MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

GOOD HOPE ROAD
SHARED USE PATH

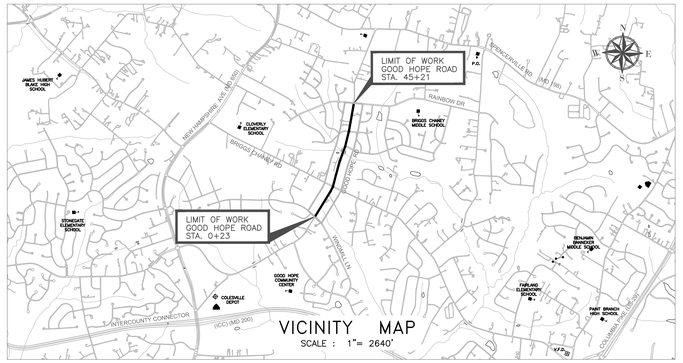
WINDMILL LANE TO
RAINBOW DRIVE

C. I. P. PROJECT NO. 501902

90% DESIGN SUBMISSION

INDEX OF SHEETS

SHT.NO.	DWG.NO.	SC/SWM NO.	DWG. DESCRIPTION
01	GN-01	01	TITLE SHEET
02	GN-02		ABBREVIATIONS AND SYMBOLS
03	GN-03		GENERAL NOTES
04-05	TS-01-02		TYPICAL SECTIONS
06-08	GG-01-03		GEOMETRICS
09-12	DT-01-04		PEDESTRIAN RAMP DETAILS
13-18	PS-01-06		ROADWAY PLANS
19-20	DD-01-02		DRAINAGE DETAILS
21-24	DP-01-04		DRAINAGE PROFILES
25-34B	SC-01-11	02-12	EROSION AND SEDIMENT CONTROL
35-43	SWM-01-09	13-21	STORMWATER MANAGEMENT
44-50	MT-01-07		MAINTENANCE OF TRAFFIC
51-57	SN-01-07		SIGNING AND MARKING
58-66	LS-01-09		LANDSCAPE PLANS
67-76	ST-01-10		STRUCTURE PLANS
77-81	SR-01-05		STREAM RESTORATION
82-87	UT-01-06		UTILITY PLANS
88-110	XS-01-23		CROSS SECTIONS
111-114	XS-24-27		DRIVEWAY CROSS SECTIONS



VICINITY MAP
SCALE : 1"= 2640'

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION MAINTENANCE CERTIFICATION

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

DATE

TIMOTHY CUPPLES, P.E.
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

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

TIMOTHY CUPPLES, P.E.
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATION 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 PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN CRITERIA" DATED AUGUST, 1988.

DATE

MICHAEL ROTHENHEBER, P.E.
MD. REGISTRATION NO. 18589

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 2,709 CUBIC YARDS OF EXCAVATION, 950 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 169,452 SQUARE FEET OR 3.91 ACRES.

DATE

MICHAEL ROTHENHEBER, P.E.
MD. REGISTRATION NO. 18589

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. 18589 EXPIRATION DATE 02/10/2022

DATE

MICHAEL ROTHENHEBER, P.E.
MD. REGISTRATION NO. 18589

ATTENTION

THIS SITE IS WITHIN THE ENVIRONMENTALLY SENSITIVE
UPPER PAINT BRANCH SPECIAL PROTECTION AREA
TO HELP PROTECT THE DELICATE AQUATIC HABITAT FROM THE IMPACTS OF LAND DEVELOPMENT THESE PLANS MUST BE STRICTLY ADHERED TO

IF THERE IS A PROBLEM CALL

LEO GALANKO AT 240-777-6242

AND THE MCDPS STAFF MEMBER WILL ASSIST YOU IN DEVELOPING A SOLUTION BEFORE STREAM IMPACTS OCCUR
(MENTION THAT THE SITE IS WITHIN A SPECIAL PROTECTION AREA WHEN YOU CALL)

"LET'S WORK TOGETHER TO KEEP IT CLEAN"

ACKNOWLEDGED MONTGOMERY COUNTY DEPT. OF TRANSPORTATION
OWNER/DEVELOPER

LOD IN SPA = 2.85 AC.

RELATED REQUIRED PERMITS

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

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

TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District	X				
WATERWAYS/WETLAND(S):					
a. Corps of Engineers		X			
b. MDE	X				
c. MDE Water Quality 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
Forest Conservation Exemption Plan	X		Approval Date	1/22/20	

JUNE 2014

THE FOLLOWING MONTGOMERY COUNTY STANDARDS ARE REQUIRED FOR THIS PROJECT:

MC-100.01 - COMBINATION CONCRETE CURB AND GUTTER - TYPE A
MC-110.01 - RESIDENTIAL SIDEWALK
MC-301.01 - RESIDENTIAL DRIVEWAY
MC-504.01 - E INLET
MC-505.01 - E-4 INLET
MC-506.01 - J INLET
MC-506.02 - J INLET AS A TERMINUS

THE MOST CURRENT VERSION OF THESE STANDARDS CAN BE ACCESSED AT:
https://www.montgomerycountymd.gov/dot-dte/common/standards.html

THE FOLLOWING MARYLAND STATE HIGHWAY DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARDS (CONSTRUCTION AND TEMPORARY TRAFFIC CONTROL) ARE REQUIRED FOR THIS PROJECT:

MD-368.01 - STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE
MD-383.01 - STANDARD MANHOLE
MD-384.05 - 72" DIAMETER PRECAST MANHOLE FOR 42" TO 48" PIPES
MD-386.11 - STANDARD JUNCTION BOX
MD-655.40 - DETECTABLE WARNING SURFACES

FOR ALL SHA STANDARDS REFERRED TO ON THE PLANS, THE CONTRACTOR MUST GO TO THE BOOK OF 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

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

TREE CANOPY REQUIREMENTS TABLE

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

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

Total Property Area	Total Disturbed Area
344,132 square feet	169,452 square feet
Shade Trees Required	**Shade Trees Proposed to be Planted**
64	64
Fee in Lieu (Trees Required – Trees Planted) x $250	$ 0

Required Number of Shade Trees

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

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

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

EXEMPTION CATEGORIES:

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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
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 MDCPS ACCESS PERMIT.

MCDPS 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 any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

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

CONTACT:
REBECCA PARK, P.E.
PROJECT MANAGER
DESIGN SECTION
DIVISION OF TRANSPORTATION ENGINEERING
240-777-7263

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: ADS Drawn by: MED Checked by: JJR

GN-01 TITLE SHEET

GOOD HOPE ROAD
SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 01 of 114

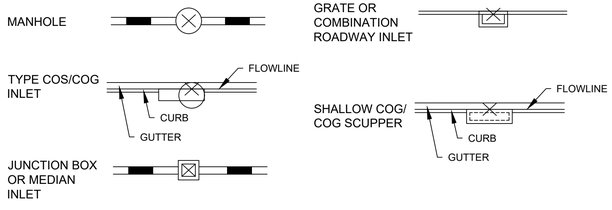
ABBREVIATIONS

ABAN.	Abandoned	LOD	Limit of Disturbance	SSMH	Sewer Manhole
A.A.S.H.T.O.	American Association of State Highway Transportation Officials	LOW	Limit of Work	STA.	Station
		LP	Low Point	STD.	Standard
APPROX.	Approximate	LT	Left	SO.	Single Opening
ASTM	American Society for Testing and Materials	LVC	Length of Vertical Curve	S.Y.	Square Yards
B or B/L	Baseline	Maint.	Maintenance	SWM	Stormwater Management
BIT.	Bituminous	MH	Manhole	SW	Sidewalk
BOA	Beginning of Alignment	MAX.	Maximum	T	Tangent
BVCE	Beginning of Vertical Curve Elevation	MCDPS	Montgomery County Department of Permitting Services	T or Tele.	Telephone
BVCS	Beginning of Vertical Curve Station	MOD.	Modified	TBA	To Be Abandoned
BLDG..	Building	MIN.	Minimum	TCE	Temporary Construction Easement
BOT.	Bottom	M-NCPPC	Maryland-National Capital Park and Planning Commission	T.C.P.	Terra Cotta Pipe
C.A.	Center of Curve	N	North	TPF	Tree Protection Fence
C or C/L	Centerline	NAD	North American Datum	T.S.	Top of Structure Elevation
C.I.P.	Cast Iron Pipe	NAVD	North American Vertical Datum	TRAV.	Traverse
C.M.P.	Corrugated Metal Pipe	NB	Northbound	TYP.	Typical
C.O.	Cleanout	NE	Northeast	UG	Underground
COMB.	Combination	NO.	Number	UNK.	Unknown
CONC.	Concrete	N.T.S. or NTS	Not To Scale	U.P.	Utility Pole
CONSTR.	Construction	O.C.	On Center	VAR.	Varies
CPI	Curve Point of Intersection	PVMT.	Pavement	V.C.L.	Vertical Curve Length
C.P.P.	Corrugated Polyethylene Pipe	PED.	Pedestrian	W	Water
CRZ	Critical Root Zone	P.C.	Point of Curvature	W	West
D.B.H.	Diameter Breast Height	P.C.C.	Point of Compound Curve	W.B. or WB	Westbound
DC	Degree of Curve	P/C	Point of Crown	WHC	Water House Connection
DIA.	Diameter	PE	Perpetual Easement	WM	Water Meter
D.O.T. or DOT	Department Of Transportation	PGA	Point of Grade Application	WSSC	Washington Suburban Sanitary Commission
D.P.W. or DPW	Department of Public Works	P/GE	Profile Grade Elevation	W/O	Without
D.H.V.	Design Hour Volume	P.G.E.	Profile Ground Elevation	YR	Year
DWS	Detectable Warning Surface	P.G.L.	Profile Grade Line		
D.I.	Drop Inlet	P/GL	Profile Ground Line		
D.I.	Ductile Iron	P/R	Point of Rotation		
D.O.	Double Opening	P.I.	Point of Intersection		
E	East	P.O.C.	Point on Curve		
Elec.	Electric	P.O.T.	Point on Tangent		
EA.	Each	PROP.	Proposed		
E.B.	Eastbound	P.S.F.	Pounds per Square Foot		
EB	Electric Box	PT.	Point		
EM	Electric Meter	P.T.	Point of Tangency		
ELEV. or EL..	Elevation	P.V.C.	Point of Vertical Curve		
E.R.C.C.P.	Elliptical Reinforced Cement Concrete Pipe	PVC	Polyvinyl Chloride		
ES	End Section	PVI	Point of Vertical Intersection		
EVCE	End of Vertical Curve Elevation	R	Radius		
EVCS	End of Vertical Curve Station	RET. WALL	Retaining Wall		
EX. or EXIST.	Existing	RP	Root Pruning		
FT	Foot or Feet	RT	Right		
F or FL	Flowline	RW or R/W	Right of Way		
FWD	Forward	R.C.P.	Reinforced Cement Pipe		
G	Gas	R.C.C.P.	Reinforced Cement Concrete Pipe		
GM	Gas Meter	SIG.	Signal Pole		
Guy	Guy Wire	SHA. or S.H.A.	State Highway Administration		
HBX	Handbox	S	South		
H.D.P.E.	High-Density Polyethylene	S or SS or SAN.	Sanitary Sewer		
H.E.R.C.P.	Horizontal Elliptical Reinforced Concrete Pipe	SB	Southbound		
HGL	Hydraulic Grade Line	S.D.	Storm Drain		
HP	High Point	SDP	Shrub Deer Protection		
HMA	Hot Mix Asphalt	S.E.	Superelevation		
HT	Height	SF	Silt Fence		
IN	Inch	SFOP	Silt Fence On Pavement		
INV	Invert	SF	Square Feet		
L	Length	SHC	Sewer House Connection		
LANDSC.	Landscaped	SSD	Stopping Sight Distance		
L.F.	Linear Feet	SSF	Super Silt Fence		

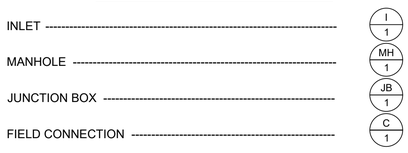
LEGEND

EB	ELECTRIC BOX	434.0	SPOT ELEVATION
E	ELECTRIC MANHOLE	XXXXXXXXXXXXXX	WIRE FENCE / CHAIN LINK FENCE
EM	ELECTRIC METER		INDEX CONTOUR
HBX	HANDBOX	430	INTERVAL CONTOUR
CO	CLEAN OUT	OHW	OVERHEAD WIRES
MB	MAIL BOX	/// /// ///	ABANDONED GAS LINE
G	GAS MANHOLE	G	EXISTING GAS
GM	GAS METER	E	EXISTING ELECTRIC
GV	GAS VALVE	T	EXISTING TELEPHONE
W	WATER MANHOLE	SAN	EXISTING SANITARY SEWER
WV	WATER VALVE	CTV	EXISTING CABLE TV
WM	WATER METER	FL	EXISTING FIRE LINE
	FIRE HYDRANT	FO	EXISTING FIBER OPTIC
SS	SANITARY MANHOLE	W	EXISTING WATER
SD	STORM DRAIN MANHOLE		PROPERTY LINE
T	TELEPHONE MANHOLE		EXISTING RIGHT OF WAY
TEL	TELEPHONE RISER	F	TOE OF FILL
TV	TV (CABLE) RISER	C	TOP OF CUT
MH	UNKNOWN MANHOLE	LOD	LIMIT OF DISTURBANCE
	SIGN	TCE	TEMPORARY CONSTRUCTION EASEMENT
	TREE	RSE	REVERTIBLE SLOPE EASEMENT
	HEDGE/BUSHES	PE	PERPETUAL EASEMENT
JMT00	TRAVERSE POINT		WOODEN RAILING / WOOD FENCE
	DETECTABLE WARNING SURFACE (DWS)		CURB AND GUTTER
	EXISTING LIGHT POLE		
	EXISTING UTILITY POLE		
GUY	EXISTING GUY WIRE		
	EXISTING UTILITY POLE WITH PROPOSED LEASE LIGHT		
	PROPOSED PEDESTRIAN LIGHT POLE		
	PROPOSED UTILITY POLE		
	PROPOSED UTILITY POLE WITH PROPOSED LEASE LIGHT		
	PROPOSED SIGNAL POLE		

DRAINAGE STRUCTURE STAKEOUT LOCATIONS



DRAINAGE BUBBLES



DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

GN-02
ABBREVIATIONS AND SYMBOLS

GOOD HOPE ROAD
SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 02 of 114

GENERAL NOTES

1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION DATED JULY 2019, ALL ERRATA AND ADDENDA THERETO, THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES, WASHINGTON SUBURBAN SANITARY COMMISSION (W.S.S.C.) STANDARDS, MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION STANDARDS, AND SOIL CONSERVATION SERVICE POND CONSTRUCTION SPECIFICATIONS FOR MARYLAND.
2. FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE BASED ON NAD 83/91, NAVD 88 DATUM.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. WHEN THE DROP ON THE MAIN LINE THROUGH A STORM DRAIN STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1.5:1 OR FLATTER, A ROUNDED CHANNEL LINED WITH SEWER BRICK ON EDGE SHALL BE BUILT TO THE CROWN OF THE PIPES. WHEN THE INVERT SLOPES WOULD BE GREATER THAN 1.5:1 A SPECIAL INVERT SHALL BE CONSTRUCTED AS NOTED.
5. ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
6. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR.
7. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
8. 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.
9. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
10. CLEARING IS TO BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE PLANS.
11. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
12. ALL DISTURBED AREAS WITHIN THE PROJECT LIMITS SHALL BE SEEDED AND MULCHED.
13. THE CONTRACTOR SHALL MAINTAIN THE APPROVED 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
14. 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.
15. ALL UTILITY POLES AND GUY WIRES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS.
16. CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL TO BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-699-4420
17. 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.
18. THE CONTRACTOR SHALL BE AWARE THAT OVERHEAD UTILITY WIRES EXIST WITHIN THE PROJECT SITE. LOCATIONS OF WIRES SHOULD BE NOTED IN FIELD WITH SIGNAGE TO AVOID CONFLICTS DURING CONSTRUCTION.
19. CONTRACTOR SHALL TAKE EXTRA PRECAUTION WHERE THE CONSTRUCTION ACTIVITIES AND EXCAVATIONS WILL BE PERFORMED WITHIN 5 FEET OF THE EXISTING WASHINGTON GAS FACILITIES AND PIPELINES. IT IS RECOMMENDED THAT FIELD VERIFICATIONS OF THE EXISTING WASHINGTON GAS FACILITIES SHOULD BE PERFORMED BY THE CONTRACTOR PRIOR TO THE CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY WASHINGTON GAS AT (703) 750-1000 TO SCHEDULE PERSONNEL FOR DAMAGE PREVENTION 10 BUSINESS DAYS PRIOR TO ANY CONSTRUCTION ACTIVITIES. ANY EXPOSURE OF THE EXISTING GAS MAINS DURING THE CONSTRUCTION SHALL BE PERFORMED UNDER SUPERVISION OF ONSITE WASHINGTON GAS PERSONNEL(S). ALL EXPOSED GAS MAINS SHALL BE PROTECTED BY A WGL APPROVED PROTECTIVE SHIELD.
20. CONTRACTOR TO PERFORM TEST PITS ON EXISTING WASHINGTON GAS FACILITIES AT THE ONSET OF ROADWAY CONSTRUCTION. INFORMATION GATHERED FROM THE TEST PITS (LOCATION AND ELEVATION OF FACILITY AT EACH TEST PIT) MUST BE PROVIDED TO WASHINGTON GAS PRIOR TO ANY ADDITIONAL CONSTRUCTION ACTIVITIES WITHIN 5 FEET HORIZONTAL CLEARANCE OF EXISTING WASHINGTON GAS FACILITIES. WASHINGTON GAS WILL REVIEW THE INFORMATION PROVIDED TO DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO AVOID CONFLICT WITH THEIR EXISTING FACILITIES.
21. FOR ALL LOCATIONS WHERE PROPOSED FACILITIES CROSS OVER/UNDER EXISTING WASHINGTON GAS FACILITIES SMALLER THAN 16-INCHES IN DIAMETER, THE CONTRACTOR MUST MAINTAIN A MINIMUM 12-INCH VERTICAL SEPARATION BETWEEN THE OUTER EDGE OF THE PROPOSED FACILITY AND THE OUTER EDGE OF THE EXISTING WASHINGTON GAS FACILITY.
22. FOR ALL LOCATIONS WHERE PROPOSED FACILITIES CROSS OVER/UNDER EXISTING WASHINGTON GAS FACILITIES THAT ARE 16-INCHES OR LARGER IN DIAMETER, THE CONTRACTOR MUST MAINTAIN A MINIMUM 24-INCHVERTICAL SEPARATION BETWEEN THE OUTER EDGE OF THE PROPOSED FACILITY AND THE OUTER EDGE OF THE EXISTING WASHINGTON GAS FACILITY.

GENERAL NOTES FOR WORK ON M-NCPPC PROPERTY

1. ALL NOTES SHOWN ON THE DRAWINGS ARE TYPICAL UNLESS OTHERWISE SHOWN OR NOTED.
2. A PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED BY THE M-NCPPC CONSTRUCTION MANAGER PRIOR TO START OF ANY CONSTRUCTION RELATED ACTIVITY AT THE PROJECT SITE. CONTACT JAY CHILDS (301-495-2574) TO SCHEDULE.
3. NO CLEARING, GRUBBING, OR GRADING SHALL COMMENCE UNTIL THE LIMITS OF DISTURBANCE ARE STAKED IN THE FIELD AND ARE APPROVED BY THE M-NCPPC CONSTRUCTION MANAGER AS WELL AS ANY OTHER APPLICABLE PERMITTING AGENCIES. AFTER THE LIMITS ARE APPROVED, NO DISTURBANCE WILL BE ALLOWED OUTSIDE OF THE APPROVED LIMITS. ANY ITEMS DISTURBED OUTSIDE OF THE APPROVED LIMITS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. THE ENTIRE LOD SHALL BE FENCED AS DIRECTED BY THE PARK CONSTRUCTION MANAGER. WHERE SILT FENCE, SUPER SILT FENCE, OR TREE PROTECTION FENCE IS NOT REQUIRED, ORANGE BLAZE SAFETY FENCE MAY BE USED.
5. FIELD RUN TOPOGRAPHIC SURVEY PROVIDED BY JMT IN NOVEMBER 2015. SURVEY COORDINATES ARE REFERENCED TO THE MARYLAND STATE PLAN COORDINATE SYSTEM NAD 83(2011). ELEVATIONS ARE REFERENCED TO THE NORTHERN AMERICAN VERTICAL DATUM OF 1988 (NAVD88). BOUNDARIES SHOWN ARE DERIVED FROM DEED AND PLAT INFORMATION.
6. M-NCPPC RESERVES THE RIGHT TO ADJUST AND MODIFY THE LIMITS OF DISTURBANCE IN THE FIELD TO MINIMIZE IMPACTS OF WORK.
7. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING SAFE FACILITY ACCESS THROUGHOUT CONSTRUCTION AND PROVIDE ANY APPROPRIATE DETOURS, TEMPORARY FACILITIES, AND SIGNAGE AS REQUESTED BY THE M-NCPPC CONSTRUCTION MANAGER.
8. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THE DRAWINGS AND REPORT TO M-NCPPC CONSTRUCTION MANAGER ANY ERROR OR INCONSISTENCY WITH THE ACTUAL CIRCUMSTANCES IN THE FIELD BEFORE COMMENCING WORK.
9. THE CONTRACTOR SHALL STAKE-OUT THE LOCATION OF FACILITIES AND MEET WITH THE M-NCPPC CONSTRUCTION MANAGER TO REVIEW THE LOCATION. M-NCPPC RESERVES THE RIGHT TO ADJUST THE LOCATIONS AS NECESSARY.
10. SITE RESTORATION AND REPAIR/REPLACEMENT OF DAMAGED INFRASTRUCTURE SHALL BE IN ACCORDANCE WITH M-NCPPC DETAILS, STANDARDS, AND SPECIFICATIONS AT THE DIRECTION OF THE PARK INSPECTOR AT NO COST TO M-NCPPC.
11. TREE PROTECTION FENCING SHALL BE PER TREE PROTECTION FENCE DETAIL SHOWN ON PLANS. TREE PROTECTION FENCE SHALL BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY M-NCPPC CONSTRUCTION MANAGER PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH M-NCPPC CONSTRUCTION MANAGER AND M-NCPPC URBAN FORESTER PRIOR TO PLACEMENT OF ALL TREE PROTECTION.
12. ALL PLANTING SUBSTITUTIONS SHALL BE APPROVED BY M-NCPPC CONSTRUCTION MANAGER. PLANT MATERIALS AND LOCATIONS MUST BE INSPECTED BY M-NCPPC PRIOR TO INSTALLATION.
13. PROVIDE DEER PROTECTION FENCING PER M-NCPPC SPECIFICATIONS FOR ALL LANDSCAPE AND REFORESTATION TREES AND SHRUBS TO PREVENT DAMAGE FROM DEER. TUBEX SHALL NOT BE USED AS A SUBSTITUTE.
14. STAGING AREAS AND ACCESS ROUTES SHALL BE DETERMINED IN FIELD AND APPROVED BY THE M-NCPPC CONSTRUCTION MANAGER TO MINIMIZE IMPACTS.
15. M-NCPPC MAY INSPECT CONDITION OF TREES THROUGHOUT CONSTRUCTION AND REQUIRE REPAIR, REMOVAL, AND/OR REPLACEMENT OF ANY DAMAGED TREES AT NO COST TO M-NCPPC.
16. CONSTRUCTION MANAGER MAY AUTHORIZE SPECIAL TREE AND TREE ROOT PROTECTION MEASURES OTHER THAN SHOWN ON THESE PLANS DURING CONSTRUCTION. THESE MAY INCLUDE, BUT NOT BE LIMITED TO 12-INCH THICK MULCH LAYER ACCESS BEDDING, MATTING, ADDITIONAL TREE PROTECTION FENCING, AND ADDITIONAL SEDIMENT CONTROLS.
17. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR IDENTIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF THE CONSTRUCTION RELATED WORK AND SHALL COORDINATE THE WORK WITH M-NCPPC CONSTRUCTION MANAGER. THE CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES BETWEEN ALL EXISTING AND PROPOSED UTILITIES AT ALL TIMES AS REQUIRED BY THE UTILITY COMPANIES.
18. UTILITIES SHOWN HEREON ARE BASED ON BEST AVAILABLE INFORMATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF THIS INFORMATION. ANY COST ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY DAMAGE MADE TO THE UTILITY SHALL BE REPAIRED ON AN EMERGENCY BASIS PER THE LATEST SPECIFICATIONS OF THE CONCERNED UTILITY AND COMPLETED WORK SHALL BE APPROVED BY THE CONCERNED UTILITY. ANY DAMAGE SHALL BE REPORTED AND DOCUMENTED IMMEDIATELY TO THE M-NCPPC CONSTRUCTION MANAGER. REPAIR APPROVALS SHALL BE PROVIDED TO THE M-NCPPC CONSTRUCTION MANAGER.
19. DISCREPANCIES, OMISSION, AMBIGUITIES, OR CONFLICTS IN OR AMONG THE CONSTRUCTION DOCUMENTS OR DOUBT ABOUT THEIR MEANING SHALL BE BROUGHT TO THE ATTENTION OF THE M-NCPPC CONSTRUCTION MANAGER FOR DIRECTION BEFORE PROCEEDING WITH WORK. IF CONFLICTS EXIST, THE MOST STRINGENT REQUIREMENT SHALL GOVERN UNLESS OTHERWISE STATED IN WRITING BY THE M-NCPPC CONSTRUCTION MANAGER.
20. PRIOR TO VEGETATIVE STABILIZATION, ALL DISTURBED AREAS MUST BE TOPSOILED PER THE MONTGOMERY COUNTY "STANDARDS AND SPECIFICATIONS FOR TOPSOIL." IF ON-SITE MATERIALS DO NOT MEET REQUIREMENTS OF TOPSOIL, COORDINATE WITH M-NCPPC REGARDING TILLING-IN OF CERTIFIED COMPOST TO ON-SITE SOILS IN ORDER TO MEET SPECIFICATIONS.
21. PAVEMENT REMOVAL SHALL INCLUDE REMOVAL OF GRAVEL SUBBASE AND SCARIFICATION OF SUBGRADE, UNLESS OTHERWISE DIRECTED BY M-NCPPC.
22. THIS SITE IS LOCATED IN THE ANACOSTIA RIVER WATERSHED OF MONTGOMERY COUNTY. RUNOFF FROM THIS SITE DRAINS INTO THE PAINT BRANCH TRIBUTARY.
23. NEITHER METAL SOD STAKES NOR TURF REINFORCEMENT MATTING WITH PLASTIC ARE PERMITTED ON PARK LAND.
24. CONSTRUCTION STAGING AREAS SHALL NOT BE ESTABLISHED ON M-NCPPC OWNED PROPERTY.

EARTHWORK SUMMARY

			PROPOSAL QUANTITY
CLASS I EXCAVATION			
CUT (FROM CROSS SECTIONS)	1,473	CY	
PAVEMENT REMOVAL	435	CY	
TOPSOIL UNDER FILL	–	CY	
ROOT MAT UNDER FILL	–	CY	
PLUS CUT (FROM SWM AREA)	612	CY	
TOTAL CLASS I EXCAVATION	2,520	CY	2,520 CY
CLASS IA EXCAVATION (ESTIMATED)			
MUCK REMOVAL (IF ANY)	–	CY	
UNDERCUTTING	–	CY	
TOTAL CLASS IA EXCAVATION	–	CY	– CY
CLASS 2 EXCAVATION			
CUT (FROM CROSS SECTIONS)	189	CY	
TOTAL CLASS 2 EXCAVATION	189	CY	189 CY
EXCAVATION AVAILABLE FOR EMBANKMENT			
TOTAL CLASS I EXCAVATION + CLASS 2 EXCAVATION	2,709	CY	
MINUS:			
TOPSOIL (REMOVED IN CUT)	–	CY	
TOPSOIL (REMOVED UNDER FILL)	–	CY	
ROOT MAT (REMOVED IN CUT)	–	CY	
ROOT MAT (REMOVED IN FILL)	–	CY	
CUT ADJUSTED	2,709	CY	
CUT DENSIFIED (x 0.83)	2,248	CY	
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	2,248	CY	
EMBANKMENT REQUIRED			
FILL (FROM CROSS SECTIONS)	533	CY	
REFILL FOR TOPSOIL UNDER FILL	–	CY	
REFILL FOR ROOT MAT UNDER FILL	–	CY	
FILL (FROM SWM AREA)	417	CY	
TOTAL	950	CY	
MINUS EXCAVATION AVAILABLE FOR EMBANKMENT	(2,248)	CY	
ADJUSTED TOTAL	(1,298)	CY	
PLUS DENSIFICATION FACTOR (x 1.20)	(1,558)	CY	
MINUS SELECT BORROW	–	CY	
COMMON BORROW	(1,558)	CY	0 CY
SELECT BORROW	–	CY	– CY

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

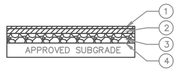
Designed by: ADS Drawn by: MED Checked by: JJR

GN-03
GENERAL NOTES

GOOD HOPE ROAD
SHARED USE PATH

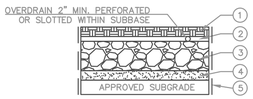
DATE: NOVEMBER 2020

Project No. : 501902 SHEET 03 of 114



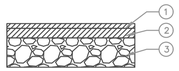
1. 1.5" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64S–22, LEVEL–2
2. 2.5" HMA SUPERPAVE 19.0MM FOR BASE, PG64S–22, LEVEL–2
3. 5" CR–6 GRADED AGGREGATE BASE COURSE
4. LIMIT OF CLASS I EXCAVATION

IMPERVIOUS TRAIL PAVEMENT DETAIL
NTS



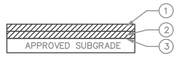
1. 4" POROUS CONCRETE
2. 2" AGGREGATE BASE CONSISTING OF WASHED AASHTO NO. 3 COURSE AGGREGATE AND NO. 57 STONE
3. VARIABLE DEPTH CLEAN NO. 57 STONE. MINIMUM DEPTH 12"
4. 4" SAND, WASHED ASTM C–33 FINE AGGREGATE CONCRETE SAND.
5. GEOTEXTILE CLASS PE (TYPE III) SIDES ONLY. MIRAFI 140 N OR MCDPS APPROVED EQUIVALENT

PERVIOUS PAVEMENT DETAIL
NTS



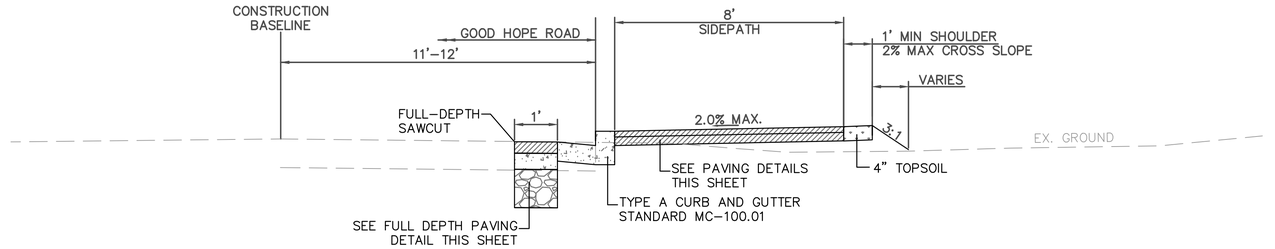
1. 2" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64S–22, LEVEL–2
2. 6" HMA SUPERPAVE 19.0MM FOR BASE, PG64S–22, LEVEL–2 (2 – 3" LIFTS)
3. 12" GRADED AGGREGATE BASE COURSE (2 – 6" LIFTS)

FULL DEPTH PAVEMENT DETAIL– GOOD HOPE ROAD
NTS



1. 3" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64S–22, LEVEL 2
2. 3" HMA SUPERPAVE 19.0MM FOR BASE, PG64S–22, LEVEL 2
3. LIMIT OF CLASS I EXCAVATION

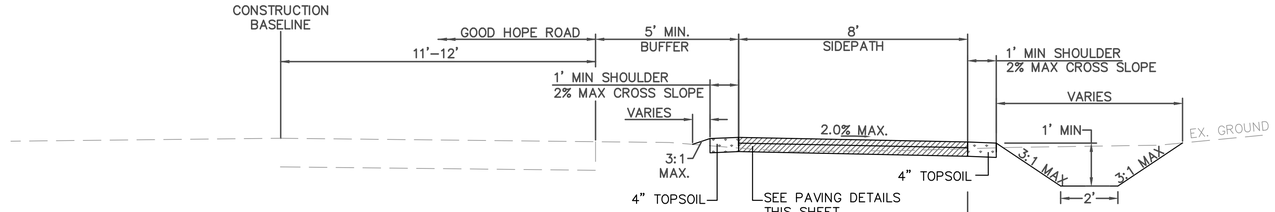
IMPERVIOUS PAVEMENT DETAIL– DRIVEWAYS
NTS



CLOSED SECTION; EAST SIDE

RESIDENTIAL SIDEWALK; MC–110.01
STA. 0+23.00 TO STA. 0+42.00
STA. 0+88.00 TO STA. 1+06.00
STA. 13+12.00 TO STA. 13+28.42

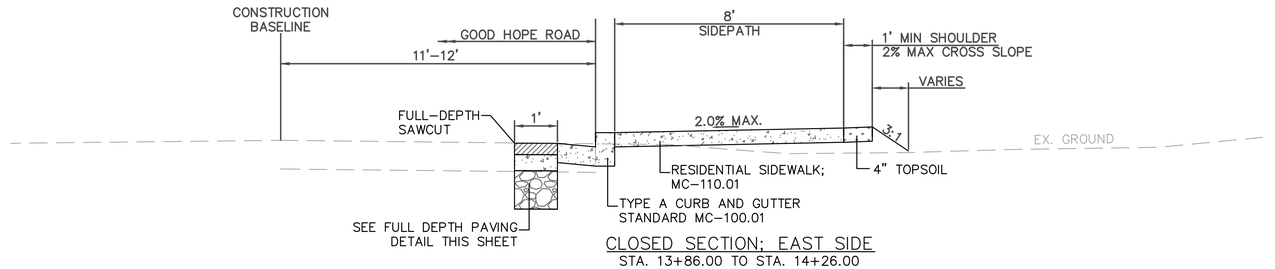
IMPERVIOUS TRAIL PAVEMENT
STA. 1+06.00 TO STA. 1+61.00
STA. 11+46.00 TO STA. 13+12.00



OPEN SECTION; EAST SIDE

IMPERVIOUS TRAIL PAVEMENT
STA. 1+61.00 TO STA. 11+46.00

STA. 1+61.00 TO STA. 2+23.00



CLOSED SECTION; EAST SIDE
STA. 13+86.00 TO STA. 14+26.00

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

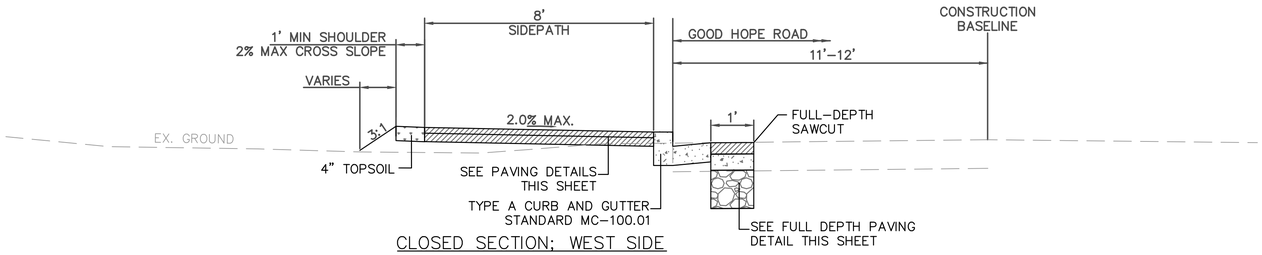
Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

TS–01
TYPICAL SECTIONS
GOOD HOPE ROAD SHARED USE PATH

DATE: NOVEMBER 2020

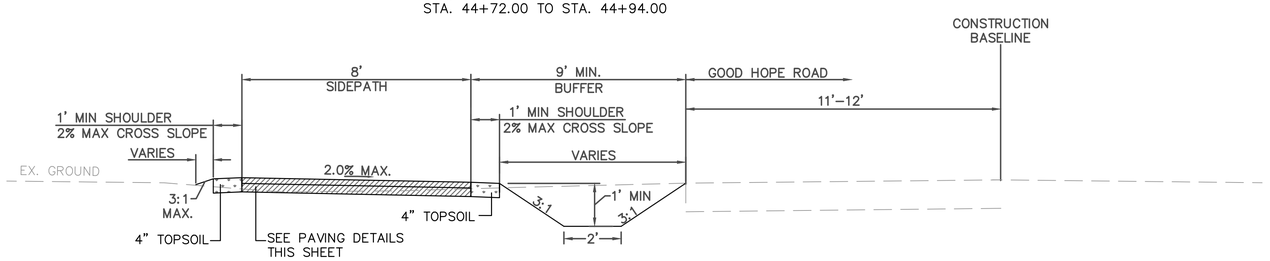
Project No. : 501902 SHEET 04 of 114



CLOSED SECTION; WEST SIDE

RESIDENTIAL SIDEWALK; MC-110.01
STA. 13+90.00 TO STA. 14+24.00
STA. 34+32.00 TO STA. 34+57.00
STA. 34+84.00 TO STA. 35+09.00
STA. 44+94.00 TO STA. 45+21.00

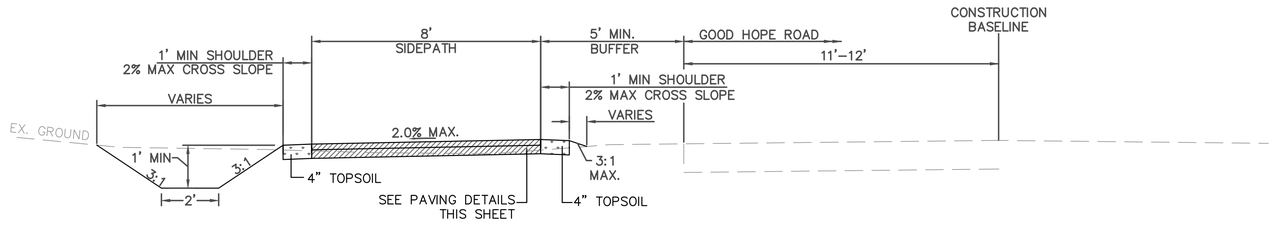
IMPERVIOUS TRAIL PAVEMENT
STA. 33+32.00 TO STA. 34+32.00
STA. 35+09.00 TO STA. 36+06.00
STA. 44+72.00 TO STA. 44+94.00



OPEN SECTION; WEST SIDE

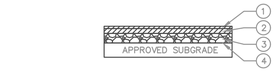
PERVIOUS TRAIL PAVEMENT
STA. 14+24.00 TO STA. 22+40.00

IMPERVIOUS TRAIL PAVEMENT
STA. 22+40.00 TO STA. 26+10.00
STA. 30+66.00 TO STA. 33+32.00
STA. 36+06.00 TO STA. 44+72.00



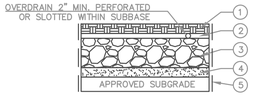
OPEN SECTION; WEST SIDE

IMPERVIOUS TRAIL PAVEMENT
STA. 26+10.00 TO STA. 27+09.00
STA. 27+09.00 TO STA. 27+47.00 (PEDESTRIAN BRIDGE,
SEE STRUCTURE SHEETS FOR DETAILS)
STA. 27+47.00 TO STA. 30+66.00



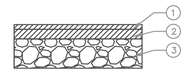
1. 1.5" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64S-22, LEVEL-2
2. 2.5" HMA SUPERPAVE 19.0MM FOR BASE, PG64S-22, LEVEL-2
3. 5" CR-6 GRADED AGGREGATE BASE COURSE
4. LIMIT OF CLASS I EXCAVATION

IMPERVIOUS TRAIL PAVEMENT DETAIL
NTS



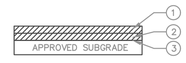
1. 4" POROUS CONCRETE
2. 2" AGGREGATE BASE CONSISTING OF WASHED AASHTO NO. 3 COURSE AGGREGATE AND NO. 57 STONE
3. VARIABLE DEPTH CLEAN NO. 57 STONE, MINIMUM DEPTH 12"
4. 4" SAND, WASHED ASTM C-33 FINE AGGREGATE CONCRETE SAND.
5. GEOTEXTILE CLASS PE (TYPE III) SIDES ONLY. MIRAFI 140 N OR MCDPS APPROVED EQUIVALENT

PERVIOUS PAVEMENT DETAIL
NTS



1. 2" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64S-22, LEVEL-2
2. 6" HMA SUPERPAVE 19.0MM FOR BASE, PG64S-22, LEVEL-2 (2 - 3" LIFTS)
3. 12" GRADED AGGREGATE BASE COURSE (2 - 6" LIFTS)

FULL DEPTH PAVEMENT DETAIL-
GOOD HOPE ROAD
NTS



1. 3" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64S-22, LEVEL 2
2. 3" HMA SUPERPAVE 19.0MM FOR BASE, PG64S-22, LEVEL 2
3. LIMIT OF CLASS I EXCAVATION

IMPERVIOUS PAVEMENT DETAIL-
DRIVEWAYS
NTS

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

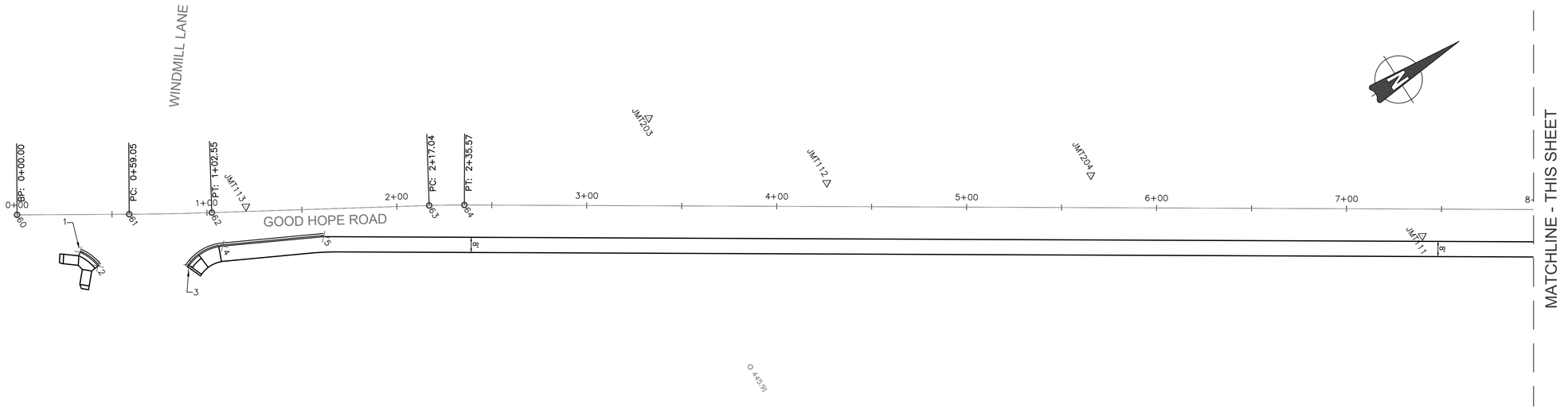
Designed by: ADS Drawn by: MED Checked by: JJR

TS-02
TYPICAL SECTIONS

GOOD HOPE ROAD
SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 05 of 114



Traverse Point Table

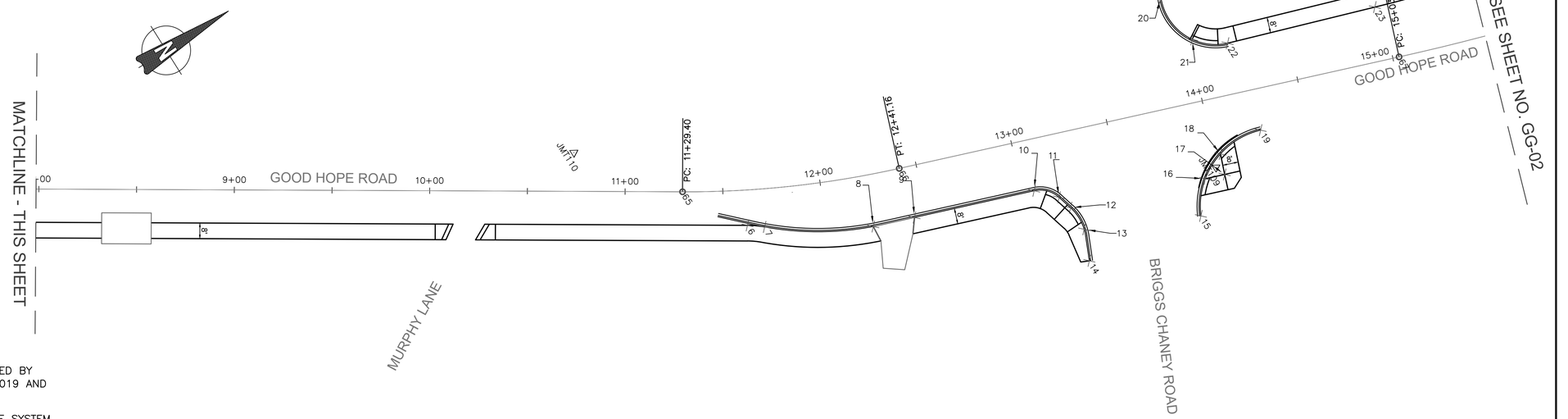
Point #	Elevation	Northing	Easting	Description
JMT 109	480.92	522801.0537	1317508.0078	R&C
JMT 110	472.89	522527.3073	1317326.2012	R&C
JMT 111	459.85	522227.6474	1317175.4618	MAG.NAIL
JMT 112	449.92	521977.4241	1316984.3822	R&C
JMT 113	467.50	521712.2615	1316831.6587	MAG.NAIL
JMT 114	461.48	521446.4607	1316654.7702	R&C
JMT 203	456.14	521916.3905	1316905.4628	R&C
JMT 204	451.27	522097.1255	1317055.1930	R&C

Baseline Point Table

Point #	Station	Northing	Easting	Description
60	0+00.00	521607.9744	1316771.0881	POB
61	0+59.05	521658.0784	1316802.3306	PC
62	1+02.55	521695.3057	1316824.8467	PT
63	2+17.04	521794.0600	1316882.7570	PC
64	2+35.57	521809.8717	1316892.4273	PT
65	11+29.40	522563.6165	1317372.8321	PC
66	12+41.16	522663.7686	1317421.9136	PT
67	15+03.22	522910.4846	1317510.2721	PC

Point Table

Point #	Station	Offset	Elevation	Northing	Easting	Description
1	0+33.09	19.89	MATCH EX.	521625.5289	1316805.4707	POB
2	0+42.44	27.20	MATCH EX.	521629.5934	1316816.6237	POE
3	0+89.91	27.54	467.11	521670.3071	1316842.0550	POB
4	1+07.67	17.82	467.10	521690.7032	1316842.8095	PT
5	1+61.00	28.86	465.73	521738.3426	1316866.9970	PI
6	11+61.55	14.59	477.34	522582.5578	1317405.0638	PC
7	11+69.97	18.07	477.90	522589.5684	1317410.4602	PCC
8	12+22.72	19.49	480.31	522636.6888	1317439.9425	PT
9	12+43.33	26.46	480.59	522656.9858	1317447.2821	POT
10	13+06.08	26.17	481.26	522716.0611	1317468.4392	PC
11	13+17.78	32.23	481.30	522725.0353	1317478.0897	PT
12	13+22.36	38.70	481.29	522727.1601	1317485.7284	PC
13	13+26.75	50.98	481.25	522727.1601	1317498.7691	PT
14	13+25.85	67.27	481.21	522720.8141	1317513.7976	POE
15	13+86.56	57.28	480.63	522781.3362	1317524.8655	POB
16	13+92.90	39.23	481.01	522793.3964	1317510.0057	POC
17	14+03.04	39.23	481.42	522802.9392	1317513.4269	PI
18	14+03.24	28.49	481.09	522806.7534	1317503.3876	POC
19	14+25.93	21.13	481.09	522830.5952	1317504.1070	POE
20	13+90.85	−56.38	MATCH EX.	522823.7048	1317419.3071	PC
21	14+01.84	−31.80	481.34	522825.7561	1317446.1546	POB
22	14+19.08	−25.93	481.07	522840.0093	1317457.4946	PT
23	14+96.67	−27.55	480.46	522913.6020	1317482.1269	PC



GENERAL NOTES

1. THIS SURVEY WAS BASED ON A FIELD–RUN TOPOGRAPHIC SURVEY PERFORMED BY JOHNSON, MIRMIRAN & THOMPSON (JMT) IN DECEMBER 2018 & JANUARY 2019 AND REFLECTS SITE CONDITIONS AS OF THAT DATE.
2. COORDINATES ARE REFERENCED TO THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD 83(2011) ZONE 1900 EPOCH 2010 AS DETERMINED BY MULTIPLE GPS RTN (KEYNET) OBSERVATIONS ON SEPTEMBER 29, 2018.
3. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)(GEOID 12B) AS DETERMINED BY MULTIPLE GPS RTN (KEYNET) OBSERVATIONS ON SEPTEMBER 29, 2018.
4. ADDITIONAL SPOT ELEVATIONS RESIDE IN THE DIGITAL VERSION OF THIS DRAWING BUT ARE NOT PLOTTED HEREON.
5. WINDMILL LANE: ADDITIONAL TOPOGRAPHIC SURVEY PERFORMED BY JMT ON FEBRUARY 22, 2019 AND REFLECTS SITE CONDITIONS AS OF THAT DATE.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

GG–01 GEOMETRICS

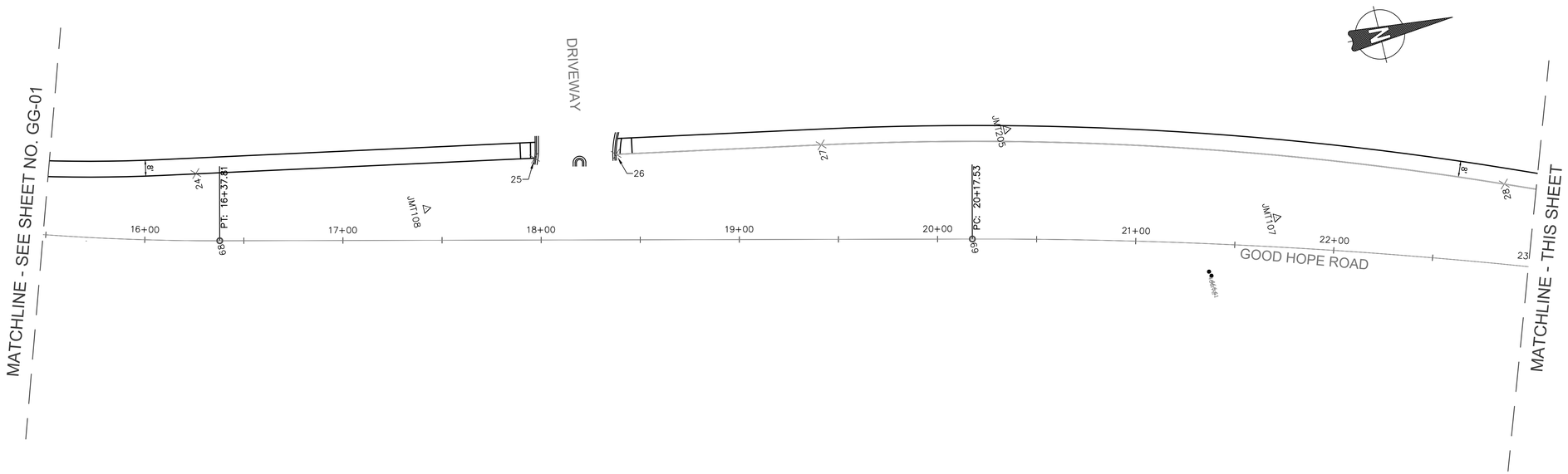
GOOD HOPE ROAD SHARED USE PATH

0 30′ 60′

SCALE: 1"=30′ DATE: NOVEMBER 2020

Project No. : 501902 SHEET 06 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pGG_Geometrics.dwg LAYOUT NAME: GG-01 PLOTTED: Tuesday, November 24, 2020 – 9:29am USER: AHavener



Traverse Point Table

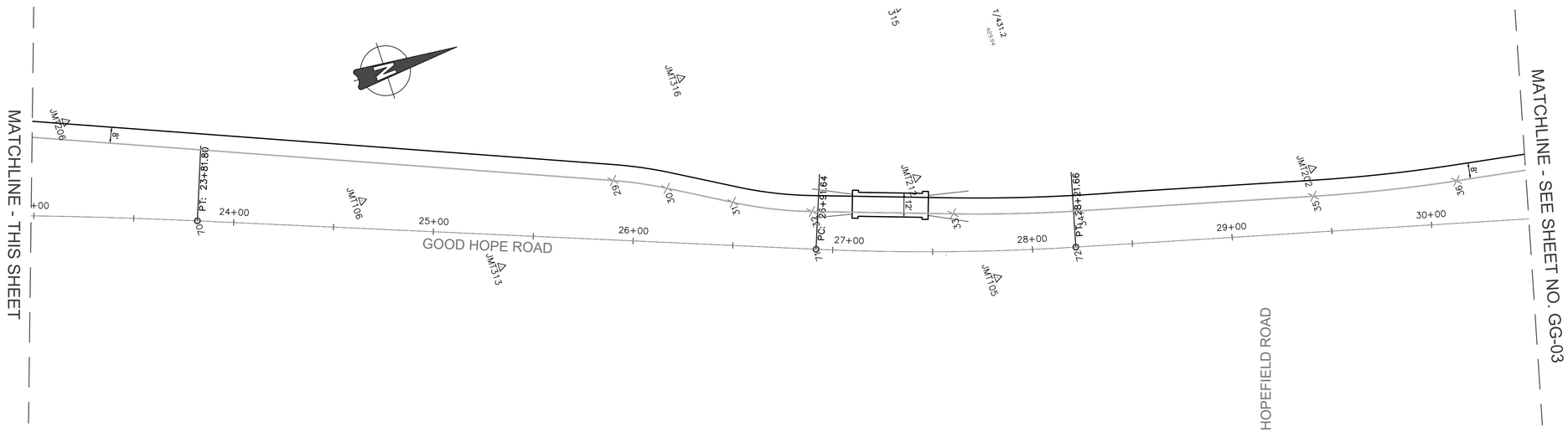
Point #	Elevation	Northing	Easting	Description
JMT 105	430.87	524127.6967	1317896.1443	MAG.SPIKE
JMT 106	445.38	523838.2184	1317759.3882	R&C
JMT 107	466.05	523560.8635	1317660.7151	R&C
JMT 108	471.13	523144.5626	1317556.9196	R&C
JMT 202	433.69	524294.2606	1317893.9300	R&C
JMT 205	471.06	523438.5737	1317585.8609	R&C
JMT 206	460.32	523709.7934	1317675.0949	R&C
JMT 212	429.45	524105.0730	1317835.8964	R&C
JMT 313	437.43	523893.9424	1317812.6317	R&C
JMT 315	429.83	524123.4626	1317752.2063	R&C
JMT 316	433.06	524008.7612	1317751.3199	R&C

Baseline Point Table

Point #	Station	Northing	Easting	Description
68	16+37.81	523039.4719	1317548.4585	PT
69	20+17.53	523409.0422	1317635.6722	PC
70	23+81.80	523756.8650	1317742.9633	PT
71	26+91.64	524046.1097	1317854.0414	PC
72	28+21.66	524169.7678	1317893.9921	PT

Point Table

Point #	Station	Offset	Elevation	Northing	Easting	Description
24	16+25.51	−33.92	478.06	523035.6444	1317512.6374	PT
25	17+96.79	−41.35	470.85	523203.6971	1317544.7278	POE
26	18+37.92	−43.16	0.00	523244.1415	1317552.4087	POB
27	19+41.36	−47.72	468.22	523345.8651	1317571.7274	PC
28	22+82.46	−40.32	462.78	523676.5527	1317670.9142	PT
29	25+88.59	−29.71	433.32	523960.5603	1317789.3626	PC
30	26+15.64	−27.09	431.80	523984.8694	1317801.5007	PT
31	26+48.99	−21.56	430.73	524014.0231	1317818.6250	PC
32	26+88.74	−18.77	430.60	524050.1286	1317835.4749	PT
33	27+60.39	−18.93	431.13	524116.7204	1317858.8020	PC
34	28+24.22	−18.00	431.61	524176.8397	1317877.2430	PT
35	29+41.88	−18.00	432.77	524290.6007	1317907.3008	PC
36	30+13.83	−21.24	435.63	524360.9852	1317922.5451	PT



DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

GG-02 GEOMETRICS

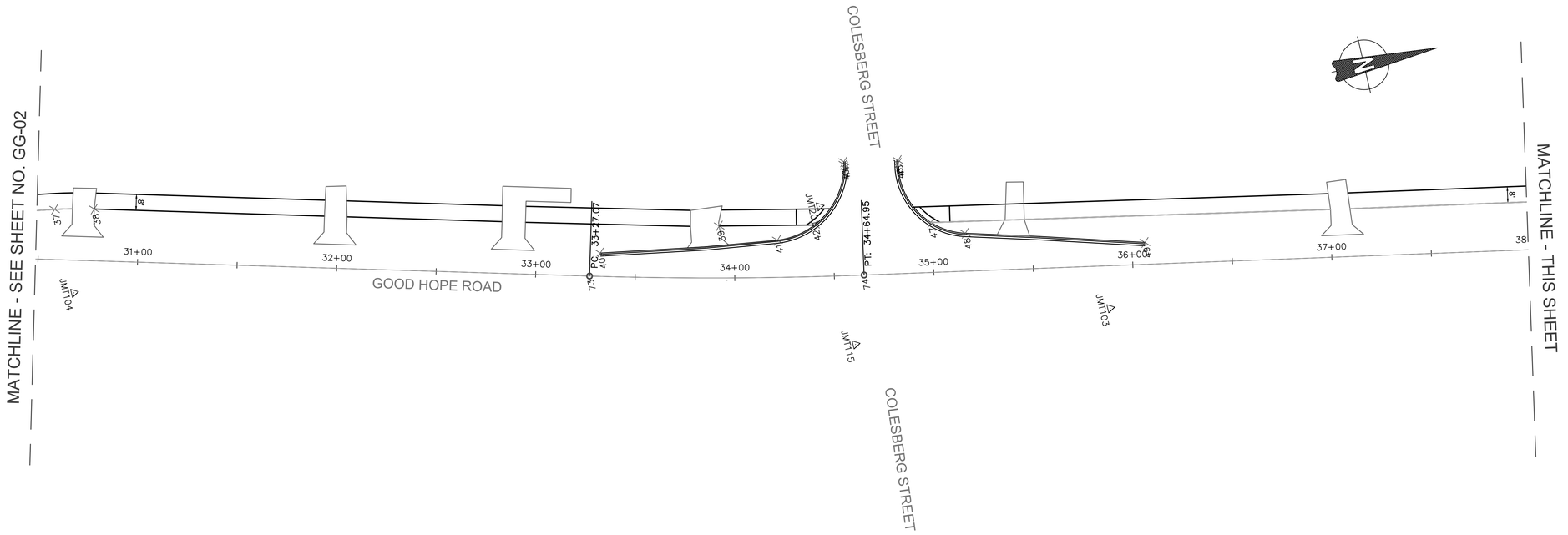
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 07 of 114

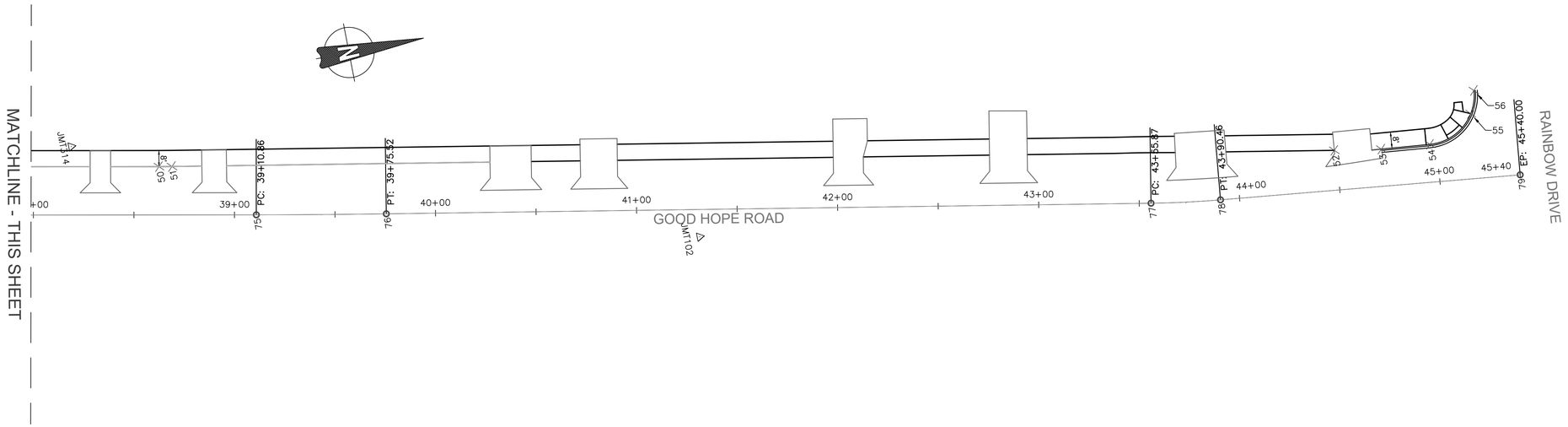
FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sides\CADD\pGG_Geometrics.dwg LAYOUT NAME: GG-02 PLOTTED: Tuesday, November 24, 2020 - 9:29am USER: AHavener



Traverse Point Table				
Point #	Elevation	Northing	Easting	Description
JMT 101	480.46	525900.1533	1318247.3918	R&C
JMT 102	466.77	525445.1630	1318190.0749	R&C
JMT 103	461.75	524909.4229	1318097.7988	R&C
JMT 104	437.81	524404.2753	1317972.8909	R&C
JMT 115	457.33	524780.7497	1318086.6497	MAG.NAIL
JMT 201	456.48	524778.7879	1318015.0657	R&C
JMT 314	460.55	525146.7627	1318086.9353	R&C

Baseline Point Table				
Point #	Station	Northing	Easting	Description
73	33+27.07	524658.4104	1318023.1010	PC
74	34+64.95	524792.8265	1318053.7023	PT
75	39+10.86	525230.7557	1318137.6409	PC
76	39+75.52	525294.3379	1318149.4021	PT
77	43+55.87	525668.7820	1318216.1642	PC
78	43+90.46	525703.0200	1318221.0537	PT
79	45+40.00	525851.7056	1318237.0629	POE

Point Table						
Point #	Station	Offset	Elevation	Northing	Easting	Description
37	30+57.55	−25.19	437.85	524404.2681	1317929.8976	PC
38	30+77.44	−26.00	438.74	524423.7026	1317934.1944	PT
39	33+92.23	−26.10	453.85	524727.5084	1318013.2788	PI
40	34+40.76	−25.98	449.41	524666.2829	1318013.0481	POB
41	33+32.14	−11.72	455.21	524754.3853	1318026.8295	PC
42	34+21.73	−18.69	455.98	524774.2920	1318023.5544	POC
43	34+56.73	−55.86	0.00	524795.4945	1317997.3248	PT
44	34+56.73	−57.25	MATCH EX.	524795.7617	1317995.9521	POE
45	34+84.19	−56.86	MATCH EX.	524822.4251	1318001.4834	POB
46	34+84.15	−55.46	0.00	524822.1156	1318002.8472	PC
47	34+99.51	−25.10	458.70	524831.4925	1318035.5536	POC
48	35+16.57	−19.05	459.35	524847.1028	1318044.7048	PT
49	36+06.51	−11.00	462.78	524933.9198	1318069.5456	POE
50	38+62.47	−24.00	461.39	525187.7532	1318104.9616	PC
51	38+68.94	−24.04	461.44	525194.1114	1318106.1378	PT
52	44+48.92	−19.81	477.77	525763.2657	1318207.6161	PI
53	44+72.29	−18.48	478.05	525786.3635	1318211.4382	POT
54	44+96.58	−18.82	478.25	525810.5477	1318213.6980	PC
55	45+18.05	−32.37	478.38	525833.3425	1318202.5279	POC
56	45+20.56	−43.67	MATCH EX.	525837.0518	1318191.5584	POE



DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

GG-03 GEOMETRICS

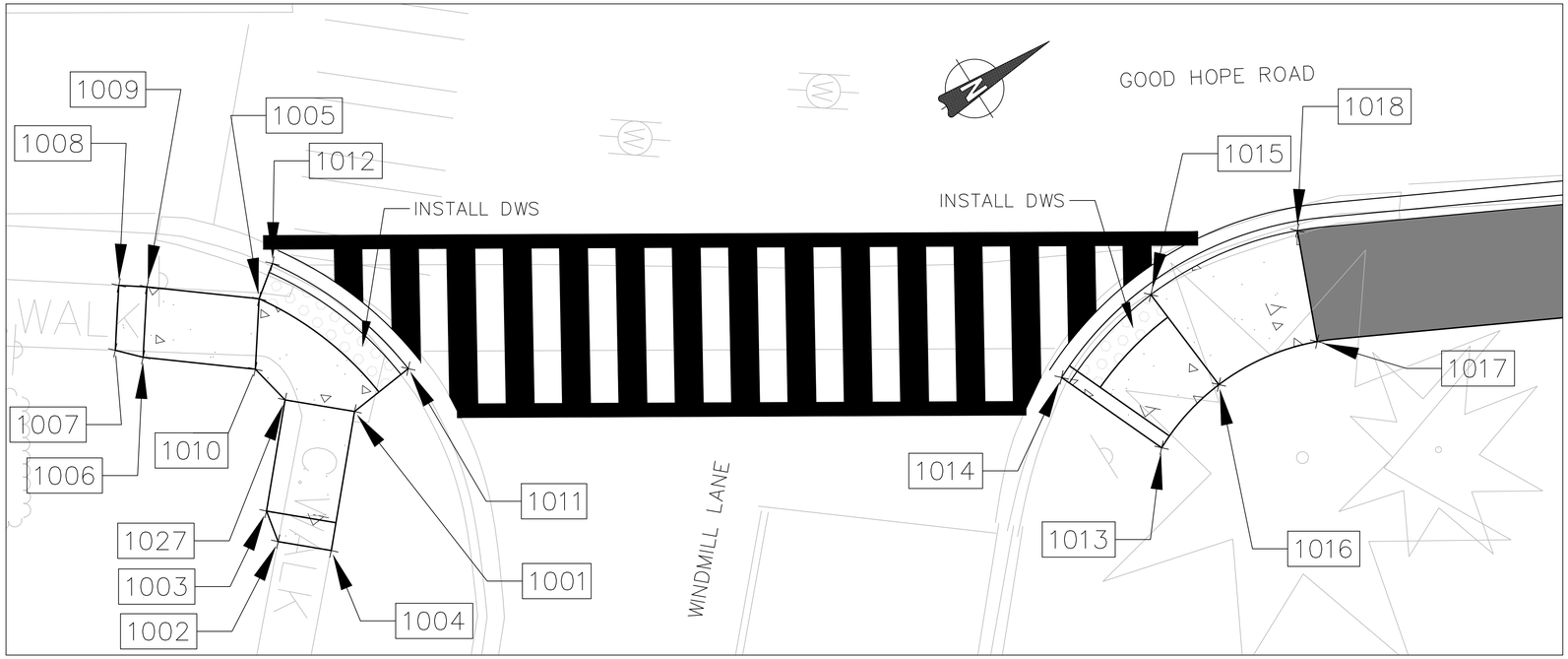
GOOD HOPE ROAD SHARED USE PATH

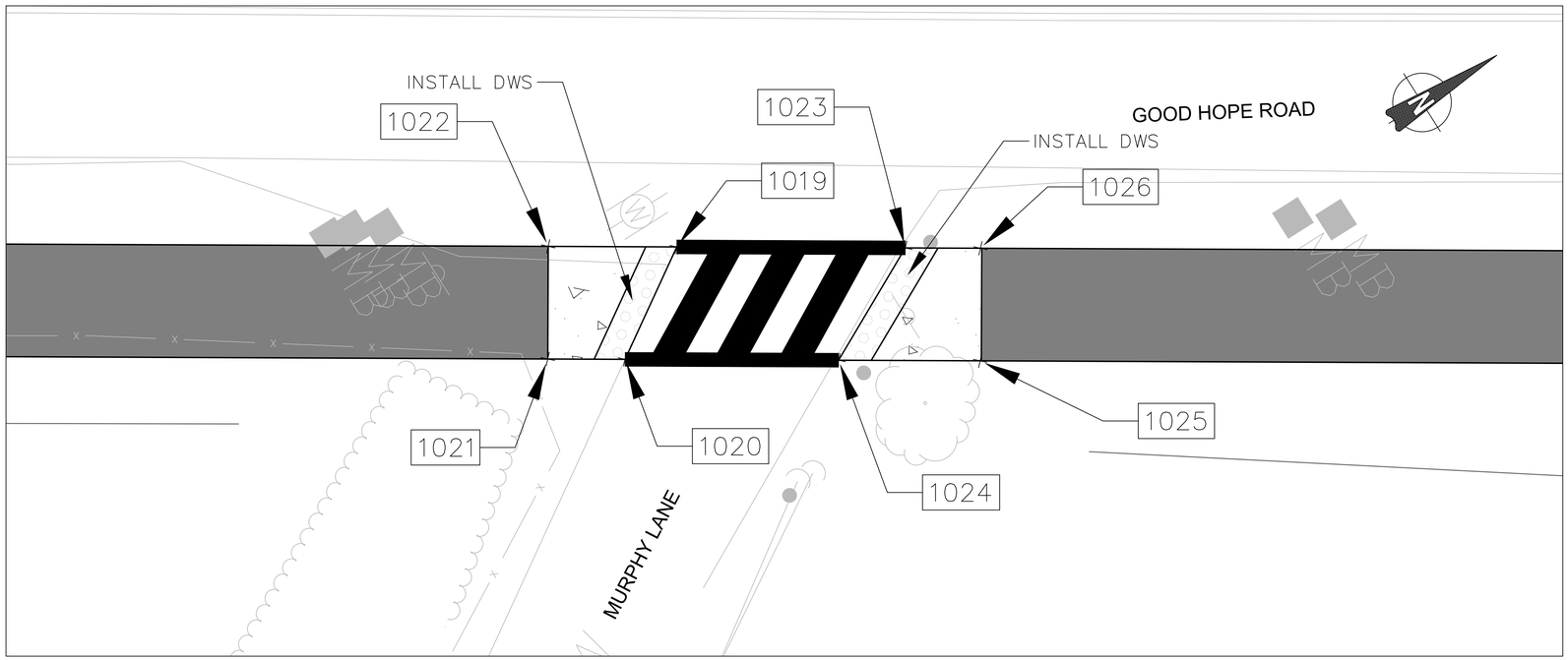
0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 08 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pGG_Geometrics.dwg LAYOUT NAME: GG-03 PLOTTED: Tuesday, November 24, 2020 - 9:29am USER: AHavener





Point Table				
Point #	Northing	Easting	Elevation	Description
1001	521625.4072	1316817.0846	466.04	Level Landing
1002	521615.8958	1316821.9989	Match Existing	
1003	521616.3497	1316819.7232	466.19	
1004	521618.7480	1316824.5448	Match Existing	
1005	521623.9491	1316806.7071	466.05	Level Landing
1006	521614.7733	1316805.8212	465.76	
1007	521613.3674	1316804.3459	Match Existing	
1008	521616.0311	1316800.5849	Match Existing	
1009	521617.6632	1316801.7409	465.93	
1010	521621.0593	1316810.7873	466.12	Level Landing
1011	521630.2593	1316816.5504	Match Existing	
1012	521626.0859	1316805.0983	Match Existing	
1013	521672.4810	1316849.8502	466.55	
1014	521669.1338	1316841.8408	Match Existing	
1015	521677.6311	1316840.2606	466.40	
1016	521678.3077	1316848.2320	467.27	
1017	521685.8379	1316849.3755	467.27	
1018	521688.8504	1316841.9643	467.11	
1019	522455.5157	1317324.0926	Match Existing	
1020	522448.1521	1317328.8861	Match Existing	
1021	522443.5213	1317325.9346	469.24	
1022	522447.8211	1317319.1883	469.40	
1023	522469.2007	1317332.8148	Match Existing	
1024	522460.9340	1317337.0327	Match Existing	
1025	522469.4108	1317342.4355	470.37	
1026	522473.6980	1317335.6812	470.53	
1027	521621.6771	1316813.7550	466.07	

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

DT-01 PEDESTRIAN RAMP DETAILS

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

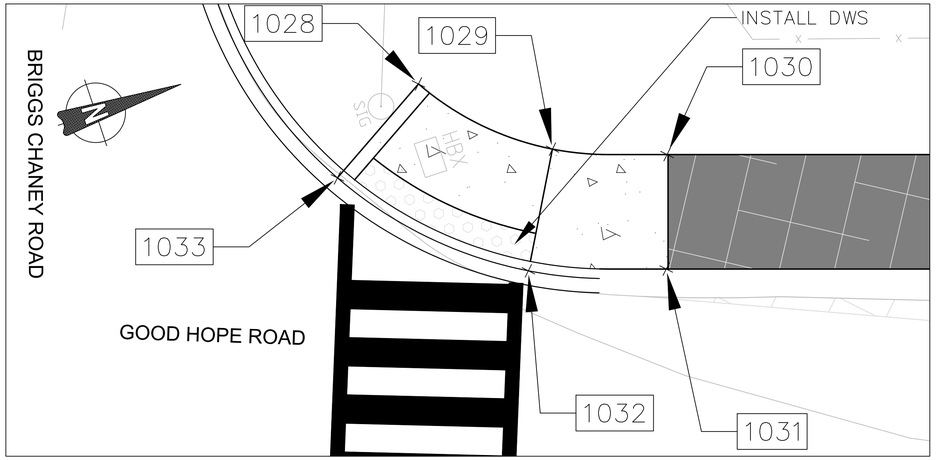
SCALE: 1"=5'

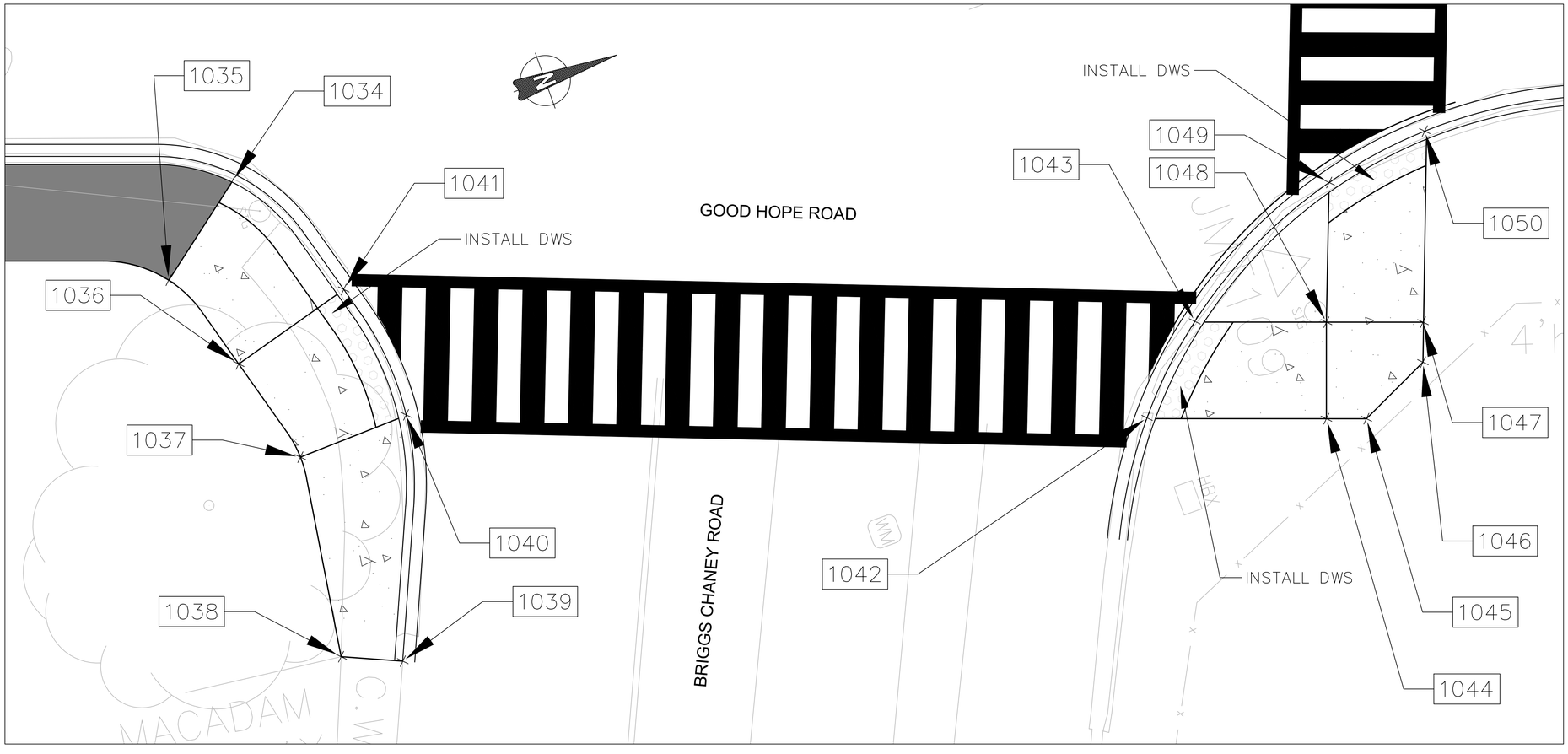
DATE: NOVEMBER 2020

Project No. : 501902

SHEET 09 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pDT_Details_ADA.dwg LAYOUT NAME: DT-01 PLOTTED: Tuesday, November 24, 2020 - 9:35am USER: AHavener





Point Table				
Point #	Northing	Easting	Elevation	Description
1028	522832.1075	1317441.2173	481.52	Level Landing
1029	522839.5380	1317448.5059	481.28	Level Landing
1030	522847.0109	1317451.4086	481.19	
1031	522844.4196	1317458.9775	481.03	
1032	522835.2439	1317456.0379	Match Existing	Level Landing
1033	522824.6541	1317445.6462	Match Existing	Level Landing
1034	522721.4907	1317471.9273	481.29	
1035	522713.8161	1317477.8119	481.90	
1036	522716.9403	1317486.3030	481.81	Level Landing
1037	522719.1471	1317495.2999	481.43	Level Landing
1038	522716.7490	1317512.0022	Match Existing	
1039	522721.4374	1317514.0729	Match Existing	
1040	522728.5739	1317494.9485	Match Existing	Level Landing
1041	522727.2143	1317483.4230	Match Existing	Level Landing
1042	522786.2732	1317515.8814	Match Existing	
1043	522792.6991	1317509.6950	Match Existing	
1044	522800.2394	1317520.9575	481.33	Level Landing
1045	522803.3587	1317522.0758	481.38	Level Landing
1046	522809.3516	1317519.2460	481.48	Level Landing
1047	522810.4699	1317516.1267	481.43	Level Landing
1048	522802.9392	1317513.4269	481.42	Level Landing
1049	522807.0524	1317502.6114	Match Existing	
1050	522815.9454	1317501.2712	Match Existing	

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

DT-02 PEDESTRIAN RAMP DETAILS

GOOD HOPE ROAD
SHARED USE PATH

0 5' 10'

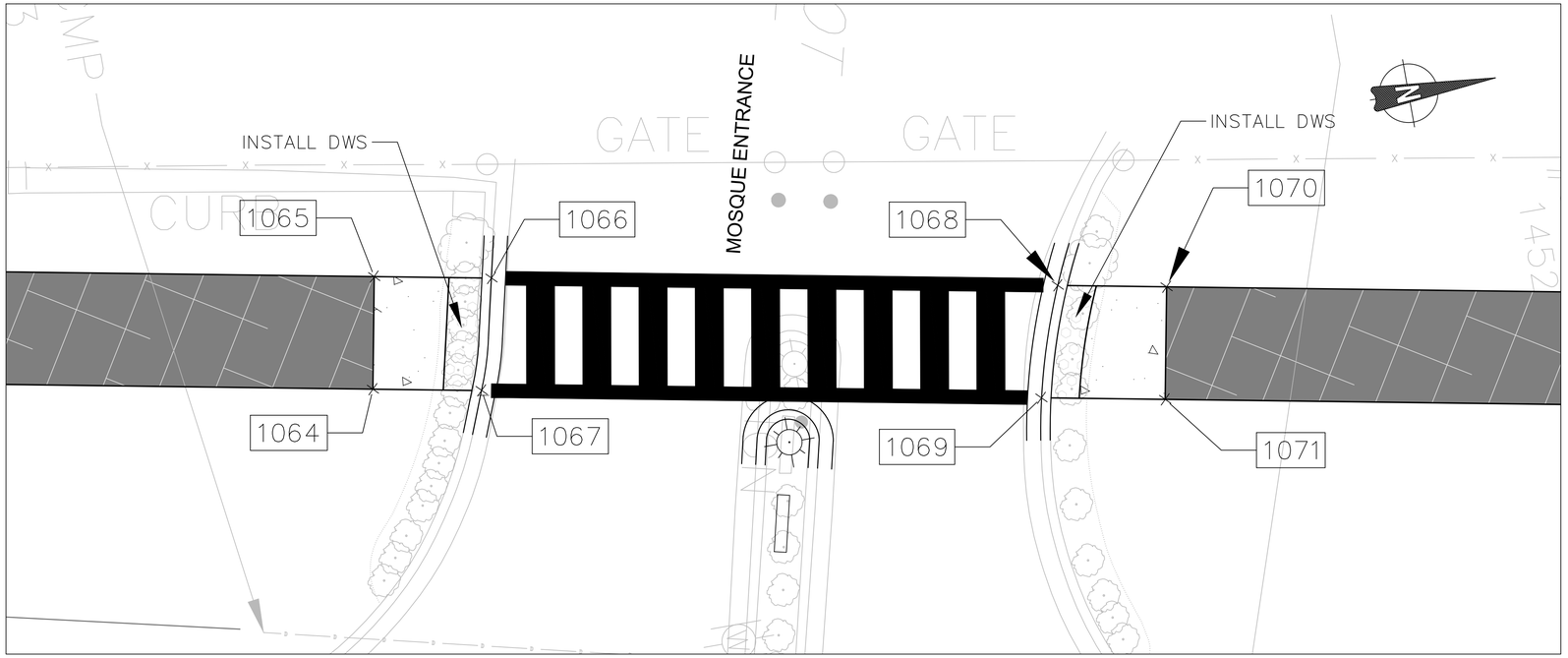
SCALE: 1"=5'

DATE: NOVEMBER 2020

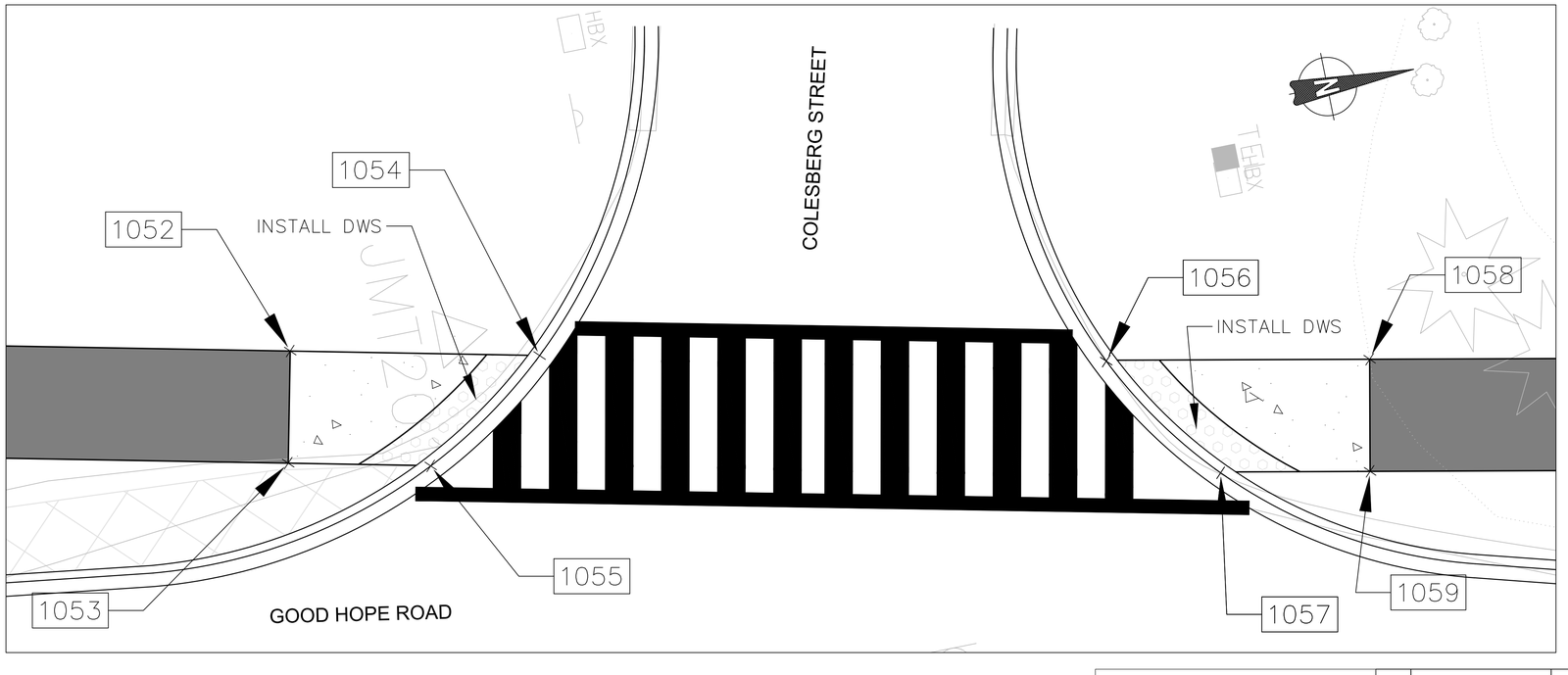
Project No. : 501902

SHEET 10 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pDT_Details_ADA.dwg LAYOUT NAME: DT-02 PLOTTED: Tuesday, November 24, 2020 - 9:35am USER: AHavener



Point Table				
Point #	Northing	Easting	Elevation	Description
1052	524767.0950	1318013.7844	455.84	Level Landing
1053	524765.3757	1318021.5960	455.68	Level Landing
1054	524784.4647	1318017.6111	Match Existing	
1055	524775.2965	1318023.7950	Match Existing	
1056	524823.9896	1318025.9819	Match Existing	
1057	524830.4125	1318035.4016	Match Existing	
1058	524842.4292	1318029.5595	459.48	Level Landing
1059	524840.8789	1318037.4062	458.69	Level Landing
1064	523196.7846	1317543.4150	471.18	Level Landing
1065	523198.2681	1317535.5537	471.34	Level Landing
1066	523206.4561	1317537.1019	Match Existing	
1067	523204.3812	1317544.8431	Match Existing	
1068	523246.0037	1317544.6155	Match Existing	
1069	523243.4710	1317552.2868	Match Existing	
1070	523253.6043	1317546.0628	469.38	Level Landing
1071	523252.1135	1317553.9227	469.22	Level Landing



DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

DT-03 PEDESTRIAN RAMP DETAILS

GOOD HOPE ROAD SHARED USE PATH

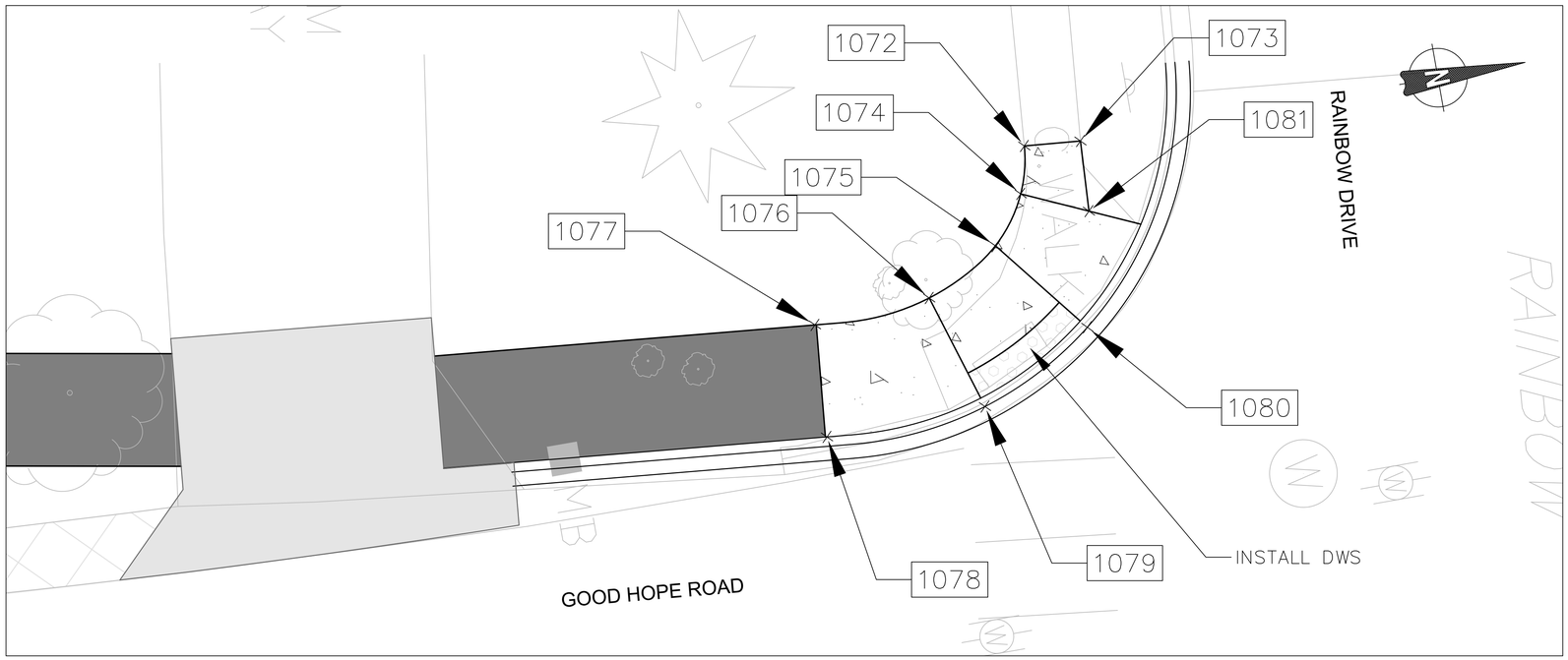
0 5' 10'

SCALE: 1"=5'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 11 of 114



Point Table				
Point #	Northing	Easting	Elevation	Description
1072	525826.1619	1318195.6133	Match Existing	
1073	525830.1491	1318195.9581	Match Existing	
1074	525825.3150	1318198.9220	478.79	
1075	525822.9443	1318202.2794	478.72	Level Landing
1076	525817.6353	1318205.0748	478.62	Level Landing
1077	525809.3159	1318205.5481	478.50	
1078	525808.7725	1318213.5321	478.35	
1079	525820.1932	1318213.3588	Match Existing	Level Landing
1080	525828.3261	1318209.0768	Match Existing	Level Landing
1081	525829.8760	1318200.9707	478.71	

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

DT-04 PEDESTRIAN RAMP DETAILS

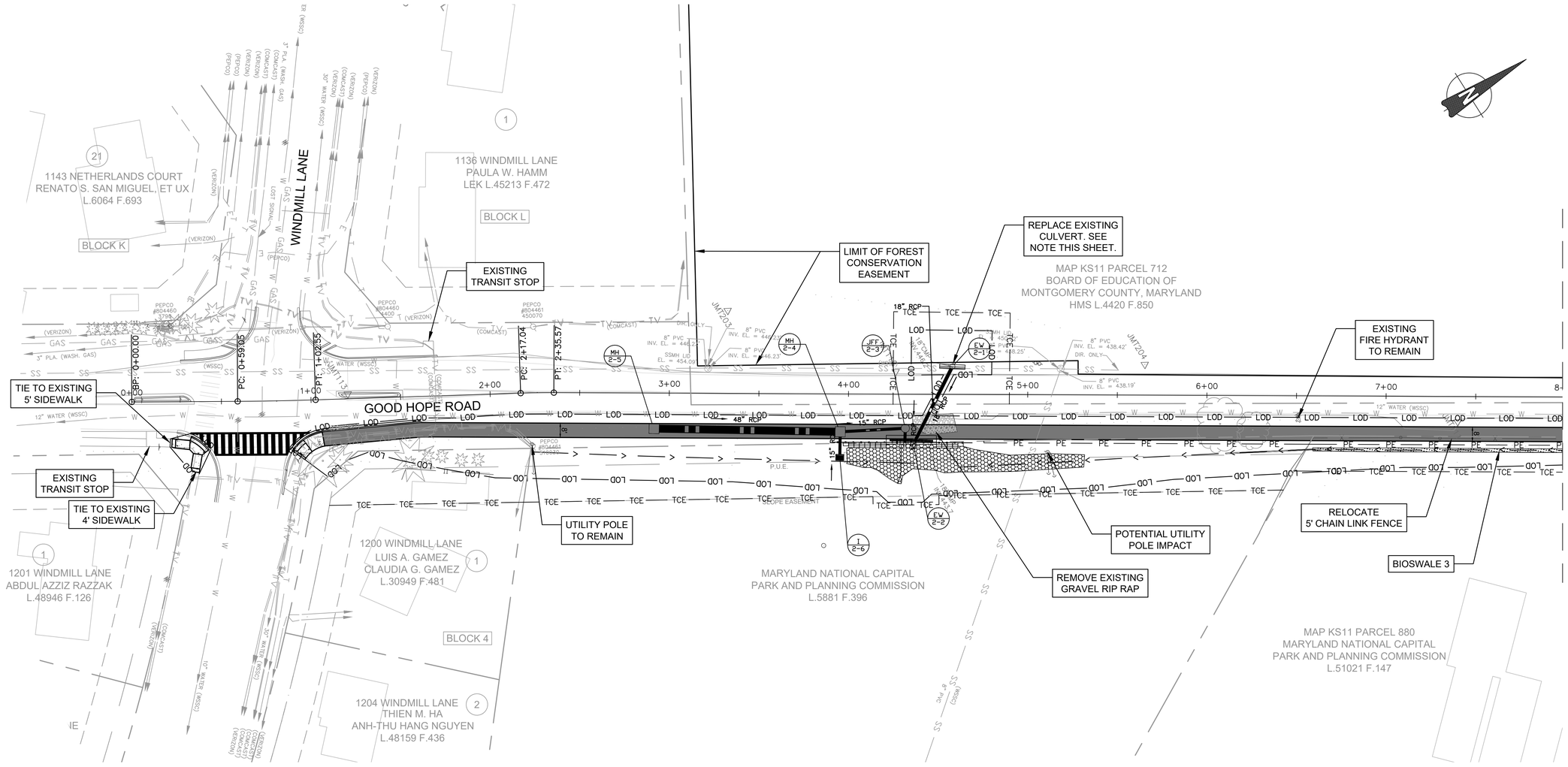
GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

SCALE: 1"=5' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 12 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pDT_Details_ADA.dwg LAYOUT NAME: DT-04 PLOTTED: Tuesday, November 24, 2020 - 9:35am USER: AHavener



SIDEPATH		
QUANTITY	FROM	TO
5,546 SF	1+05 RT	8+00 RT

REMOVE AND RESET FENCE		
QUANTITY	FROM	TO
138 LF	6+62 RT	8+00 RT

DETECTABLE WARNING SURFACE MD-655.40		
QUANTITY	STATION	WIDTH
16 SF	0+37 RT	8.0'
16 SF	0+94 RT	8.0'

RESIDENTIAL SIDEWALK MC-110.01		
QUANTITY	FROM	TO
160 SF	0+22 RT	0+42 RT
135 SF	0+89 RT	1+05 RT

CHAIN LINK FENCE		
QUANTITY	FROM	TO
80 LF	3+90 LT	4+70 LT

COMBINATION CONCRETE CURB AND GUTTER - TYPE A MC-100.01		
QUANTITY	FROM	TO
10 LF	0+33 RT	0+43 RT
77 LF	0+89 RT	1+58 RT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED BIOSWALE
- PROPOSED ASPHALT PATH/TRAIL-IMPERVIOUS
- PROPOSED ASPHALT DRIVEWAY PAVEMENT
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP-RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.
2. REFER TO DRAINAGE SHEETS FOR DETAILS OF PROPOSED CULVERT REPLACEMENT..

