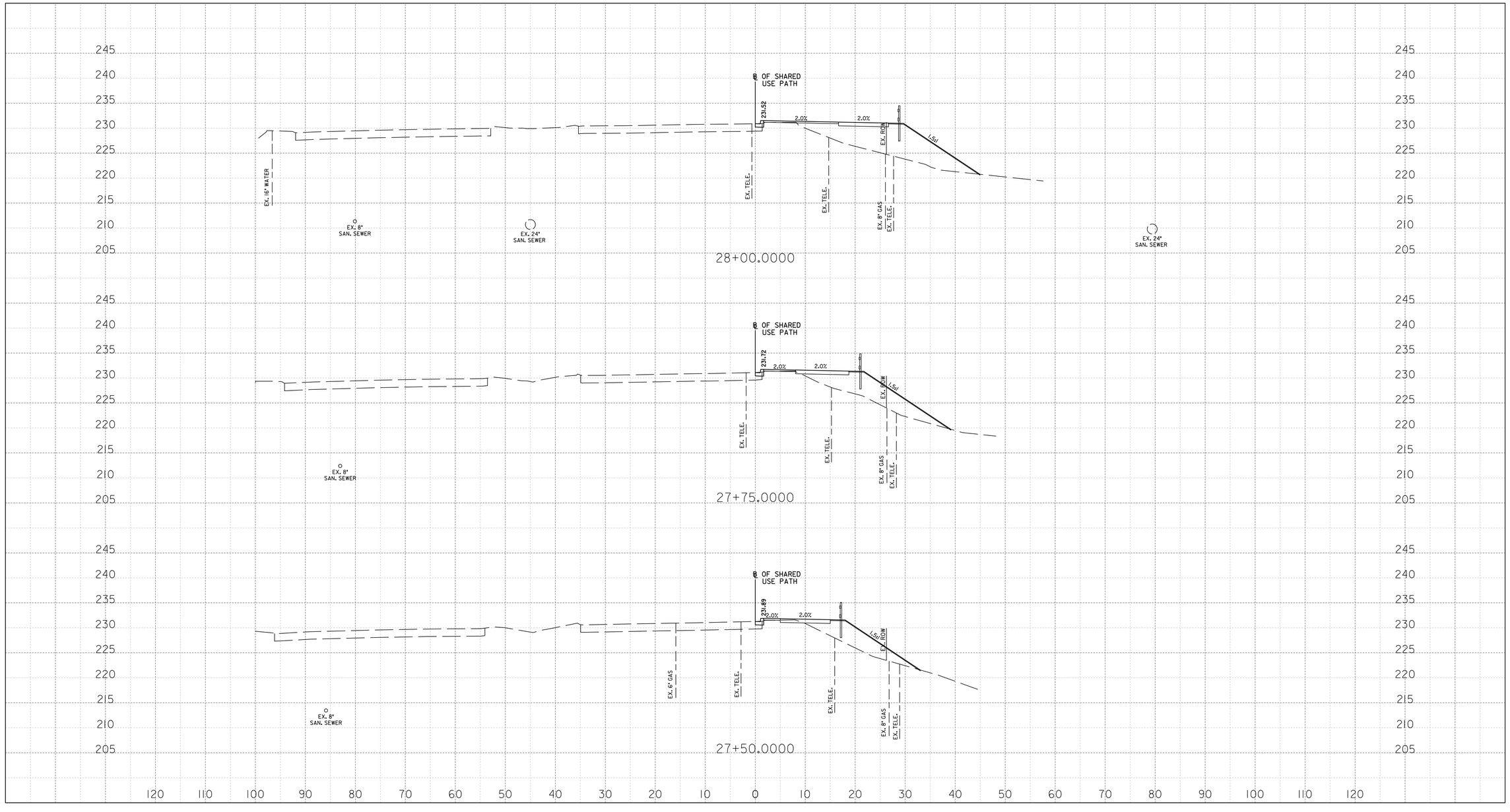

XS-15

10' 0 10' 20'
SCALE: 1" = 10'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
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DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 100 of 102

