## 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. TIM CUPPLES, P.E. CHIEF, DIVISION OF TRANSPORTATION ENGINEERING SEDIMENT CONTROL/STORMWATER MANAGEMENT CERTIFICATIONS CERTIFICATIONS ON THIS SHEET MUST BE ON EVERY SEDIMENT CONTROL/STORMWATER MANAGEMENT PLAN. OWNER'S/DEVELOPER'S CERTIFICATION I/We hereby certify that all clearing, grading, construction, and or development will be done pursuant to this plan and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of Natural Resources approved training program for the control of sediment and erosion before beginning the project. TIM CUPPLES, P.E. CHIEF, DIVISION OF TRANSPORTATION ENGINEERING Printed Name and Title DESIGN CERTIFICATION I hereby certify that this plan has been prepared in accordance with the "1994 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 Design Criteria" dated August 1988. Design Engineer Signature Printed Name Registration Number

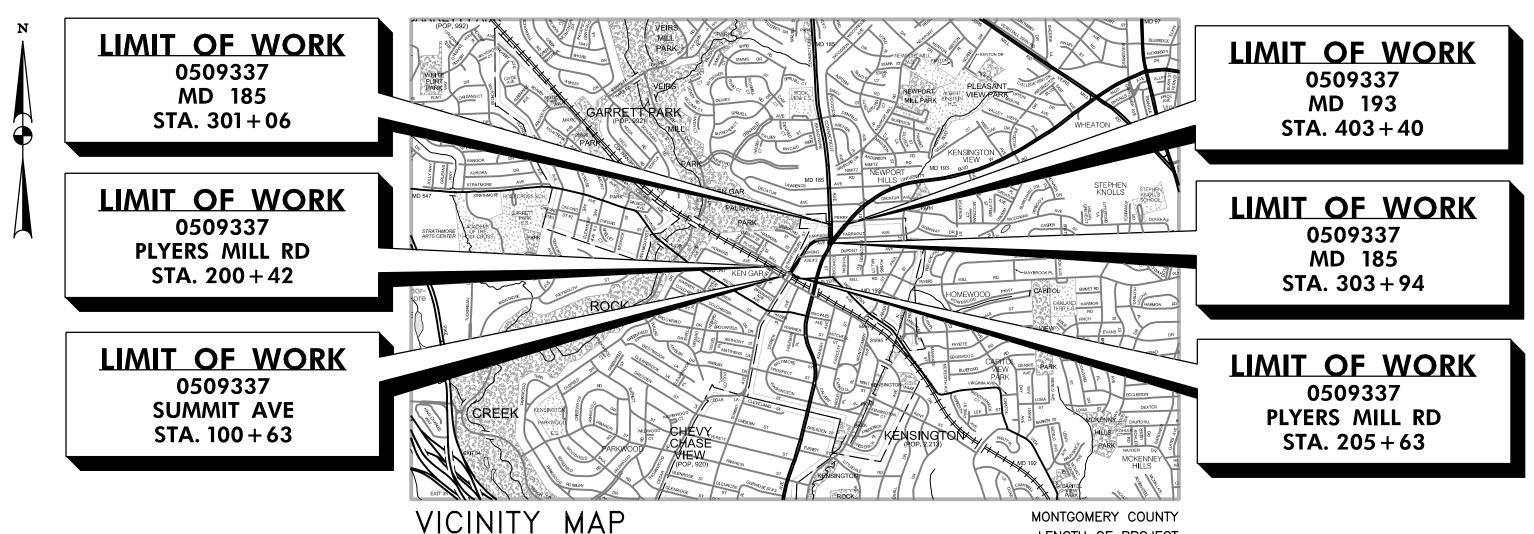
#### **CERTIFICATION OF THE QUANTITIES**

I hereby certify that the estimated total amount of excavation and fill as shown on these plans has been computed to  $\underline{\phantom{0}6,500}$  cubic yards of excavation,  $\underline{\phantom{0}3,200}$  cubic yards of fill and the total area to be disturbed as shown on these plans has been determined to be 184,730 square feet.

Signature JASON M. ALWINE Printed Name and Title

# MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING SUMMIT AVENUE EXTENSION PHASE II FACILITY PLANNING STUDY

C. I. P. PROJECT NO. 0509337



# INDEX OF SHEETS

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2	GN-01	GENERAL NOTES AND ABBREVIATIONS	2
3-4	TS-01 TO TS-03	TYPICAL SECTIONS	N/A
5	PD-01	PAVEMENT DETAILS	N/A
6	GS-01	GEOMETRY PLAN	N/A
7-9	ID-01 TO ID-03	INTERSECTION DETAIL PLANS	N/A
10-12	PS-01 TO PS-03	ROADWAY PLANS	N/A
13-14	HP-01 TO HP-02	ROADWAY PROFILE	N/A
15	SW-01	STORMWATER MANAGEMENT PLAN - MICRO-BIORETENTION 1-1 AND MICRO-BIORETENTION 1-2	3
16	SW-02	STORMWATER MANAGEMENT PLAN - MICRO-BIORETENTION 2-1 AND MICRO-BIORETENTION 2-2	4
17	SW-03	STORMWATER MANAGEMENT PLAN - MICRO-BIORETENTION 3-1, MICRO-BIORETENTION 3-2 AND MICRO-BIORETENTION 3-3	5
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22	MT-00	MAINTENANCE OF TRAFFIC PLAN GENERAL NOTES & SEQUENCE	N/A
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28-30	SN-01 TO SN-03	SIGNING AND MARKING PLAN SHEETS	N/A
31	LT-00	LIGHTING GENERAL NOTES AND DETAILS	N/A
32-34	LT-01 TO LT-03	LIGHTING PLAN SHEETS	N/A

#### MISS UTILITY

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

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

# 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 RESPONSIBLITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

	NOT		EVOID ATION	
REQ'D	REQ'D	PERMIT NO.	EXPIRATION DATE	WORK RESTRICTION DATES
	Х			
	Х			
	Х			
	Х			
	Х			
Х			APPROVAL DATE	
Х				DATE FILED
	Х			
	Х			N/A
Χ				N/A
· · · · · · · · · · · · · · · ·	X	X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X APPROVAL DATE X X X X X X X X X X X X X X X X X X X

\* A COPY OF THE APPROVED ROADSIDE TREE PROTECTION PLAN MUST BE DELIVERED TO THE SEDIMENT CONTROL INSPECTOR AT THE PRECONSTRUCTION MEEETING.

PI SUBMISSION SEPTEMBER, 2020

DATUM: NAD 83/91 Horizontal NAVD 88 Vertical 2000 0 2000 OWNER/PERMIT APPLICANT: MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION 101 MONROE STREET ROCKVILLE, MD 20850 PHONE NUMBER: 240-777-7296 CONTACT: ROBERT GONZALES

SCALE: 1"=2000

LENGTH OF PROJECT SUMMIT AVE = 0.23 MILES MD 185 = 0.06 MILES PLYERS MILL RD = 0.10 MILES MD 193 = 0.06 MILES

			DESIGN D	ESIGNATION				
ROADWAY	SUMMIT	AVENUE	MD 185 (CONNE	ECTICUT AVENUE)	MD 193 (UNIVER	SITY BOULEVARD)	PLYERS I	MILL ROAD
CONTROLS / YEARS	2018	2040	2018	2040	2018	2040	2018	2040
AVERAGE DAILY TRAFFIC (A.D.T.)	-	8,000	38,600	44,400	23,600	28,300	8,000	7,200
DESIGN HOURLY VOLUME (D.H.V.)	_	9%	8%	8%	8%	8%	9%	9%
DIRECTIONAL DISTRIBUTION	-	53%	82%	80%	64%	63%	68%	66%
% TRUCKS – A.D.T.	-	4%	3%	3%	3%	3%	5%	5%
% TRUCKS – D.H.V.	_	4%	3%	3%	2%	2%	3%	3%
DESIGN SPEED M. P. H.	25 N	Л.Р.Н.	30 N	M.P.H.	35 N	И.Р.Н.	25 1	M.P.H.
MASTER PLAN CLASSIFICATION	BUSINESS DIS	STRICT STREET	PRINCIPAL	. ARTERIAL	ARTE	FRIAL	MINOR ,	ARTERIAL
MAXIMUM ALLOWABLE DEGREE OF CURVE								
MAXIMUM ALLOWABLE GRADIENT								
ANTICIPATED POSTED SPEED	25 N	Л.Р.Н.	30 M	M.P.H.	35 N	Л.Р.Н.	25 1	M.P.H.
DESIGN CRITERIA		LICY ON GEOMETRIC WAY AND STREETS		LICY ON GEOMETRIC VAY AND STREETS	AASHTO 2018: A POL DESIGN OF HIGHW			ICY ON GEOMETRIC VAY AND STREETS
DENSITY (U,S,R)	UR	BAN	UR	BAN	UR	BAN	UF	BAN

 ·		<u>.</u>	
MONTGOMERY COUNT PERMITTING SERVICES	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.		
STORMWATER MANAGEMENT: ESD TO THE MEP	SEDIMENT CONTRO REQUIREM		ADMINISTRATIVE REQUIREMENTS:
REVIEWED DATE  APPROVED DATE	REVIEWED	DATE	REVIEWED DATE  XXXXXX  SEDIMENT CONTROL PERMIT NO.
286027 SM FILE #	APPROVED	DATE	MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
	I DOLO IVOI INCLIEVE IIIL	GHT TO DIVERT OR CONC DESIGN ENGINEER OR C	TED COMPLIANCE WITH MINIMUM ENVIRONMENTAL CENTRATE RUNOFF ONTO ANY ADJACENT PROPERTY OTHER RESPONSIBLE PERSON OF PROFESSIONAL UPHILL OR DOWNHILL PROPERTIES.