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

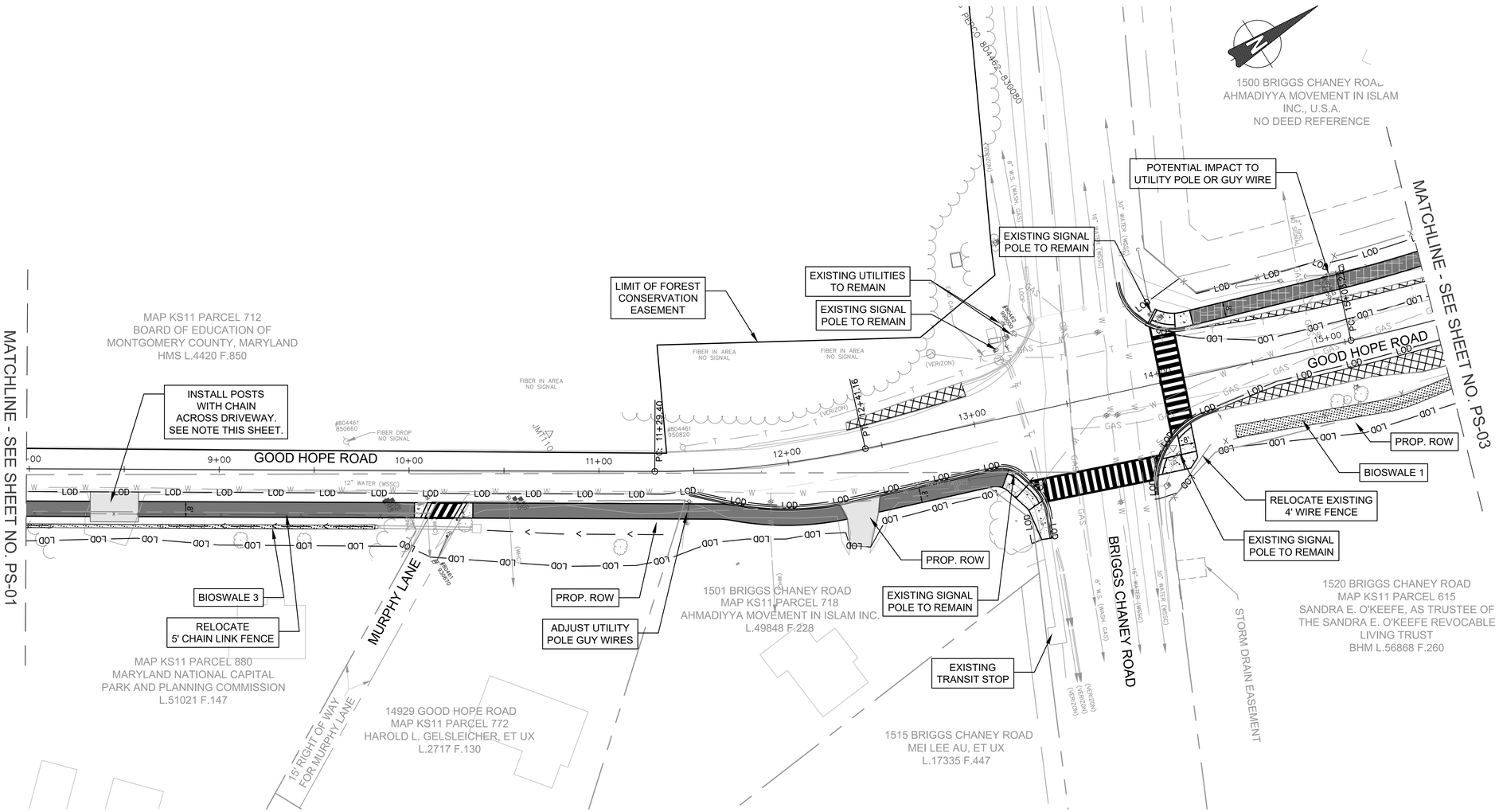
PS-01 ROADWAY PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 13 of 114



REMOVE AND RELOCATE MAILBOX	
QUANTITY	STATION
3 EA	9+90 RT
2 EA	10+55 RT

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
45 SY	8+45 RT	25.0'
41 SY	12+33 RT	10.0'

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
80 LF	11+47 RT	12+23 RT
116 LF	12+43 RT	13+27 RT
61 LF	13+85 RT	14+26 RT
50 LF	13+89 LT	14+19 LT

SIDEPATH		
QUANTITY	FROM	TO
1,623 SF	8+00 RT	10+03 RT
1,569 SF	10+34 RT	12+25 RT
549 SF	12+42 RT	13+12 RT

SIDEPATH; PERVIOUS PAVEMENT		
QUANTITY	FROM	TO
1,000 SF	14+24 LT	15+50 LT

REMOVE AND RESET FENCE		
QUANTITY	FROM	TO
200 LF	8+00 RT	10+00 RT
160 LF	13+93 RT	15+50 RT

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
388 SF	12+33 LT	13+00 LT
303 SF	14+22 LT	15+50 LT
885 SF	14+26 RT	15+50 RT

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
16 SF	13+23 RT	8.0'
16 SF	13+93 RT	8.0'
16 SF	14+07 RT	8.0'
16 SF	14+09 LT	8.0'

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
60 SF	10+03 RT	10+10 RT
65 SF	10+25 RT	10+34 RT
310 SF	13+12 RT	13+27 RT
258 SF	13+89 RT	14+11 RT
172 SF	14+01 LT	14+24 LT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED BIOSWALE
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED ASPHALT DRIVEWAY PAVEMENT
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.
2. CONTRACTOR SHALL COORDINATE WITH M–NCPPC PARKS REGARDING STANDARDS AND MATERIALS FOR REQUESTED POST AND CHAIN DRIVEWAY TREATMENT.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

PS–02 ROADWAY PLAN

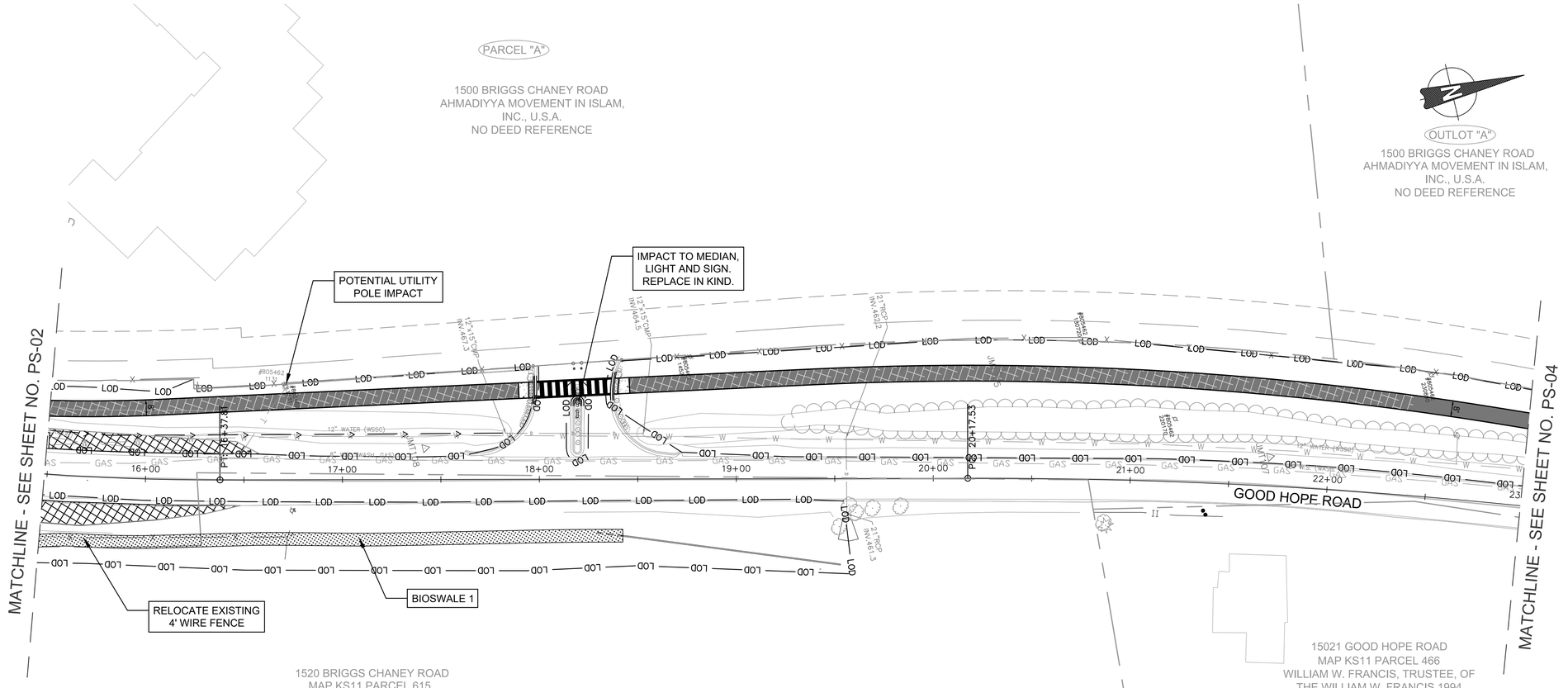
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 14 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHD_GoodHope.dwg LAYOUT NAME: PS-02 PLOTTED: Tuesday, November 24, 2020 – 10:00am USER: AHavener



REMOVE EXISTING CURB		
QUANTITY	FROM	TO
22 LF	18+16 LT	18+23 LT

REMOVE AND RESET FENCE		
QUANTITY	FROM	TO
125 LF	15+50 RT	16+75 RT

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
845 SF	15+50 LT	16+58 LT
770 SF	15+50 RT	16+48 RT

DETECTABLE WARNING SURFACE MD-655.40		
QUANTITY	STATION	WIDTH
16 SF	17+97 LT	8.0'
16 SF	18+38 LT	8.0'

COMBINATION CONCRETE CURB AND GUTTER - TYPE A MC-100.01		
QUANTITY	FROM	TO
14 LF	17+97 LT	17+97 LT
11 LF	18+16 LT	18+23 LT
14 LF	18+38 LT	18+38 LT

RESIDENTIAL SIDEWALK MC-110.01		
QUANTITY	FROM	TO
60 SF	17+90 LT	17+97 LT
62 SF	18+38 LT	18+46 LT

SIDEPATH		
QUANTITY	FROM	TO
547 SF	22+40 LT	23+00 LT

SIDEPATH; PERVIOUS PAVEMENT		
QUANTITY	FROM	TO
1,898 SF	15+50 LT	17+90 LT
3,190 SF	18+46 LT	22+40 LT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED BIOSWALE
- PROPOSED ASPHALT PATH/TRAIL-IMPERVIOUS
- PROPOSED ASPHALT DRIVEWAY PAVEMENT
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP-RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

PS-03 ROADWAY PLAN

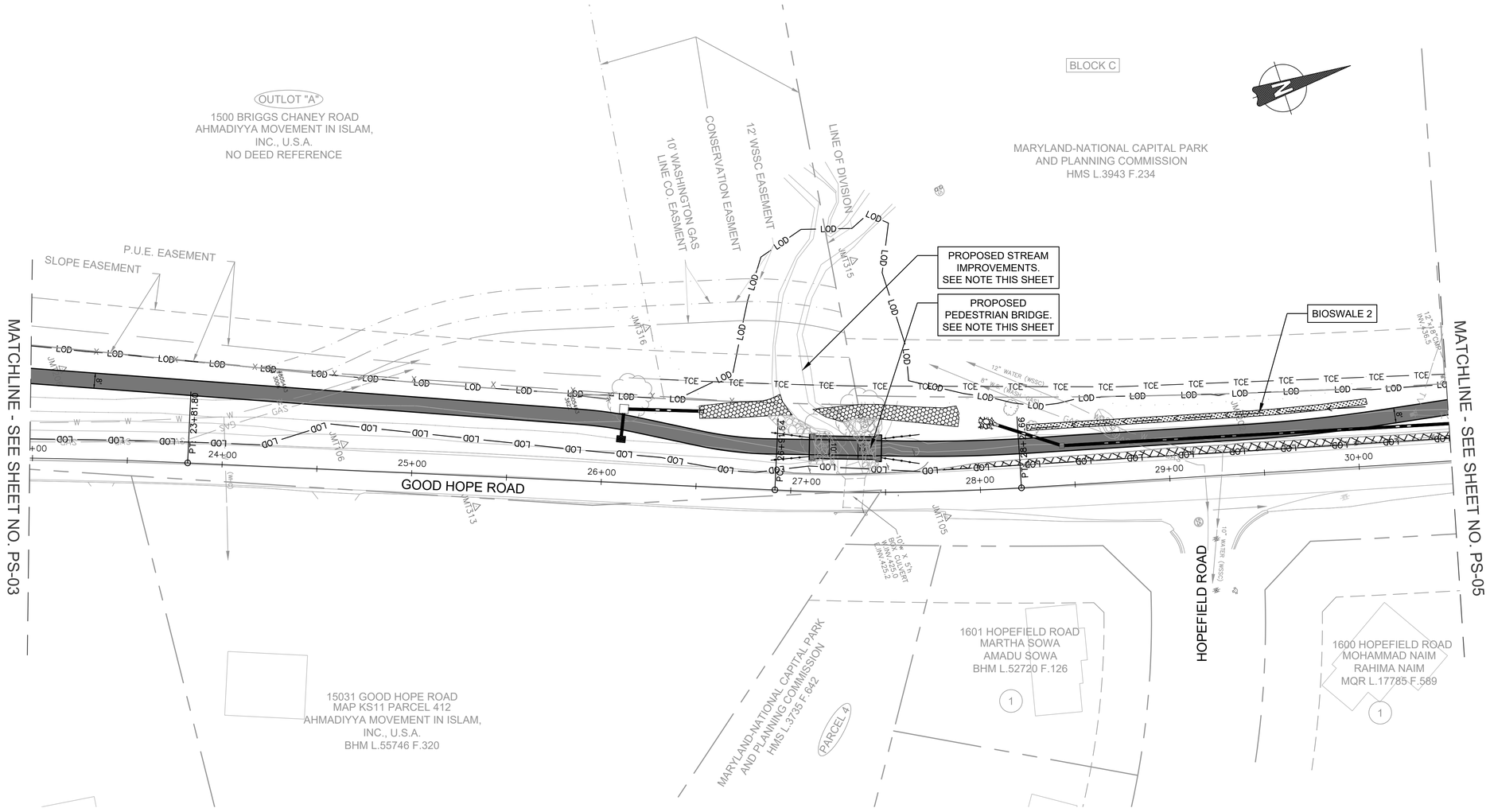
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No.: 501902 SHEET 15 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHD_GoodHope.dwg LAYOUT NAME: PS-03 PLOTTED: Tuesday, November 24, 2020 - 10:00am USER: AHavener



REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
933 SF	27+74 LT	30+50 LT

PREFABRICATED PEDESTRIAN BRIDGE		
QUANTITY	FROM	TO
480 SF	27+09 LT	27+49 LT

SIDEPATH		
QUANTITY	FROM	TO
3,287 SF	23+00 LT	26+87 LT
2,405 SF	27+67 LT	30+50 LT

CHAIN LINK FENCE		
QUANTITY	FROM	TO
40 LF	26+89 LT	27+09 LT
40 LF	27+49 LT	27+69 LT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED BIOSWALE
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED ASPHALT DRIVEWAY PAVEMENT
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.
2. REFER TO STREAM IMPROVEMENT SHEETS FOR DETAILS OF PROPOSED STREAM WORK.
3. REFER TO STRUCTURAL PLAN SHEETS FOR DETAILS OF PEDESTRIAN BRIDGE.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

PS–04 ROADWAY PLAN

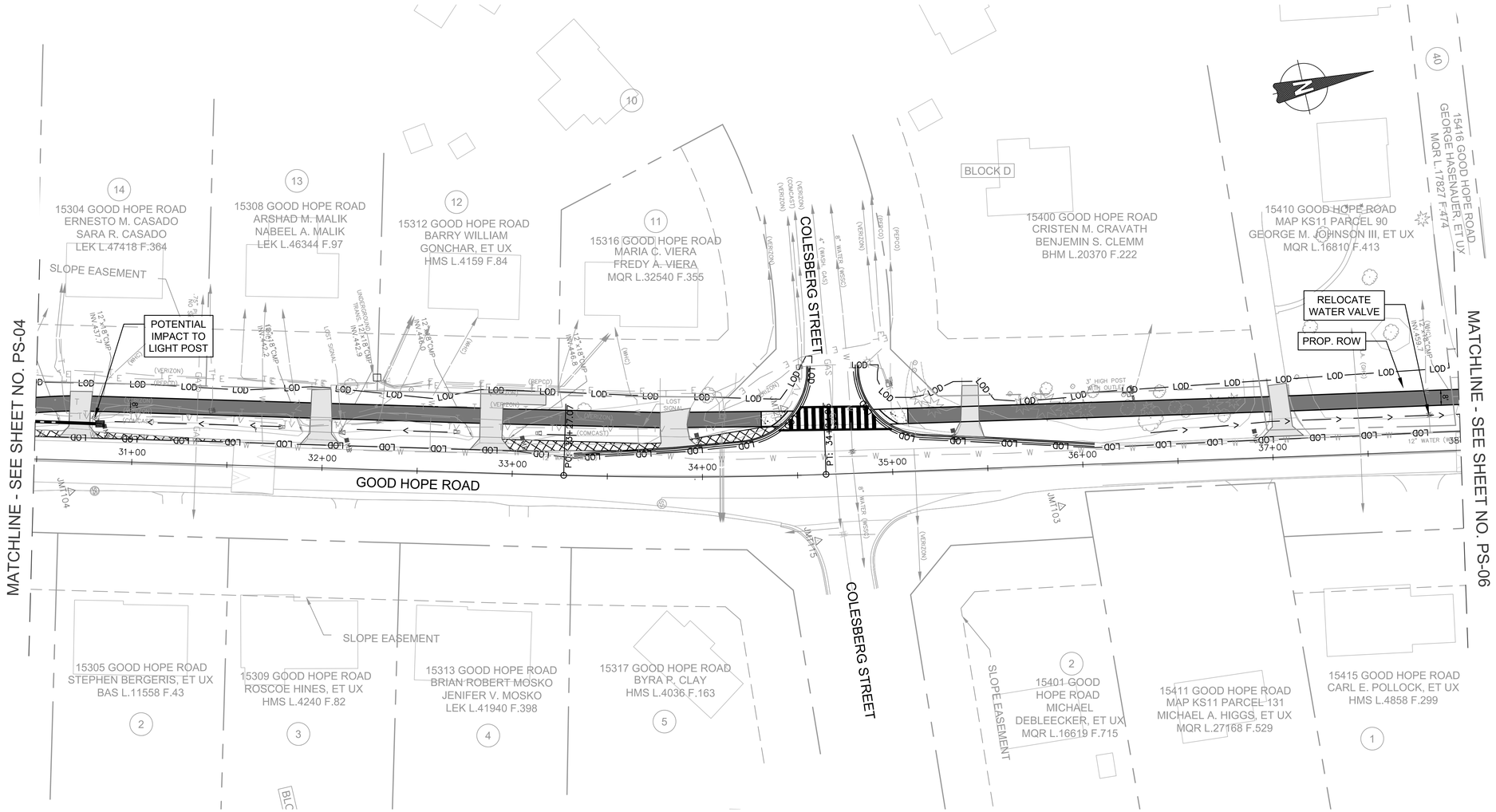
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 16 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHD_GoodHope.dwg LAYOUT NAME: PS-04 PLOTTED: Tuesday, November 24, 2020 – 11:34am USER: ahavener



REMOVE AND RELOCATE MAILBOX	
QUANTITY	STATION
1 EA	30+85 LT
1 EA	32+15 LT
1 EA	33+05 LT
1 EA	33+95 LT
1 EA	35+30 LT
1 EA	36+90 LT

SIDEPATH		
QUANTITY	FROM	TO
134 SF	30+50 LT	30+66 LT
923 SF	30+77 LT	31+93 LT
625 SF	32+05 LT	32+82 LT
664 SF	32+94 LT	33+77 LT
308 SF	33+92 LT	34+47 LT
224 SF	34+91 LT	35+36 LT
1,227 SF	35+47 LT	36+99 LT
724 SF	37+13 LT	38+00 LT

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
33 SY	30+72 LT	11.0'
39 SY	32+00 LT	12.0'
63 SY	32+88 LT	12.0'
40 SY	33+85 LT	15.0'
30 SY	35+40 LT	11.0'
33 SY	37+05 LT	14.0'

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
16 SF	34+49 LT	8.0'
16 SF	34+91 LT	8.0'

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
197 SF	30+50 LT	31+50 LT
578 SF	32+94 LT	34+40 LT

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
108 SF	34+31 LT	34+49 LT
114 SF	34+91 LT	35+09 LT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
147 LF	33+32 LT	34+57 LT
147 LF	34+84 LT	36+06 LT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED BIOSWALE
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED ASPHALT DRIVEWAY PAVEMENT
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

PS–05 ROADWAY PLAN

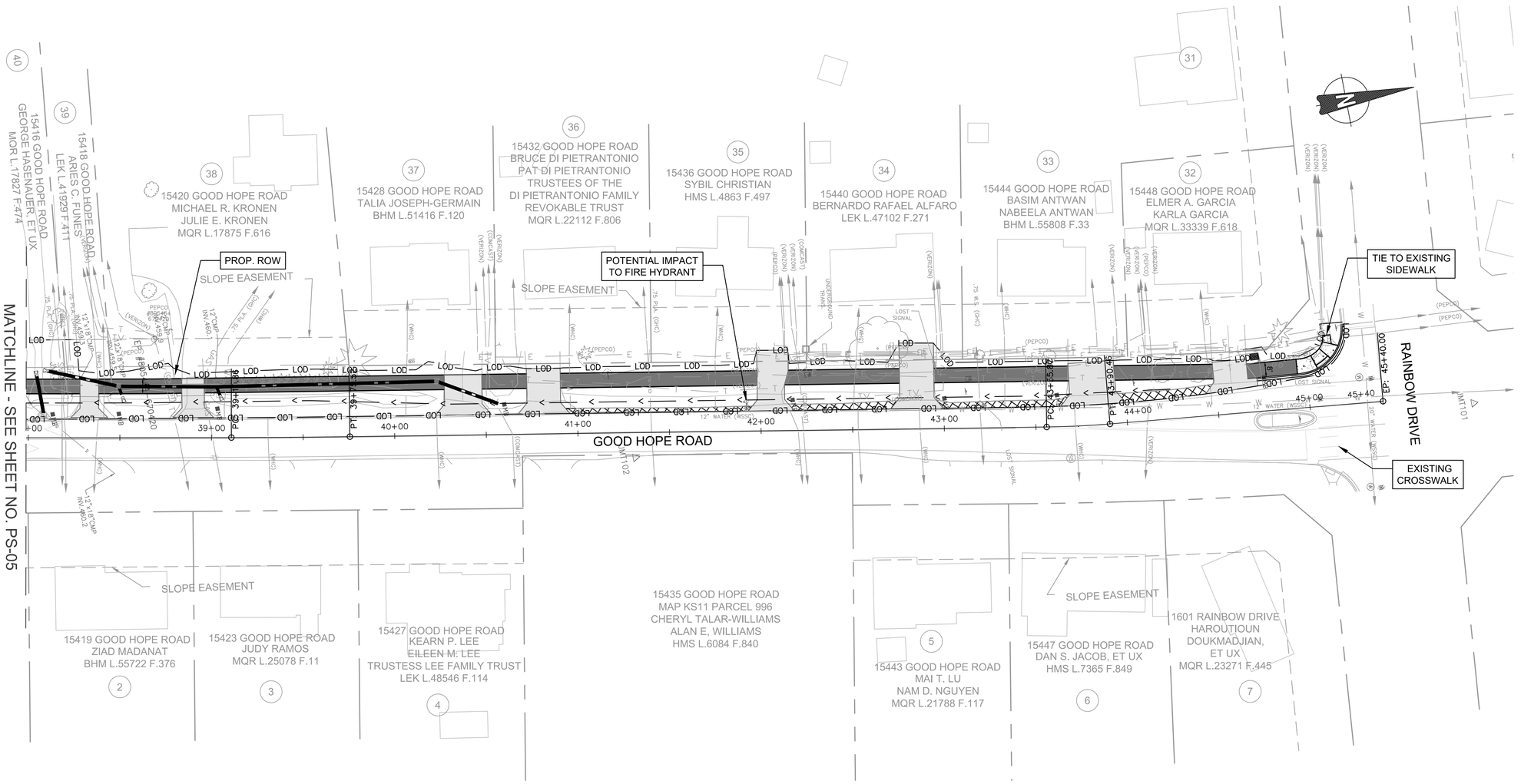
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No.: 501902 SHEET 17 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHD_GoodHope.dwg LAYOUT NAME: PS-05 PLOTTED: Tuesday, November 24, 2020 – 10:00am USER: AHavener



REMOVE AND RELOCATE MAILBOX	
QUANTITY	STATION
1 EA	38+13 LT
1 EA	38+50 LT
1 EA	39+05 LT
1 EA	40+60 LT
1 EA	42+17 LT
1 EA	43+00 LT
1 EA	43+62 LT
1 EA	44+75 LT

SIDEPATH		
QUANTITY	FROM	TO
226 SF	38+00 LT	38+28 LT
363 SF	38+39 LT	38+83 LT
1,048 SF	38+96 LT	40+27 LT
195 SF	40+48 LT	40+73 LT
859 SF	40+92 LT	41+98 LT
493 SF	42+11 LT	42+75 LT
589 SF	42+95 LT	43+67 LT
431 SF	43+94 LT	44+48 LT
218 SF	44+67 LT	44+94 LT

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
27 SY	38+34 LT	11.0'
32 SY	38+90 LT	13.0'
53 SY	40+37 LT	21.0'
54 SY	40+82 LT	19.0'
62 SY	42+05 LT	13.0'
78 SY	42+85 LT	20.0'
69 SY	43+81 LT	27.0'
37 SY	44+58 LT	19.0'

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
16 SF	45+10 LT	8.0'

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
246 SF	40+92 LT	41+98 LT
212 SF	42+11 LT	42+75 LT
247 SF	42+95 LT	43+67 LT
261 SF	43+94 LT	44+48 LT

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
210 SF	44+94 LT	45+18 LT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
65 LF	44+72 LT	45+21 LT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- PROPOSED BIOSWALE
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED ASPHALT DRIVEWAY PAVEMENT
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

PS–06 ROADWAY PLAN

GOOD HOPE ROAD SHARED USE PATH

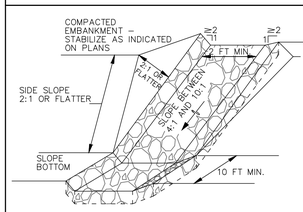
0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No.: 501902 SHEET 18 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHD_GoodHope.dwg LAYOUT NAME: PS-06 PLOTTED: Tuesday, November 24, 2020 – 10:00am USER: AHavener

VEGETATED RIPRAP DITCH DETAIL



ISOMETRIC VIEW

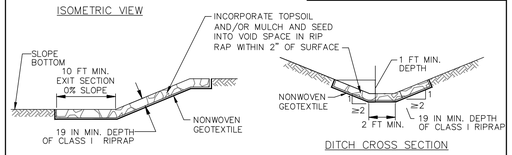
Riparian Seed Mix		
% of mix by species (20 lbs/acre native spp.)	Common Name	Species
25%	Creeping red fescue	Festuca rubra
20%	Virginia wild rye	Elymus virginicus
15%	Purple Top	Tridens flavus
30%	Riverbank wild rye	Elymus riparius
10%	Deer tongue grass	Dichanthelium clandestinum

Erosion Control to be Included in Mix		
lbs Per Acre	Type	Usage Dates
50	Oats or Barley	Nov. 1st thru March 15th
15	Foxtail Millet	May 15th thru Aug 15th
25	Annual Ryegrass	March 16th thru May 14th and Aug 16th thru Oct. 31st

This native seed mix has an application rate of 20+/- lbs/acre.

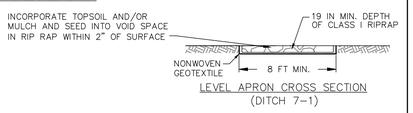
Add an inexpensive, erosion control seed (types listed above) and spread at the appropriate rate.

Therefore, if the native seed is 20 lbs/acre and the erosion control grass is 15 lbs/acre, total rate will be 35 lbs seed total/acre.



PROFILE ALONG CENTERLINE

DITCH CROSS SECTION

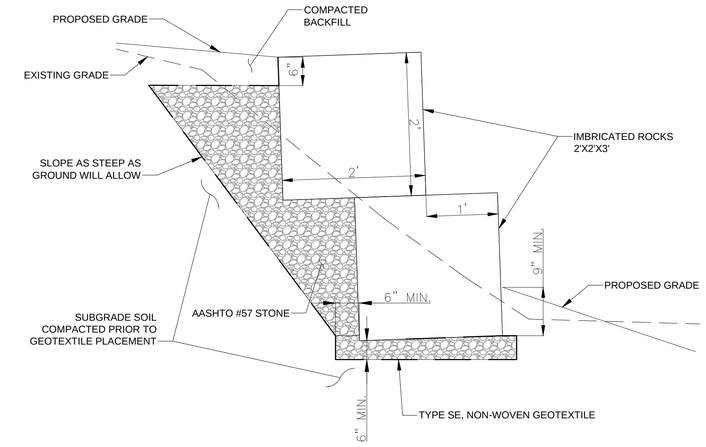


LEVEL APRON CROSS SECTION
(DITCH 7–1)

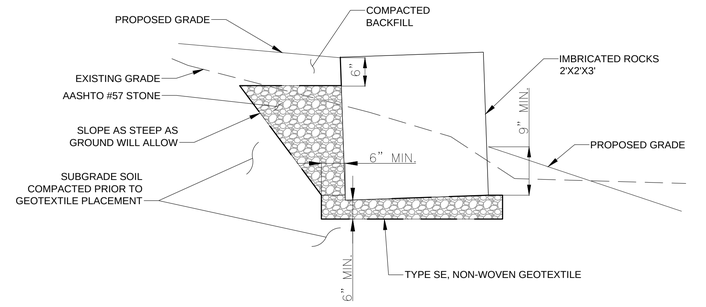
CONSTRUCTION SPECIFICATIONS

1. PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
2. CONSTRUCT DITCH WITH CLASS I RIPRAP LINING TO A MINIMUM DEPTH OF 19 INCHES ($2 \times D_{50}$) AND A 1 FOOT DEEP FLOW CHANNEL. RIPRAP PROTECTION DITCH MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 3:1 OR FLATTER SIDE SLOPES AND A 2 FOOT MINIMUM BOTTOM WIDTH (SEE SCHEDULE).
3. INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
4. BLEND RIPRAP INTO EXISTING GROUND.
5. MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.
6. PLACE TOPSOIL/MULCH AS INDICATED AND SEED IN ACCORDANCE WITH THE RIPARIAN SEED MIX TABLE.

DITCH #	BOTTOM WIDTH (FT)	RIGHT SIDE SLOPE (z:1)	LEFT SIDE SLOPE (z:1)	LINING
Ditch 2-1	3	3	3	CLASS I RIPRAP
Ditch 3-1	3	3	3	CLASS I RIPRAP
Ditch 6-1	2	3	3	CLASS I RIPRAP
Ditch 7-1	2	3	3	CLASS I RIPRAP

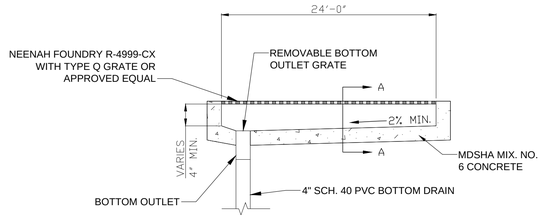


TWO LAYERS



SINGLE LAYER

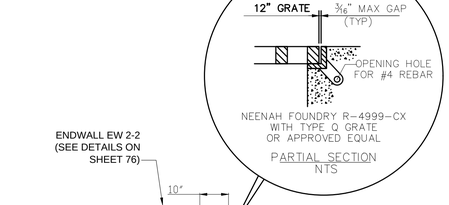
IMBRICATED ROCK DETAILS
NOT TO SCALE

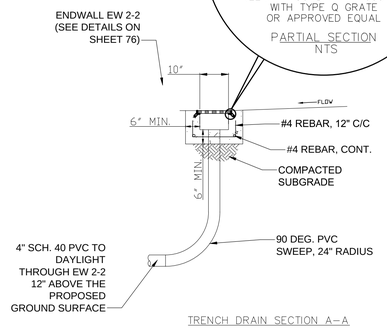


TRENCH DRAIN PROFILE
NOT TO SCALE

TRENCH DRAIN NOTES:

1. RECOMPACT SUBGRADE SOILS FOLLOWING EXISTING PAVEMENT REMOVAL AND INSTALLATION OF DRAIN PIPE. ANY SUBGRADE SOILS THAT ARE SOFT, WET, OR WOULD PREVENT COMPACTION SHALL BE REMOVED AND REPLACED WITH GRANULAR BACKFILL MATERIAL. CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGING ANY BURIED PIPES OR UTILITIES DURING COMPACTION.
2. INSTALL TRENCH DRAIN FRAME AND GRATE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
3. BOTTOM OUTLET SHALL HAVE A REMOVABLE OUTLET GRATE SECURED WITH SCREWS.





TRENCH DRAIN SECTION A–A

TRENCH DRAIN DETAILS
NOT TO SCALE

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

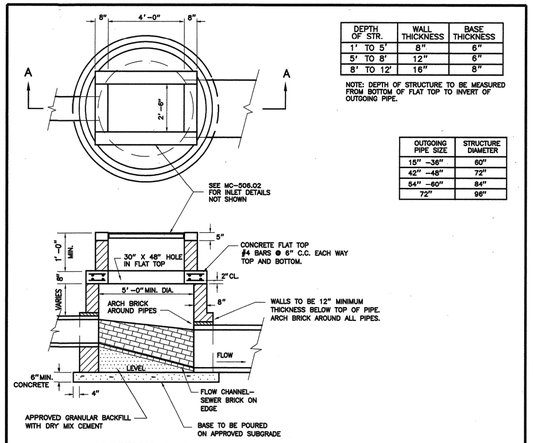
DD–01 DRAINAGE DETAILS
DRAINAGE DESIGN

GOOD HOPE ROAD
SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 19 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\p00_P001_GoodHope.dwg LAYOUT NAME: DD–01 DRAINAGE DETAILS PLOTTED: Tuesday, November 24, 2020 – 12:35pm USER: Kevin



DEPTH OF STR.	WALL THICKNESS	BASE THICKNESS
1' TO 5'	8"	6"
5' TO 8'	12"	6"
8' TO 12'	16"	8"

NOTE: DEPTH OF STRUCTURE TO BE MEASURED FROM BOTTOM OF FLAT TOP TO INVERT OF OUTGOING PIPE.

OUTGOING PIPE SIZE	STRUCTURE DIAMETER
15" –36"	60"
42" –48"	72"
54" –60"	84"
72"	96"

SECTION A–A

GENERAL NOTES

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS. USE OF M.C.D.O.T. APPROVED PRECAST CONCRETE STRUCTURES MAY BE USED IN PLACE OF BRICK MASONRY.
3. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
4. PROVIDE STEPS IN CHANNELS OF STRUCTURES. REFER TO MC-520.01 FOR DETAILS.
5. f'c = 3,500 P.S.I. AT 28 DAYS.
6. TWO 4"ø WEEP HOLES TO BE PLACED OPPOSITE EACH OTHER AT CROWN OF CHANNEL. COVER OPENING WITH 1/2" HARDWARE CLOTH.
7. INSTALL FOUNDATION DRAINAGE MATERIAL 1' MINIMUM THICKNESS AROUND STRUCTURE FROM BOTTOM OF WEEP HOLES TO WITHIN 8" OF FINISHED GRADE.
8. PARGE OUTSIDE WALLS.

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

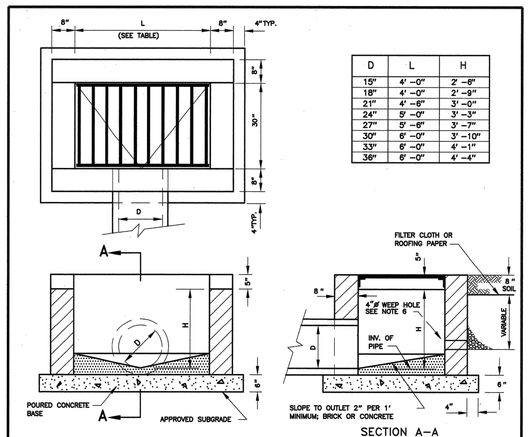
REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

"J" INLET

STANDARD NO. MC-506.01

P:\DOT\STD\MC506D1 6-24-94 9:48A on EST



D	L	H
15"	4'–0"	2'–8"
18"	4'–0"	2'–9"
21"	4'–6"	3'–0"
24"	5'–0"	3'–3"
27"	5'–6"	3'–7"
30"	6'–0"	3'–10"
33"	6'–0"	4'–1"
36"	6'–0"	4'–4"

SECTION A–A

GENERAL NOTES

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION SPECIFICATIONS FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. PROVIDE GRATE PER M.S.H.A. STD. NO. MD-377.02 MODIFIED WITH BARS 3" O.C.; TACK WELD IN PLACE.
3. CONSTRUCTION TO BE OF CONCRETE OR BRICK MASONRY.
4. STEEL VERTICAL 1/2" ø BARS, 6" C.C., HORIZONTAL 1/2" ø BARS, 6" C.C.; BOTTOM 1/2" ø BARS 6" C.C. EACH WALL, 2" MIN. COVER. (WITH CONCRETE CONSTRUCTION)
5. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
6. WEEP HOLES TO BE PLACED IN WALL OPPOSITE OUTLET PIPE 5" ABOVE PIPE INVERT. COVER OPENING WITH 1/2" HARDWARE CLOTH. INSTALL FOUNDATION DRAINAGE MATERIAL AROUND STRUCTURE FROM BOTTOM OF WEEP HOLES TO WITHIN 8" OF SURFACE FOR A THICKNESS OF 12" MINIMUM.
7. BRICK SHALL CONFORM TO AASHTO DESIGNATION M-114 GRADE SW.
8. f'c = 3500 PSI AT 28 DAYS.
9. PARGE OUTSIDE WALLS.

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

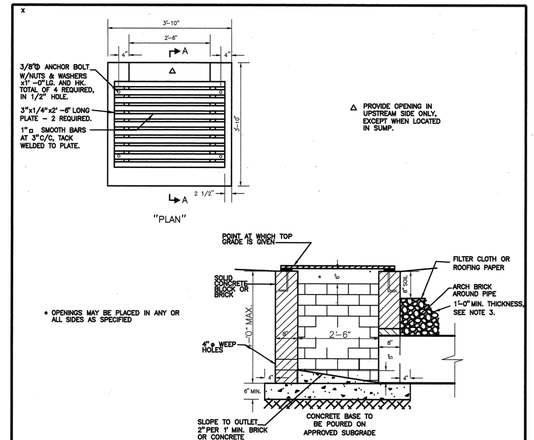
REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

"J" INLET AS A TERMINUS

STANDARD NO. MC-506.02

P:\DOT\STD\MC506E 6-24-94 9:43A7 on EST



SECTION "A–A"

GENERAL NOTES

1. E INLET TO BE USED AS TERMINAL INLETS ONLY.
2. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS.
3. INSTALL FOUNDATION DRAINAGE MATERIAL AROUND STRUCTURE FROM BOTTOM OF WEEP HOLES TO WITHIN 8" OF SURFACE. MIN 1' FROM WALL.
4. WEEP HOLES TO BE PLACED IN WALL OPPOSITE OUTLET PIPE 5" ABOVE PIPE INVERT. COVER OPENING WITH 1/2" HARDWARE CLOTH.
5. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C 270 TYPE M.
6. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
7. f'c=3,500 PSI AT 28 DAYS.

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

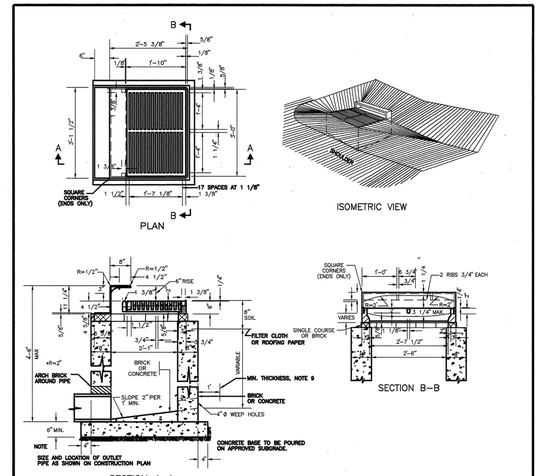
REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

"E" INLET

STANDARD NO. MC-504.01

P:\DOT\STD\MC504E 7-1-94 11:05A59 on EST



GENERAL NOTES

1. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS.
2. THROAT OPENING MAY BE PARALLEL OR PERPENDICULAR TO DITCH.
3. USE AS TERMINAL INLET ONLY.
4. WEEP HOLES TO BE PLACED IN WALL OPPOSITE OUTLET PIPE 5" ABOVE PIPE INVERT. COVER OPENING WITH 1/2" HARDWARE CLOTH.
5. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
6. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
7. f'c=3,500 PSI AT 28 DAYS.
8. C.I. FRAME AND GRATING TO CONFORM TO FED. SPECS. Q.Q–I–652 (6) (1).
9. INSTALL FOUNDATION DRAINAGE MATERIAL AROUND STRUCTURE FROM BOTTOM OF WEEP HOLES TO WITHIN 8" OF SURFACE.

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

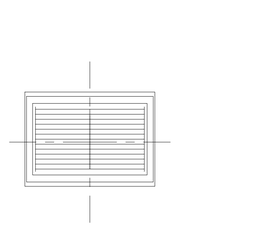
REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

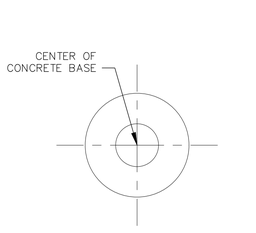
"E-4" INLET

STANDARD NO. MC-505.01

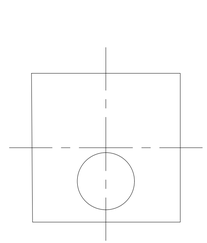
P:\DOT\STD\MC505E 7-1-94 11:06A59 on EST



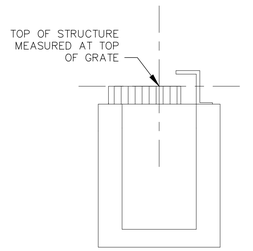
STATION AND OFFSET LOCATION FOR SQUARE/RECTANGULAR BASE INLETS



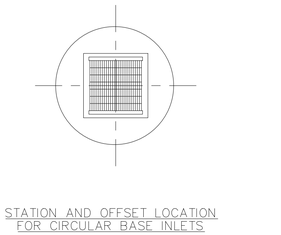
STATION AND OFFSET LOCATION FOR CIRCULAR MANHOLES



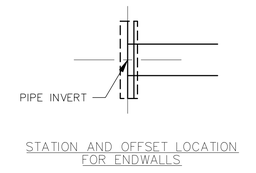
STATION AND OFFSET LOCATION FOR SQUARE MANHOLES



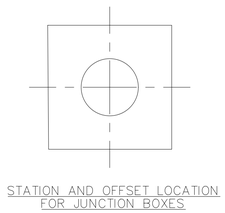
TOP OF STRUCTURE (T.S.) LOCATION FOR TYPE E–4 INLETS INLETS



STATION AND OFFSET LOCATION FOR CIRCULAR BASE INLETS



STATION AND OFFSET LOCATION FOR ENDWALLS



STATION AND OFFSET LOCATION FOR JUNCTION BOXES

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

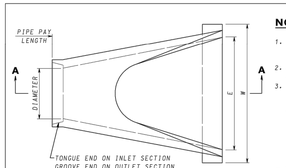
DD–02 DRAINAGE DETAILS
DRAINAGE DESIGN

GOOD HOPE ROAD SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 20A of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\DD_Working\pDD_P001_GoodHope.dwg LAYOUT NAME: DD–02 DRAINAGE DETAILS PLOTTED: Tuesday, November 24, 2020 – 12:35pm USER: Kevin

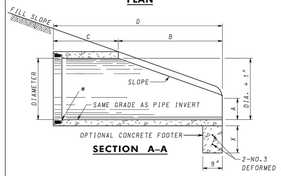


PLAN

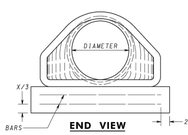
NOTES

1. CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR END SECTIONS CONFORMING TO DETAILS ON STANDARD MD 368.02.
2. END SECTIONS MUST BE REINFORCED TO CONFORM TO ASTM - CLASS IV REINFORCED CONCRETE PIPE.
3. CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE INCLUDED IN PRICE OF END SECTION. CONCRETE TO BE MIX. NO.2. REINFORCEMENT TO BE NO.3 BARS.

* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.



SECTION A-A

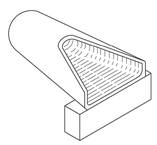


END VIEW

QUANTITIES FOR ESTIMATING PURPOSES ONLY

DIMENSIONS								QUANTITIES	
CONCRETE END SECTION						CONCRETE FOOTER			
DIA.	SLOPE	A	B	C	D	E	W	X	CONC. C.Y.	STEEL LBS.
12"	3:1	4"	2'-0"	4'-0⅝"	6'-0⅝"	2'-0"	3'-0"	12"	0.08	2.01
15"	3:1	6½"	2'-4"	3'-10"	6'-2"	2'-4"	3'-4"	12"	0.10	2.38
18"	3:1	10¼"	2'-2"	4'-0"	6'-2"	3'-0"	4'-0"	12"	0.11	2.76
21"	3:1	9"	3'-0"	3'-11½"	6'-11½"	3'-6"	4'-6"	12"	0.13	3.13
24"	3:1	11"	3'-7"	2'-8"	6'-3"	4'-0"	5'-0"	15"	0.17	3.51
27"	3:1	10¾"	4'-1½"	2'-0"	6'-1½"	4'-6"	5'-6"	15"	0.19	3.89
30"	3:1	1'-1"	4'-6"	1'-10"	6'-3"	5'-0"	6'-0"	15"	0.21	4.26
33"	3:1	1'-2"	4'-7"	2'-2"	6'-9"	5'-6"	6'-6"	15"	0.23	4.64
36"	3:1	1'-3½"	5'-3"	3'-1"	8'-4"	6'-0"	7'-3"	15"	0.25	5.20

SEE NOTE 3 ABOVE FOR CONCRETE FOOTER



ISOMETRIC VIEW

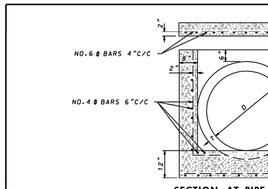
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 8-28-86	APPROVAL 12-12-86
	REVISED 3-15-06	REVISED 4-05-06
	REVISED 7-1-09	REVISED 7-27-09
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE

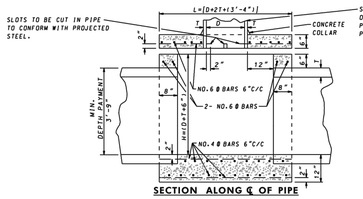
STANDARD NO. MD 368.01



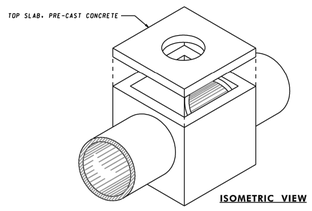
CONCRETE SHALL BE MIX NO.2
REINFORCEMENT-DEFORMED BARS

NOTE: NO PROVISION IS TO BE MADE IN SLAB FOR INTAKE PIPE WHEN NOT NEEDED.

SECTION AT PIPE OPENING



SECTION ALONG ℄ OF PIPE



ISOMETRIC VIEW

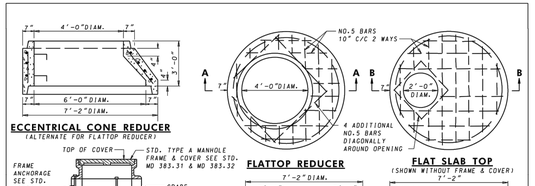
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 2-7-51	APPROVAL 3-23-56
	REVISED 10-1-01	REVISED
	REVISED	REVISED
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

STANDARD JUNCTION BOX

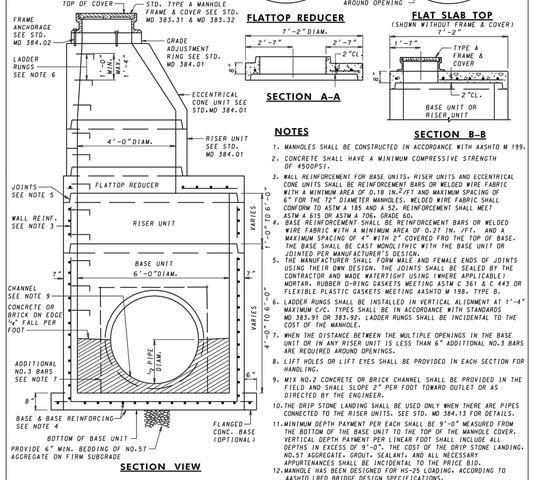
STANDARD NO. MD 386.11



ECCENTRICAL CONE REDUCER
(ALTERNATE FOR FLATTOP REDUCER)

FLATTOP REDUCER

FLAT SLAB TOP
(SHOWN WITHOUT FRAME & COVER)



SECTION VIEW

SECTION A-A

SECTION B-B

NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500PSI.
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.18 IN.²/FT AND MAXIMUM SPACING OF 6" FOR THE 72" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT SHALL MEET ASTM A 615 OR ASTM A 706, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.27 IN. /FT. AND A MAXIMUM SPACING OF 4" WITH 2" COVERED FRO THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE BASE UNIT OR JOINTED PER MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198, TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. TYPES SHALL BE IN ACCORDANCE WITH STANDARDS NO.383.91 OR 383.92. LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN THE MULTIPLE OPENINGS IN THE BASE UNIT OR IN ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. MD 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO.57 AGGREGATE, GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.
12. MANHOLE HAS BEEN DESIGNED FOR HS-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

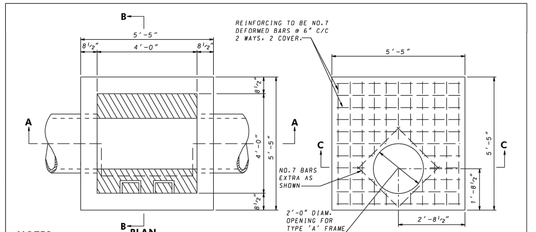
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 2-22-91	APPROVAL 1-2-91
	REVISED 4-12-16	REVISED 3-4-16
	REVISED	REVISED
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

72" DIAMETER PRECAST MANHOLE FOR 42" & 48" PIPES

STANDARD NO. MD 384.05



PLAN
(SHOWN WITHOUT CONC. SLAB)

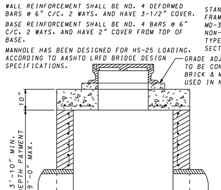
CONCRETE SLAB
(CONCRETE MIX NO.2)

NOTES

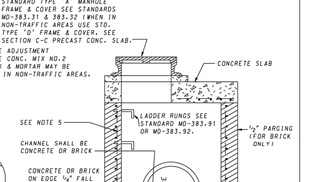
1. THIS MANHOLE IS FOR PIPES UP TO 36" DIAMETER.
2. MANHOLE SHALL BE CONSTRUCTED OF REINFORCED CONCRETE (MIX NO. 2), BRICK AND MORTER MAY BE USED IN NON-TRAFFIC AREAS ONLY
3. BENCH HEIGHT ABOVE OUTGOING PIPE INVERT SHALL BE HALF THE DIAMETER OF THE PIPE.
4. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF THE 3'-10".
5. WALL REINFORCEMENT SHALL BE NO. 4 DEFORMED BARS @ 6" C/C. 2 WAYS. AND HAVE 2-1/2" COVER.
6. BASE REINFORCEMENT SHALL BE NO. 4 BARS @ 6" C/C. 2 WAYS. AND HAVE 2" COVER FROM TOP OF BASE.
7. MANHOLE HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

FOR DETAILS OF TYPE 'D' FRAME & COVER SEE STD. MD 383.61

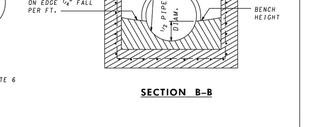
STANDARD TYPE 'A' MANHOLE FRAME & COVER SEE STANDARDS MD-383.31 & 383.32 (WHEN IN NON-TRAFFIC AREAS USE STD. TYPE 'D' FRAME & COVER. SEE SECTION C-C PRECAST CONC. SLAB.



SECTION A-A



SECTION B-B



SECTION C-C
PRECAST CONC. SLAB WITH TYPE 'D' FRAME & COVER (NON-TRAFFIC AREAS)

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 10-1-01	APPROVAL 3-1-83
	REVISED 10-1-01	REVISED 4-26-89
	REVISED 10-7-14	REVISED 9-29-14
	REVISED	REVISED

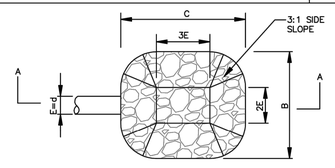
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

48" SQUARE STANDARD SHALLOW MANHOLE

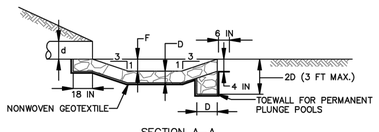
STANDARD NO. MD 383.00

DETAIL D-4-2 PLUNGE POOL

STANDARD SYMBOL: PP



PLAN VIEW



SECTION A-A

CONSTRUCTION SPECIFICATIONS

1. USE SPECIFIED CLASS OF RIPRAP.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCHING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE.
3. PREPARE THE SUBGRADE FOR THE PLUNGE POOL TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
4. EMBED THE GEOTEXTILE A MINIMUM OF 4 INCHES AND EXTEND THE GEOTEXTILE A MINIMUM OF 6 INCHES BEYOND THE EDGE OF THE SCOUR HOLE.
5. STONE FOR THE PLUNGE POOL MAY BE PLACED BY EQUIPMENT. CONSTRUCT TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. DELIVER AND PLACE THE STONE FOR THE PLUNGE POOL IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE STONE FOR THE PLUNGE POOL IN A MANNER TO PREVENT DAMAGE TO THE GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
6. AT THE PLUNGE POOL OUTLET, PLACE THE STONE SO THAT IT MEETS THE EXISTING GRADE.
7. MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

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

PLUNGE POOL	DEPTH (F)	WIDTH (B)	LENGTH (C)	BOTTOM LENGTH (3E)	BOTTOM WIDTH (2E)	RIPRAP THICKNESS (D)	LINING
	FT	FT	FT	FT	FT	FT	
AT OUTFALL OF ES-2-1	0.75	7.5	9	VARIES, MIN OF 4.5	3	1.58	CLASS I RIPRAP
AT OUTFALL OF ES-7-1	0.63	6.25	8	3.75	2.5	1.58	CLASS I RIPRAP
AT OUTFALL OF ES-12-3 AND ES-12-1	0.75	VARIES, MIN OF 8.5	VARIES, MIN OF 4	VARIES, MIN OF 4.5	VARIES, MIN OF 4	1.58	CLASS I RIPRAP

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

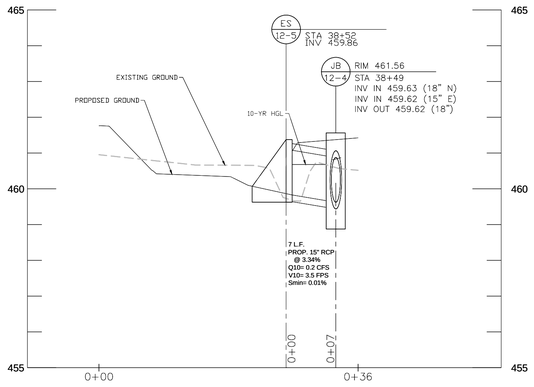
Designed by: KJS Drawn by: KJS Checked by: DZ

DD-03 DRAINAGE DETAILS
DRAINAGE DESIGN

GOOD HOPE ROAD SHARED USE PATH

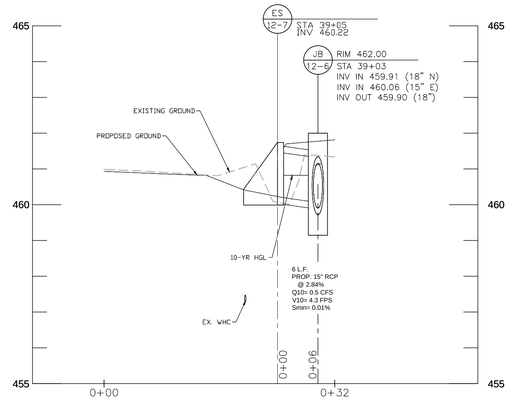
SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 20B of 114



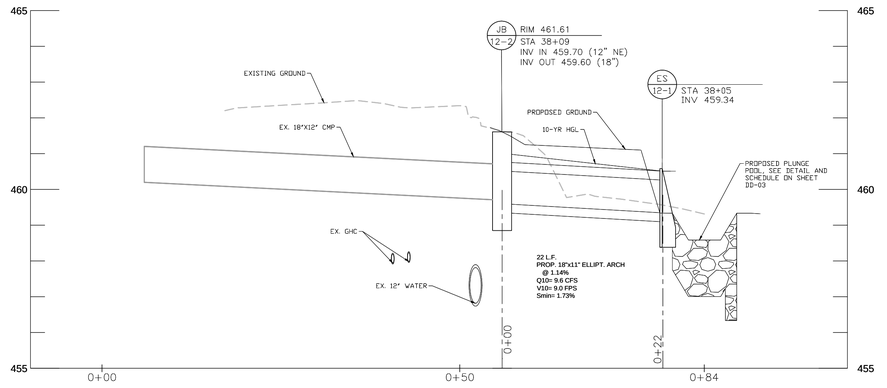
ES-12-5 TO JB-12-4

SCALE: HORIZ. 1"=10' VERT. 1"=2'



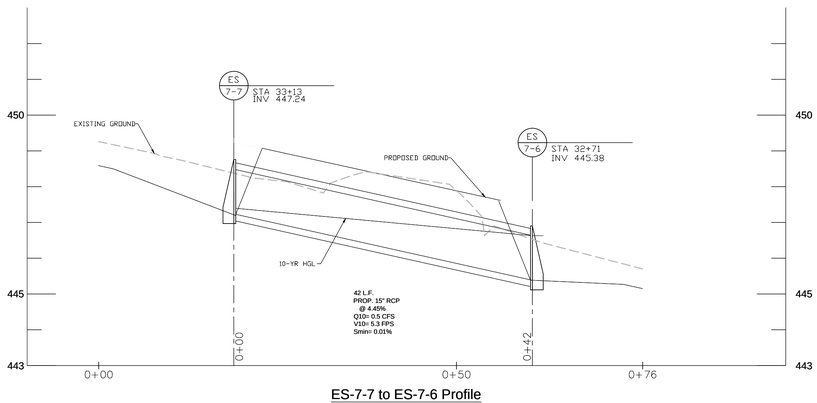
ES-12-7 TO JB-12-6

SCALE: HORIZ. 1"=10' VERT. 1"=2'



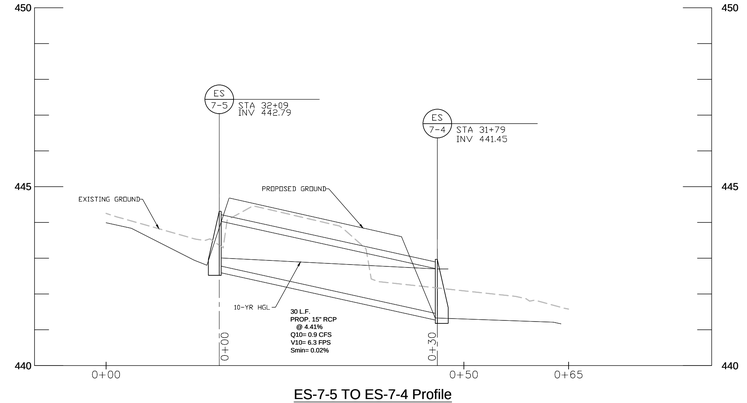
Ex. Pipe to ES-12-1

SCALE: HORIZ. 1"=10' VERT. 1"=2'



ES-7-7 to ES-7-6 Profile

SCALE: HORIZ. 1"=10' VERT. 1"=2'



ES-7-5 TO ES-7-4 Profile

SCALE: HORIZ. 1"=10' VERT. 1"=2'

NOTE:

THE PROFILES FOR THE JELLYFISH FILTER AND ASSOCIATED STRUCTURES AND PIPING ARE LOCATED ON SHEET 43 – SWM-09 PROFILE (JFF 2-3).

0 10' 20'

HORIZONTAL SCALE: 1"=10'

0 1' 2'

VERTICAL SCALE: 1"=1'

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

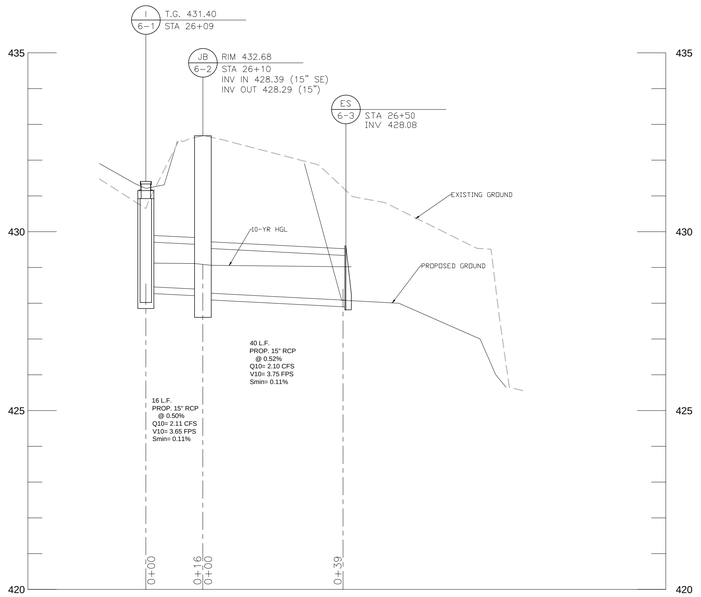
Designed by: KJS Drawn by: KJS Checked by: DZ

DP-01 DRAINAGE PROFILES

GOOD HOPE ROAD SHARED USE PATH

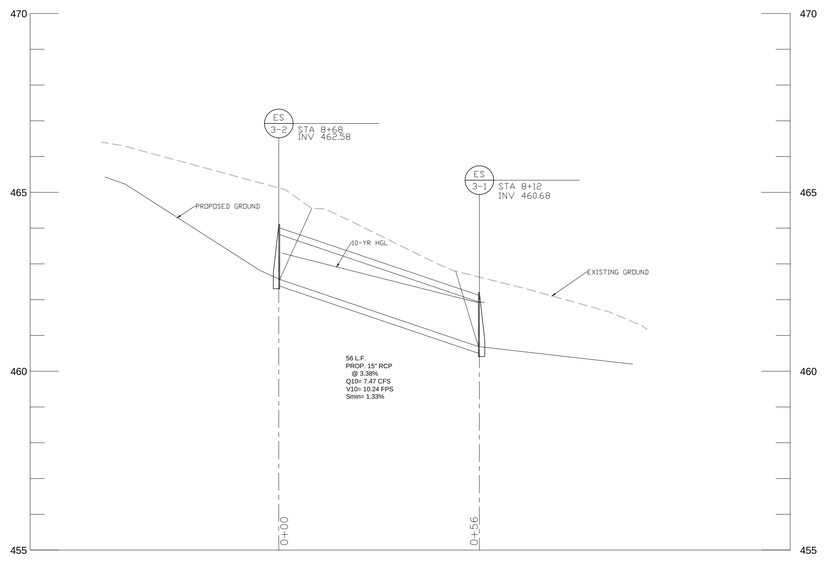
SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 21 of 114



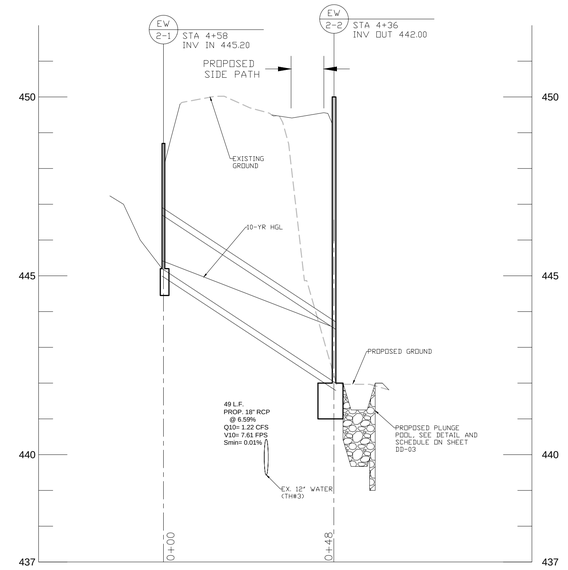
I-6-1 to ES-6-3 Profile

SCALE: HORIZ. 1"=20' VERT. 1"=2'



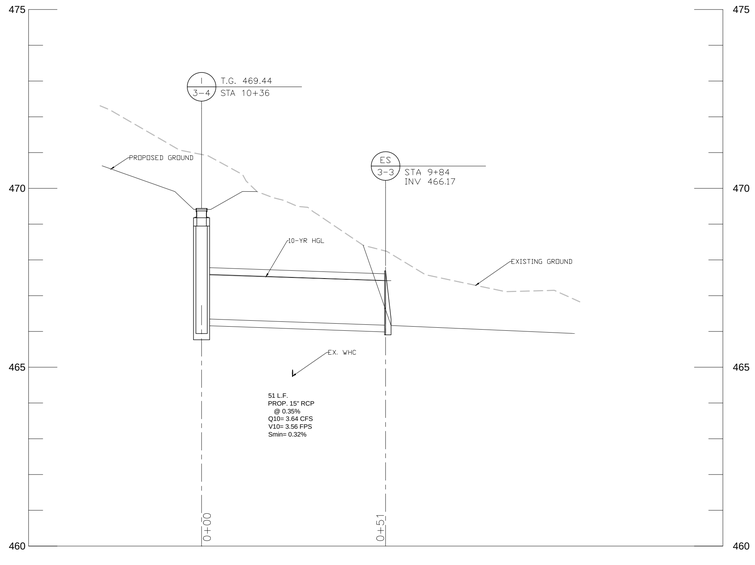
ES-3-2 to ES-3-1 Profile

SCALE: HORIZ. 1"=20' VERT. 1"=2'



EW-2-2 To EW-2-1 Profile

SCALE: HORIZ. 1"=20' VERT. 1"=2'



I-3-4 to ES-3-3 Profile

SCALE: HORIZ. 1"=20' VERT. 1"=2'

NOTE:

THE PROFILES FOR THE JELLYFISH FILTER AND ASSOCIATED STRUCTURES AND PIPING ARE LOCATED ON SHEET 43 – SWM-09 PROFILE (JFF 2-3).

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

0 2' 4'
VERTICAL SCALE: 1"=2'

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

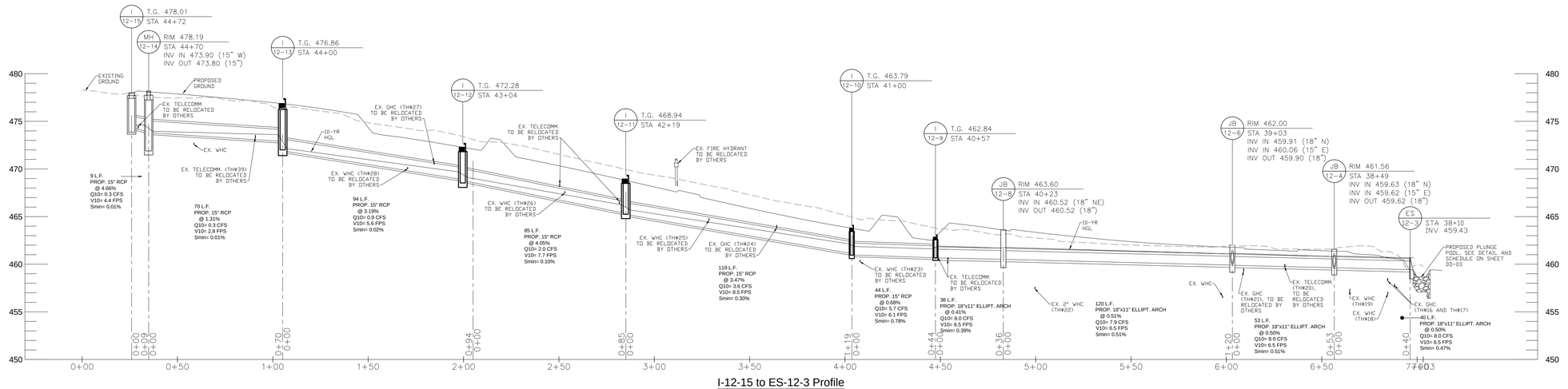
Designed by: KJS Drawn by: KJS Checked by: DZ

DP-02 DRAINAGE PROFILES

GOOD HOPE ROAD SHARED USE PATH

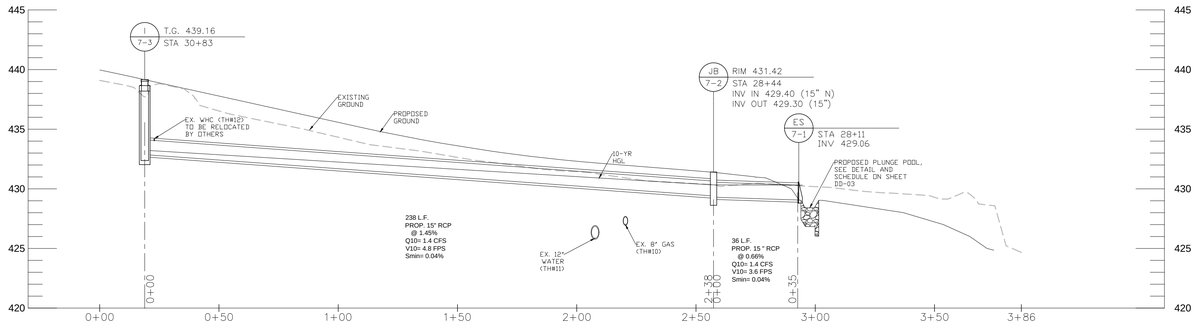
SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 22 of 114



I-12-15 to ES-12-3 Profile

SCALE: HORIZ. 1"=30' VERT. 1"=6'



I-7-3 to ES-7-1 Profile

SCALE: HORIZ. 1"=30' VERT. 1"=6'

NOTE:

THE PROFILES FOR THE JELLYFISH FILTER AND ASSOCIATED STRUCTURES AND PIPING ARE LOCATED ON SHEET 43 – SWM-09 PROFILE (JFF 2-3).

0 30' 60'
HORIZONTAL SCALE: 1"=30'

0 6' 12'
VERTICAL SCALE: 1"=6'

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

DP-03 DRAINAGE PROFILES

GOOD HOPE ROAD SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 23 of 114

STRUCTURE SCHEDULE

STRUCTURE	NORTHING	EASTING	STATION	OFFSET	BASELINE	T.S./RIM ELEV.	STD. NO.	TYPE	CONNECTED PIPES	INVERT IN	INVERT OUT	NOTES
ES-12-1	525132.8	1318084.0	38+04.6	34.3 LT	GOOD HOPE RD	460.58	MD 368.01	END SECTION	1	459.34'		STANDARD CONCRETE END SECTION
ES-12-3	525139.0	1318082.9	38+10.4	36.5 LT	GOOD HOPE RD	460.66	MD 368.01	END SECTION	1	459.43'		STANDARD CONCRETE END SECTION
ES-12-5	525176.7	1318105.4	38+51.7	21.5 LT	GOOD HOPE RD	461.38	MD 368.01	END SECTION	1		459.86'	STANDARD CONCRETE END SECTION
ES-12-7	525229.2	1318114.5	39+04.9	22.4 LT	GOOD HOPE RD	461.74	MD 368.01	END SECTION	1		460.22'	STANDARD CONCRETE END SECTION
I-12-9	525377.1	1318146.9	40+56.5	17.0 LT	GOOD HOPE RD	462.84	MC-505.01	TYPE E-4	2	460.67'	460.66'	TYPE E-4 INLET
I-12-10	525420.3	1318154.6	41+00.4	17.0 LT	GOOD HOPE RD	463.79	MC-505.01	TYPE E-4	2	461.12'	460.97'	TYPE E-4 INLET
I-12-11	525536.9	1318175.4	42+18.9	17.0 LT	GOOD HOPE RD	468.94	MC-505.01	TYPE E-4	2	465.33'	465.23'	TYPE E-4 INLET
I-12-12	525621.1	1318190.4	43+04.4	17.0 LT	GOOD HOPE RD	472.28	MC-505.01	TYPE E-4	2	468.88'	468.79'	TYPE E-4 INLET
I-12-13	525714.3	1318205.1	44+00.0	17.1 LT	GOOD HOPE RD	476.86	MC-505.01	TYPE E-4	2	472.88'	471.90'	TYPE E-4 INLET
I-12-15	525787.3	1318199.9	44+72.0	30.0 LT	GOOD HOPE RD	478.01	MC-506.02	TYPE J	1		474.32'	TYPE J INLET AS TERMINUS
JB-12-2	525132.6	1318106.4	38+08.6	12.2 LT	GOOD HOPE RD	461.61	MD 386.11	JUNCTION BOX	2	459.70'	459.60'	
JB-12-4	525175.6	1318098.5	38+49.4	28.0 LT	GOOD HOPE RD	461.56	MD 386.11	JUNCTION BOX	3	459.63' 459.62'	459.62'	
JB-12-6	525228.1	1318108.9	39+02.8	27.7 LT	GOOD HOPE RD	462.00	MD 386.11	JUNCTION BOX	3	459.91' 460.06'	459.90'	
JB-12-8	525346.5	1318128.7	40+23.2	29.6 LT	GOOD HOPE RD	463.60	MD 386.11	JUNCTION BOX	2	460.52'	460.52'	
MH-12-14	525784.6	1318208.5	44+70.2	21.3 LT	GOOD HOPE RD	478.19	MD 383.00	MANHOLE	2	473.90'	473.80'	48" SQUARE STANDARD SHALLOW MANHOLE

PIPE SCHEDULE

FROM	TO	INV. UP	INV. DOWN	LENGTH	SLOPE	SIZE	TYPE
ES-12-5	JB-12-4	459.86	459.62	7'	3.34%	15"	REINFORCED CONCRETE PIPE
ES-12-7	JB-12-6	460.22	460.06	6'	2.84%	15"	REINFORCED CONCRETE PIPE
I-12-9	JB-12-8	460.66	460.52	36'	0.41%	18"	18"X11" CONCRETE ELLIPTICAL ARCH PIPE
I-12-10	I-12-9	460.97	460.67	44'	0.68%	15"	REINFORCED CONCRETE PIPE
I-12-11	I-12-10	465.23	461.12	119'	3.47%	15"	REINFORCED CONCRETE PIPE
I-12-12	I-12-11	468.79	465.33	86'	4.05%	15"	REINFORCED CONCRETE PIPE
I-12-13	I-12-12	471.90	468.88	94'	3.19%	15"	REINFORCED CONCRETE PIPE
I-12-15	MH-12-14	474.32	473.90	9'	4.66%	15"	REINFORCED CONCRETE PIPE
JB-12-2	ES-12-1	459.60	459.34	22'	1.14%	18"	18"X11" CONCRETE ELLIPTICAL ARCH PIPE
JB-12-4	ES-12-3	459.62	459.43	40'	0.50%	18"	18"X11" CONCRETE ELLIPTICAL ARCH PIPE
JB-12-6	JB-12-4	459.90	459.63	53'	0.50%	18"	18"X11" CONCRETE ELLIPTICAL ARCH PIPE
JB-12-8	JB-12-6	460.52	459.91	120'	0.51%	18"	18"X11" CONCRETE ELLIPTICAL ARCH PIPE
MH-12-14	I-12-13	473.80	472.88	70'	1.31%	15"	REINFORCED CONCRETE PIPE

PIPE SCHEDULE

FROM	TO	INV. UP	INV. DOWN	LENGTH	SLOPE	SIZE	TYPE
ES-7-5	ES-7-4	442.79	441.45	31'	4.41%	15"	REINFORCED CONCRETE PIPE
ES-7-7	ES-7-6	447.24	445.38	42'	4.45%	15"	REINFORCED CONCRETE PIPE
I-6-1	JB-6-2	428.47	428.39	16'	0.50%	15"	REINFORCED CONCRETE PIPE
I-7-3	JB-7-2	432.86	429.40	238'	1.45%	15"	REINFORCED CONCRETE PIPE
JB-6-2	ES-6-3	428.29	428.08	40'	0.52%	15"	REINFORCED CONCRETE PIPE
JB-7-2	ES-7-1	429.30	429.06	36'	0.66%	15"	REINFORCED CONCRETE PIPE

STRUCTURE SCHEDULE

STRUCTURE	NORTHING	EASTING	STATION	OFFSET	BASELINE	T.S./RIM ELEV.	STD. NO.	TYPE	CONNECTED PIPES	INVERT IN	INVERT OUT	NOTES
ES-6-3	524021.6	1317802.2	26+50.2	39.6 LT	GOOD HOPE RD	429.60	MD 368.01	END SECTION	1	428.08'		STANDARD CONCRETE END SECTION
ES-7-1	524168.1	1317858.6	28+10.7	33.8 LT	GOOD HOPE RD	430.58	MD 368.01	END SECTION	1	429.06'		STANDARD CONCRETE END SECTION
ES-7-4	524520.6	1317965.1	31+79.0	20.9 LT	GOOD HOPE RD	442.97	MD 368.01	END SECTION	1	441.45'		STANDARD CONCRETE END SECTION
ES-7-5	524549.5	1317974.7	32+09.4	19.0 LT	GOOD HOPE RD	444.31	MD 368.01	END SECTION	1		442.79'	STANDARD CONCRETE END SECTION
ES-7-6	524609.5	1317988.3	32+70.9	21.1 LT	GOOD HOPE RD	446.90	MD 368.01	END SECTION	1	445.38'		STANDARD CONCRETE END SECTION
ES-7-7	524650.0	1317998.4	33+12.6	21.8 LT	GOOD HOPE RD	448.76	MD 368.01	END SECTION	1		447.24'	STANDARD CONCRETE END SECTION
I-6-1	523977.6	1317803.1	26+09.4	23.0 LT	GOOD HOPE RD	431.40	MC-504.01	TYPE E	1		428.47'	TYPE E INLET
I-7-3	524427.2	1317941.8	30+82.7	19.5 LT	GOOD HOPE RD	439.16	MC-506.01	TYPE J	1		432.86'	TYPE J INLET
JB-6-2	523984.1	1317788.5	26+10.3	39.0 LT	GOOD HOPE RD	432.68	MD 386.11	JUNCTION BOX	2	428.39'	428.29'	
JB-7-2	524197.0	1317879.6	28+44.3	20.9 LT	GOOD HOPE RD	431.42	MD 386.11	JUNCTION BOX	2	429.40'	429.30'	

PIPE SCHEDULE

FROM	TO	INV. UP	INV. DOWN	LENGTH	SLOPE	SIZE	TYPE
ES-3-2	ES-3-1	462.58	460.68	56'	3.38%	15"	REINFORCED CONCRETE PIPE
EW-2-1	EW-2-2	445.20	442.00	49'	6.59%	18"	REINFORCED CONCRETE PIPE
I-2-6	MH-2-4	443.53	443.38	14'	1.00%	15"	REINFORCED CONCRETE PIPE
I-3-4	ES-3-3	466.35	466.17	51'	0.35%	15"	REINFORCED CONCRETE PIPE
JFF-2-3	EW-2-2	442.04	442.00	9'	0.50%	15"	REINFORCED CONCRETE PIPE
MH-2-4	JFF-2-3	442.72	442.54	36'	0.50%	15"	REINFORCED CONCRETE PIPE
MH-2-5	MH-2-4	442.72	442.72	104'	0.00%	48"	REINFORCED CONCRETE PIPE

STRUCTURE SCHEDULE

STRUCTURE	NORTHING	EASTING	STATION	OFFSET	BASELINE	T.S./RIM ELEV.	STD. NO.	TYPE	CONNECTED PIPES	INVERT IN	INVERT OUT	NOTES
ES-3-1	522279.9	1317227.8	8+12.2	30.2 RT	GOOD HOPE RD	462.20	MD 368.01	END SECTION	1	460.68'		STANDARD CONCRETE END SECTION
ES-3-2	522327.3	1317257.8	8+68.3	30.0 RT	GOOD HOPE RD	464.09	MD 368.01	END SECTION	1		462.58'	STANDARD CONCRETE END SECTION
ES-3-3	522425.2	1317320.1	9+84.3	29.9 RT	GOOD HOPE RD	467.69	MD 368.01	END SECTION	1	466.17'		STANDARD CONCRETE END SECTION
EW-2-1	522005.7	1316998.8	4+57.9	15.5 LT	GOOD HOPE RD	447.92	MD 354.01	TYPE C	1		445.20'	STANDARD TYPE C ENDWALL
EW-2-2	521964.1	1317023.9	4+36.3	28.0 RT	GOOD HOPE RD	445.05	N/A	N/A	2	442.00'		CUSTOM ENDWALL (SEE SHEET X)
I-2-6	521925.5	1317008.2	3+95.3	35.5 RT	GOOD HOPE RD	446.32	MC-505.01	TYPE E-4	1		443.53'	TYPE E-4 INLET
I-3-4	522468.2	1317348.3	10+35.7	30.5 RT	GOOD HOPE RD	469.44	MC-506.02	TYPE J	1		466.35'	TYPE J INLET AS TERMINUS
JFF-2-3	521965.1	1317013.9	4+31.8	19.1 RT	GOOD HOPE RD	448.97	N/A	N/A	2	442.54'	442.04'	48" DIAMETER JELLYFISH FILTER
MH-2-4	521933.3	1316996.2	3+95.5	21.2 RT	GOOD HOPE RD	449.57	MD 383.00	MANHOLE	3	442.72' 443.38'	442.72'	48" SQUARE STANDARD SHALLOW MANHOLE
MH-2-5	521846.5	1316939.3	2+91.6	19.8 RT	GOOD HOPE RD	457.13	MD 384.05	MANHOLE	1		442.72'	STANDARD 72 INCH DIA. PRECAST MANHOLE

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

DP-04 DRAINAGE SCHEDULES

GOOD HOPE ROAD
SHARED USE PATH

SCALE: NONE DATE: NOVEMBER 2020

Project No.: 501902 SHEET 24 of 114

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. The permittee shall notify the Department of Permitting Services (DPS) forty–eight (48) hours before commencing any land disturbing activity and, unless waived by the Department, shall be required to hold a pre–construction meeting between them or their representative, their engineer and an authorized representative of the Department.

2. The permittee must obtain inspection and approval by DPS at the following points:

   A. At the required pre–construction meeting.

   B. Following installation of sediment control measures 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 time as they are removed with prior permission from the Department. The permittee is responsible for immediately repairing or replacing any sediment control measures which have been damaged or removed by the permittee or any other person.

6. Following initial soil disturbance or re–disturbance, permanent or temporary stabilization must be completed within:

   a) Three (3) calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical (3:1); and

   b) Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.

   All areas disturbed outside of the perimeter sediment control system must be minimized and stabilized immediately. Maintenance must be performed as necessary to ensure continued stabilization.

7. The permittee shall apply sod, seed and anchored straw mulch, or other approved stabilization measures to all disturbed areas within seven (7) calendar days after stripping and grading activities have ceased on that area. Maintenance shall be performed as necessary to ensure continued stabilization. Active construction areas such as borrow or stockpile areas, roadway improvements, and areas within fifty (50) feet of a building under construction may be exempt from this requirement, provided that erosion and sediment control measures are installed and maintained to protect those areas.

8. Prior to removal of sediment control measures, the permittee shall stabilize all contributory disturbed areas with required soil amendments and topsoil, using sod or an approved permanent seed mixture and an approved anchored mulch. Wood fiber mulch may only be used in seeding season when the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized within seven (7) calendar days of establishment. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, an approved temporary seed and straw anchored mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be completed prior to the following April 15.

9. The site permit, work, materials, approved SC/SM plans, and test reports shall be available at the site for inspection by duly authorized officials of Montgomery County.

10. Surface drainage flows over unstabilized cut and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing mechanical devices to lower the water down slope without causing erosion. Dikes shall be installed and maintained at the top of cut or fill slopes until the slope and drainage area to it are fully stabilized, at which time they must be removed and final grading done to promote sheet flow drainage. Mechanical devices must be provided at points of concentrated flow where erosion is likely to occur.

11. Permanent swales or other points of concentrated water flow shall be stabilized within 3 calendar days of establishment with sod or seed with an approved erosion control matting or by other approved stabilization measures.

12. Sediment control devices shall be removed, with permission of the Department, within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.

13. No permanent cut or fill slope with a gradient steeper than 3:1 will be permitted in lawn maintenance areas or on residential lots. A slope gradient of up to 2:1 will be permitted in non– maintenance areas provided that those areas are indicated on the erosion and sediment control plan with a low–maintenance ground cover specified for permanent stabilization. Slope gradient steeper than 2:1 will not be permitted with vegetative stabilization.

14. The permittee shall install a splashblock at the bottom of each downspout unless the downspout is connected by a drain line to an acceptable outlet.

15. For finished grading, the permittee shall provide adequate gradients so as to prevent water from standing on the surface of lawns more than twenty–four (24) hours after the end of a rainfall, except in designated drainage courses and swale flow areas, which may drain as long as forty–eight (48) hours after the end of a rainfall.

16. Sediment traps or basins are not permitted within 20 feet of a building which is existing or under construction. No building may be constructed within 20 feet of a sediment trap or basin.

17. All inlets in non–sump areas shall have asphalt berms installed at the time of base paving establishment.

18. The sediment control inspector has the option of requiring additional sediment control measures, as deemed necessary.

19. All trap elevations are relative to the outlet elevation, which must be on existing undisturbed ground.

20. Vegetative stabilization shall be performed in accordance with the Standards and Specifications for Soil Erosion and Sediment Control.