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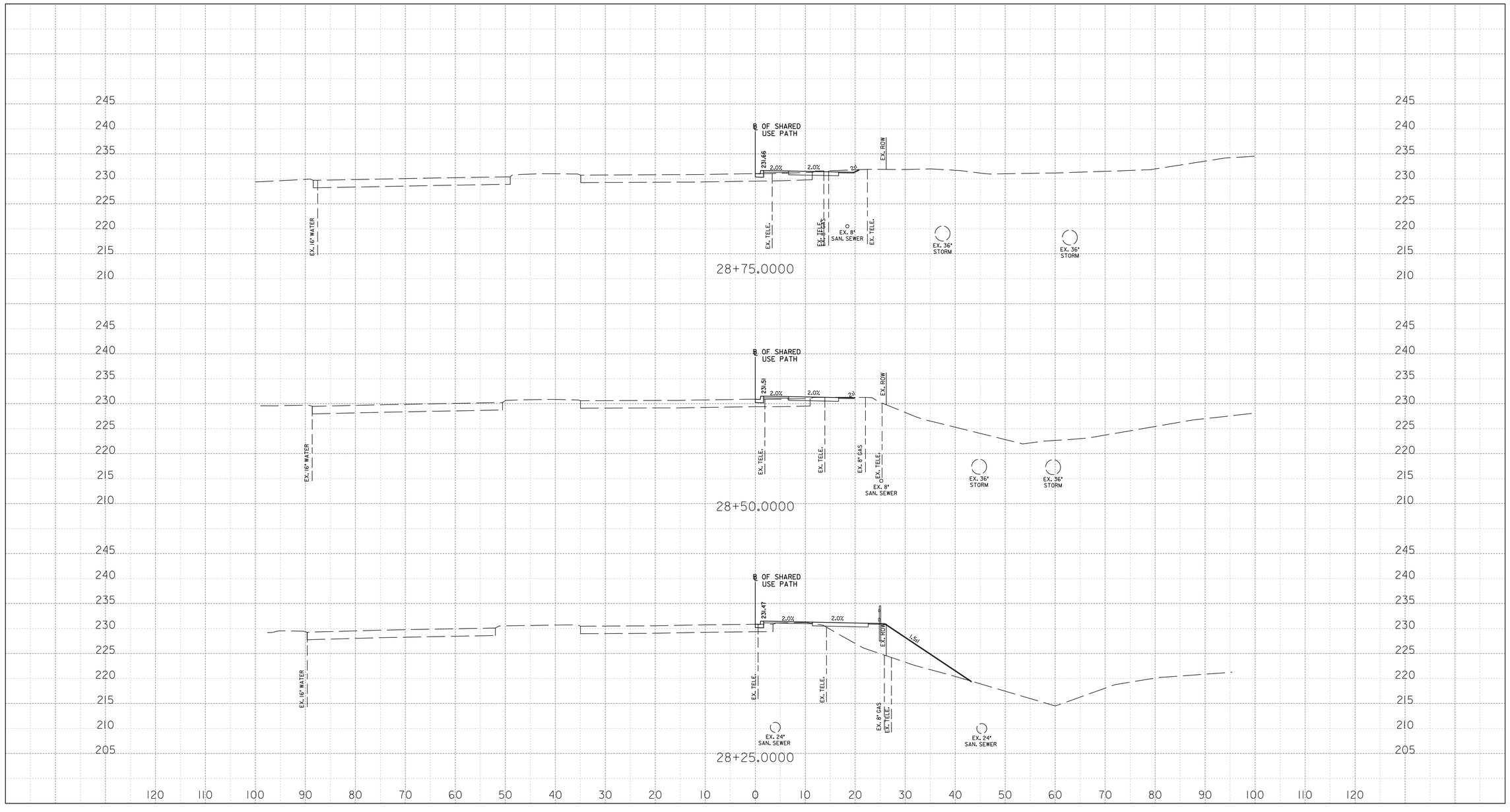

XS-16

10' 0 10' 20'
SCALE: 1" = 10'

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.
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief,
Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 101 of 102