MONTGOMERY COUNTY SUMMIT AVENUE EXTENSION: DEPARTMENT OF TRANSPORTATION SURVEY BOOK NUMBERS DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND RECOMMENDED FOR APPROVAL Chief, Design Section Date APPROVED Chief, Division of Capital Development 

PHASE II FACILITY PLANNING STUDY

TITLE SHEET

DATE: SEPTEMBER 2020 TI-O1SCALE : NO SCALE DPS SC/SWM PERMIT SHEET NO. \_\_\_\_01 of \_\_\_09 \_\_\_\_01 of \_\_\_34

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.* \_\_\_\_024819

EXPIRATION DATE: 03/14/2022

PROFESSIONAL CERTIFICATION:

R-O-W PLAT NUMBERS

C.I.P. Project No. <u>: 0509337</u>

# CONVENTIONAL SYMBOLS EXISTING CONSTRUCTION

PROPERTY LINE	
EDGE OF ROADWAY PAVING	
EXISTING GROUND CONTOURS (10')	
EXISTING GROUND CONTOURS (2')	54
FENCE	xxxxxxx
EDGE OF WOODED AREAS	
TREE (FREE STANDING)	$\odot$
SIGN	
LIGHT POLE	
MAILBOX	M.B.
UTILITY POLE	
STORM DRAIN	=======================================
WATER LINE	ww
ABANDON WATER LINE	w-////-w
SANITARY	SS
GAS	——————————————————————————————————————
ELECTRICAL HAND BOX - SIGNALS	H.B. ■
ELECTRIC (OVERHEAD)	POLE # POLE #
FLOW LINE	<b>──</b> ●
EXISTING ROADWAY	
BASE LINE OR SURVEY LINE	31 32
FIRE HYDRANT	F.H.
WETLAND BOUNDARY	• • • • • • • • • • •
EXISTING PIPE / CULVERT	
EXISTING DROP INLET	
WETLAND	
WETLAND BUFFER	
WATERS OF THE U.S	—— WUS —————————————————————————————————
BUSH / TREE	
CONIFEROUS TREE	AND THE PROPERTY OF THE PROPER
HISTORIC BOUNDARY	——— Н ———— Н ————

# CONVENTIONAL SYMBOLS PROPOSED CONSTRUCTION

	101 +50 102
BE CONSTRUCTION	
CURB & GUTTER	
TRAVERSE POINT	$\triangle$
FULL DEPTH CONSTRUCTION	
PAVEMENT WEDGE AND LEVELING	
MILL AND RESURFACE	
PAVEMENT REMOVAL	
CONCRETE PAVEMENT	
HMA SHARED USE PATH	
APPROXIMATE LIMITS OF CUT AND/OR FILL	⊢
GRADING ELEVATION CONTOURS (10')	50
GRADING ELEVATION CONTOURS (2')	54
LIMIT OF DISTURBANCE	LOD
STORM DRAIN PIPE	
DITCH FLOW LINE	

## GENERAL NOTES

- 1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE JULY 2020 MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS INCLUDING ALL ERRATA AND ADDENDA THERETO. AS WELL AS ALL RELEVANT MONTGOMERY COUNTY AND WASHINGTON SUBURBAN SANITARY COMMISSION STANDARD SPECIFICATIONS.
- 2. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
- 3. 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.
- 4. ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
- 5. 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.
- 6. 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.
- 7. CLEARING IS TO BE LIMITED TO LIMIT OF DISTURBANCE (LOD) AS SHOWN ON THE PLANS.
- 8. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
- 9. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED UNLESS OTHERWISE NOTED.
- 10. THE CONTRACTOR SHALL CONSTRUCT ALL DRIVEWAY TIE-INS IN-KIND TO THE LIMIT SHOWN ON THE PLANS.

## SURVEY AND UTILITY INFORMATION

#### **SURVEY**

1. HORIZONTAL DATUM: MARYLAND STATE PLANE COORDINATE SYSTEM NAD 83/91

VERTICAL DATUM: NAVD 1988
SURVEY UNIT: SURVEY FEET

2. DATE OF SURVEY: AUGUST 20

 DATE OF SURVEY: AUGUST 2019 SURVEY PERFORMED BY: MERCADO CON

MERCADO CONSULTANTS INC.

17830 NEW HAMPSHIRE AVE. SUITE 200
ASHTON MD 20861

ASHTON, MD 20861 PHONE: 240-722-6334

3. ALL DIMENSIONS, STATIONS, AND ELEVATIONS ARE IN SURVEY FEET UNLESS OTHERWISE SHOWN.

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

THE CONTRACTOR SHALL BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCY BETWEEN THE

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

4. A BOUNDARY SURVEY WAS PERFORMED IN 2019 TO ESTABLISH RIGHT-OF-WAY LINES, PROPERTY LINES, OWNERS, AND ADDRESSES. PLEASE REFER TO THE APPROPRIATE RIGHT-OF-WAY PLATS.

#### UTILITIES

1. DATE OF INVESTIGATION: UTILITY INVESTIGATION PERFORMED BY: FEBRUARY 2020

T2 UTILITY ENGINEERS 5215 COLLEY AVE NORFOLK, VA 23508 PHONE: 757-227-3882

- 2. THE CONTRACTOR SHALL NOTIFY MISS UTILITY (CALL 811 OR 800-257-7777) 48 HOURS BUT NOT MORE THAN 10 DAYS PRIOR TO ANY EXCAVATION WORK.
- 3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES PRIOR TO BEGINNING EXCAVATION.
- 4. THE FOLLOWING UTILITY COMPANIES SHALL ALSO BE SPECIFICALLY NOTIFIED SIX WEEKS PRIOR TO THE BEGINNING OF CONSTRUCTION:

WASHINGTON GAS, ANDREW C. KING, 703-750-4793 COMCAST, DARRYL RENNER, 301-625-3500 WASHINGTON SUBURBAN SANITARY COMMISSION, JEFF LOHRMANN, 301-206-8744 VERIZON, CHIP LAMBERT, 301-282-7039 PEPCO, LONKO TUMA, 301-967-5357

- 5. NO MECHANIZED EQUIPMENT SHALL BE USED FOR EXCAVATION IN CLOSE PROXIMITY TO UTILITIES. CONTRACTOR SHALL HAND DIG ONLY.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORTING AND PROTECTING EXISTING UTILITIES AS DIRECTED BY THE ENGINEER AND UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES DUE TO NEGLIGENCE.