21. Sediment trap(s)/basin(s) shall be cleaned out and restored to the original dimensions when sediment has accumulated to the point of one–half (1/2) the wet storage depth of the trap/basin (1/4 the wet storage depth for ST–III) or when required by the sediment control inspector.

22. Sediment removed from traps/basins shall be placed and stabilized in approved areas, but not within a floodplain.

23. All sediment basins and traps must be surrounded with a welded wire safety fence. The fence must be at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater the two inches in width and four inches in height, with a minimum of 14 gauge wire. Safety fence must be maintained in good condition at all times.

24. No excavation in the areas of existing utilities is permitted unless their location has been determined. Call "Miss Utility" at 1–800–257–7777, 48 hours prior to the start of work.

25. Off–site spoil or borrow areas must have prior approval by DPS.

26. Sediment trap/basin dewatering for cleanout or repair may only be done with the DPS inspector's permission. The inspector must approve the dewatering method for each application. The following methods may be considered:

   A. Pump discharge may be directed to another on–site sediment trap or basin, provided it is of sufficient volume and the pump intake is floated to prevent agitation or suction of deposited sediments; or

   B. the pump intake may utilize a Removable Pumping Station and must discharge into an undisturbed area through a non–erosive outlet; or

   C. the pump intake may be floated and discharge into a Dirt Bag (12 oz. non–woven fabric), or approved equivalent, located in an undisturbed buffer area.
   Remember: Dewatering operation and method must have prior approval by the DPS inspector.

27. The permittee must notify the Department of all utility construction activities within the permitted limits of disturbance prior to the commencement of those activities.

28. Topsoil must be applied to all pervious areas within the limits of disturbance prior to permanent stabilization in accordance with MDE "Standards and Specifications for Soil Preparation, Topsoiling, and Soil Amendments".

STANDARD SYMBOLS

AT–GRADE INLET PROTECTION	AGIP	REMOVABLE PUMPING STATION	RPS
BAFFLE BOARDS	BB	RIPRAP INFLOW PROTECTION	RRP
BENCHING	BENCHING	RIPRAP OUTLET SEDIMENT TRAP ST III	ST–III
CATCH BASIN INSERT	CBI	ROCK OUTLET PROTECTION 1	ROP1
CLEAR WATER DIVERSION PIPE	CWD – 12 (DESIGNATION CWD–12 REFERS TO 12 INCH CLEAR WATER DIVERSION)	ROCK OUTLET PROTECTION II	ROPII
CLEAR WATER PIPE	CWP	ROCK OUTLET PROTECTION III	ROPIII
COMBINATION INLET PROTECTION	COIP	SILT FENCE	SF
CONCRETE WASHOUT STRUCTURE	CWS	SILT FENCE ON PAVEMENT	SFOP
CURB INLET PROTECTION	CIP	SOD	
DIVERSION FENCE	DF	STABILIZED CONSTRUCTION ENTRANCE	SCE
EARTH DIKE	A–1 (PLACE DESIGNATION (A–1, B–2, ETC.) ON FLOW CHANNEL SIDE OF DIKE.)	STANDARD INLET PROTECTION	SIP
EMERGENCY SPILLWAY	ES	STOCKPILE AREA	
FILTER BAG	FB	STONE CHECK DAM	CD
FILTER BERM	FB–A / FB–B	STONE/RIPRAP OUTLET SEDIMENT TRAP ST II	ST–II
FILTER LOG	FL–18 (DESIGNATION FL–18 REFERS TO 18 INCH DIAMETER FILTER LOG.)	SUBSURFACE DRAINS	SSD
GABION INFLOW PROTECTION	GP	SUMP PIT	SP
GABION INLET PROTECTION	GIP	SUPER SILT FENCE	SSF
HORIZONTAL DRAW–DOWN DEVICE	HDDD	TEMPORARY ACCESS BRIDGE	TB
LIMIT OF DISTURBANCE	LOD	TEMPORARY ACCESS CULVERT	
MEDIAN INLET PROTECTION	MIP	TEMPORARY ASPHALT BERM	TAB
MEDIAN SUMP INLET PROTECTION	MSIP	TEMPORARY BARRIER DIVERSION	TBD
MOUNTABLE BERM	MB	TEMPORARY GABION OUTLET STRUCTURE	TGOS
PERIMETER DIKE/SWALE	PDS–1	TEMP. SOIL STABILIZATION MATTING–TYPE A	
PERM. SOIL STABILIZATION MATTING–TYPE B		TEMP. SOIL STABILIZATION MATTING–TYPE E	
PERM. SOIL STABILIZATION MATTING–TYPE C		TEMP. SOIL STABILIZATION MATTING–TYPE D	
PIPE OUTLET SEDIMENT TRAP ST I	ST–I	TEMPORARY STONE OUTLET STRUCTURE	TSOS
PIPE SLOPE DRAIN	PSD – 12 (DESIGNATION PSD–12 REFERS TO 12 INCH PIPE SLOPE DRAIN.)	TEMPORARY SWALE	A–1 (PLACE DESIGNATION (A–1, B–2, ETC.) ON FLOW CHANNEL SIDE OF SWALE.)
PLUNGE POOL	PP	WASH RACK OPTION	WR
PORTABLE SEDIMENT TANK	PST	CHESAPEAKE BAY CRITICAL AREA	CBCA
DRAINAGE BOUNDARY		TREE PROTECTION FENCE	TPF
EXISTING CONTOURS	100	WETLAND	
PROPOSED CONTOURS	100	WETLAND BUFFER	B
		100–YEAR FLOODPLAIN	

STANDARD NOTES

1. The contractor will immediately inform the county of any discrepancies found between the project plans and contract specifications.
2. For construction, all horizontal control shall be NAD 83/91 and vertical control NAVD 88.
3. Types of storm drain structures refer to the 'Design Standards' of Montgomery County Department of Transportation, unless otherwise noted.
4. Information concerning underground utilities was obtained from available records. The contractor must determine the exact location and elevations of the lines by digging test pits by hand at all utility crossings well in advance of trenching. If clearances are less than shown on this plan or six inches, whichever is less, the contractor shall contact the county.
5. Repairs to utilities or property damaged as a result of the contractor's negligence or method of operation must be made at the contractor's expense before proceeding with construction.
6. Call "Miss Utility" at 1–800–257–7777 fourty–eight (48) hours prior to beginning excavation to determine the exact location of existing utilities.
7. Clearing to be limited to the "limit of disturbance" as shown on the plans.
8. All grading shall be done in such a manner as to provide positive drainage.
9. Disturbed areas adjacent to established lawns shall be sodded. Other disturbed areas shall be seeded and mulched.
10. The contractor shall obtain a roadside tree permit for any maintenance, treatment, planting, removal or root cutting on trees within the public right–of–way before starting a job. Permit requirements may be obtained from the Department of Natural Resources – Maryland Forest, Park and Wildlife service whose telephone number is (301) 854–6060.
11. Contact the Washington Suburban Sanitary Commission system maintenance engineer before excavating beneath or in the vicinity of existing water or sewer lines. Backfill to be done under the supervision of W.S.S.C. call 301–699–4420.
12. Contact Washington gas dispatch officer at (703) 750–4831 before excavating beneath or in the vicinity of existing gas main and service laterals.
13. Prior to vegetative stabilization, all disturbed areas must be topsoiled per the Montgomery County "Standards and Specifications for topsoil".

STANDARD SEQUENCE OF CONSTRUCTION NOTES

1. Prior to clearing trees, installing sediment control measures, or grading, a preconstruction meeting must be conducted on–site with the Montgomery County Department of Permitting Services (MCDPS) sediment control inspector (240) 777–6210 (48 hours notice) and the MNCPPC, Planning Department, Plans Enforcement inspector (301) 495–4571 (48 hours notice), the Owners representative, and the site Engineer.
2. The limits of disturbance shall be field marked prior to clearing of trees, installation of sediment control measures, construction, or other land disturbing activities.
3. The permittee must obtain written approval from the MNCPPC inspector, certifying that the limits of disturbance and tree protection measures are correctly marked and installed prior to commencing any clearing.
4. Clear and grade for installation of sediment control devices.
5. Install sediment control devices. Traps and basins shall be constructed prior to construction of any earth dikes that convey drainage to a trap and/or basin.
6. Once the sediment control devices are installed, the permittee must obtain written approval from the MCDPS inspector before proceeding with any additional clearing, grubbing or grading.
7. The detailed sequence of construction by phase is presented on Sheets SC–06 thru SC–20.

NOTE 1: The permittee shall obtain written approval from MCDPS inspector, prior to the removal of any sediment control devices.

OFFSITE GRADING NOTE:
Offsite grading requires documentation of permission from owner (letter of permission on plan or recorded grading easement document submitted). Written approval for grading outside of the Right–of–Way shall be provided to the Inspector before construction is authorized to proceed.

STOCKPILE NOTE:
The Contractor shall establish staging and stockpile areas at locations approved by the Engineer. These areas shall be established such that environmentally sensitive areas are not impacted. Erosion sediment control measures such as silt fence shall be installed downgrade of the staging and stockpile areas and as directed by the Engineer, and diversions such as sandbags shall be placed upstream to prevent stormwater run–on from contacting the stockpile.

PHASED GRADING NOTE:
The contractor shall phase clearing and grading to minimize the area disturbed at a given time during connection. All areas not draininginto an approved sediment control measure shall receive same–day stabilization.

SITE INFORMATION		
DISTURBED AREA (LOD)	CUT (CY)	FILL (CY)
3.91 ac	2,709	950

P.E. 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. 43192 , EXPIRATION DATE: 12–19–22

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: _____ Drawn by: _____ Checked by: _____

SC–01 NOTES SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

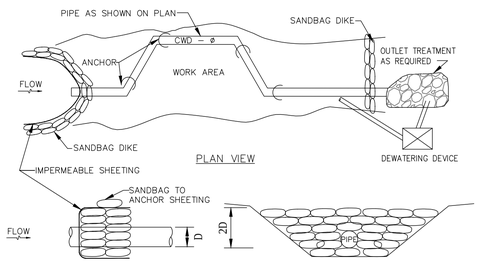
Project No. : 501902 SHEET 25 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pES–P001_ESC Details_Good Hope.dwg LAYOUT NAME: SC–01 DETAIL SHEET PLOTTED: Tuesday, November 24, 2020 – 12:37pm USER: Kevin

DETAIL C-6 CLEAR WATER DIVERSION PIPE

STANDARD SYMBOL: CWD – 12

DESIGNATION CWD-12 REFERS TO 12 INCH CLEAR WATER DIVERSION.



CONSTRUCTION SPECIFICATIONS

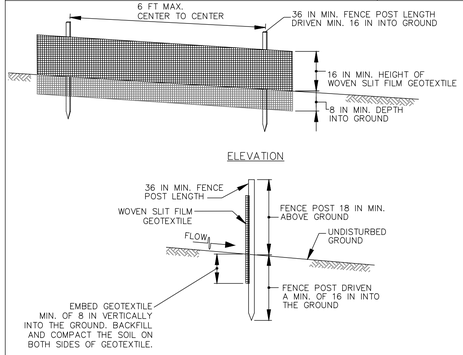
1. FLEXIBLE PIPE IS PREFERRED. HOWEVER, CORRUGATED METAL PIPE OR EQUIVALENT PVC PIPE CAN BE USED. MAKE ALL JOINTS WATERTIGHT.
2. FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA–VIOLENT RADIATION, TEARING, AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
3. USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNTURING AND TEARING.
4. PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 18 INCHES.
5. SET HEIGHT OF SANDBAG DIKE AT TWICE THE PIPE DIAMETER. MAINTAIN HEIGHT ALONG LENGTH OF SANDBAG DIKE. PLACE DOUBLE ROW OF SANDBAGS.
6. AT A MINIMUM, SECURELY ANCHOR DIVERSION PIPE AT EACH DOWNGRADE JOINT.
7. SET OUTLET END OF DIVERSION PIPE LOWER THAN INLET END.
8. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
9. DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
10. KEEP POINT OF DISCHARGE FREE OF EROSION. MAINTAIN WATER TIGHT CONNECTIONS AND POSITIVE DRAINAGE. REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



1 OF 2

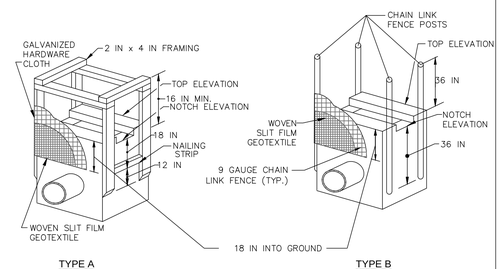
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

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



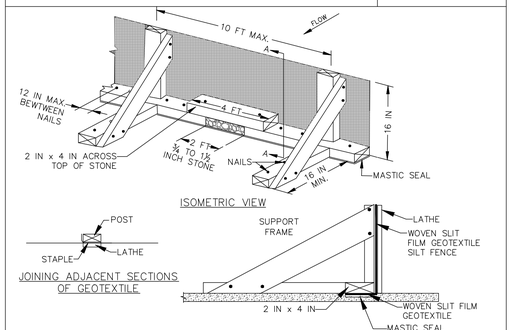
1 OF 2

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-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP



CONSTRUCTION SPECIFICATIONS

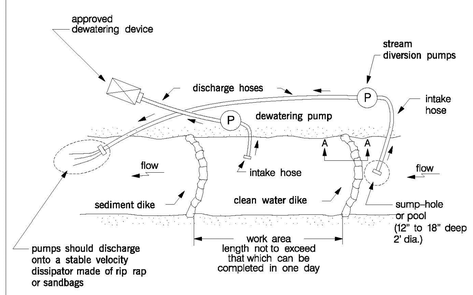
1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT–LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 40D 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

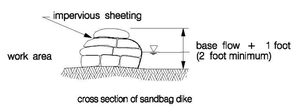
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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

PLAN VIEW



SECTION A–A



cross section of sandbag dike

TEMPORARY INSTREAM CONSTRUCTION MEASURES	*REVISED NOVEMBER 2000 PAGE 1.2 – 3*	MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

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

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-1 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 ½ 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

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: _____ Drawn by: _____ Checked by: _____

SC–02 DETAIL SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

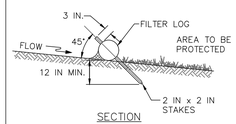
Project No. : 501902 SHEET 26 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pES-P001_ESC Details_Good Hope.dwg LAYOUT NAME: ESC DETAILS 1 PLOTTED: Tuesday, November 24, 2020 – 12:37pm USER: Kevin

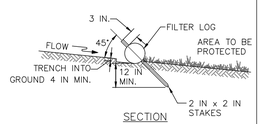
DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

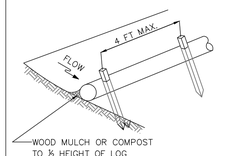
DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG



SECTION

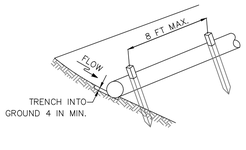


SECTION



UNTRENCHED INSTALLATION

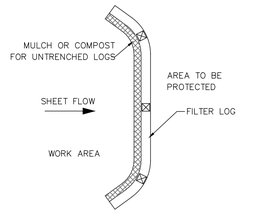
OR



ENTRENCHED INSTALLATION*

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

ISOMETRIC VIEW



PLAN

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG

CONSTRUCTION SPECIFICATIONS

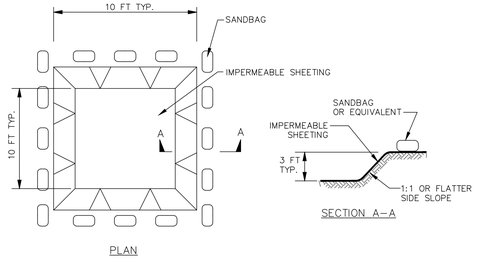
1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH 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.

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

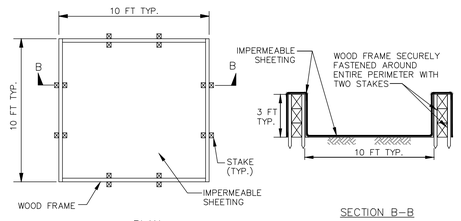
STANDARD SYMBOL: CWS



PLAN

SECTION A-A

EXCAVATED WASHOUT STRUCTURE



PLAN

SECTION B-B

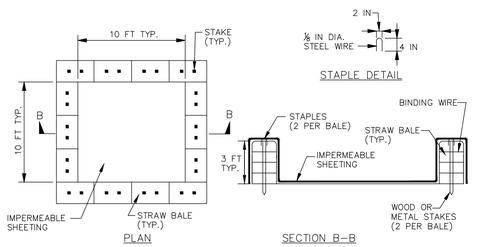
WASHOUT STRUCTURE WITH WOOD PLANKS

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

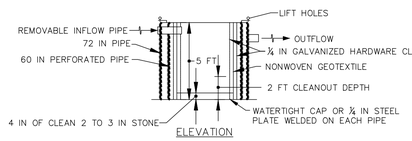
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. 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.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

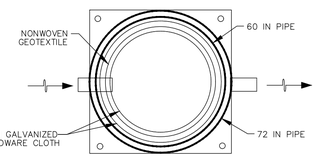
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-3 PORTABLE SEDIMENT TANK

STANDARD SYMBOL: PST



ELEVATION



PLAN VIEW

CONSTRUCTION SPECIFICATIONS

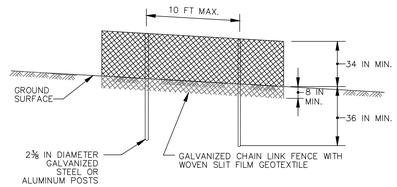
1. PROVIDE 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP CAPACITY. REQUIRED STORAGE VOLUME MAY BE ATTAINED BY PLACEMENT OF TANKS IN PARALLEL WITH INFLOW EVENLY DISTRIBUTED AMONG TANKS. OVERTOPPING OF TANKS IS NOT PERMITTED.
2. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

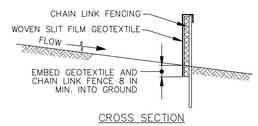
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



ELEVATION



CROSS SECTION

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 HUG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

TREE PRESERVATION NOTES

COORDINATE ALL TREE PRESERVATION ACTIVITIES WITH EROSION & SEDIMENT CONTROL ACTIVITIES AND THE COUNTY ARBORIST AND CONSTRUCTION INSPECTOR.

1. PLACE TREE PROTECTION FENCE AS INDICATED ON THE PLANS AND AS PER THE DIRECTION OF THE COUNTY ARBORIST AND CONSTRUCTION INSPECTOR PRIOR TO CONSTRUCTION ACTIVITIES.
2. FOR UNDERGROUND UTILITY CONSTRUCTION, ALL TREE PROTECTION MEASURES AND EXCAVATION OPERATIONS SHALL HAVE ADDITIONAL SUPERVISION PROVIDED BY THE COUNTY ARBORIST. UTILITY WORK SHALL BE CONDUCTED SO AS TO AVOID INJURY TO THE TREE TRUNKS, BRANCHES, AND ROOTS.
3. MAINTAIN WELL-DEFINED AND MARKED PEDESTRIAN WALKWAYS DURING CONSTRUCTION AND DO NOT ALLOW PEDESTRIAN TRAFFIC OVER TREE ROOTS.
4. NONE OF THE FOLLOWING SHALL OCCUR WITHIN THE CRITICAL ROOT ZONE OF A STREET TREE WITHOUT THE COUNTY ARBORIST'S PERMISSION: ALTERATION OR DISTURBANCE TO EXISTING GRADE, STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY LIQUIDS E.G. CONCRETE, GAS, OIL, PAINT; AND BLACKTOP, AND TRENCHING.
5. NO HEAVY EQUIPMENT SHALL BE USED TO REMOVE EXISTING HARDSCAPE WITHIN THE DRIPLINE OF AN EXISTING STREET TREE. EXCAVATIONS WITHIN THE DRIP LINE SHALL PROCEED WITH CARE BY USE OF HAND TOOLS OR EQUIPMENT THAT WILL NOT CAUSE INJURY TO TREE TRUNKS, BRANCHES, AND ROOTS.
6. NO ROOTS GREATER THAN TWO (2) INCHES IN DIAMETER SHALL BE CUT WITHOUT THE PERMISSION OF THE COUNTY ARBORIST.
7. PERFORM AERATION OPERATIONS AROUND TREE ROOTS AND GRASS PANEL AREAS TO IMPROVE DRAINAGE IN COMPACTED SOILS.
8. PROVIDE WATER, ADDITIONAL FERTILIZER, AND ORGANIC AMENDMENTS TO PLANTED AREAS THAT ARE EXPECTED TO REMAIN, PRIOR TO, DURING, AND POST-CONSTRUCTION. DO NOT ALLOW TREES TO BECOME WATER-STRESSED DURING OR POST-CONSTRUCTION.
9. AVOID CAUSING CHANGES TO PH IN SOILS ASSOCIATED WITH PLANTED AREAS. MATERIALS PLACED IN CLOSE PROXIMITY TO TREE ROOTS SHOULD BE AS SELF-CONTAINED AS POSSIBLE TO PREVENT FUTURE LEACHING OF MATERIALS AND CHEMICALS INTO SOILS.
10. MINIMIZE EXPOSURE OF ROOTS DURING CONSTRUCTION WHEN WORK IS PERFORMED IN COLD OR HOT WEATHER.

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: _____ Drawn by: _____ Checked by: _____

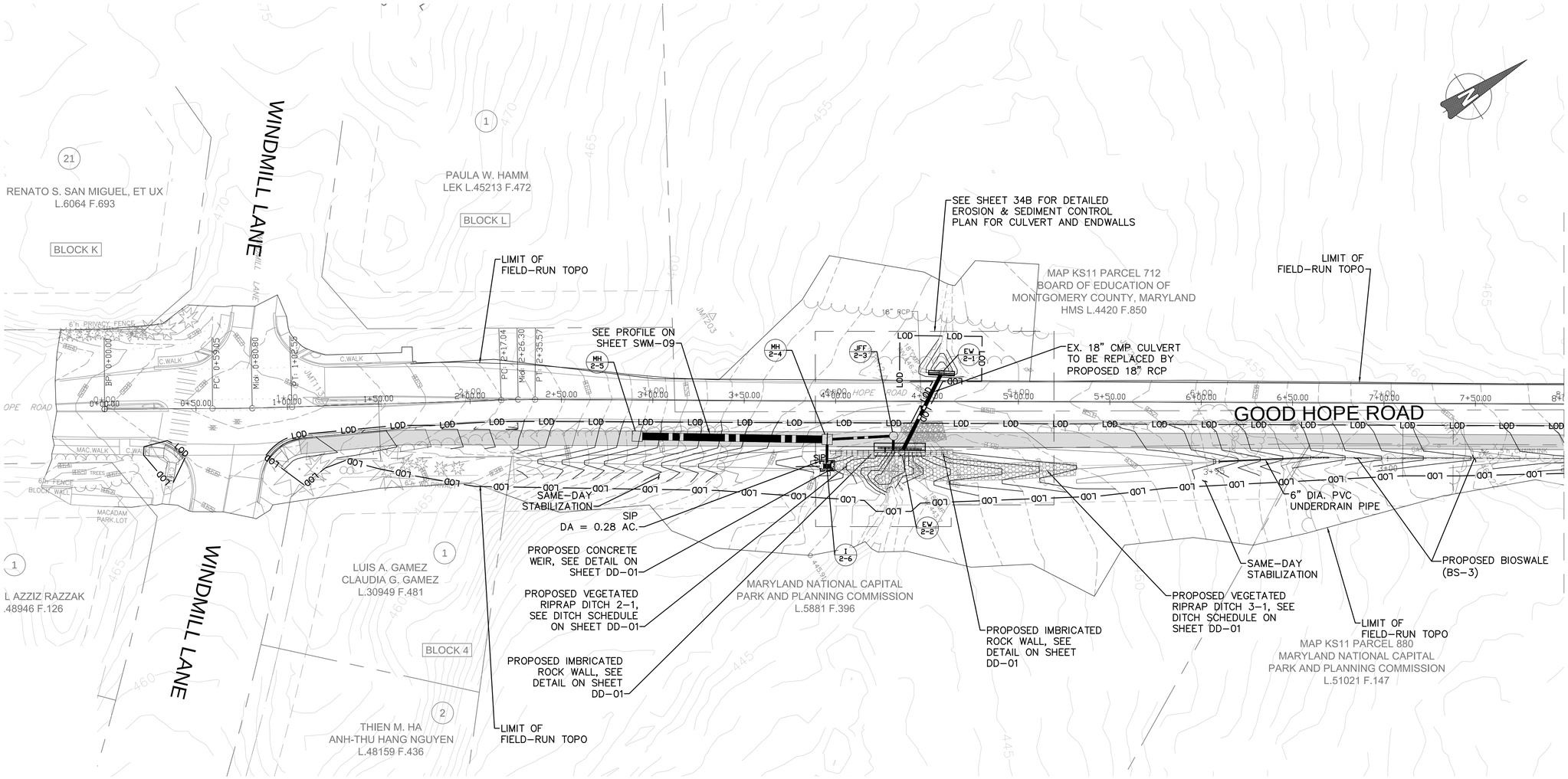
SC-03 DETAIL SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

Project No. : 501902 SHEET 27 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pES-P001_ESC Details_Good Hope.dwg LAYOUT NAME: ESC DETAILS 2 PLOTTED: Tuesday, November 24, 2020 - 12:37pm USER: Kevin



LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION SIP
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP
- BIOSWALE FACILITY BOTTOM

GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

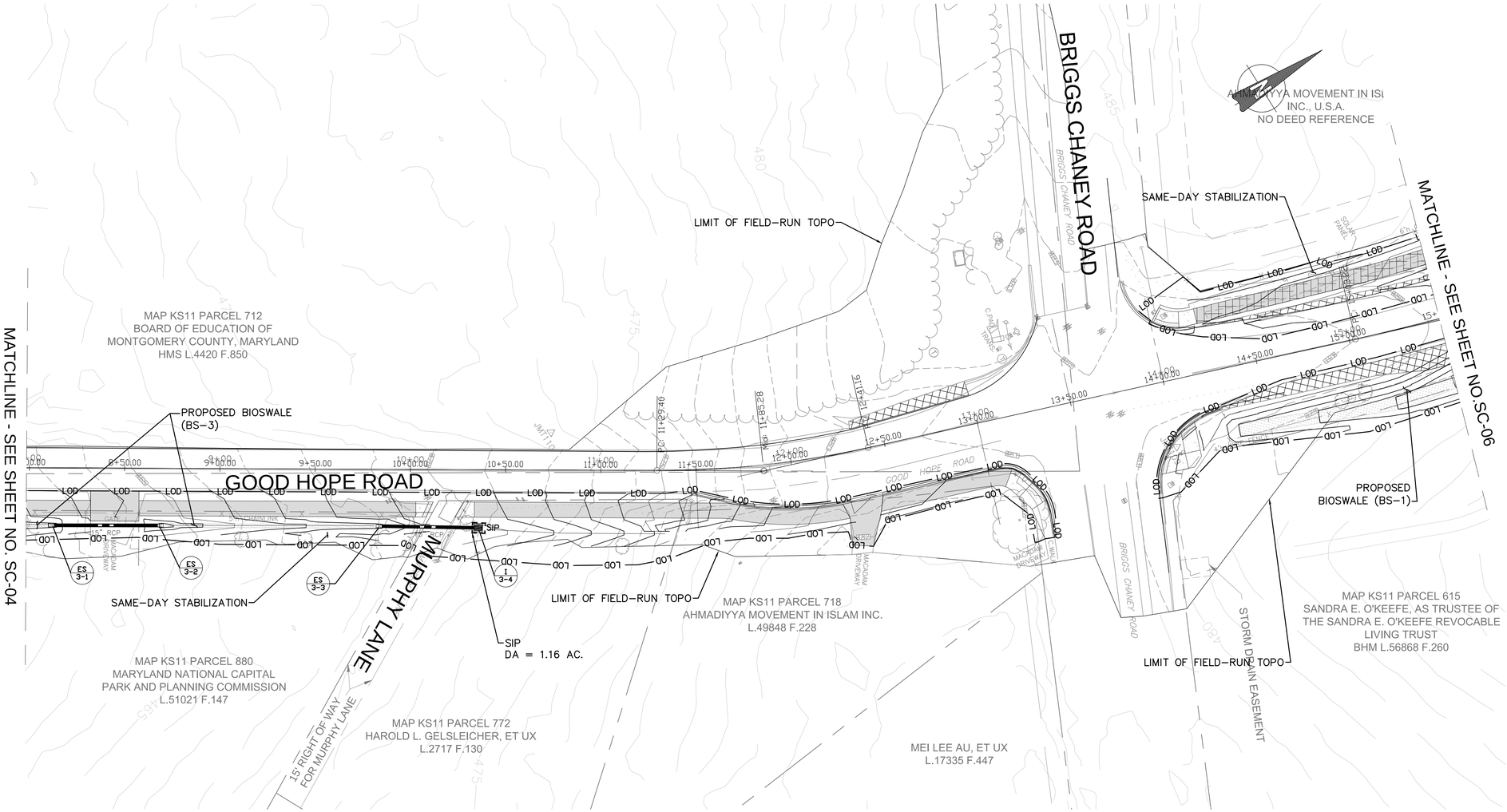
Designed by: KJS Drawn by: KJS Checked by: DZ

SC-04 PLAN SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD
SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 28 of 114



LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION SIP
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP
- BIOSWALE FACILITY BOTTOM

GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

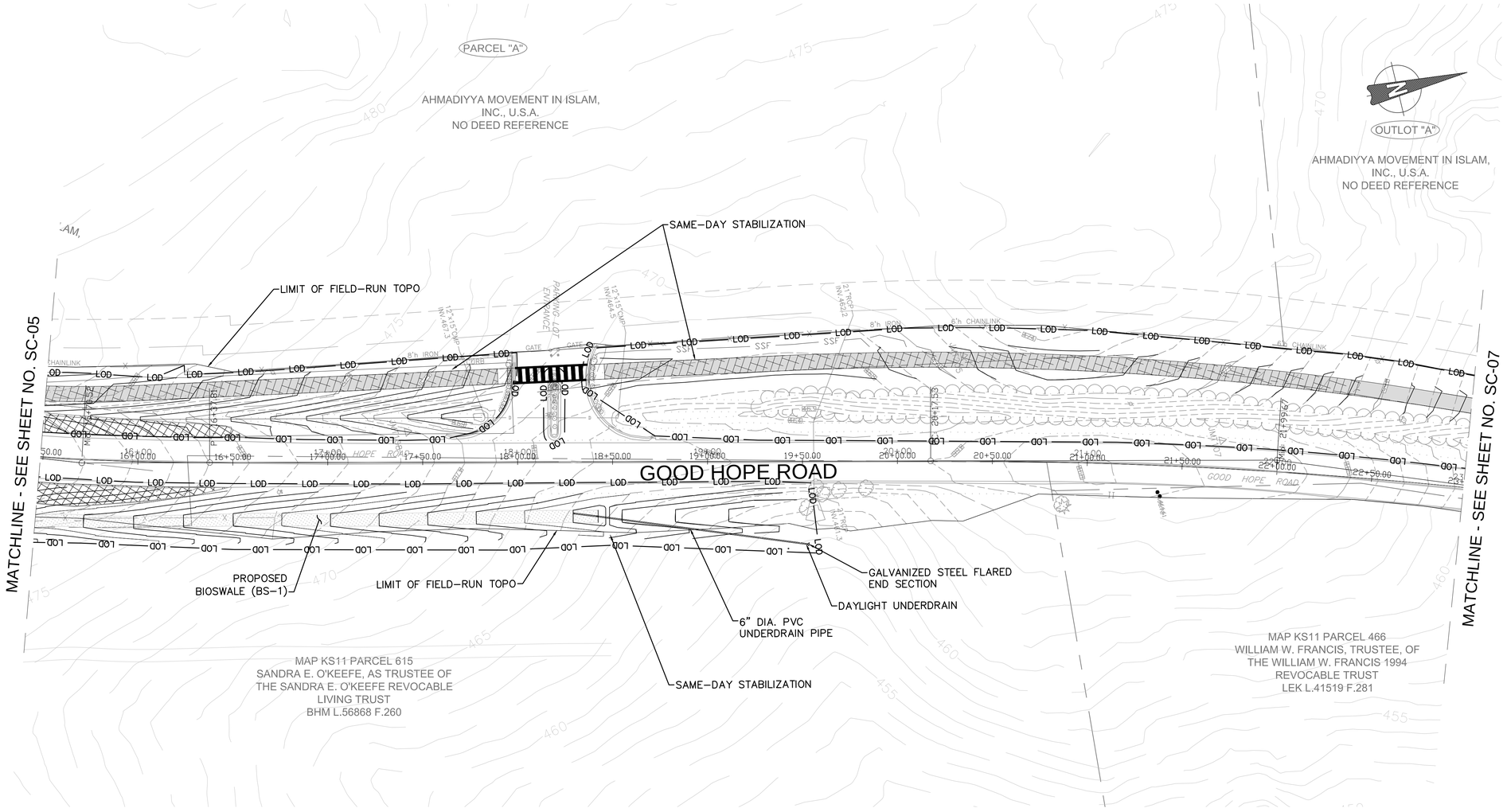
Designed by: KJS Drawn by: KJS Checked by: DZ

SC-05 PLAN SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 29 of 114



LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION SIP
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP
- BIOSWALE FACILITY BOTTOM

GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

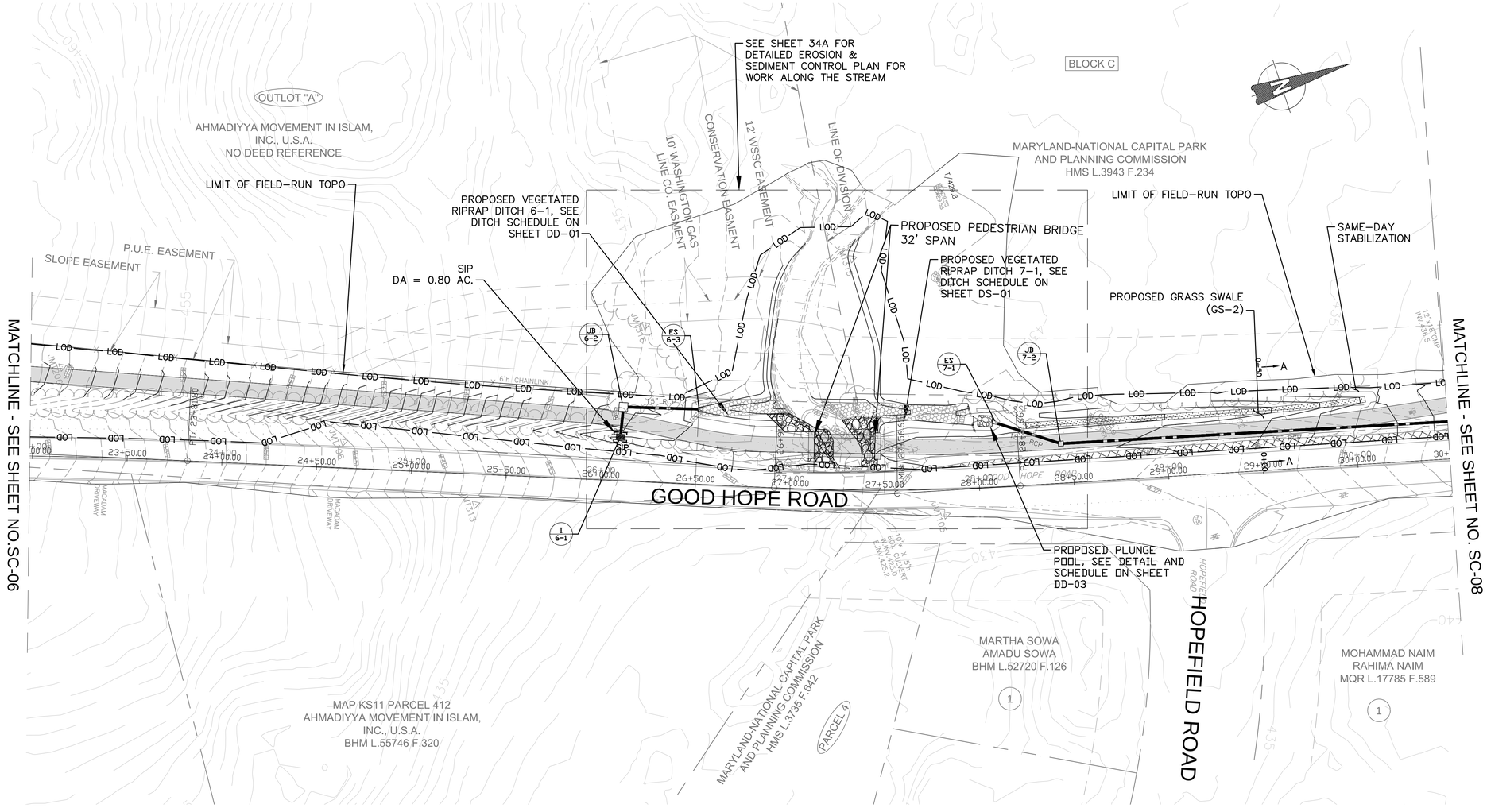
SC-06 PLAN SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD
SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 30 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pES_P002_GoodHope.dwg LAYOUT NAME: SC-06 PLAN SHEET PLOTTED: Tuesday, November 24, 2020 - 12:38pm USER: Kevin



LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION SIP
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP
- BIOSWALE FACILITY BOTTOM

GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

SC-07 PLAN SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 31 of 114

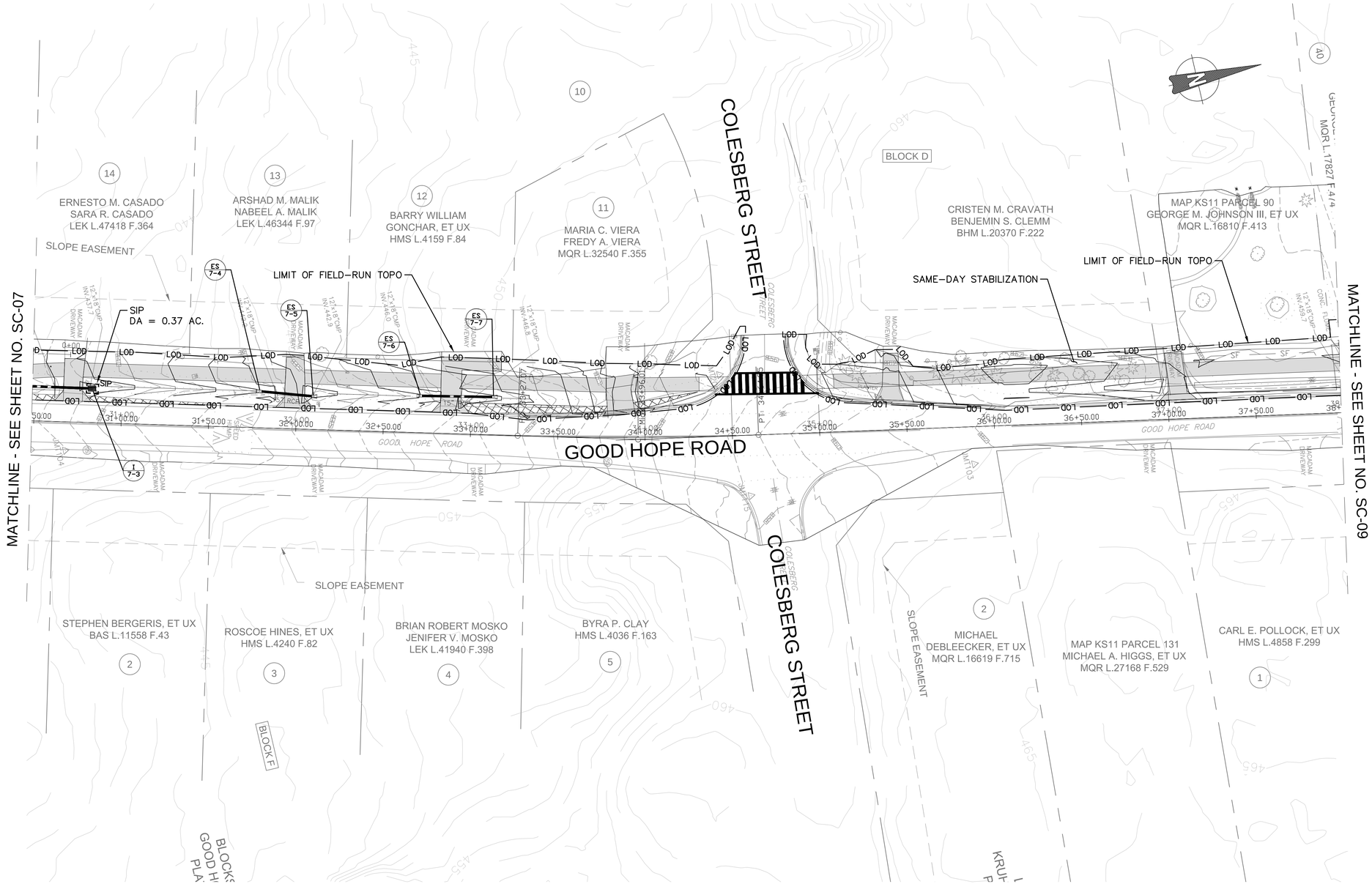
FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pES_P002_GoodHope.dwg LAYOUT NAME: SC-07 PLAN SHEET PLOTTED: Tuesday, November 24, 2020 - 12:38pm USER: Kevin

GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION SIP
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP
- BIOSWALE FACILITY BOTTOM



90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

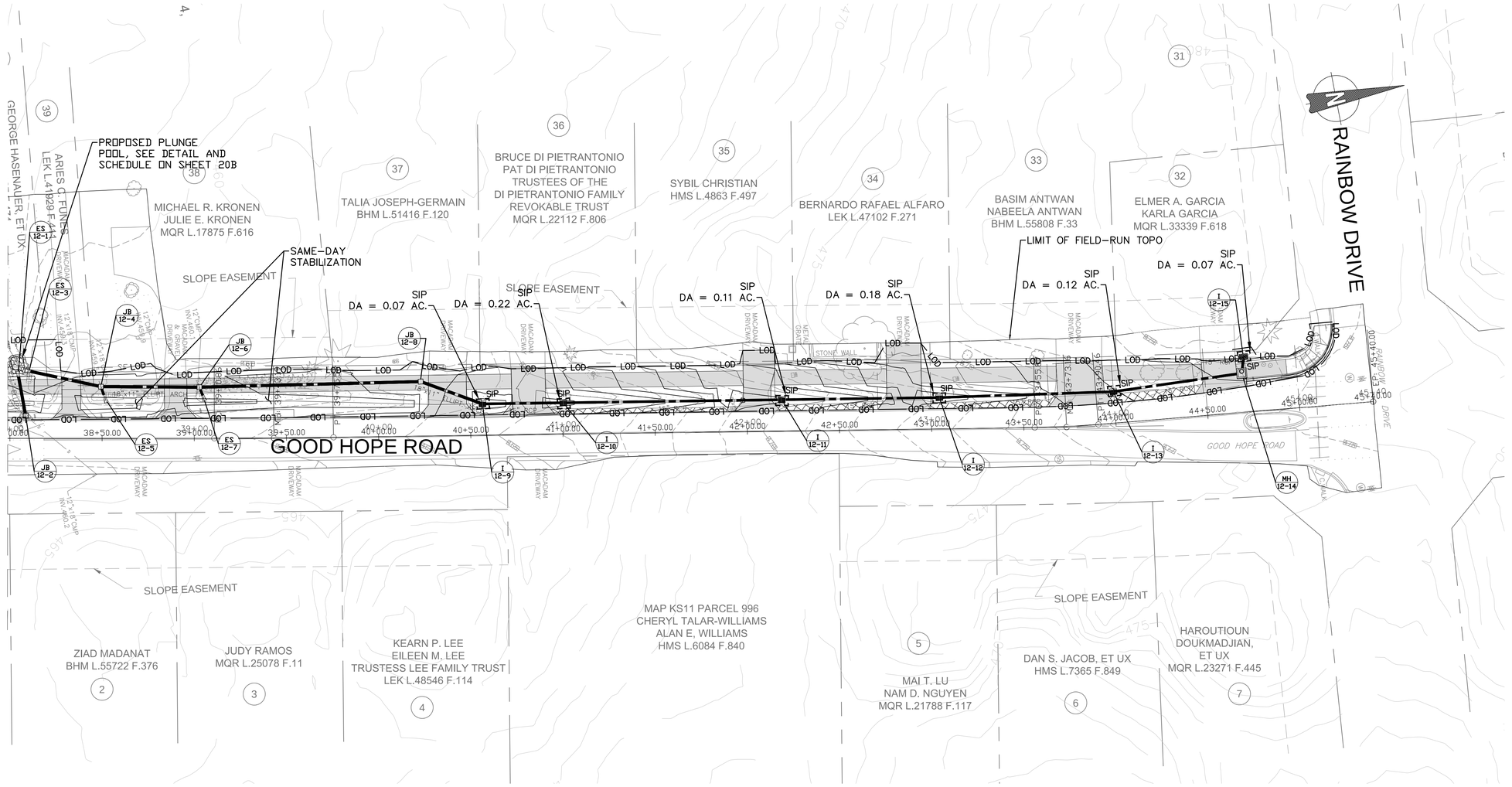
SC-08 PLAN SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 32 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pES_P002_GoodHope.dwg LAYOUT NAME: SC-08 PLAN SHEET PLOTTED: Tuesday, November 24, 2020 - 12:39pm USER: Kevin



LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION SIP
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP
- BIOSWALE FACILITY BOTTOM

GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: KJS Drawn by: KJS Checked by: DZ

SC-09 PLAN SHEET
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD
SHARED USE PATH

DATE: NOVEMBER 2020

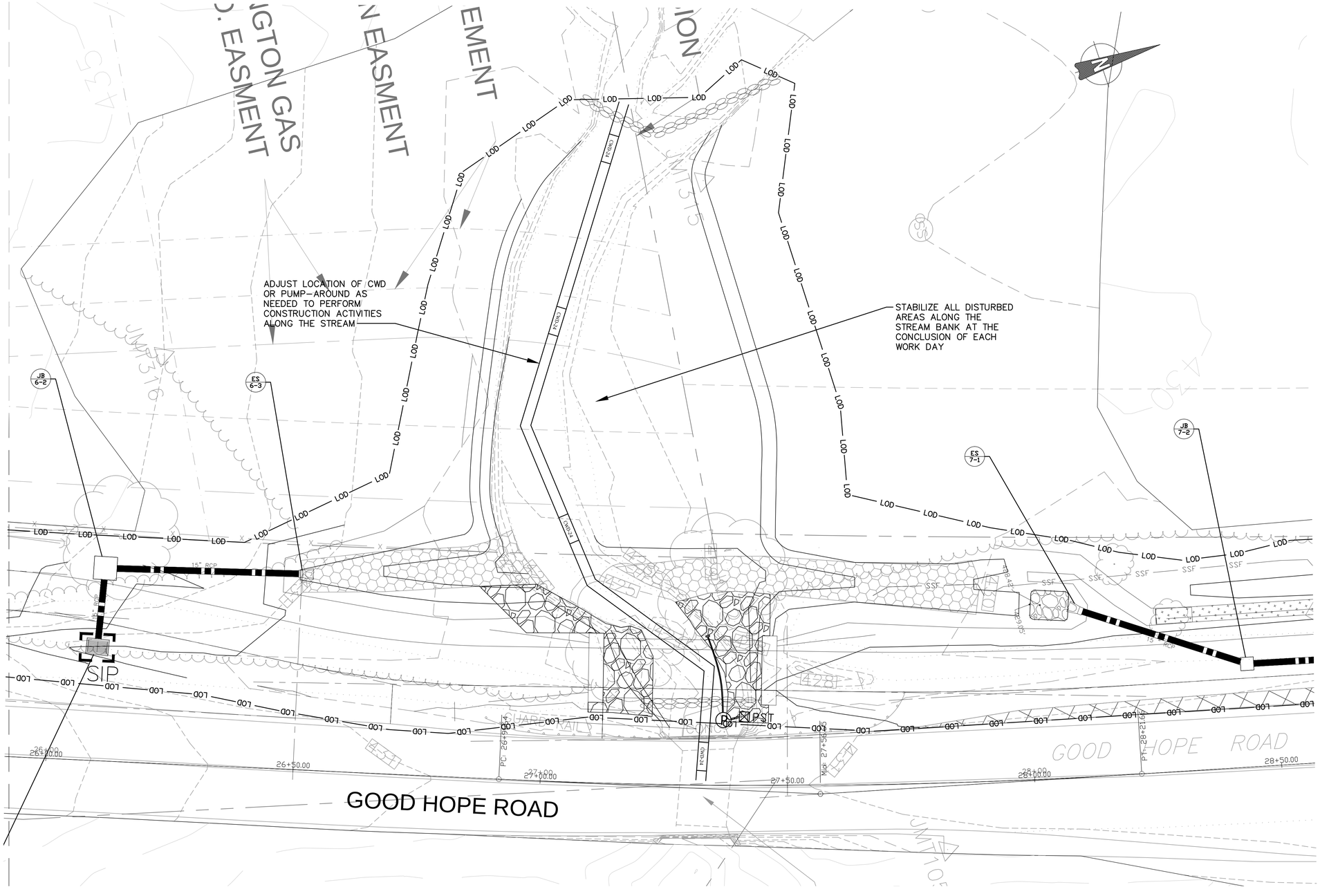
Project No. : 501902 SHEET 33 of 114

GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

SEQUENCE OF CONSTRUCTION:

1. INSTALL MAINTENANCE OF STREAMFLOW MEASURES. A PUMP-AROUND PRACTICE MAY BE USED IN LIEU OF A GRAVITY CLEARWATER DIVERSION (CWD) PIPE.
2. PERFORM PROPOSED GRADING ALONG THE STREAM BANKS, STABILIZING THE DISTURBED AREA AT THE CONCLUSION OF EACH WORK DAY.
3. CONSTRUCT RIPRAP-LINED DRAINAGE DITCHES FROM DOWNSLOPE TO UPSPLOPE. STABILIZE WITH RIPRAP AT THE END OF EACH WORK DAY.
4. DURING A 3-DAY, DRY-WEATHER FORECAST, COMPLETE THE EXCAVATION FOR THE ABUTMENT FOUNDATIONS. DEWATERING OF THE EXCAVATION SHALL BE PERFORMED BY PUMPING THROUGH A PORTABLE SEDIMENT TANK (PST) OR MCDPS-APPROVED FILTERING PRACTICE. CONSTRUCT THE ABUTMENT AND STABILIZE THE SURROUNDING AREA WITH RIPRAP AS INDICATED ON THE PLANS.
5. INSTALL THE RIFFLE GRADE CONTROL AS INDICATED ON THE STREAM RESTORATION PLANS. ADJUST THE LOCATION OF THE CWD PIPING OR PUMP-AROUND PIPING AS NEEDED TO COMPLETE THE IN-STREAM WORK.



LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION [SIP]
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP

STREAM RESTORATION – EROSION & SEDIMENT CONTROL PLAN
SCALE: 1" = 10'

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

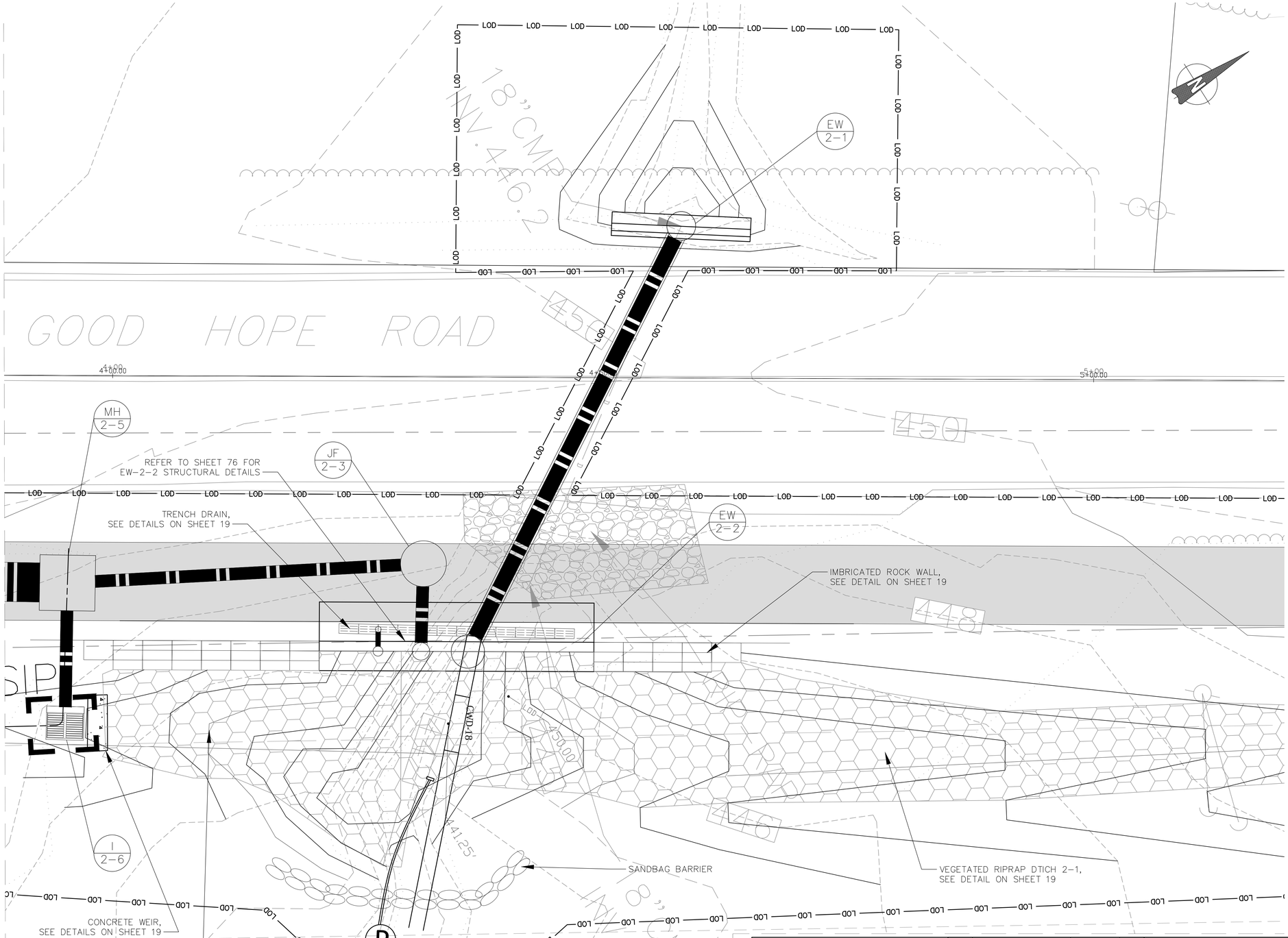
Designed by: KJS Drawn by: KJS Checked by: DZ

SC-10 STREAMBANK ESC
EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD
SHARED USE PATH

0 10' 20'
SCALE: 1"=10'
DATE: NOVEMBER 2020

Project No. : 501902 SHEET 34A of 114



GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
3. THE DEPOSITION OF ANY EARTH, GRAVEL, AND/OR OTHER MATERIAL OUTSIDE OF THE WORK AREA IS STRICTLY PROHIBITED. ALL SEDIMENT TRACKED ONTO PUBLIC RIGHT-OF-WAYS, OUTSIDE OF THE WORK AREA, MUST BE IMMEDIATELY REMOVED IF NOT DIVERTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
4. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED IN WRITING BY THE MCDPS INSPECTOR. STABILIZE ANY DISTURBED AREAS RESULTING FROM REMOVAL OF THE SEDIMENT CONTROL DEVICES.
5. "DRY WEATHER FORECAST PER NOAA" SHALL BE CONSTRUED TO BE A FORECAST SHOWING A LIKELIHOOD OF PRECIPITATION AS BEING LESS THAN 20%.
6. AREAS OF SAME DAY STABILIZATION SHALL BE STABILIZED AS FOLLOWS: GRADED AGGREGATE BASE (OR PAVEMENT) FOR AREAS TO BE PAVED; SOIL STABILIZATION MATTING (SSM) FOR DITCHES WITHOUT BASEFLOW; AND SEED & MULCH FOR SOIL AREAS NOT IN DITCHES OR STREAMS.

SEQUENCE OF CONSTRUCTION:

1. DURING A 3-DAY DRY-WEATHER FORECAST, REPLACE EXISTING CULVERT UNDER GOOD HOPE ROAD.
2. INSTALL DIVERSION MEASURES. A PUMP-AROUND PRACTICE MAY BE USED IN LIEU OF A GRAVITY CLEARWATER DIVERSION (CWD) PIPE. ENSURE THE DIVERSION PIPING DISCHARGES TO A STABLE LOCATION IN A NON-EROSIVE MANNER.
3. INSTALL ENDWALLS EW-2-1 AND EW-2-2. PROVIDE SAME-DAY STABILIZATION OF THE AREA SURROUNDING EW-2-1 TO ENSURE SEDIMENT-LADEN RUNOFF IS NOT BYPASSED THROUGH THE CWD PIPE OR PUMP-AROUND PRACTICE. INSTALL PIPE FROM THE JELLYFISH FILTER JF-2-3 TO EW-2-2 AND CONNECTED DRAINAGE STRUCTURES AND PIPES. TAKE MEASURES SUCH AS TEMPORARILY PLUGGING PIPES AND INLETS TO ENSURE SEDIMENT-LADEN RUNOFF DOES NOT ENTER THE STORM DRAINS.
4. CONSTRUCT PLUNGE POOL AND STABILIZE WITH RIPRAP AT THE EW-2-2 OUTFALL.
5. CONSTRUCT THE VEGETATED RIPRAP DRAINAGE DITCHES FROM DOWNSLOPE TO UPSPLOPE. STABILIZE WITH RIPRAP AT THE END OF EACH WORK DAY.
6. DEWATERING OF ALL EXCAVATIONS SHALL BE PERFORMED BY PUMPING THROUGH A PORTABLE SEDIMENT TANK (PST) OR MCDPS-APPROVED FILTERING PRACTICE.

LEGEND

- LIMIT OF DISTURBANCE — LOD — LOD —
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- STANDARD INLET PROTECTION SIP
- PAVEMENT REMOVAL
- PROPOSED ASPHALT
- PROPOSED PERMEABLE PAVEMENT
- VEGETATED RIPRAP

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

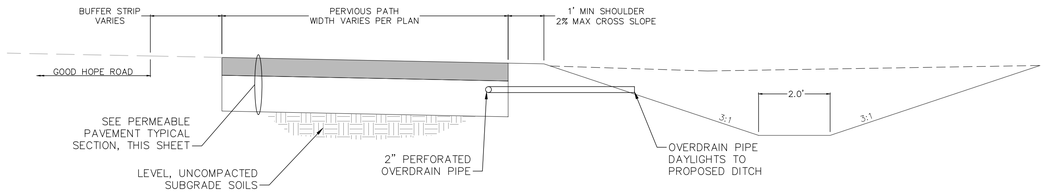
SC-11 EWNDWALL ESC EROSION AND SEDIMENT CONTROL

GOOD HOPE ROAD SHARED USE PATH

DATE: NOVEMBER 2020

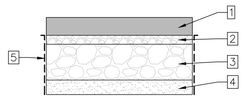
Project No. : 501902 SHEET 34B of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pES_P002_GoodHope.dwg LAYOUT NAME: SC-11 EWNDWALL SHEET PLOTTED: Tuesday, November 24, 2020 - 12:39pm USER: Kevin



PERMEABLE PAVEMENT - TYPICAL BIKE PATH SECTION

NOT TO SCALE



1 4" POROUS CONCRETE

2 2" AGGREGATE BASE CONSISTING OF WASHED AASHTO NO. 3 COURSE AGGREGATE AND NO. 57 STONE

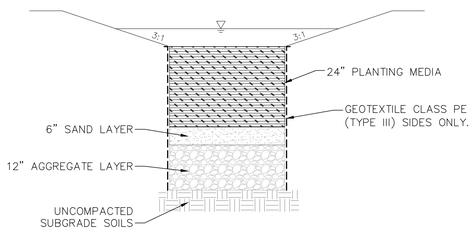
3 VARIABLE DEPTH CLEAN NO. 7 STONE. MINIMUM DEPTH 12"

4 4" SAND, WASHED ASTM C-33 FINE AGGREGATE CONCRETE SAND

5 GEOTEXTILE CLASS PE (TYPE III) SIDES ONLY. MIRAFI 140 N OR MCDPS APPROVED EQUIVALENT

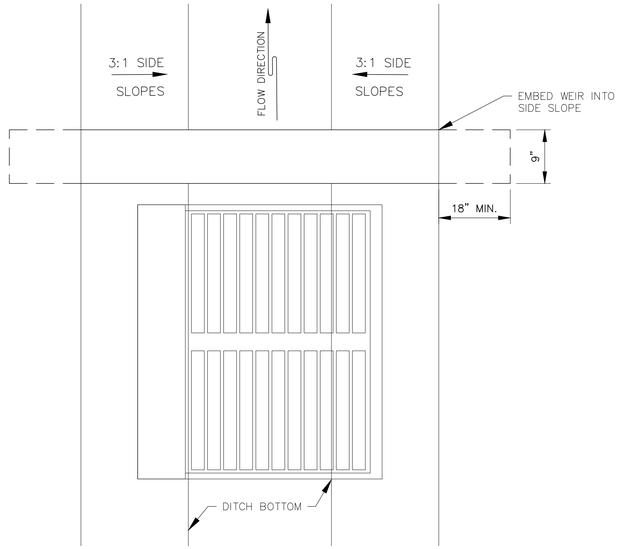
PERMEABLE PAVEMENT - TYPICAL PAVEMENT SECTION

NOT TO SCALE



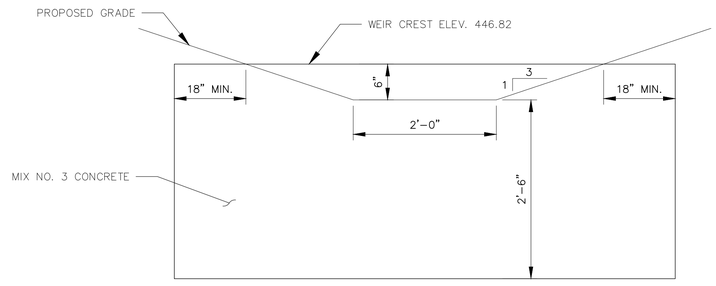
BIOSWALE - TYPICAL SECTION

NOT TO SCALE



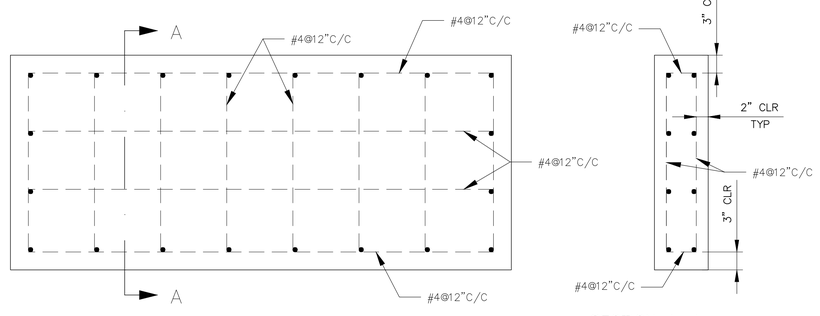
CONCRETE WEIR - PLAN

SCALE: 1" = 1'



CONCRETE WEIR - ELEVATION

SCALE: 1" = 1'

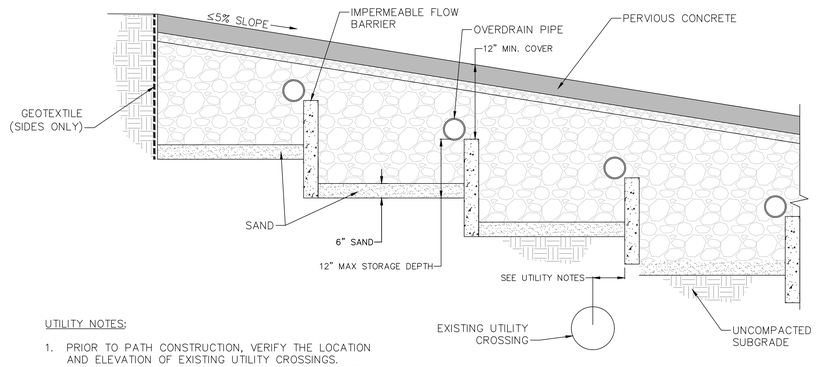


ELEVATION

SECTION A-A

CONCRETE WEIR REINFORCING DETAIL

SCALE: 1" = 1'



UTILITY NOTES:

1. PRIOR TO PATH CONSTRUCTION, VERIFY THE LOCATION AND ELEVATION OF EXISTING UTILITY CROSSINGS.
2. SPACE IMPERMEABLE FLOW BARRIERS, SO THE DEPTH OF NO. 7 STONE IS MINIMIZED, THUS MAXIMIZING THE VERTICAL CLEARANCE BETWEEN THE EXISTING UTILITY AND THE THE BOTTOM OF THE PERMEABLE PAVEMENT SECTION.

PERMEABLE PAVEMENT - STEPPED BASE TYPICAL SECTION

NOT TO SCALE

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

SWM-01 DETAIL SHEET
STORMWATER MANAGEMENT

GOOD HOPE ROAD SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

Project No. : 501902 SHEET 35 of 114

NO DEED REFERENCE

AHMADIYYA MOVEMENT IN ISLAM, INC., U.S.A.
NO DEED REFERENCE

LIMIT OF FIELD-RUN TOPO

LIMIT OF FIELD-RUN TOPO

LIMIT OF FIELD-RUN TOPO

BRIGGS CHANEY ROAD

BRIGGS CHANEY ROAD

GOOD HOPE ROAD

PARKING LOT ENTRANCE

SOLAR PANEL

6'h CHAINLINK

8'h IRON

CURB

GATE

GATE

12"x15"CMP INV.467.3

12"x15"CMP INV.464.5

12"RCP INV.462.2

PVC CLEANOUT

4'W

PC 15+02.25

PT 16+37.81

Mid 15+19.52

A

A

0+00

0+50

PROPOSED BIOSWALE (BS-1)

6"DIA. PERFORATED PVC UNDERDRAIN PIPE

DAYLIGHT UNDERDRAIN

GALVANIZED STEEL FLARED END SECTION

STORM DRAIN EASEMENT

MAP KS11 PARCEL 615
SANDRA E. O'KEEFE, AS TRUSTEE OF
THE SANDRA E. O'KEEFE REVOCABLE
LIVING

MAP KS11 P
SANDRA E.
THE S

BIOSWALE (BS-1) PLAN
1" = 20'

LEGEND

- FACILITY DRAINAGE AREA
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- BIOSWALE BOTTOM AREA/ AGGREGATE STORAGE AREA
- PAVEMENT REMOVAL

FROM STA. 14+24 TO STA. 17+90

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

FROM STA. 18+46 TO STA. 22+40

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

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

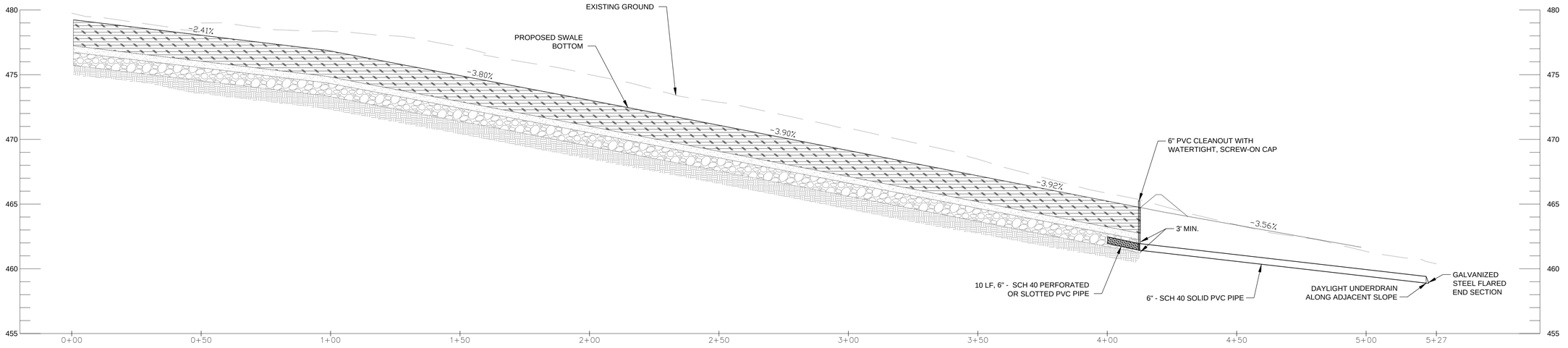
SWM-02 PLAN (BS-1)
STORMWATER MANAGEMENT
GOOD HOPE ROAD SHARED USE PATH

0 20' 40'

SCALE: 1"=20' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 36 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pSW_P001_GoodHope.dwg LAYOUT NAME: BS-1 PLAN PLOTTED: Tuesday, November 24, 2020 - 12:41pm USER: Kevin



BIOSWALE PROFILE: BS-1

SCALE: HORIZ. 1"=20' VERT. 1"=4'

NOTES:

1. GRAVEL LAYER: THE GRAVEL LAYER MUST MEET MSHA SIZE #7 (TABLE 901A), AND SHALL BE 12-INCHES IN DEPTH. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN FILTER MEDIA, EXCEPT AT DRIVEWAY CROSSINGS, AS SHOWN IN THE TYPICAL SECTION. THE GRAVEL MUST BE CLEAN AND MUST BE STORED AND INSTALLED IN SUCH A MANNER THAT IT DOES NOT BECOME CONTAMINATED WITH SEDIMENT BEFORE OR AFTER INSTALLATION.

2. PLANTING MEDIA: THE PLANTING MEDIA SHALL BE 24 INCHES THICK AND CONFORM TO MONTGOMERY COUNTY MICRO-BIORETENTION FACILITY PLANTING MEDIA SPECIFICATIONS:

   1/3 PERLITE OR SOLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL.

   THE TOPSOIL COMPONENT SHALL MEET THE FOLLOWING CRITERIA:

   CONTAIN NO MORE THAN 10% CLAY, 10-25% SILT AND 60-75% SAND AND BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES.

   THE FIRST LAYER OF THE PLANTING MEDIUM SHALL BE LIGHTLY TILLED TO MIX IT INTO THE 6-INCH SAND LAYER, SO AS NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING BED SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.

3. SAND BED: A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE PLANTING MEDIA. ASTM C33 OR AASHTO M6 FINE AGGREGATE CONCRETE SAND IS REQUIRED PER MONTGOMERY COUNTY SAND SPECIFICATIONS.

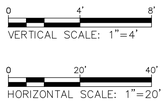
4. PERFORATED PIPE MUST HAVE PERFORATIONS ⅜ INCH IN DIAMETER AND LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BE AT LEAST 12 INCHES INSIDE THE FILTER MEDIA. IF THIS CANNOT BE ACHIEVED, THEN SIDES OF THE FILTER MEDIA MUST BE LINED WITH FILTER FABRIC. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE. AN ACCEPTABLE ALTERNATIVE TO PERFORATED PIPE IS 6" DIAMETER SCHEDULE 40 SLOTTED PVC PIPE WITH 0.125 INCH SLOTS. SLOTS SHALL BE 0.125 INCHES WIDE AND A MINIMUM OF 1.9 INCHES IN LENGTH, WITH A MINIMUM OF 4 SLOTS PER ROW AND 4 ROWS PER LINEAR FOOT OF PIPE.

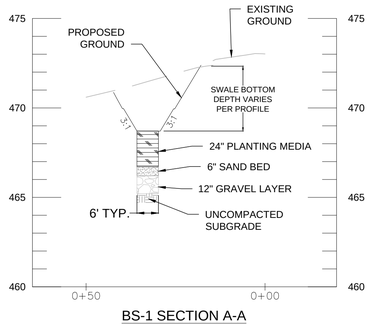
CONSTRUCTION INSPECTION CHECK-OFF LIST FOR SWALES		
STAGE	MCDPS INSPECTOR INITIALS/DATE	OWNER/ DEVELOPER INITIALS/DATE
MANDATORY NOTIFICATION: Inspection and approval of each practice is required at these points prior to proceeding with construction. The permittee is required to give the MCDPS Inspector twenty-four (24) hours notice (DPS telephone 240-777-6311). The DPS inspector may waive an inspection, and allow the owner/developer to make the required inspection per a prior scheduled arrangement which has been confirmed with the DPS inspector in writing. Work completed without MCDPS approval may result in the permittee having to remove and reconstruct the unapproved work. The permittee must maintain a "record set" of approved SC/SM plans on-site at all times. **Upon completion of the project, a formal Stormwater Management As-Built must be submitted to MCDPS unless a Record Drawing Certification has been allowed instead.** Each of the steps listed below must be verified by either the MCDPS Inspector OR the Owner/Developer.		
1. Placement of backfill of underdrains and installation of diaphragms, forebays, check dams, or weirs conforms to approved plans		
2. Final grading and establishment of permanent stabilization conforms to approved plans		

SAND SPECIFICATIONS:

Washed ASTM C33 Fine Aggregate Concrete Sand is utilized for stormwater management applications in Montgomery County. In addition to the ASTM C33 specification, sand must meet ALL of the following conditions:

1. Sand must meet gradation requirements for ASTM C-33 Fine Aggregate Concrete Sand. MSHTO M-6 gradation is also acceptable.
2. Sand must be silica based ... no limestone based products may be used. If the material is white or gray in color, it is probably not acceptable.
3. Sand must be clean. Natural, unwashed sand deposits may not be used. Likewise, sand that has become contaminated by improper storage or installation practices will be rejected.
4. Manufactured sand or stone dust is not acceptable under any circumstance.





BS-1 SECTION A-A

SCALE: HORIZ. 1"=20' VERT. 1"=4'

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

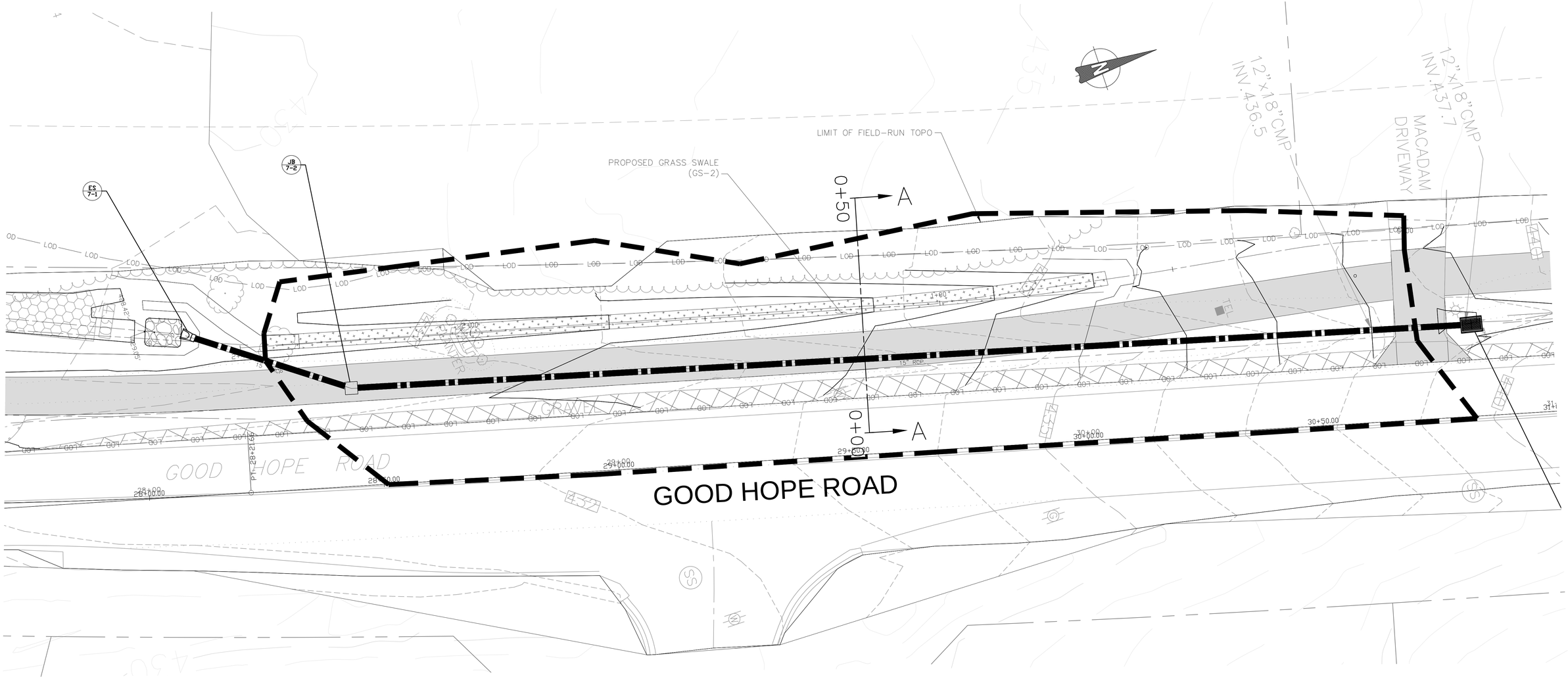
SWM-03 PROFILE (BS-1)
STORMWATER MANAGEMENT

GOOD HOPE ROAD SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 37 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pSW_P001_GoodHope.dwg LAYOUT NAME: BS-1 PROFILE PLOTTED: Tuesday, November 24, 2020 - 12:41pm USER: Kevin



BIOSWALE (BS-2) PLAN
1" = 10'

LEGEND

- FACILITY DRAINAGE AREA
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- BIOSWALE BOTTOM AREA/ AGGREGATE STORAGE AREA
- PAVEMENT REMOVAL

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

SWM-04 PLAN (GS-2)
STORMWATER MANAGEMENT

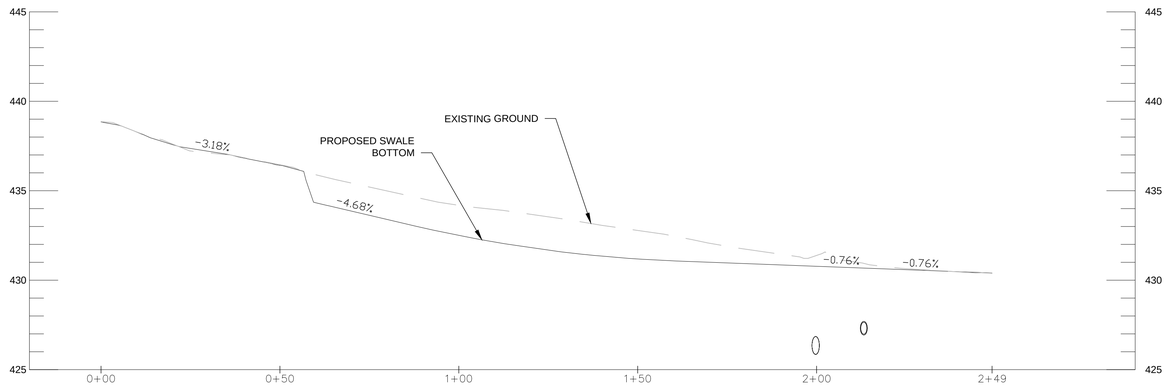
GOOD HOPE ROAD SHARED USE PATH

0 10' 20'

SCALE: 1"=10' DATE: NOVEMBER 2020

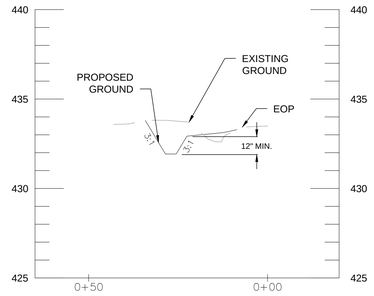
Project No. : 501902 SHEET 38 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pSW_P001_GoodHope.dwg LAYOUT NAME: GS-2 PLAN PLOTTED: Tuesday, November 24, 2020 - 12:42pm USER: Kevin



GRASS SWALE (GS-2) PROFILE

SCALE: HORIZ. 1"=20' VERT. 1"=4'



GS-2 SECTION A-A

SCALE: HORIZ. 1"=20' VERT. 1"=4'

NOTES:

1. GRAVEL LAYER: THE GRAVEL LAYER MUST MEET MSHA SIZE #7 (TABLE 901A), AND SHALL BE 12-INCHES IN DEPTH. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN FILTER MEDIA, EXCEPT AT DRIVEWAY CROSSINGS, AS SHOWN IN THE TYPICAL SECTION. THE GRAVEL MUST BE CLEAN AND MUST BE STORED AND INSTALLED IN SUCH A MANNER THAT IT DOES NOT BECOME CONTAMINATED WITH SEDIMENT BEFORE OR AFTER INSTALLATION.

2. PLANTING MEDIA: THE PLANTING MEDIA SHALL BE 24 INCHES THICK AND CONFORM TO MONTGOMERY COUNTY MICRO-BIORETENTION FACILITY PLANTING MEDIA SPECIFICATIONS:

   1/3 PERLITE OR SOLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL.

   THE TOPSOIL COMPONENT SHALL MEET THE FOLLOWING CRITERIA:

   CONTAIN NO MORE THAN 10% CLAY, 10-25% SILT AND 60-75% SAND AND BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES.

   THE FIRST LAYER OF THE PLANTING MEDIUM SHALL BE LIGHTLY TILLED TO MIX IT INTO THE 6-INCH SAND LAYER, SO AS NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING BED SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.

3. SAND BED: A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE PLANTING MEDIA. ASTM C33 OR AASHTO M6 FINE AGGREGATE CONCRETE SAND IS REQUIRED PER MONTGOMERY COUNTY SAND SPECIFICATIONS.

4. PERFORATED PIPE MUST HAVE PERFORATIONS ⅜ INCH IN DIAMETER AND LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BE AT LEAST 12 INCHES INSIDE THE FILTER MEDIA. IF THIS CANNOT BE ACHIEVED, THEN SIDES OF THE FILTER MEDIA MUST BE LINED WITH FILTER FABRIC. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE. AN ACCEPTABLE ALTERNATIVE TO PERFORATED PIPE IS 6" DIAMETER SCHEDULE 40 SLOTTED PVC PIPE WITH 0.125 INCH SLOTS. SLOTS SHALL BE 0.125 INCHES WIDE AND A MINIMUM OF 1.9 INCHES IN LENGTH, WITH A MINIMUM OF 4 SLOTS PER ROW AND 4 ROWS PER LINEAR FOOT OF PIPE.

0 20' 40'

HORIZONTAL SCALE: 1"=20'

SAND SPECIFICATIONS:

Washed ASTM C33 Fine Aggregate Concrete Sand is utilized for stormwater management applications in Montgomery County. In addition to the ASTM C33 specification, sand must meet ALL of the following conditions:

1. Sand must meet gradation requirements for ASTM C-33 Fine Aggregate Concrete Sand. MSHTO M-6 gradation is also acceptable.
2. Sand must be silica based ... no limestone based products may be used. If the material is white or gray in color, it is probably not acceptable.
3. Sand must be clean. Natural, unwashed sand deposits may not be used. Likewise, sand that has become contaminated by improper storage or installation practices will be rejected.
4. Manufactured sand or stone dust is not acceptable under any circumstance.

GS-2

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

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

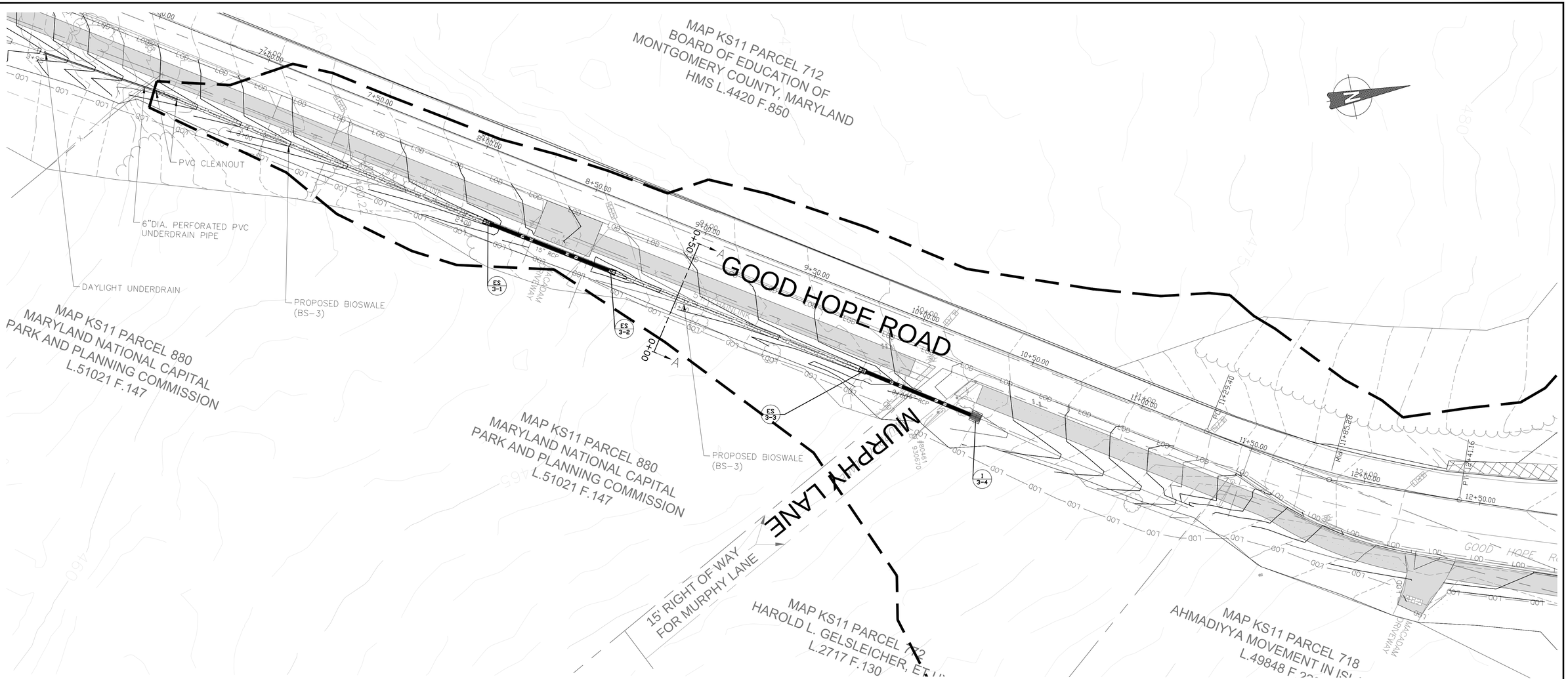
Designed by: KJS Drawn by: KJS Checked by: DZ

SWM-05 PROFILE (GS-2)
STORMWATER MANAGEMENT

GOOD HOPE ROAD
SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 39 of 114



LEGEND

- FACILITY DRAINAGE AREA
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. MINOR CONTOUR
- BIOSWALE BOTTOM AREA/ AGGREGATE STORAGE AREA
- PAVEMENT REMOVAL

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

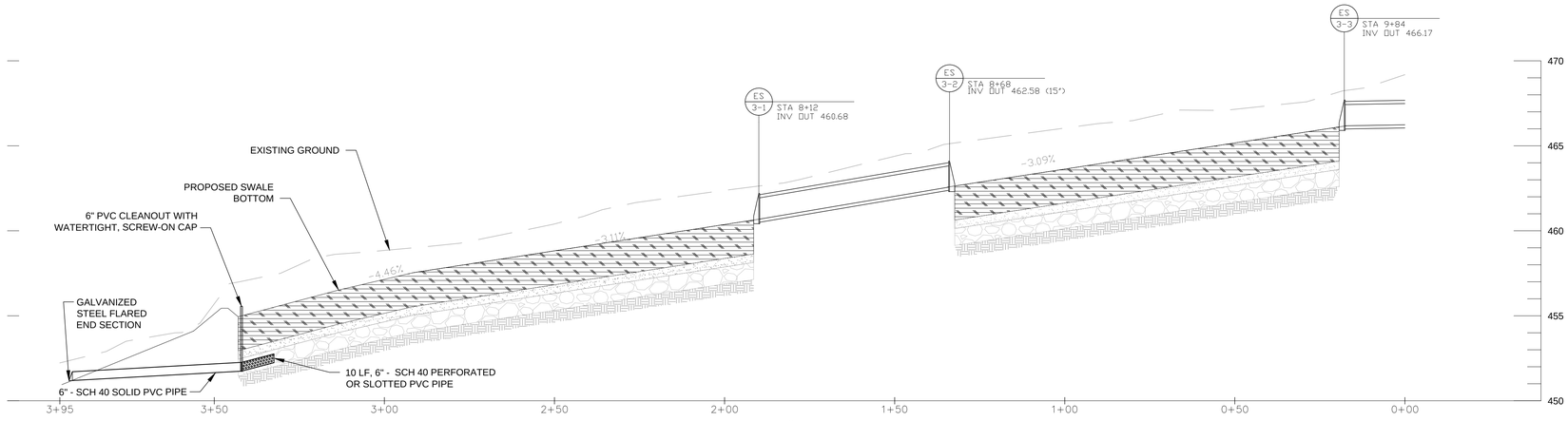
SWM-06 PLAN (BS-3)
STORMWATER MANAGEMENT

GOOD HOPE ROAD SHARED USE PATH

0 20' 40'

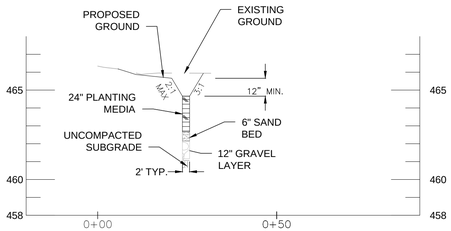
SCALE: 1"=20' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 40 of 114



BS-3 Profile

SCALE: HORIZ. 1"=20' VERT. 1"=4'



BS-3 SECTION A-A

SCALE: HORIZ. 1"=20' VERT. 1"=4'

NOTES:

1. GRAVEL LAYER: THE GRAVEL LAYER MUST MEET MSHA SIZE #7 (TABLE 901A), AND SHALL BE 12-INCHES IN DEPTH. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN FILTER MEDIA, EXCEPT AT DRIVEWAY CROSSINGS, AS SHOWN IN THE TYPICAL SECTION. THE GRAVEL MUST BE CLEAN AND MUST BE STORED AND INSTALLED IN SUCH A MANNER THAT IT DOES NOT BECOME CONTAMINATED WITH SEDIMENT BEFORE OR AFTER INSTALLATION.

2. PLANTING MEDIA: THE PLANTING MEDIA SHALL BE 24 INCHES THICK AND CONFORM TO MONTGOMERY COUNTY MICRO-BIORETENTION FACILITY PLANTING MEDIA SPECIFICATIONS:

   1/3 PERLITE OR SOLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL.

   THE TOPSOIL COMPONENT SHALL MEET THE FOLLOWING CRITERIA:

   CONTAIN NO MORE THAN 10% CLAY, 10-25% SILT AND 60-75% SAND AND BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES.

   THE FIRST LAYER OF THE PLANTING MEDIUM SHALL BE LIGHTLY TILLED TO MIX IT INTO THE 6-INCH SAND LAYER, SO AS NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING BED SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.

3. SAND BED: A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE PLANTING MEDIA. ASTM C33 OR AASHTO M6 FINE AGGREGATE CONCRETE SAND IS REQUIRED PER MONTGOMERY COUNTY SAND SPECIFICATIONS.