Monday, October 05, 2020 AT 02:34 PM
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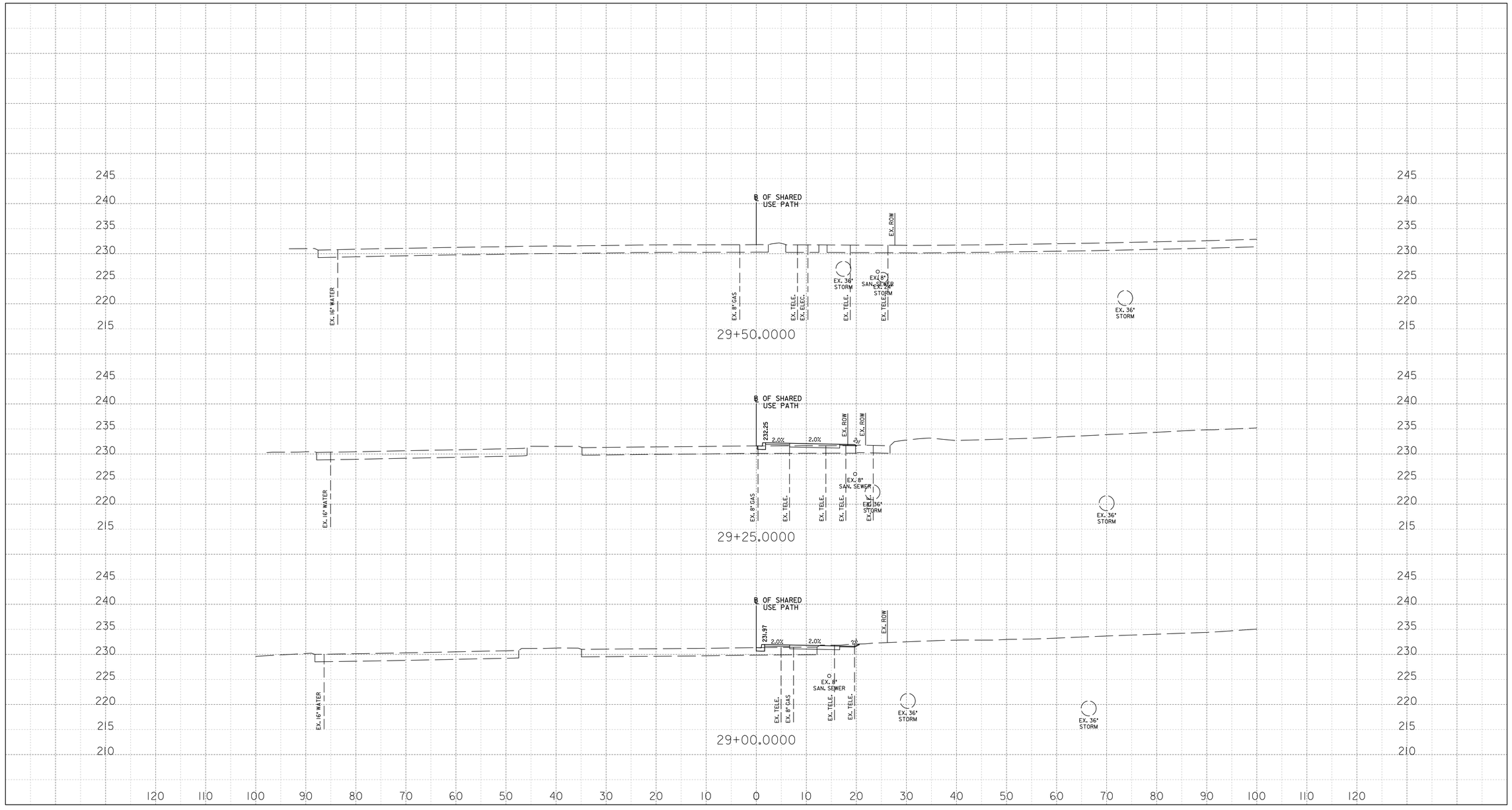

XS-17

10' 0 10' 20'
SCALE: 1" = 10'

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Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
MD 355
ROADWAY CROSS SECTIONS

SCALE: 1"=10'

SHEET 102 of 102

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: _____

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

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