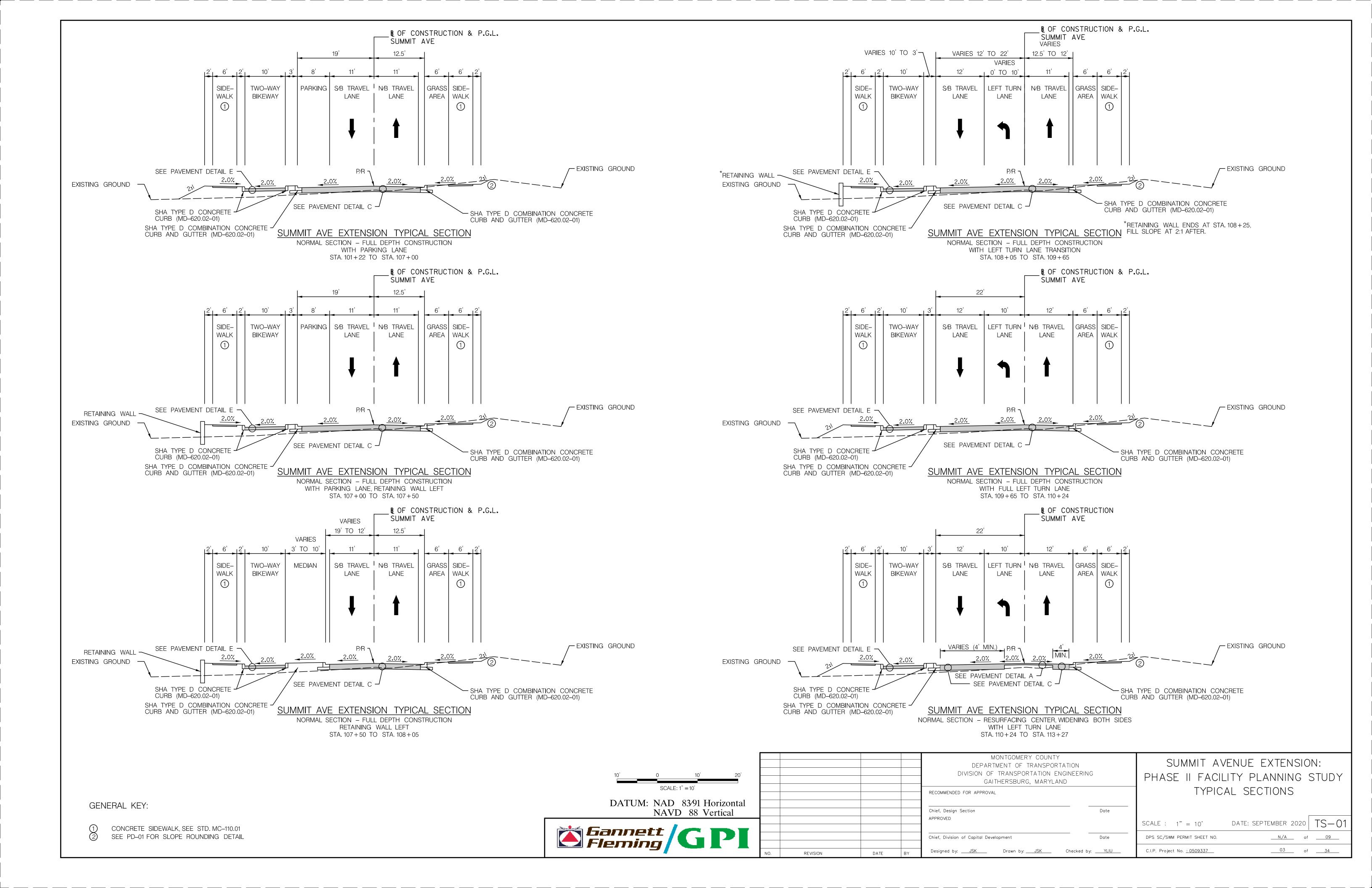
# **ABBREVIATIONS**

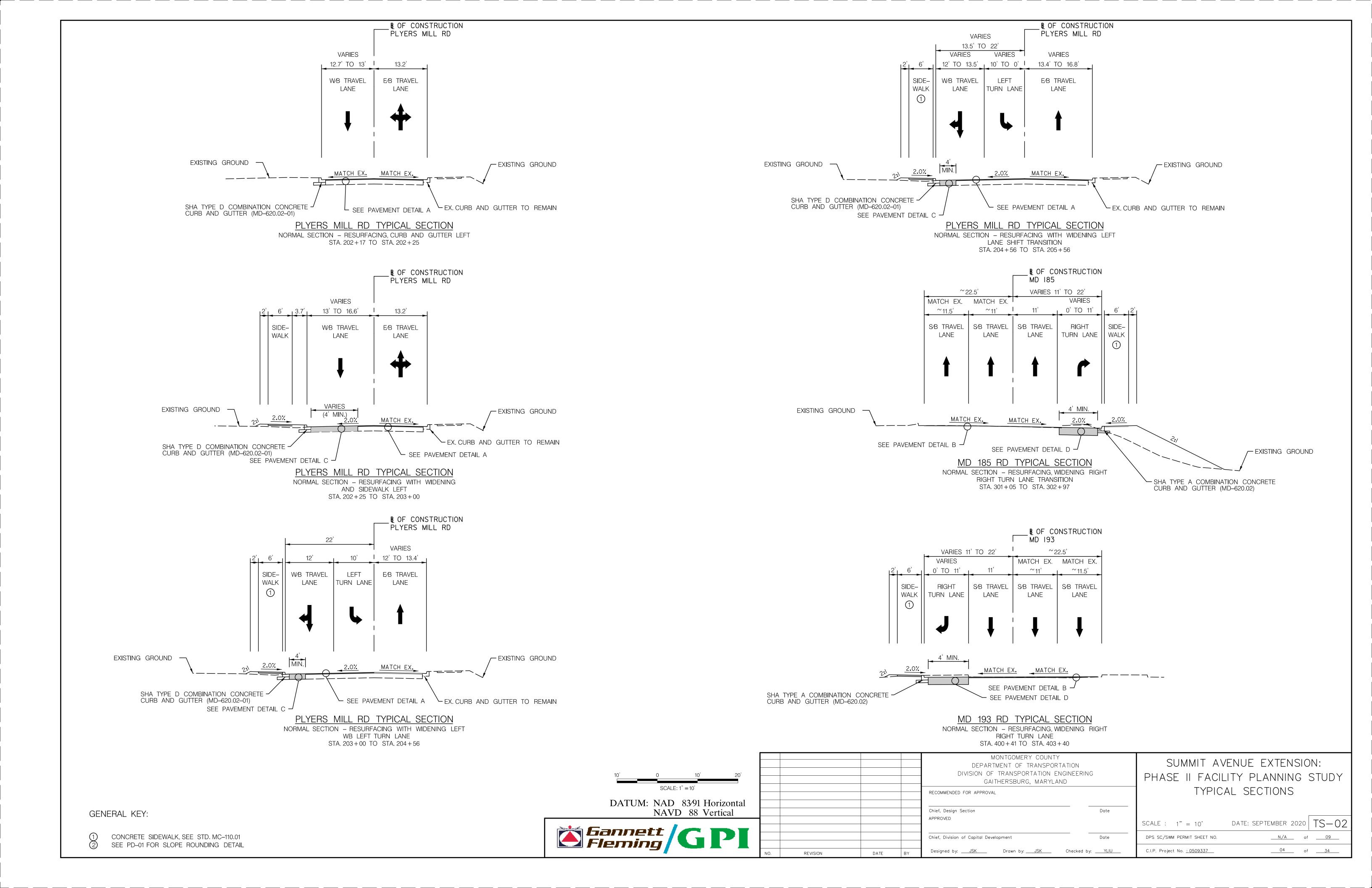
AASHTO	American Association of State Highway	IN	Inch	RW or R∕WRight of Way
	Transportation Officials	I.S.T	Inlet Sediment Trap	RCP Reinforced Concrete Pipe
ADT	Average Daily Traffic	INV	Invert	RCPP Reinforced Concrete Pressure
AHD	Ahead	J.B	Junction Box	R.Q.D Rock Quality Designation
APPROX.	Approximate	K	K Inlet	R.M Rootmat
Be or B∕L.	Baseline	L	_ Length	SSouth
BK	Back /Book	LF	. Linear Feet	SAN Sanitary Sewer
BIT	Bituminous	L.L	_ Liquid Limit	SBSoil Boring
B.C	Bituminous Concrete	LP	Low Point	S/BSouthbound
В.М	_Bench Mark	L.P	Light Pole	S.DStorm Drain
BOT	Bottom	LT	. Left	S.D.D Surface Drain Ditch
C.C	Center of Curve	MAC	_ Macadam	S/E Super Elevation
CAP	Corrugated Aluminum Pipe	MB	<sub>-</sub> Mail Box	SFSilt Fence
CAPA	Corrugated Aluminum Pipe Arch	M.C	. Moisture Content	SF Square Feet
CATV	Cable Television	M.D.D	Maximum Dry Content	SHT Sheet
C.B.R	California Bearing Ratio	MAX	Maximum	SPP Structural Steel Plate Pipe
$\mathbb{Q}$ or C/L	Centerline	MC	Montgomery County	SPPA Structural Steel Plate Pipe Arch
CL	Class	MCDOT	. Montgomery County Department	S.P.T Standard Penetration Testing
CLF	Chainlink Fence		of Transportation	SRP Steel Spiral Rib Pipe -
CMP	Corrugated Metal Pipe	MH	Manhole	Aluminized Type 2
C.O	Cleanout	MOD	<sub>-</sub> Modified	SRPA Steel Spiral Rib Pipe Arch -
COMB	Combination	MIN	_ Minimum	Aluminized Type 2
CONC	Concrete	M-NCPPC_	<sub>-</sub> Maryland – National Capital	SSD Stopping Sight Distance
CONSTR.	. <sub>-</sub> Construction		Park and Planning Commission	SSFSuper Silt Fence
COR	Corner	N	_ North	STD Standard
CORR	Correction	N/B	_ Northbound	STA Station
CPP-S	Corrugated Polyethylene Pipe - Type 'S'	NE	_ Northeast	SO Single Opening
CSP	Corrugated Steel Pipe - Aluminized Type 2	N.P	Non-Plastic	SYSquare Yards
CSPA	Corrugated Steel Pipe Arch -	O.C	On Center	SWM Stormwater Management
	Aluminized Type 2	OHE	Overhead Electric	TTangent
DC	Degree of Curve	O.M	Optimum Moisture	T Telephone
	Design Hourly Volume	PAV' T	Pavement	T.C Top of Cover
	Drop Inlet		_ Pavement Boring	T.G Top of Grate
	Diameter	PC	Point of Curvature	T or TL _ Traverse Line
	Double Opening	PCC	Point of Compound Curvature	T.MTop of Manhole
E			Point of Crown	TRAV Traverse
E	Electric	P/GE	Profile Grade Elevation	TS Temporary Swale
	External Distance	P.G.E	Profile Ground Elevation	T.S Top of Slab
EA	Each	P.G.L	Profile Grade Line	T.S Topsoil
EB	Eastbound	P/GL	Profile Ground Line	TYP Typical
	Elevation	P/R	Point of Rotation	U.D Under Drain
ES	End Section	P.I	Plasticity Index	U.G Underground
EX or EX	(IST_Existing	PI	Point of Intersection	U.P Utility Pole
FT	_		Point On Curve	USDA United States Department
	Flowline		Point On Tangent	of Agriculture
	Foundation Boring		Polyvinyl Chloride Profile Wall Pipe	<del>-</del>
	_Flat Bottom Ditch	PROP		V.C.L Vertical Curve Length
	Fire Hydrant		Point of Reverse Curve	W Water
	Forward	PT		W West
G			Point of Tangency	WB Westbound
	Gas Valve		Point of Vertical Curve	WB
	Handbox		Polyvinyl Chloride	W.M Water Meter
	High Density Polyetheylene		Point of Vertical Intersection	W.S Wrapped Steel
	Headwall		Point of Vertical Reverse Curve	WUS Waters of the United States
HERCP	Horizontal Ellipitical Reinforced	PVT	Point of Vertical Tangency	W.V. Water Valve
HERCP	Horizontal Ellipitical Reinforced Concrete Pipe		Point of Vertical Tangency	W.V Water Valve
	Horizontal Ellipitical Reinforced Concrete PipeHigh Point	R		W.V Water Valve

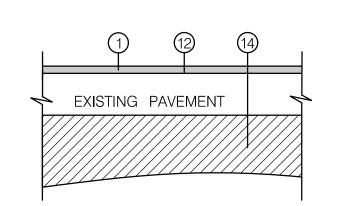
MONTGOMERY C PERMITTING SEF	NOTE: MCDPS APPENEGATE THE NEED ACCESS PERMIT.				
STORMWATER MANAGEMENT: ESD TO THE MEP		SEDIMENT CONTROL TECHNICAL REQUIREMENTS:		ADMINISTRATIVE REQUIREMENTS:	
					DATE (XXX
REVIEWED DA	TE.	REVIEWED	DATE	SEDIMENT CON	TROL PERMIT NO.
APPROVED DA	TE.			——————————————————————————————————————	HIS DIANI WILL EYDIRE
286027 SM FILE #		APPROVED	DATE	TWO YEARS FROM THE THE PROJECT HAS NOT	DATE OF APPROVAL IF
DPS APPROVAL OF A SEDIMENT CONT				ATED COMPLIANCE WITH MI	