4. PERFORATED PIPE MUST HAVE PERFORATIONS ⅜ INCH IN DIAMETER AND LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BE AT LEAST 12 INCHES INSIDE THE FILTER MEDIA. IF THIS CANNOT BE ACHIEVED, THEN SIDES OF THE FILTER MEDIA MUST BE LINED WITH FILTER FABRIC. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE. AN ACCEPTABLE ALTERNATIVE TO PERFORATED PIPE IS 6" DIAMETER SCHEDULE 40 SLOTTED PVC PIPE WITH 0.125 INCH SLOTS. SLOTS SHALL BE 0.125 INCHES WIDE AND A MINIMUM OF 1.9 INCHES IN LENGTH, WITH A MINIMUM OF 4 SLOTS PER ROW AND 4 ROWS PER LINEAR FOOT OF PIPE.

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

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

SAND SPECIFICATIONS:

Washed ASTM C33 Fine Aggregate Concrete Sand is utilized for stormwater management applications in Montgomery County. In addition to the ASTM C33 specification, sand must meet ALL of the following conditions:

1. Sand must meet gradation requirements for ASTM C-33 Fine Aggregate Concrete Sand. MSHTO M-6 gradation is also acceptable.
2. Sand must be silica based ... no limestone based products may be used. If the material is white or gray in color, it is probably not acceptable.
3. Sand must be clean. Natural, unwashed sand deposits may not be used. Likewise, sand that has become contaminated by improper storage or installation practices will be rejected.
4. Manufactured sand or stone dust is not acceptable under any circumstance.

BS-3

CONSTRUCTION INSPECTION CHECK-OFF LIST FOR SWALES		
STAGE	MCDPS INSPECTOR	OWNER/ DEVELOPER
MANDATORY NOTIFICATION: Inspection and approval of each practice is required at these points prior to proceeding with construction. The permittee is required to give the MCDPS Inspector twenty-four (24) hours notice (DPS telephone 240-777-0311). The DPS inspector may waive an inspection, and allow the owner/developer to make the required inspection per a prior scheduled arrangement which has been confirmed with the DPS inspector in writing. Work completed without MCDPS approval may result in the permittee having to remove and reconstruct the unapproved work. The permittee must maintain a "record set" of approved SC/SM plans on-site at all times. **Upon completion of the project, a formal Stormwater Management As-Built must be submitted to MCDPS unless a Record Drawing Certification has been allowed instead.** Each of the steps listed below must be verified by either the MCDPS Inspector OR the Owner/Developer.	INITIALS/DATE	INITIALS/DATE
1. Placement of backfill of underdrains and installation of diaphragms, forebays, check dams, or weirs conforms to approved plans		
2. Final grading and establishment of permanent stabilization conforms to approved plans		

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

SWM-07 PROFILE (BS-3) STORMWATER MANAGEMENT

GOOD HOPE ROAD SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 41 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pSW_P001_GoodHope.dwg LAYOUT NAME: BS-3 PROFILE PLOTTED: Tuesday, November 24, 2020 - 12:42pm USER: Kevin

As-Built Inspection Tabulations/Checklist for BMP Number:
MDE/PRD No.:

Accepted by: _____ Authority: _____

Name _____ Date _____

JELLYFISH FILTER TABULATIONS

ACTIVITY	DESIGNED	AS-BUILT	DIFFERENCE	INSPECTOR INITIALS	ACCEPTANCE DATE
As-Built Survey	N/A				
Manhole Size Ø	48"				
Number of Cartridges (High-Flo/Draindown)	3 (2/1)				
Cartridge Depth	27"				
Inlet Pipe 1 Invert Elevation	442.55'				
Inlet Pipe 1 Diameter/Material	15" RCP				
Inlet Pipe 2 Invert Elevation	N/A				
Inlet Pipe 2 Diameter/Material	N/A				
Outlet Pipe Invert Elevation	442.05'				
Outlet Pipe Diameter/Material	15" RCP				
Anti-Flotation Ballast Width/Height	N/A				
Rim Elevation	448.98'				

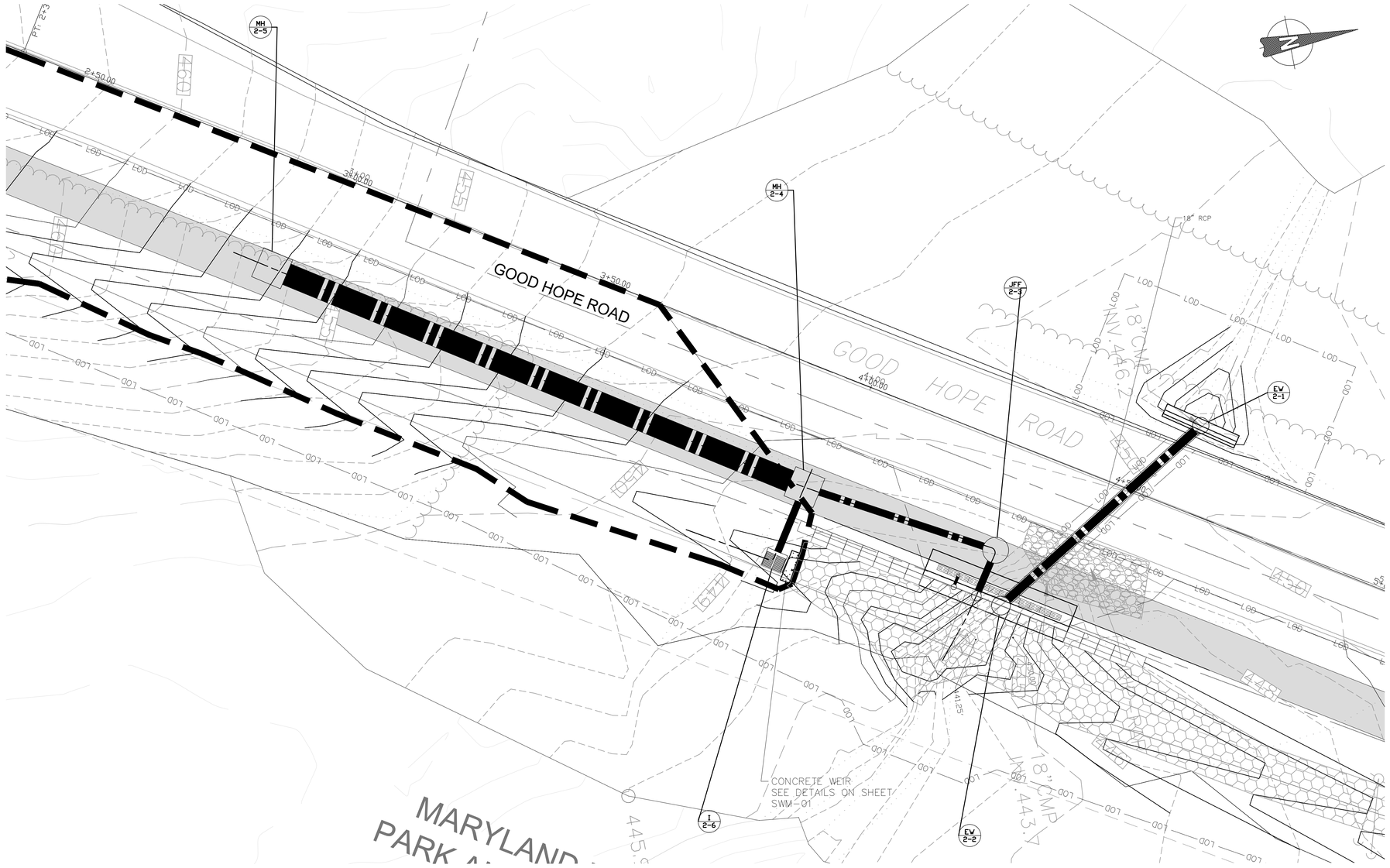
As-Built Inspection Tabulations/Checklist for BMP Number:
MDE / PRD No.:

Accepted by: _____ Agency: _____

Name _____ Date _____

JELLYFISH FILTER CONSTRUCTION CHECKLIST

ACTIVITY	ON SITE INSPECTION DATE	INSPECTOR INITIALS	ACCEPTANCE DATE
Excavated to proper size and location			
Subbase compacted to required percentage			
Base section elevation on each precast section			
Watertight seals on each precast section			
Outlet pipe invert elevation and inlet pipe(s) invert elevations are as shown in plan.			
Internal Components pre-installed according to plan. Maintenance access wall and steps installed according to approved shop drawing.			
Manhole top finish grade even with surrounding finish grade and approved top drawing elevations.			
Outlet and Inlet pipes installed with water tight connection in accordance with plans and specifications.			
Backfill material and placement performed in accordance with construction plans and specifications.			
Site stabilized (post-construction) and unit shall be confirmed fully clean prior to installation of cartridges and filter activation.			



JELLYFISH FILTER PLAN VIEW
SCALE: 1" = 10'

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

Designed by: KJS Drawn by: _____ Checked by: DZ

SWM-08 PLAN (JFF 2-3)
STORMWATER MANAGEMENT

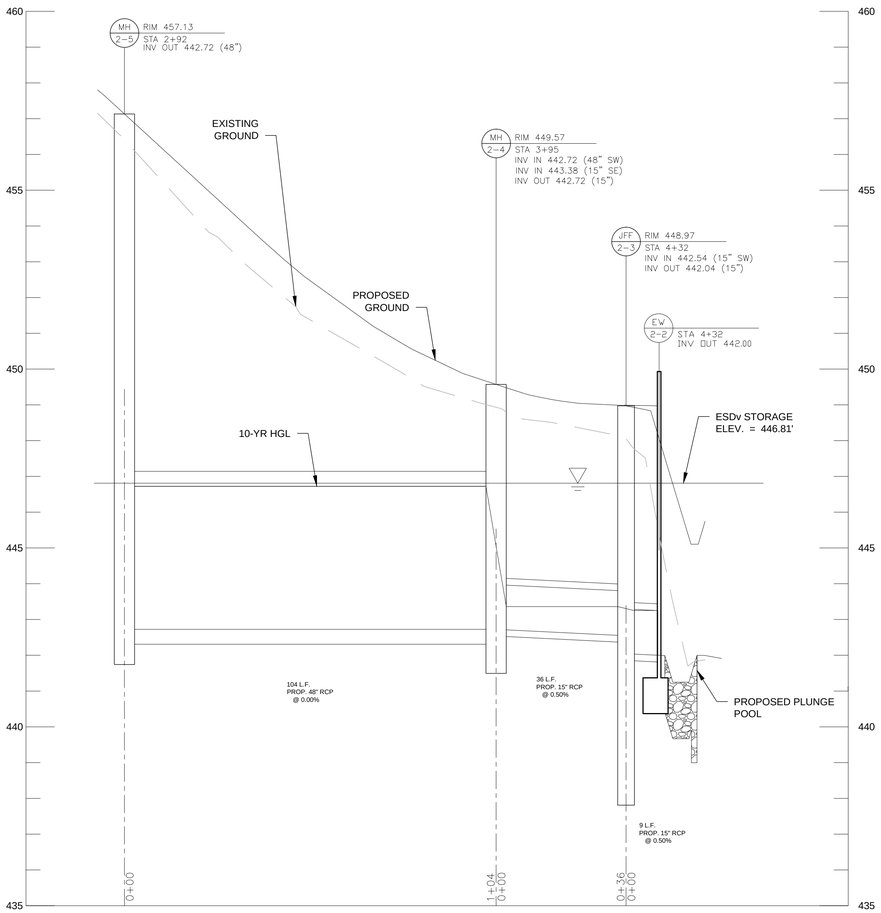
GOOD HOPE ROAD
SHARED USE PATH

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

DATE: NOVEMBER 2020

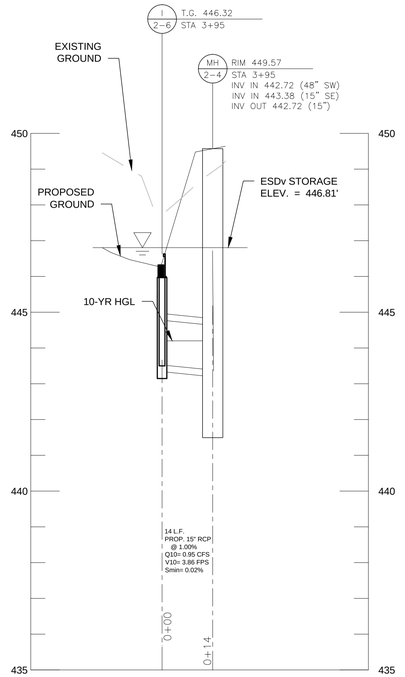
Project No. : 501902 SHEET 42 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pSW_P001_GoodHope.dwg LAYOUT NAME: JFF 2-3 PLAN PLOTTED: Tuesday, November 24, 2020 - 12:43pm USER: Kevin



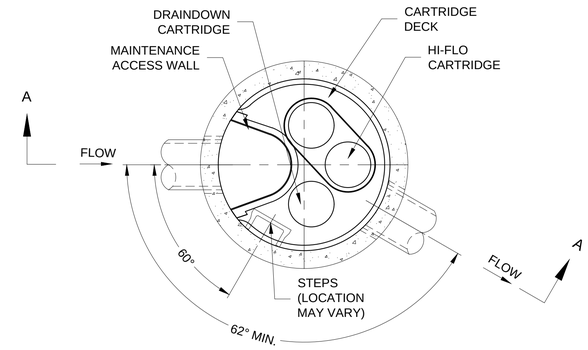
MH 2-5 to EW 2-2 Profile

SCALE: HORIZ. 1"=20' VERT. 1"=2'

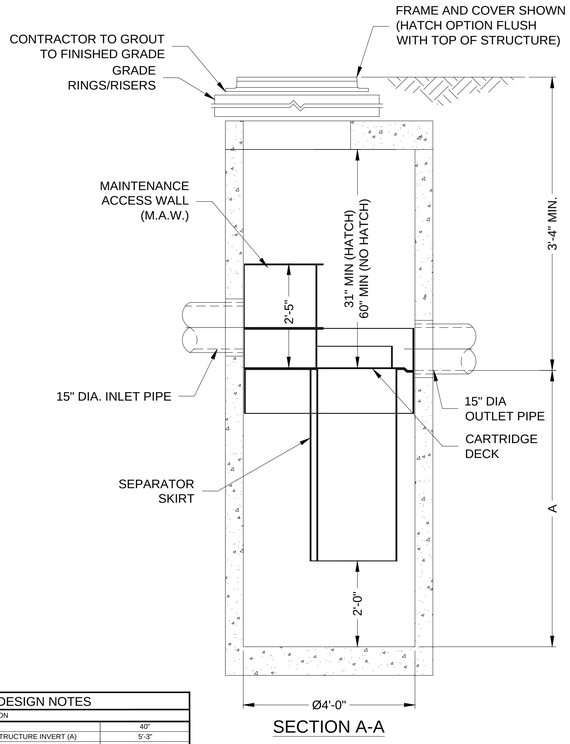


I 2-6 to MH 2-4 Profile

SCALE: HORIZ. 1"=20' VERT. 1"=2'



PLAN VIEW



SECTION A-A

JELLYFISH DESIGN NOTES	
CARTRIDGE SELECTION	
CARTRIDGE DEPTH	40"
OUTLET INVERT TO STRUCTURE INVERT (A)	5'-3"
FLOW RATE HIGH-FLO / DRAINDOWN (cfs) (per cart)	0.13 / 0.065
MAX. CARTS HIGH-FLO / DRAINDOWN	2 / 1
TOTAL FLOW CAPACITY (cfs)	0.325

JELLYFISH FILTER DETAILS

NOT TO SCALE

0 2' 4'

VERTICAL SCALE: 1"=2'

0 20' 40'

HORIZONTAL SCALE: 1"=20'

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: KJS Drawn by: KJS Checked by: DZ

SWM-09 PROFILE (JFF 2-3) STORMWATER MANAGEMENT

GOOD HOPE ROAD SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 43 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pSW_P001_GoodHope.dwg LAYOUT NAME: JFF 2-3 PROFILE PLOTTED: Tuesday, November 24, 2020 - 12:43pm USER: Kevin

MAINTENANCE OF TRAFFIC NOTES:

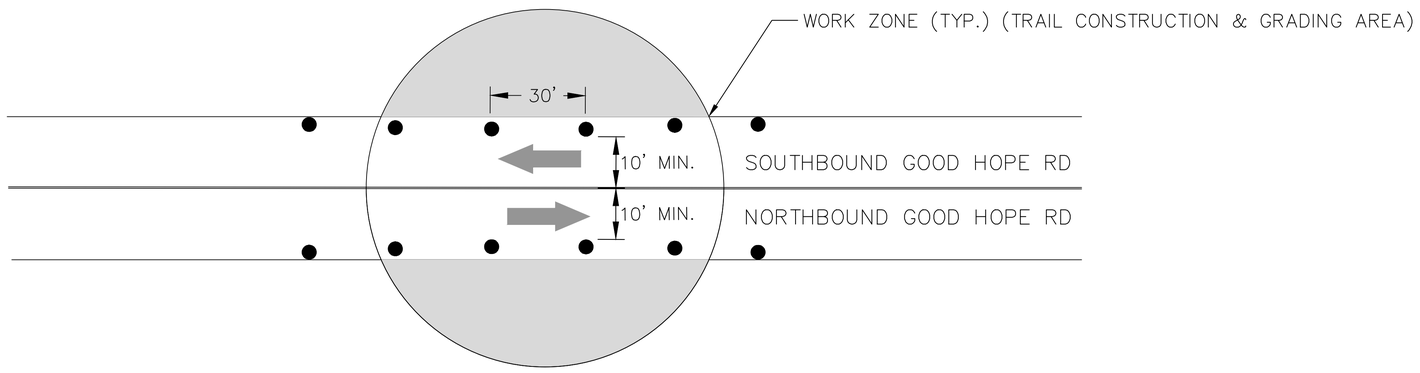
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MARYLAND STATE HIGHWAY WORK ZONE TRAFFIC CONTROL TYPICALS IN CATEGORY 1 OF THE BOOK OF STANDARDS. THE 2011 MD MUTCD AND SUBSEQUENT REVISIONS ADOPTED BY THE STATE OF MARYLAND, THESE PLANS, AND OTHER CONTRACT DOCUMENTS.
2. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TRAFFIC CONTROL SIGNS AND DEVICES. THE CONTRACTOR SHALL MAINTAIN TRAFFIC DURING HOURS OF CONSTRUCTION IN ACCORDANCE WITH THE METHOD OF TRAFFIC CONTROL SHOWN ON THESE DRAWINGS, OTHER CONTRACT DOCUMENTS, AND THE 2011 MD MUTCD AND SUBSEQUENT REVISIONS.
3. ALL TEMPORARY SIGNS FOR MAINTENANCE OF TRAFFIC SHALL BE PER MONTGOMERY COUNTY STANDARD TCP-100.01 AND SECTION 4.0 SIGNS OF THE MDSHA GENERAL NOTES FOR TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATIONS (TTCTA) AS SHOWN ON ON MDSHA STD DETAIL 104.00-06 TO MDSHA STD 104.00-08. SIGNS SHALL BE MOUNTED PER SECTION 4.0 OF THE TTCTA AND AS SHOWN ON MDSHA STD 104.01-17A TO MDSHA STD 104.01-17D OR AS OTHERWISE SHOWN ON THESE PLANS OR AS DIRECTION BY THE ENGINEER.
4. NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS, DRUMS, BARRIER, AND PAVEMENT MARKINGS ARE IN PLACE AND OPERATIONAL, AS APPROVED BY THE ENGINEER.
5. CONSTRUCTION WARNING SIGNS ABOUT SPECIFIC AREAS AND TYPE OF CONSTRUCTION WILL BE PLACED AS DIRECTED BY THE ENGINEER.
6. ALL EXISTING SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION UNLESS A CHANGE IS SHOWN ON THE PLAN AND/OR AS DIRECTED BY THE ENGINEER.
7. UNLESS OTHERWISE SHOWN ON THE PLANS, ACCESS SHALL BE PROVIDED TO ALL DRIVEWAYS AND CROSS STREETS AT ALL TIMES.
8. FLAGGERS SHALL BE MARYLAND STATE HIGHWAY ADMINISTRATION OR AATSA APPROVED FLAGGERS AND SHALL BE USED AT THE DIRECTION OF THE MONTGOMERY COUNTY INSPECTOR.
9. RADIO COMMUNICATION SHALL BE REQUIRED BETWEEN FLAGGERS AT THE DISCRETION OF THE MONTGOMERY COUNTY INSPECTOR OR IF THE FLAGGERS CANNOT SEE EACH OTHER AND/OR THE LANE CLOSURE EXCEEDS 200 FEET.
10. THE CONTRACTOR SHALL CONTACT MONTGOMERY COUNTY TMC AT 240-777-2100, 72 HOURS PRIOR TO STARTING ALL WORK.
11. DRUMS SHALL PROTECT THE WORK ZONE DURING NON-WORK HOURS AND SHALL BE RESET ACCORDING TO THE STANDARDS LISTED IN THE SEQUENCE OF CONSTRUCTION NOTED ON THIS PLAN DURING WORK HOURS.

SEQUENCE OF CONSTRUCTION NOTES:

1. ESTABLISH ALL NECESSARY SEDIMENT AND EROSION CONTROL MEASURES.
2. PLACE MAINTENANCE OF TRAFFIC ITEMS AS INDICATED ON THE PLANS.
3. CONSTRUCT PRE-FABRICATED PEDESTRIAN BRIDGE, ASPHALT TRAIL, AND DRIVEWAY MODIFICATIONS ALONG GOOD HOPE ROAD
4. STABILIZE AND CLEAN ALL CONSTRUCTION AREAS.
5. REMOVE MAINTENANCE OF TRAFFIC ITEMS.

PEDESTRIAN MAINTENANCE OF TRAFFIC NOTES:

1. ESTABLISH ALL NECESSARY PEDESTRIAN MAINTENANCE OF TRAFFIC ACCESS AND SIGNAGE PRIOR TO BEGINNING CONSTRUCTION IN EACH WORK AREA.
2. ENSURE THAT A SAFE ROUTE FOR PEDESTRIANS IS AVAILABLE AT ALL TIMES DURING CONSTRUCTION.
3. KEEP ANY EXISTING PEDESTRIAN FACILITIES CLEAN AND ACCESSIBLE THROUGHOUT CONSTRUCTION WITH THE EXCEPTION OF WHEN THE PARTICULAR AREA IS BEING ALTERED AS SHOWN ON THE PLANS.



LEGEND

- DRUM
- TEMPORARY SIGN
- WORK ZONE
- TRAFFIC FLOW ARROW

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

MT-01 MOT NOTES & DETAILS

GOOD HOPE ROAD
SHARED USE PATH

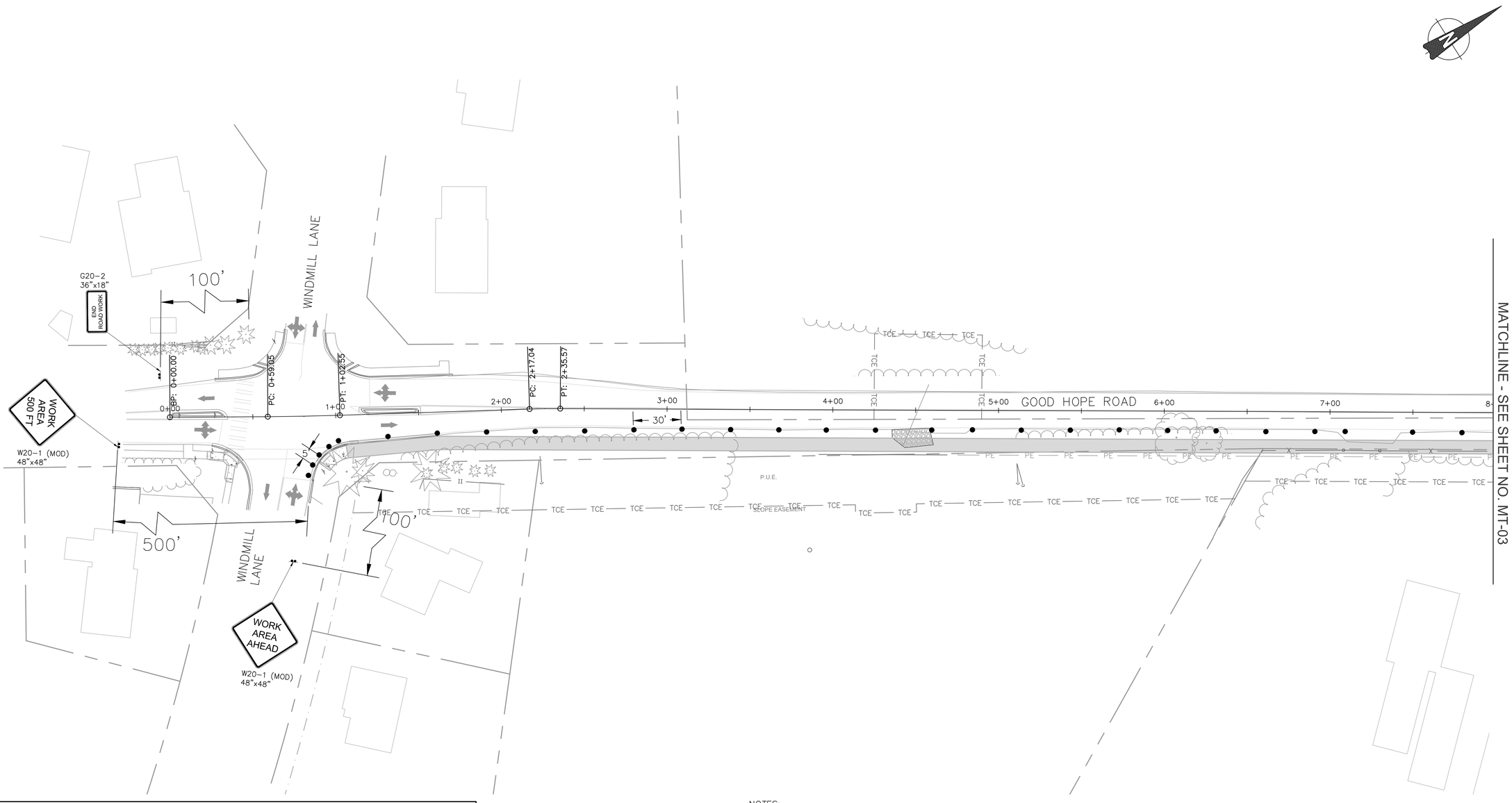
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 44 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pMT_Notes_GoodHope.dwg LAYOUT NAME: MT-01 PLOTTED: Tuesday, November 24, 2020 - 1:59pm USER: MStraughan



MATCHLINE - SEE SHEET NO. MT-03

LEGEND

- DRUM
- TEMPORARY SIGN
- PROPOSED SIGN (ROAD WORK)
- TRAFFIC FLOW ARROW
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:

1. DRUM SPACING IS TYPICAL. DRUMS SHALL BE USED IN LIMITED WORK INTERVALS – SEE DETAIL ON MT–00.
2. THIS SHEET IS WITHIN THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

MT–02 MAINTENANCE OF TRAFFIC PLAN
GOOD HOPE ROAD SHARED USE PATH

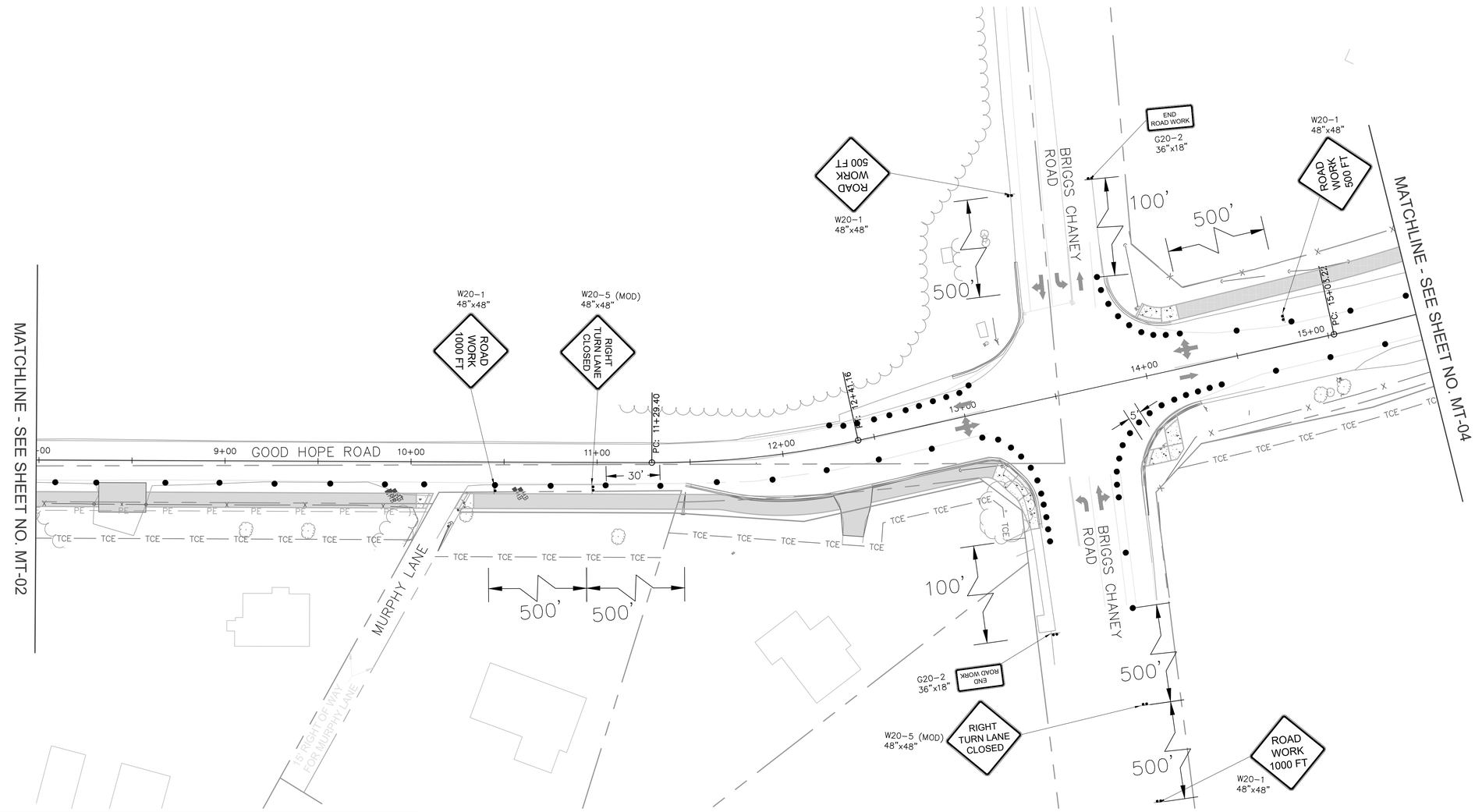
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 45 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pMT_GoodHope.dwg LAYOUT NAME: MT-02 PLOTTED: Tuesday, November 24, 2020 – 1:51pm USER: MStraughan



LEGEND

- DRUM
- TEMPORARY SIGN
- PROPOSED SIGN (ROAD WORK)
- TRAFFIC FLOW ARROW
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:

1. DRUM SPACING IS TYPICAL. DRUMS SHALL BE USED IN LIMITED WORK INTERVALS – SEE DETAIL ON MT–00.
2. THIS SHEET IS WITHIN THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

MT–03 MAINTENANCE OF TRAFFIC PLAN
GOOD HOPE ROAD SHARED USE PATH

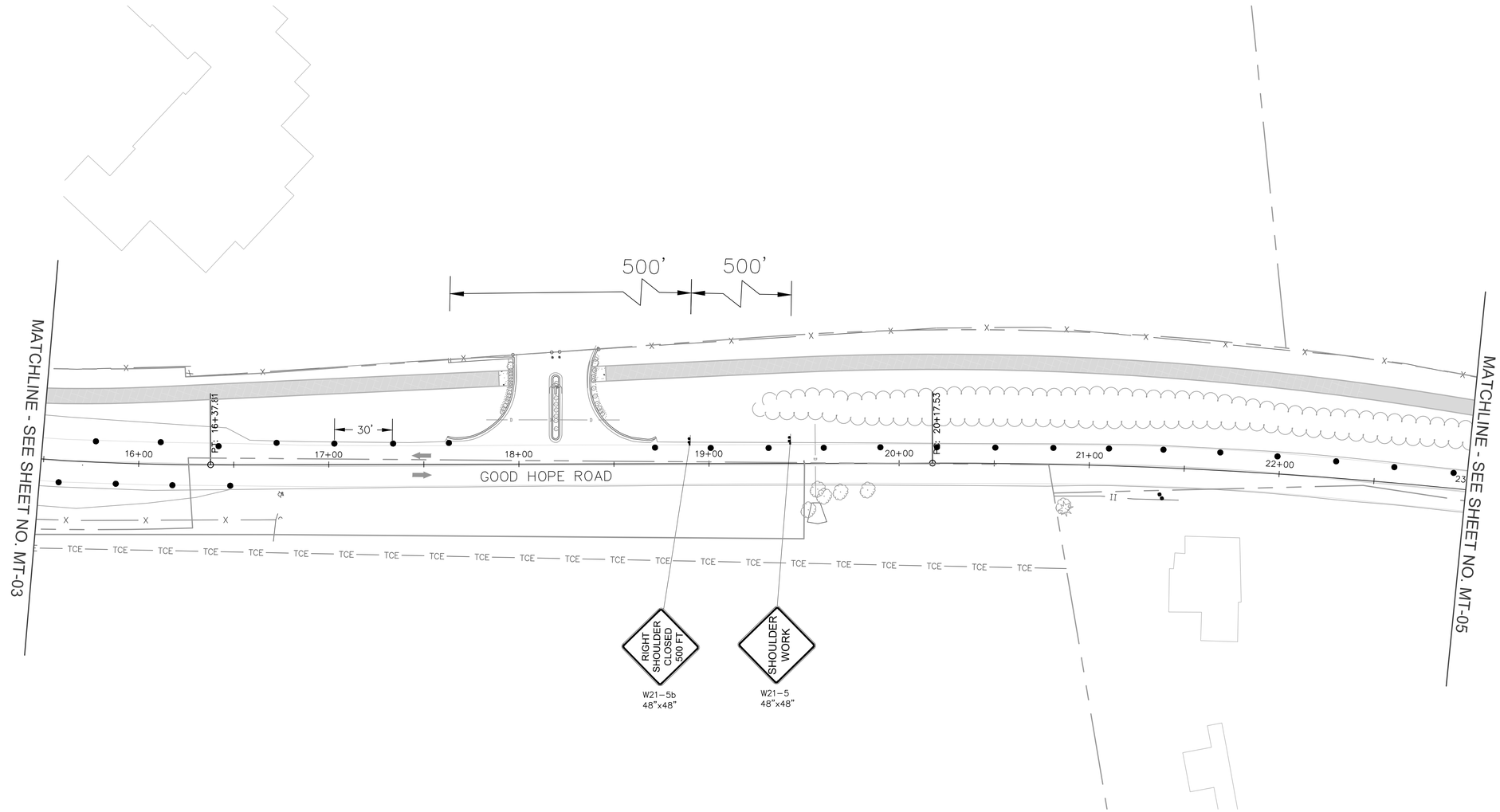
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 46 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pMT_GoodHope.dwg LAYOUT NAME: MT-03 PLOTTED: Tuesday, November 24, 2020 - 1:50pm USER: MStraughan



LEGEND

- DRUM
- TEMPORARY SIGN
- PROPOSED SIGN (ROAD WORK)
- TRAFFIC FLOW ARROW
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:

1. DRUM SPACING IS TYPICAL. DRUMS SHALL BE USED IN LIMITED WORK INTERVALS – SEE DETAIL ON MT–00.
2. THIS SHEET IS WITHIN THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

MT–04 MAINTENANCE OF TRAFFIC PLAN
GOOD HOPE ROAD SHARED USE PATH

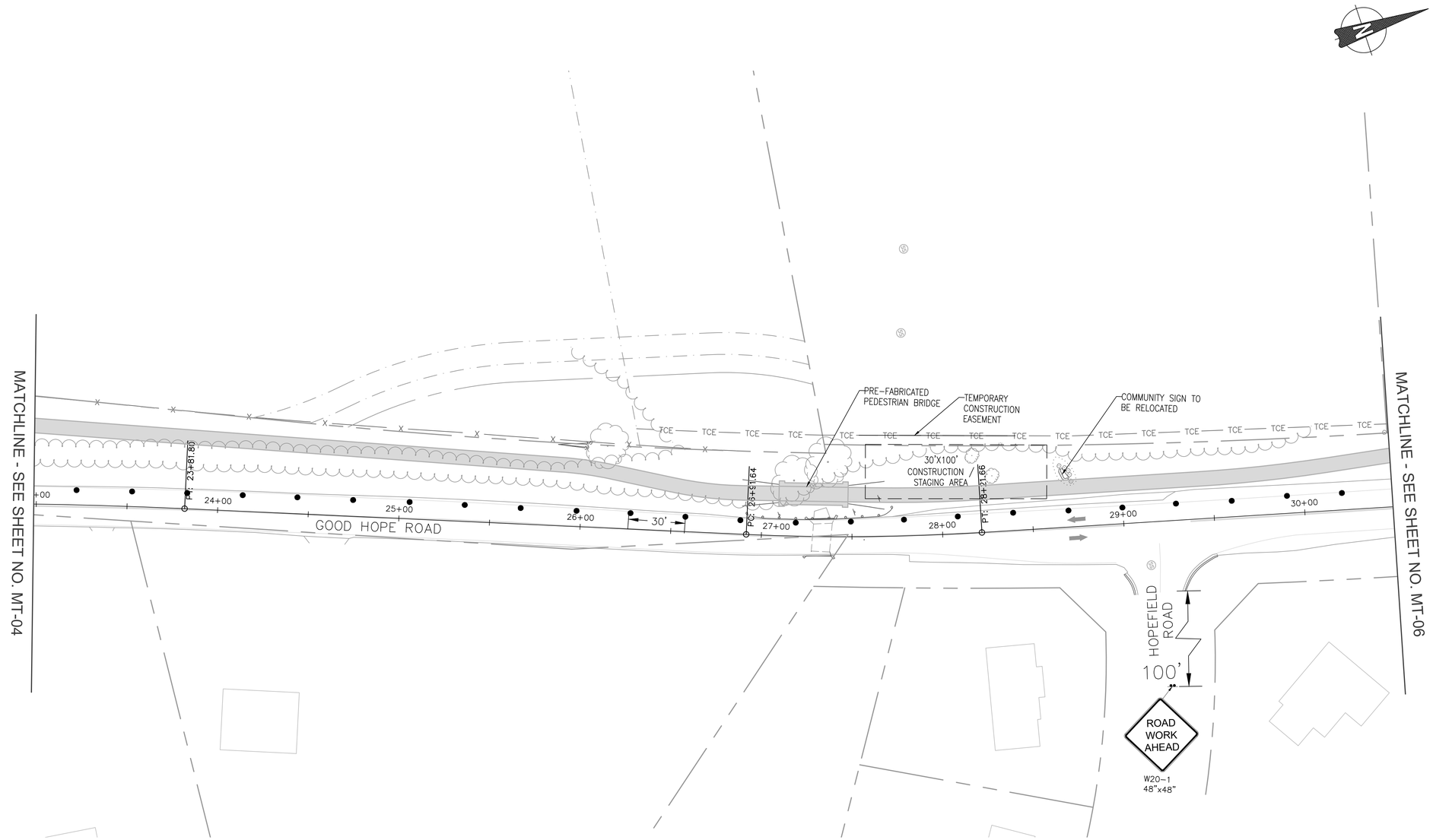
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 47 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pMT_GoodHope.dwg LAYOUT NAME: MT-04 PLOTTED: Tuesday, November 24, 2020 - 1:45pm USER: MStraughan



LEGEND

- DRUM
- TEMPORARY SIGN
- PROPOSED SIGN (ROAD WORK)
- TRAFFIC FLOW ARROW
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:

1. DRUM SPACING IS TYPICAL. DRUMS SHALL BE USED IN LIMITED WORK INTERVALS – SEE DETAIL ON MT–00.
2. THIS SHEET IS WITHIN THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

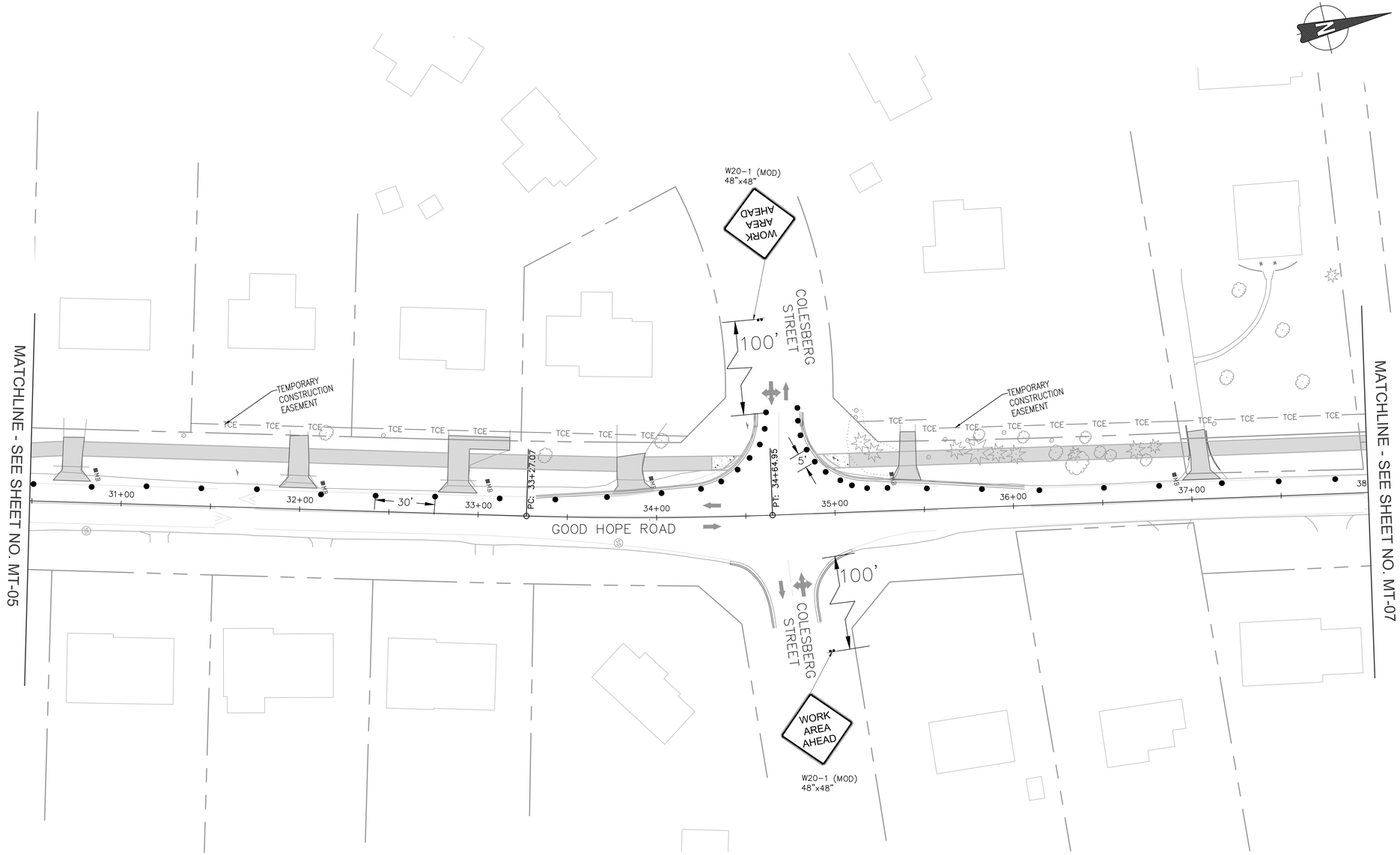
MT–05 MAINTENANCE OF TRAFFIC PLAN
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 48 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pMT_GoodHope.dwg LAYOUT NAME: MT-05 PLOTTED: Tuesday, November 24, 2020 - 1:45pm USER: MStraughan



LEGEND

- DRUM
- TEMPORARY SIGN
- PROPOSED SIGN (ROAD WORK)
- TRAFFIC FLOW ARROW
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:

1. DRUM SPACING IS TYPICAL. DRUMS SHALL BE USED IN LIMITED WORK INTERVALS – SEE DETAIL ON MT–00.
2. THIS SHEET IS WITHIN THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

MT–06 MAINTENANCE OF TRAFFIC PLAN
GOOD HOPE ROAD SHARED USE PATH

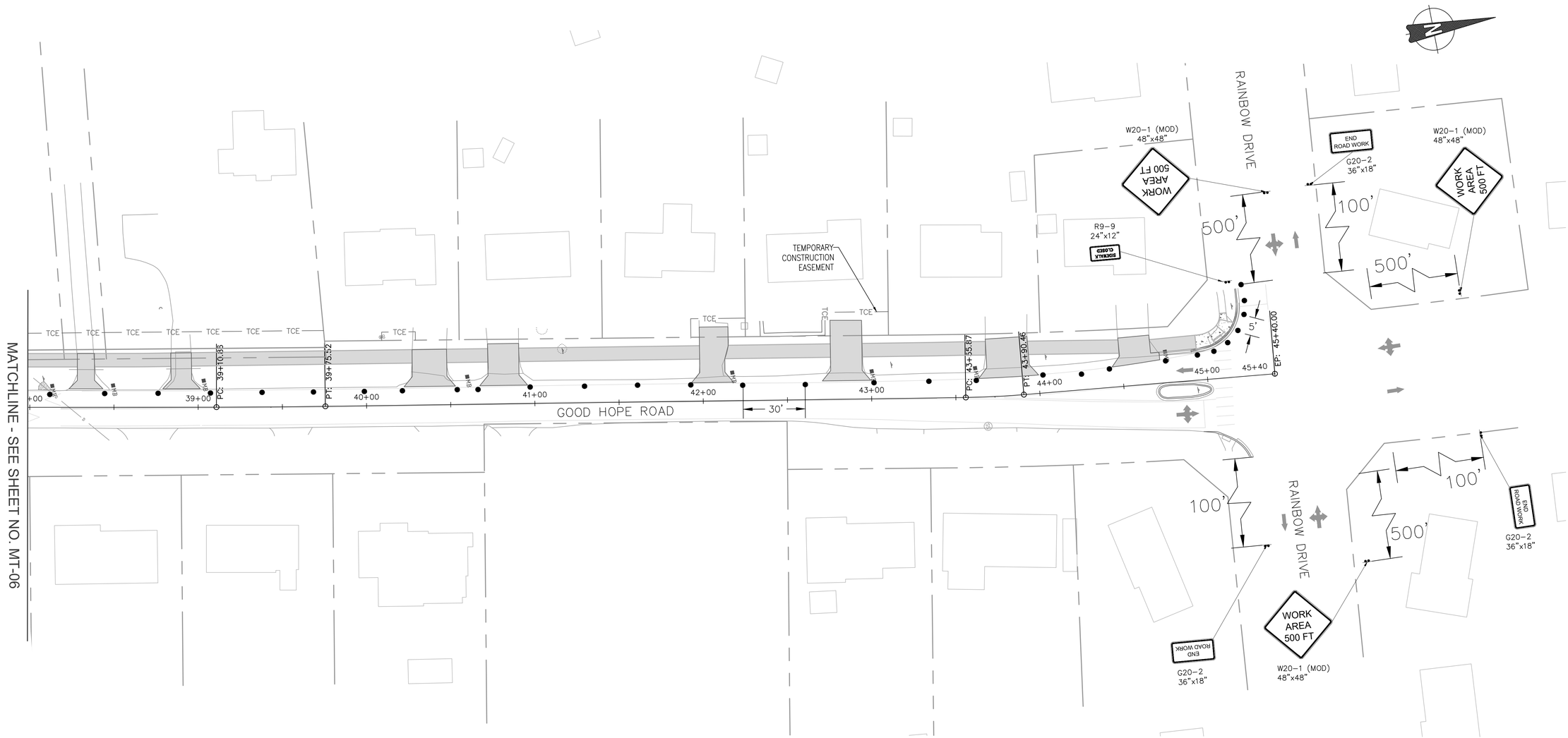
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 49 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pMT_GoodHope.dwg LAYOUT NAME: MT-06 PLOTTED: Tuesday, November 24, 2020 – 1:43pm USER: MStroughton



LEGEND

- DRUM
- TEMPORARY SIGN
- PROPOSED SIGN (ROAD WORK)
- TRAFFIC FLOW ARROW
- PROPOSED ASPHALT PATH/TRAIL–IMPERVIOUS
- PROPOSED FULL DEPTH ASPHALT PAVEMENT
- PROPOSED MILL AND OVERLAY
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

NOTES:

1. DRUM SPACING IS TYPICAL. DRUMS SHALL BE USED IN LIMITED WORK INTERVALS – SEE DETAIL ON MT–00.
2. THIS SHEET IS WITHIN THE UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

MT–07 MAINTENANCE OF TRAFFIC PLAN
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 50 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pMT_GoodHope.dwg LAYOUT NAME: MT-07 PLOTTED: Tuesday, November 24, 2020 - 1:42pm USER: MStraughan

CRITERIA

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT:

DESIGN

MDOT SHA – "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MdMUTCD)

A A S H T O – "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" –1997

A A S H T O – "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2001 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

MATERIALS AND CONSTRUCTION

MDOT SHA – "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", 2017 EDITION AND SUBSEQUENT SUPPLEMENTS.

DESIGN WIND

100 MPH – WOOD SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH – GROUND MOUNT SIGN STEEL SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH – OVERHEAD AND CANTILEVER STRUCTURES
50 YEAR RECURRENCE INTERVAL

} ALL DISTRICTS

DESIGN STRESS

SOIL BEARING PRESSURE – S = 3,000 P.S.F. (ASSUMED)
SEE MATERIAL & CONSTRUCTION ABOVE AND SPECIAL PROVISIONS FOR DESIGN STRESSES FOR STRUCTURAL STEEL, ALUMINUM, REINFORCING STEEL AND CONCRETE.

CHAMFER

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" X 3/4" CHAMFER.

CLASSIFICATION OF SIGNS

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

1. GUIDE SIGNS
   - A) STRUCTURAL TYPES
     - OH – OVERHEAD
     - C – CANTILEVER
     - GM – GROUND MOUNT, BREAKAWAY OR NON–BREAKWAY
     - BM – BRIDGE MOUNTED
   - B) PANELS
     - MATERIAL – EXTRUDED ALUMINUM
     - COPY – DIRECT APPLIED
       1) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)
2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
   - A) STRUCTURAL TYPES
     - WOOD SUPPORTS
     - SQUARE TUBE
   - B) PANELS
     - MATERIAL – SHEET ALUMINUM
     - COPY – DIRECT APPLIED

IDENTIFICATION OF SIGNS AND PANELS

GUIDE SIGNS

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM–1, GM–2, GM–3, etc)
SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH–1a, OH–1b, OH–1c)

STANDARD SIGNS

STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS
- R – REGULATORY
- W – WARNING
- M – ROUTE MARKERS AND ACCESSORIES
- D – DESTINATION AND MILEAGE PANELS
- S – SCHOOL

PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK. EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN.
FOR EXAMPLE SHEET SN 2.1–101,102,103, ETC. SHEET SN 2.2–201,202,203,ETC.

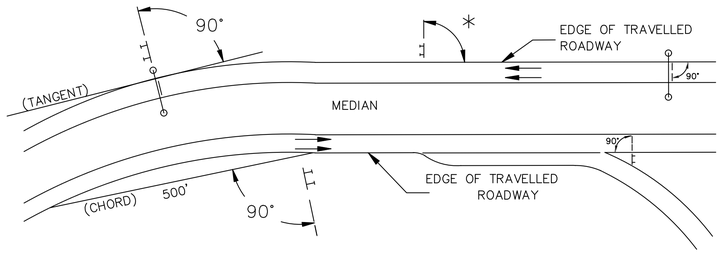
PANEL LAYOUT AND ALPHABETS

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.
2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MdMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE @ https: /www.marylandroads.com/businesswithsha/bizStdsSpecs/desManualStdPub/publicationsonline/oots/internet_signbook.asp

REFLECTORIZATION

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE NOTED. REFER TO PROJECT REQUIREMENTS FOR MORE DETAIL.

ORIENTATION OF SIGN FACES



* UNDER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN – 93^ AWAY FROM THE ROAD TO AVOID SPECULAR REFLECTION AS INDICATED IN 813.03 OF THE MARYLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

OVER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN – 90^

SIGN LOCATIONS

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSION TO SURVEY STATIONS, OR WHEN NECESSARY, TO IDENTIFIABLE PHYSICAL FEATURES.
2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLAN SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

EXISTING UTILITIES

THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION SHOWN ON THE PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATION.

ROADSIDE SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANEL SO FACE IS PLUMB.
2. HORIZONTAL ALIGNMENT (SEE DIAGRAM ABOVE)
   - A) ON STRAIGHT ROADWAY SECTIONS, ANGLE OF SIGN FACE TO ROADWAY VARIES WITH DISTANCE FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN – SEE DIAGRAM.
   - B) ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90^ WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500' IN ADVANCE OF SIGN.
   - C) ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT THE SIGN LOCATION.
   - D) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

OVERHEAD SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT PANEL FACE IS PLUMB.
2. OVERHEAD SIGN STRUCTURES SHALL NOT BE ERECTED WITHOUT ATTACHING LUMINAIRES, SUPPORTS, AND/OR SIGNS.
3. HORIZONTAL ALIGNMENT
   - A) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE NORMAL EDGE OF ROADWAY, IF ON A STRAIGHT ROADWAY SECTION.
   - B) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT SIGN LOCATION, IF ON A HORIZONTAL CURVE.
   - C) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.
4. VERTICAL CLEARANCE
   - A) OVERHEAD SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 17'–9" FROM ROADWAY TO THE BOTTOM OF LIGHT FIXTURES. ALL LIGHT FIXTURES ARE TO BE AT THE SAME ELEVATION.
   - B) IF THE CONTRACTOR CANNOT OBTAIN 17'–9" (SEE 3A) CLEARANCE, HE IS TO CEASE WORK AND CONTACT THE PROJECT ENGINEER FOR FURTHER INSTRUCTIONS. THE PROJECT ENGINEER MAY CONTACT THE TRAFFIC ENGINEERING DESIGN DIVISION FOR ASSISTANCE.
   - C) ON ALL OVERHEAD SIGNS, THE MINIMUM CLEARANCE TO BOTTOM OF SIGN: 20'–9".

PROJECT REQUIREMENTS

ALL NEW SIGNS ON THIS PROJECT SHALL BE FABRICATED FROM SHEETING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER:

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDSHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JULY 2008) AND SUBSEQUENT REVISIONS
2. LISTED ON MDSHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL)

PROJECT REQUIREMENTS CONT'D

3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS
   - A) GUIDE, EXIT GORE, AND GENERAL INFORMATION SIGNS– RETROREFLECTIVE SHEETING FOR GUIDE SIGNS, EXIT GORE, AND GENERAL INFORMATION (INCLUDES WHITE ON GREEN, WHITE ON BLUE, WHITE ON BROWN AND THE REVERSE OF THESE COLORS) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX LEGEND ON ASTM TYPE IX BACKGROUND. REGULATORY AND WARNING MESSAGES WITHIN GUIDE SIGNS SHALL BE NON–REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING.
   - B) WARNING SIGNS – RETROREFLECTIVE SHEETING FOR BLACK ON FLUORESCENT YELLOW WARNING SIGNS SHALL BE NON–REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING. REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE GUIDELINES FOR REGULATORY SIGNS.
   - C) SCHOOL SIGNS – RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (BLACK ON FLUORESCENT YELLOW AND BLACK ON FLUORESCENT YELLOW GREEN) SHALL BE NON–REFLECTIVE BLACK LEGEND ON BACKGROUND SHEETING WHICH MEETS OR EXCEEDS THE REQUIREMENTS FOR ASTM TYPE IX SHEETING. REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.
   - D) REGULATORY SIGNS –FALL INTO THREE SUBCATEGORIES:
     - i. REGULATORY SIGNS (STOP, YIELD, DO NOT ENTER AND WRONG WAY) RETROREFLECTIVE SHEETING FOR THESE SIGNS AND THEIR SUPPLEMENTAL PANELS (INCLUDES WHITE ON RED AND RED ON WHITE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX SHEETING.
     - ii. ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY (INCLUDES RED ON WHITE, GREEN ON WHITE, BLUE ON WHITE, BLACK ON WHITE AND THE REVERSE OF THESE COLORS) SHALL BE ASTM TYPE I LEGEND ON ASTM TYPE I BACKGROUND.
     - iii. ALL OTHER REGULATORY SIGNS – RETROREFLECTIVE SHEETING FOR THESE SIGNS AND THEIR SUPPLEMENTAL PANELS (INCLUDES BLACK ON WHITE) SHALL BE NON–REFLECTIVE BLACK LEGEND ON ASTM TYPE IV BACKGROUND. WHERE RED IS SPECIFIED, OR WHERE THE COLOR OF THE SIGN IS WHITE ON BLACK, THE LEGEND SHALL BE ASTM TYPE IV RETROREFLECTIVE SHEETING ON NON–REFLECTIVE BLACK BACKGROUND. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE GUIDELINES FOR WARNING SIGNS.
   - E) ROUTE MARKERS –RETROREFLECTIVE SHEETING FOR ROUTE MARKERS (INCLUDES BLACK ON WHITE , GREEN ON WHITE, WHITE ON GREEN, WHITE ON RED/BLUE) SHALL MEET THE REQUIREMENTS OF GUIDE SIGNS ABOVE WHEN SPECIFIED AS THE LEGEND OF A GUIDE SIGN. RETROREFLECTIVE SHEETING FOR ALL INDEPENDENT ROUTE MARKERS AND THEIR AUXILIARY PANELS SHALL BE ASTM TYPE IV AND/OR NON–REFLECTIVE BLACK LEGEND ON ASTM TYPE IV BACKGROUND.
   - F) LOGOS AND/OR GRAPHICS –WITHIN SIGNS SHALL FOLLOW THE GUIDELINES FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.
   - G) CIVIL DEFENSE SIGNS AND OTHER SIGNS – NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE, SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.
4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS.

LONGEST DIMENSION	MINIMUM THICKNESS
UP TO 12"	0.040"
GREATER THAN 12" TO 24"	0.063"
GREATER THAN 24" TO 36"	0.080"
GREATER THAN 36" TO 48"	0.100"
OVER 48"	0.125"

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: GIF Drawn by: GIF Checked by: MDS

SN–01 SIGNING NOTES & DETAILS

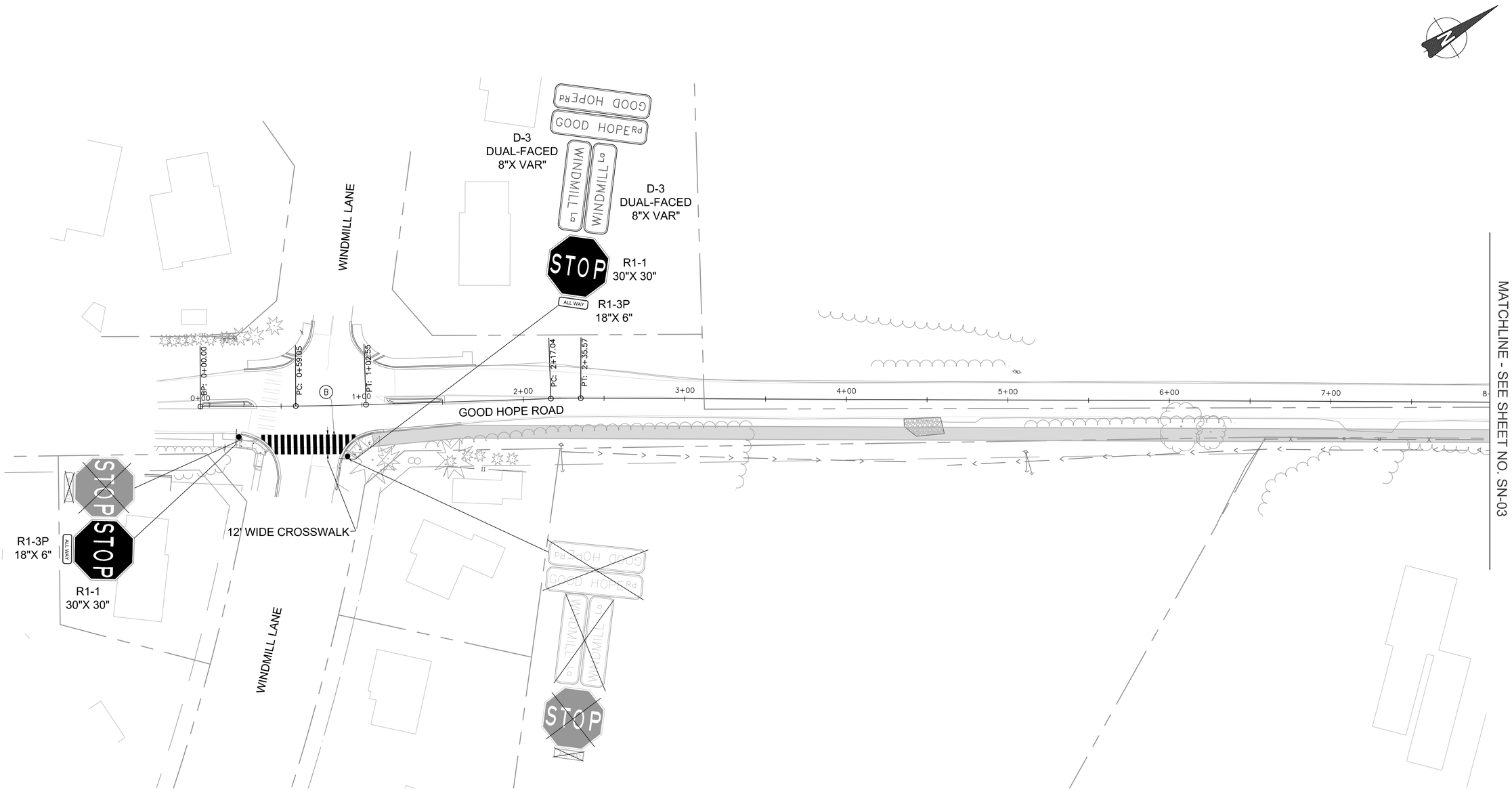
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 51 of 114



SIGNING LEGEND

- STOP — EXISTING SIGN TO REMAIN
- STOP — EXISTING SIGN TO BE REMOVED
- STOP — PROPOSED SIGN

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

SN-02 SIGNING & MARKING PLAN

GOOD HOPE ROAD SHARED USE PATH

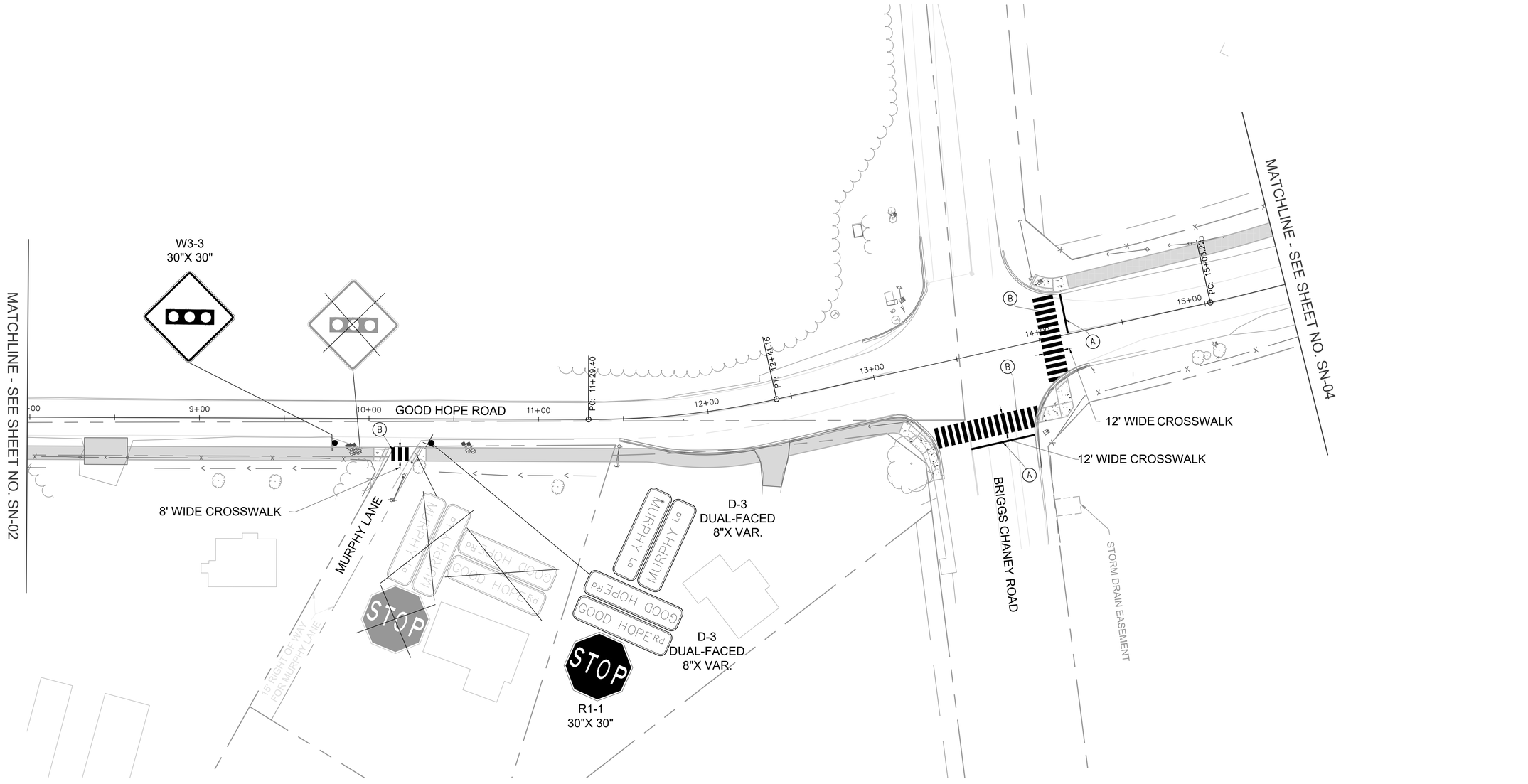
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 52 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSN_GoodHope.dwg LAYOUT NAME: SN-02 PLOTTED: Tuesday, November 24, 2020 - 1:16pm USER: MStroughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

SN-03 SIGNING & MARKING PLAN

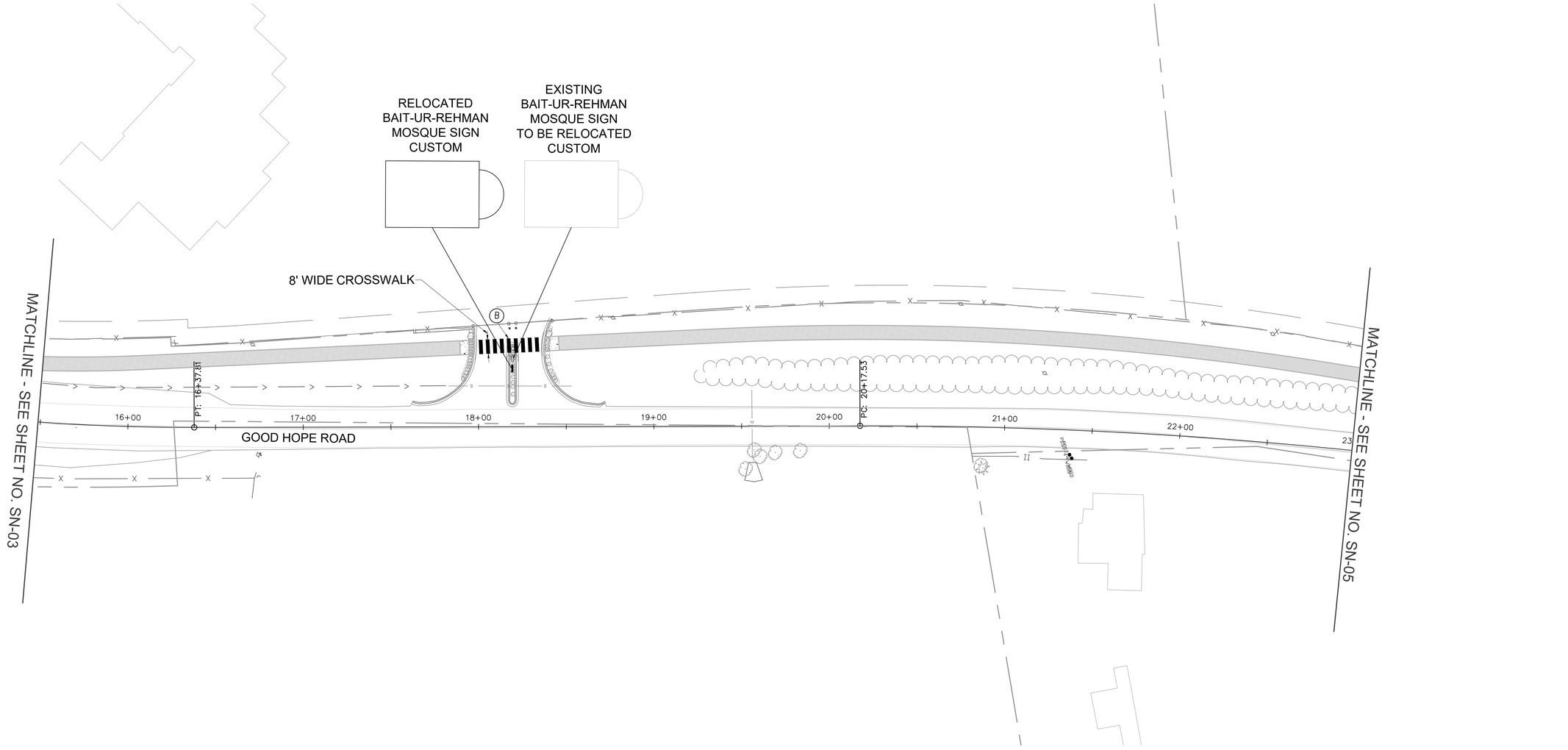
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 53 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSN_GoodHope.dwg LAYOUT NAME: SN-03 PLOTTED: Tuesday, November 24, 2020 - 1:17pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

PAVEMENT MARKING LEGEND

(A) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS

(B) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

SN-04 SIGNING & MARKING PLAN

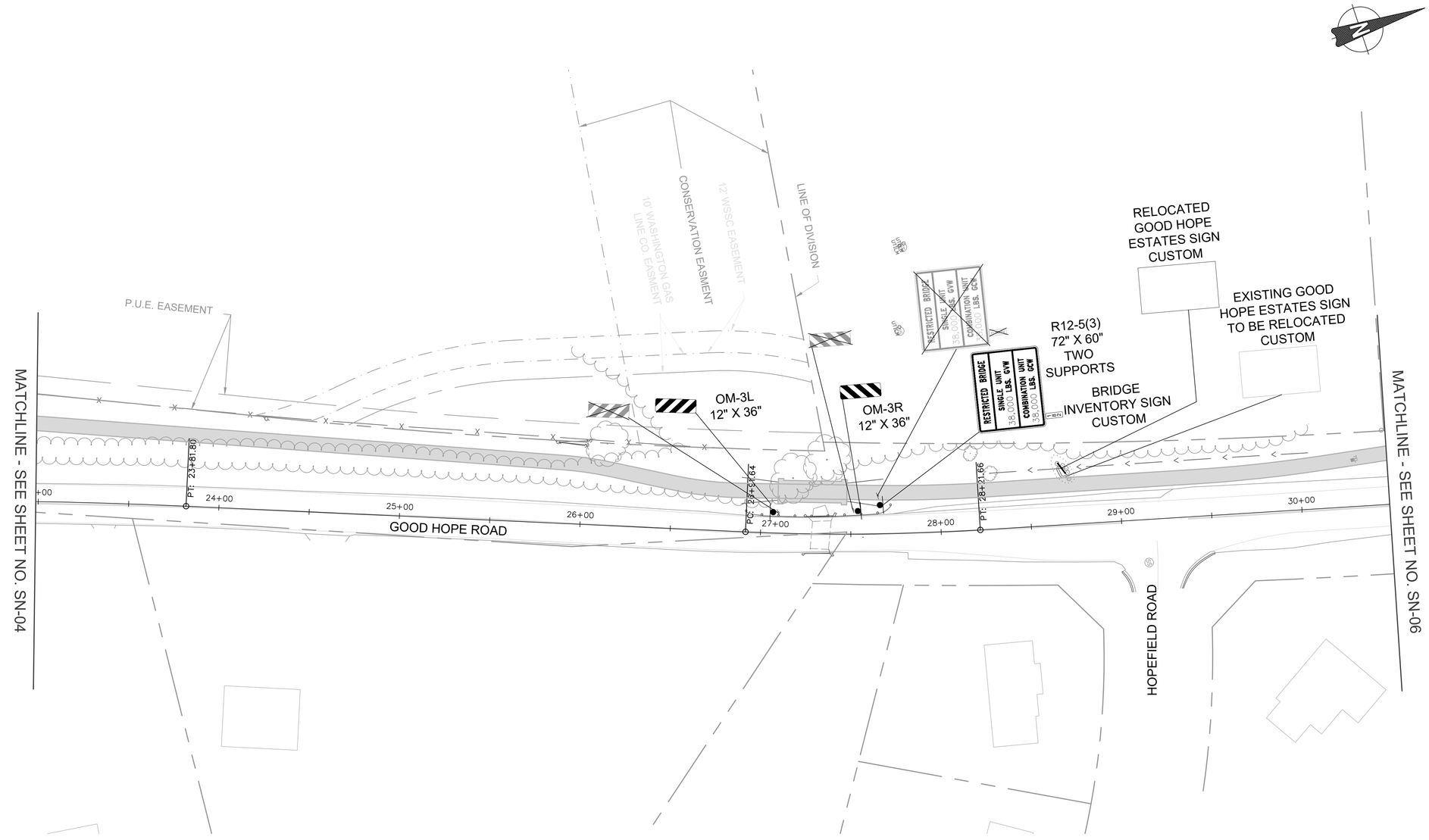
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 54 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSN_GoodHope.dwg LAYOUT NAME: SN-04 PLOTTED: Tuesday, November 24, 2020 - 1:19pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

30 15 0 30
SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

SN-05 SIGNING & MARKING PLAN

GOOD HOPE ROAD SHARED USE PATH

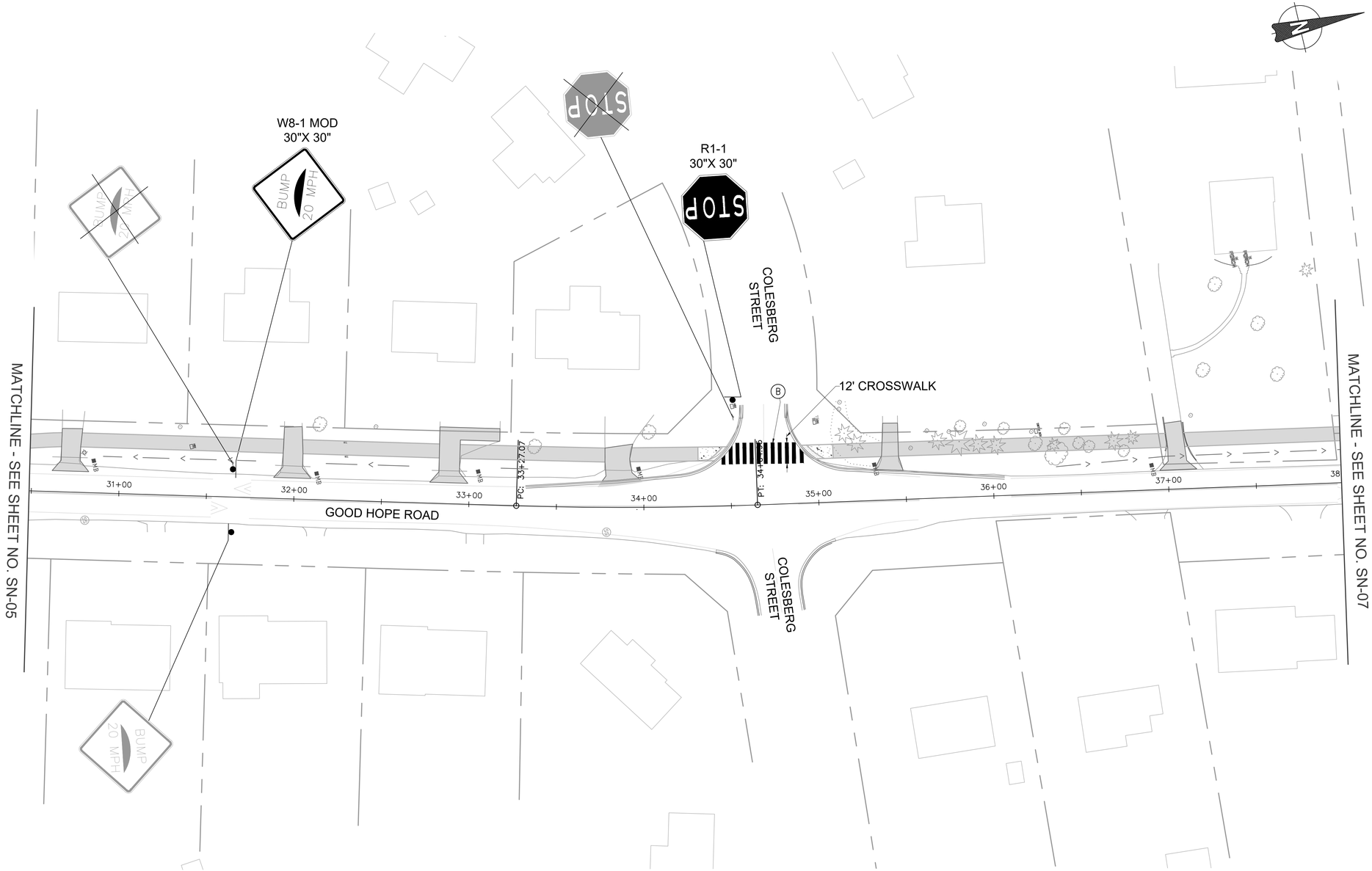
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 55 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSN_GoodHope.dwg LAYOUT NAME: SN-05 PLOTTED: Tuesday, November 24, 2020 - 1:20pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

PAVEMENT MARKING LEGEND

(A) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS

(B) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

30 15 0 30

SCALE: 1"= 30'

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

SN-06 SIGNING & MARKING PLAN

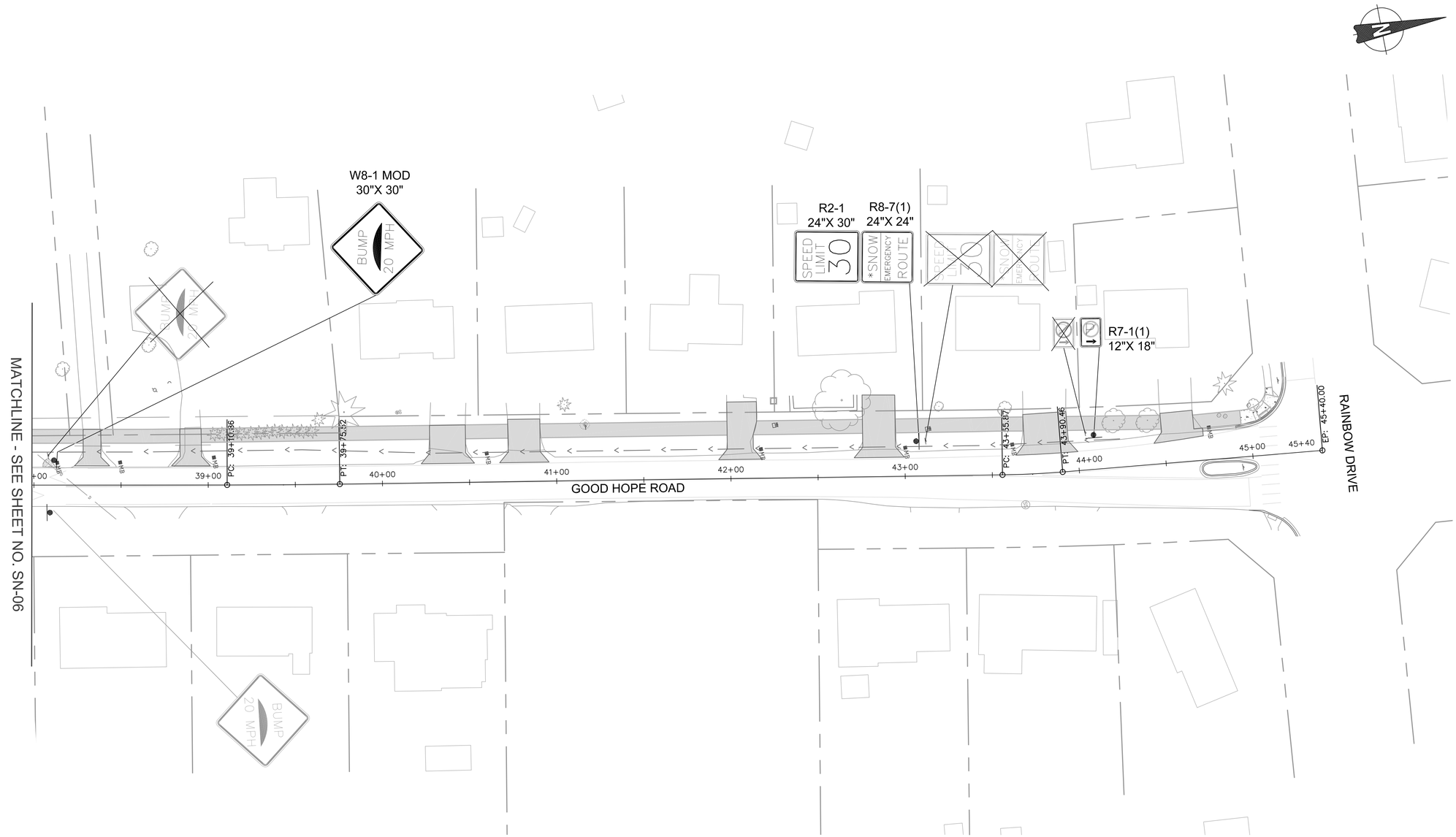
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 56 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSN_GoodHope.dwg LAYOUT NAME: SN-06 PLOTTED: Tuesday, November 24, 2020 - 1:21pm USER: MStraughan



30 15 0 30
SCALE: 1"= 30'

SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN

PAVEMENT MARKING LEGEND

(A) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS

(B) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (24" SPACING)

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GIF Drawn by: GIF Checked by: MDS

SN-07 SIGNING & MARKING PLAN

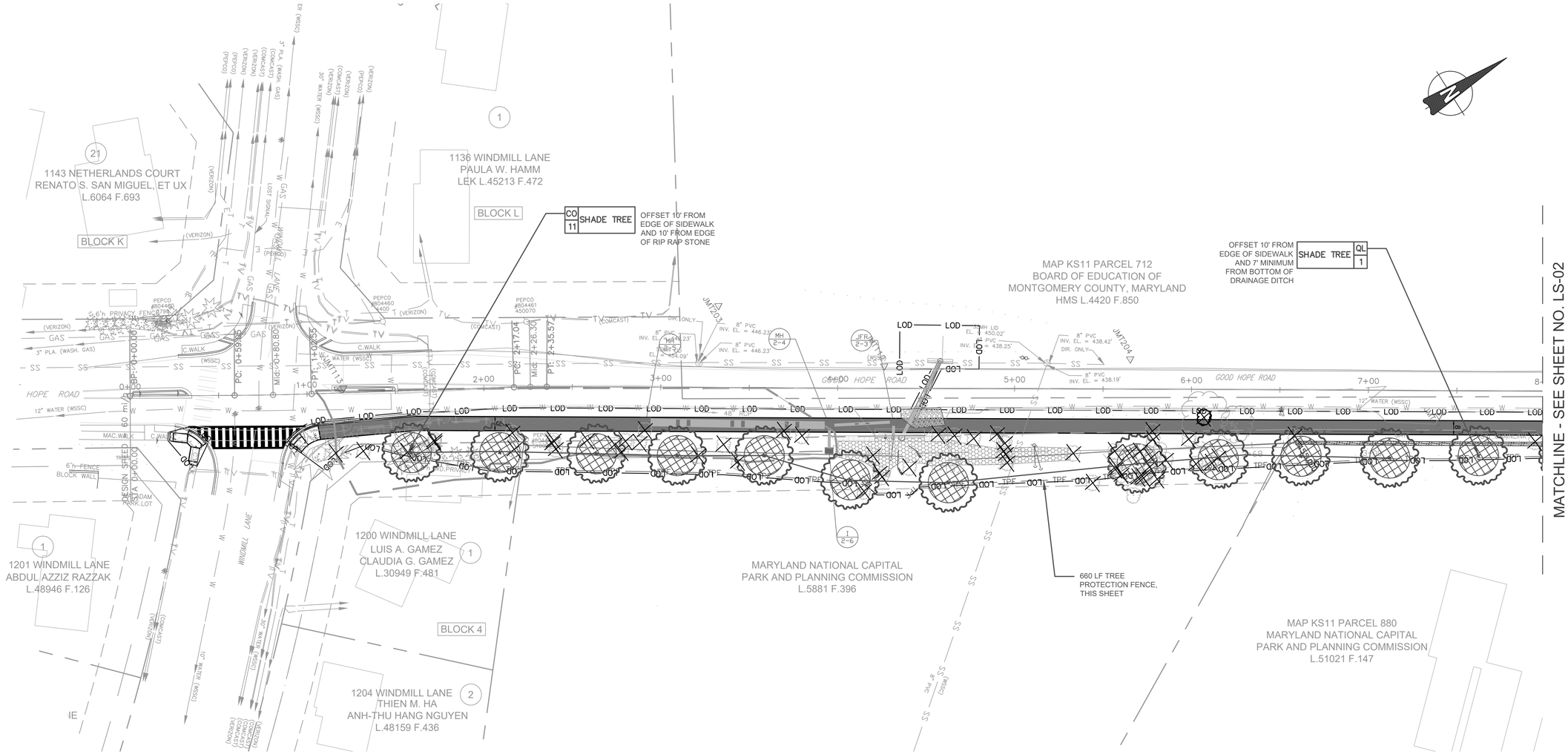
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 57 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSN_GoodHope.dwg LAYOUT NAME: SN-07 PLOTTED: Tuesday, November 24, 2020 - 1:21pm USER: MStraughan



LANDSCAPE PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
*CO	11	CELTIS OCCIDENTALIS	COMMON HACKBERRY	2" CAL.	B&B	50' O.C., AS SHOWN
*QL	1	QUERCUS LYRATA	OVERCUP OAK	2" CAL.	B&B	50' O.C., AS SHOWN

*SHADE TREE TO FULFILL MONTGOMERY COUNTY TREE CANOPY REQUIREMENT.

NOTE:
1. REFER TO SIGNING AND STRIPING PLAN FOR PAVEMENT MARKING DETAILS.
2. CONTRACTOR SHALL FIELD ADJUST GRADING TO PROVIDE SMOOTH TRANSITIONS INTO EXISTING FEATURES AND PROMOTE SHEET FLOW WHERE POSSIBLE. ALL GRADING CHANGES TO BE PRE-APPROVED BY COUNTY INSPECTOR.
3. INSTALL SHRUB DEER PROTECTION DEVICES AS PER DETAIL. PROTECTION SHALL BE PROVIDED FOR EACH GROUP OF 4 SHRUBS, MAXIMUM.
4. INSTALL TREE DEER PROTECTION DEVICES AS PER DETAIL.
5. UNLESS OTHERWISE SPECIFIED, ALL DISTURBED AREAS SHALL BE STABILIZED WITH:
   - 4" OF TOPSOIL
   - TURFGRASS SEED MIX
     - 20% VIRGINIA WILD RYE
     - 20% RIPARIAN WILD RYE
     - 20% DEER TONGUE
     - 20% CREEPING RED FESCUE
     - 20% ANNUAL RYE
   - MULCH
8. REFER TO PLAN SHEET LS-09 FOR SPECIFIC NOTES PERTAINING TO TREE PRESERVATION, INVASIVE SPECIES, INSPECTIONS, AND TREE CANOPY INFORMATION.
9. PLEASE SEE SHEET LS-07 FOR TREE PLANTING DETAIL.
10. PLEASE SEE SHEET LS-09 FOR STANDARD TREE CANOPY NOTES.

LEGEND

- SDP — SHRUB DEER PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- TPF — TREE PROTECTION FENCE
- QA 1 SHADE TREE — SHADE TREE (CROSSHATCH AREA SHOWN IS 400SF GROWING ZONE PER EXECUTIVE REGULATION 22-13)
- TREE TO BE REMOVED

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
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.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

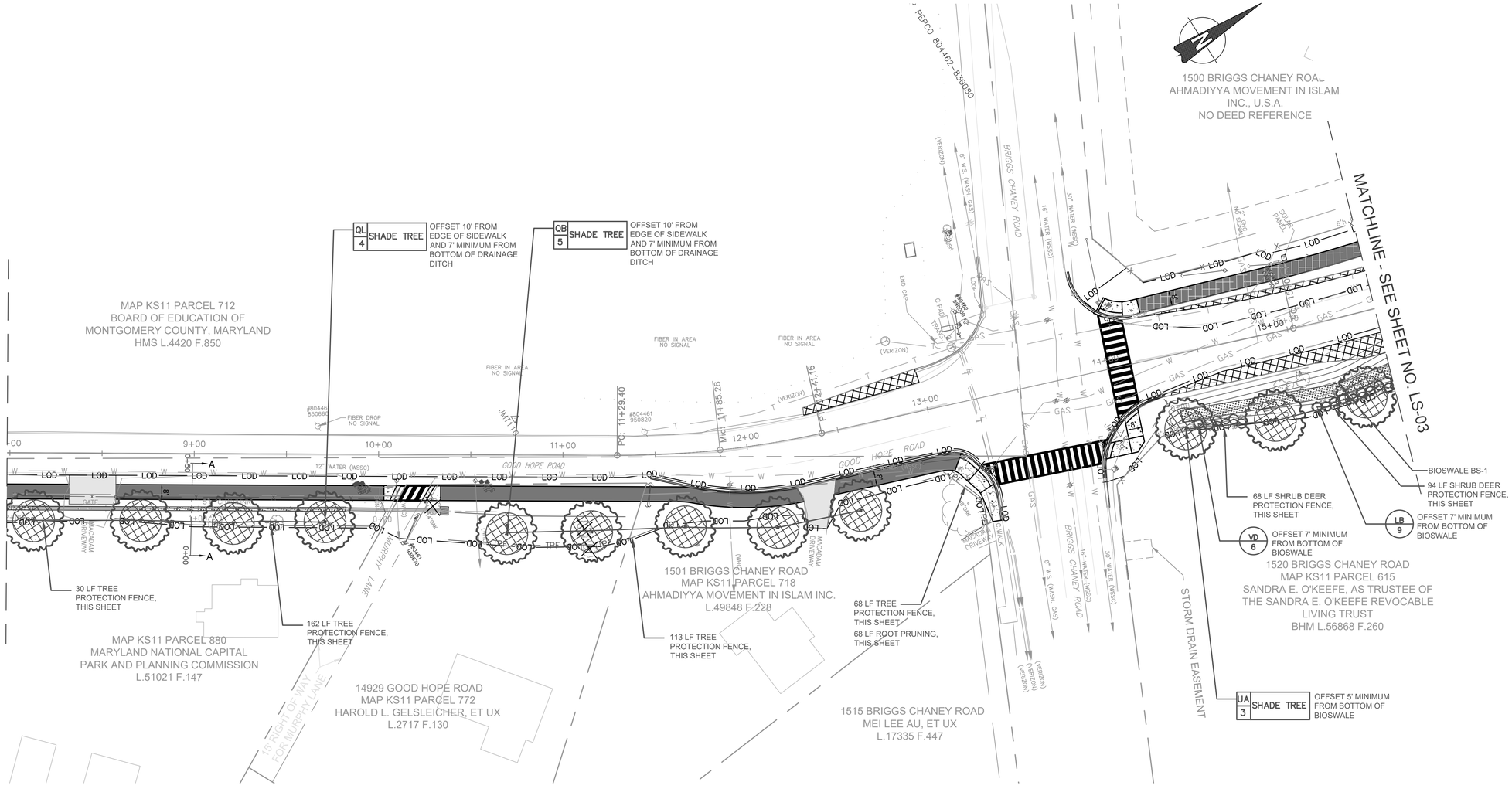
Designed by: SBD Drawn by: SBD Checked by: SJR

LS-01 LANDSCAPE PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'
DATE: NOVEMBER 2020

Project No. : 501902
SHEET 58 of 114



NOTE:

1. REFER TO SIGNING AND STRIPING PLAN FOR PAVEMENT MARKING DETAILS.
2. CONTRACTOR SHALL FIELD ADJUST GRADING TO PROVIDE SMOOTH TRANSITIONS INTO EXISTING FEATURES AND PROMOTE SHEET FLOW WHERE POSSIBLE. ALL GRADING CHANGES TO BE PRE-APPROVED BY COUNTY INSPECTOR.
3. INSTALL SHRUB DEER PROTECTION DEVICES AS PER DETAIL. PROTECTION SHALL BE PROVIDED FOR EACH GROUP OF 4 SHRUBS, MAXIMUM.
4. INSTALL TREE DEER PROTECTION DEVICES AS PER DETAIL.
5. UNLESS OTHERWISE SPECIFIED, ALL DISTURBED AREAS SHALL BE STABILIZED WITH:
   - 4" OF TOPSOIL
   - TURFGRASS SEED MIX
     - 20% VIRGINIA WILD RYE
     - 20% RIPARIAN WILD RYE
     - 20% DEER TONGUE
     - 20% CREEPING RED FESCUE
     - 20% ANNUAL RYE
   - MULCH
8. REFER TO PLAN SHEET LS-09 FOR SPECIFIC NOTES PERTAINING TO TREE PRESERVATION, INVASIVE SPECIES, INSPECTIONS, AND TREE CANOPY INFORMATION.
9. PLEASE SEE SHEET LS-07 FOR TREE PLANTING DETAIL.
10. PLEASE SEE SHEET LS-09 FOR STANDARD TREE CANOPY NOTES.

LANDSCAPE PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
*UA	3	ULMUS AMERICANA 'JEFFERSON'	AMERICAN ELM 'JEFFERSON'	2" CAL.	B&B	50' O.C., AS SHOWN
*QB	5	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.	B&B	50' O.C., AS SHOWN
*QL	4	QUERCUS LYRATA	OVERCUP OAK	2" CAL.	B&B	50' O.C., AS SHOWN
SHRUBS						
LB	9	LINDERA BENZOIN	SPICEBUSH	24" HGT.	CONT.	5' O.C.
VD	6	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	24" HGT.	CONT.	5' O.C.

*SHADE TREE TO FULFILL MONTGOMERY COUNTY TREE CANOPY REQUIREMENT.

LEGEND

- SDP — SHRUB DEER PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- TPF — TREE PROTECTION FENCE
- QA 1 SHADE TREE — SHADE TREE (CROSSHATCH AREA SHOWN IS 400SF GROWING ZONE PER EXECUTIVE REGULATION 22-13)
- TREE TO BE REMOVED

BIOSWALE BOTTOMS SHALL BE SEEDED WITH MDOT SHA'S BIORETENTION SOIL MIX MEADOW ESTABLISHMENT, SEE SPECIFICATIONS FOR APPLICATION RATES.

FORBS	GRASSES
BLACKEYED SUSAN	SWITCHGRASS
PARTRIDGE PEA	DEERTONGUE
RED CLOVER	HARD FESCUE
	WEEPING ALKALIGRASS
	PURPLETOP
	VIRGINIA WILD RYE

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

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

Stormwater Management:
Reviewed Date
Approved Date
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

Administrative Requirements:
Reviewed Date
SEDIMENT CONTROL PERMIT NO.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

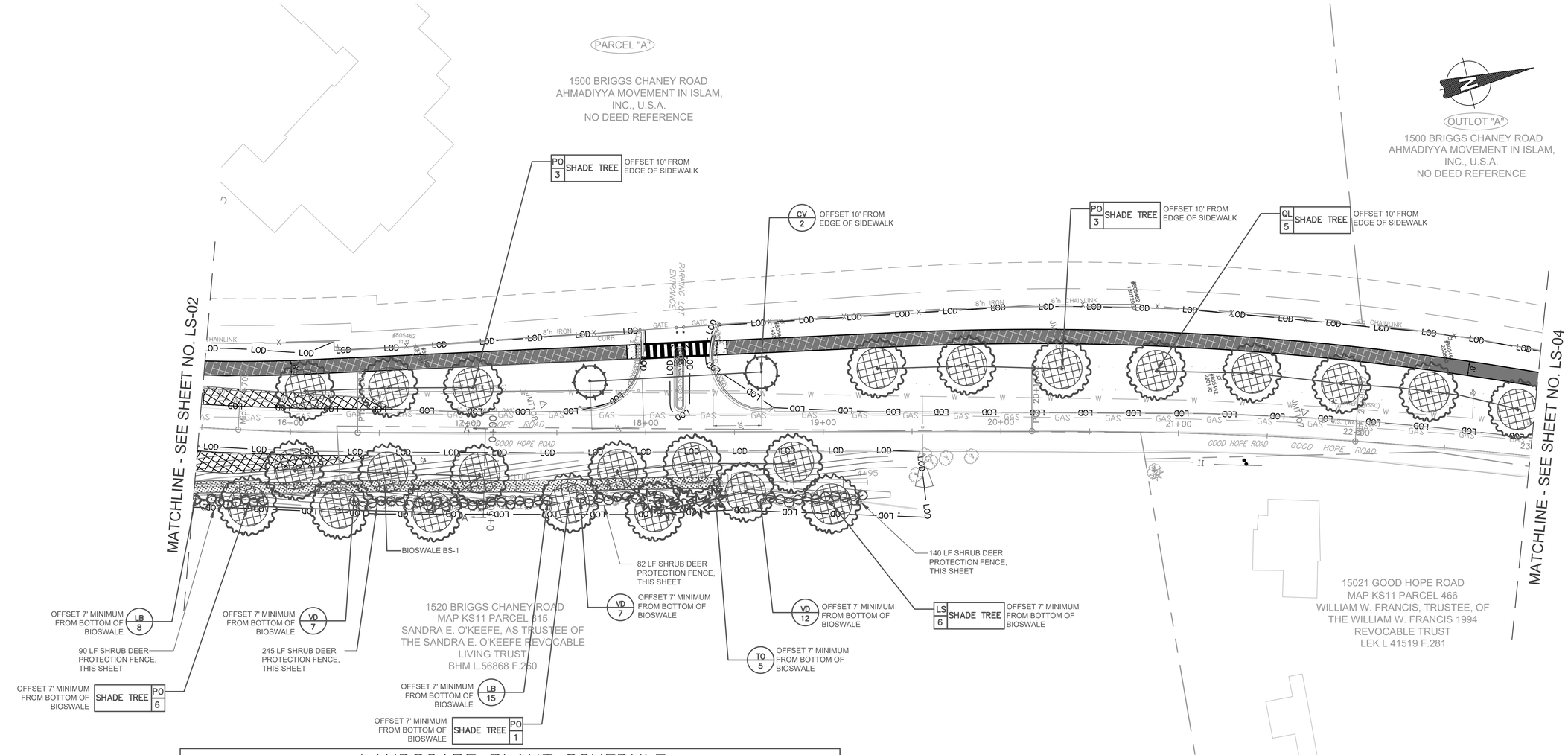
Designed by: SBD Drawn by: SBD Checked by: SJR

LS-02 LANDSCAPE PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'
DATE: NOVEMBER 2020

Project No. : 501902
SHEET 59 of 114



NOTE:

1. REFER TO SIGNING AND STRIPING PLAN FOR PAVEMENT MARKING DETAILS.
2. CONTRACTOR SHALL FIELD ADJUST GRADING TO PROVIDE SMOOTH TRANSITIONS INTO EXISTING FEATURES AND PROMOTE SHEET FLOW WHERE POSSIBLE. ALL GRADING CHANGES TO BE PRE-APPROVED BY COUNTY INSPECTOR.
3. INSTALL SHRUB DEER PROTECTION DEVICES AS PER DETAIL. PROTECTION SHALL BE PROVIDED FOR EACH GROUP OF 4 SHRUBS, MAXIMUM.
4. INSTALL TREE DEER PROTECTION DEVICES AS PER DETAIL.
5. UNLESS OTHERWISE SPECIFIED, ALL DISTURBED AREAS SHALL BE STABILIZED WITH:
   - 4" OF TOPSOIL
   - TURFGRASS SEED MIX
     - 20% VIRGINIA WILD RYE
     - 20% RIPARIAN WILD RYE
     - 20% DEER TONGUE
     - 20% CREEPING RED FESCUE
     - 20% ANNUAL RYE
   - MULCH
8. REFER TO PLAN SHEET LS-09 FOR SPECIFIC NOTES PERTAINING TO TREE PRESERVATION, INVASIVE SPECIES, INSPECTIONS, AND TREE CANOPY INFORMATION.
9. PLEASE SEE SHEET LS-07 FOR TREE PLANTING DETAIL.
10. PLEASE SEE SHEET LS-09 FOR STANDARD TREE CANOPY NOTES.

LANDSCAPE PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
CV	2	CRATAEGUS VIRIDIS 'WINTER KING'	'WINTER KING' HAWTHORN	2" CAL.	B&B	30' O.C., AS SHOWN
*LS	6	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SWEETGUM 'ROTUNDILOBA'	2" CAL.	B&B	50' O.C., AS SHOWN
*PO	13	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2" CAL.	B&B	50' O.C., AS SHOWN
*QL	5	QUERCUS LYRATA	OVERCUP OAK	2" CAL.	B&B	50' O.C., AS SHOWN
TO	5	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	6' HGT.	B&B	10' O.C., AS SHOWN
SHRUBS						
LB	23	LINDERA BENZOIN	SPICEBUSH	24" HGT.	CONT.	5' O.C.
VD	26	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	24" HGT.	CONT.	5' O.C.

*SHADE TREE TO FULFILL MONTGOMERY COUNTY TREE CANOPY REQUIREMENT.

LEGEND

- SDP — SHRUB DEER PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- TPF — TREE PROTECTION FENCE
- QA 1 SHADE TREE — SHADE TREE (CROSSHATCH AREA SHOWN IS 400SF GROWING ZONE PER EXECUTIVE REGULATION 22-13)
- TREE TO BE REMOVED

BIOSWALE BOTTOMS SHALL BE SEEDED WITH MDOT SHA'S BIORETENTION SOIL MIX MEADOW ESTABLISHMENT, SEE SPECIFICATIONS FOR APPLICATION RATES.

FORBS	GRASSES
BLACKEYED SUSAN	SWITCHGRASS
PARTRIDGE PEA	DEERTONGUE
RED CLOVER	HARD FESCUE
	WEEPING ALKALIGRASS
	PURPLETOP
	VIRGINIA WILD RYE

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
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.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

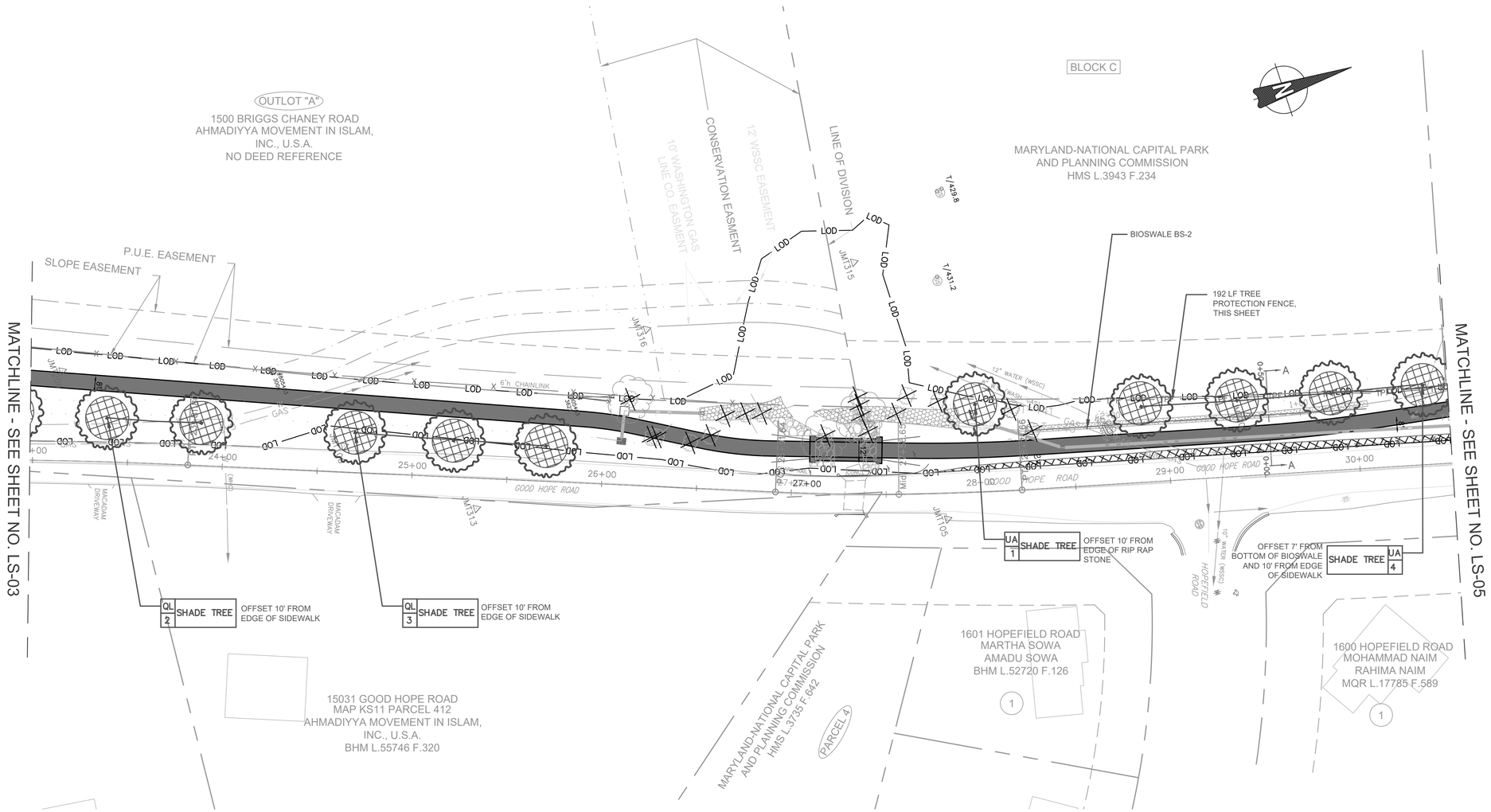
Designed by: SBD Drawn by: SBD Checked by: SJR

LS-03 LANDSCAPE PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'
DATE: NOVEMBER 2020

Project No. : 501902
SHEET 60 of 114



NOTE:

1. REFER TO SIGNING AND STRIPING PLAN FOR PAVEMENT MARKING DETAILS.
2. CONTRACTOR SHALL FIELD ADJUST GRADING TO PROVIDE SMOOTH TRANSITIONS INTO EXISTING FEATURES AND PROMOTE SHEET FLOW WHERE POSSIBLE. ALL GRADING CHANGES TO BE PRE-APPROVED BY COUNTY INSPECTOR.
3. INSTALL SHRUB DEER PROTECTION DEVICES AS PER DETAIL. PROTECTION SHALL BE PROVIDED FOR EACH GROUP OF 4 SHRUBS, MAXIMUM.
4. INSTALL TREE DEER PROTECTION DEVICES AS PER DETAIL.
5. UNLESS OTHERWISE SPECIFIED, ALL DISTURBED AREAS SHALL BE STABILIZED WITH:
   - 4" OF TOPSOIL
   - TURFGRASS SEED MIX
     - 20% VIRGINIA WILD RYE
     - 20% RIPARIAN WILD RYE
     - 20% DEER TONGUE
     - 20% CREEPING RED FESCUE
     - 20% ANNUAL RYE
   - MULCH
8. REFER TO PLAN SHEET LS-09 FOR SPECIFIC NOTES PERTAINING TO TREE PRESERVATION, INVASIVE SPECIES, INSPECTIONS, AND TREE CANOPY INFORMATION.
9. PLEASE SEE SHEET LS-07 FOR TREE PLANTING DETAIL.
10. PLEASE SEE SHEET LS-09 FOR STANDARD TREE CANOPY NOTES.

LANDSCAPE PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
*UA	5	ULMUS AMERICANA 'JEFFERSON'	AMERICAN ELM 'JEFFERSON'	2" CAL.	B&B	50' O.C., AS SHOWN
*QL	5	QUERCUS LYRATA	OVERCUP OAK	2" CAL.	B&B	50' O.C., AS SHOWN

*SHADE TREE TO FULFILL MONTGOMERY COUNTY TREE CANOPY REQUIREMENT.

LEGEND

- SDP — SHRUB DEER PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- TPF — TREE PROTECTION FENCE
- QA 1 SHADE TREE — SHADE TREE (CROSSHATCH AREA SHOWN IS 400SF GROWING ZONE PER EXECUTIVE REGULATION 22-13)
- TREE TO BE REMOVED

BIOSWALE BOTTOMS SHALL BE SEEDED WITH MDOT SHA'S BIORETENTION SOIL MIX MEADOW ESTABLISHMENT, SEE SPECIFICATIONS FOR APPLICATION RATES.

FORBS	GRASSES
BLACKEYED SUSAN	SWITCHGRASS
PARTRIDGE PEA	DEERTONGUE
RED CLOVER	HARD FESCUE
	WEEPING ALKALIGRASS
	PURPLETOP
	VIRGINIA WILD RYE

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
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.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: SBD Drawn by: SBD Checked by: SJR

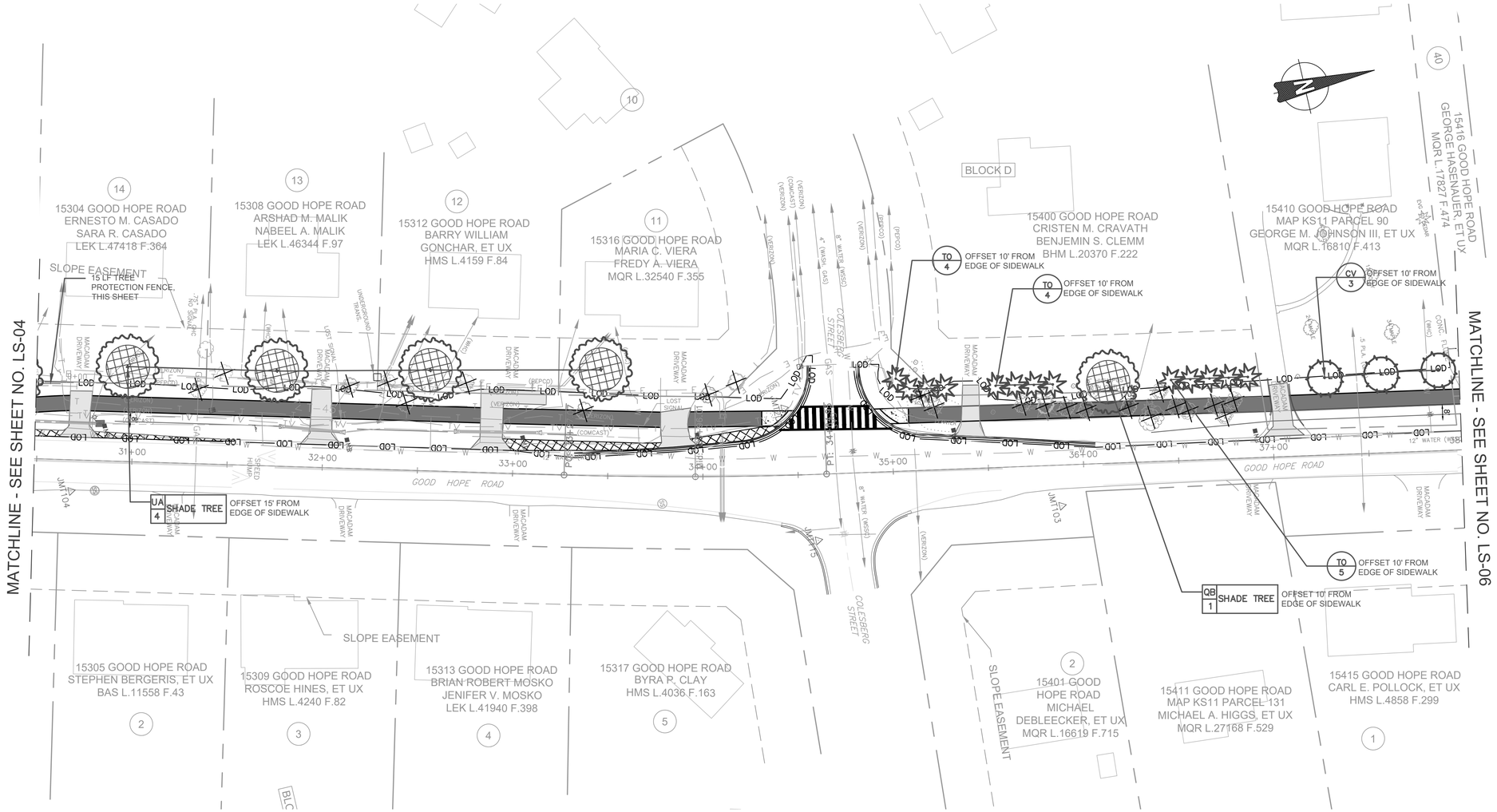
LS-04 LANDSCAPE PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'
DATE: NOVEMBER 2020

Project No. : 501902
SHEET 61 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pLS_GoodHope.dwg LAYOUT NAME: LS-04 PLOTTED: Tuesday, November 24, 2020 - 12:49pm USER: dhavener



NOTE:

1. REFER TO SIGNING AND STRIPING PLAN FOR PAVEMENT MARKING DETAILS.
2. CONTRACTOR SHALL FIELD ADJUST GRADING TO PROVIDE SMOOTH TRANSITIONS INTO EXISTING FEATURES AND PROMOTE SHEET FLOW WHERE POSSIBLE. ALL GRADING CHANGES TO BE PRE-APPROVED BY COUNTY INSPECTOR.
3. INSTALL SHRUB DEER PROTECTION DEVICES AS PER DETAIL. PROTECTION SHALL BE PROVIDED FOR EACH GROUP OF 4 SHRUBS, MAXIMUM.
4. INSTALL TREE DEER PROTECTION DEVICES AS PER DETAIL.
5. UNLESS OTHERWISE SPECIFIED, ALL DISTURBED AREAS SHALL BE STABILIZED WITH:
   - 4" OF TOPSOIL
   - TURFGRASS SEED MIX
     - 20% VIRGINIA WILD RYE
     - 20% RIPARIAN WILD RYE
     - 20% DEER TONGUE
     - 20% CREEPING RED FESCUE
     - 20% ANNUAL RYE
   - MULCH
8. REFER TO PLAN SHEET LS-09 FOR SPECIFIC NOTES PERTAINING TO TREE PRESERVATION, INVASIVE SPECIES, INSPECTIONS, AND TREE CANOPY INFORMATION.
9. PLEASE SEE SHEET LS-07 FOR TREE PLANTING DETAIL.
10. PLEASE SEE SHEET LS-09 FOR STANDARD TREE CANOPY NOTES.

LANDSCAPE PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
*UA	4	ULMUS AMERICANA 'JEFFERSON'	AMERICAN ELM 'JEFFERSON'	2" CAL.	B&B	50' O.C., AS SHOWN
CV	3	CRATAEGUS VIRIDIS 'WINTER KING'	'WINTER KING' HAWTHORN	2" CAL.	B&B	30' O.C.
*QB	1	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.	B&B	50' O.C., AS SHOWN
TO	13	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	6' HGT.	B&B	10' O.C.

*SHADE TREE TO FULFILL MONTGOMERY COUNTY TREE CANOPY REQUIREMENT.

LEGEND

- SDP — SHRUB DEER PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- TPF — TREE PROTECTION FENCE
- QA 1 SHADE TREE — SHADE TREE (CROSSHATCH AREA SHOWN IS 400SF GROWING ZONE PER EXECUTIVE REGULATION 22-13)
- TREE TO BE REMOVED

BIOSWALE BOTTOMS SHALL BE SEEDED WITH MDOT SHA'S BIORETENTION SOIL MIX MEADOW ESTABLISHMENT, SEE SPECIFICATIONS FOR APPLICATION RATES.

FORBS	GRASSES
BLACKEYED SUSAN	SWITCHGRASS
PARTRIDGE PEA	DEERTONGUE
RED CLOVER	HARD FESCUE
	WEEPING ALKALIGRASS
	PURPLETOP
	VIRGINIA WILD RYE

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

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

Administrative Requirements:
Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: SBD Drawn by: SBD Checked by: SJR

LS-05 LANDSCAPE PLAN

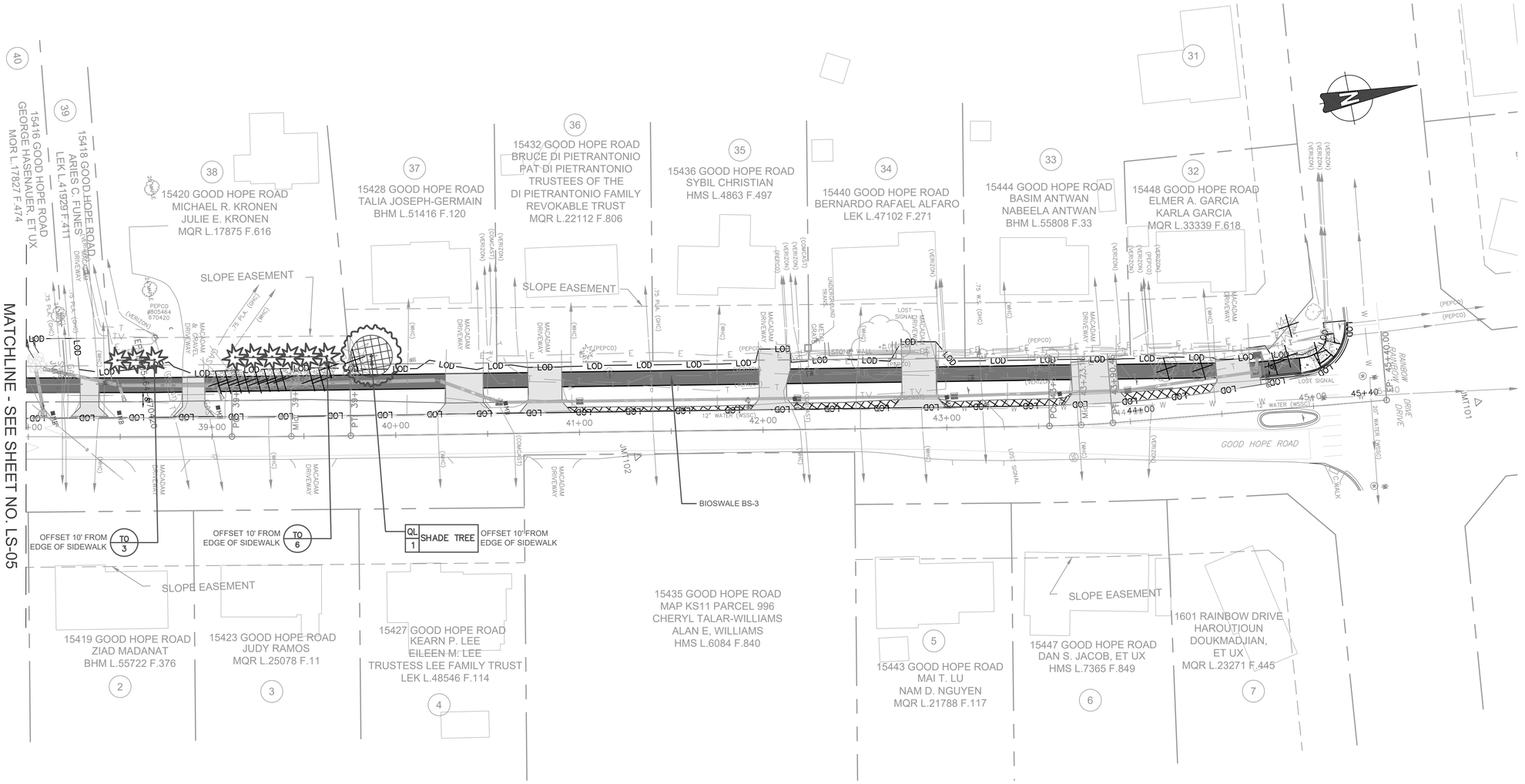
GOOD HOPE ROAD
SHARED USE PATH

SCALE: 1"=30' (0, 30', 60')

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 62 of 114



NOTE:
1. TREATMENT A: TREE TO REMAIN.
2. TREATMENT B: REMOVE TREE INCLUDING STUMP.
3. REFER TO SIGNING AND STRIPING PLAN FOR PAVEMENT MARKING DETAILS.
4. CONTRACTOR SHALL FIELD ADJUST GRADING TO PROVIDE SMOOTH TRANSITIONS INTO EXISTING FEATURES AND PROMOTE SHEET FLOW WHERE POSSIBLE. ALL GRADING CHANGES TO BE PRE-APPROVED BY COUNTY INSPECTOR.
5. INSTALL SHRUB DEER PROTECTION DEVICES AS PER DETAIL. PROTECTION SHALL BE PROVIDED FOR EACH GROUP OF 4 SHRUBS, MAXIMUM.
6. INSTALL TREE DEER PROTECTION DEVICES AS PER DETAIL.
7. UNLESS OTHERWISE SPECIFIED, ALL DISTURBED AREAS SHALL BE STABILIZED WITH:
   - 4" OF TOPSOIL
   - TURFGRASS SEED MIX
     - 20% VIRGINIA WILD RYE
     - 20% RIPARIAN WILD RYE
     - 20% DEER TONGUE
     - 20% CREEPING RED FESCUE
     - 20% ANNUAL RYE
   - MULCH
8. REFER TO PLAN SHEET LS-09 FOR SPECIFIC NOTES PERTAINING TO TREE PRESERVATION, INVASIVE SPECIES, INSPECTIONS, AND TREE CANOPY INFORMATION.
9. PLEASE SEE SHEET LS-07 FOR TREE PLANTING DETAIL.
10. PLEASE SEE SHEET LS-09 FOR STANDARD TREE CANOPY NOTES.

LANDSCAPE PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
*QL	1	QUERCUS LYRATA	OVERCUP OAK	2" CAL.	B&B	50' O.C., AS SHOWN
TO	9	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	6' HGT.	B&B	10' O.C.

*SHADE TREE TO FULFILL MONTGOMERY COUNTY TREE CANOPY REQUIREMENT.

LEGEND

- SDP — SHRUB DEER PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- TPF — TREE PROTECTION FENCE
- QA 1 SHADE TREE — SHADE TREE (CROSSHATCH AREA SHOWN IS 400SF GROWING ZONE PER EXECUTIVE REGULATION 22-13)
- TREE TO BE REMOVED

BIOSWALE BOTTOMS SHALL BE SEEDED WITH MDOT SHA'S BIORETENTION SOIL MIX MEADOW ESTABLISHMENT, SEE SPECIFICATIONS FOR APPLICATION RATES.

FORBS	GRASSES
BLACKEYED SUSAN	SWITCHGRASS
PARTRIDGE PEA	DEERTONGUE
RED CLOVER	HARD FESCUE
	WEEPING ALKALIGRASS
	PURPLETOP
	VIRGINIA WILD RYE

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

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

Administrative Requirements:
Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: SBD Drawn by: SBD Checked by: SJR

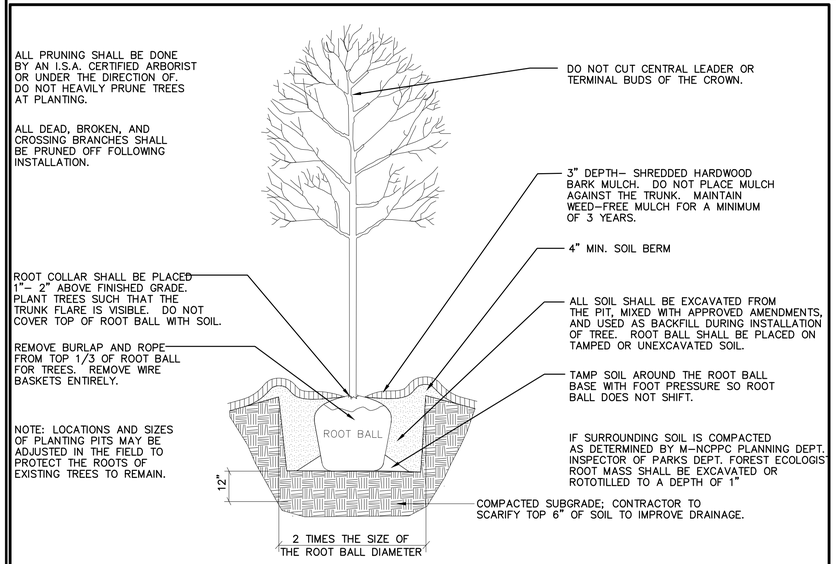
LS-06 LANDSCAPE PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'
SCALE: 1"=30'
DATE: NOVEMBER 2020

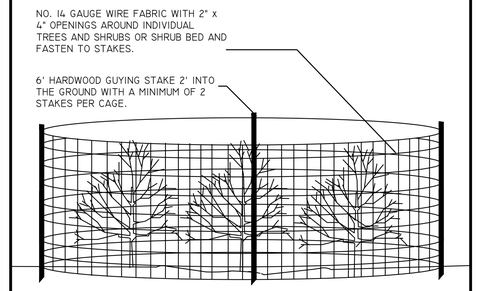
Project No. : 501902
SHEET 63 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pLS_GoodHope.dwg LAYOUT NAME: LS-06 PLOTTED: Tuesday, November 24, 2020 - 12:49pm USER: ahavener



TREE PLANTING DETAIL

NOT TO SCALE

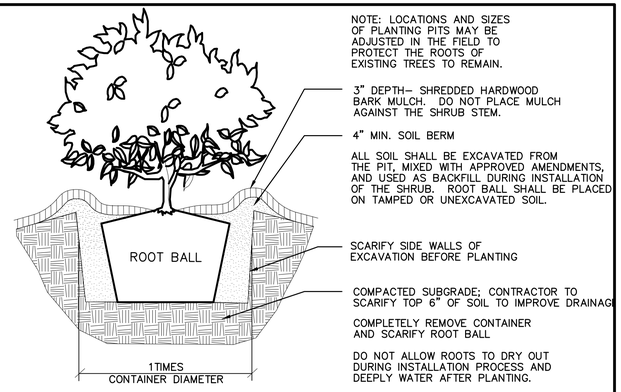


NOTES:

1. THIS DETAIL IS TO BE USED FOR INDIVIDUAL SHRUBS AND SHRUB BEDS. IN ADDITION, IT WILL BE USED FOR EVERGREEN TREES OR DECIDUOUS TREES WITH BRANCHES LOWER THAN 4' IN HEIGHT.
2. HEIGHT OF CAGE SHALL BE 4 FEET MINIMUM WITH A MAXIMUM DIAMETER OF 10 FEET.
3. CAGE SHALL BE FASTENED TO STAKE WITH 3 (MIN.) TWIST TIE EVENLY SPACED WITH A 6" (MIN.) ABOVE THE GROUND.
4. CAGE SHALL SURROUND ALL SHRUBS AND TREES WITH A 1 FOOT SPACING FROM THE OUTSIDE OF THE PLANT.
5. STAKES SHALL BE PLACED AT A MAXIMUM 5 FOOT SPACING.
6. CAGES TO BE REMOVED AT DIRECTION OF M–NCPPC CONSTRUCTION MANAGER.
7. HARDWOOD MULCH SHALL BE PLACED TO 2–3 INCH DEPTH WITHIN FENCING.

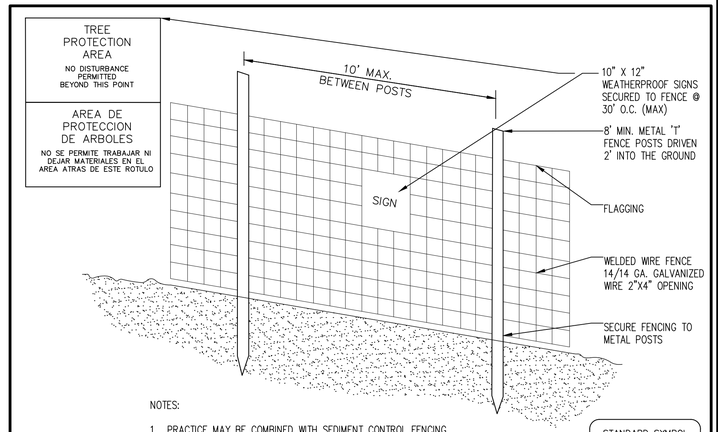
SHRUB DEER PROTECTION

NOT TO SCALE



SHRUB PLANTING DETAIL

NOT TO SCALE



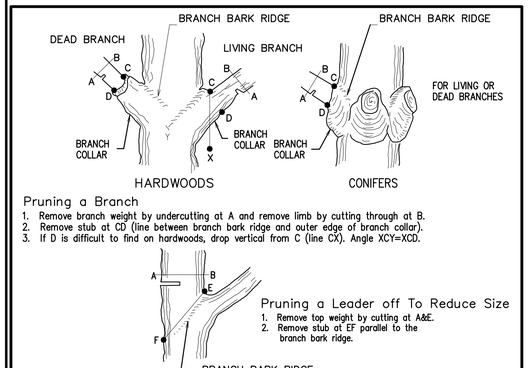
NOTES:

1. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING.
2. LOCATION AND LIMITS OF FENCING SHALL 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. PROTECTIVE SIGNAGE IS REQUIRED.
6. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

STANDARD SYMBOL
TPF——TPF——TPF

TREE PROTECTION AREA ELEVATION

NOT TO SCALE



Pruning a Branch

1. Remove branch weight by undercutting at A and remove limb by cutting through at B.
2. Remove stub at CD (line between branch bark ridge and outer edge of branch collar).
3. If D is difficult to find on hardwoods, drop vertical from C (line CX). Angle XCY=XCD.

Pruning a Leader off To Reduce Size

1. Remove top weight by cutting at A&E.
2. Remove stub at EF parallel to the branch bark ridge.

Medium pruning shall consist of the removal of dead, dying, diseased, interfering, objectionable and weak branches on the main trunk as well as those within the leaf area. An occasional branch up to one inch in diameter may remain within the main leaf area where it is not practical to remove it.

The following specifications shall apply:

a. All cuts shall be made sufficiently close to the trunk or parent limb, without cutting into the branch collar or leaving a protruding stub, so that closure can readily start under normal conditions. Clean cuts shall be made at all times.

b. It is necessary to precut branches too heavy to handle to prevent splitting or peeling the bark. Where necessary, to prevent tree or property damage, branches shall be lowered to the ground by proper ropes or equipment.

c. Treatment of cuts and wounds, with tree wound dressing, is optional except where open wounds in certain trees may attract insects that carry disease or allow fungus invasion. If such treatment is made, materials non–toxic to the cambium layer must be used, and care taken to treat only the exposed wood with a thin coat of dressing.

d. On trees known to be diseased, tools are to be disinfected with methyl alcohol at 70% (denatured wood alcohol diluted appropriately with water) or Chlorox solution after each cut and between trees where there is known to be a danger of transmitting the disease on tools.

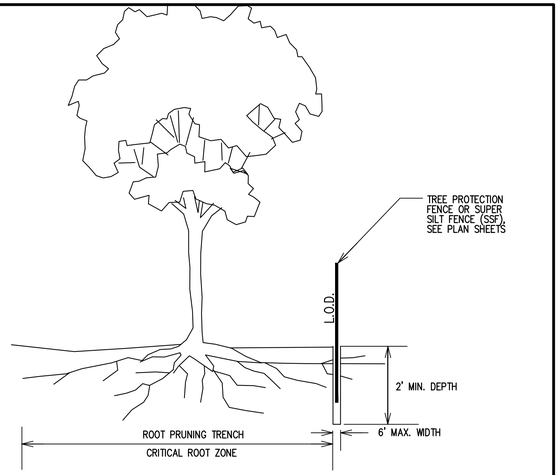
e. Old injuries are to be inspected. Those not closing properly and where the callus growth is not already completely established should be traced where appropriate. If desired, for cosmetic purposes, the wound may be treated with a thin coat of wound dressing.

f. All girdling roots visible to the eye are to be reported to the supervisor and the Engineer.

g. The presence of any structural weakness, disease conditions, decayed trunk or branches, split crotches or branches, should be reported in writing to the supervisor and the Engineer, and corrective measures recommended.

CROWN PRUNING

NOT TO SCALE



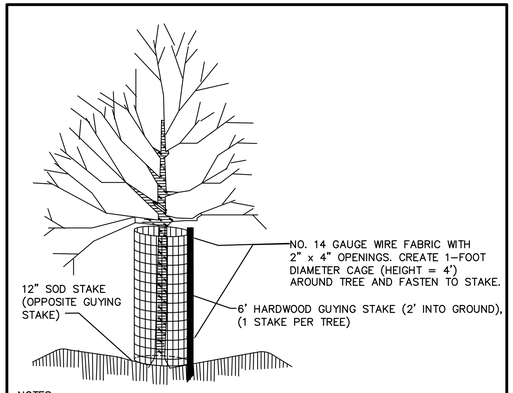
NOTES

1. RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS.
2. BOUNDARIES OF RETENTION AREAS SHALL BE STAKED AND FLAGGED PRIOR TO TRENCHING.
3. EXACT LOCTION OF TRENCH SHALL BE INDENTIFIED.
4. TRENCH SHALL BE IMMEDIATELY BACKFILLED WITH SOIL REMOVED OR OTHER HIGH ORGANIC SOIL.
5. ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT
6. ALL SIGNIFICANT TREES SHALL BE INSPECTED BY A ISA CERTIFIED ARBORIST PRIOR TO CONSTRUCTION AND ROOT PRUNING.

SOURCE: CITY OF GAITHERSBURG, MARYLAND: CITY TREE MANUAL

ROOT PRUNING PRIOR TO CONSTRUCTION

(IF NEEDED)



NOTES:

1. CAGE SHALL BE NO. 14 GAUGE WIRE FABRIC WITH 2"x 4"OPENINGS.
2. CAGE HEIGHT SHALL BE 4' (MIN.)
3. CREATE A 1–FOOT DIAMETER CAGE AROUND TREE.
4. FOR MULTI–STEM TREES AND SHRUBS OR TREES WITH LEADERS BELOW 4', USE WIDER CAGE TO LEAVE A 1–FOOT DIAMETER AROUND TREE.
5. CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN.) 11–INCH TWIST TIES, ONE AT TOP AND ONE AT 6"(MIN.) ABOVE THE GROUND.
6. INSTALL 6' HARDWOOD GUYING STAKE, 2' INTO GROUND, 1 STAKE (MIN.) PER CAGE.
7. ENSURE CAGE IS FASTENED TO THE GROUND TO PREVENT UPLIFT BY DEER BY INSTALLING A 12"SOD STAKE OPPOSITE THE GUYING STAKE.
8. FOR TREES LARGER THAN 3"CALIPER WITH NO BRANCHING BELOW 4', CAGE CAN BE SUBSTITUTED WITH DEER BARK PROTECTORS (ITEMS #bg48, BY A.M. LEONARD) OR EQUAL.
9. DO NOT DAMAGE TREE DURING INSTALLATION.
10. CAGES TO BE REMOVED ONLY AT DIRECTION OF FOREST ECOLOGIST.

TREE DEER PROTECTION

NOT TO SCALE

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:

Reviewed Date

Approved Date

SM FILE #

Sediment Control Technical Requirements:

Reviewed Date

Approved Date

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

Administrative Requirements:

Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SBD Drawn by: SBD Checked by: SJR

LS–07 LANDSCAPE DETAIL SHEET

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 64 of 114

LANDSCAPE PLANT SCHEDULE (TOTAL)

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
*UA	12	ULMUS AMERICANA 'JEFFERSON'	AMERICAN ELM 'JEFFERSON'	2" CAL.	B&B	50' O.C., AS SHOWN
*CO	11	CELTIS OCCIDENTALIS	COMMON HACKBERRY	2" CAL.	B&B	50' O.C., AS SHOWN
CV	5	CRATAEGUS VIRIDIS 'WINTER KING'	'WINTER KING' HAWTHORN	2" CAL.	B&B	30' O.C., AS SHOWN
*LS	6	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA'	SWEETGUM 'ROTUNDILOBA'	2" CAL.	B&B	50' O.C., AS SHOWN
*PO	13	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2" CAL.	B&B	50' O.C., AS SHOWN
*QB	6	QUERCUS BICOLOR	SWAMP WHITE OAK	2" CAL.	B&B	50' O.C., AS SHOWN
*QL	16	QUERCUS LYRATA	OVERCUP OAK	2" CAL.	B&B	50' O.C., AS SHOWN
TO	27	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	6' HGT.	B&B	10' O.C., AS SHOWN
SHRUBS						
LB	33	LINDERA BENZOIN	SPICEBUSH	24" HGT.	CONT.	5' O.C.
VD	32	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	24" HGT.	CONT.	5' O.C.

*SHADE TREE TO FULFILL MONTGOMERY COUNTY TREE CANOPY REQUIREMENT.

Riparian Seed Mix		
% of mix by species (20 lbs/acre native spp.)	Common Name	Species
25%	Creeping red fescue	Festuca rubra
20%	Virginia wild rye	Elymus virginicus
15%	Purple Top	Tridens flavus
30%	Riverbank wild rye	Elymus riparius
10%	Deer tongue grass	Dichanthelium clandestinum
Erosion Control to be Included in Mix		
lbs Per Acre	Type	Usage Dates
50	Oats or Barley	Nov. 1st thru March 15th
15	Foxtail Millet	May 15th thru Aug 15th
25	Annual Ryegrass	March 16th thru May 14th and Aug 16th thru Oct. 31st

This native seed mix has an application rate of 20+/- lbs/acre.
Add an inexpensive, erosion control seed (types listed above) and spread at the appropriate rate.
Therefore, if the native seed is 20 lbs/acre and the erosion control grass is 15 lbs/acre, total rate will be 35 lbs seed total/acre.

Apply a weed free straw mulch at the end

*LIVE FASCINE PLANT SCHEDULE (TOTAL)

BOTANICAL NAME	COMMON NAME	LENGTH OF WHIP	DIAMETER OF FASCINE	LENGTH (FT)	QTY
CORNUS AMOMUM	SILKY DOGWOOD	6' TO 8'	8"	453.0'	
CORNUS SERICEA	RED-OSIER DOGWOOD	6' TO 8'	8"	453.0'	
SALIX PURPUREA	STREAMCO WILLOW	6' TO 8'	8"	453.0'	
SALIX SERICEA	SILKY WILLOW	6' TO 8'	8"	453.0'	
				TOTAL	79

*SEE STREAM IMPROVEMENT SHEETS (SR-01-SR05) FOR FOR PLANT LOCATIONS.
NOTE: EQUAL QUANTITIES OF ALL 4 SPECIES SHALL BE COMBINED TO FORM EACH FASCINE BUNDLE

*LIVESTAKE PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	DIAMETER (INCHES)	LENGTH (FT)	QTY
CORNUS AMOMUM	SILKY DOGWOOD	¾ – 1.5	3 MIN.	
SALIX PURPUREA	STREAMCO WILLOW	¾ – 1.5	3 MIN.	
SALIX SERICEA	SILKY WILLOW	¾ – 1.5	3 MIN.	
SALIX X COTTETI	DWARF WILLOW	¾ – 1.5	3 MIN.	
SAMBUCUS CANADENSIS	ELDERBERRY	¾ – 1.5	3 MIN.	
			TOTAL	116

*SEE STREAM IMPROVEMENT SHEETS (SR-01-SR05) FOR FOR PLANT LOCATIONS.

LIVESTAKE NOTES:

1. AN EQUAL AMOUNT OF EACH SPECIES SHALL BE PLANTED IN THE AREAS INDICATED ON THE PLANS.
2. LIVESTAKES SHALL BE PLANTED AT A DENSITY OF 2 FEET ON-CENTER.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

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

Stormwater Management:

Reviewed Date

Approved Date

SM FILE #

Sediment Control Technical Requirements:

Reviewed Date

Approved Date

Administrative Requirements:

Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SBD Drawn by: SBD Checked by: SJR

LS-08 LANDSCAPE PLANT SCHEDULE SHEET

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 65 of 114

TREE PRESERVATION NOTES

1. ALL WORK PERFORMED SHALL MEET OR EXCEED INDUSTRY STANDARDS AS MOST RECENTLY PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), OR THE TREE CARE INDUSTRY ASSOCIATION (TCIA). IN THE EVENT TREATMENTS PRESCRIBED ARE NOT COVERED BY AN EXISTING STANDARD, WORK SHALL MEET OR EXCEED STANDARDS APPROVED BY M-NCPPC.
2. TREES DESIGNATED FOR REMOVAL ALONG THE LIMITS OF DISTURBANCE SHALL BE REMOVED USING A CHAINSAW TO AVOID DAMAGE TO SURROUNDING TREES TO BE PRESERVED AND UNDERSTORY VEGETATION. IF A STUMP MUST BE REMOVED, THIS SHALL BE DONE ONLY WITH THE APPROVAL OF M-NCPPC USING A STUMP-GRINDING MACHINE IN A MANNER THAT CAUSES AS LITTLE DISTURBANCE AS POSSIBLE TO ADJACENT TREES, VEGETATION AND SOIL CONDITIONS.
3. ROOT PRUNING SHALL BE PERFORMED, AS NEEDED, TO COMPLY WITH THE FOREST CONSERVATION REQUIREMENTS OF THESE DEVELOPMENT CONDITIONS. ALL TREATMENTS SHALL BE CLEARLY IDENTIFIED, LABELED, AND DETAILED ON THE TREE PRESERVATION AND LANDSCAPE SHEETS OF THE PLAN SUBMISSION. THE DETAILS FOR THESE TREATMENTS SHALL BE REVIEWED AND APPROVED BY M-NCPPC, ACCOMPLISHED IN A MANNER THAT PROTECTS AFFECTED AND ADJACENT VEGETATION TO BE PRESERVED. ROOT PRUNING DETAILS MAY INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: (1) ROOT PRUNING SHALL BE DONE WITH A TRENCHER OR VIBRATORY PLOW TO A DEPTH OF 18 INCHES; (2) ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING AND/OR INSTALLATION OF SUPER SILT FENCE, DIVERSION FENCE OR TREE PROTECTION FENCE; (3) ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF THE PARK URBAN FORESTER; AND (4) A M-NCPPC REPRESENTATIVE SHALL BE INFORMED WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.
4. IMMEDIATELY AFTER THE E&S ACTIVITIES ARE COMPLETE, TREES INDICATED FOR MULCHING IN THE TREE INVENTORY SHALL BE MULCHED TO PROTECT THE ROOTS AND RETAIN MOISTURE. HARDWOOD CHIPS OR SHREDDED MULCH SHALL BE APPLIED AT A MAXIMUM DEPTH OF 4 INCHES AROUND THESE SPECIFIC TREES AND ONLY WITHIN 10 FEET OF THE LIMITS OF DISTURBANCE. ADDITIONAL AREAS MAY BE MULCHED AS PART OF THE INVASIVE SPECIES MANAGEMENT, SEE INVASIVE SPECIES MANAGEMENT NOTES, THIS SHEET.
5. ALL CONSTRUCTION ACTIVITY BEYOND THE LIMITS OF DISTURBANCE SHOWN ON THE PLAN SHALL BE PROHIBITED UNLESS PREVIOUSLY APPROVED. THE STORAGE OF EQUIPMENT, MATERIALS, CHEMICALS, AND DEBRIS AS WELL AS VEHICULAR TRAFFIC OR THE PARKING OF VEHICLES SHALL NOT BE PERMITTED WITHIN TREE PRESERVATION AREAS.
6. THE SERVICES OF THE PROJECT SURVEYOR SHALL BE RETAINED TO HAVE THE LIMITS OF CLEARING AND GRADING IN THE AREAS OF TREE PRESERVATION MARKED WITH A CONTINUOUS LINE OF FLAGGING PRIOR TO THE WALK-THROUGH MEETING WITH THE M-NCPPC DEPARTMENT OF PLANNING FOREST CONSERVATION INSPECTOR AND PARKS DEPARTMENT INSPECTOR TO BE HELD PRIOR TO ANY CLEARING AND GRADING. DURING THE TREE PRESERVATION WALK-THROUGH MEETING, THE PARK URBAN FORESTER SHALL WALK SUCH LIMITS OF CLEARING AND GRADING WITH BOTH INSPECTORS TO DETERMINE WHERE ADJUSTMENTS TO THE CLEARING LIMITS CAN BE MADE TO INCREASE THE AREA OF TREE PRESERVATION AND/OR TO INCREASE THE SURVIVABILITY OF TREES AT THE EDGE OF THE LIMITS OF CLEARING AND GRADING. SUCH ADJUSTMENT SHALL BE IMPLEMENTED; PROVIDED, HOWEVER, THAT NO ADJUSTMENT SHALL BE REQUIRED THAT WOULD AFFECT THE LOCATION AND/OR DESIGN OF THE DEVELOPMENT, INCLUDING A REQUIREMENT FOR ADDITIONAL RETAINING WALLS. TREES WITHIN THE PRESERVATION AREAS THAT ARE IDENTIFIED SPECIFICALLY BY M-NCPPC IN WRITING AS DEAD OR DYING MAY BE REMOVED AS PART OF THE CLEARING OPERATION. ANY TREE THAT IS SO DESIGNATED SHALL BE REMOVED USING A CHAIN SAW AND SUCH REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT AVOIDS DAMAGE TO SURROUNDING TREES AND ASSOCIATED UNDERSTORY VEGETATION. IF A STUMP MUST BE REMOVED, THIS SHALL BE DONE USING A STUMP-GRINDING MACHINE IN A MANNER CAUSING AS LITTLE DISTURBANCE AS POSSIBLE TO ADJACENT TREES AND ASSOCIATED UNDERSTORY VEGETATION AND SOIL CONDITIONS.
7. THE LIMITS OF CLEARING AND GRADING SHALL BE STRICTLY CONFORMED TO, AS SHOWN ON THE PLAN, SUBJECT TO ALLOWANCES SPECIFIED IN THESE DEVELOPMENT CONDITIONS AND FOR THE INSTALLATION OF FENCES AND/OR UTILITIES AS DETERMINED NECESSARY BY M-NCPPC. IF IT IS DETERMINED NECESSARY TO INSTALL FENCES AND/OR UTILITIES IN AREAS PROTECTED BY THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE PLAN, THEY SHALL BE LOCATED IN THE LEAST DISRUPTIVE MANNER NECESSARY AS DETERMINED BY M-NCPPC AND THE PARK URBAN FORESTER.
8. DURING ANY CLEARING OR TREE/VEGETATION REMOVAL IN THE AREAS ADJACENT TO THE TREE PRESERVATION AREAS, A REPRESENTATIVE OF THE DEVELOPER SHALL BE PRESENT TO MONITOR THE PROCESS AND ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS CONDITIONED AND APPROVED BY M-NCPPC. THE SERVICES OF THE PARK URBAN FORESTER SHALL BE RETAINED TO MONITOR ALL ON-SITE CONSTRUCTION AND DEMOLITION WORK AND TREE PRESERVATION EFFORTS IN ORDER TO ENSURE CONFORMANCE WITH ALL TREE PRESERVATION CONDITIONS, AND M-NCPPC APPROVALS. MONITORING VISITS SHALL BE CONDUCTED WEEKLY DURING E&S INSTALLATION (CLEARING AND GRADING) CONSTRUCTION AND MONTHLY THEREAFTER UNTIL PROJECT COMPLETION.
9. ALL TREES SHOWN TO BE PRESERVED ON THE FOREST CONSERVATION PLAN SHALL BE PROTECTED BY TREE PROTECTION FENCE. TREE PROTECTION FENCING OR SUPER SILT FENCING SHALL BE ERECTED AT THE LIMITS OF CLEARING AND GRADING ADJACENT TO THE TREE PRESERVATION AREAS AS SHOWN ON THE PLANS, AS MAY BE MODIFIED BY THE DEVELOPMENT CONDITIONS BELOW. SUPER SILT FENCE ADJACENT TO MAJOR ROOTS OF TREES MAY BE NOTCHED, AS APPROVED, BY THE DPS INSPECTOR IN THE FIELD. ALL TREE PROTECTION FENCING SHALL BE INSTALLED AFTER THE TREE PRESERVATION WALK-THROUGH MEETING BUT PRIOR TO ANY CLEARING AND GRADING ACTIVITIES. THE INSTALLATION OF ALL TREE PROTECTION FENCING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE PARK URBAN FORESTER AND M-NCPPC, AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED.
10. SIGNS STATING "TREE PRESERVATION AREA" SHALL BE AFFIXED TO THE TREE PRESERVATION FENCE AT LEAST EVERY 30 FEET. SIGNS SHALL INCLUDE BOTH ENGLISH AND SPANISH AS SHOWN ON DETAIL.
11. IN ORDER TO MEET THE REFORESTATION REQUIREMENTS FOR THIS PROJECT, THE COUNTY WILL DEBIT 0.96 ACRES FROM THE REFORESTATION PROGRAM. THE REFORESTATION SITE LOCATION IS GREAT SENECA CREEK REFORESTATION SITE, PARCEL NUMBER 358, LOCATED AT 15813 DARNESTOWN ROAD, DARNESTOWN, MARYLAND.

INVASIVE SPECIES NOTES

1. ALL WORK MUST BE PERFORMED BY A STATE LICENSED PESTICIDE APPLICATOR, UNDER THE SUPERVISION OF A MARYLAND REGISTERED FORESTER OR OTHER QUALIFIED PROFESSIONAL WITH A SUFFICIENT EDUCATION AND EXPERIENCE IN INVASIVE SPECIES AND INTEGRATED PEST MANAGEMENT TECHNIQUES.
2. CONTRACTOR MUST OBTAIN ALL PERMITS REQUIRED.
3. AN INTEGRATED PEST MANAGEMENT (IPM) PLAN SPECIFICALLY FOR INVASIVE SPECIES SHALL BE SUBMITTED TO AND APPROVED BY M-NCPPC. THIS PLAN WILL INCLUDE AREAS OF TREATMENT, TECHNIQUES, AND TYPES AND QUANTITIES OF HERBICIDES TO BE APPLIED. TECHNIQUES MAY INCLUDE A COMBINATION OF HAND OR SMALL MECHANICAL VEGETATION REMOVAL, MULCHING, AND THE APPLICATION OF HERBICIDE. SMALL MACHINERY REFERS TO ANY PIECE OF EQUIPMENT THAT CAN EASILY BE CARRIED IN AND OUT OF THE FOREST CONSERVATION AREAS SUCH AS A WEED TRIMMER OR CHAINSAW. ANYTHING LARGER THAN A SMALL MACHINE REQUIRES THE APPROVAL OF M-NCPPC.
4. AREAS WITHIN THE LOD SHOULD BE CUT TO THE GROUND AND CLEARED OF ALL VEGETATIVE MATERIAL. OUTSIDE OF LOD (A MAXIMUM ADDITIONAL DISTANCE OF 50 FEET), THE CLEARING SHOULD BE DONE MANUALLY (MACHETE, WEED TRIMMER, OR CHAINSAW) UNDER THE SUPERVISION OF M-NCPPC STAFF. REGROWTH OF INVASIVES SHALL BE TREATED BY HERBICIDE APPLICATION. SEE INVASIVE REMOVAL SPECIFICATION FOR DETAILS OF TYPE AND STRENGTH OF HERBICIDE. THE SPRAYING MUST BE DONE UNDER THE SUPERVISION OF M-NCPPC. REMOVAL MAY REQUIRE THREE APPLICATIONS OF HERBICIDE.
5. 6 TO 8 INCHES OF MULCH MAY BE APPLIED TO AREAS WITH HEAVILY ESTABLISHED INVASIVE SPECIES AFTER THE AREA HAS BEEN TREATED APPROPRIATELY WITH EITHER HAND REMOVAL OR HERBICIDE. THIS MULCHING SHOULD OCCUR 72 HOURS AFTER THE LAST HERBICIDE APPLICATION.
6. IN THE VICINITY OF WATER, FOLLOW THE HERBICIDE'S LABELED INSTRUCTIONS. AN HERBICIDE DESIGNED TO BE USED IN THE VICINITY OF WATER MAY BE REQUIRED (IE. RODEO).
7. THE USE OF A QUALITY SURFACTANT WITH HERBICIDES IS RECOMMENDED FOR IMPROVED CONTROL. SEE HERBICIDE LABEL.
8. READ AND FOLLOW THE PRODUCT LABEL FOR RATES ON THE HERBICIDES.
9. ALL PRODUCT LABELS AND MATERIAL SAFETY DATA SHEETS (MSDS) SHALL BE ON-SITE DURING ANY APPLICATION OF HERBICIDES.
10. ALL PLANTS ON THE MARYLAND DEPARTMENT OF NATURAL RESOURCES EXOTIC AND INVASIVE SPECIES LIST SHALL BE ERADICATED FROM ALL AREAS WITHIN THE LOD AND A MAXIMUM ADDITIONAL DISTANCE OF 50 FEET BEYOND THE LOD INTO THE FOREST CONSERVATION AREAS.
11. INDIVIDUALS INVOLVED IN INVASIVE PLANT REMOVAL MUST MEET WITH M-NCPPC STAFF ON-SITE PRIOR TO VEGETATION REMOVAL, MULCHING, OR HERBICIDE APPLICATION.
12. THE CONTRACTOR MUST FOLLOW ALL MARYLAND DEPARTMENT OF AGRICULTURE RULES AND REGULATIONS REGARDING THE SPRAYING OF HERBICIDES. ANY HERBICIDES USED IN THE REMOVAL OF EXOTIC INVASIVE PLANTS MUST BE APPLIED BY A MARYLAND LICENSED PESTICIDE APPLICATOR.
13. CONTRACTOR MUST NOTIFY M-NCPPC STAFF 48 HOURS PRIOR TO SPRAYING.

INSPECTIONS NOTES

1. ALL FIELD INSPECTIONS MUST BE REQUESTED BY THE APPLICANT. INSPECTIONS MUST BE CONDUCTED AS FOLLOWS:
   a. AFTER THE LIMITS OF DISTURBANCE HAVE BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS
   b. AFTER NECESSARY STRESS REDUCTION MEASURES HAVE BEEN COMPLETED AND PROTECTION MEASURES HAVE BEEN INSTALLED, BUT BEFORE ANY CLEARING AND GRADING BEGIN
   c. AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES, BUT BEFORE REMOVAL OF TREE PROTECTION FENCING, TO DETERMINE THE LEVEL OF COMPLIANCE WITH THE PROVISION OF THE FOREST CONSERVATION.
   d. BEFORE THE START OF ANY REQUIRED REFORESTATION AND AFFORESTATION PLANTING
   e. AFTER THE REQUIRED REFORESTATION AND AFFORESTATION PLANTING HAS BEEN COMPLETED TO VERIFY THAT THE PLANTING IS ACCEPTABLE AND PRIOR TO THE START OF THE MAINTENANCE PERIOD.
   f. AT THE END OF THE MAINTENANCE PERIOD TO DETERMINE THE LEVEL OF COMPLIANCE WITH THE PROVISIONS OF THE PLANTING PLAN AND, IF APPROPRIATE, RELEASE OF THE PERFORMANCE BOND.

STANDARD TREE CANOPY NOTES

ANY SHADE TREE PLANTED TO COMPLY WITH CHAPTER 55 OF THE COUNTY CODE MUST CONFORM TO THE FOLLOWING:

1. EACH SHADE TREE MUST MEET THE REQUIREMENTS FOR PLANT MATERIAL IN ANSI Z60.1;
2. EACH SHADE TREE MUST BE A MINIMUM OF 2" CALIPER;
3. INSTALLATION OF EACH SHADE TREE MUST MEET ALL REQUIREMENTS OF ANSI A300;
4. AT THE TIME OF PLANTING:
   a. TREE GUARDS TO PROTECT TREES FROM DEER RUBBING, MOWERS, WEED EATERS, OTHER EQUIPMENT AND LARGE RODENTS MUST BE INSTALLED ON ALL SHADE TREES;
   b. MULCH MUST BE APPLIED;
   c. SUFFICIENT WATER MUST BE APPLIED TO AID IN PROPER PLANTING.
5. SHADE TREES MUST BE INSTALLED BETWEEN OCTOBER 15TH AND MAY 15TH AS LONG AS THE GROUND IS NOT FROZEN, SATURATED, OR COVERED WITH SNOW SUCH THAT A SUITABLE HOLE CANNOT BE DUG;
6. SHADE TREES MUST NOT BE INSTALLED BETWEEN MAY 16TH AND OCTOBER 14TH OF EACH YEAR. IF INSTALLATION CANNOT OCCUR BETWEEN OCTOBER 15TH AND MAY 15TH FOR ANY REASON, OR IF PROPOSED TREES ARE NOT PLANTED FOR ANY OTHER REASON, THE PERMITTEE MUST PAY THE REQUIRED FEE IN LIEU.
7. IF SHADE TREES ARE INSTALLED PRIOR TO FINAL STABILIZATION OF THE LAND DISTURBING ACTIVITY THEN NO ADDITIONAL DISTURBANCE MUST OCCUR WITHIN FIVE FEET OF THE STEM OF THE TREE. PROTECTIVE FENCING MUST BE INSTALLED AT THE EDGE OF THIS AREA AT THE SAME TIME THE TREE IS INSTALLED AND MUST REMAIN IN PLACE UNTIL FINAL STABILIZATION OCCURS.
8. THE LOCATION OF GROWING ZONES AND PLANTING AREAS MUST BE CLEARLY MARKED IN THE FIELD PRIOR TO INSTALLATION OF ANY SHADE TREE.
9. A COPY OF THE APPROVED SEDIMENT CONTROL PLAN SHOWING ALL APPROVED GROWING ZONES AND PLANTING AREAS MUST BE AVAILABLE ON THE SITE AT ALL TIMES.
10. AT LEAST ONE INSPECTION MUST OCCUR AFTER ALL CONSTRUCTION ACTIVITIES ARE COMPLETED TO DETERMINE THE LEVEL OF COMPLIANCE WITH SHADE TREE PLANTING REQUIREMENTS.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

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

Stormwater Management:

Reviewed Date

Approved Date

SM FILE #

Sediment Control Technical Requirements:

Reviewed Date

Approved Date

Administrative Requirements:

Reviewed Date

SEDIMENT CONTROL PERMIT NO.

MCDPS 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 ANY ADJACENT PROPERTY WITHOUT THAT PROPERTY OWNER'S PERMISSION. IT DOES NOT RELIEVE THE DESIGN ENGINEER OR OTHER RESPONSIBLE PERSON OF PROFESSIONAL LIABILITY OR ETHICAL RESPONSIBILITY FOR THE ADEQUACY OF THE DRAINAGE DESIGN AS IT AFFECTS UPHILL OR DOWNHILL PROPERTIES.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SBD Drawn by: SBD Checked by: SJR

LS-09 LANDSCAPE NOTE SHEET

GOOD HOPE ROAD
SHARED USE PATH

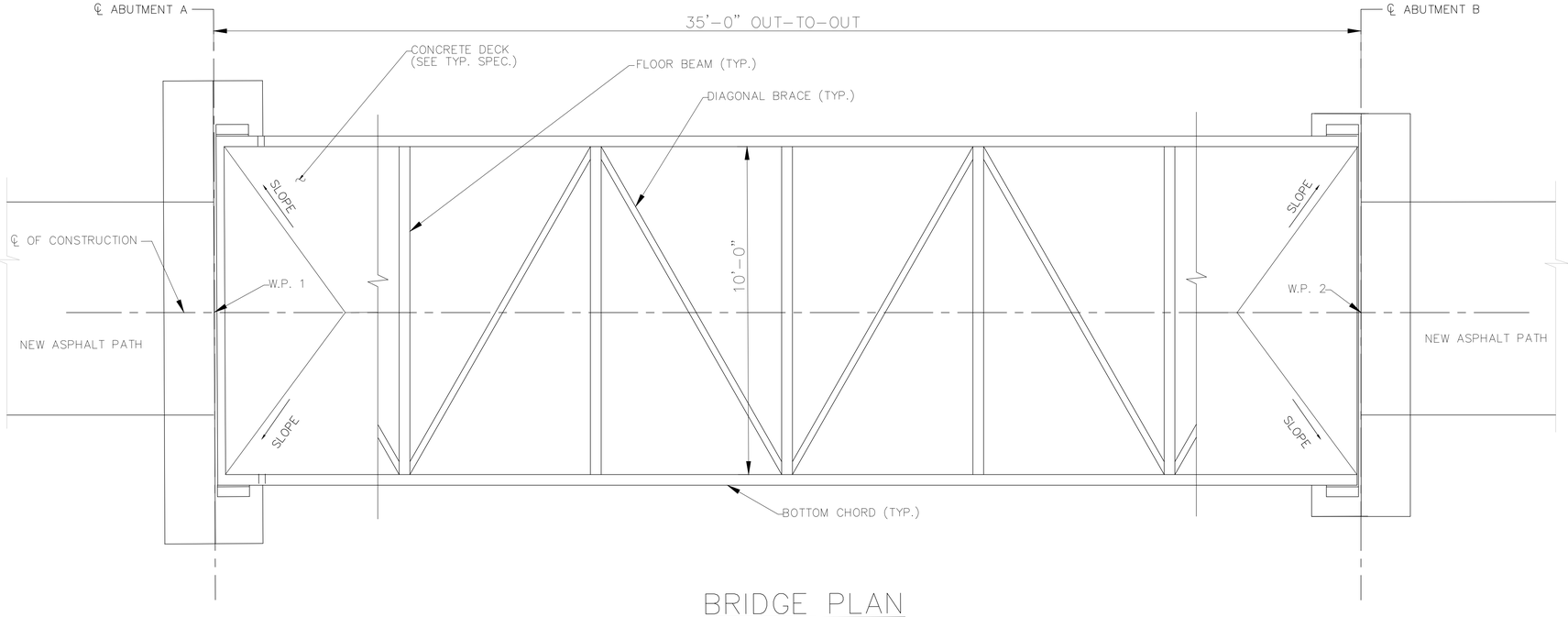
0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2020

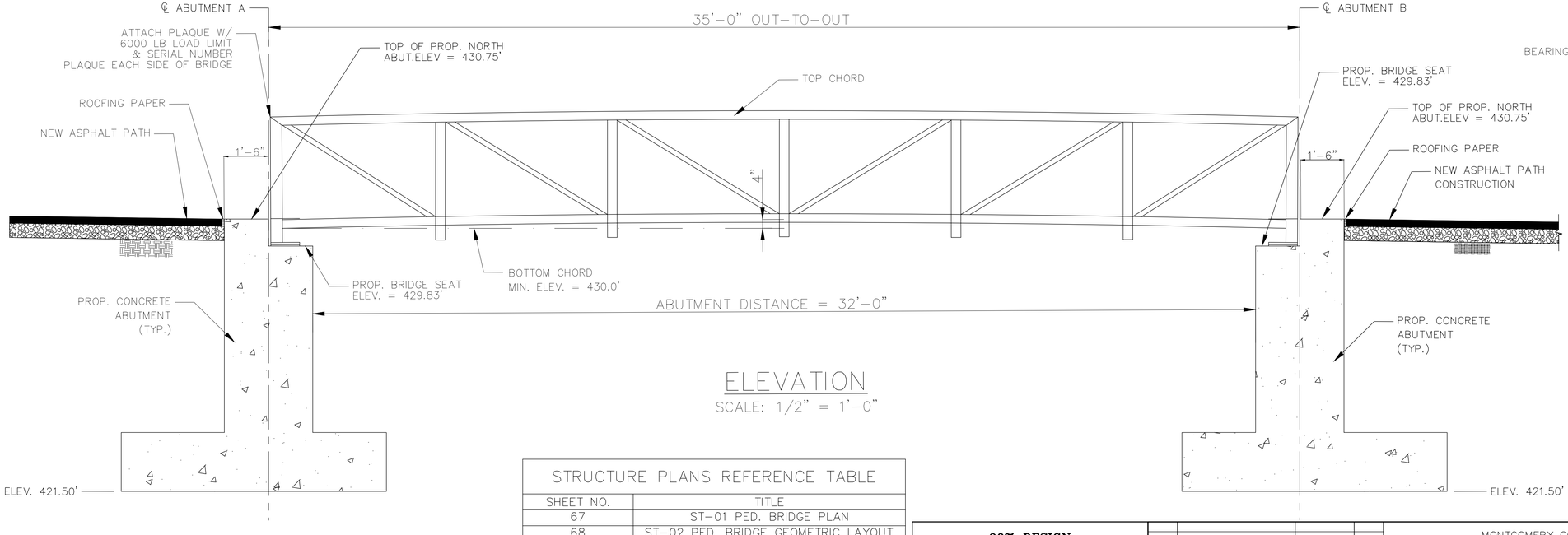
Project No. : 501902

SHEET 47 of 75



BRIDGE PLAN

SCALE: 1/2" = 1'-0"



ELEVATION

SCALE: 1/2" = 1'-0"

STRUCTURE PLANS REFERENCE TABLE	
SHEET NO.	TITLE
67	ST-01 PED. BRIDGE PLAN
68	ST-02 PED. BRIDGE GEOMETRIC LAYOUT
69	ST-03 ABUTMENT A - PLAN & ELEV
70	ST-04 ABUTMENT B - PLAN & ELEV
71	ST-05 ABUTMENT A REINF. DETAILS
72	ST-06 ABUTMENT B REINF. DETAILS
73	ST-07 SUPERSTRUCT TYPICAL SECTION
74	ST-08 SOIL BORINGS
75	ST-09 ABUTMENT SCOUR PROTECTION
76	ST-10 ENDWALL DETAILS

GENERAL NOTES:

SPECIFICATIONS: MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JULY 2018.

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, DATED 2017.

AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES, DATED 2009 WITH INTERIMS THROUGH 2015.

LOADING: H-5 OR A UNIFORM PEDESTRIAN LOAD OF 90 PSF.

LOAD RESTRICTIONS: THERE ARE RESTRICTIONS FOR PLACING EQUIPMENT AND MATERIALS ON EXISTING AND NEW STRUCTURES. REFER TO SECTION TC 6.14.

CONCRETE: ALL CONCRETE FOR THE BRIDGE DECK SHALL BE MIX NO. 6 (4500 PSI) CONTAINING SYNTHETIC FIBERS (SEE SECTION 902.15).

ALL OTHER CONCRETE SHALL BE MIX NO. 3 (3500 PSI).

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60 WITH A YIELD STRENGTH FOR DESIGN OF fy = 60,000 PSI.

ALL SPLICES NOT SHOWN SHALL BE LAPPED A MINIMUM 48 BAR DIAMETERS..

ALL REINFORCING STEEL SHALL BE EPOXY COATED IN THE DECK AND ABUTMENTS. MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE TOP OF ABUTMENT AND BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS, WHICH SHALL HAVE 3" MINIMUM COVER.

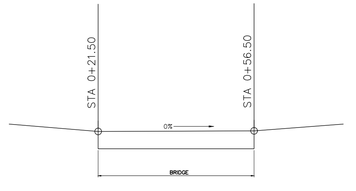
FOR TIES AND STIRRUPS, STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (-) NORMAL ACI BENDING TOLERANCES.

STRUCTURAL STEEL: STRUCTURAL STEEL FOR PREFABRICATED TRUSS SHALL CONFORM TO A709, GRADE 50. STRUCTURAL TUBING FOR PREFABRICATED TRUSS SHALL CONFORM TO A500 GRADE C. ALL TRUSS MEMBER AND FLOOR BEAM STEEL SHALL MEET THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING. ALL STRUCTURAL STEEL AND TUBING FOR PREFABRICATED TRUSS SHALL BE GALVANIZED AND PAINTED.

TRUSS DESIGN: THE FUNDAMENTAL FREQUENCY OF THE PEDESTRIAN BRIDGE WITHOUT LIVE LOAD SHALL BE GREATER THAN 3.0 HZ. DEFLECTION OF PEDESTRIAN BRIDGES SHALL BE IN ACCORDANCE WITH AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES.

ALL MEMBER, TYPES, SIZES SHALL BE IN ACCORDANCE WITH CONTINENTAL BRIDGE STANDARDS FOR 35' SPAN PRE-FABRICATED PONY TRUSS BRIDGE OR APPROVED EQUAL.

BEARING CAPACITY: ASSUMED MAXIMUM FACTORED BEARING RESISTANCE FOR CULVERT IS 2 KSF AND SHALL BE VERIFIED IN THE FIELD BY A QUALIFIED ENGINEER. IF THE ACTUAL BEARING CAPACITY DOES NOT MEET THE DESIGN CRITERIA, THE ENGINEER SHALL BE CONTACTED BEFORE CONSTRUCTION SO THE NECESSARY ACTION MAY BE TAKEN. PRIOR TO PLACEMENT OF THE AGGREGATE SUBBASE, THE SUITABILITY OF THE SUBGRADE SOILS SHALL BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER. THE SUBGRADE SHALL BE RECOMPACTED, AND ANY SOFT, WET, DELETERIOUS, OR OTHERWISE UNSUITABLE MATERIALS SHALL BE REMOVED AND REPLACED WITH STRUCTURAL FILL. STRUCTURAL FILL FOR THE SUBBASE SHALL BE CR-6, OR AN APPROVED ALTERNATE.



PEDESTRIAN PATH VERTICAL PROFILE

SCALE: NOT TO SCALE

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

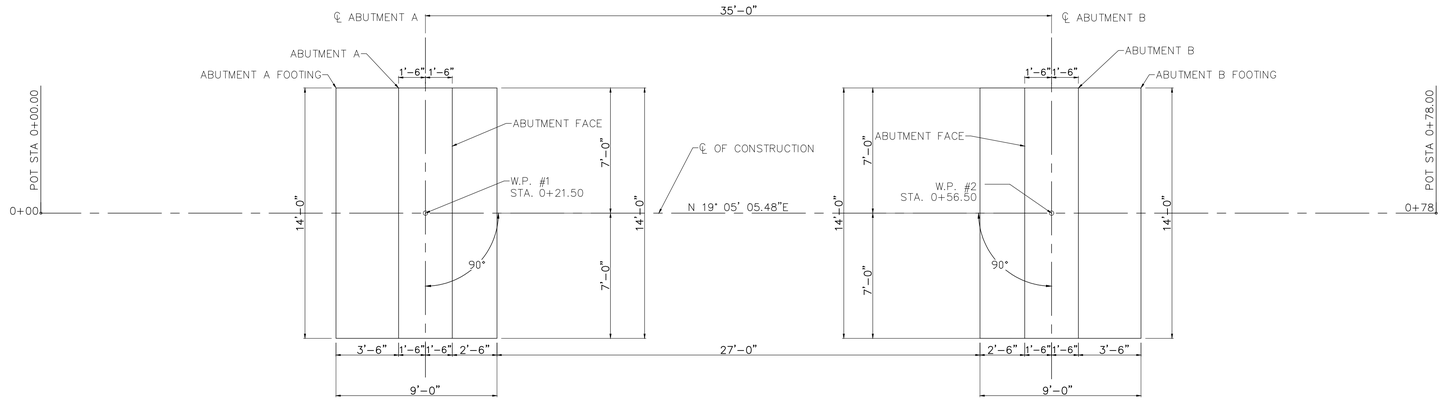
ST-01 PED. BRIDGE PLAN
STRUCTURE PLANS

GOOD HOPE ROAD
SHARED USE PATH

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

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 67 of 114



GEOMETRIC LAYOUT PLAN
SCALE: 1/4" = 1'-0"

WORKING POINTS				
POINT #	Northing	Easting	STATION	OFFSET
1	524071.76	1317839.15	0+21.50	0.00'
2	524104.83	1317850.61	0+56.50	0.00'

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

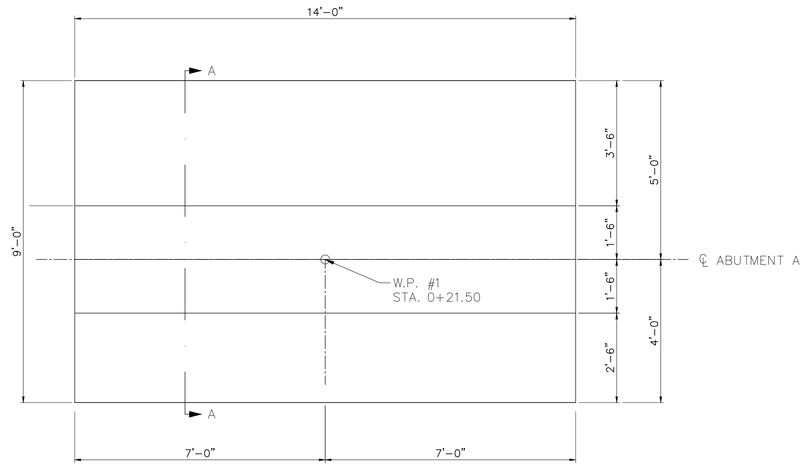
ST-02 PED. BRIDGE GEOMETRIC LAYOUT

GOOD HOPE ROAD
SHARED USE PATH

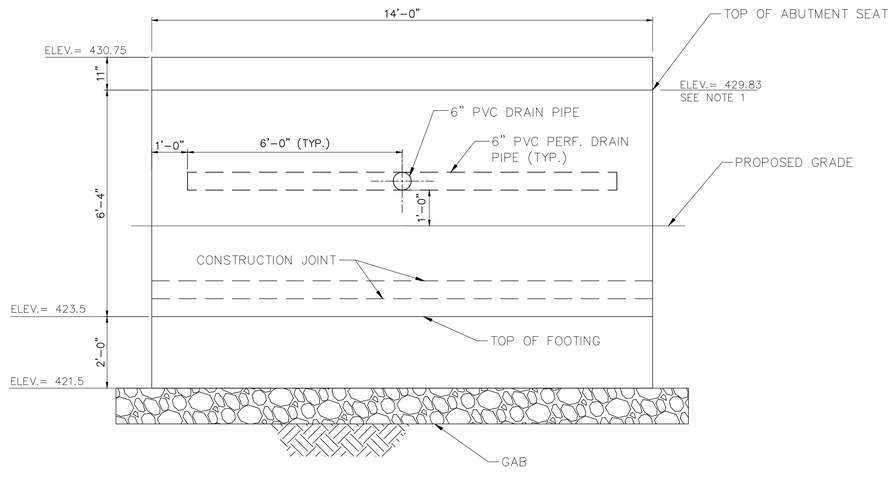
SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 68 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pST_P001_GoodHope.dwg LAYOUT NAME: GEOMETRIC LAYOUT PLOTTED: Tuesday, November 24, 2020 - 12:45pm USER: Kevin



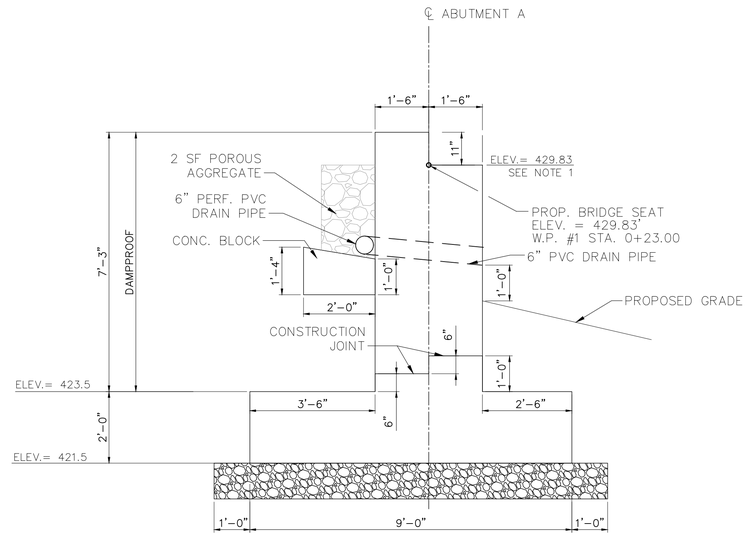
ABUTMENT A – PLAN
SCALE: 1/2" = 1'-0"



ABUTMENT A – ELEVATION
SCALE: 1/2" = 1'-0"

NOTES:

1. TOP OF ABUTMENT SEAT ELEVATION SHALL BE COORDINATED WITH TRUSS MANUFACTURER AND MAY VARY FROM ELEVATION SHOWN ON THIS SHEET.



SECTION A – ABUTMENT A
SCALE: 1/2" = 1'-0"

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

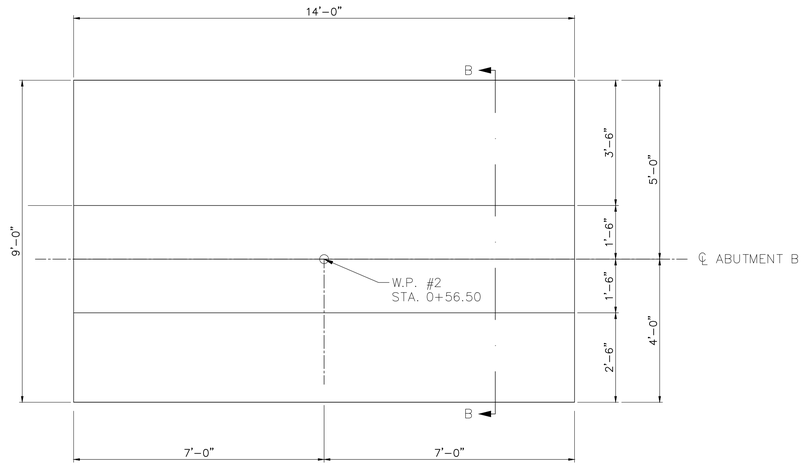
ST-03 ABUTMENT A – PLAN & ELEV
STRUCTURE PLANS

GOOD HOPE ROAD
SHARED USE PATH

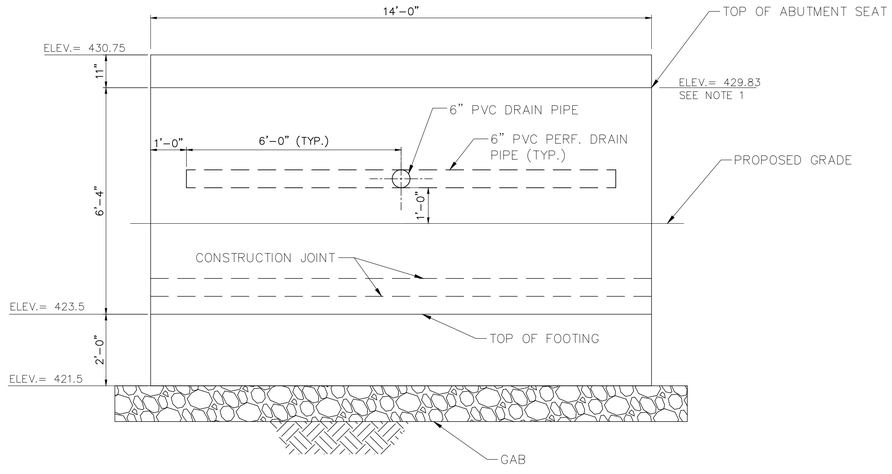
SCALE: NOT TO SCALE DATE: NOVEMBER 2020

Project No. : 501902 SHEET 69 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pST_P001_GoodHope.dwg LAYOUT NAME: ABUTMENT A – PLAN & ELEV PLOTTED: Tuesday, November 24, 2020 – 12:45pm USER: Kevin



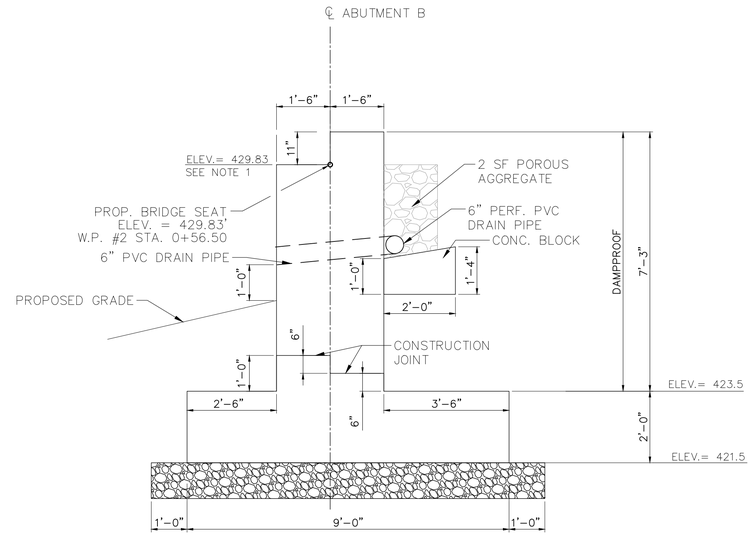
ABUTMENT B – PLAN
SCALE: 1/2" = 1'-0"



ABUTMENT B – ELEVATION
SCALE: 1/2" = 1'-0"

NOTES:

1. TOP OF ABUTMENT SEAT ELEVATION SHALL BE COORDINATED WITH TRUSS MANUFACTURER AND MAY VARY FROM ELEVATION SHOWN ON THIS SHEET.