		WITHOUT THAT MENT 37 WITHOUT THAT PROPER LIABILITY OR ETHICAL R	TY OWNER'S PERMISSION. IT DOE ESPONSIBILITY FOR THE ADEQUA	ES NOT RELIEVE THE DESIGN ENGINEER OR OT CY OF THE DRAINAGE DESIGN AS IT AFFECTS I	HER RESPONSIBLE PERSON OF PROFESSIONAL UPHILL OR DOWNHILL PROPERTIES.
		MONTGOMERY COUNTY DEPARTMENT OF TRANSPORT DIVISION OF TRANSPORTATION EN GAITHERSBURG, MARYLAN	ATION IGINEERING		IUE EXTENSION: Y PLANNING STUDY
		RECOMMENDED FOR APPROVAL		GENERAL NOTES	AND ABBREVIATIONS
		Chief, Design Section APPROVED	Date	SCALE : N.T.S. DA	ATE: SEPTEMBER 2020 GN — 01
		Chief, Division of Capital Development	Date	DPS SC/SWM PERMIT SHEET NO.	02 of09
NO REVISION DATE	BY	Designed by: <u>JSK</u> Drawn by: <u>JSK</u>	Checked by:YLIU	C.I.P. Project No. <u>: 0509337</u>	02 of34

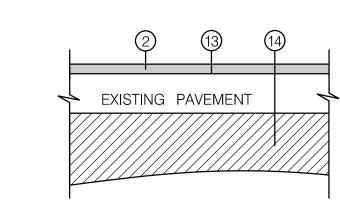




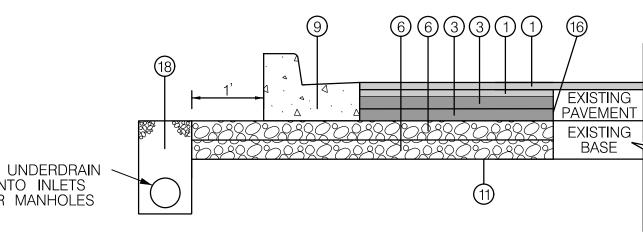




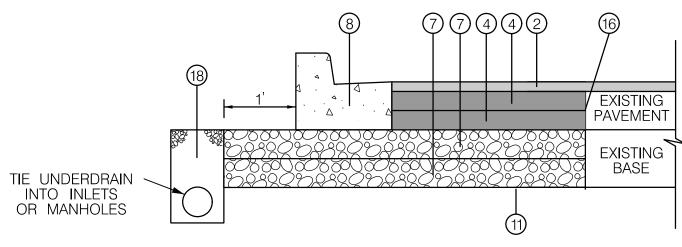
# MCDOT FINE MILLING AND OVERLAY DETAIL



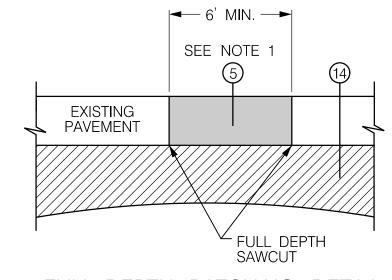
# BSHA FINE MILLING AND OVERLAY DETAIL



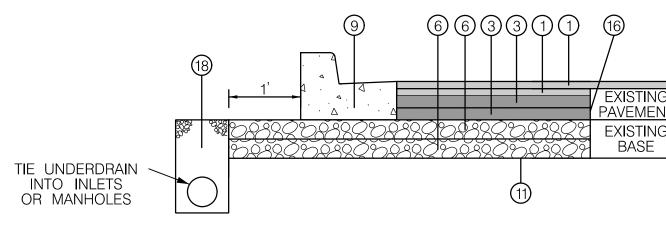
MCDOT FULL DEPTH PAVEMENT DETAIL

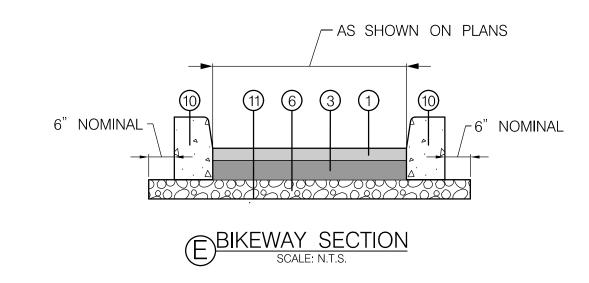


SHA FULL DEPTH PAVEMENT DETAIL



FULL DEPTH PATCHING DETAIL







(14) EXISTING SUBGRADE

(6) FULL-DEPTH SAW CUT (SEE NOTE 4)

WEDGE/LEVEL (SEE NOTE 2)

PAVEMENT LEGEND

6 4.0" GRADED AGGREGATE BASE COURSE

(7) 6.0" GRADED AGGREGATE BASE COURSE

(1) 1.5" SUPERPAVE ASPHALT MIX 9.5MM FOR SURFACE, PG 64S-22, LEVEL 2

2) 2.0" SUPERPAVE ASPHALT MIX 9.5MM FOR SURFACE, PG 64S-22, LEVEL 2

(3) 2.5" SUPERPAVE ASPHALT MIX 19.0MM FOR BASE, PG 64S-22, LEVEL 2

4.0" SUPERPAVE ASPHALT MIX 19.0MM FOR BASE, PG 64S-22, LEVEL 2

(1) SHA STANDARD TYPE D CONCRETE CURB (STD. NO. MD 620.02-01)

11) TOP OF SUBGRADE AND LIMIT OF CLASS LEXCAVATION

(12) TOP OF EXISTING PAVEMENT AFTER 1.5" FINE MILLING

(13) TOP OF EXISTING PAVEMENT AFTER 2.0" FINE MILLING

(15) 7.0" PLAIN PORTLAND CEMENT CONCRETE PAVEMENT, MIX NO. 9

(MDSHA STANDARD 387.11-01). LONGITUDINAL UNDERDRAIN SHALL BE WRAPPED IN CLASS SD TYPE II GEOTEXTILE.

5 SUPERPAVE ASPHALT MIX 19.0MM FOR FULL-DEPTH PATCH, PG 64S-22, LEVEL 2

(8) SHA STANDARD TYPE A COMBINATION CONCRETE CURB AND GUTTER (STD. NO. MD 620.02)

9 SHA STANDARD TYPE D COMBINATION CONCRETE CURB AND GUTTER (STD. NO. MD 620.02-01)

- 1. PATCHING SHALL BE DONE PRIOR TO FINE MILLING OF EXISTING PAVEMENT. CONTRACTOR SHALL MATCH EXISTING PAVEMENT CONDITIONS IF EXISTING PAVEMENT IS COMPOSITE (SEE MD 578.03–01 FOR COMPOSITE DETAILS). PAYMENT FOR SAWCUT WILL BE INCIDENTAL TO PATCHING ITEM.
- WEDGE/LEVEL SHALL BE USED TO MAKE GRADE AND SUPERELEVATION ADJUSTMENTS AS DIRECTED BY ENGINEER. USE THE FOLLOWING MATERIAL:

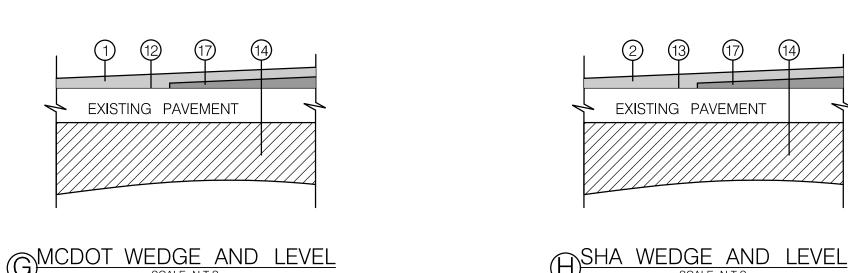
FOR WEDGE/LEVELING 0" TO 2" LIFT: SUPERPAVE ASPHALT MIX SUPERPAVE 9.5MM FOR WEDGE/LEVEL, PG 64S-22, LEVEL 2 (1" MINIMUM AND 2" MAXIMUM LIFT THICKNESS)

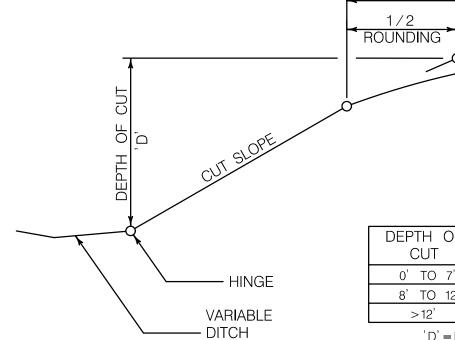
FOR WEDGE/LEVELING 2" TO 4" LIFT: SUPERPAVE ASPHALT MIX SUPERPAVE 19.0MM FOR WEDGE/LEVEL, PG 64S-22, LEVEL 2

- GEOTEXTILE FABRIC FOR UNDERDRAIN TO BE MSMT CLASS SD TYPE II, OR APPROVED EQUAL. GEOTEXTILE FABRIC TO BE OVERLAPPED BY MINIMUM 12". REFER TO STD. MD-387.11.
- CONTRACTOR SHALL FULL DEPTH SAWCUT THROUGH EXISTING ASPHALT PAVEMENT AND BASE ONLY. REMOVE EXISTING ROADWAY AND EXCAVATE AS NECESSARY TO CONSTRUCT PROPOSED PAVEMENT. PAYMENT FOR SAWCUTTING WILL BE INCIDENTAL TO EXCAVATION.
- 5. IN AREAS WHERE EXISTING PAVEMENT IS BEING REMOVED, THE LIMIT OF CLASS 1 EXCAVATION SHALL BE AT THE BOTTOM OF THE BOUND MATERIALS IN THE EXISTING PAVEMENT OR AT THE TOP OF THE SUBGRADE, WHICHEVER IS LOWER.
- PLACEMENT OF LONGITUDINAL UNDERDRAINS SHALL BE IN CONFORMANCE WITH STD. MD-387.11 OF MDSHA'S STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES. THE LOCATION OF THE LONGITUDINAL UNDERDRAINS SHALL BE AS SPECIFIED ON THE PLAN

WHERE LONGITUDINAL UNDERDRAINS ARE FOUND DURING EXCAVATION, THEY SHALL BE REMOVED ENTIRELY, INCLUDING PIPE. REMOVAL OF EXISTING UNDERDRAIN PIPE AND BACKFILLING SHALL BE INCIDENTAL TO ROADWAY EXCAVATION. NEW LONGITUDINAL UNDERDRAIN SHALL BE PLACED AND CONNECTED PROPERLY TO THE EXISTING UNDERDRAINS.