SECTION B – ABUTMENT B
SCALE: 1/2" = 1'-0"

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

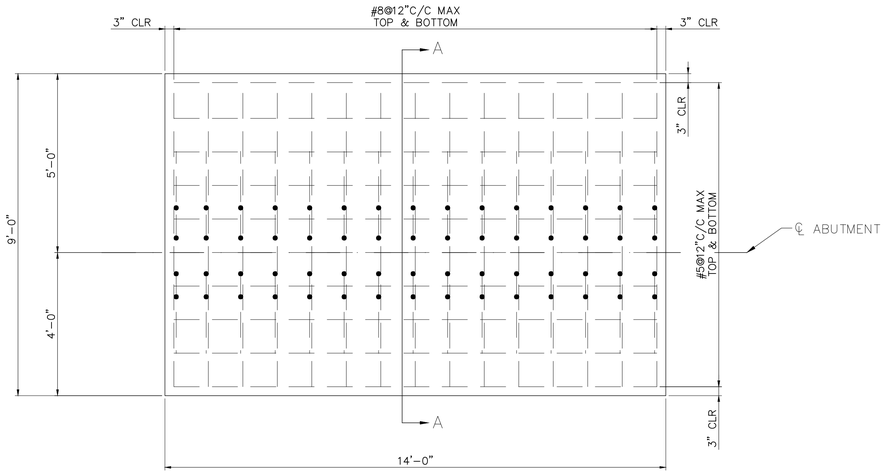
Designed by: HQ Drawn by: KJS Checked by: DZ

ST-04 ABUTMENT B – PLAN & ELEV
STRUCTURE PLANS

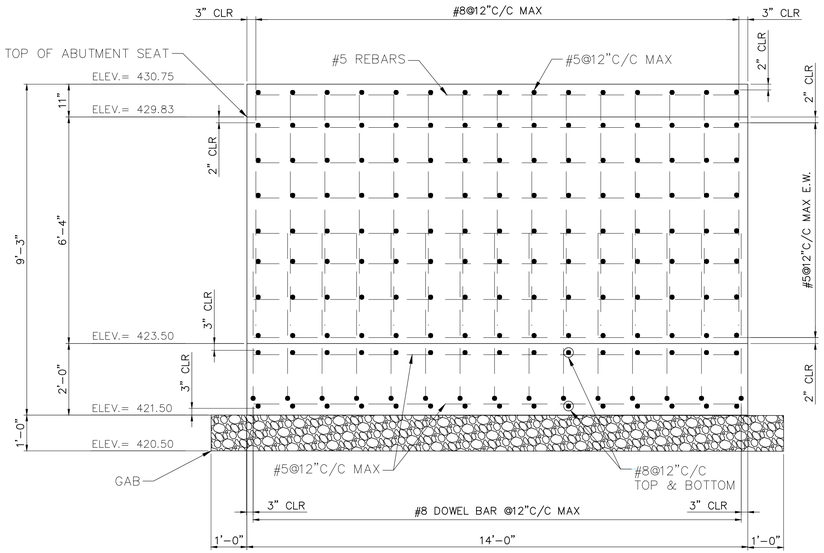
GOOD HOPE ROAD
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

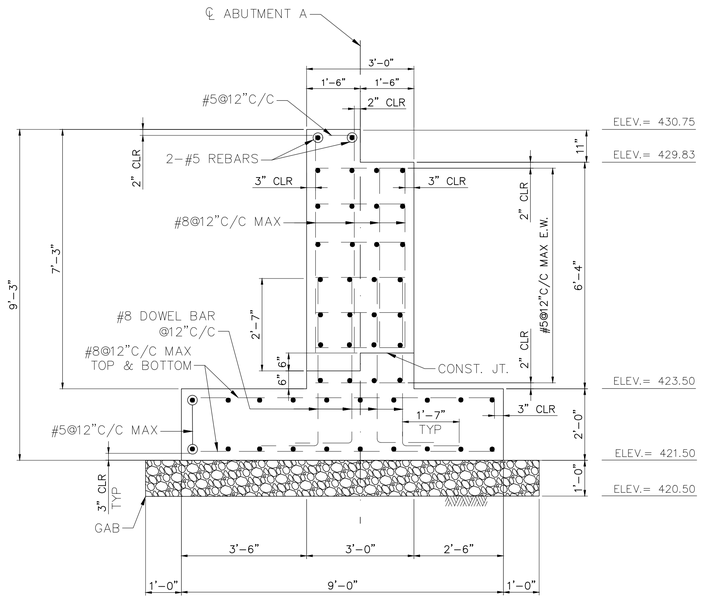
Project No. : 501902 SHEET 70 of 114



ABUTMENT A – FOOTING LAYOUT
SCALE: 1/2" = 1'-0"



ABUTMENT A – ELEVATION
SCALE: 1/2" = 1'-0"



SECTION A–A
SCALE: 1/2" = 1'-0"

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

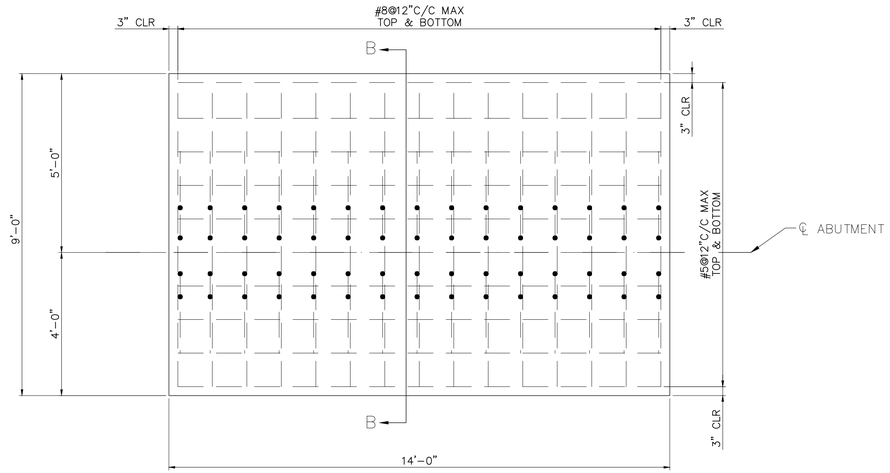
ST-05 ABUTMENT A REINF. DETAILS
STRUCTURE PLANS

GOOD HOPE ROAD
SHARED USE PATH

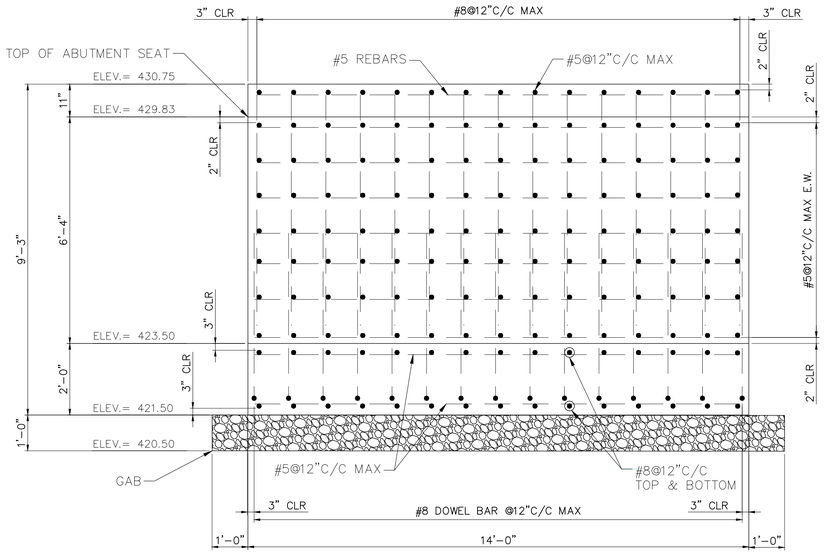
SCALE: NOT TO SCALE DATE: NOVEMBER 2020

Project No. : 501902 SHEET 71 of 114

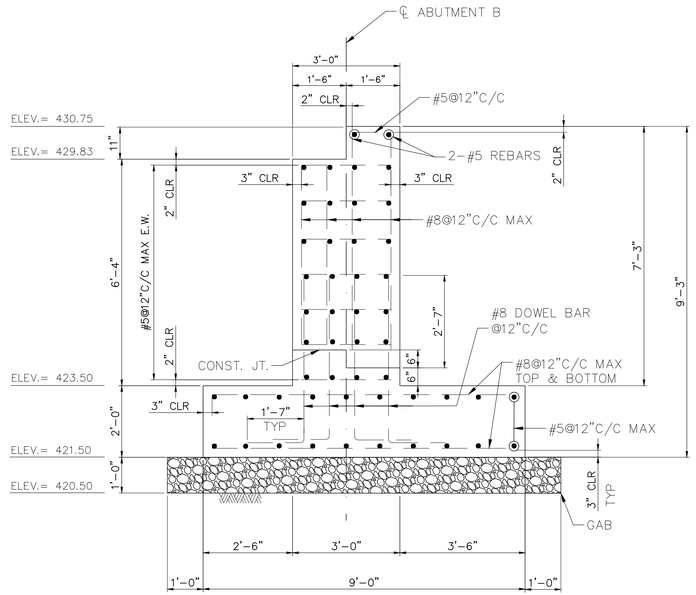
FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pST_P001_GoodHope.dwg LAYOUT NAME: ABUTMENT A REINF DETAILS PLOTTED: Tuesday, November 24, 2020 – 12:45pm USER: Kevin



ABUTMENT B – FOOTING LAYOUT
SCALE: 1/2" = 1'-0"



ABUTMENT B – ELEVATION
SCALE: 1/2" = 1'-0"



SECTION B–B
SCALE: 1/2" = 1'-0"

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

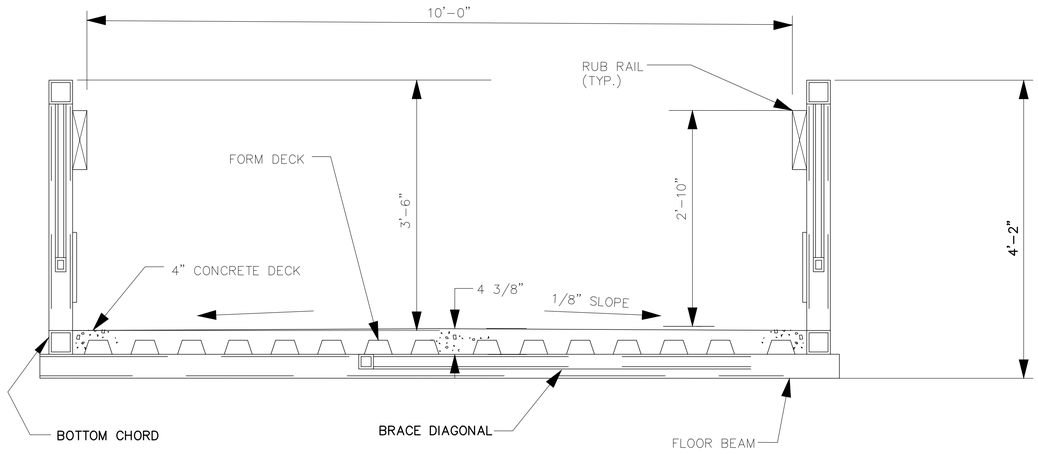
Designed by: HQ Drawn by: KJS Checked by: DZ

ST-06 ABUTMENT B REINF. DETAILS
STRUCTURE PLANS

GOOD HOPE ROAD
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

Project No. : 501902 SHEET 72 of 114



BRIDGE TYPICAL SECTION

SCALE: 1" = 1'-0"

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

ST-07 SUPERSTRUCT TYPICAL SECTION
STRUCTURE PLANS

GOOD HOPE ROAD
SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 73 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pST_P001_GoodHope.dwg LAYOUT NAME: SUPERSTRUC TYPICAL SECTIONS PLOTTED: Tuesday, November 24, 2020 - 12:46pm USER: Kevin

BORING NUMBER STRC-6

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Beltsville, Maryland

CLIENT Johnson, Mirmiran & Thompson, Inc.
PROJECT NAME Good Hope Road Improvement
PROJECT NUMBER G18035
PROJECT LOCATION Silver Spring, MD
DATE STARTED 2/19/19 **COMPLETED** 2/19/19
GROUND ELEVATION _____ **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING 6.5 ft
LOGGED BY J.C. **CHECKED BY** K.B
AT END OF DRILLING 6.3 ft
NOTES
24hrs AFTER DRILLING 3.7 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / □ FINES CONTENT (%) □
0		5 inch Topsoil.						
		FILL Brown, black, gray, moist, silty SAND (SM) with varying amounts of clay, organics, mica and coal fragments.	SS 1	67	2-3-5 (8)			
			SS 2	67	2-1-2 (3)			
5		Brown, gray, reddish brown, moist to wet, loose to medium dense, silty SAND (SM) with mica and varying amounts of gravel.	SS 3	78	2-4-24 (28)			
			SS 4	44	8-11-7 (18)			
10			SS 5	67	3-4-4 (8)			
			SS 6	67	3-3-3 (6)			
15								
			SS 7	78	3-5-5 (10)			
20								
			SS 8	56	16-12-8 (20)			
25								
			SS 9	22	9-12-15 (27)			
30		Bottom of hole at 30.0 feet.						

20 40 60 80

GEOTECH BH PLOTS GOOD HOPE RD.GPJ GINT US.GDT 03/25/19

BORING NUMBER STRC-7

PAGE 1 OF 1

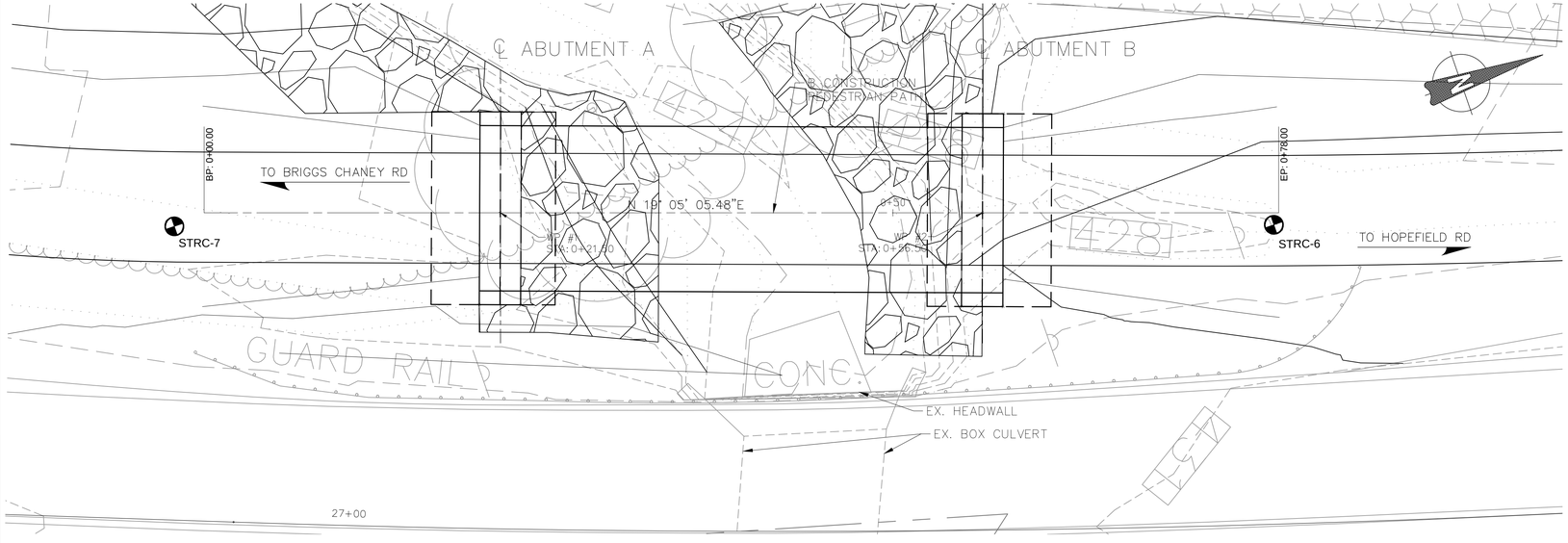
KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Beltsville, Maryland

CLIENT Johnson, Mirmiran & Thompson, Inc.
PROJECT NAME Good Hope Road Improvement
PROJECT NUMBER G18035
PROJECT LOCATION Silver Spring, MD
DATE STARTED 2/19/19 **COMPLETED** 2/19/19
GROUND ELEVATION _____ **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING 6.0 ft
LOGGED BY J.C. **CHECKED BY** K.B
AT END OF DRILLING 3.8 ft
NOTES
24hrs AFTER DRILLING 3.1 ft

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / □ FINES CONTENT (%) □
0		6 inch Topsoil.						
		FILL Brown, black, dark brown, sandy SILT (ML) with traces of clay, organics and mica.	SS 1	56	1-1-1 (2)			
		Brown, gray, moist, soft, sandy SILT (ML) with traces of clay and organics.	SS 2	67	2-2-2 (4)			
5		Brown, gray, reddish brown, light brown, moist to wet, loose to medium dense, silty SAND (SM) with varying amounts of mica and gravel.	SS 3	67	5-2-3 (5)			
			SS 4	67	16-13-12 (25)			
10			SS 5	6	4-4-5 (9)			
			SS 6	11	2-4-4 (8)			
15								
			SS 7	56	6-10-9 (19)			
20								
			SS 8	78	6-8-12 (20)			
25								
			SS 9	78	6-12-13 (25)			
30		Bottom of hole at 30.0 feet.						

20 40 60 80

GEOTECH BH PLOTS GOOD HOPE RD.GPJ GINT US.GDT 03/25/19



BORING LOCATION PLAN
1" = 5'

NOTES:

1. THE BORINGS AND DRIVE TESTS WERE TAKEN ON FEBRUARY 2, 2019 BY KIM ENGINEERING, INC.
2. THE INFORMATION PROVIDED IN THE BORING LOGS IS TRUE AND ACCURATE SOLELY FOR THE SPECIFIC LOCATIONS FOR WHICH BORINGS WERE DRILLED AND SOIL PROPERTIES WERE ANALYZED. THE BORING LOGS ARE PRESENTED FOR INFORMATIONAL PURPOSES ONLY.

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

ST-08 SOIL BORINGS
STRUCTURE PLANS

GOOD HOPE ROAD SHARED USE PATH

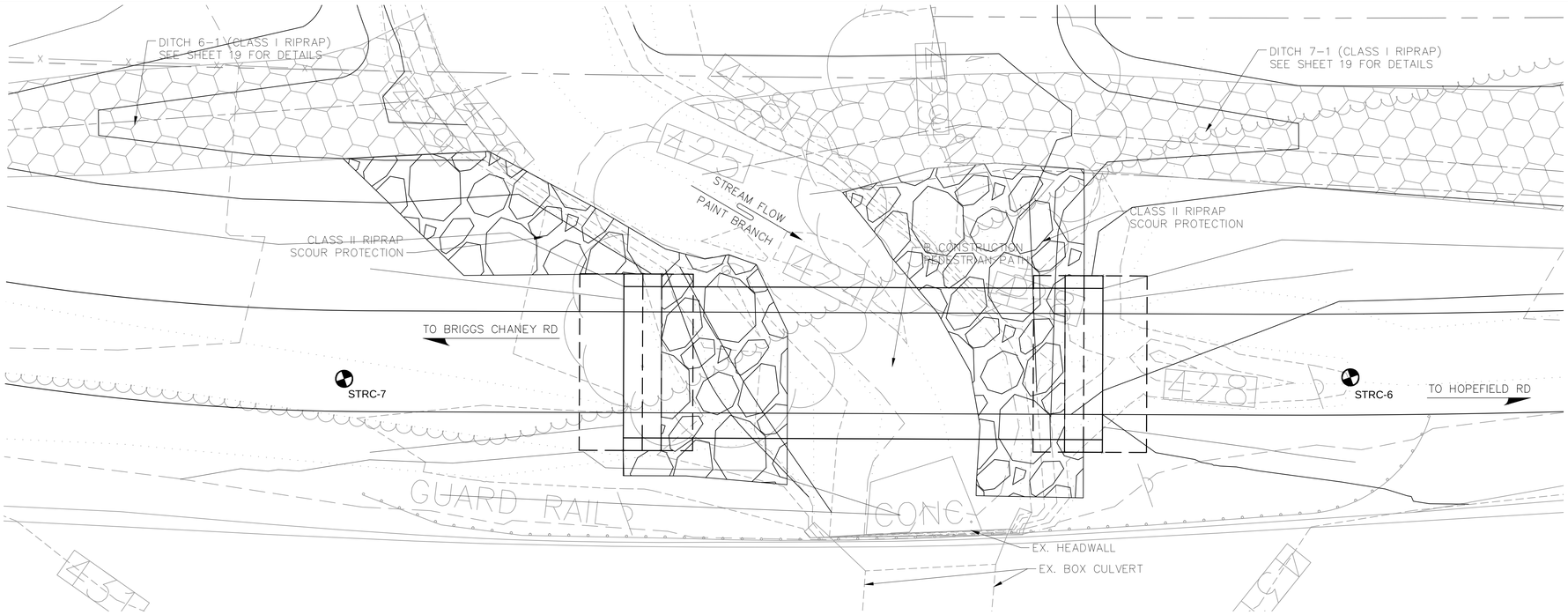
0 5' 10'
SCALE: 1"=5'

DATE: NOVEMBER 2020

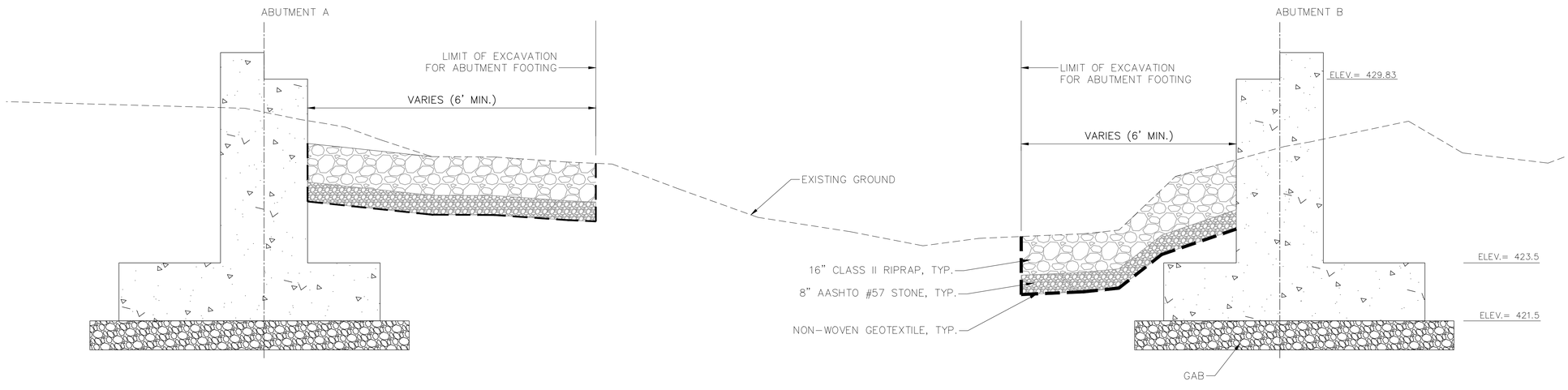
Project No. : 501902

SHEET 74 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pST_P001_GoodHope.dwg LAYOUT NAME: SOIL BORINGS PLOTTED: Tuesday, November 24, 2020 - 12:46pm USER: Kevin



ABUTMENT SCOUR PROTECTION PLAN
SCALE: 1" = 5'



ABUTMENT SCOUR PROTECTION DETAIL
SCALE: 1/2" = 1'-0"

90% DESIGN
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

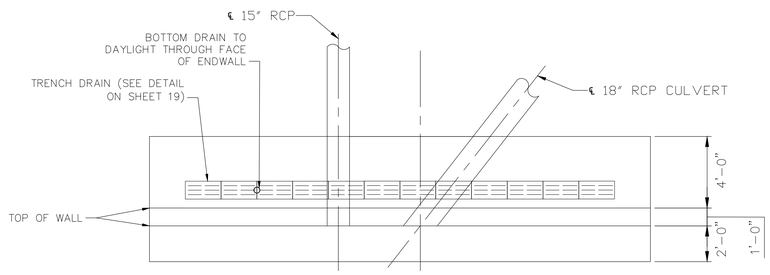
ST-09 ABUTMENT SCOUR PROTECTION STRUCTURE PLANS

GOOD HOPE ROAD SHARED USE PATH

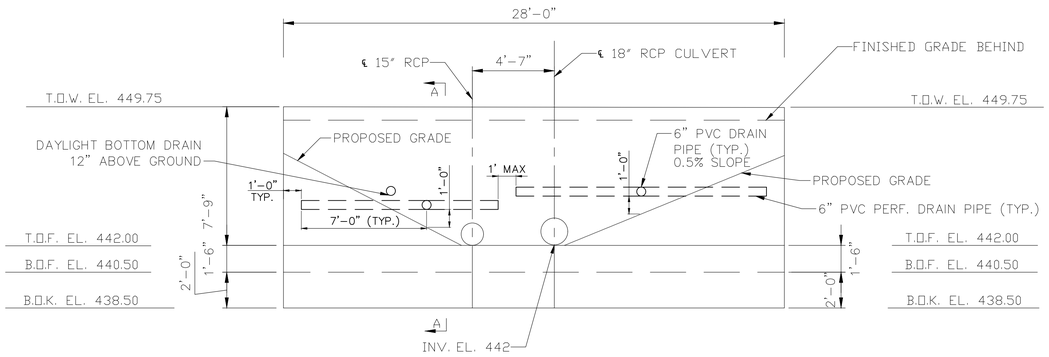
SCALE: AS SHOWN DATE: NOVEMBER 2020

Project No. : 501902 SHEET 75 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pST_P001_GoodHope.dwg LAYOUT NAME: ABUTMENT SCOUR PROTECTION PLOTTED: Tuesday, November 24, 2020 - 12:46pm USER: Kevin



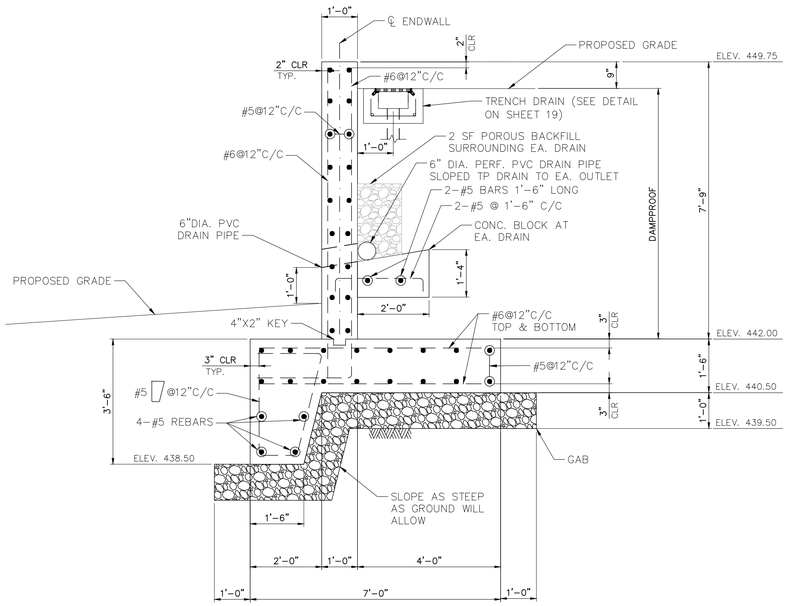
PLAN – ENDWALL
SCALE: 1/4" = 1'-0"



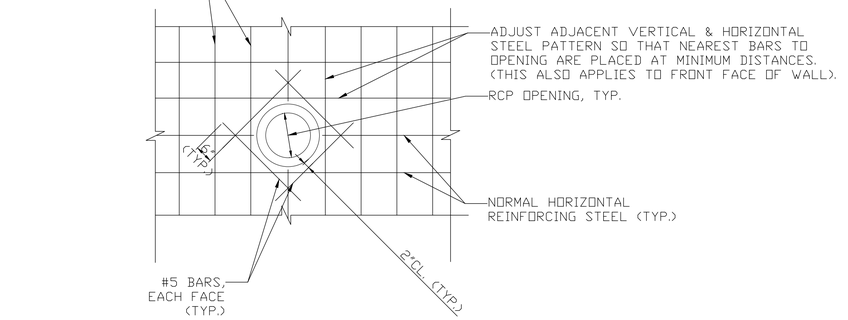
ELEVATION – ENDWALL
SCALE: 1/4" = 1'-0"

NOTES:

1. FOR STRUCTURAL GENERAL NOTES, SEE ST-01.



SECTION A–A
SCALE: 1/2" = 1'-0"



NOTES:

1. IN NO CASE SHALL CONCRETE COVER BE LESS THAN 2".

PIPE PENETRATION TYPICAL REINFORCING DETAIL
SCALE: 1/2" = 1'-0"

STRUCTURE PLANS REFERENCE TABLE	
SHEET NO.	TITLE
67	ST-01 PED. BRIDGE PLAN
68	ST-02 PED. BRIDGE GEOMETRIC LAYOUT
69	ST-03 ABUTMENT A – PLAN & ELEV
70	ST-04 ABUTMENT B – PLAN & ELEV
71	ST-05 ABUTMENT A REINF. DETAILS
72	ST-06 ABUTMENT B REINF. DETAILS
73	ST-07 SUPERSTRUCT TYPICAL SECTION
74	ST-08 SOIL BORINGS
76	ST-10 ENDWALL DETAILS

90% DESIGN NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: HQ Drawn by: KJS Checked by: DZ

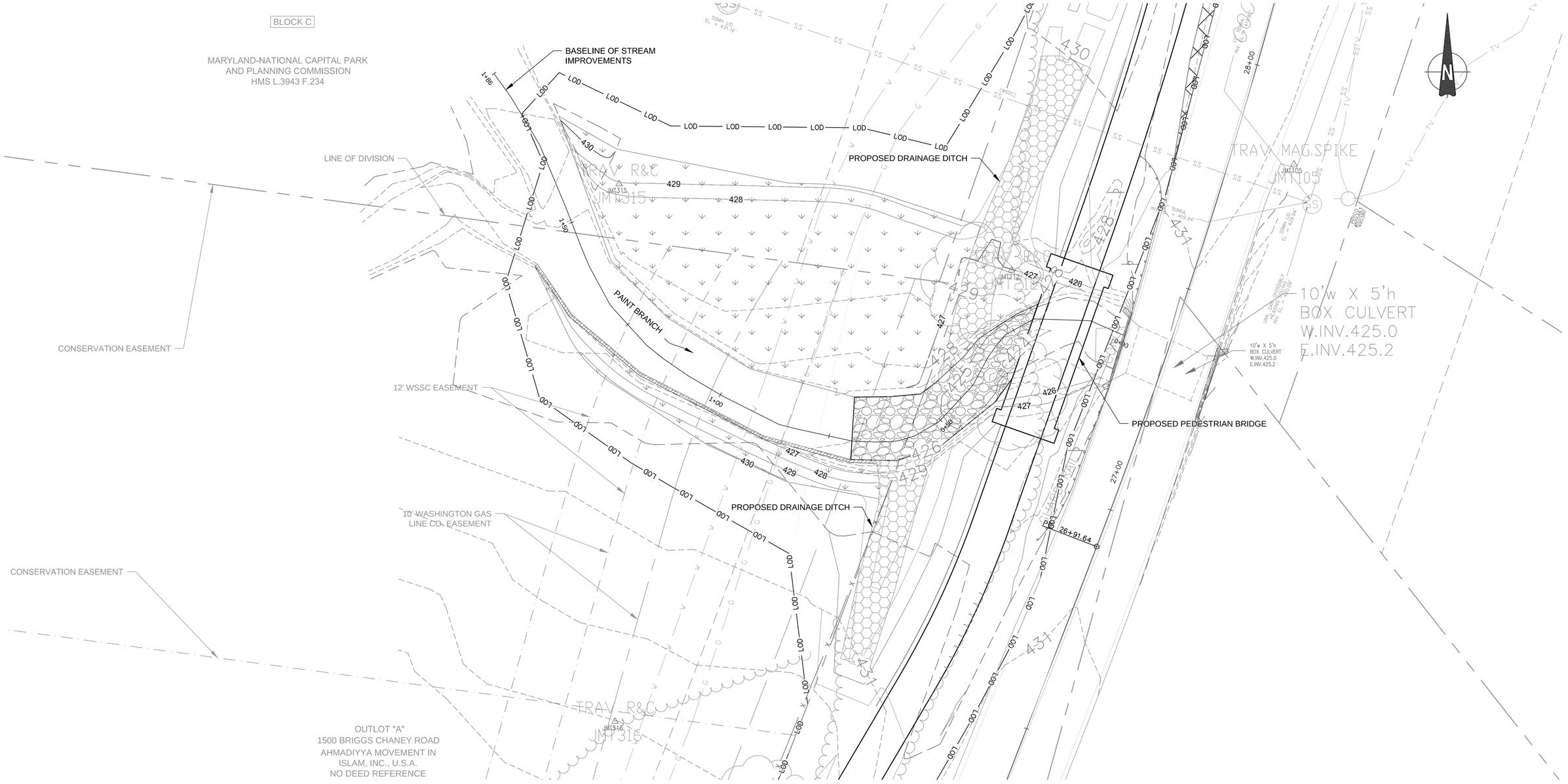
ST-10 ENDWALL DETAILS
STRUCTURE PLANS

GOOD HOPE ROAD SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2020

Project No. : 501902 SHEET 76 of 114

FILE NAME: P:\MoCo\Good Hope Road Sidewalk\00_Working\pST_P002_GoodHope.dwg LAYOUT NAME: ENDWALL DETAILS PLOTTED: Tuesday, November 24, 2020 – 12:47pm USER: Kevin



EROSION CONTROL MATTING		
QUANTITY	FROM	TO
361 SY	0+17 LT	1+71 LT
52 SY	0+65 RT	1+44 RT

RIPARIAN SEED MIX		
QUANTITY	FROM	TO
2.7 LBS	0+17 LT	1+71 LT
0.4 LBS	0+65 RT	1+44 RT

AUGMENTED STREAMBED MATERIAL		
QUANTITY	FROM	TO
58 SY	0+20	0+70

LIVE STAKES		
QUANTITY	FROM	TO
116 EA	0+65 RT	1+44 RT

LIVE FASCINES		
QUANTITY	FROM	TO
79 LF	0+65 RT	1+44 RT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- PE — PERPETUAL EASEMENT
- AUGMENTED STREAMBED MATERIAL
- RIPARIAN SEED MIX / EROSION CONTROL MATTING
- LIVE FASCINES

NOTES:
1. LIVESTAKES WILL ONLY BE INSTALLED IN THE SAME AREA AS THE RIPARIAN SEED MIX FROM STA. 0+65, RIGHT TO STA. 1+44, RIGHT.
2. SEE SHEET 78 FOR THE PROPOSED STREAM IMPROVEMENTS TYPICAL SECTIONS.
3. SEE SHEET 80 AND SHEET 81 FOR THE PROPOSED STREAM IMPROVEMENTS DETAILS.
4. SEE SHEET 79 FOR THE PROPOSED STREAM IMPROVEMENTS DETAILED GRADING PLAN.
5. SEE SHEET 65 FOR THE PROPOSED RIPARIAN SEED MIX, LIVE STAKES AND LIVE FASCINES PLANTING SCHEDULES.
6. SEE SHEETS 19–24 FOR THE PROPOSED DRAINAGE DETAILS AND DRAINAGE PROFILES.
7. SEE SHEET 34A FOR THE STREAM IMPROVEMENTS EROSION AND SEDIMENT CONTROL PLAN.
8. SEE SHEETS 67–76 FOR STRUCTURE PLANS.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: FAB Drawn by: MSC Checked by: JJR

SR–01 STREAM IMPROVEMENTS PLAN

GOOD HOPE ROAD SHARED USE PATH

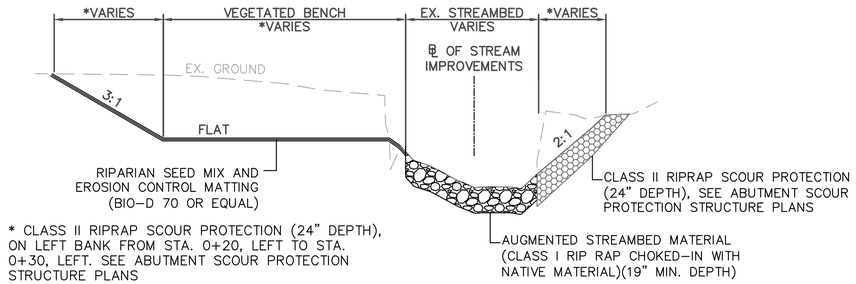
SCALE: 1"=10' (0, 10', 20')

DATE: NOVEMBER 2020

Project No. : 501902

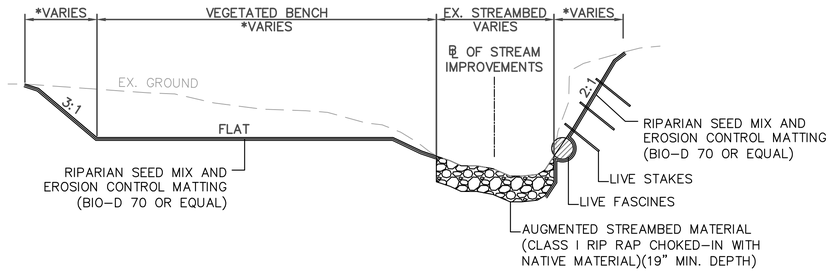
SHEET 77 of 114

FILE NAME: \\jmt.corp.local\jmtafs\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSR_StreamWork.dwg LAYOUT NAME: SR-01 PLOTTED: Friday, November 20, 2020 - 11:12am USER: MCosenza



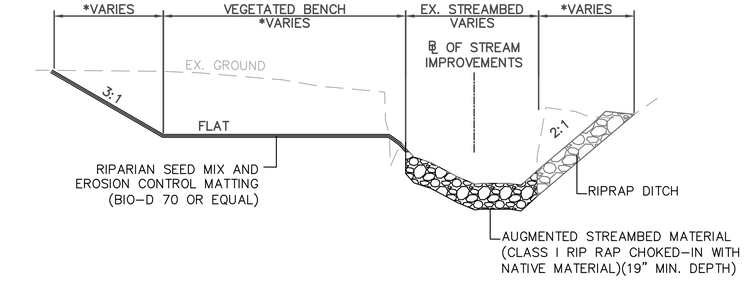
BASELINE OF STREAM IMPROVEMENT

STA. 0+20.00 TO STA. 0+54.00 *SEE DETAILED STREAM IMPROVEMENT GRADING PLAN



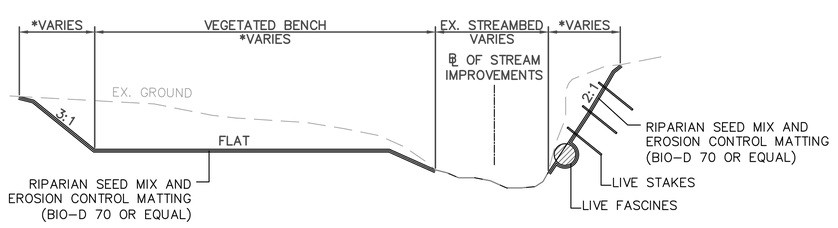
BASELINE OF STREAM IMPROVEMENT

STA. 0+65.00 TO STA. 0+70.00 *SEE DETAILED STREAM IMPROVEMENT GRADING PLAN



BASELINE OF STREAM IMPROVEMENT

STA. 0+54.00 TO STA. 0+65.00 *SEE DETAILED STREAM IMPROVEMENT GRADING PLAN



BASELINE OF STREAM IMPROVEMENT

STA. 0+70.00 TO STA. 1+45.00 *SEE DETAILED STREAM IMPROVEMENT GRADING PLAN

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: FAB Drawn by: MSC Checked by: JJR

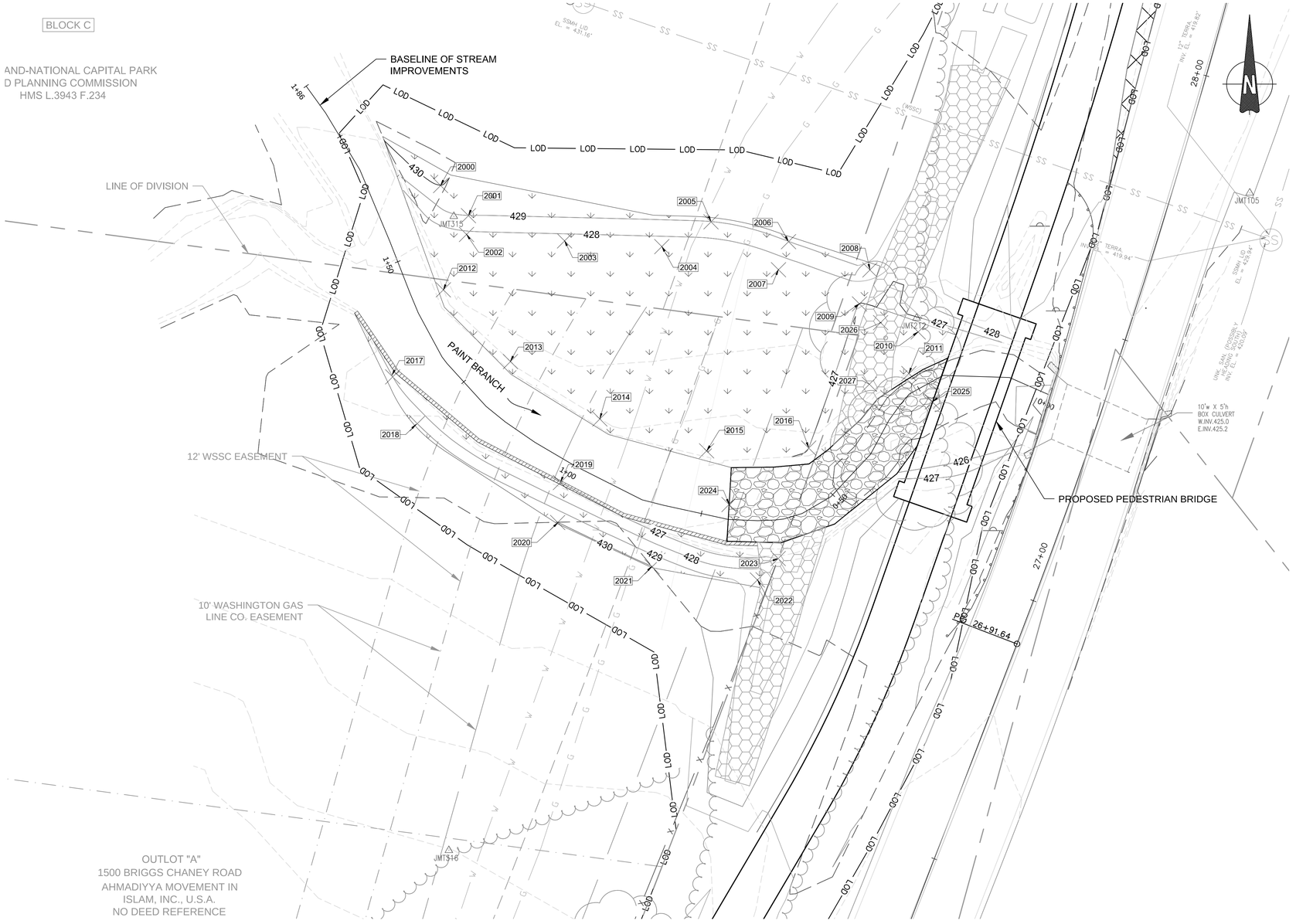
SR-02 STREAM IMPROVEMENTS TYPICAL SECTIONS

GOOD HOPE ROAD SHARED USE PATH

DATE: NOVEMBER 2020

Project No. : 501902 SHEET 78 of 114

FILE NAME: \\jmt.corp.local\jmtdfs\2013\130605_007_Good_Hope_Road_Sidew\CADD\pTS_001_Streamwork.dwg LAYOUT NAME: TS-01 PLOTTED: Friday, November 20, 2020 - 11:06am USER: MCosenza



STREAM GRADING POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	NOTE
2000	1317749.8227	524129.0914	430.0	
2001	1317754.8629	524123.6379	429.0	
2002	1317754.5139	524120.2330	428.0	TOE OF SLOPE
2003	1317772.2399	524119.0697	427.6	TOE OF SLOPE
2004	1317789.8300	524118.0272	427.4	TOE OF SLOPE
2005	1317798.7267	524122.5136	429.0	
2006	1317812.7349	524118.9333	429.0	
2007	1317810.9220	524113.8475	427.2	TOE OF SLOPE
2008	1317827.4557	524113.8220	429.0	
2009	1317825.5741	524107.6623	427.0	TOE OF SLOPE
2010	1317836.1867	524102.5846	426.6	TOE OF SLOPE
2011	1317834.5028	524095.0583	426.6	
2012	1317750.3294	524110.1554	427.8	
2013	1317762.4415	524097.2538	427.6	
2014	1317778.6250	524086.8332	427.4	
2015	1317797.9637	524081.0576	427.2	
2016	1317816.3938	524081.5918	427.0	
2017	1317741.0308	524094.7135	428.0	
2018	1317745.4143	524085.8527	429.0	
2019	1317771.4829	524075.3618	427.0	
2020	1317771.0727	524068.0744	430.0	
2021	1317788.0334	524060.1638	430.0	
2022	1317807.1341	524057.7275	429.0	
2023	1317810.9114	524061.5507	427.0	
2024	1317802.0027	524071.3421	425.6	AUGMENTED STREAMBED MATERIAL
2025	1317838.7814	524089.8993	424.1	AUGMENTED STREAMBED MATERIAL
2026	1317829.4009	524104.2202	426.6	VEGETATED RIPRAP
2027	1317827.3542	524093.0633	426.6	VEGETATED RIPRAP

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

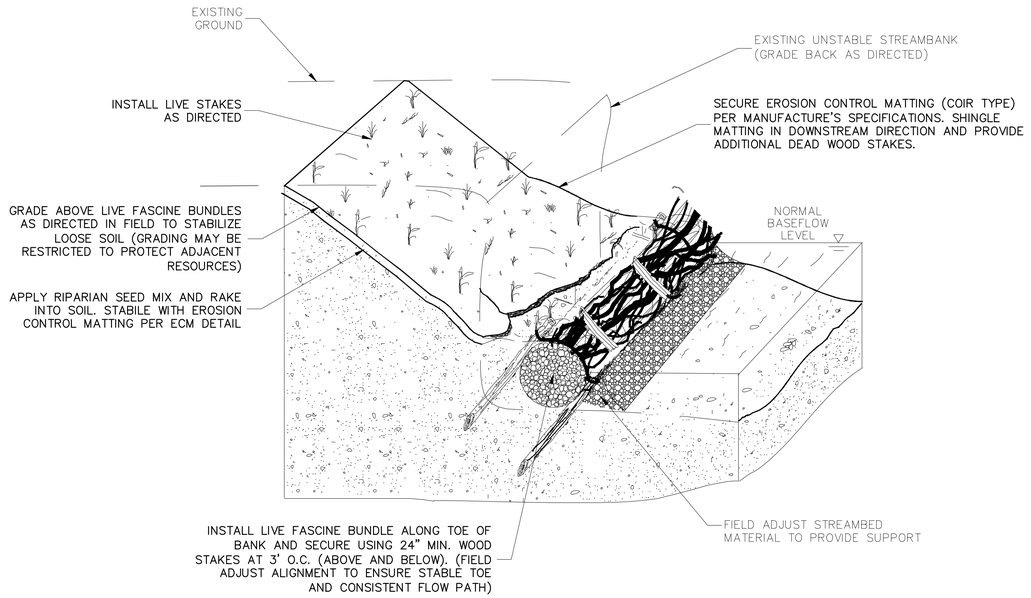
Designed by: FAB Drawn by: MSC Checked by: JJR

SR-03 DETAILED STREAM IMPROVEMENTS GRADING PLAN
GOOD HOPE ROAD SHARED USE PATH

SCALE: 1"=10' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 79 of 114

FILE NAME: \\jmt.corp.local\jmtdfs\2013\130605_007_Good_Hope_Road_Sidew\CADD\pDT_001-StreamWork.dwg LAYOUT NAME: SR-01 PLOTTED: Friday, November 20, 2020 - 11:10am USER: MCosenza

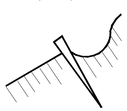


LIVE FASCINE DETAIL
NO SCALE

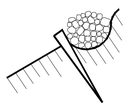
PRELIMINARY STEP – PREPARE FASCINE BUNDLES AS FOLLOWS: CIGAR–SHAPED BUNDLES OF LIVE, ROOTABLE BRUSH AND BRANCHES WITH BUTTS ALTERNATING, 4 TO 10–INCH (10 TO 25–CM) DIAMETERS, TIED 12 TO 18 INCHES (30 TO 45 CM) ON CENTER

CONSTRUCTION NOTES: INSTALLATION BEGINS AT THE BOTTOM OF THE SLOPE AND PROCEEDS FROM STEP 1 THROUGH STEP 5 ADAPTED FROM LEISER (1983)

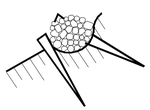
STEP 1: INSERT STAKES ON CONTOUR



STEP 2: DIG TRENCH (1/2 BUNDLE DIAMETER IN DEPTH) ABOVE THE STAKES



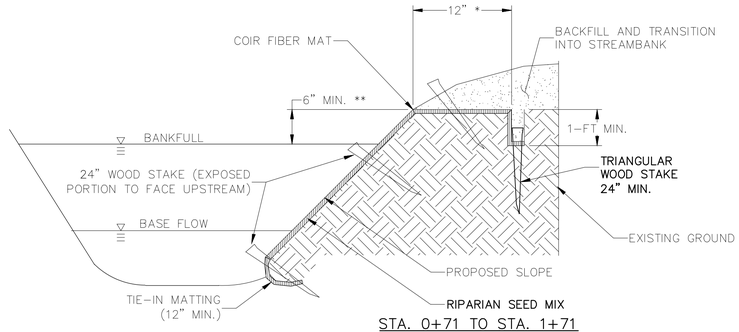
STEP 3: PLACE BUNDLES IN TRENCH



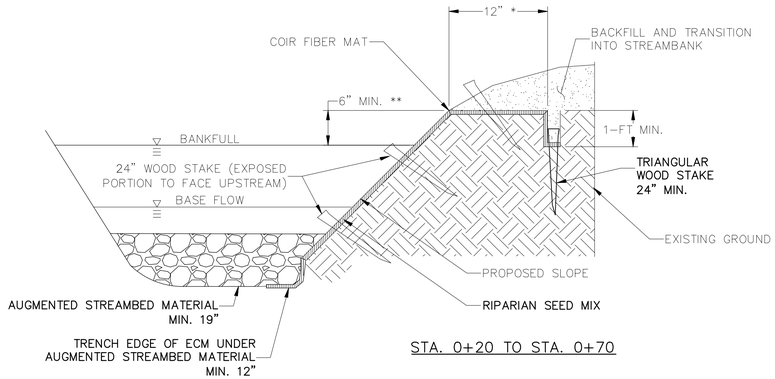
STEP 4: ADD ADDITIONAL STAKES THROUGH AND BELOW BUNDLES

STEP 5: TAMP SOIL INTO AND ALONG SIDES OF BUNDLE LEAVING THE TOP 2 INCHES (5 CM) EXPOSED TO PROMOTE GROWTH

LIVE FASCINES DETAIL
NO SCALE



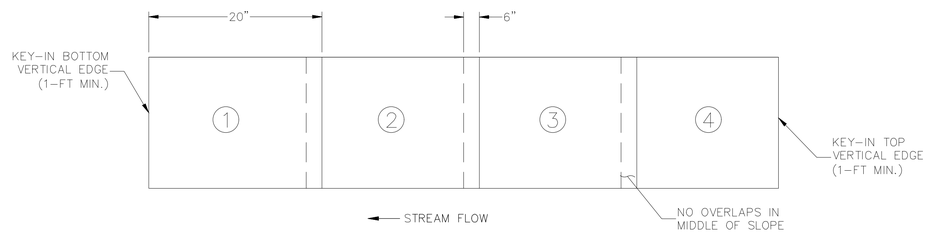
STA. 0+71 TO STA. 1+71



STA. 0+20 TO STA. 0+70

NOTES:
1. BEGIN AT THE BOTTOM OF THE SLOPE, WORKING FROM DOWNSTREAM UP, AND ANCHOR FIBER MATTING IN A 12" DEEP INITIAL ANCHOR TRENCH. BACKFILL TRENCH AND TAMP EARTH FIRMLY.
3. OVERLAP EDGES OF ADJACENT PARALLEL ROLLS 6" AND ANCHOR AT 12" CENTERS WITH THE UPPER ROLL OVERLAPPING THE TOP OF THE LOWER ROLL.
4. WHEN FIBER MAT MUST BE SPLICED, PLACE END OVER END (SHINGLE STYLE IN DIRECTION OF FLOW) WITH 12" OVERLAP AND ANCHOR USING TWO STAGGERED ROWS OF STAPLES AT 6" CENTERS. ADDITIONAL FASTENING MAY BE REQUIRED WHERE MATTING IS CUT TO INSTALL PLANTINGS.
5. LAY FIBER MAT LOOSELY AND ANCHOR SUFFICIENTLY TO MAINTAIN DIRECT CONTACT WITH THE SOIL – DO NOT STRETCH.
6. FOR SLOPES 2:1 AND STEEPER USE A MINIMUM OF (3) 24–INCH WOOD STAKES PER SQUARE YARD AND FOR SLOPES FLATTER THAN 2:1 USE A MINIMUM OF (2) 24–INCH WOOD STAKES PER SQUARE YARD. PROVIDE ADDITIONAL STAKING ALONG CHANNEL BOTTOM WHERE ECM FORMS TOE OF SLOPE.
7. WOOD STAKES SHALL BE ANGLED SUCH THAT EXPOSED PORTION (2"–4") FACES UPSTREAM.
8. ANCHOR, FILL, AND COMPACT END OF FIBER MATTING IN 12"x6" TERMINAL ANCHOR TRENCH (MIRROR IMAGE OF INITIAL TRENCH).
* 9. ANCHORING DIMENSIONS TO BE REDUCED IN AREAS OF NATURAL RESOURCES TO BE PROTECTED.
** 10. EROSION CONTROL MATTING MAY BE EXTENDED UP STREAM BANK AS DIRECTED.

NOTES:
1. THE AUGMENTED STREAMBED MATERIAL SHALL CONSIST OF CLASS I RIPRAP TO A MINIMUM DEPTH OF 19". THE CLASS I RIPRAP SHALL HAVE THE VOID SPACES CHOKED–IN WITH THE NATIVE STREAMBED MATERIAL ONSITE.
2. THE AUGMENTED STREAMBED MATERIAL SHALL BE OF NATURAL COLOR (i.e. BROWN, GRAY, TAN). WHITE STONE WILL NOT BE PERMITTED.
3. THE AUGMENTED STREAMBED MATERIAL SHALL ONLY BE INSTALLED WITHIN THE LIMITS OF THE EXISTING CHANNEL FROM STA. 0+20 TO STA. 0+70 AS SHOWN ON THE PLAN VIEW.
4. APPLY AND RAKE IN RIPARIAN SEED MIX PRIOR TO INSTALLATION OF THE EROSION CONTROL MATTING.



EROSION CONTROL MATTING (ECM) DETAIL
(BIO–D 70, OR EQUAL)
NO SCALE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: FAB Drawn by: MSC Checked by: JJR

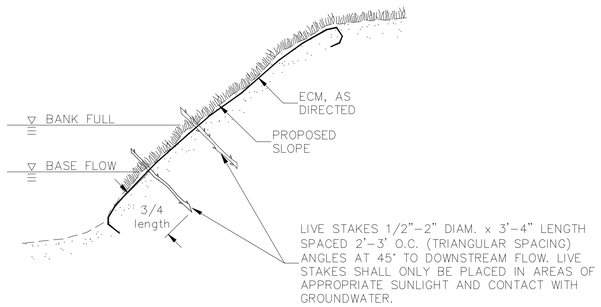
SR–04 STREAM IMPROVEMENTS
DETAILS 1

GOOD HOPE ROAD SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

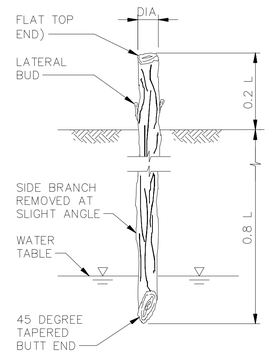
Project No. : 501902 SHEET 80 of 114

FILE NAME: \\jmt.corp.local\jmtdfs\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSD_StreamWork.dwg LAYOUT NAME: SD-01 PLOTTED: Friday, November 20, 2020 - 11:07am USER: MCosenza

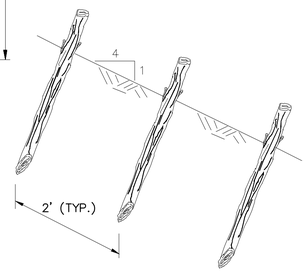


- SOAK LIVE STAKES FOR 24 HOURS AND RECUT ENDS AT 45° ANGLES PRIOR TO INSTALLATION.
- USE 1/2"–3/4" REBAR FOR PILOT HOLES PRIOR TO DRIVING LIVE STAKES INTO GROUND.
- DRIVE LIVE STAKE 3/4 OF ITS LENGTH INTO THE GROUND.
- RECUT ANY LIVE STAKE TIPS DAMAGED BY INSTALLATION
- STAKES TO BE 1/2" TO 1" IN DIAMETER, 3' TO 4' LONG.

LIVE STAKE DETAIL
NO SCALE



DETAIL VIEW



SECTION VIEW

NOTES:
1. LIVE STOUT STAKES SHOULD BE LONG ENOUGH TO REACH BELOW THE GROUNDWATER TABLE. (GENERALLY BURIED 2' TO 3')
2. THE STAKES SHOULD HAVE A DIAMETER IN THE RANGE OF 0.75 TO 1.5 INCHES.
3. LIVE STAKES SHALL BE SPACED AT 2 FEET O.C.
4. STAKES SHALL BE SOAKED A MINIMUM OF 24 HOURS BEFORE INSTALLATION.

LIVE STAKES DETAIL
NO SCALE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: FAB Drawn by: MSC Checked by: JJR

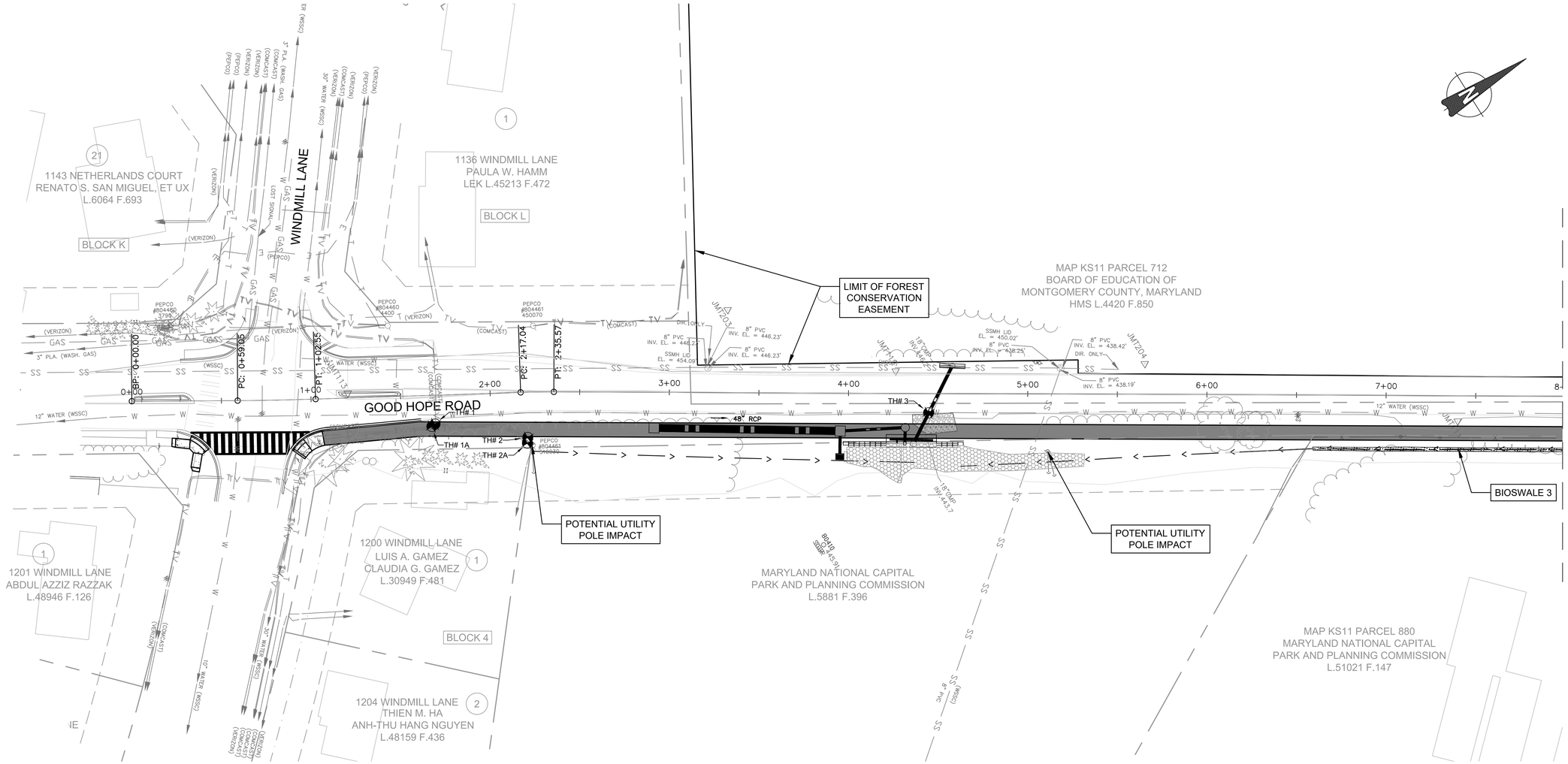
SR–05 STREAM IMPROVEMENTS
DETAILS 2

GOOD HOPE ROAD
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2020

Project No. : 501902 SHEET 81 of 114

FILE NAME: \\jmt.corp.local\jmtdfs\2013\130605_007_Good_Hope_Road_Sidew\CADD\pSD_StreamWork.dwg LAYOUT NAME: SD-02 PLOTTED: Friday, November 20, 2020 – 11:10am USER: MCosenza



Point Table				
Point #	Northing	Easting	Depth	Description
1A	521742.0117	1316872.4042	1.91	VERIZON
1	521744.2043	1316872.1767	2.22	COMCAST
2A	521782.1356	1316908.7686	1.90	COMCAST
2	521783.9525	1316906.1675	1.60	VERIZON
3	521980.4740	1317013.9393	9.05	WATER

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

UT-01 UTILITY PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

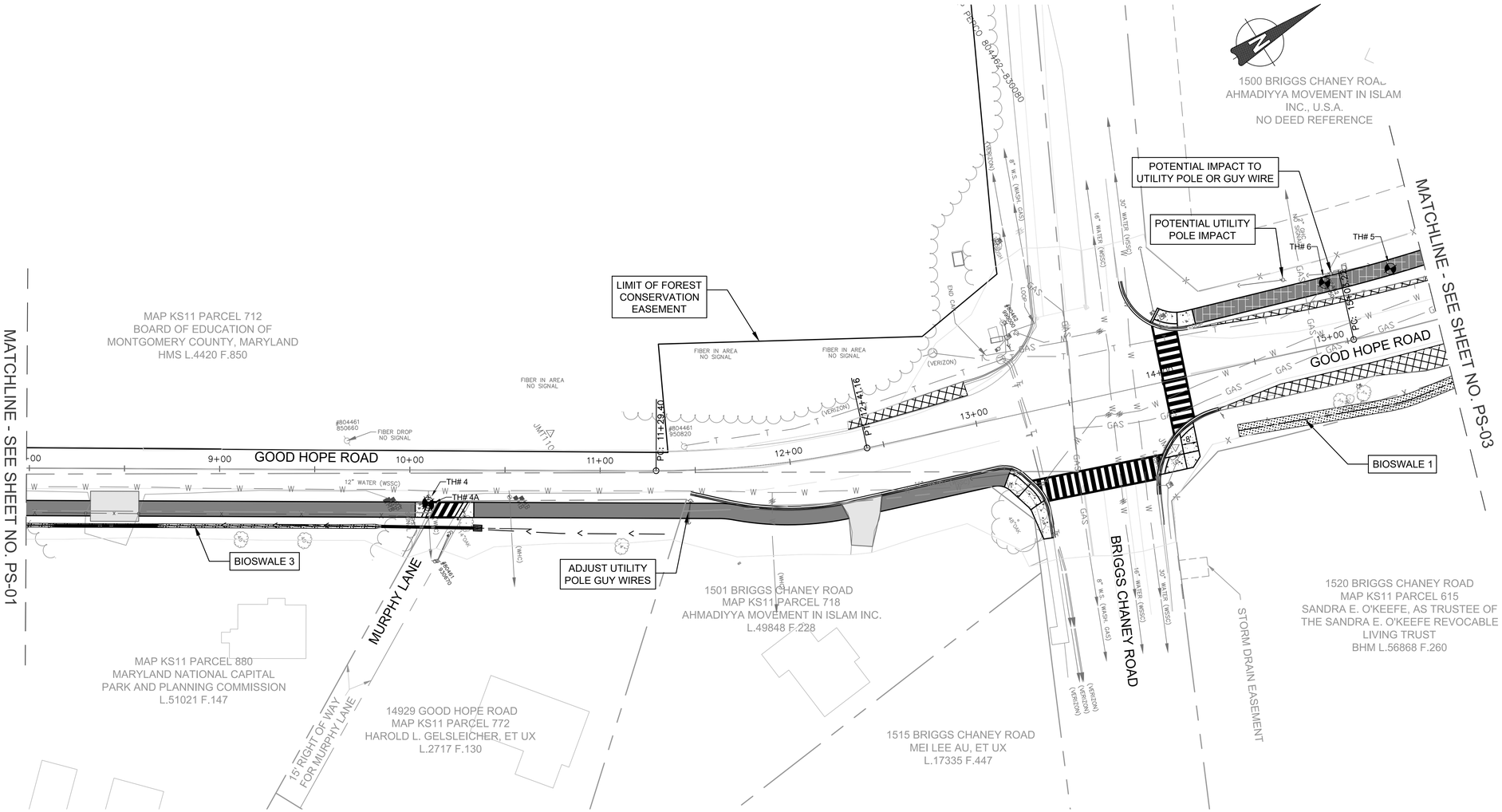
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 82 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pUT_GoodHope.dwg LAYOUT NAME: UT-01 PLOTTED: Tuesday, November 24, 2020 - 10:12am USER: AHavener



Point Table				
Point #	Northing	Easting	Depth	Description
4A	522452.7366	1317324.2338	0.00	N.U.F.
4	522453.2524	1317322.9878	1.61	WATER
5	522946.6220	1317489.0984	2.78	GAS
6	522913.4567	1317476.9489	5.60	VERIZON

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

UT-02 UTILITY PLAN

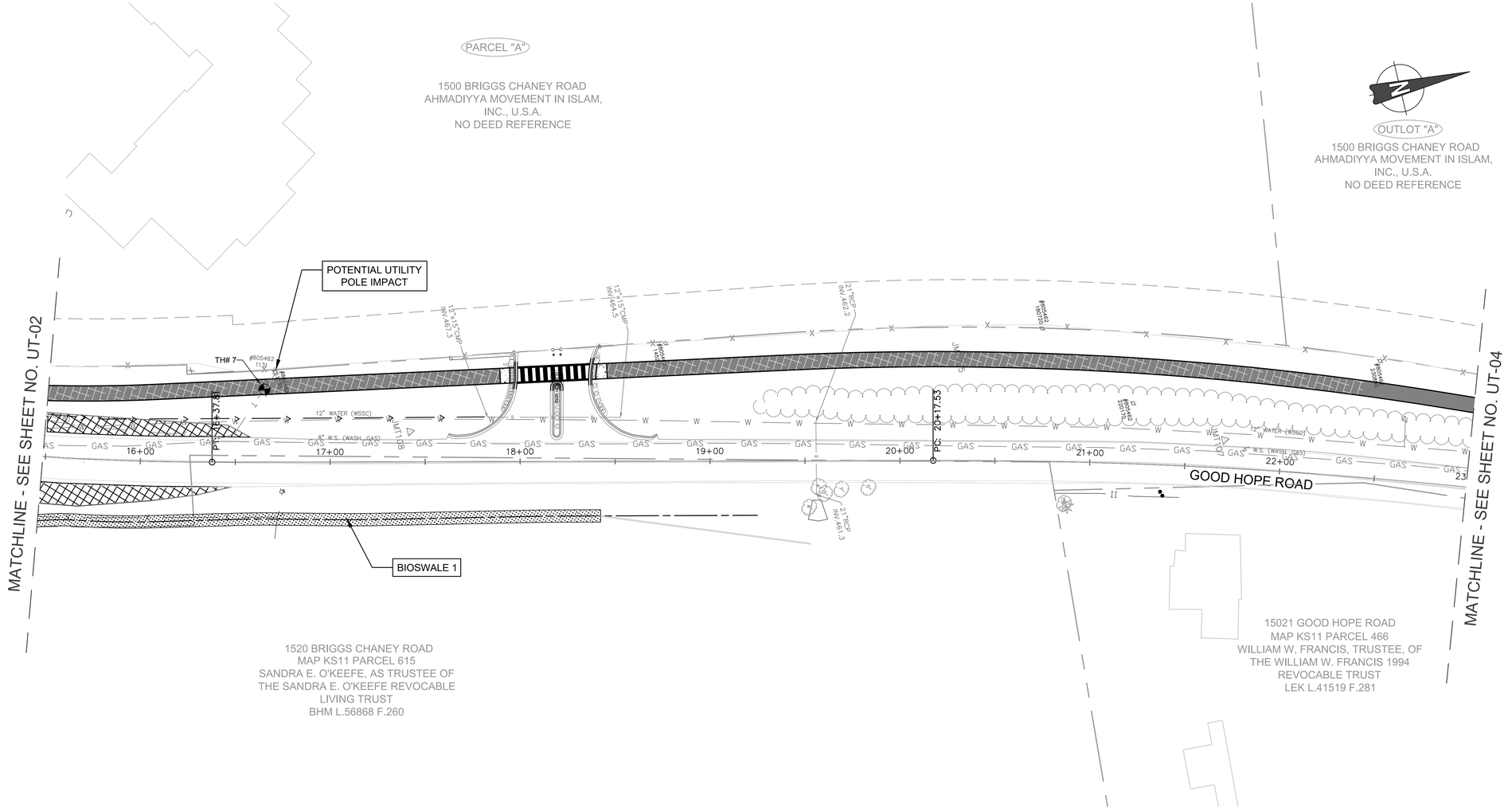
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 83 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pUT_GoodHope.dwg LAYOUT NAME: UT-02 PLOTTED: Tuesday, November 24, 2020 - 10:12am USER: AHavener



Point Table				
Point #	Northing	Easting	Depth	Description
7	523075.1518	1317517.6389	3.86	VERIZON

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

UT-03 UTILITY PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

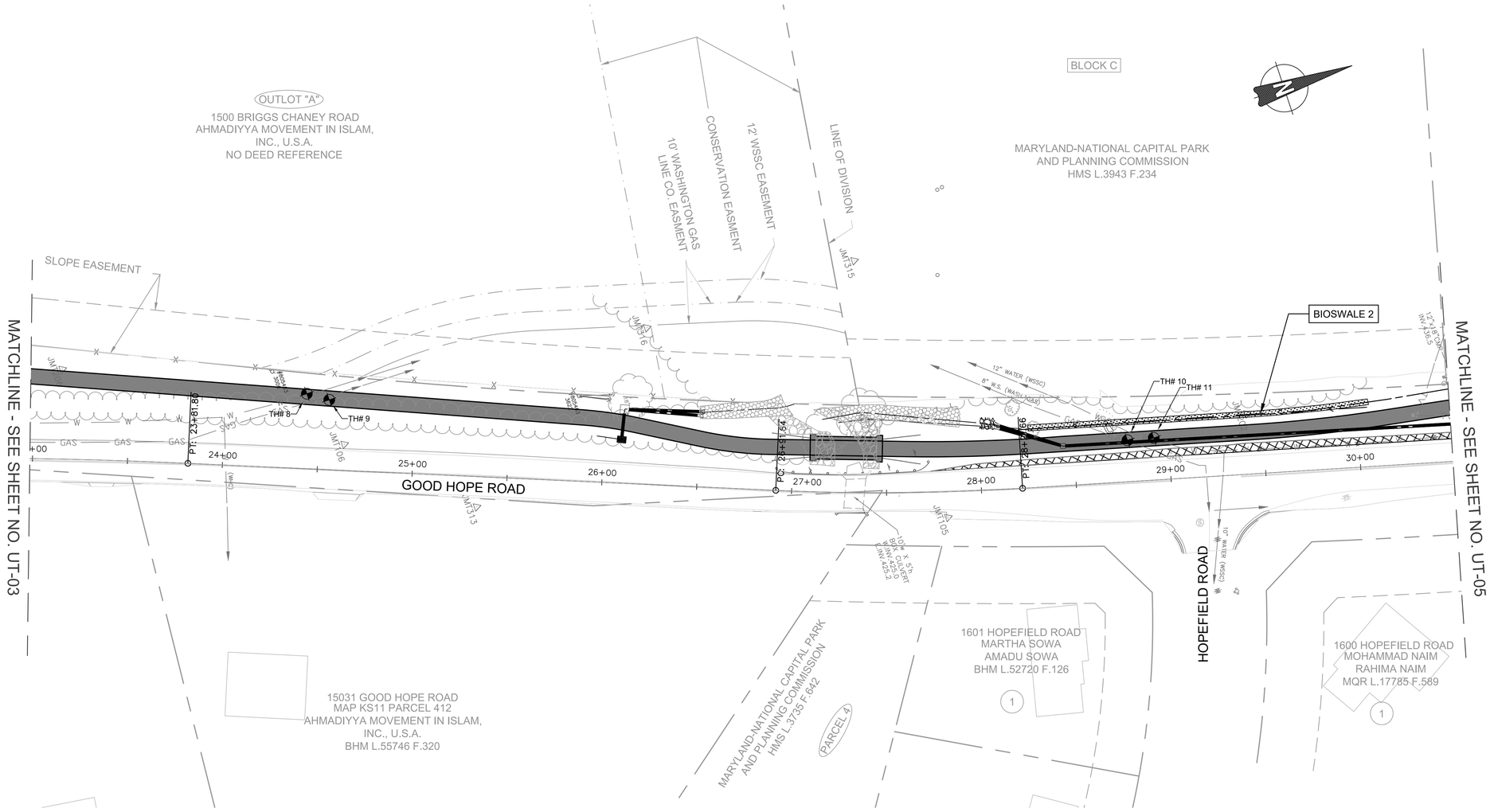
SCALE: 1"=30'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 84 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\plUT_GoodHope.dwg LAYOUT NAME: UT-03 PLOTTED: Tuesday, November 24, 2020 - 10:13am USER: AHavener



Point Table				
Point #	Northing	Easting	Depth	Description
8	523827.8828	1317727.9114	7.55	WATER
9	523838.0704	1317734.6874	2.64	GAS
10	524230.1224	1317887.3892	3.24	GAS
11	524243.6466	1317890.5691	4.43	WATER

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

UT-04 UTILITY PLAN

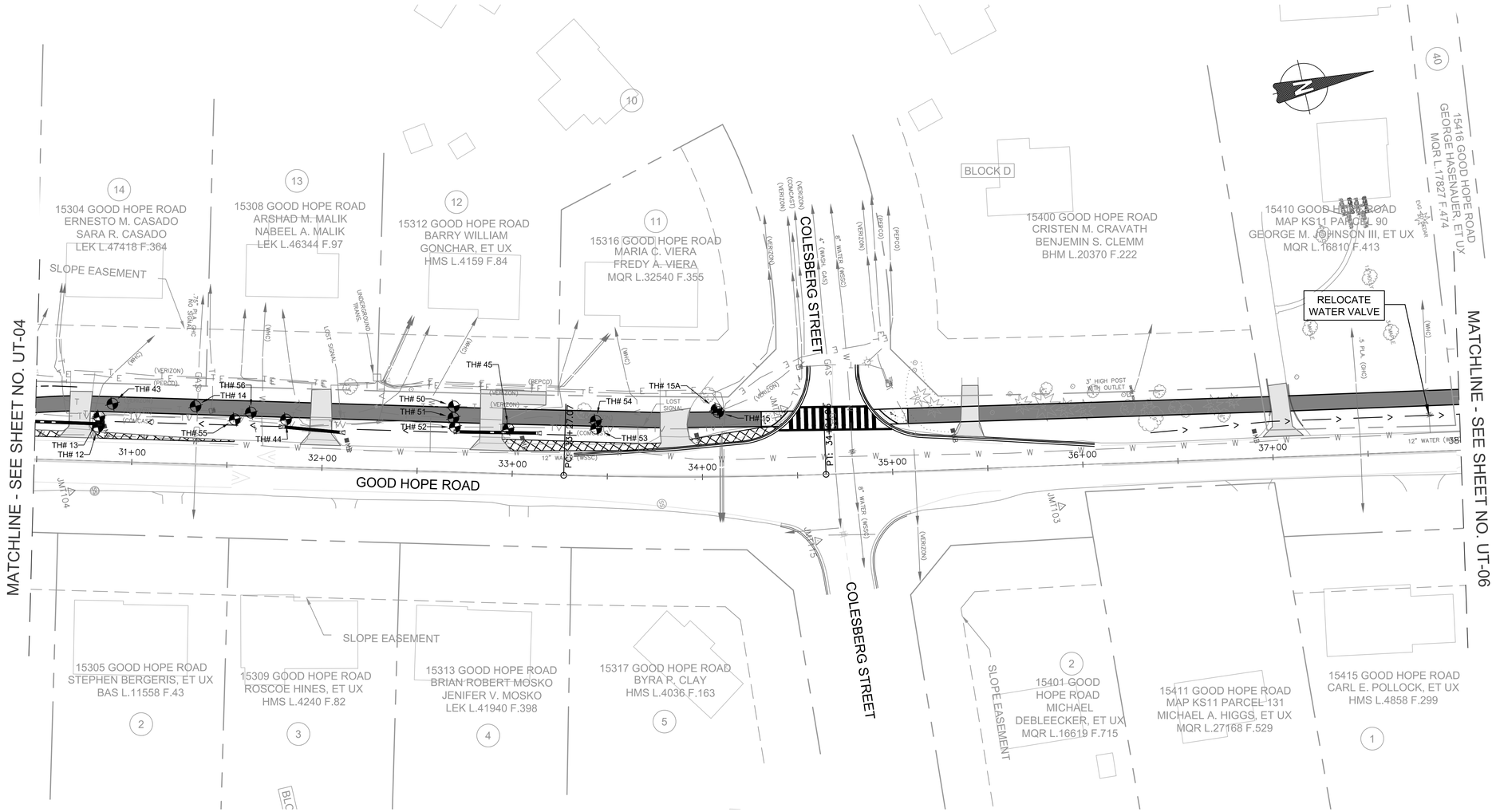
GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 85 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pUT_GoodHope.dwg LAYOUT NAME: UT-04 PLOTTED: Tuesday, November 24, 2020 - 10:13am USER: AHavener



Point Table				
Point #	Northing	Easting	Depth	Description
12	524425.7476	1317943.0805	4.54	WATER
13	524427.6393	1317938.1361	1.18	COMCAST
14	524478.1435	1317944.0879	4.00	GAS
15A	524744.4272	1318007.3959	2.04	VERIZON
15	524744.9798	1318009.0265	2.83	PEPCO
43	524435.8785	1317932.9776	0.67	VERIZON
44	524522.8687	1317961.6192	0.40	VERIZON
45	524635.6087	1317992.7033	1.60	COMCAST

Point Table				
Point #	Northing	Easting	Depth	Description
50	524610.3413	1317974.7984	0.00	VERIZON
51	524608.7727	1317980.5767	0.00	VERIZON
52	524608.4553	1317985.4621	0.00	COMCAST
53	524680.6493	1318002.9711	0.00	COMCAST
54	524681.3056	1317999.0144	0.00	VERIZON
55	524496.6960	1317955.4860	0.00	COMCAST
56	524505.7179	1317953.8796	0.00	VERIZON

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

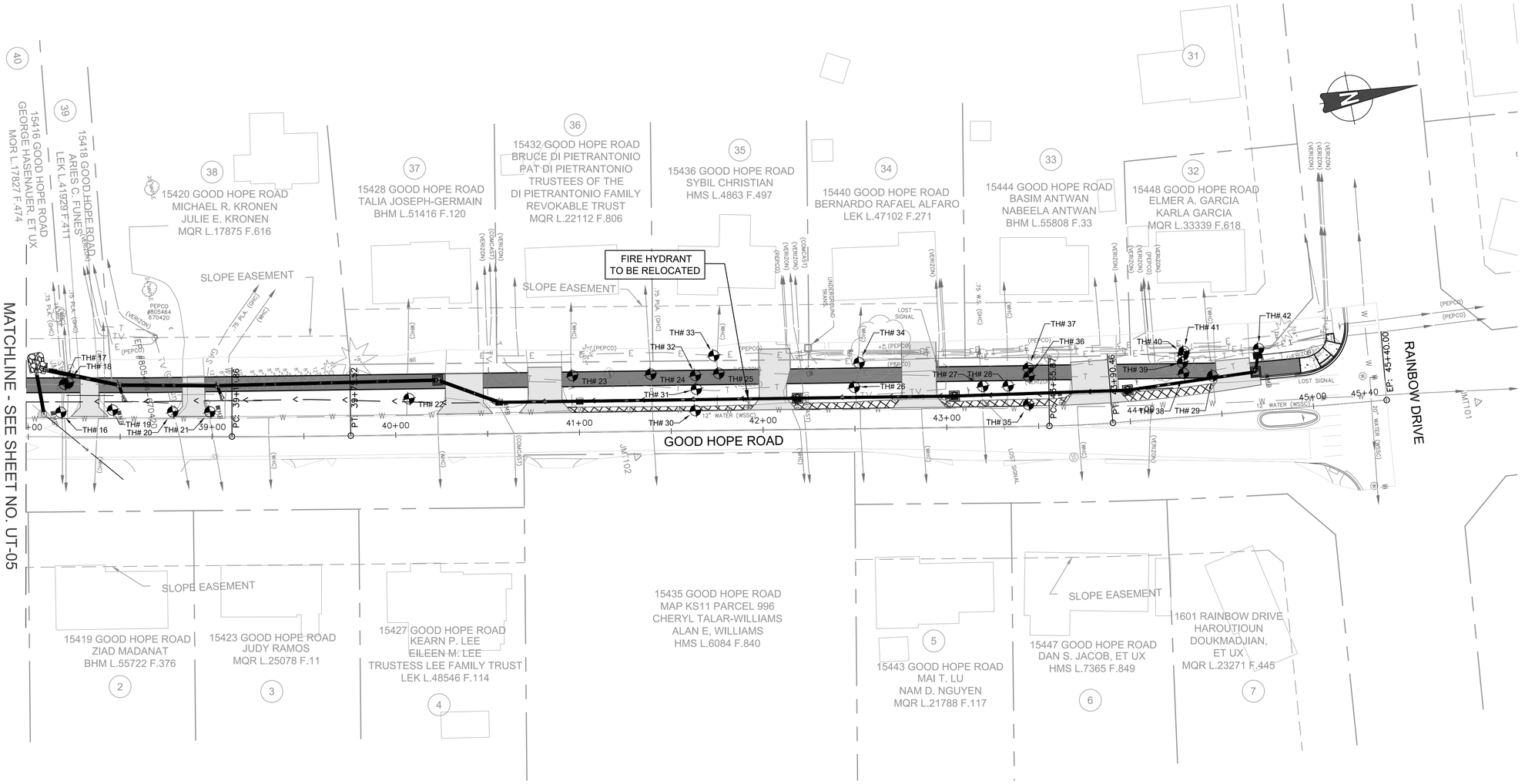
UT-05 UTILITY PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2020

Project No. : 501902 SHEET 86 of 114



Point Table				
Point #	Northing	Easting	Depth	Description
16	525141.7141	1318107.1099	3.77	GAS
17	525146.6338	1318092.3674	2.00	GAS
18	525148.7363	1318092.1354	3.52	WATER
19	525169.6180	1318111.2047	4.40	WATER
20	525201.6259	1318118.2980	1.95	COMCAST
21	525221.4490	1318122.1616	2.65	GAS
22	525329.2355	1318135.6722	5.53	WATER
23	525419.0167	1318140.2020	4.77	WATER
24	525460.9719	1318147.4641	3.54	GAS
25	525497.4519	1318154.0357	4.43	WATER

Point Table				
Point #	Northing	Easting	Depth	Description
26	525568.4428	1318175.3704	3.68	WATER
27	525637.2921	1318188.1493	3.18	GAS
28	525650.8274	1318190.4905	3.95	WATER
29	525761.1105	1318206.2323	4.59	WATER
30	525481.1575	1318171.5053	4.34	WATER
31	525483.8394	1318160.1670	1.00	VERIZON
32	525484.7585	1318152.7200	1.09	VERIZON
33	525496.6176	1318144.0518	2.76	PEPCO
34	525573.5449	1318162.7775	0.00	N.U.F.
35	525659.7990	1318202.5264	4.65	WATER

Point Table				
Point #	Northing	Easting	Depth	Description
36	525662.8926	1318187.6680	1.45	VERIZON
37	525663.4553	1318183.0735	3.23	PEPCO
38	525745.8802	1318201.8706	1.85	VERIZON
39	525746.4291	1318195.9445	4.60	VERIZON
40	525747.6535	1318191.8648	3.59	VERIZON
41	525748.3180	1318190.2458	0.00	N.U.F.
42	525788.5247	1318196.3824	3.39	VERIZON

NOTES:
1. PLAN SHEET IS ENTIRELY WITHIN UPPER PAINT BRANCH SPECIAL PROTECTION AREA.
2. UTILITY TEST PITS SHOWN ON THIS SHEET WERE COMPLETED IN FEBRUARY 2020.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

UT-06 UTILITY PLAN

GOOD HOPE ROAD SHARED USE PATH

0 30' 60'

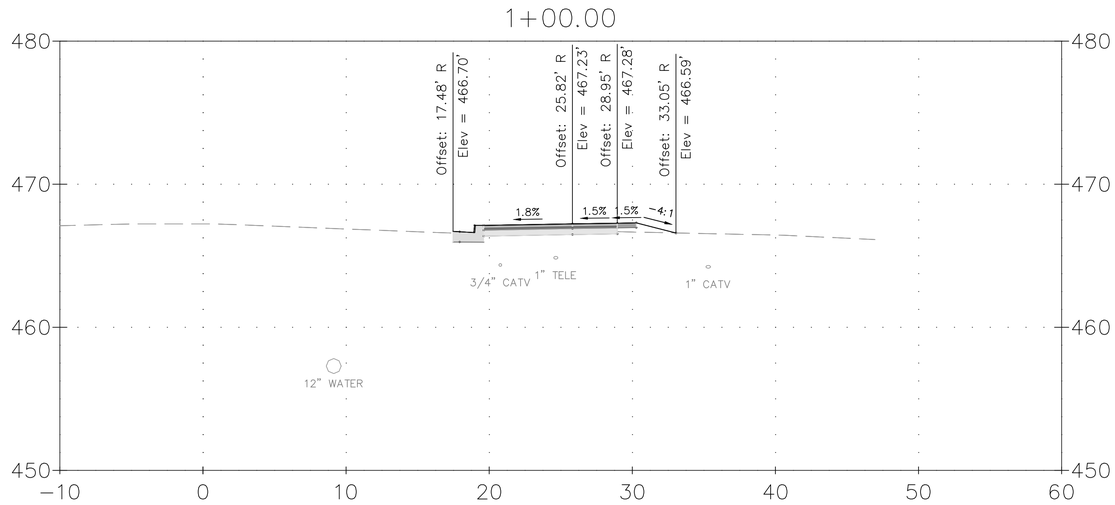
SCALE: 1"=30'

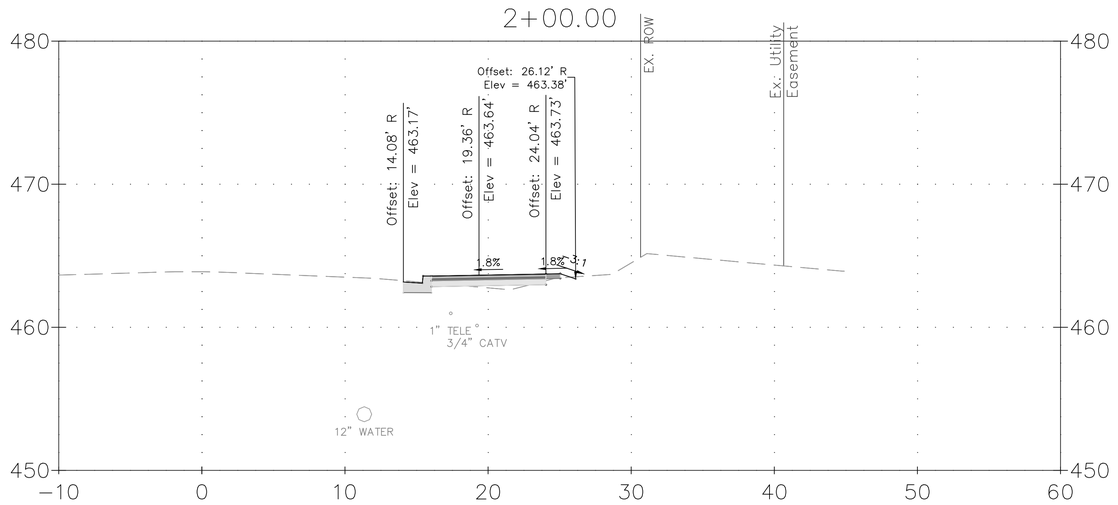
DATE: NOVEMBER 2020

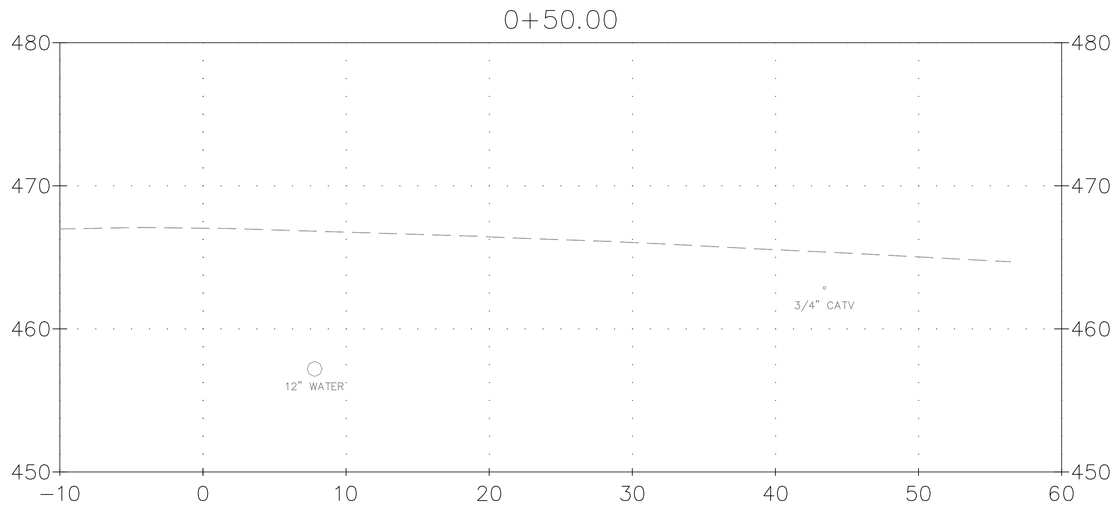
Project No. : 501902

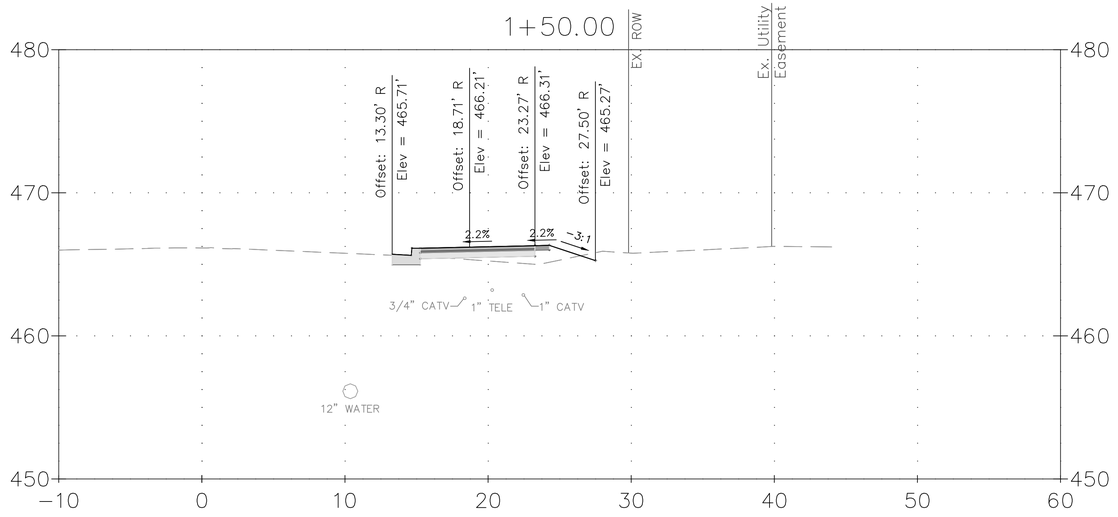
SHEET 87 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\plUT_GoodHope.dwg LAYOUT NAME: UT-06 PLOTTED: Tuesday, November 24, 2020 - 10:13am USER: AHavener









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-01 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

SCALE: 1"=5'

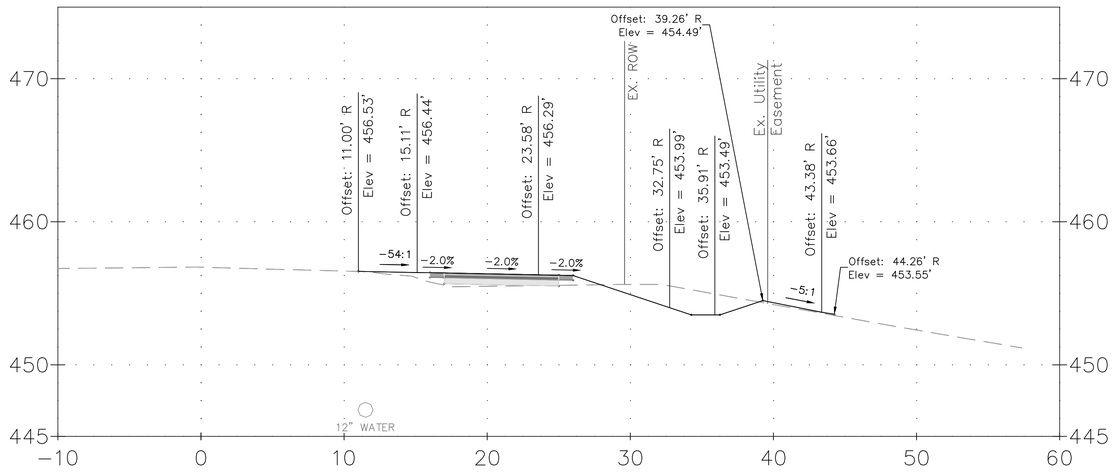
DATE: NOVEMBER 2020

Project No. : 501902

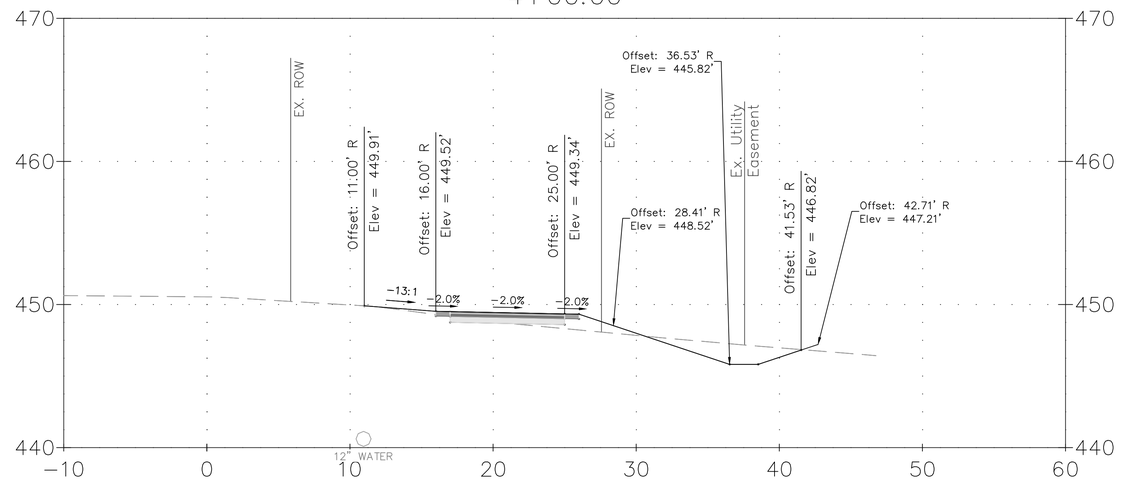
SHEET 88 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-01 PLOTTED: Tuesday, November 24, 2020 - 1:05pm USER: mduckett

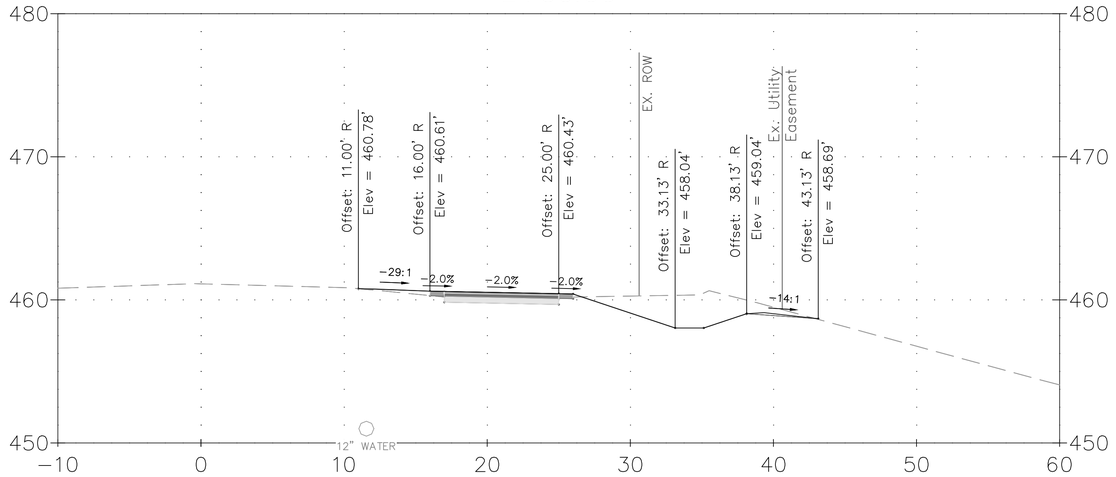
3+00.00



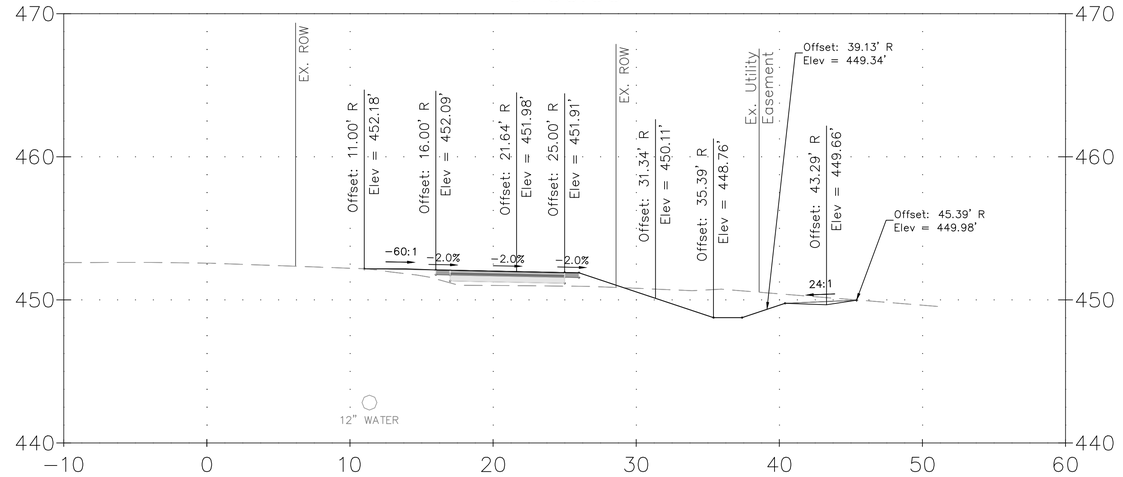
4+00.00



2+50.00



3+50.00



CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-02 CROSS SECTION

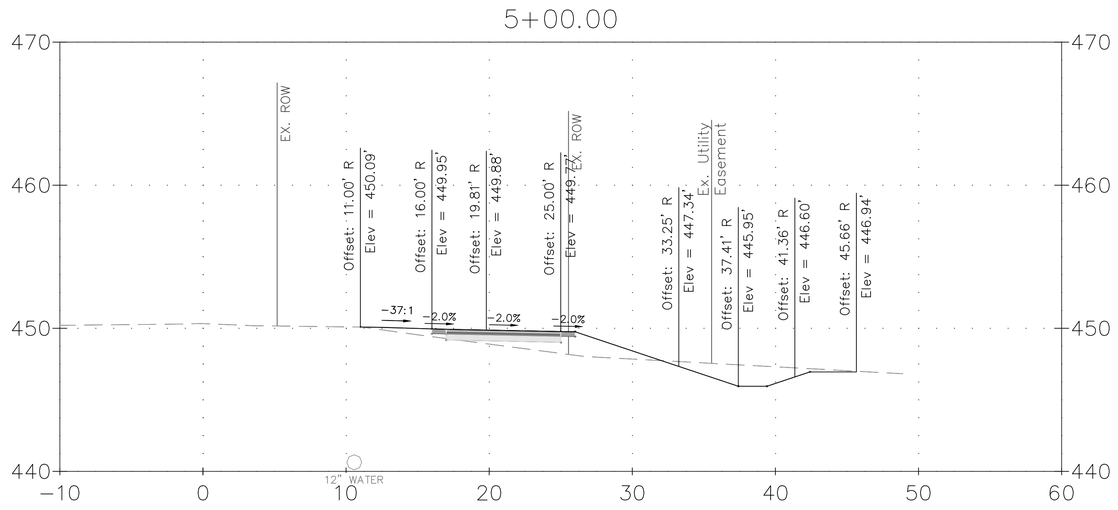
GOOD HOPE ROAD SHARED USE PATH

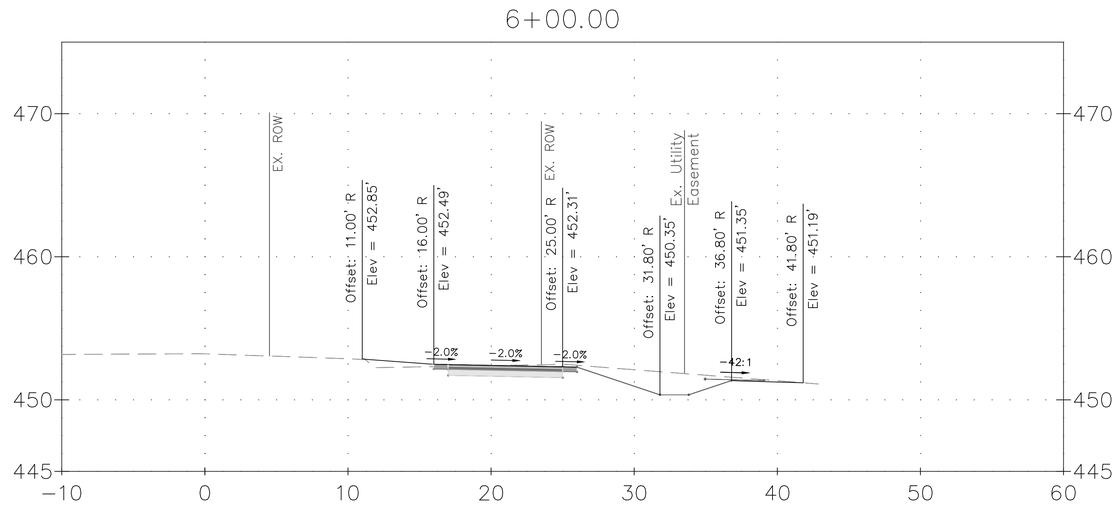
0 5' 10'

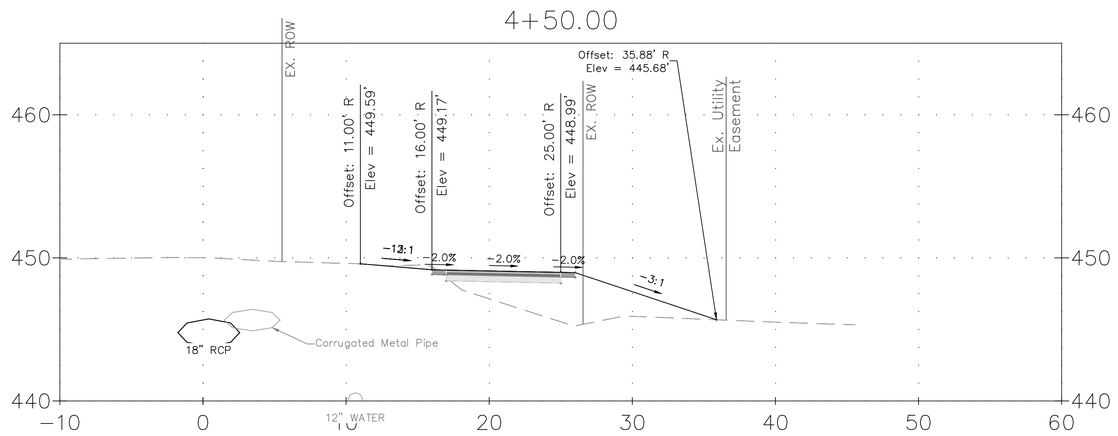
SCALE: 1"=5' DATE: NOVEMBER 2020

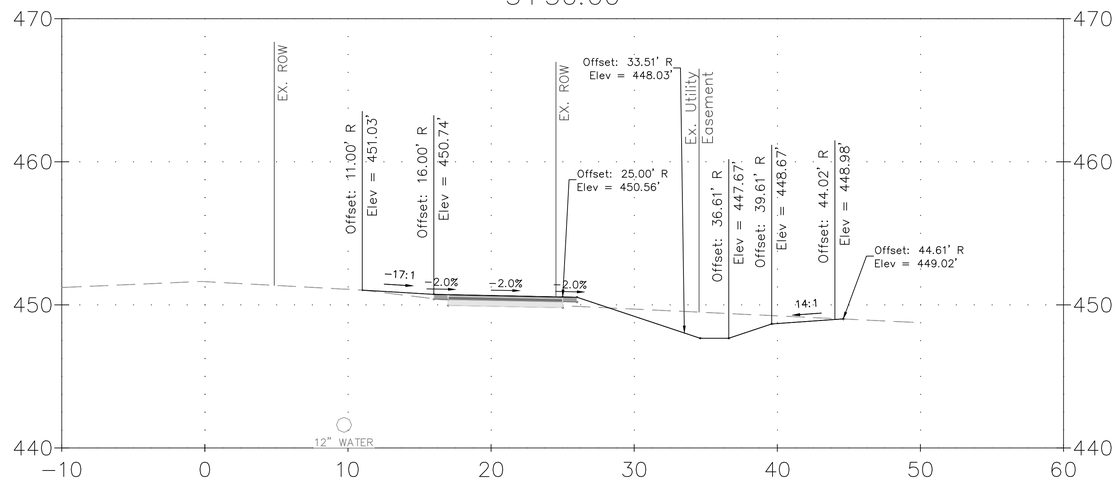
Project No. : 501902 SHEET 89 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-02 PLOTTED: Tuesday, November 24, 2020 - 1:05pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-03 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

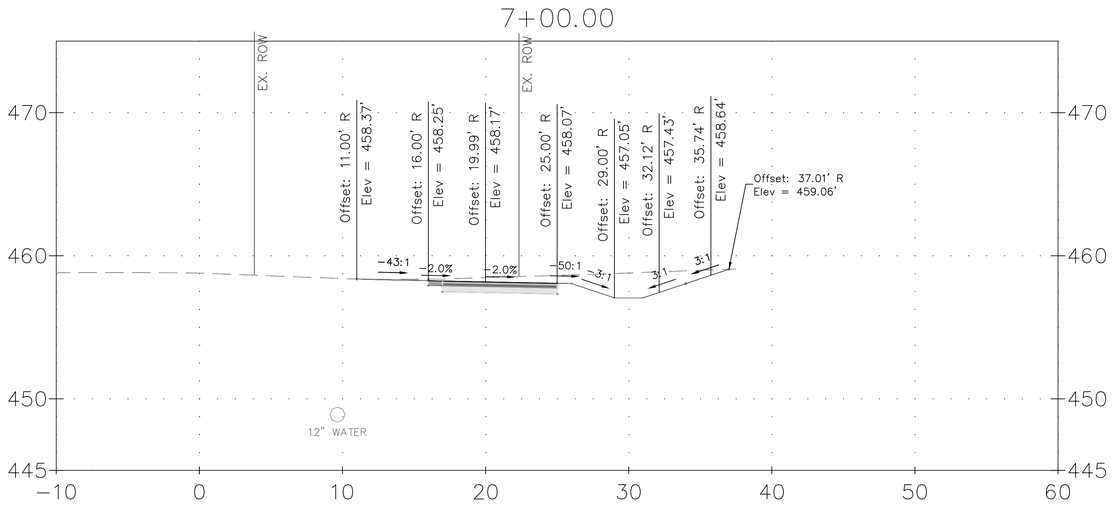
SCALE: 1"=5'

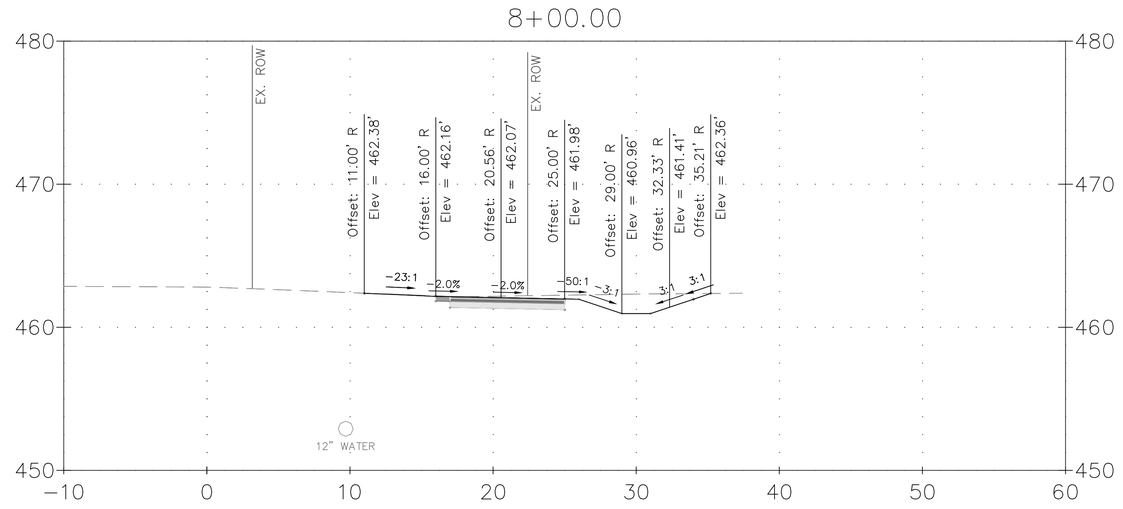
DATE: NOVEMBER 2020

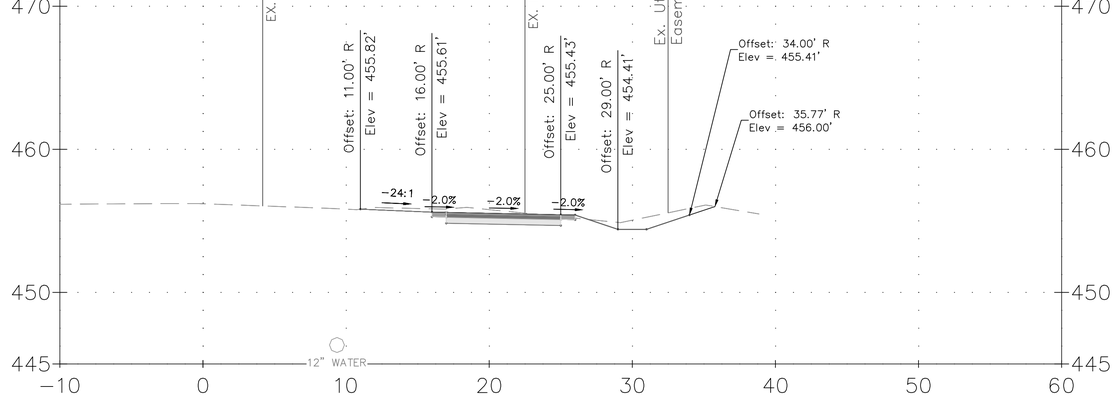
Project No. : 501902

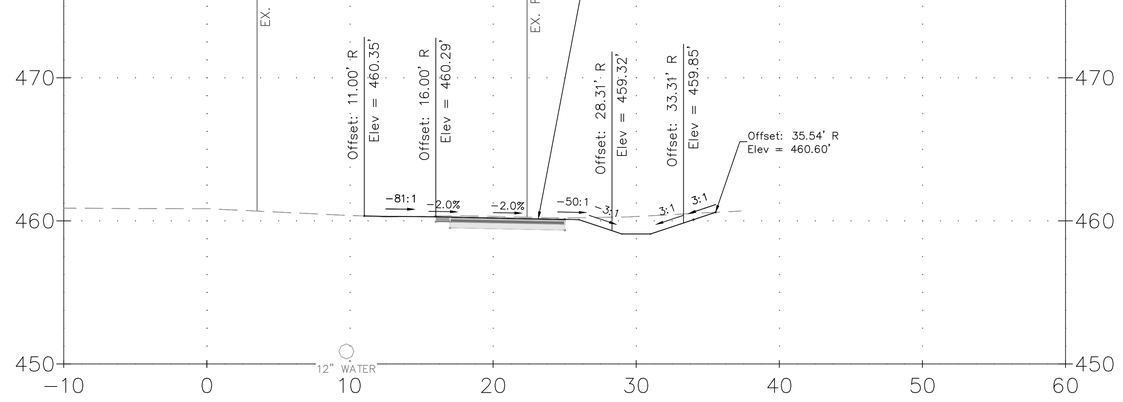
SHEET 90 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-03 PLOTTED: Tuesday, November 24, 2020 - 1:06pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-04 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

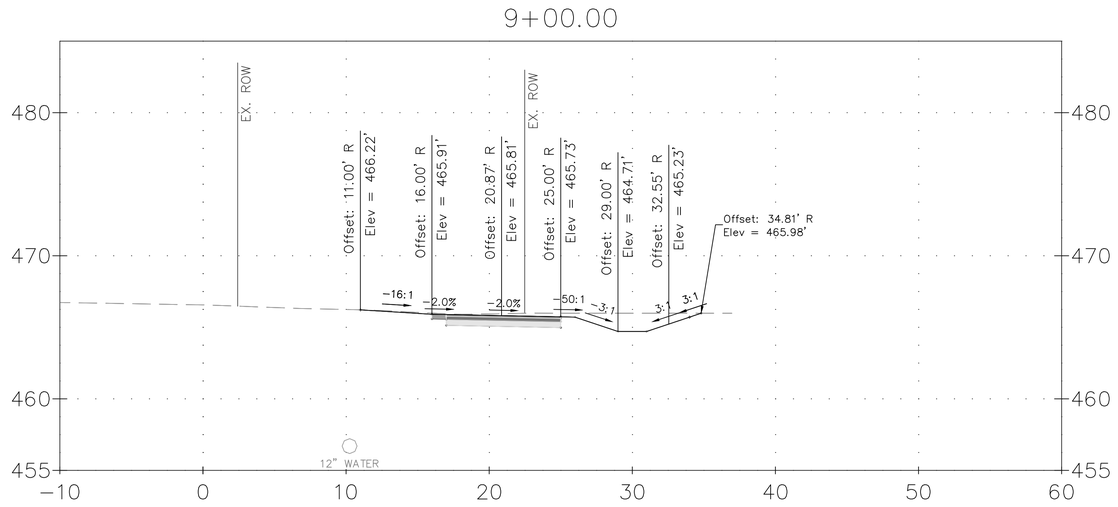
SCALE: 1"=5'

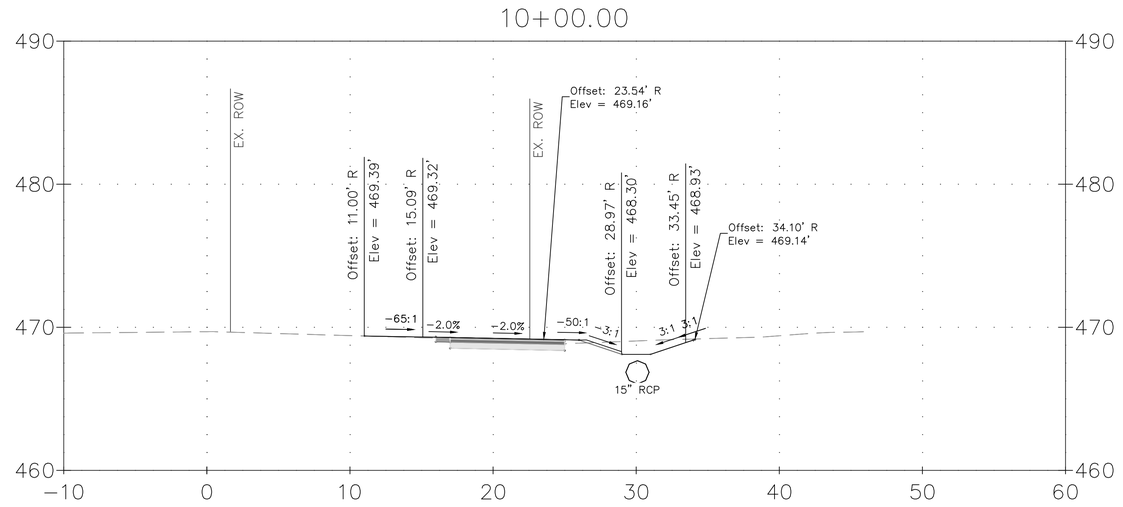
DATE: NOVEMBER 2020

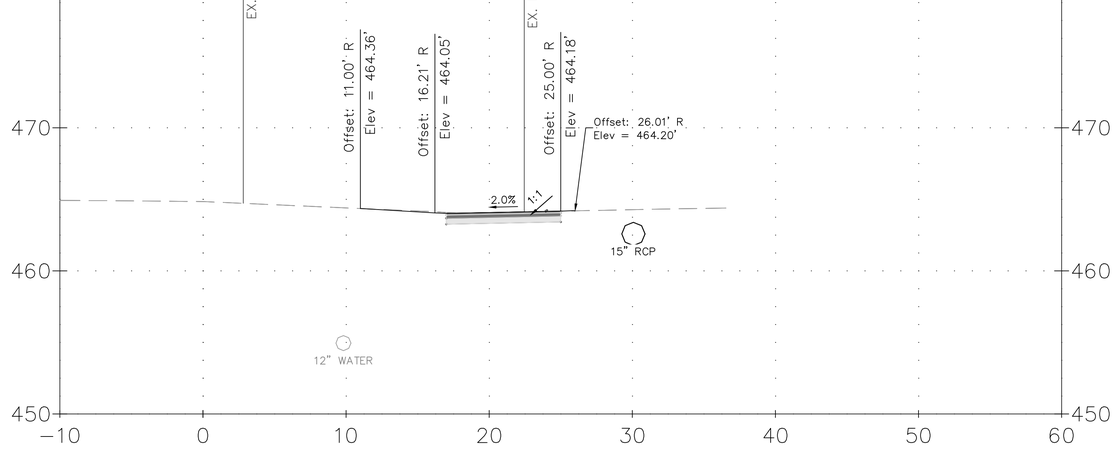
Project No. : 501902

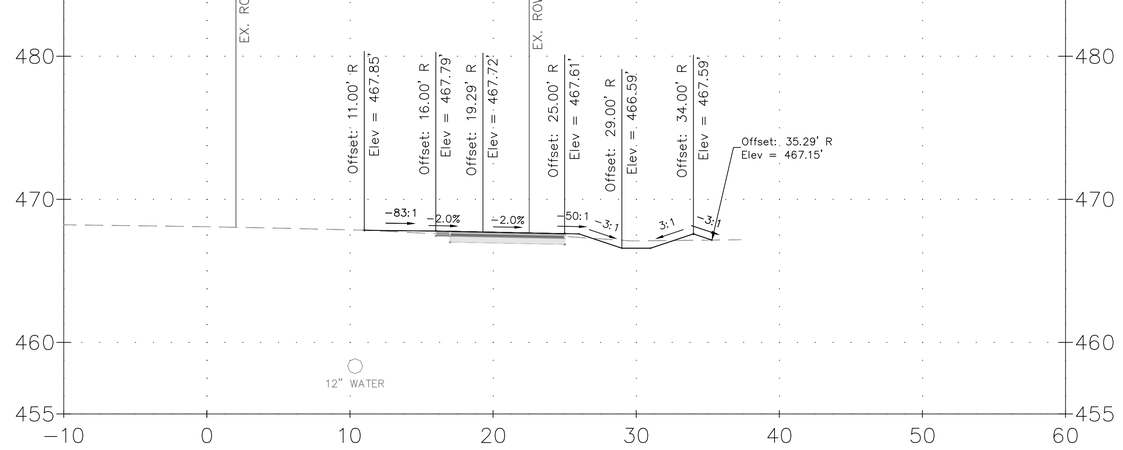
SHEET 91 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-04 PLOTTED: Tuesday, November 24, 2020 - 1:06pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-05 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

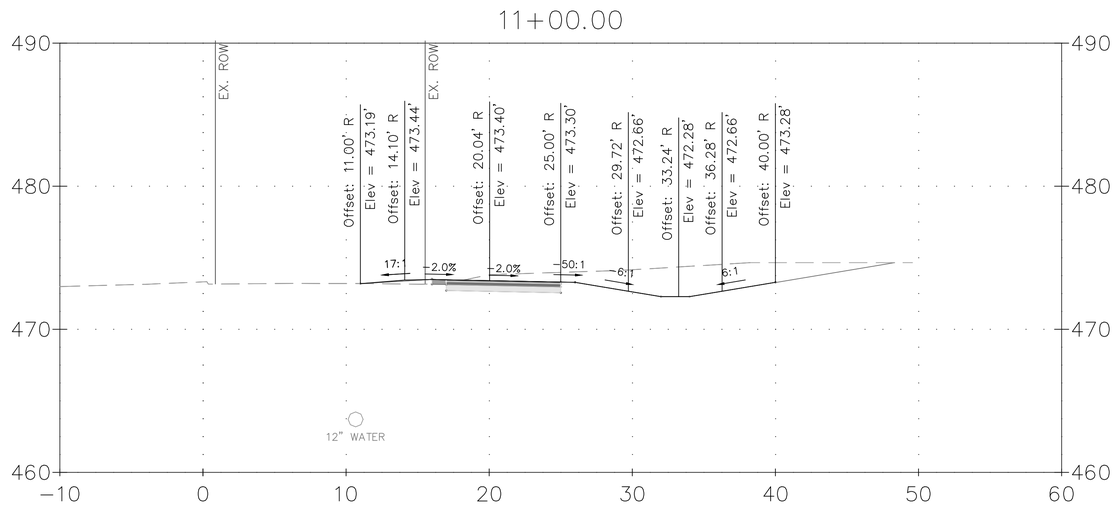
SCALE: 1"=5'

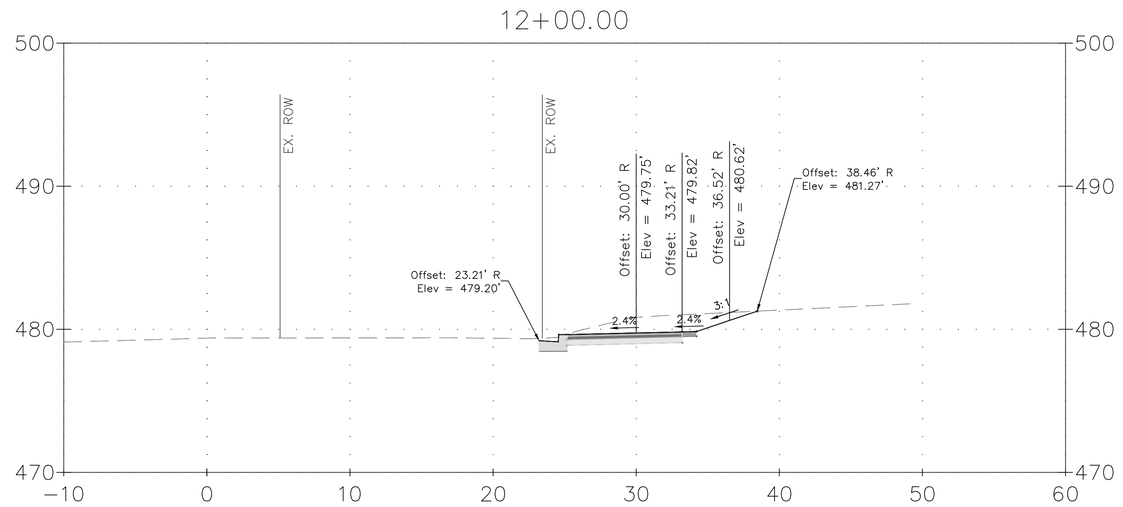
DATE: NOVEMBER 2020

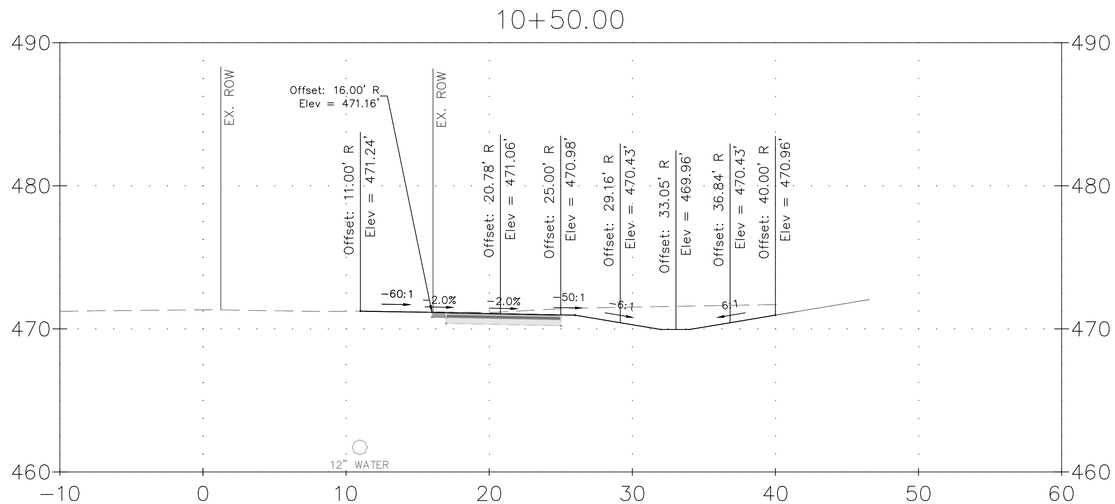
Project No. : 501902

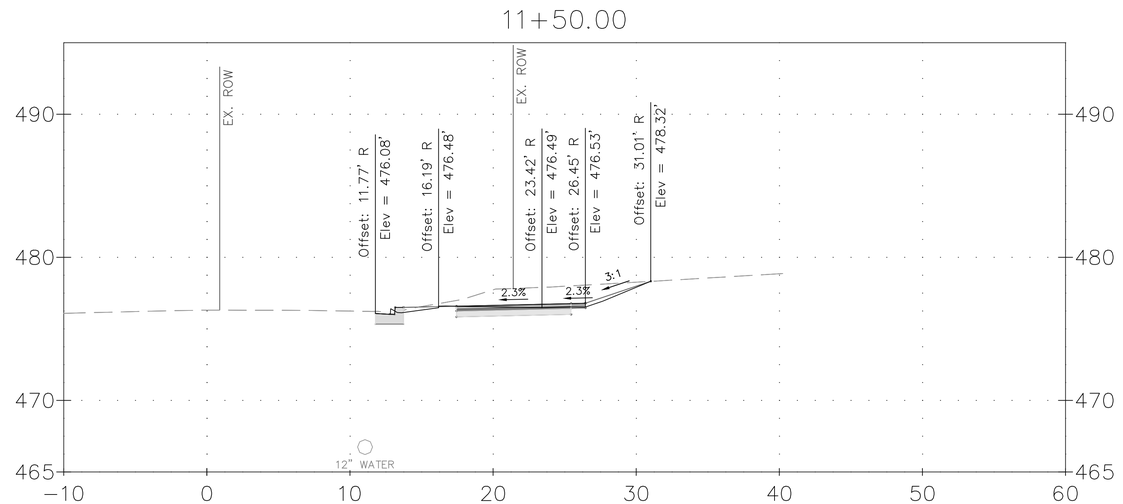
SHEET 92 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-05 PLOTTED: Tuesday, November 24, 2020 - 1:06pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-06 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

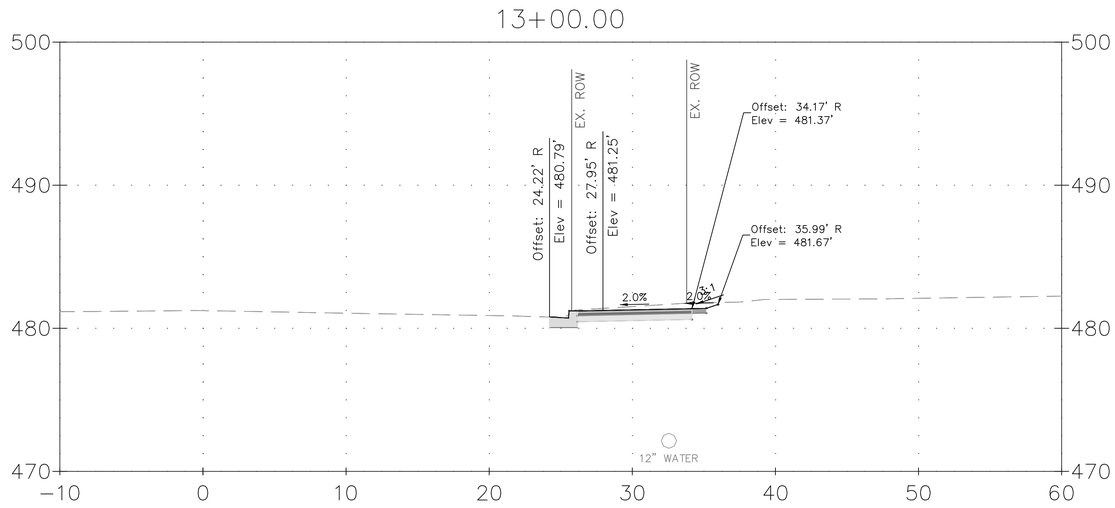
SCALE: 1"=5'

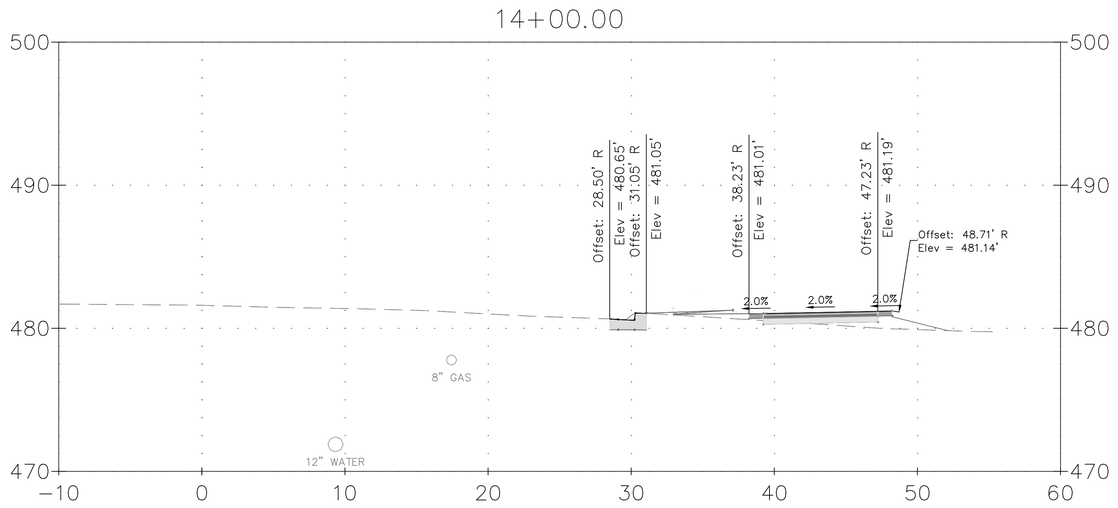
DATE: NOVEMBER 2020

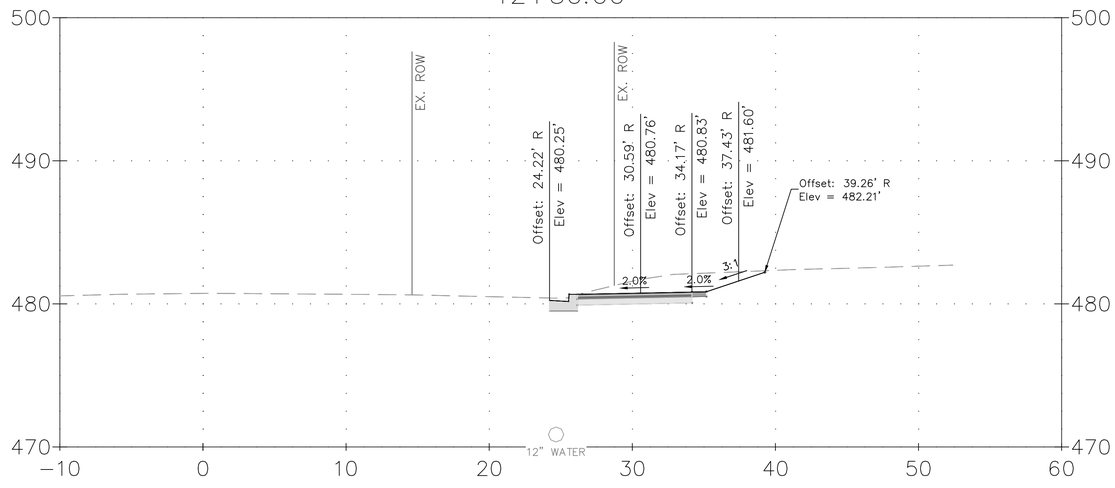
Project No. : 501902

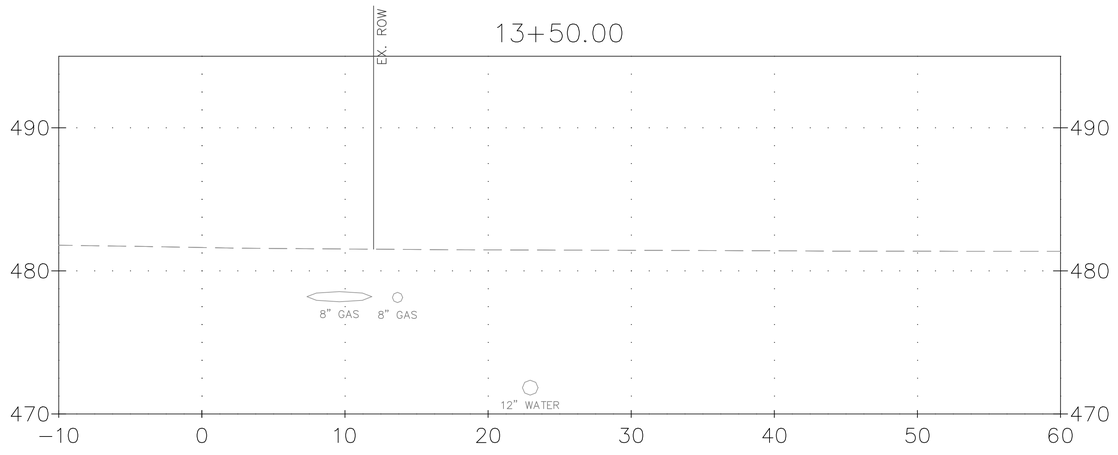
SHEET 93 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-06 PLOTTED: Tuesday, November 24, 2020 - 1:06pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-07 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

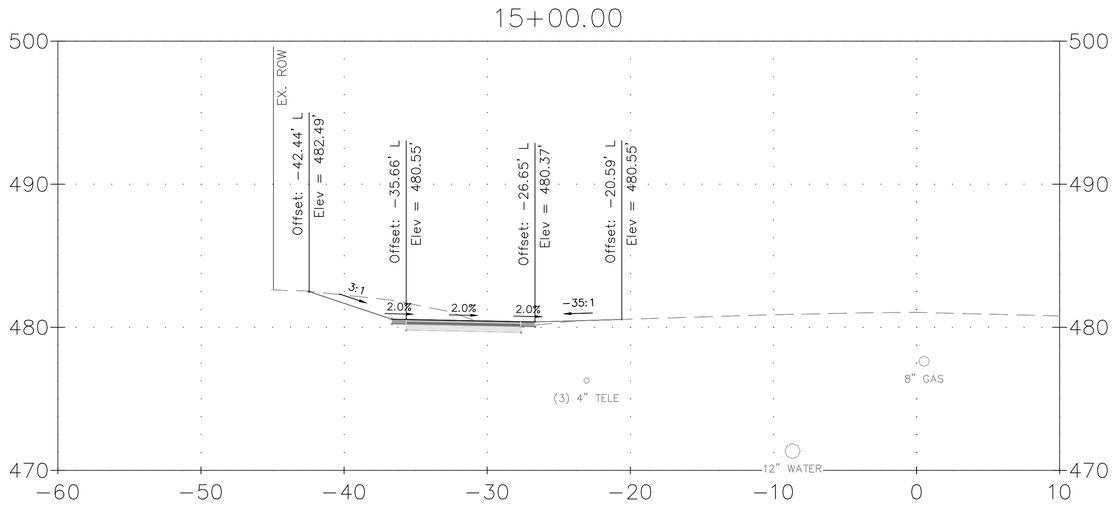
SCALE: 1"=5'

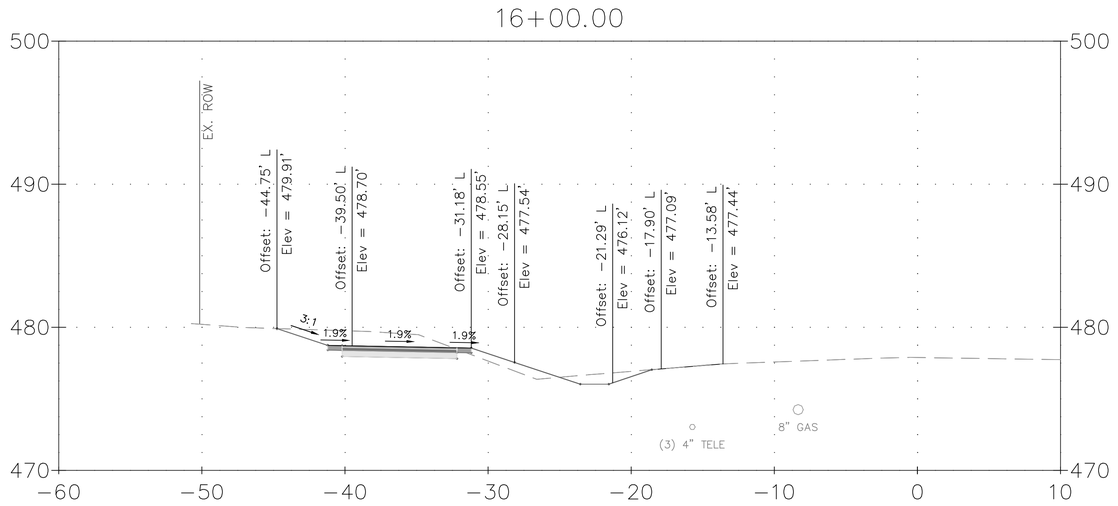
DATE: NOVEMBER 2020

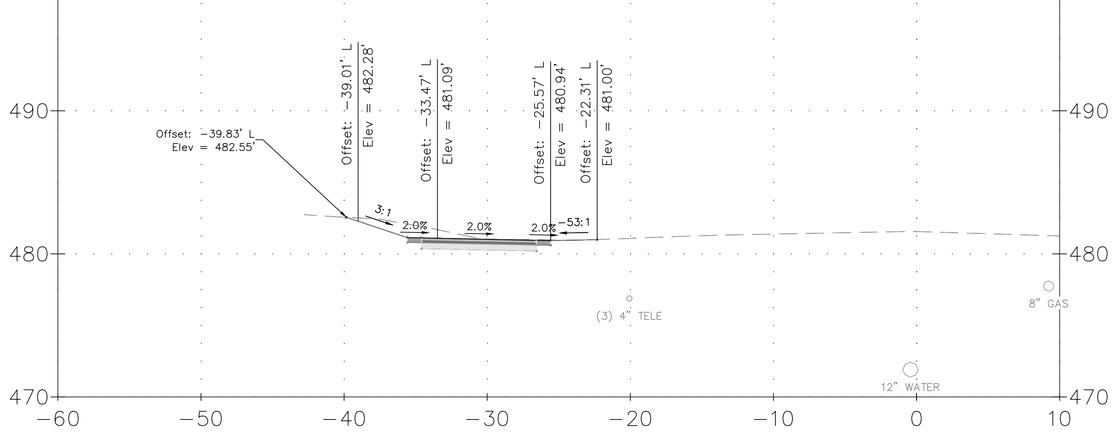
Project No. : 501902

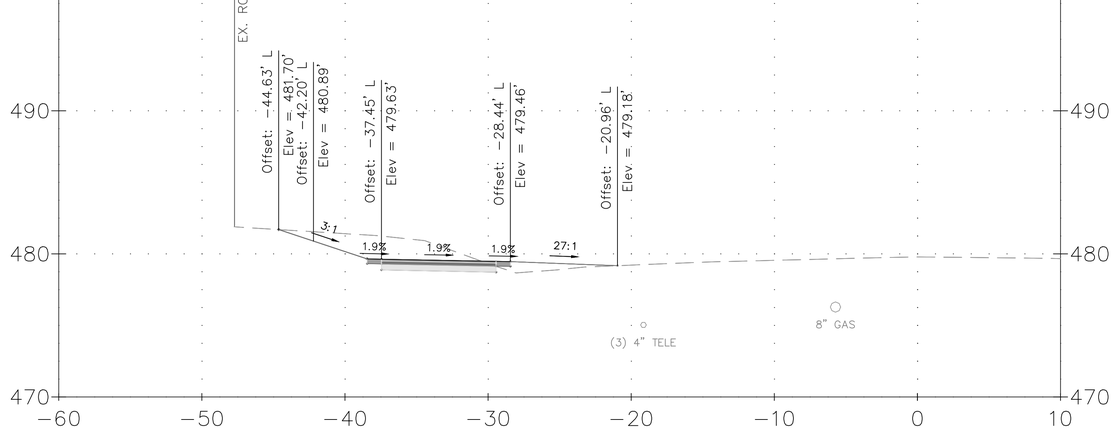
SHEET 94 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-07 PLOTTED: Tuesday, November 24, 2020 - 1:06pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-08 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

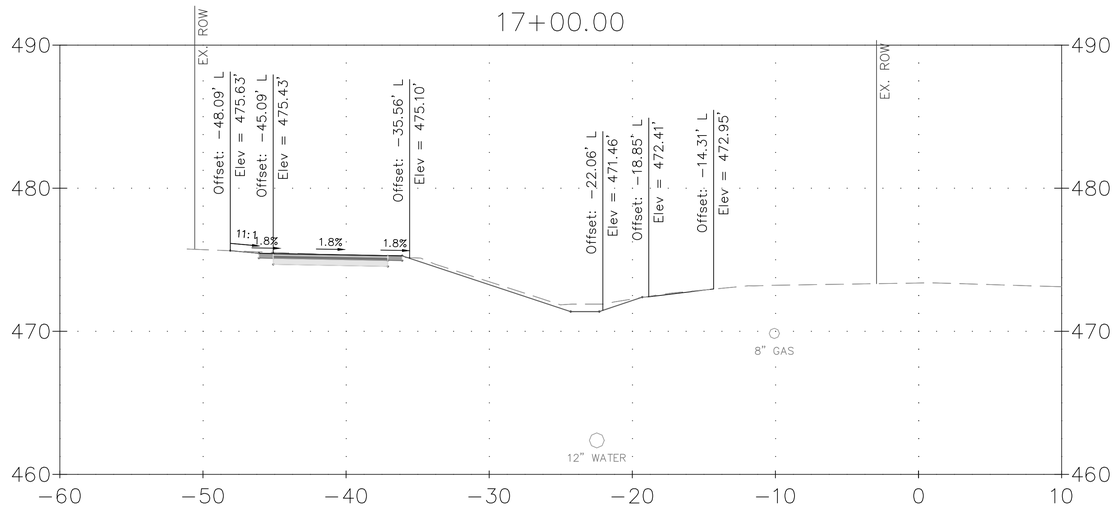
SCALE: 1"=5'

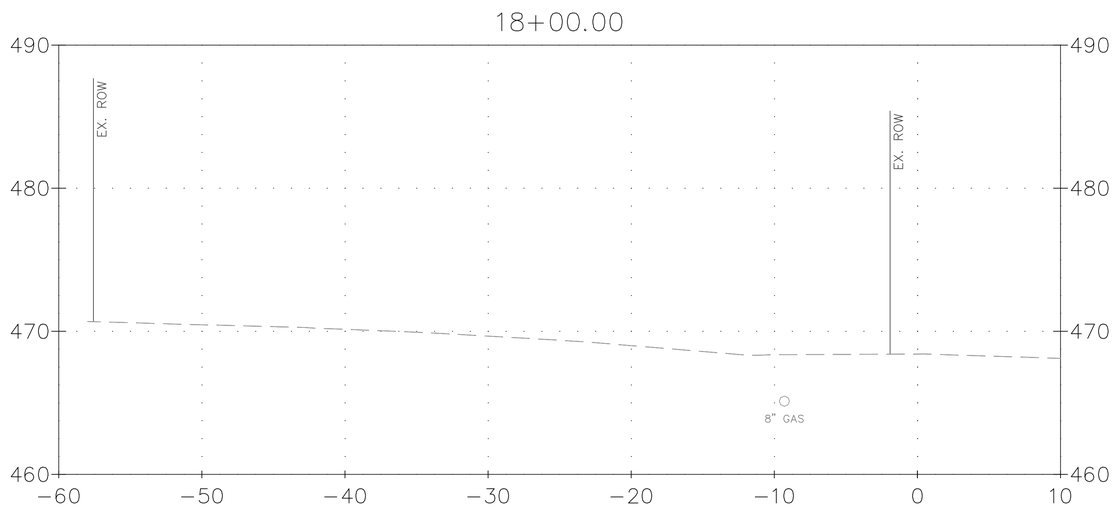
DATE: NOVEMBER 2020

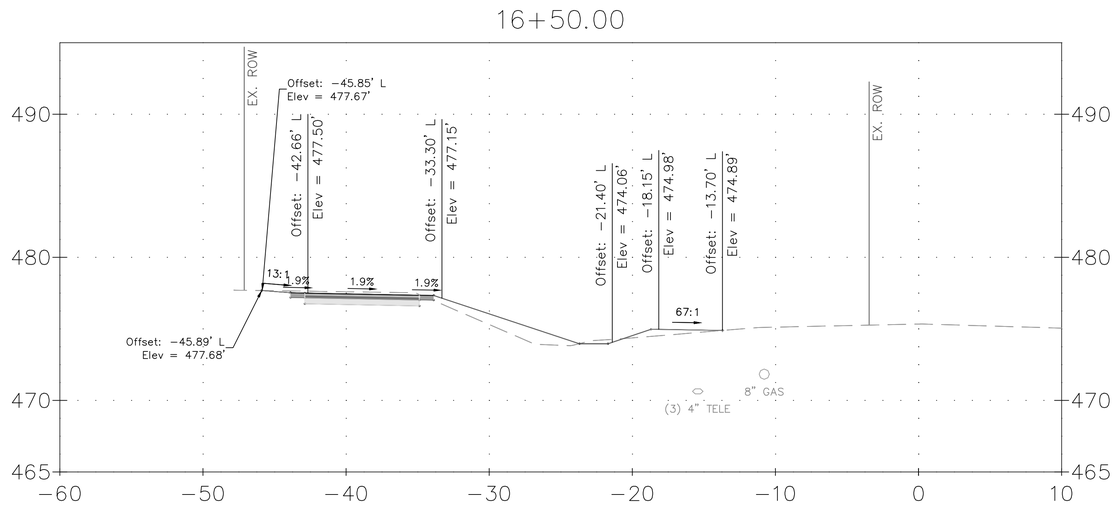
Project No. : 501902

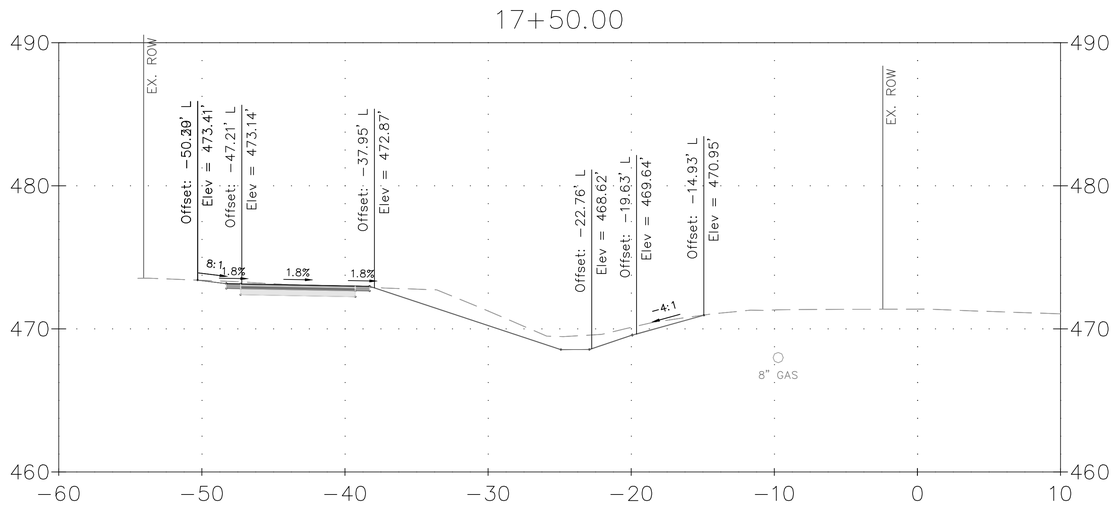
SHEET 95 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-08 PLOTTED: Tuesday, November 24, 2020 - 1:07pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-09 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

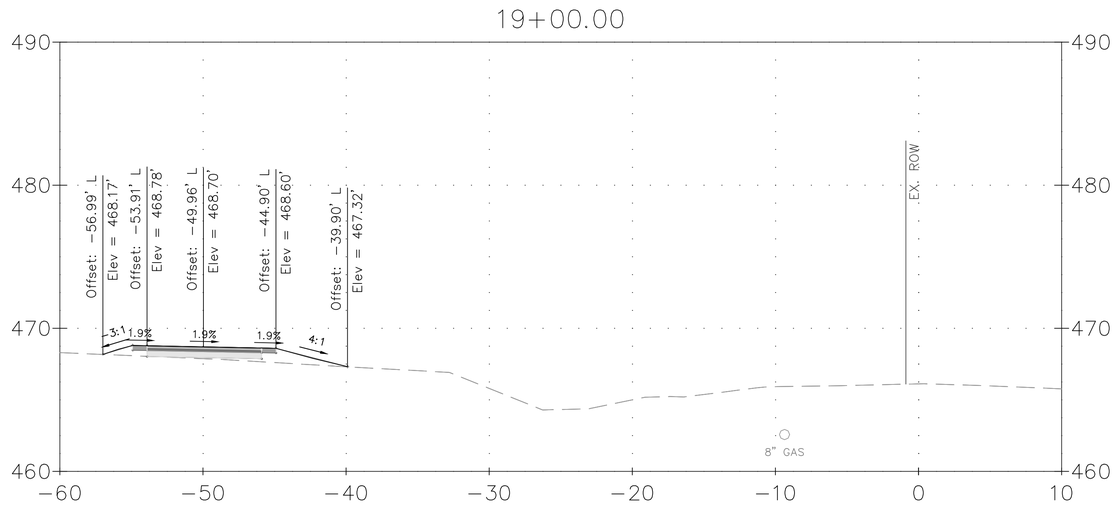
0 5' 10'
SCALE: 1"=5'

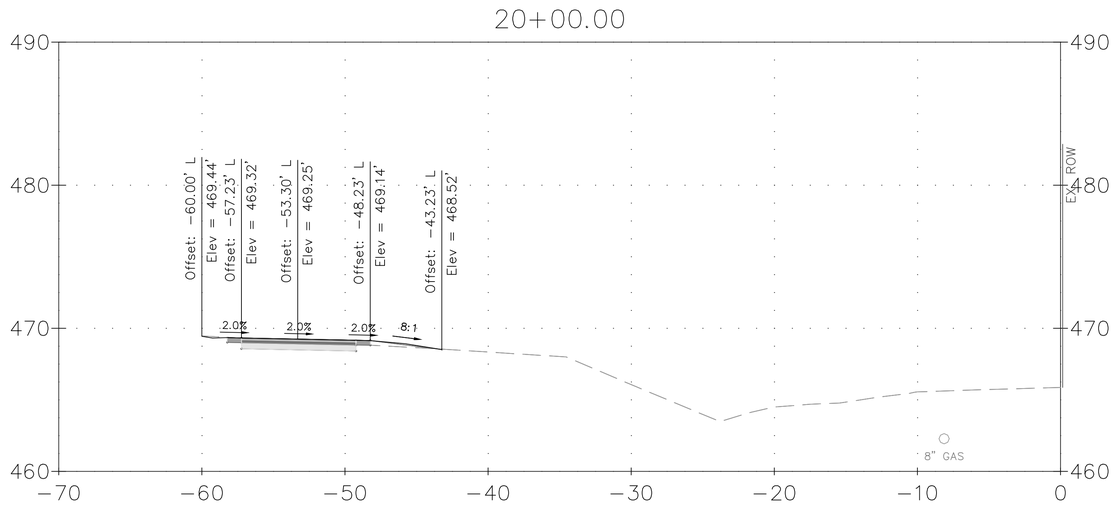
DATE: NOVEMBER 2020

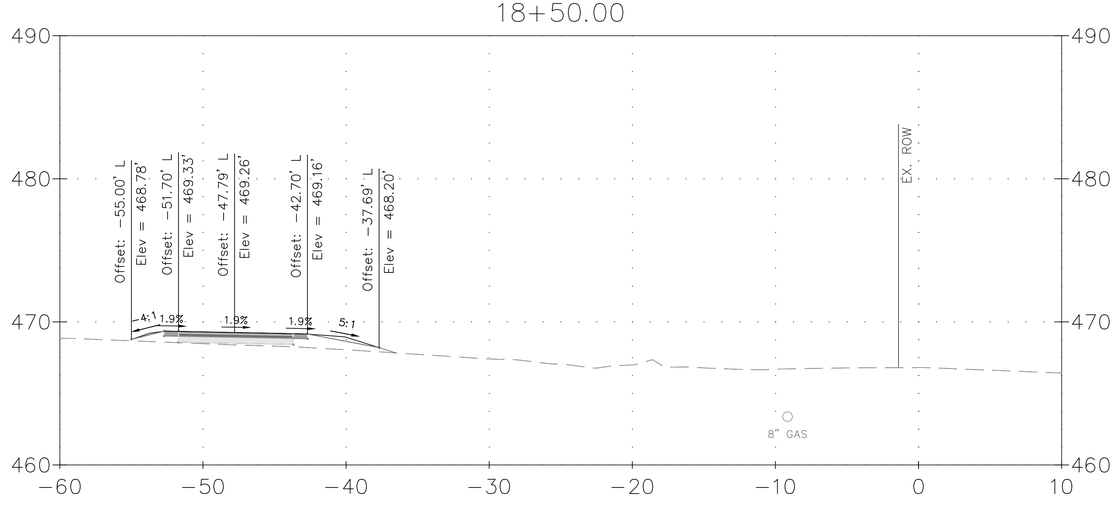
Project No. : 501902

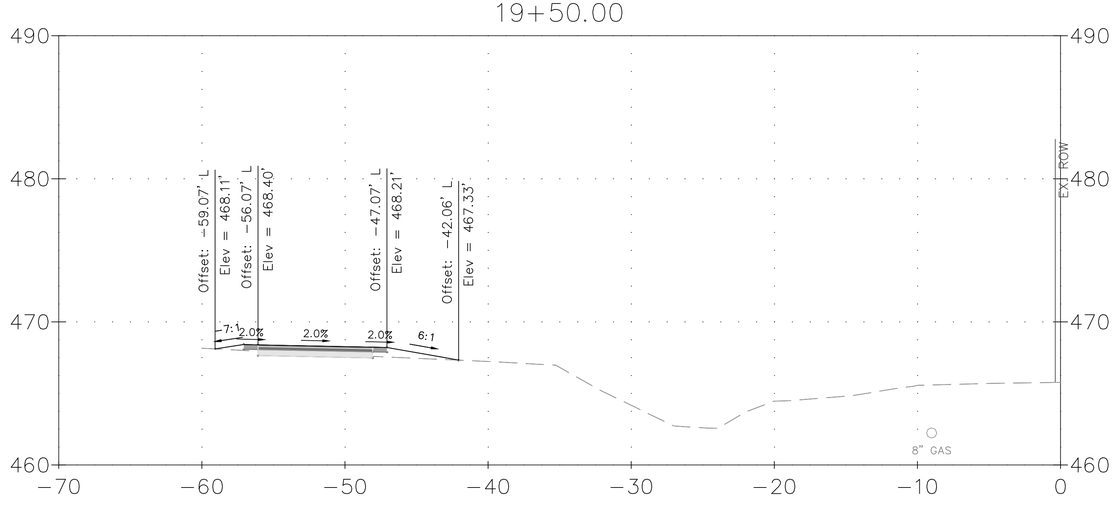
SHEET 96 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-09 PLOTTED: Tuesday, November 24, 2020 - 1:07pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-10 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

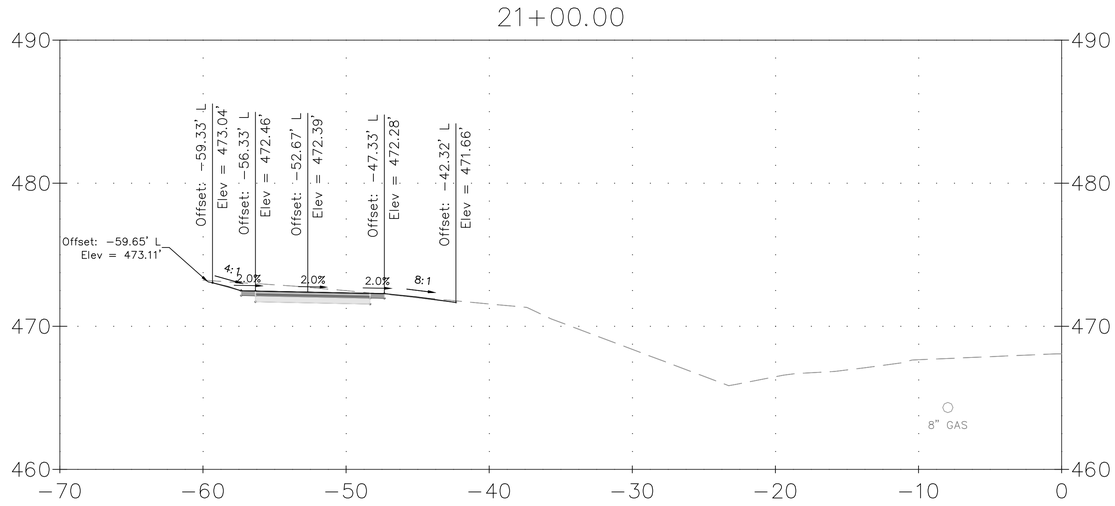
SCALE: 1"=5'

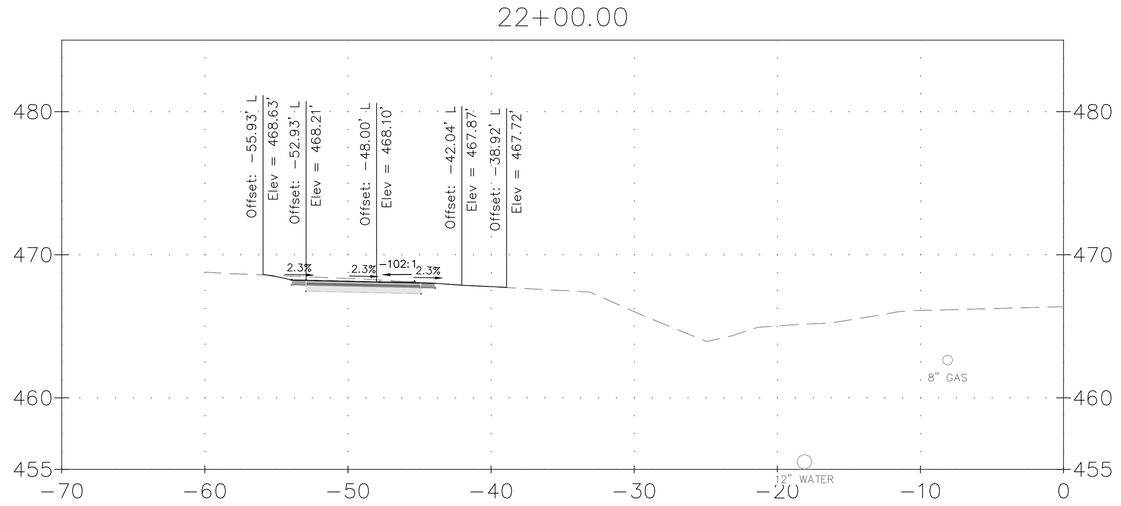
DATE: NOVEMBER 2020

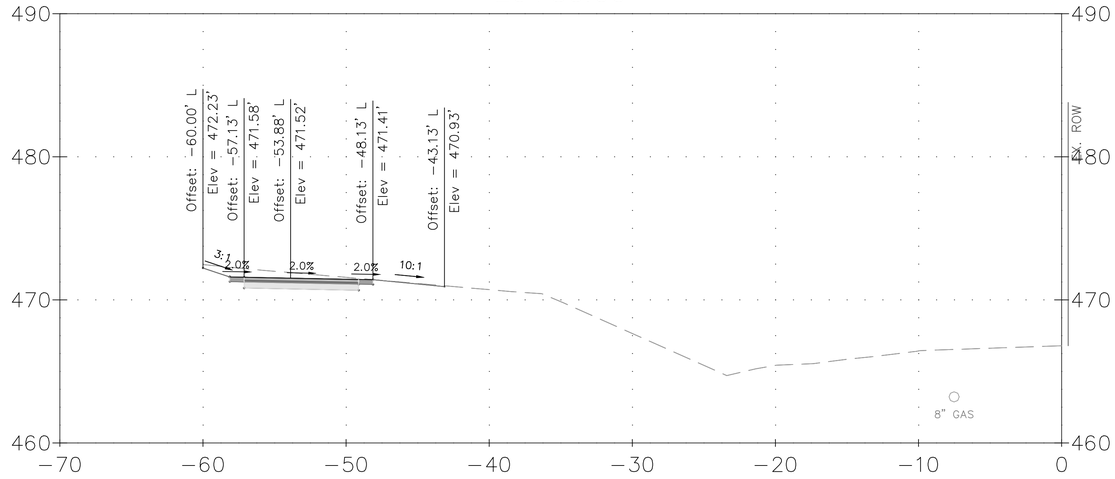
Project No. : 501902

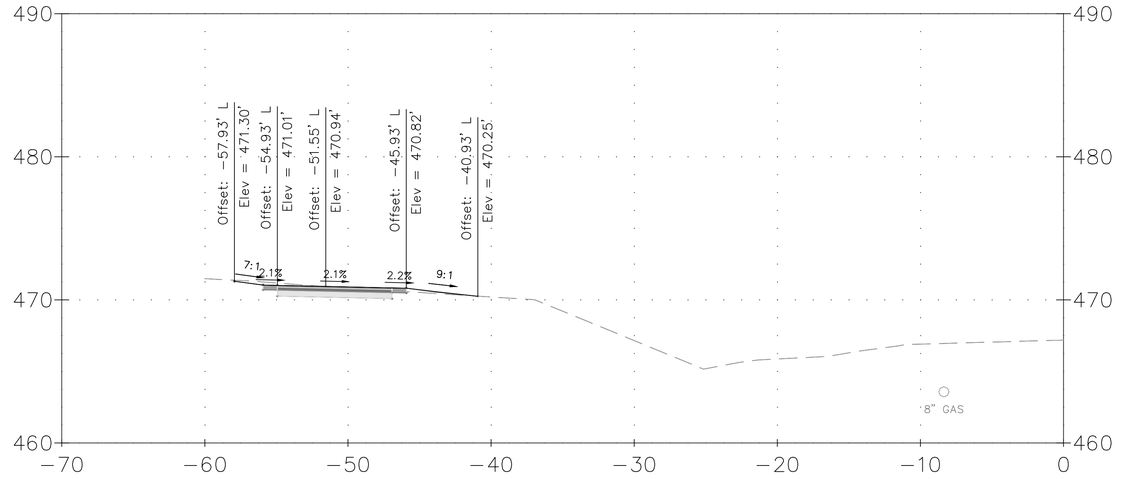
SHEET 97 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-10 PLOTTED: Tuesday, November 24, 2020 - 1:07pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-11 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

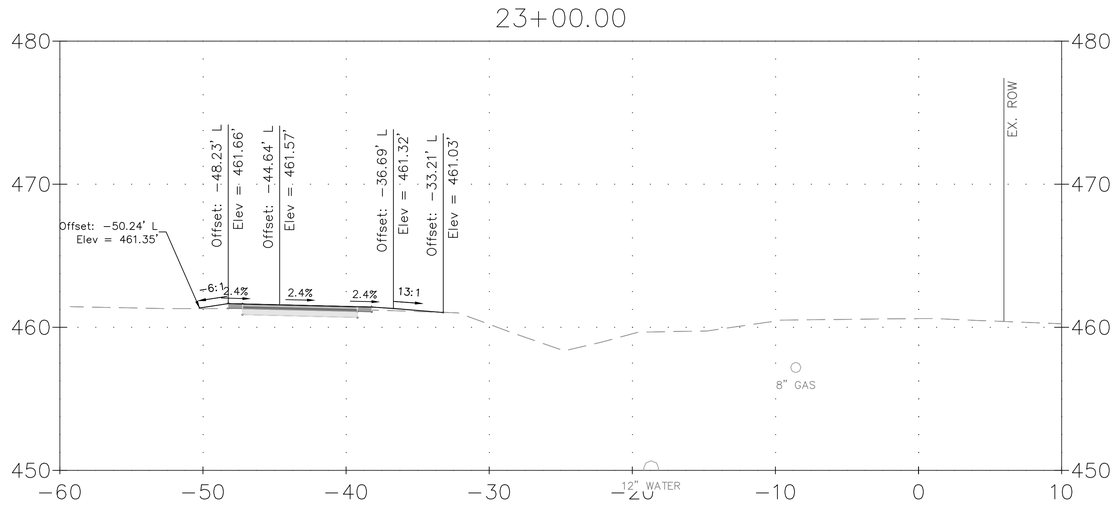
0 5' 10'
SCALE: 1"=5'

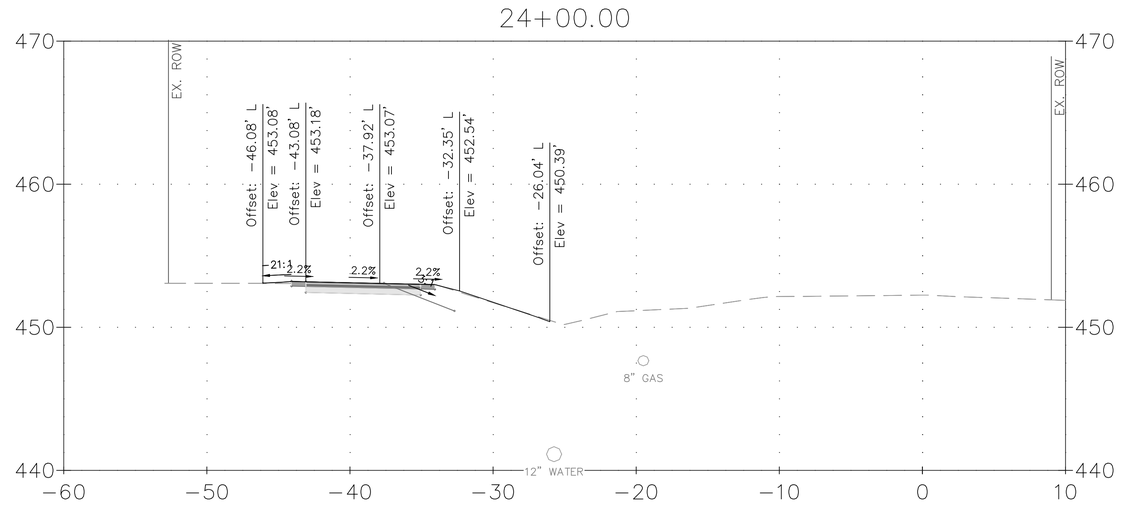
DATE: NOVEMBER 2020

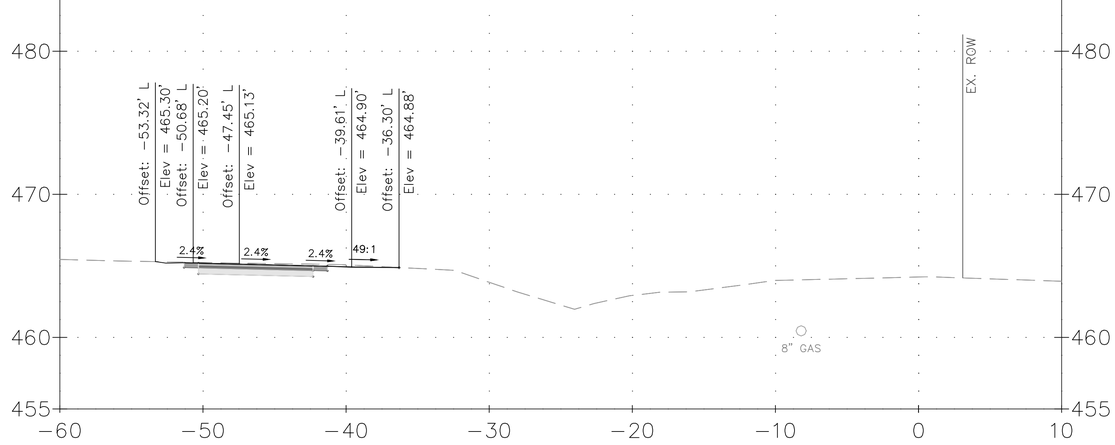
Project No. : 501902

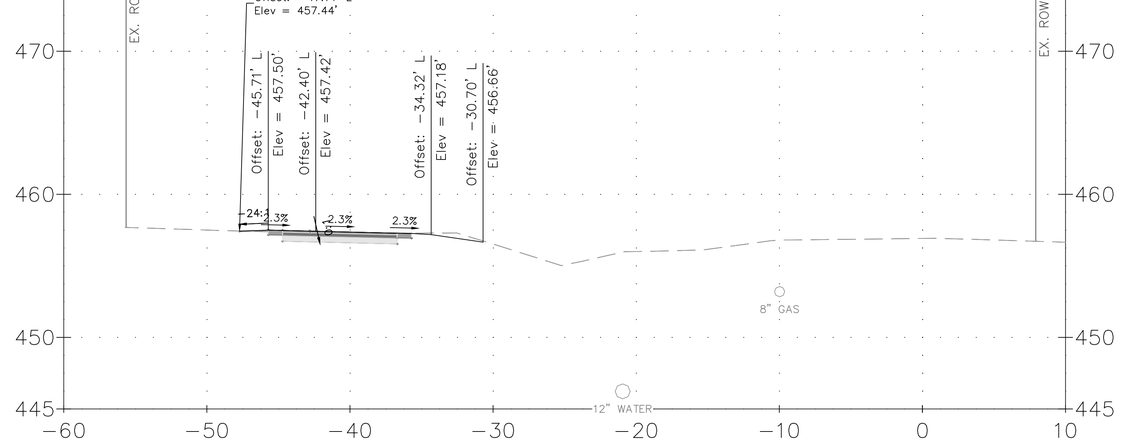
SHEET 98 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-11 PLOTTED: Tuesday, November 24, 2020 - 1:07pm USER: rmduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-12 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

SCALE: 1"=5'

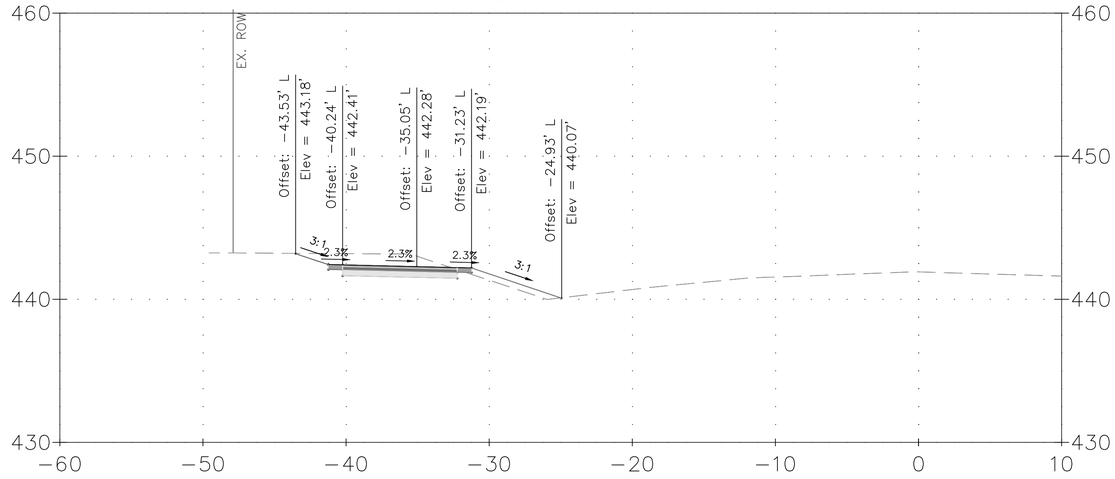
DATE: NOVEMBER 2020

Project No. : 501902

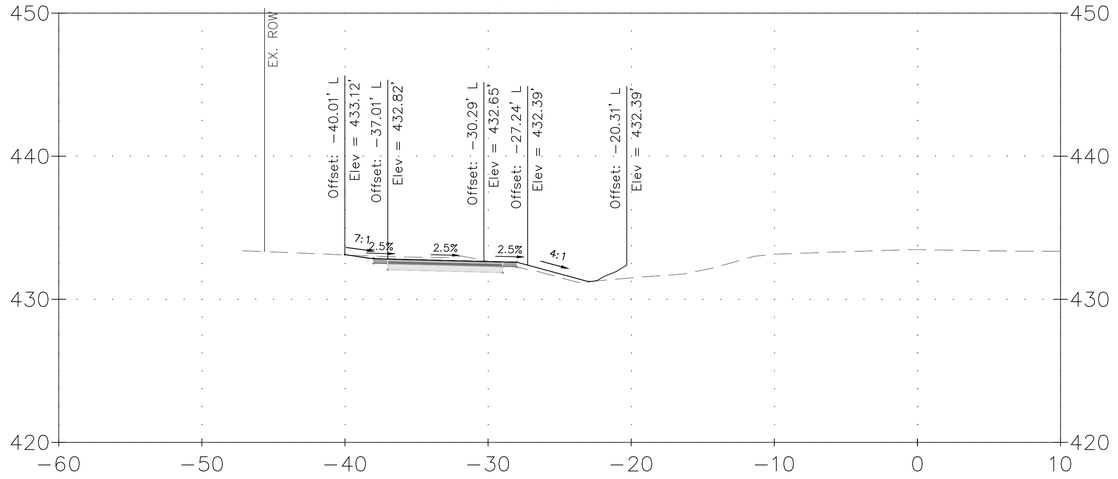
SHEET 99 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-12 PLOTTED: Tuesday, November 24, 2020 - 1:07pm USER: mduckett

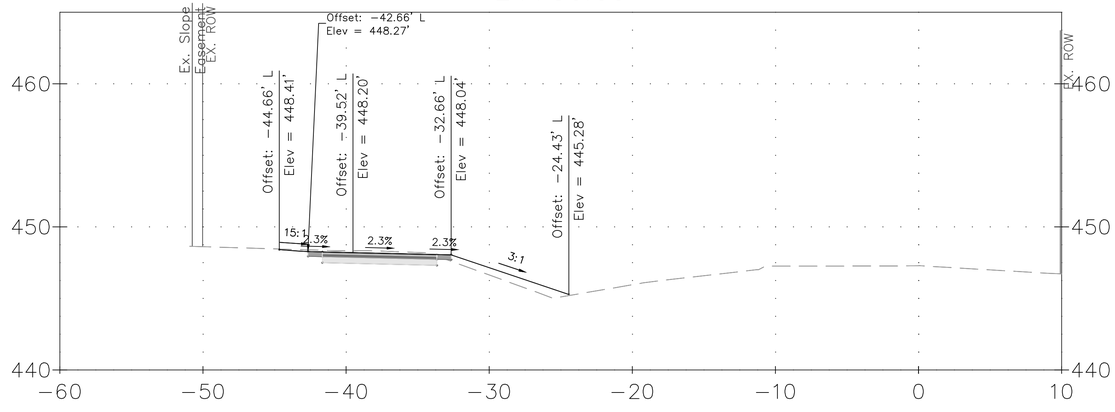
25+00.00



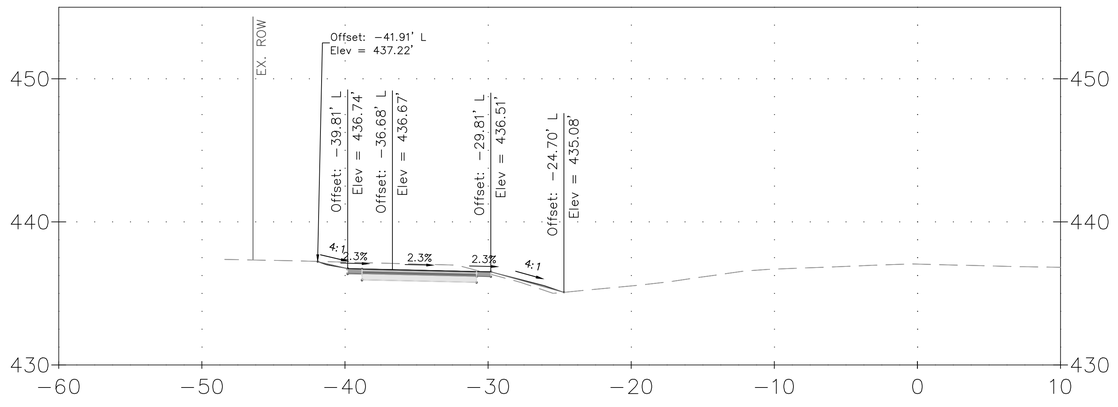
26+00.00



24+50.00



25+50.00



CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-13 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

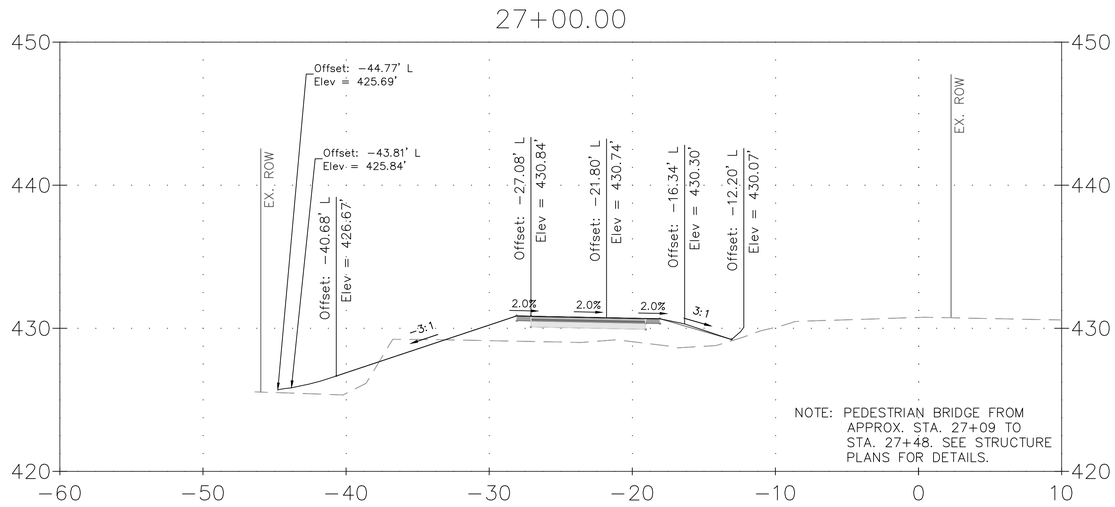
SCALE: 1"=5'

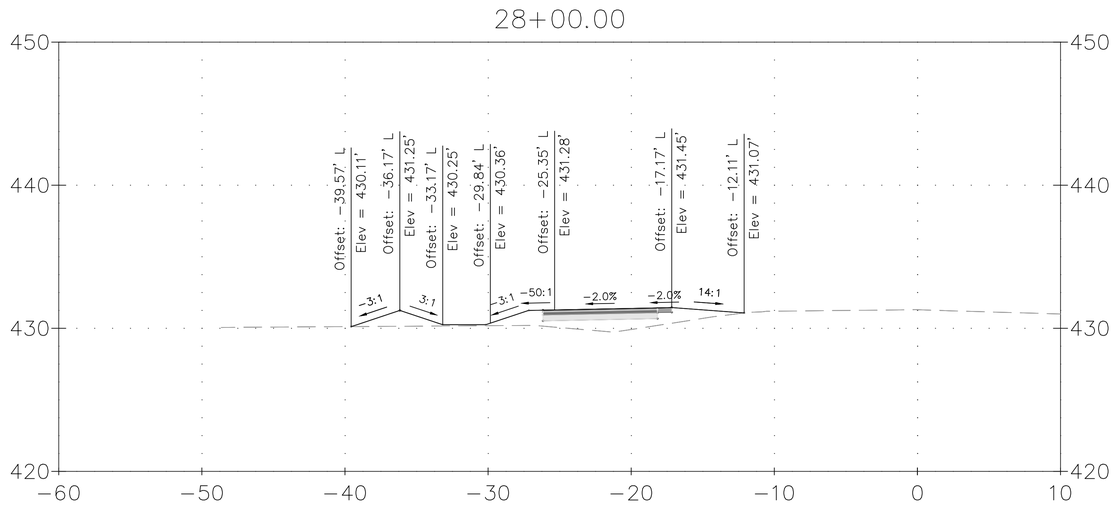
DATE: NOVEMBER 2020

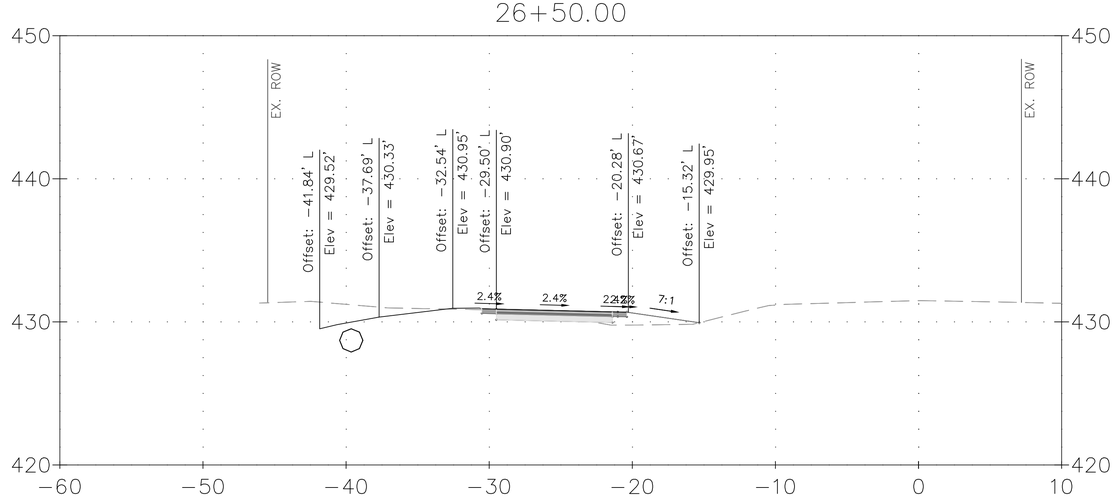
Project No. : 501902

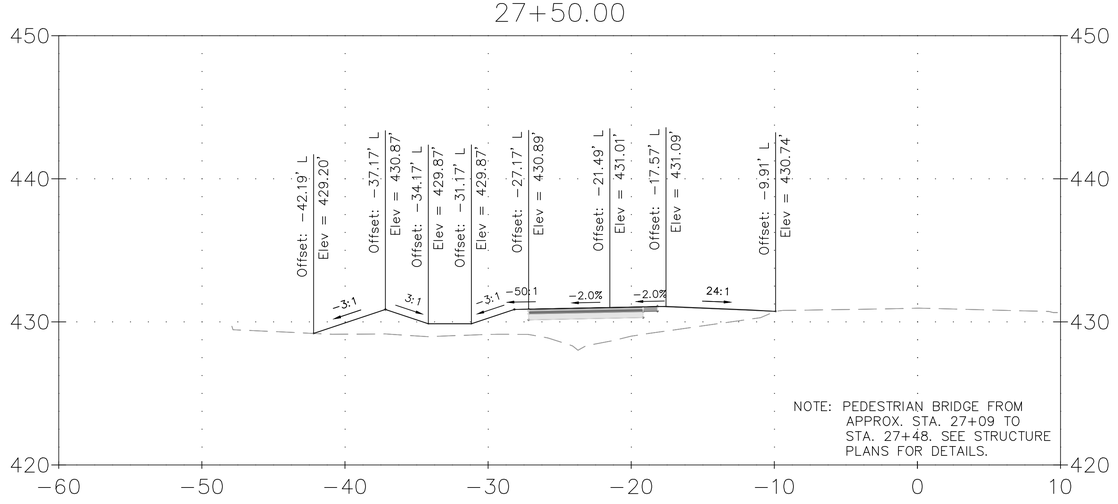
SHEET 100 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-13 PLOTTED: Tuesday, November 24, 2020 - 1:08pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−14 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