7. CONTRACTOR SHALL PERFORM ALL TRENCHING PAVEMENT REPAIRS IN ACCORDANCE WITH MD 578.01 AND SHALL MATCH EXISTING PAVEMENT SECTIONS.





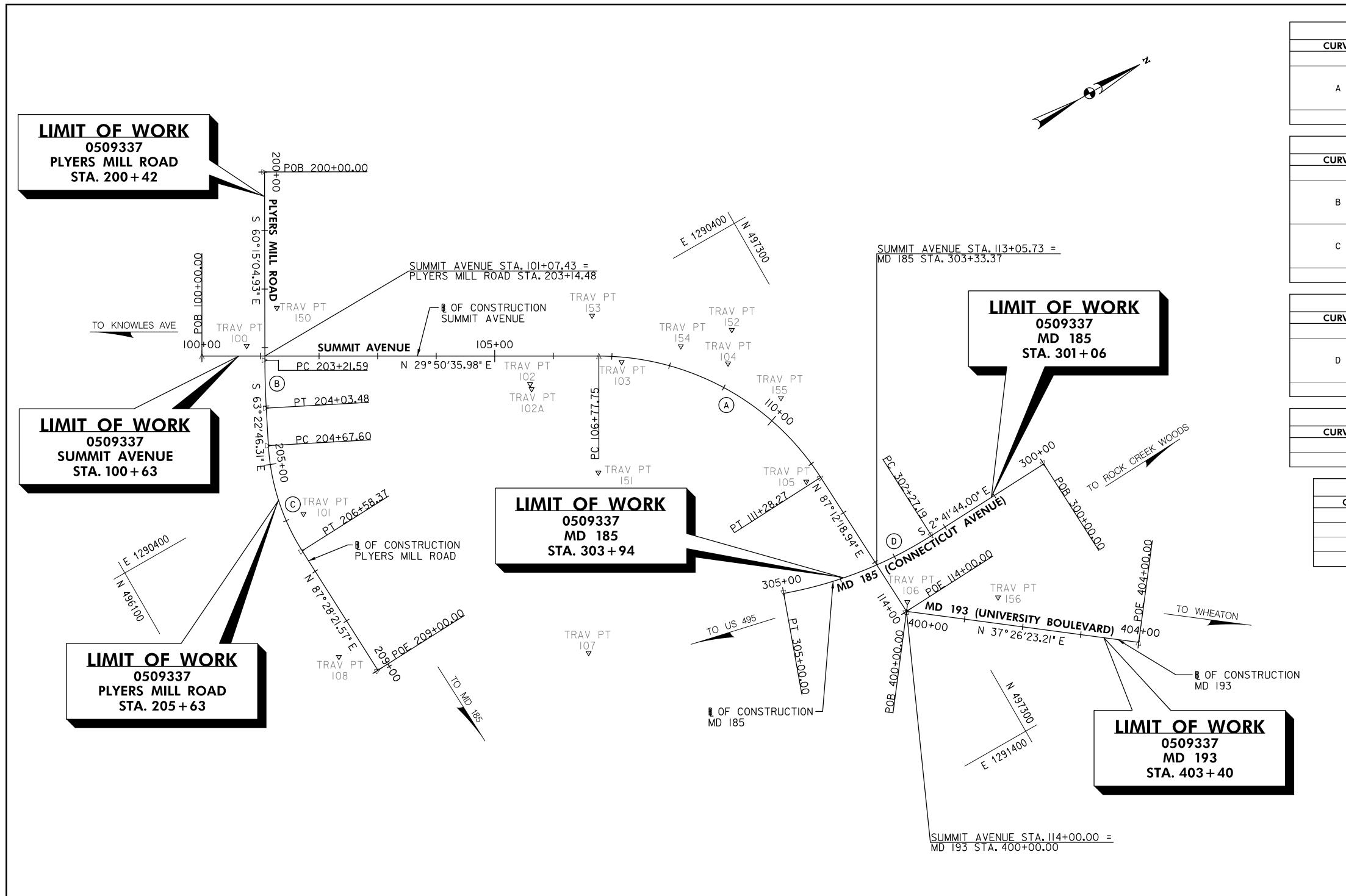
ROUNDING ROUNDING EX. GROUND TINYXYYXXXVI TOP OF CUT SUPERIOR STANDARD ROUNDING ROUNDING SAME AS 0' TO 7' 2D DEPTH 8' TO 12' D+7OF CUT (10' MAX) 'D' = DEPTH OF CUTSECTION

ROUNDING

CONCRETE DRIVEWAY ENTRANCE

CUT SLOPE ROUNDING DETAIL

ONDENDIAN						<u> </u>		
EXISTING				MONTGOMERY COUNTY  DEPARTMENT OF TRANSPORTATION  DIVISION OF TRANSPORTATION ENGINEERIN  GAITHERSBURG, MARYLAND	NG		/ENUE EXTENSION: LITY PLANNING STUD	Υ
				RECOMMENDED FOR APPROVAL		PAVEN	MENT DETAILS	
				Chief, Design Section  APPROVED	Date			
Sannott / C				- ALTROVED		SCALE : AS SHOWN	DATE: SEPTEMBER 2020 PD-	01
<b>Seannett GPI Fleming</b>				Chief, Division of Capital Development	Date	DPS SC/SWM PERMIT SHEET NO.	<u>N/A</u> of <u>09</u>	
	NO.	REVISION	DATE BY	Designed by: <u>JSK</u> Drawn by: <u>JSK</u> Checked t	by: <u>YLIU</u>	C.I.P. Project No. <u>: 0509337</u>	05of34	_



SUMMIT AVENUE COORDINATES								
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING			
	РОВ	100+00.00	496398.6765	1290144.1923				
	PC	106+77.75	496986.5488	1290481.4606	N 29°50′35.98" E			
Α	PI	109+23.92	497200.0771	1290603.9639				
	PT	111+28,27	497212.0800	1290849.8447	N 87°12′18.94" E			
	POE	114+00.00	497225,3291	1291121.2529				

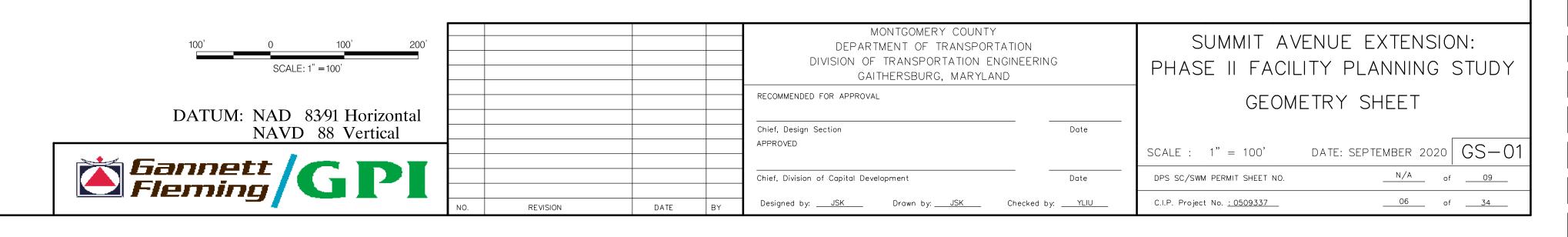
PLYERS MILL ROAD COORDINATES							
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING		
	POB	200+00.00	496647.9033	1289924.6134			
	PC	203+21.59	496488.3310	1290203.8199	N 60°15′04.93" W		
В	PI	203+62.55	496468.0080	1290239.3798			
	PT	204+03.48	496449.6557	1290275.9957	N 63°22′46.31" W		
	PC	204+67.60	496420.9287	1290333.3110			
С	PI	205+65.09	496377.2420	1290420.4735			
	PT	206+58.37	496381.5413	1290517.8765	N 87°28′21.57" E		
	POE	209+00.00	496392.1963	1290759,2735			