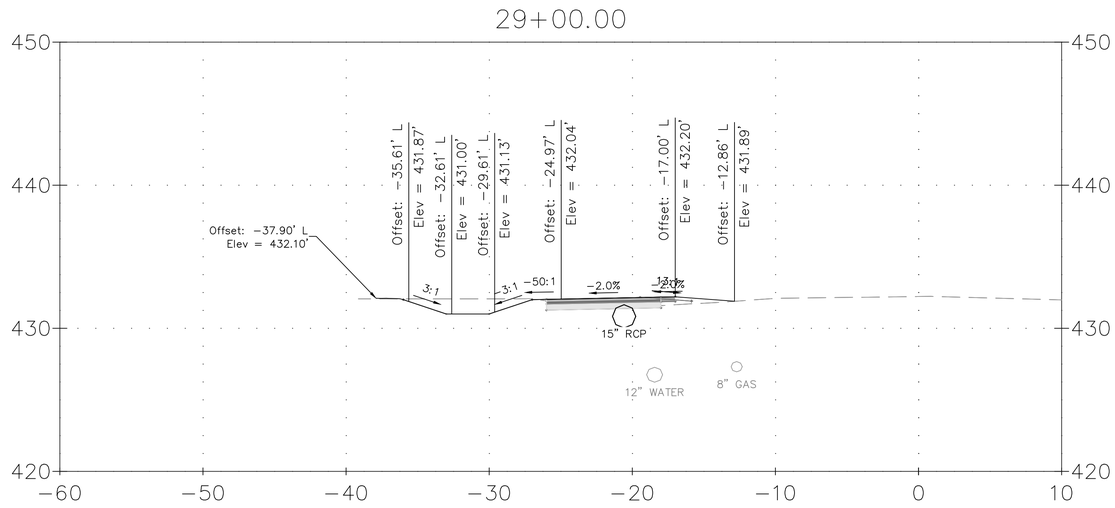
SCALE: 1"=5'

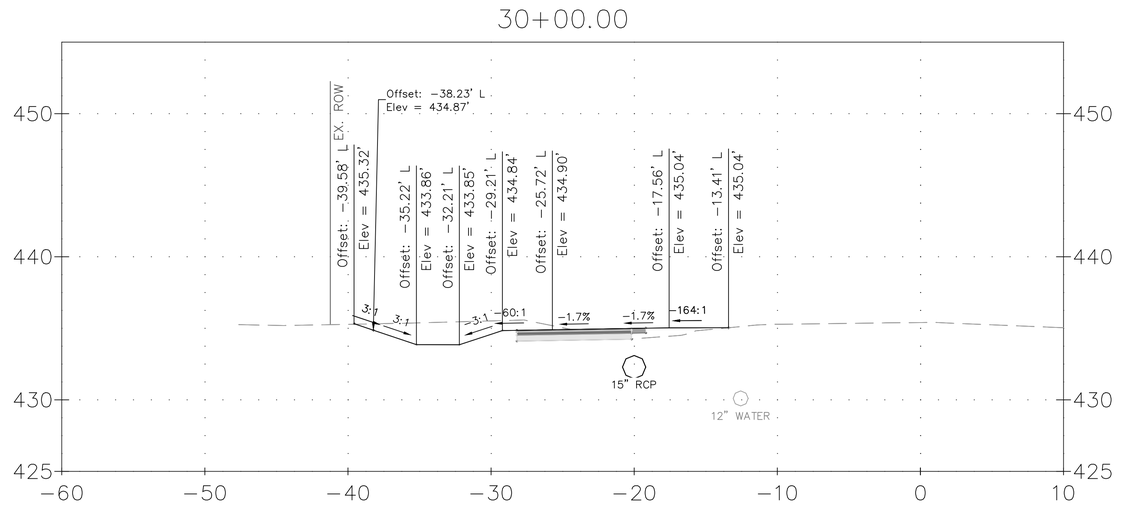
DATE: NOVEMBER 2020

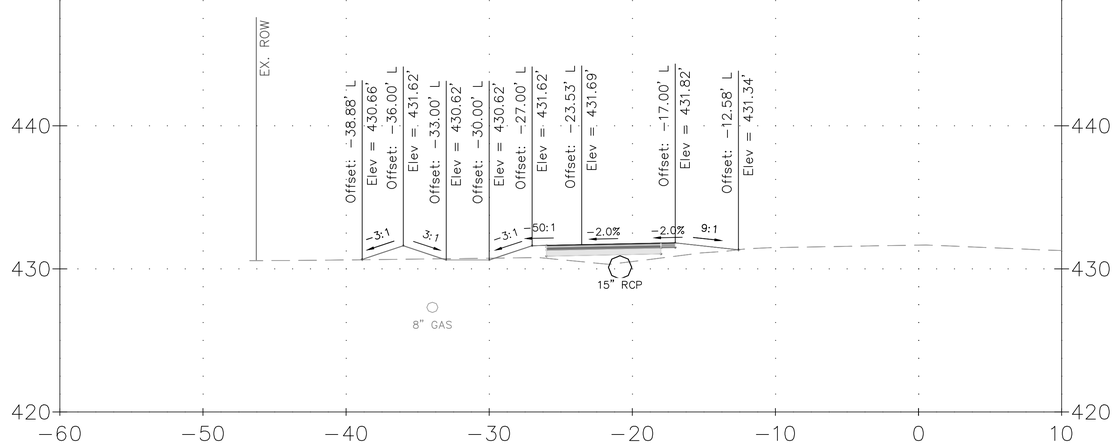
Project No. : 501902

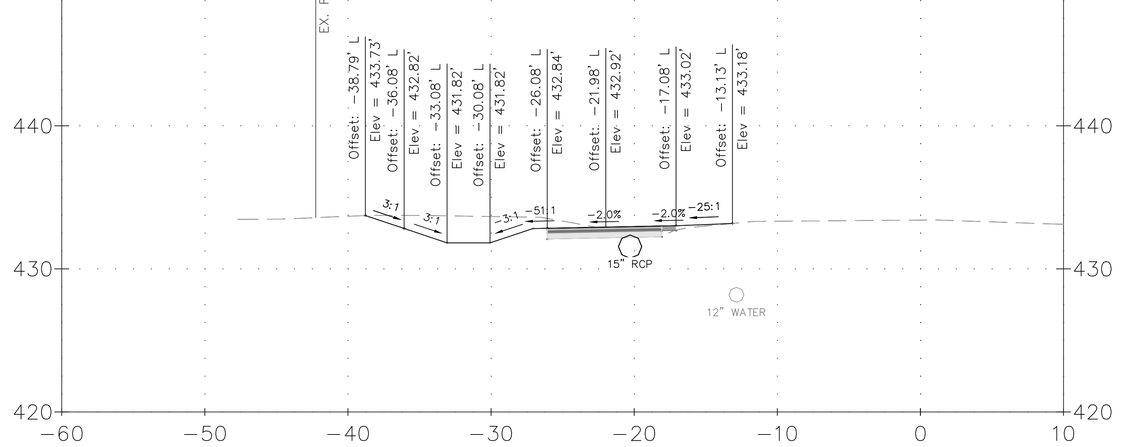
SHEET 101 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-14 PLOTTED: Tuesday, November 24, 2020 - 1:08pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−15 CROSS SECTION

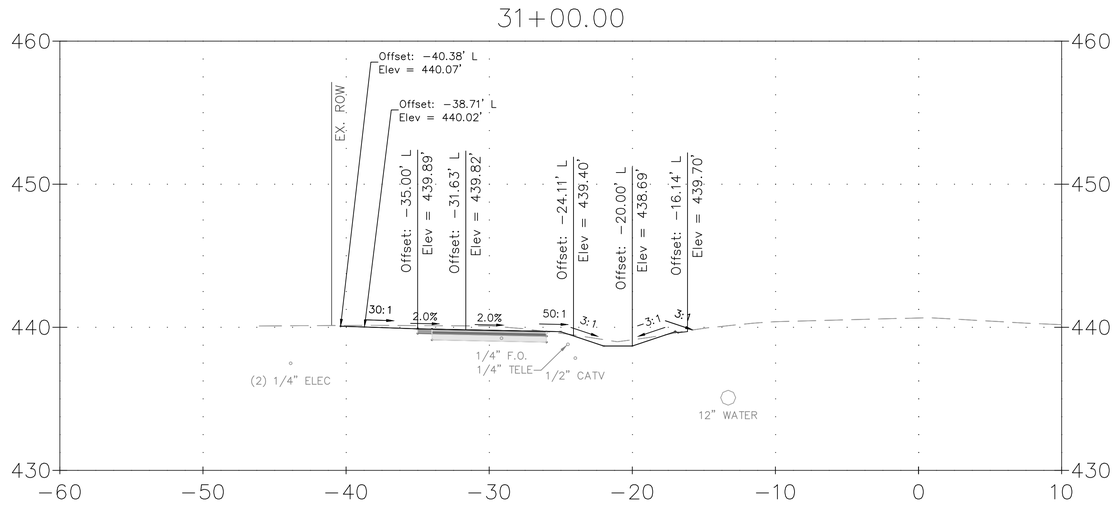
GOOD HOPE ROAD SHARED USE PATH

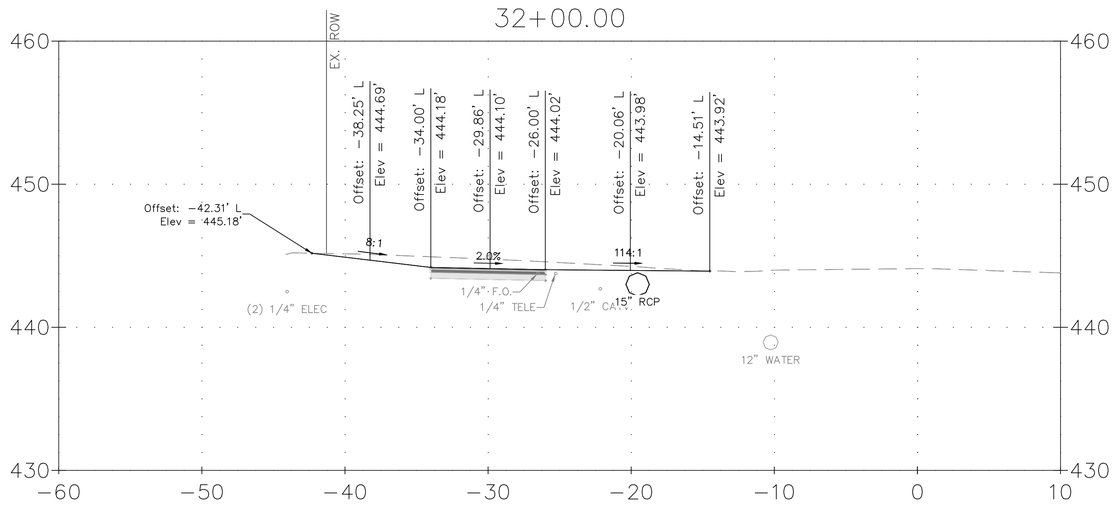
0 5' 10'

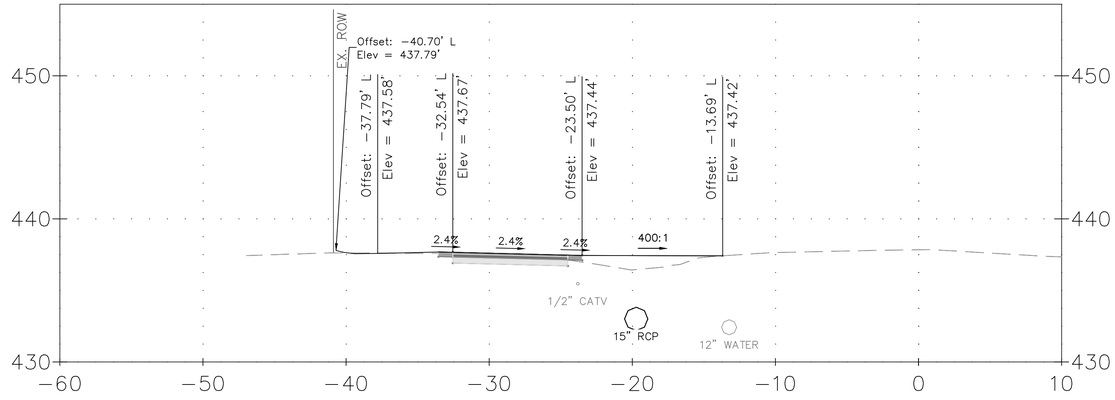
SCALE: 1"=5' DATE: NOVEMBER 2020

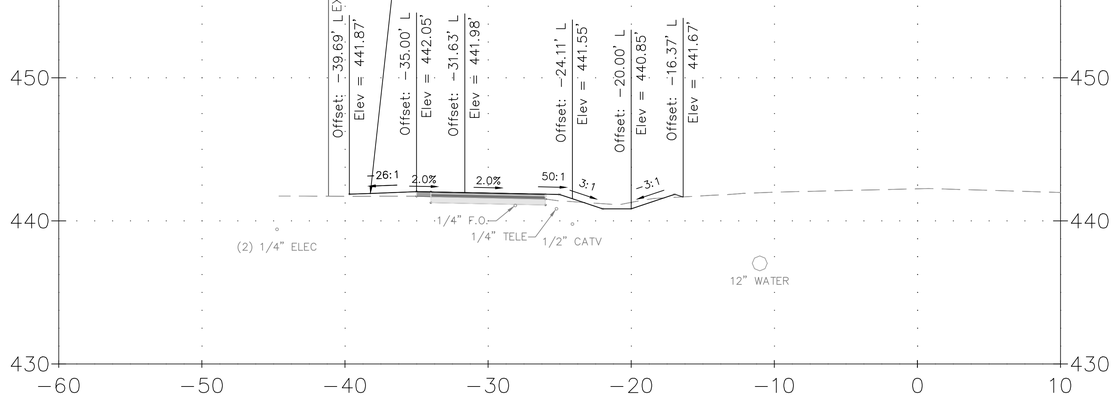
Project No. : 501902 SHEET 102 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-15 PLOTTED: Tuesday, November 24, 2020 - 1:08pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−16 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

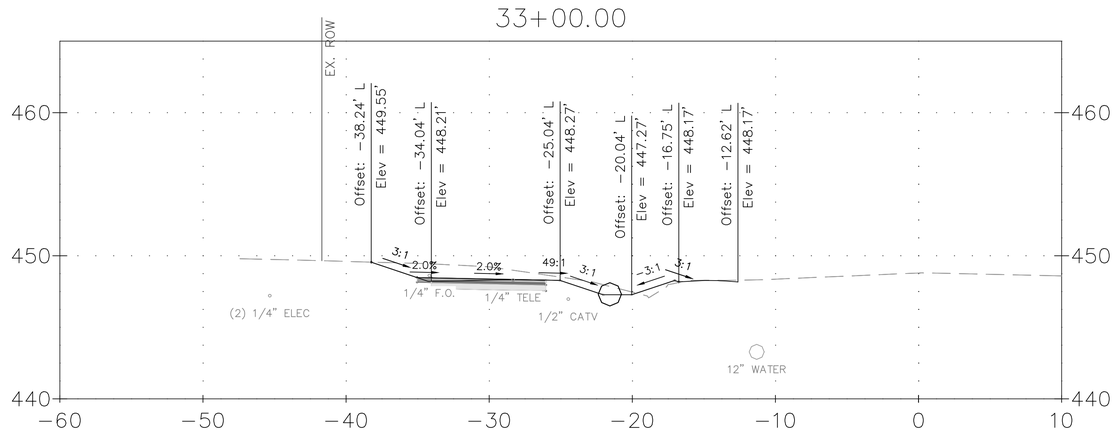
SCALE: 1"=5'

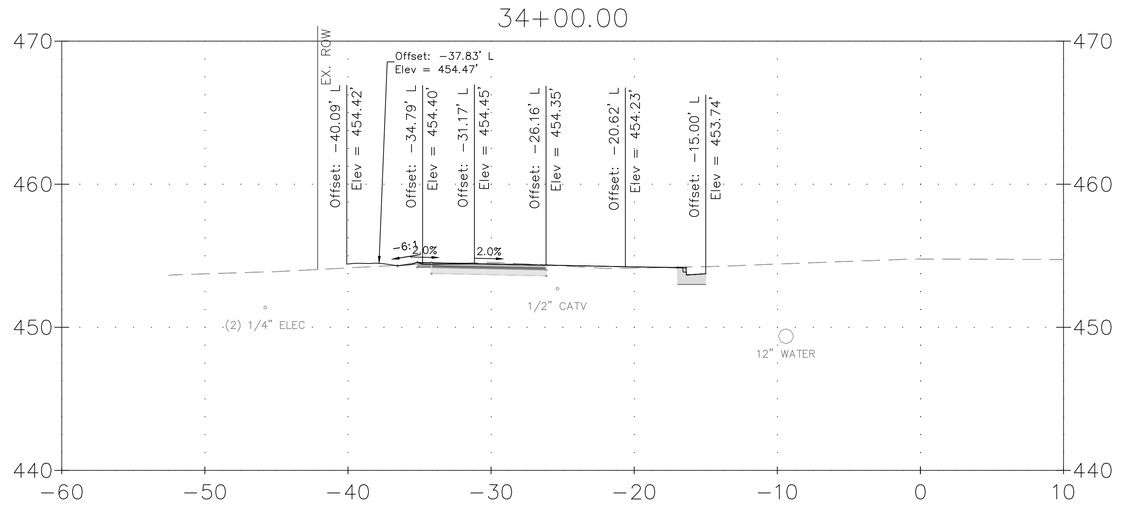
DATE: NOVEMBER 2020

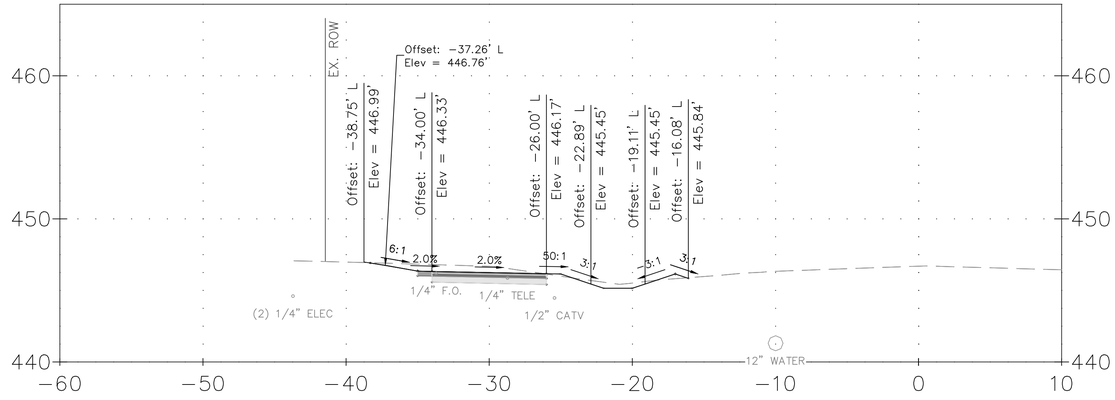
Project No. : 501902

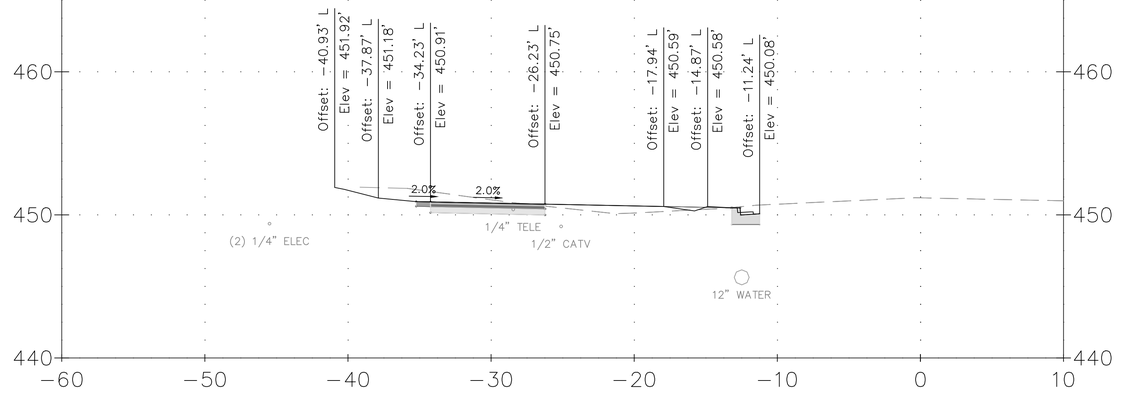
SHEET 103 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-16 PLOTTED: Tuesday, November 24, 2020 - 1:08pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−17 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

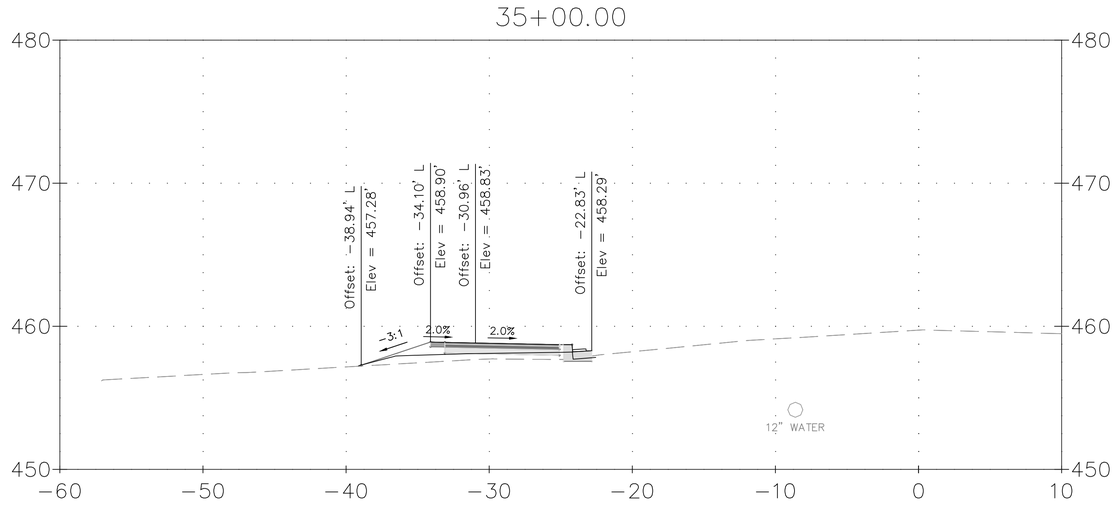
SCALE: 1"=5'

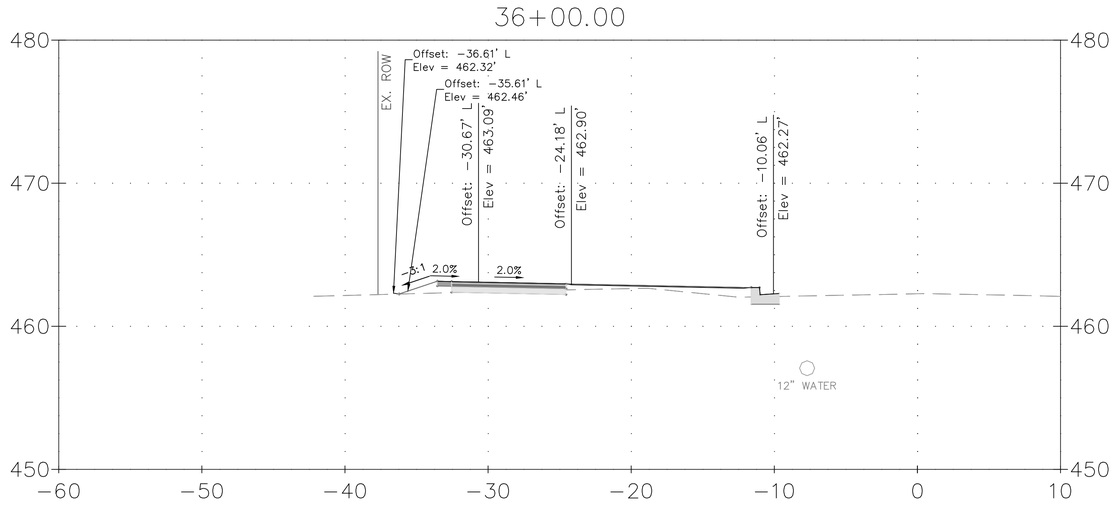
DATE: NOVEMBER 2020

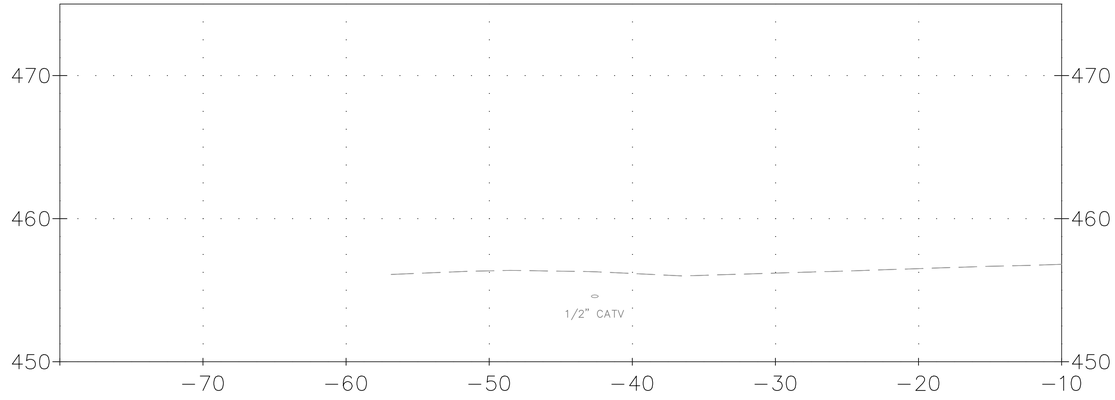
Project No. : 501902

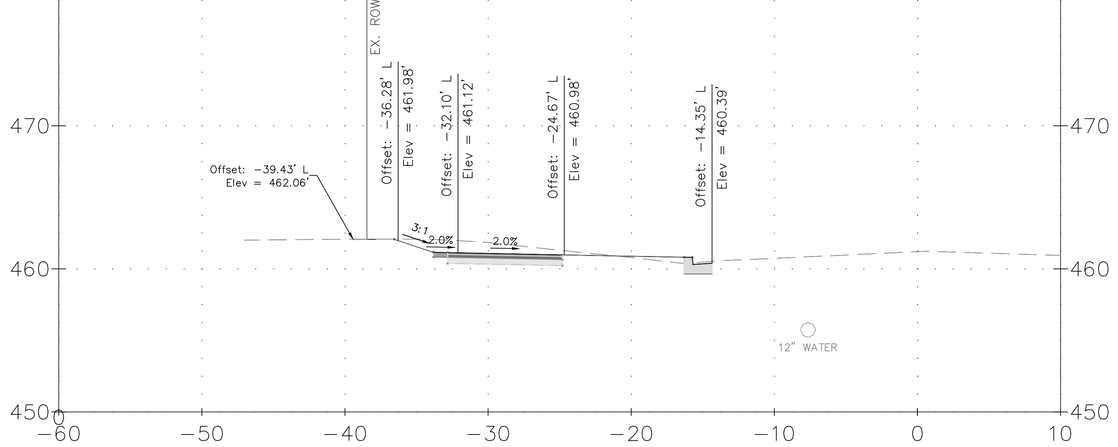
SHEET 104 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-17 PLOTTED: Tuesday, November 24, 2020 - 1:09pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−18 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

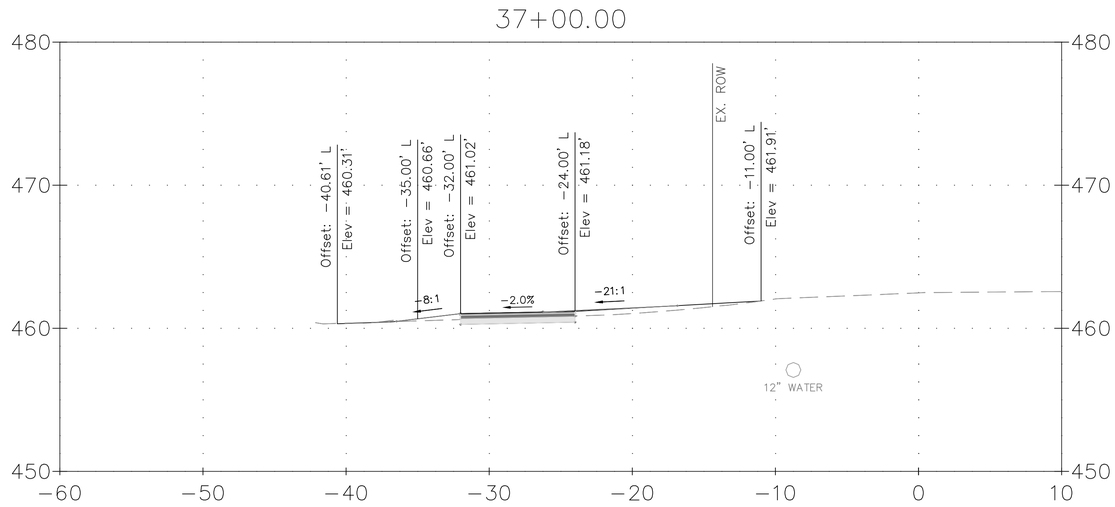
SCALE: 1"=5'

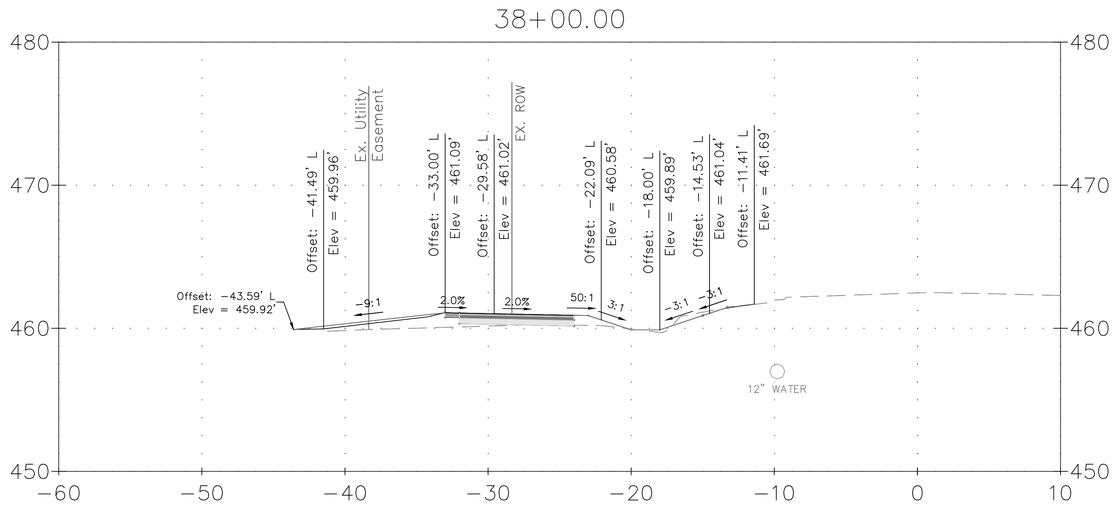
DATE: NOVEMBER 2020

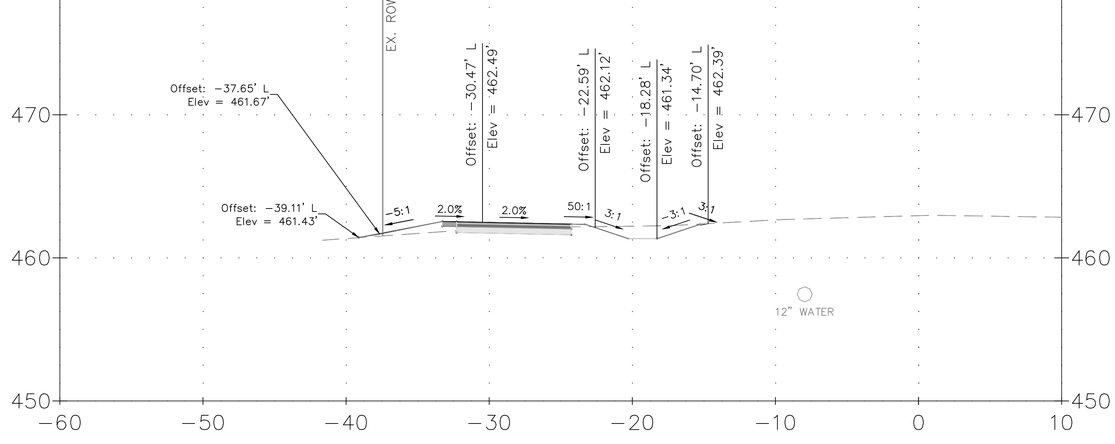
Project No. : 501902

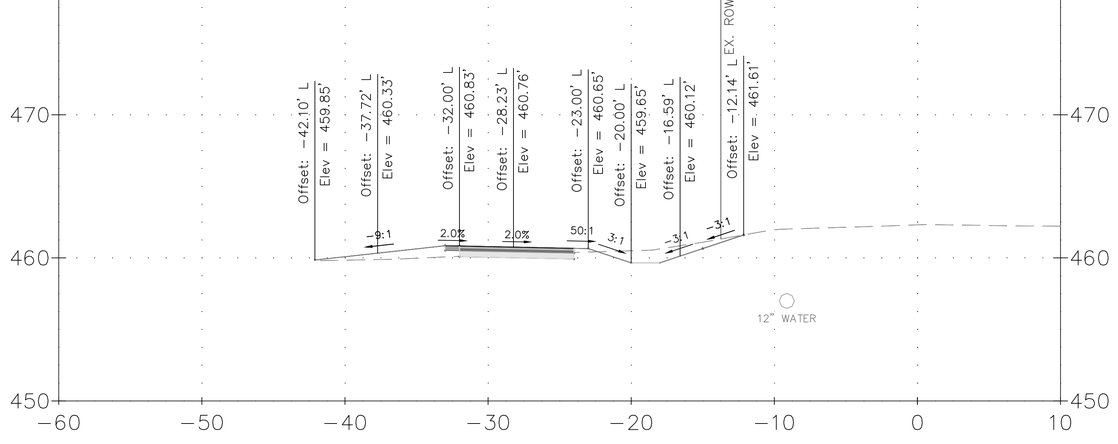
SHEET 105 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-18 PLOTTED: Tuesday, November 24, 2020 - 1:09pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-19 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

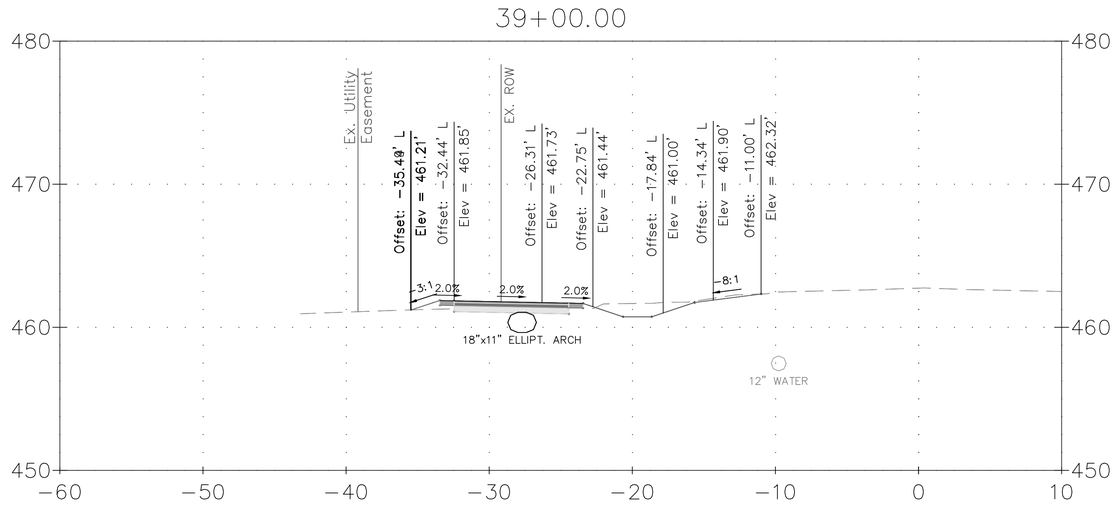
SCALE: 1"=5'

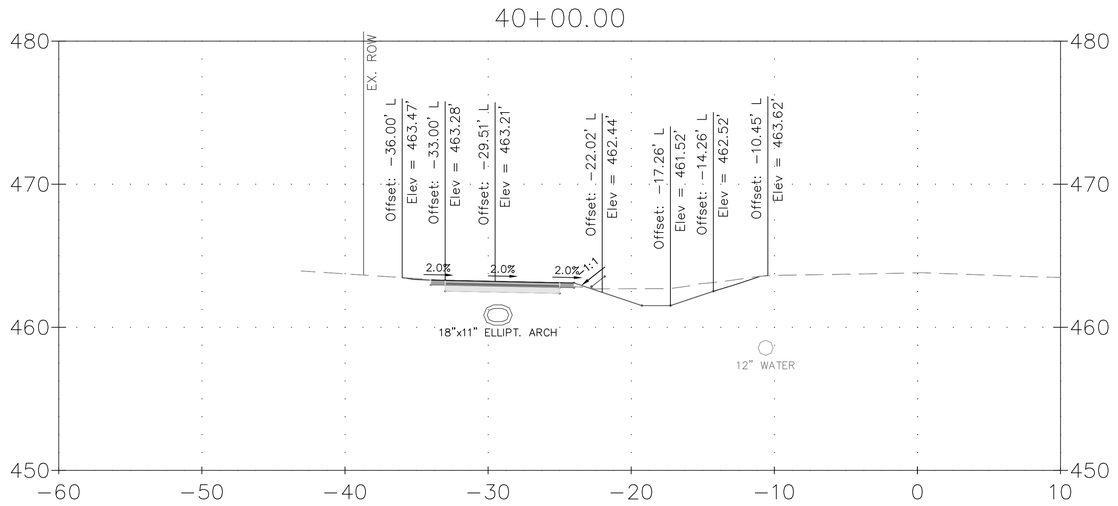
DATE: NOVEMBER 2020

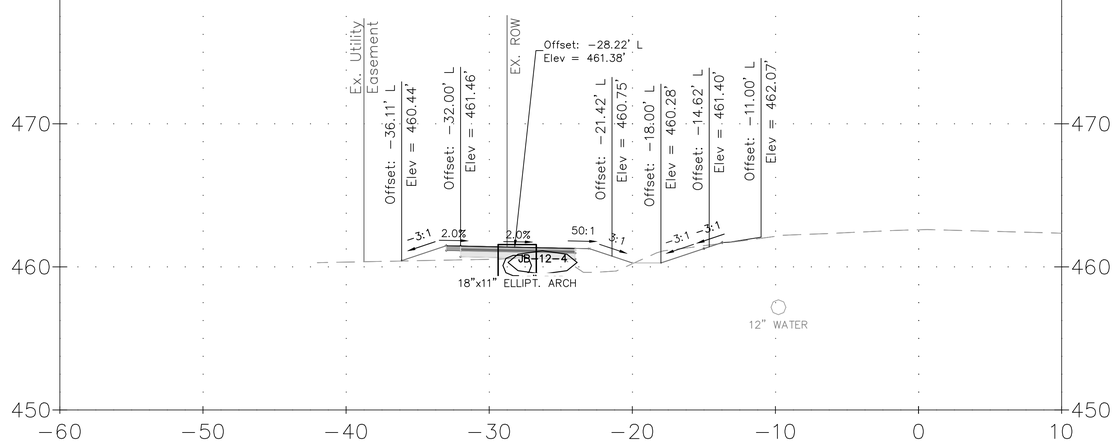
Project No. : 501902

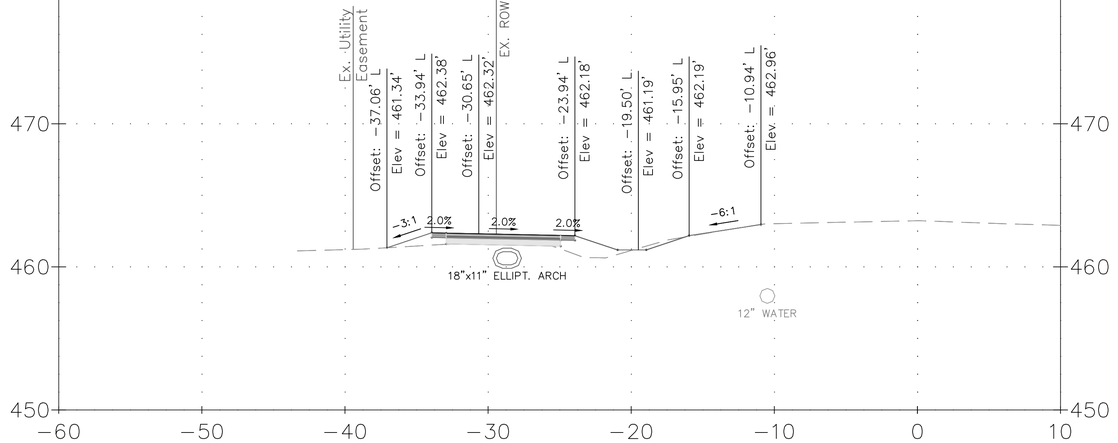
SHEET 106 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-19 PLOTTED: Tuesday, November 24, 2020 - 1:09pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-20 CROSS SECTION

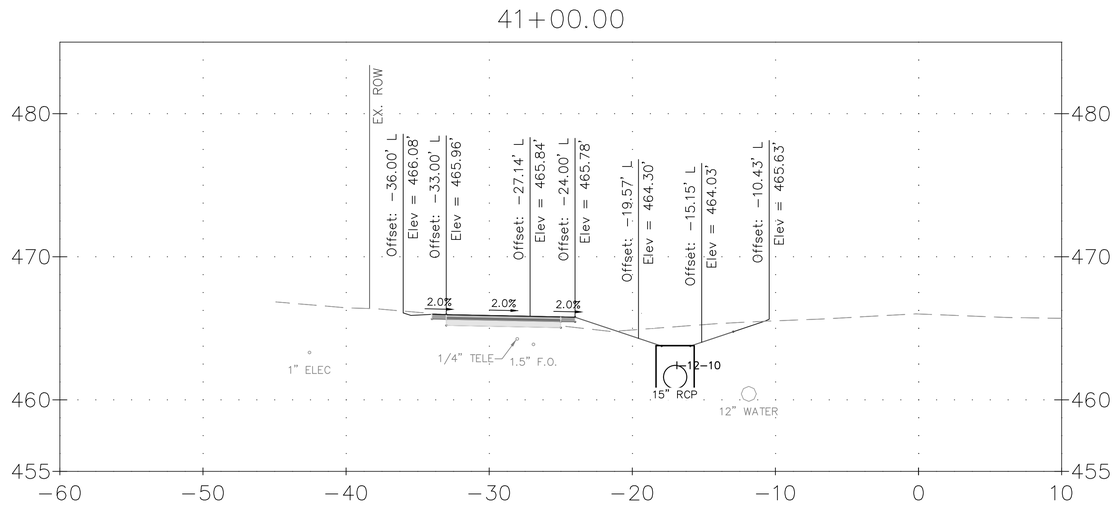
GOOD HOPE ROAD SHARED USE PATH

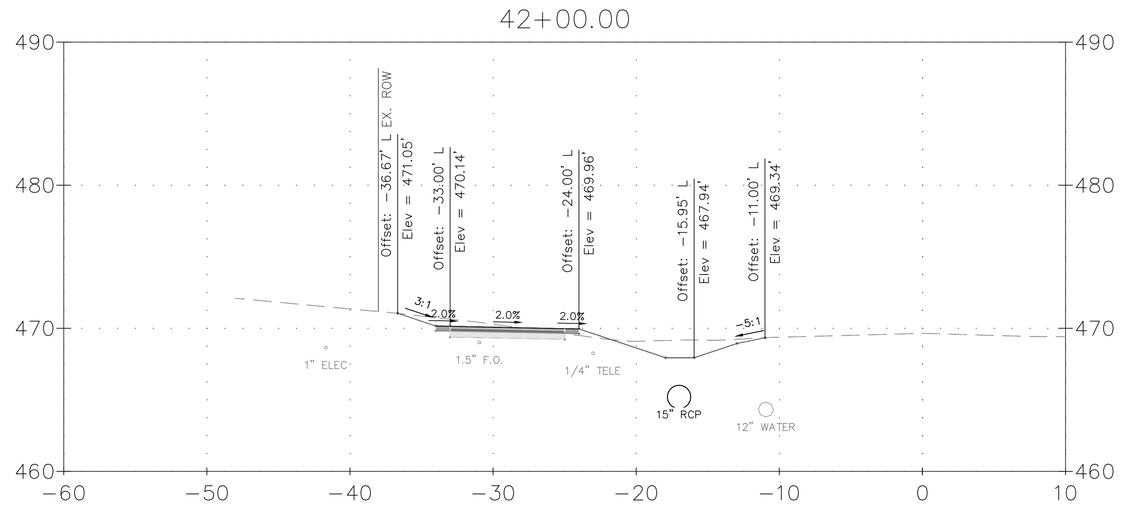
0 5' 10'

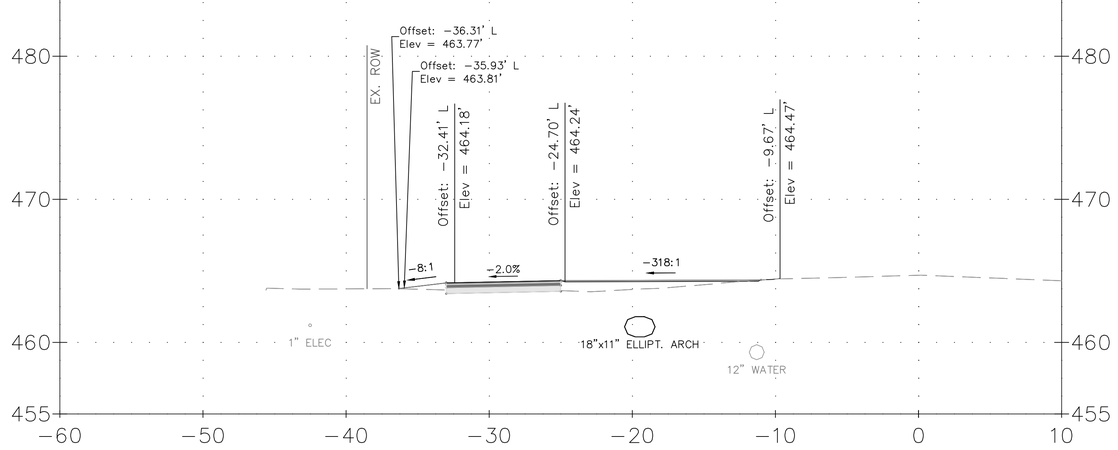
SCALE: 1"=5' DATE: NOVEMBER 2020

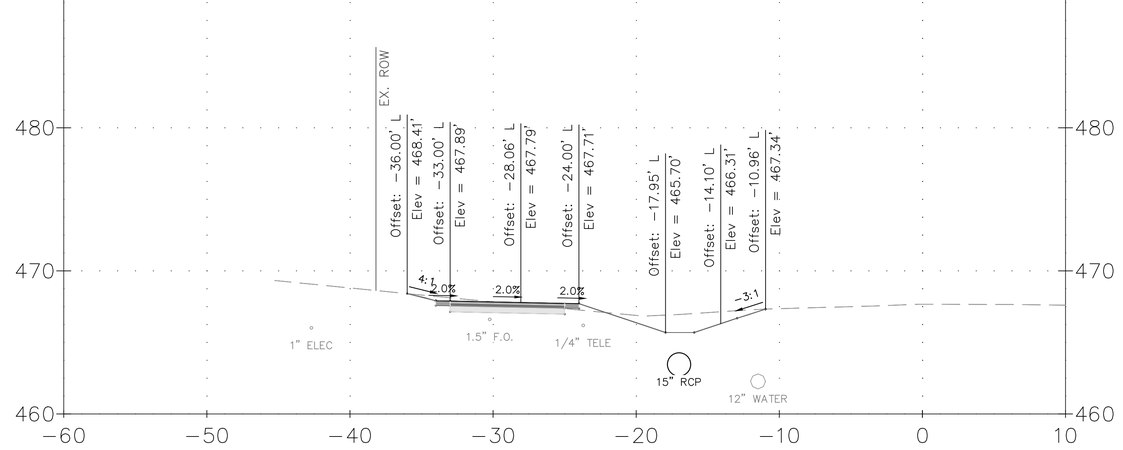
Project No. : 501902 SHEET 107 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-20 PLOTTED: Tuesday, November 24, 2020 - 1:09pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-21 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

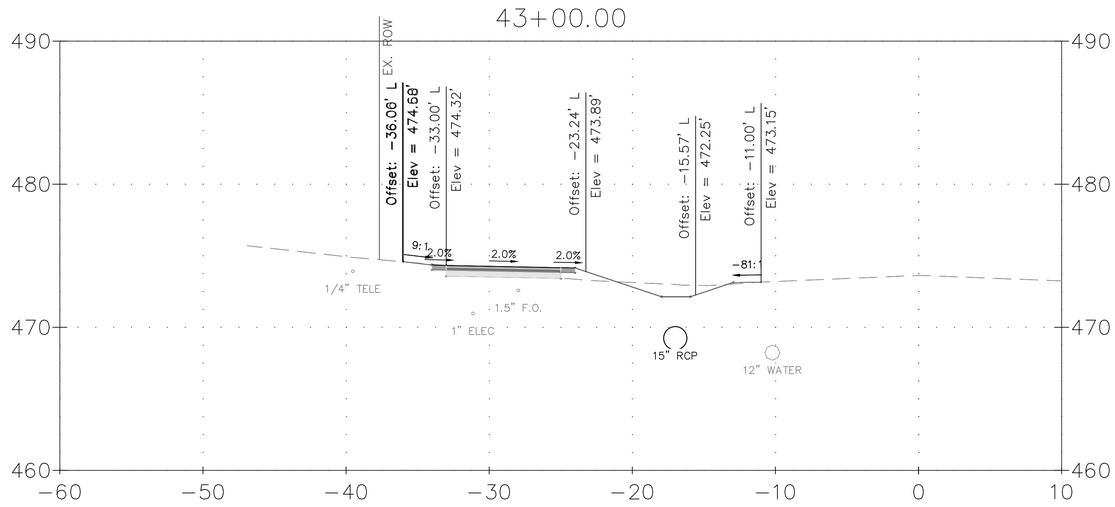
SCALE: 1"=5'

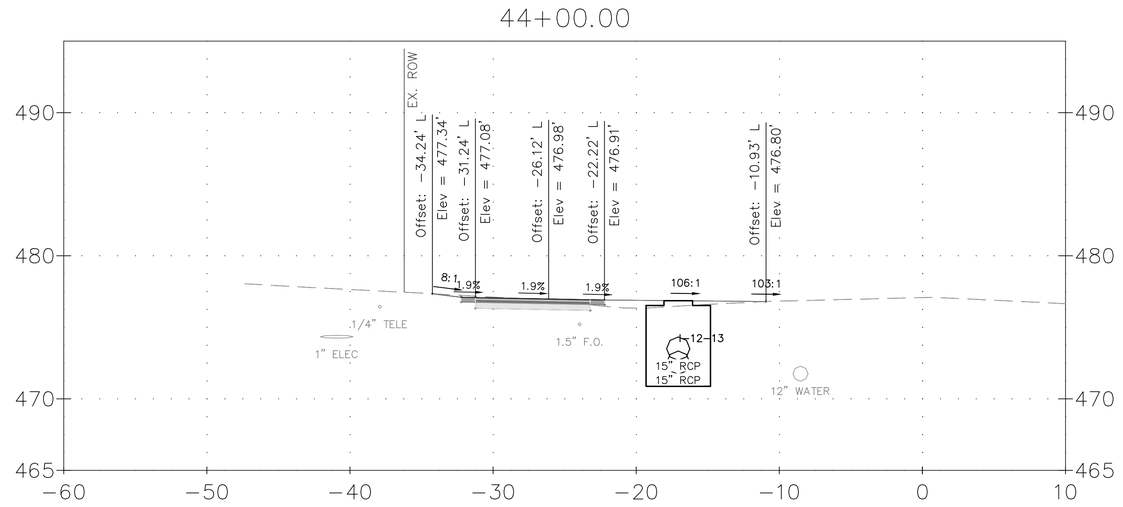
DATE: NOVEMBER 2020

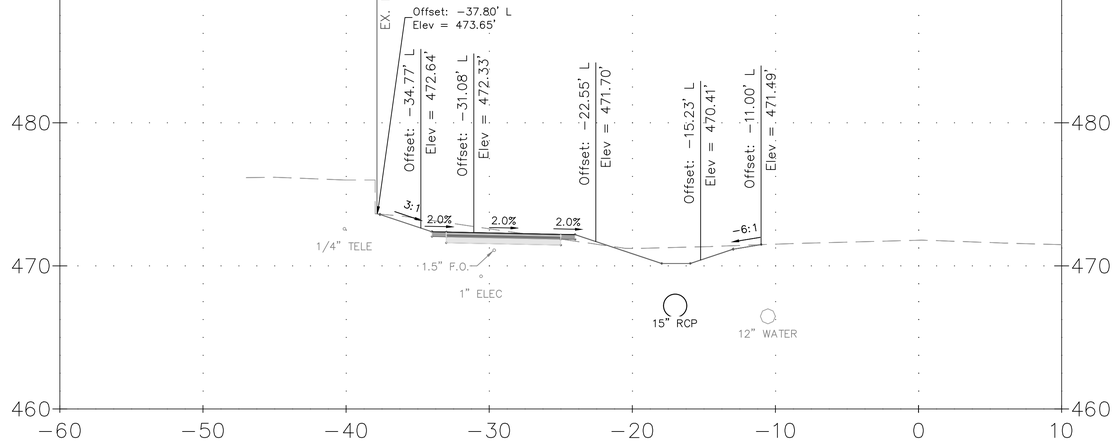
Project No. : 501902

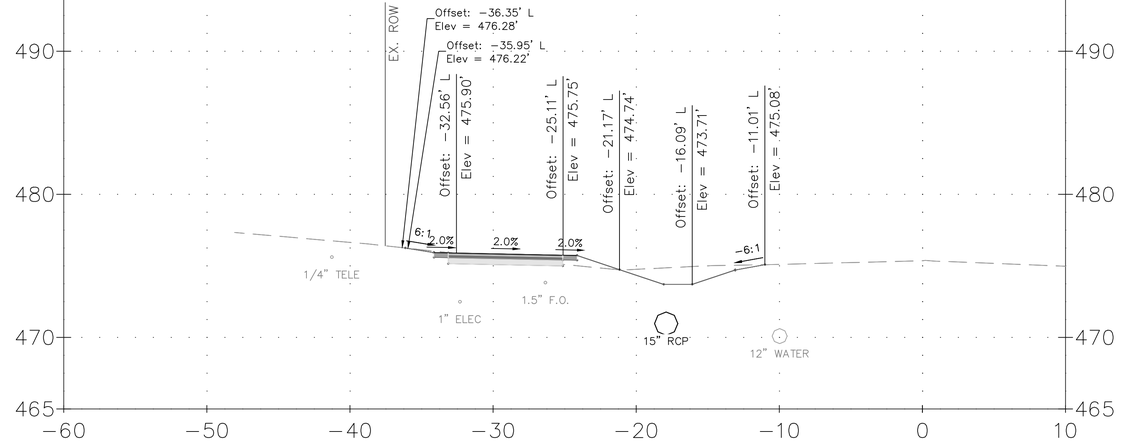
SHEET 108 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-21 PLOTTED: Tuesday, November 24, 2020 - 1:10pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-22 CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

SCALE: 1"=5'

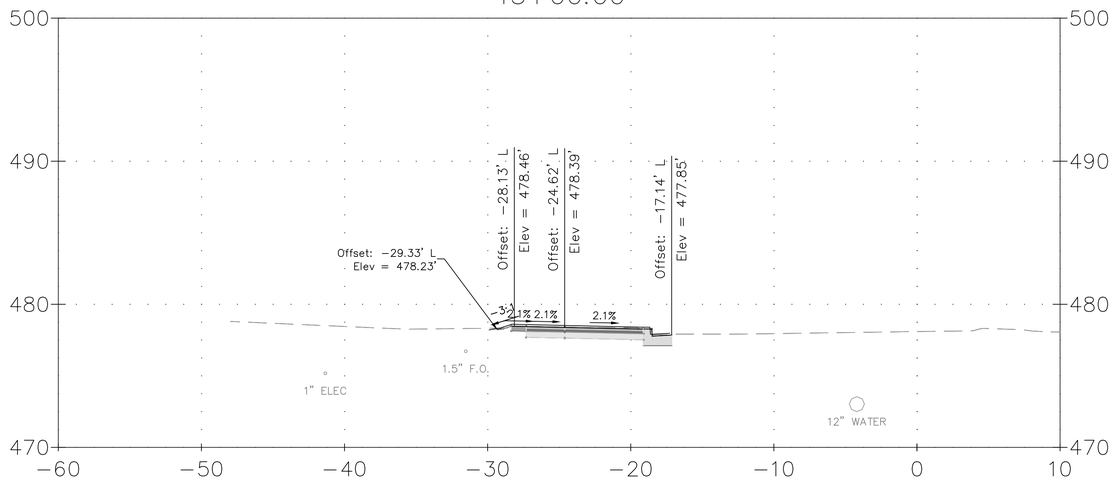
DATE: NOVEMBER 2020

Project No. : 501902

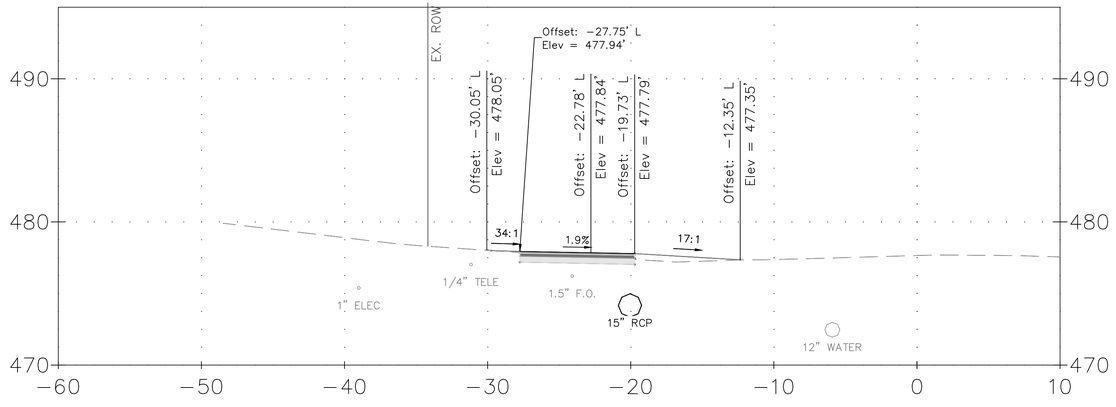
SHEET 109 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidea\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-22 PLOTTED: Tuesday, November 24, 2020 - 1:10pm USER: mduckett

45+00.00



44+50.00



CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−23 CROSS SECTION

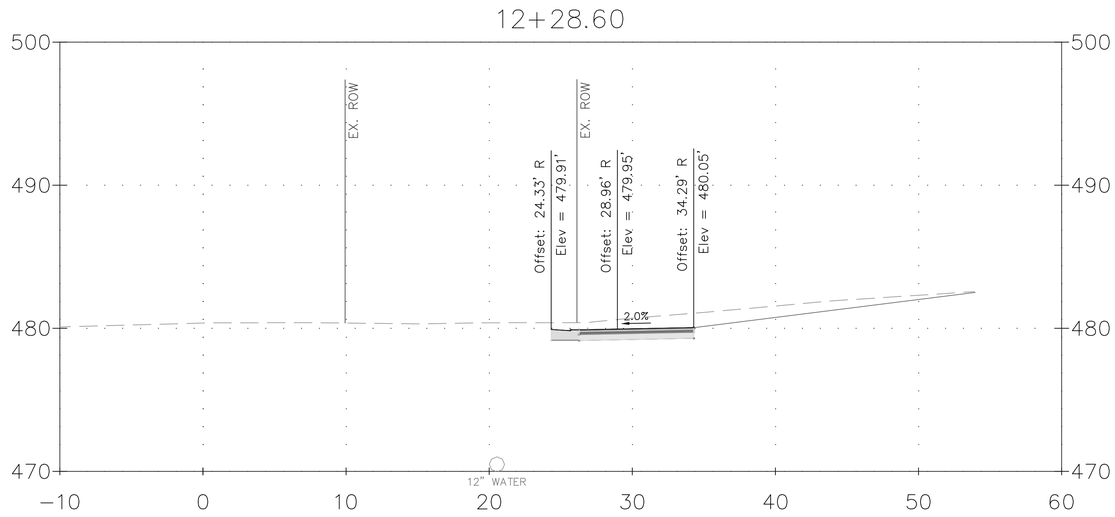
GOOD HOPE ROAD SHARED USE PATH

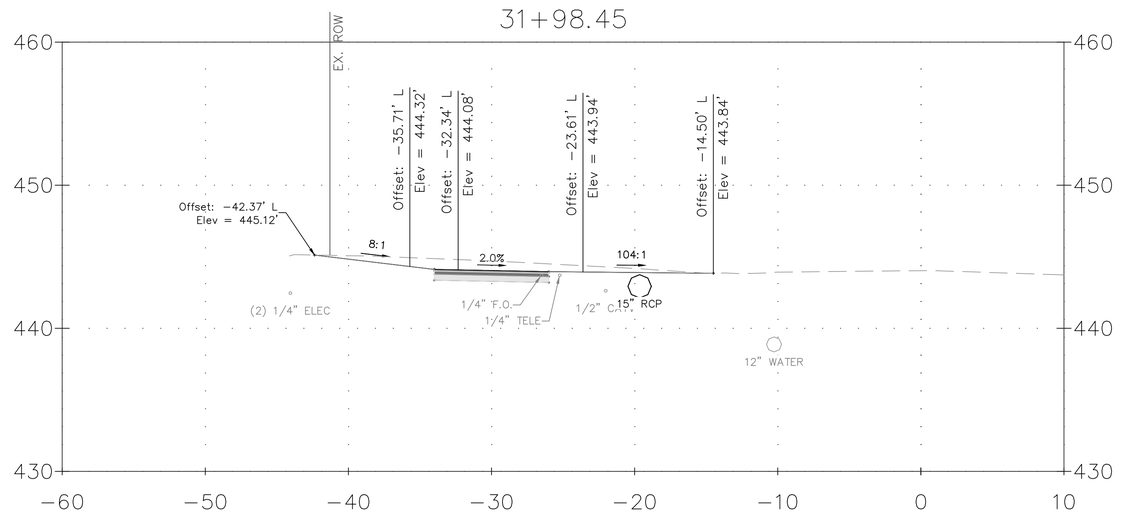
0 5' 10'

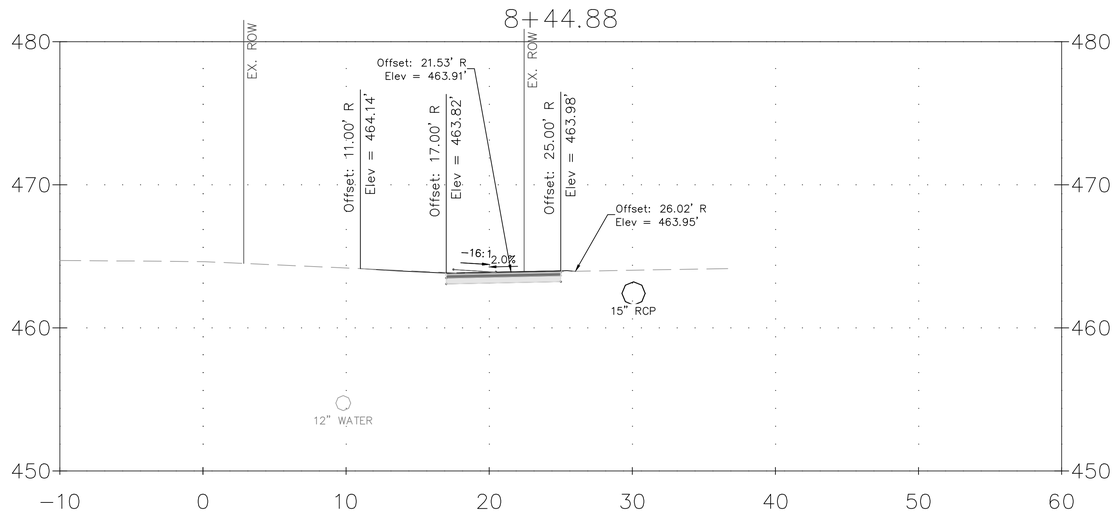
SCALE: 1"=5' DATE: NOVEMBER 2020

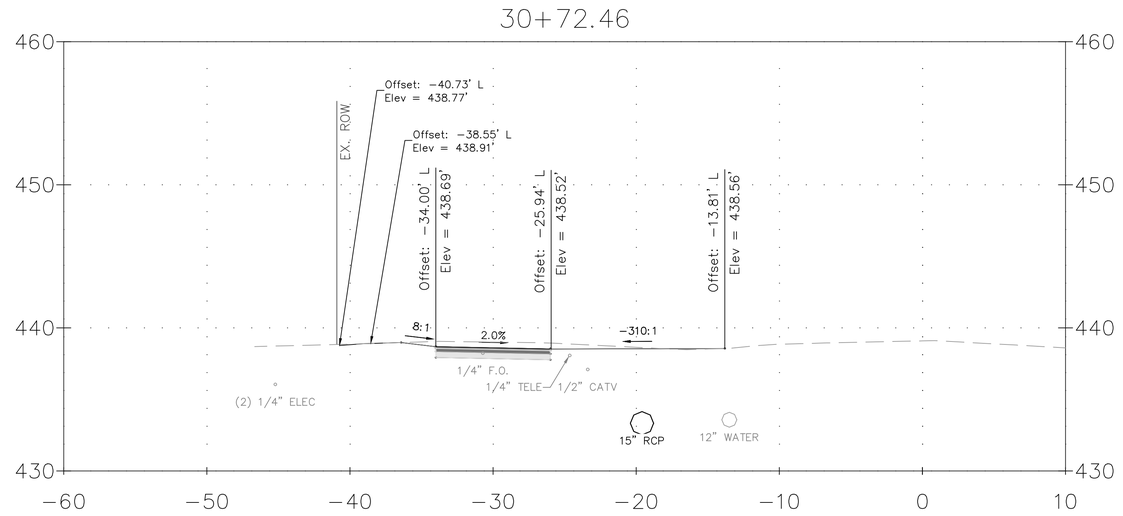
Project No. : 501902 SHEET 110 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-23 PLOTTED: Tuesday, November 24, 2020 - 1:10pm USER: mduckett









CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-24 DRIVEWAY CROSS SECTION

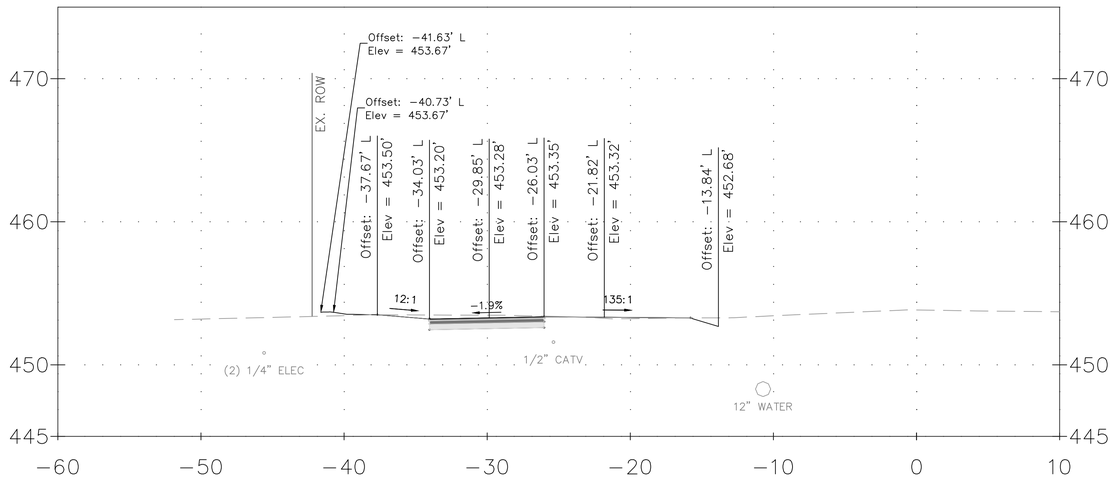
GOOD HOPE ROAD SHARED USE PATH

SCALE: 1"=5' DATE: NOVEMBER 2020

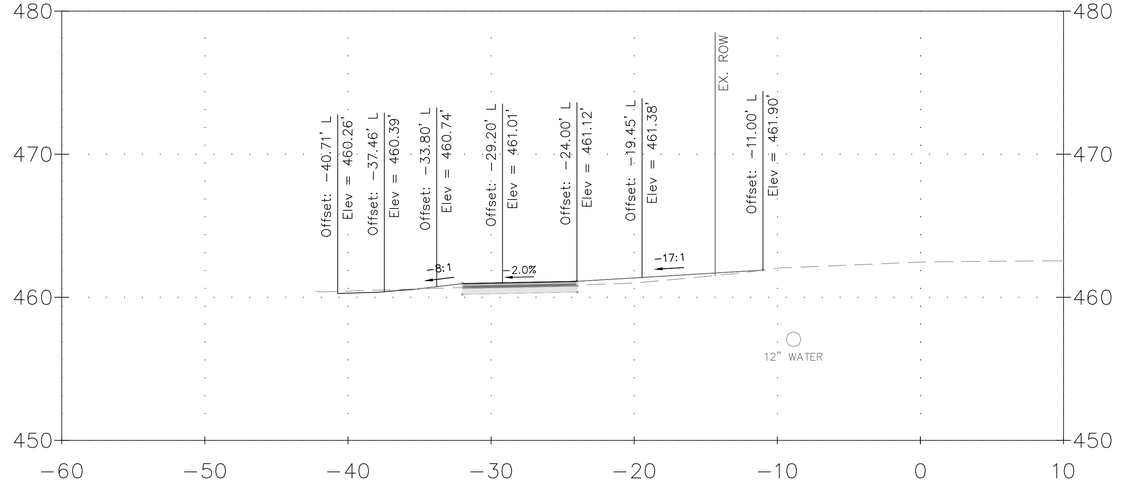
Project No. : 501902 SHEET 111 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-24 PLOTTED: Tuesday, November 24, 2020 - 1:10pm USER: mduckett

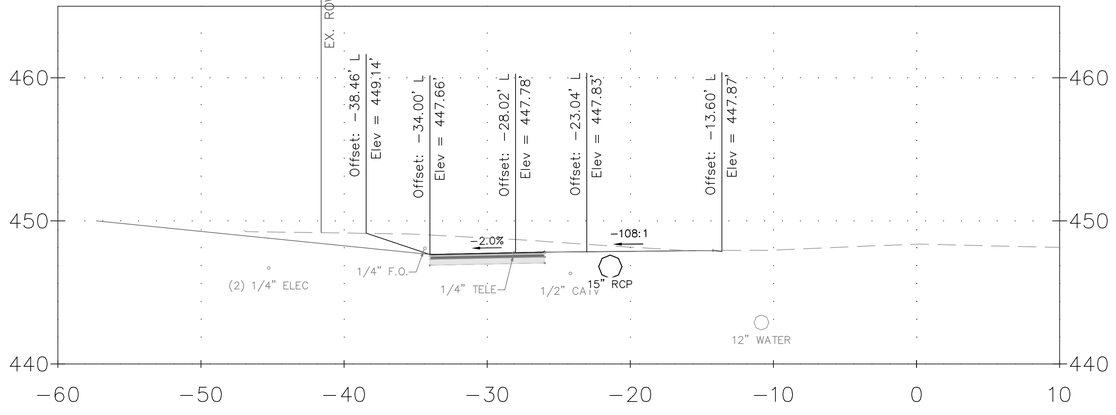
33+85.48



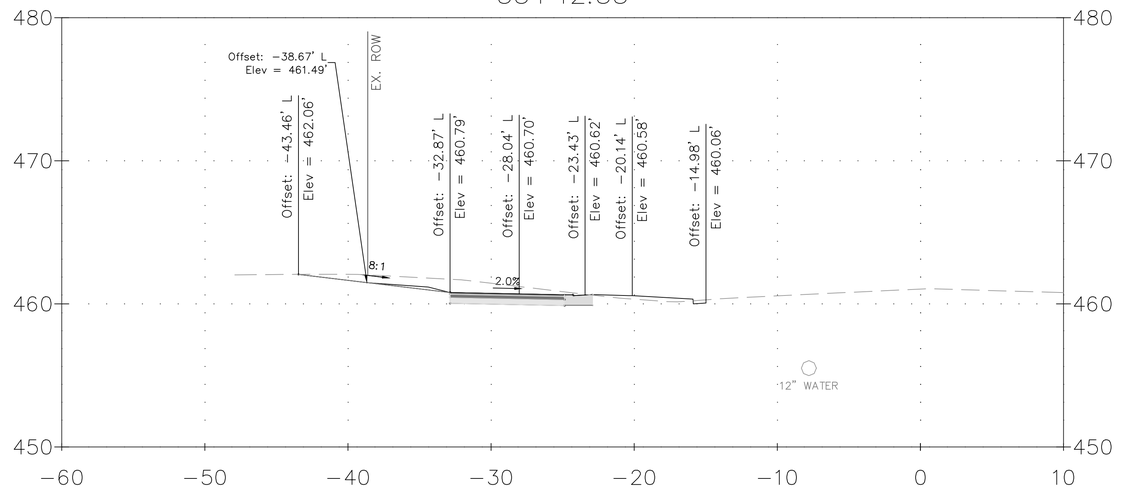
37+03.61



32+88.67



35+42.35



CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−25 DRIVEWAY CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

SCALE: 1"=5'

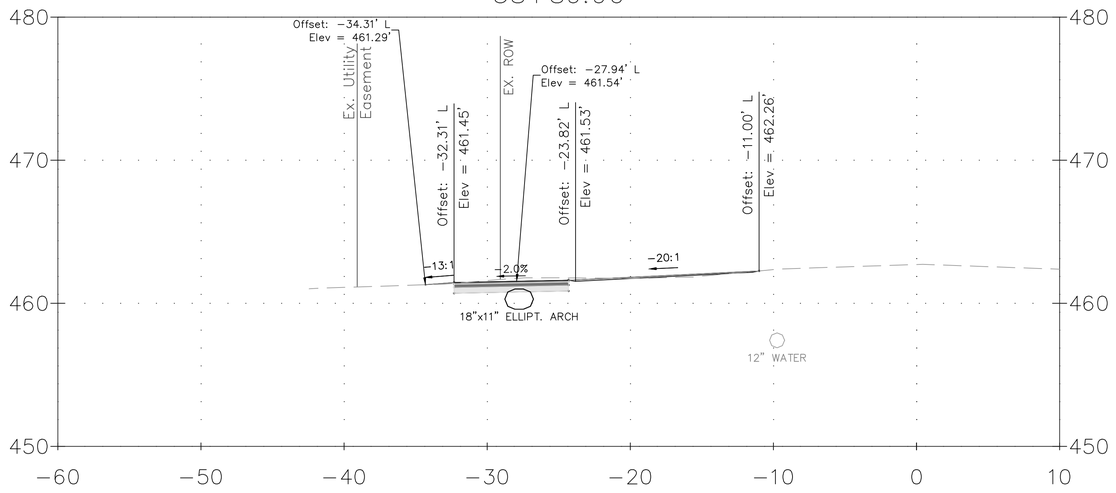
DATE: NOVEMBER 2020

Project No. : 501902

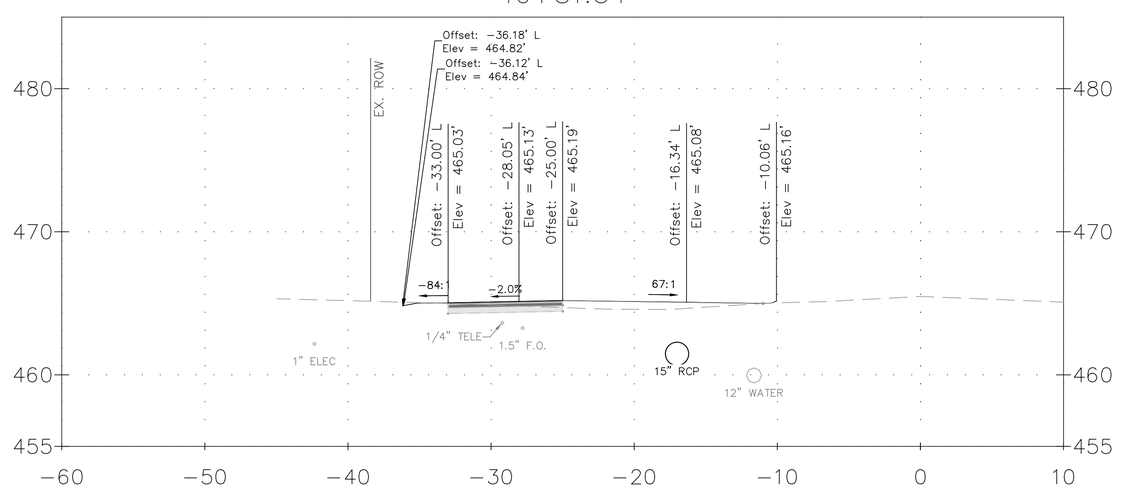
SHEET 112 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-25 PLOTTED: Tuesday, November 24, 2020 - 1:11pm USER: mduckett

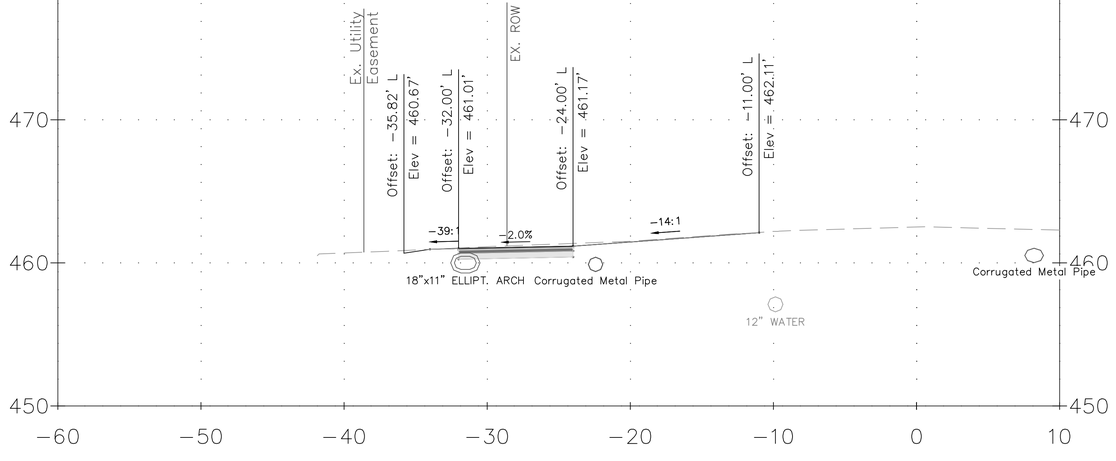
38+89.90



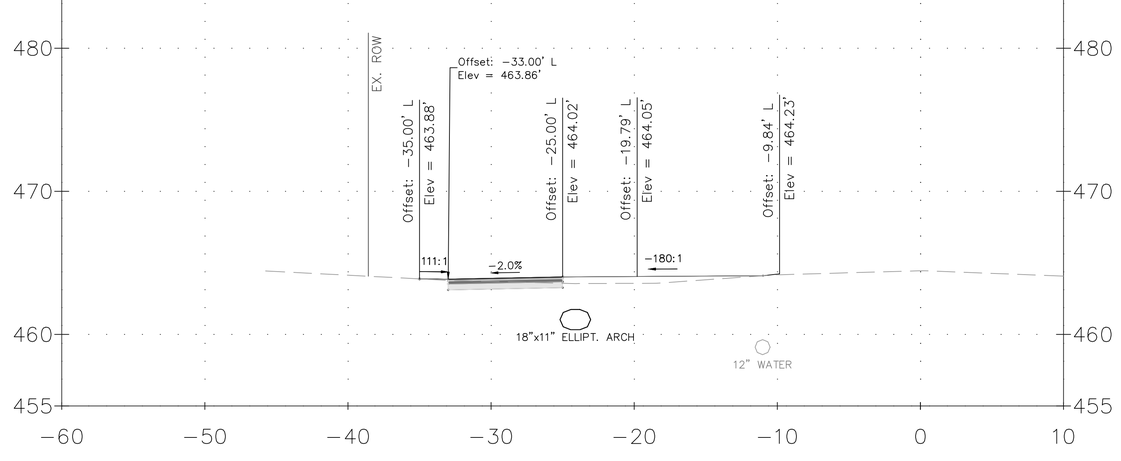
40+81.54



38+33.34



40+37.70



CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS-26 DRIVEWAY CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

SCALE: 1"=5'

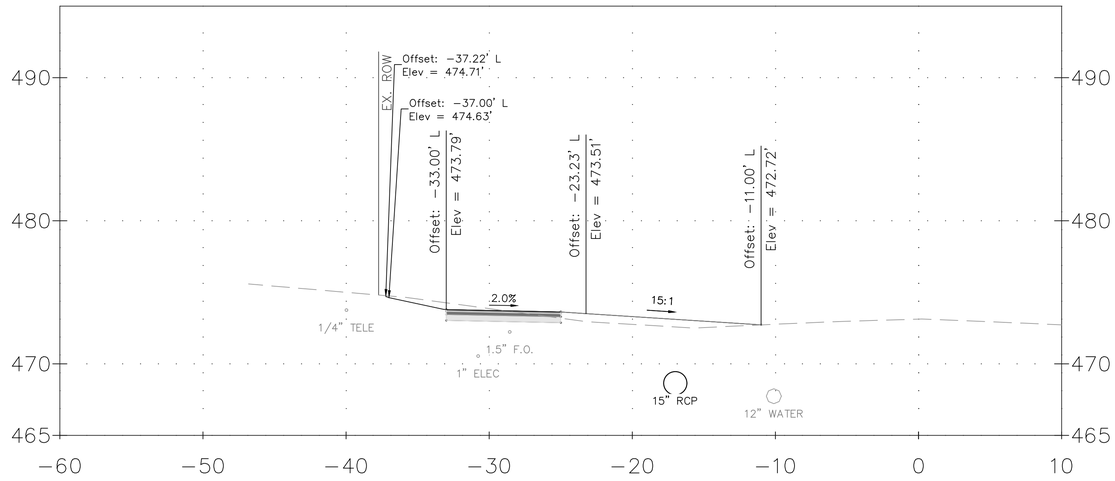
DATE: NOVEMBER 2020

Project No. : 501902

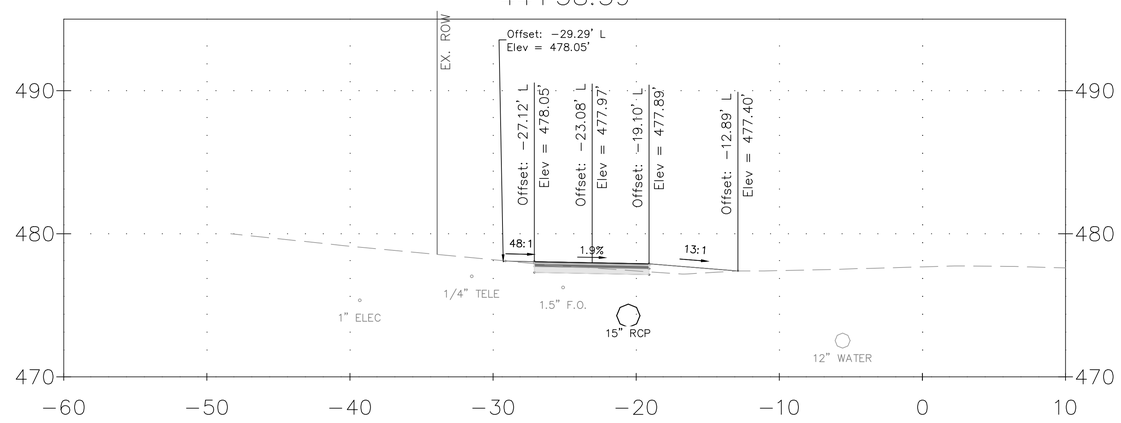
SHEET 113 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS-26 PLOTTED: Tuesday, November 24, 2020 - 1:11pm USER: mduckett

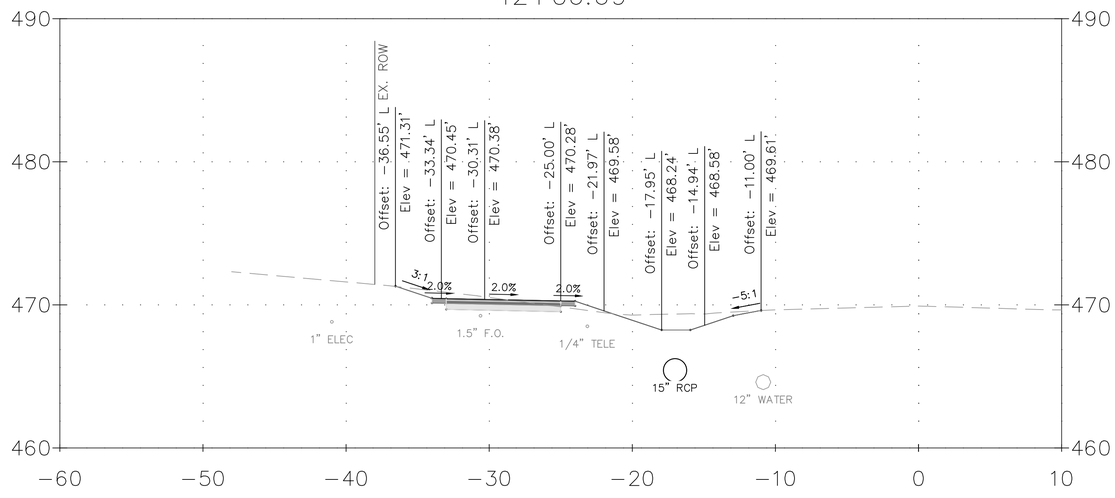
42+85.26



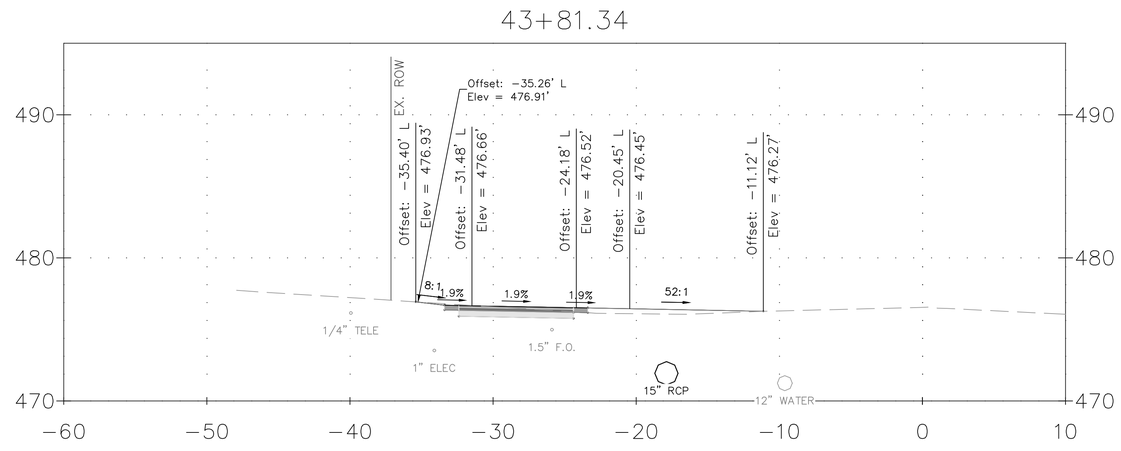
44+58.39



42+06.69



43+81.34



CROSS SECTION NOTES:
1. UTILITY LINES SHOWN HEREON WERE FIELD DESIGNATED AND LOCATED BY JMT.
2. ELEVATIONS OF UTILITY LINES ARE APPROXIMATE BASED ON TEST PIT INFORMATION AND COORDINATION WITH UTILITY COMPANIES.
3. UTILITY CONFLICTS SHOWN WILL REQUIRE COORDINATION WITH AFFECTED UTILITY COMPANIES. RELOCATIONS TO BE COMPLETED BY OTHERS AS NECESSARY.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADS Drawn by: MED Checked by: JJR

XS−27 DRIVEWAY CROSS SECTION

GOOD HOPE ROAD SHARED USE PATH

0 5' 10'

SCALE: 1"=5'

DATE: NOVEMBER 2020

Project No. : 501902

SHEET 114 of 114

FILE NAME: Q:\2013\130605_007_Good_Hope_Road_Sidew\CADD\pHC_CrossSections.dwg LAYOUT NAME: XS−27 PLOTTED: Tuesday, November 24, 2020 − 1:11pm USER: mduckett