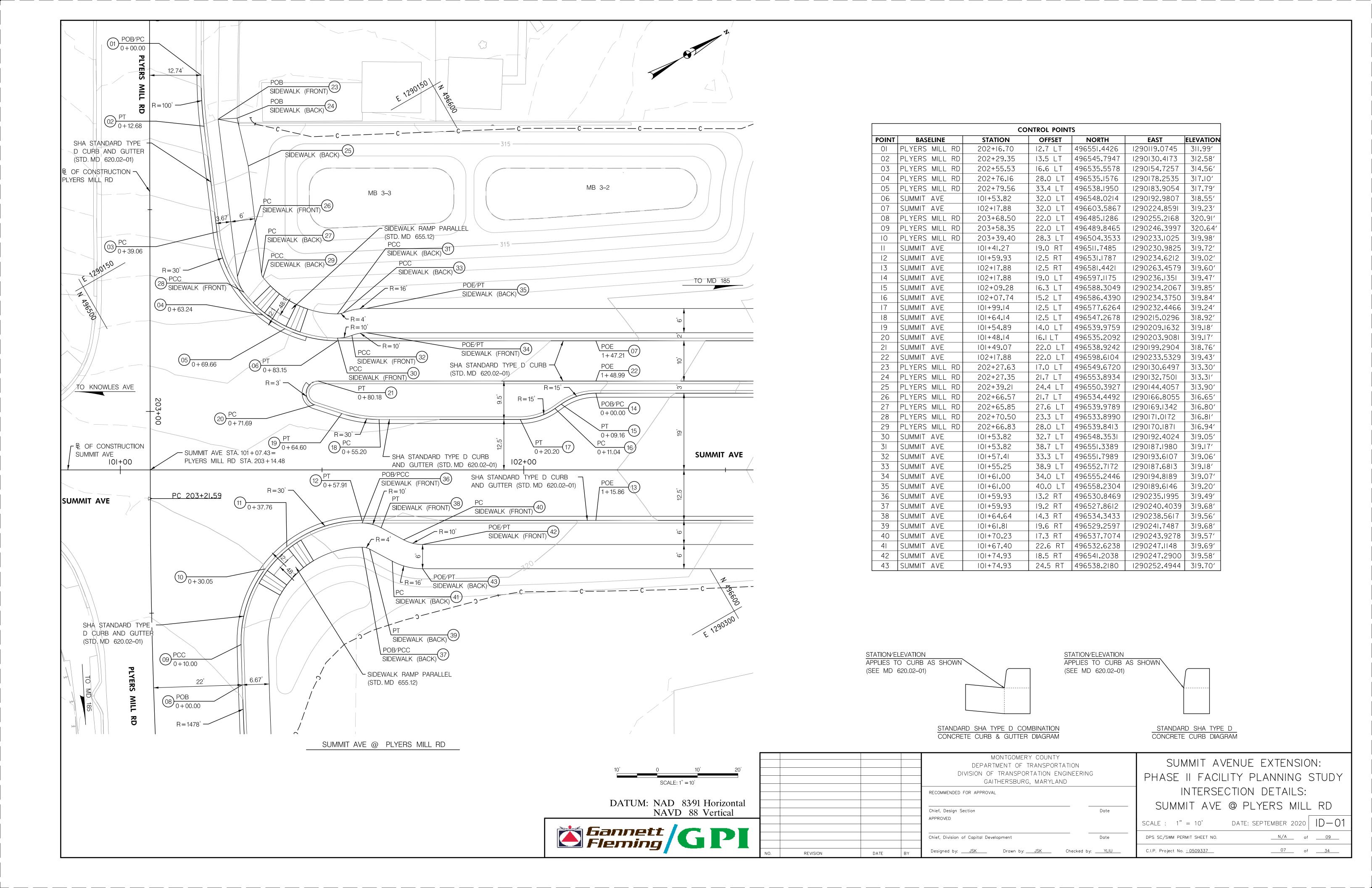
MD 185 (CONNECTICUT AVENUE) COORDINATES								
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING			
	POB	300+00.00	497553.7010	1291019.4658				
	PC	302+27.19	497326.7582	1291030.1505	N 2°41′44.00" W			
D	PI	303+65.35	497188.7551	1291036.6478				
	PT	305+00.00	497058.6316	1290990.2262	N 19°38′02.06" E			
	POE	305+00.00	497058.6316	1290990.2262	N 19°38′02.06" E			

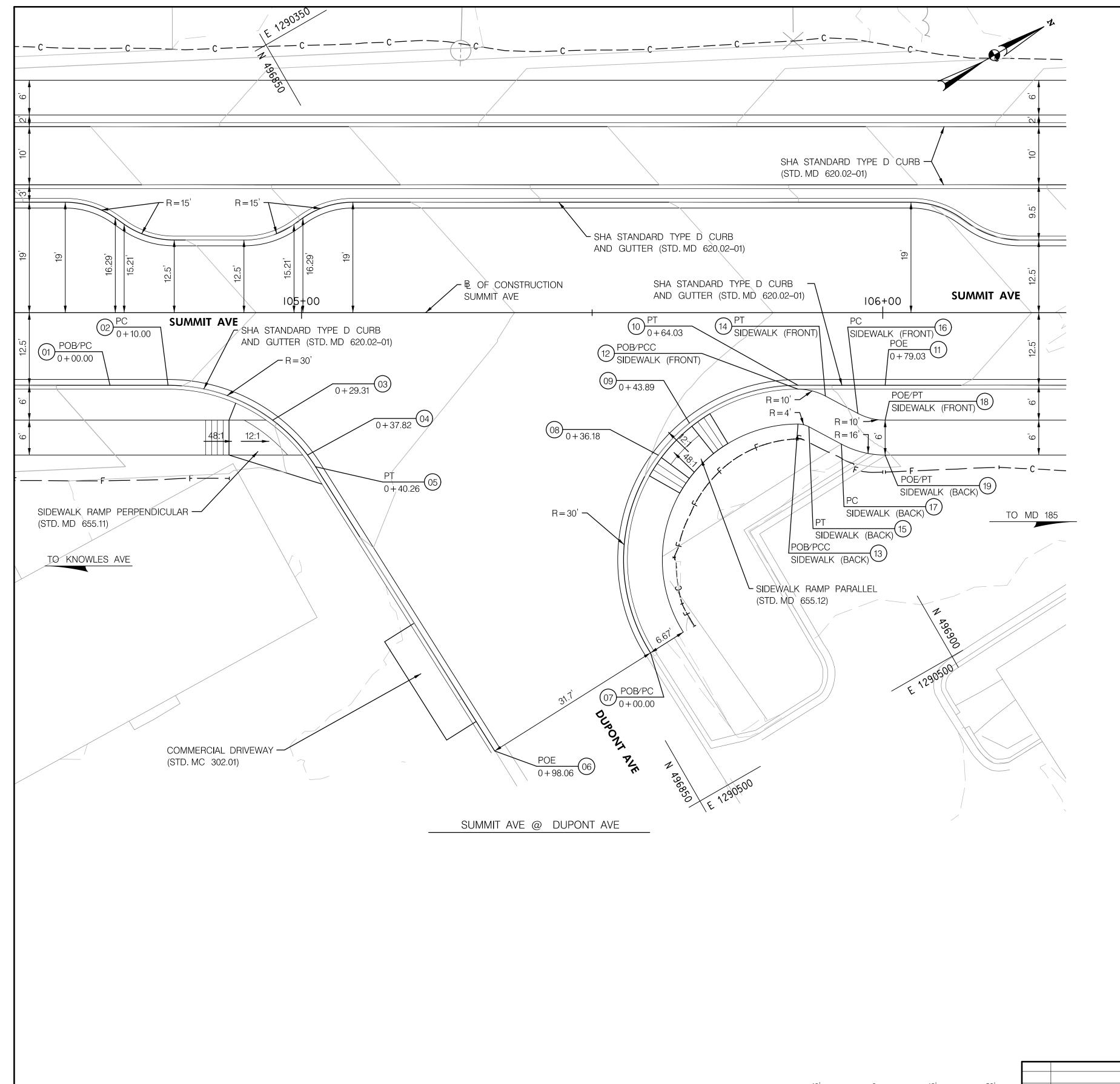
MD 193 (UNIVERSITY BOULEVARD) COORDINATES								
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING			
	POB	400+00.00	497225.3291	1291121.2529	N 37°26′23.21 <b>"</b> E			
	POE	404+00.00	497542.9263	1291364.4238				

CURVE DATA								
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL		
Α	57° 21′42 <b>.</b> 95 <b>"</b> RT	12° 43′56 <b>.</b> 62"	450.00′	246.17′	450.52′	62.93		
В	3°07′41 <b>.</b> 38" LT	3° 49′10 <b>.</b> 99"	1500.00′	40.96′	81.90′	0.56		
С	29° 08′52.12" LT	15° 16′43 <b>.</b> 95 <b>"</b>	375.00′	97 <b>.</b> 50′	190.77′	12.47		
D	22°19′46.07" RT	8°11′06.40"	700.00′	138.16′	272.81′	13.50		

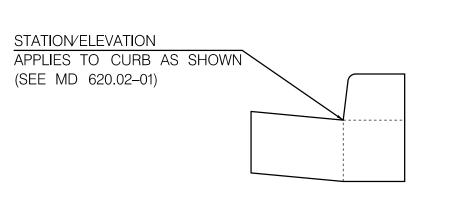
	TRAVER	SE POINTS	
POINT NO.	NORTH	EAST	ELEVATION
100	496473.6585	1290167.0517	320.24
101	496414.8991	1290464.2712	328.02
102	496860.9543	1290464.5304	323.26
102A	496858.9703	1290473.0525	322.97
103	497015.2644	1290509.6258	319.79
104	497171.7698	1290602.0734	311.84
105	497187.1862	1290843.7857	327.17
106	497234.4918	1291108.0071	327.16
107	496719.0926	1290912.4545	331.54
108	496345.8661	1290706.2002	332.44
150	496550.7102	1290136.3573	313.94
151	496886.9265	1290653.6403	323.20
152	497205.8596	1290555,5998	306.22
153	497010.9465	1290415.8019	317.51
154	497116.4368	1290536.3720	310.34
155	497220.8082	1290698.2054	318.12
156	497372.8178	1291178.2964	327.57







	CONTROL POINTS								
POINT	BASELINE	STATION	OFFSET	NORTH	EAST	ELEVATION			
01	SUMMIT AVE	104+67.05	12 <b>.</b> 5 RT	496797.5678	1290387.4514	324.29′			
02	SUMMIT AVE	104+77.05	12.5 RT	496806.2417	1290392.4277	324.07′			
03	SUMMIT AVE	104+95.05	18.5 RT	496818.8689	1290406.5893	323.53′			
04	SUMMIT AVE	105+01.05	24.5 RT	496821.0875	1290414.7794	323.29′			
05	SUMMIT AVE	105+02.43	26.5 RT	496821.2872	1290417.2104	323.22′			
06	SUMMIT AVE	105+33.24	75.4 RT	496823.6744	1290474.9630	322.46′			
07	SUMMIT AVE	105+60.04	58.5 RT	496855.3277	1290473.6546	322.41′			
08	SUMMIT AVE	105+61.38	24.5 RT	496873.4037	1290444.8305	321.95′			
09	SUMMIT AVE	105+66.74	19.0 RT	496880.7989	1290442.7105	321.86′			
10	SUMMIT AVE	105+85.40	12.5 RT	496900.2291	1290446.3492	321.63′			
П	SUMMIT AVE	106+00.40	12 <b>.</b> 5 RT	496913.2400	1290453.8136	321.29′			
12	SUMMIT AVE	105+85.40	13.2 RT	496899.8973	1290446.9275	322.13′			
13	SUMMIT AVE	105+85.40	19.2 RT	496896.9116	1290452.1318	322.25′			
14	SUMMIT AVE	105+90.11	14.3 RT	496903.3937	1290450.2897	322.06′			
15	SUMMIT AVE	105+87.29	19.6 RT	496898.3101	1290453.4767	322.19′			
16	SUMMIT AVE	105+95.70	17.3 RT	496906.7578	1290455.6558	321.97′			
17	SUMMIT AVE	105+92.87	22.6 RT	496901.6742	1290458.8428	322.09′			
18	SUMMIT AVE	106+00.40	18.5 RT	496910.2542	1290459.0180	321.90′			
19	SUMMIT AVE	106+00.40	24.5 RT	496907.2684	1290464.2223	322.02′			



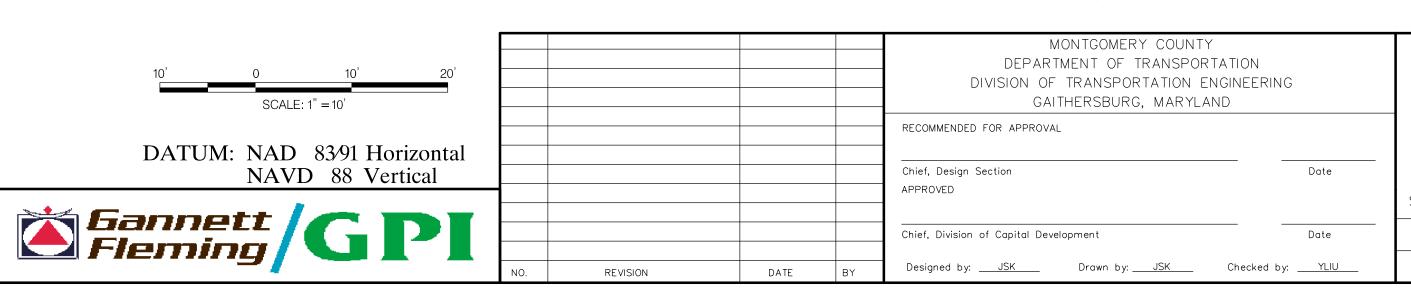
STATION/ELEVATION

APPLIES TO CURB AS SHOWN

(SEE MD 620.02-01)

STANDARD SHA TYPE D COMBINATION CONCRETE CURB & GUTTER DIAGRAM

STANDARD SHA TYPE D
CONCRETE CURB DIAGRAM



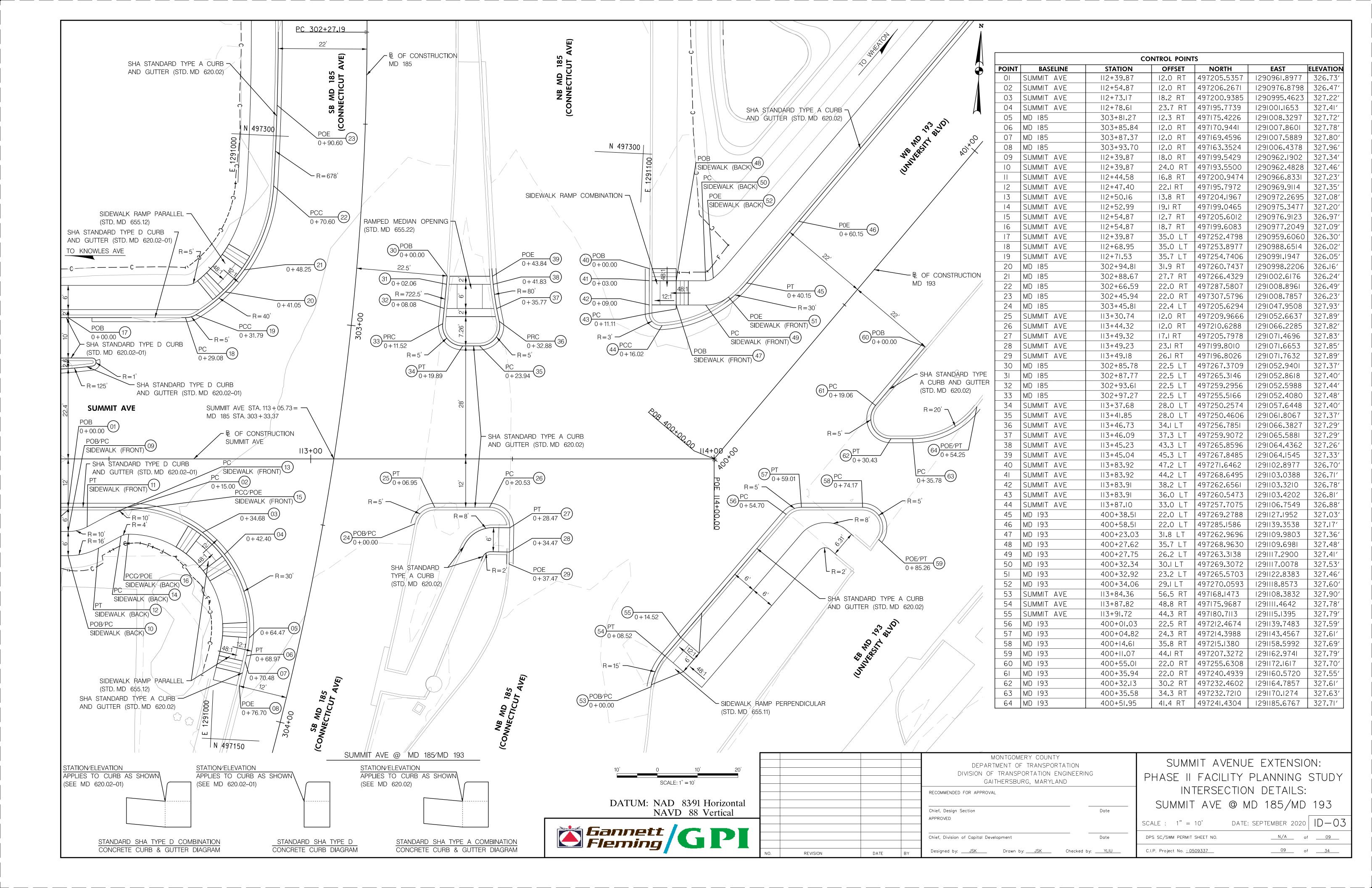
SUMMIT AVENUE EXTENSION:

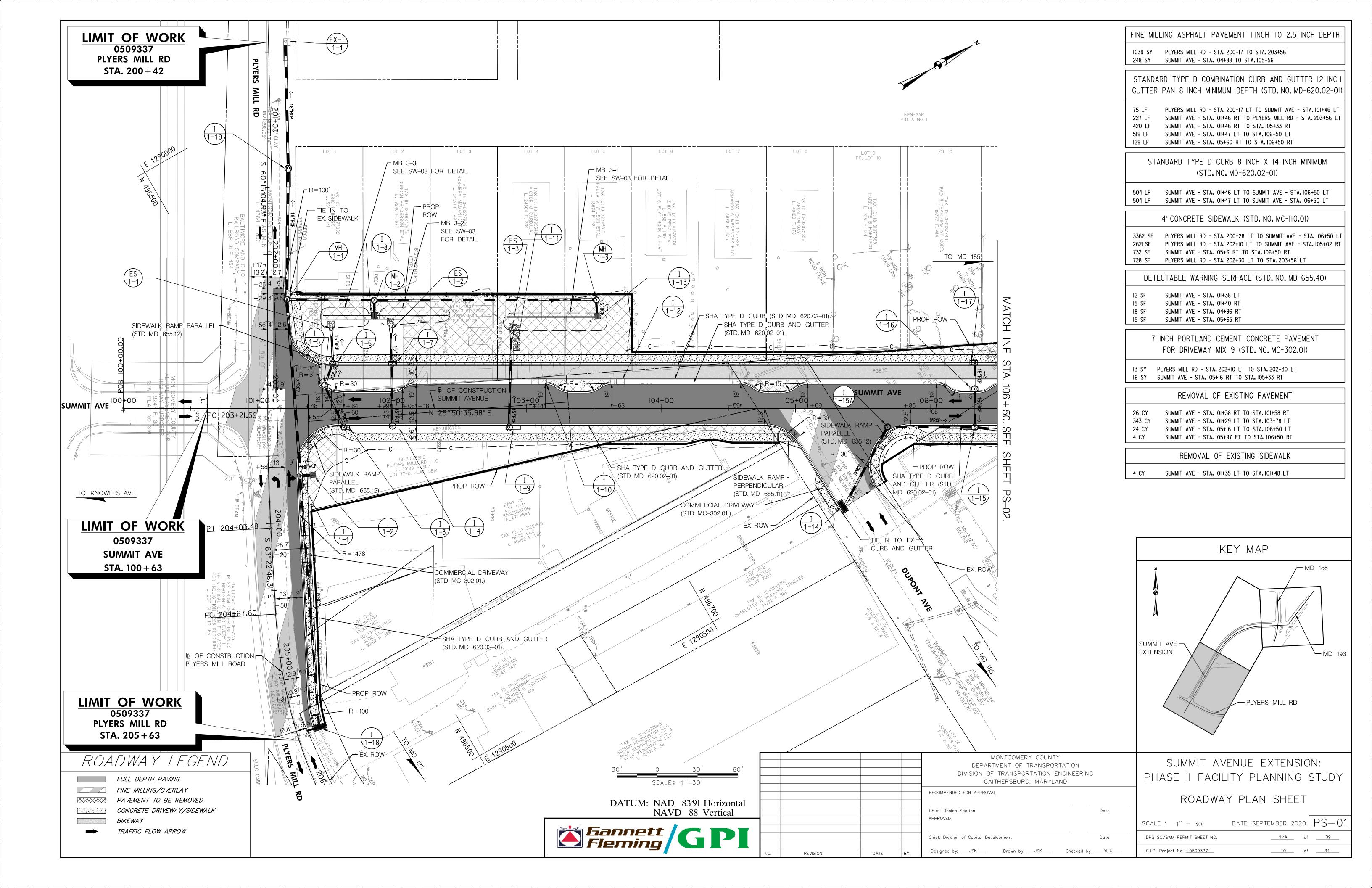
PHASE II FACILITY PLANNING STUDY

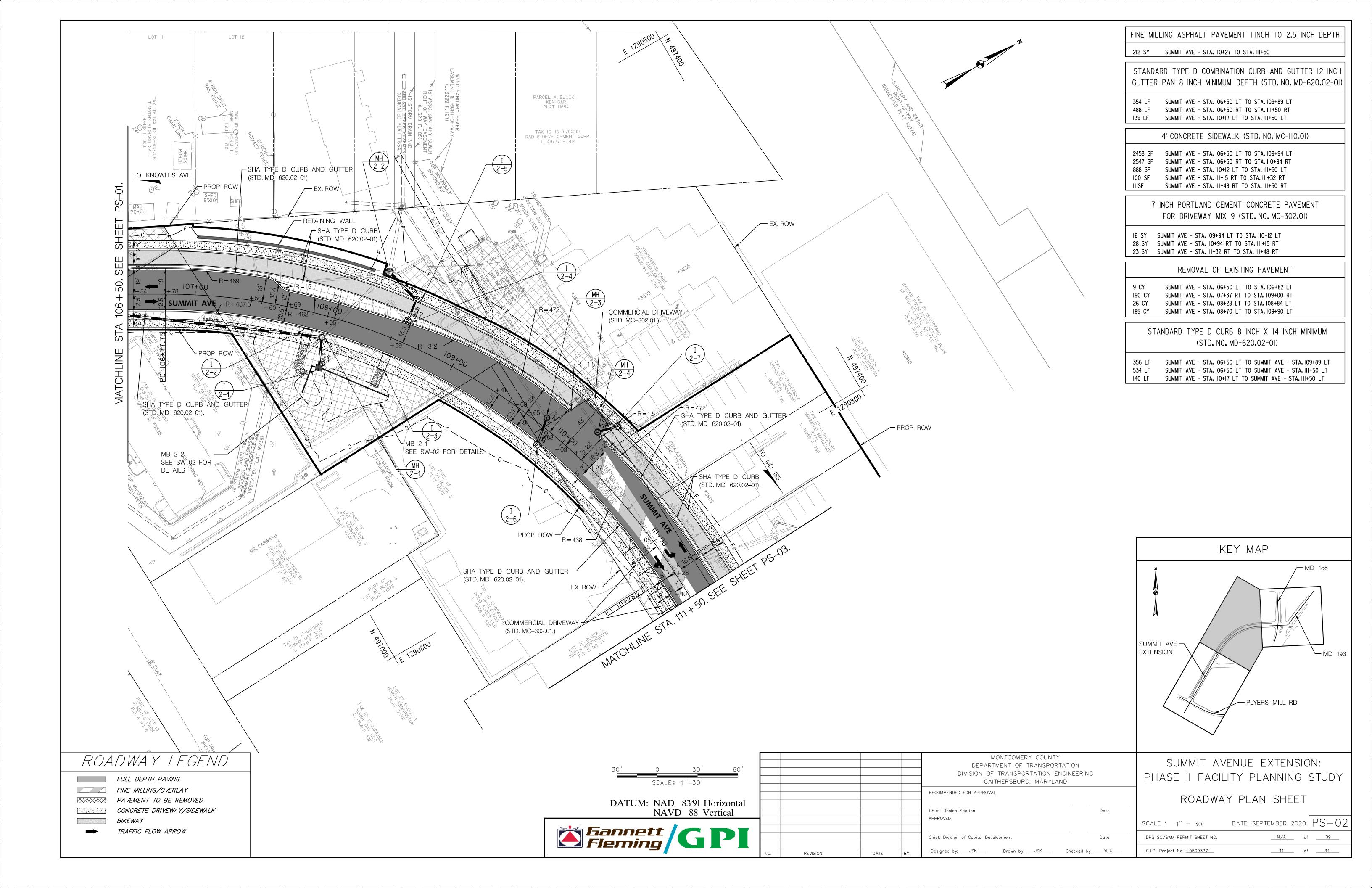
INTERSECTION DETAILS:

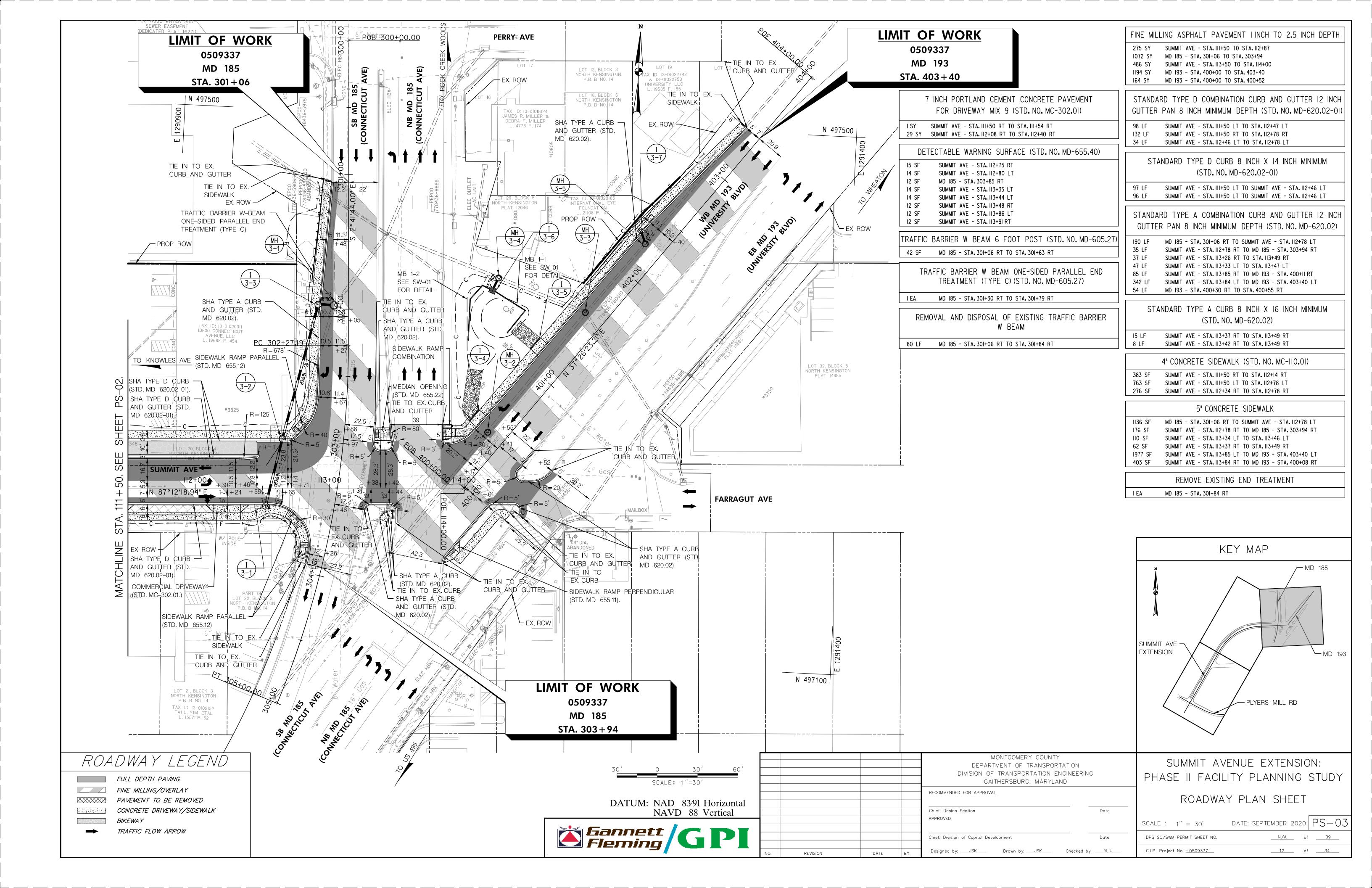
SUMMIT AVE @ DUPONT AVE

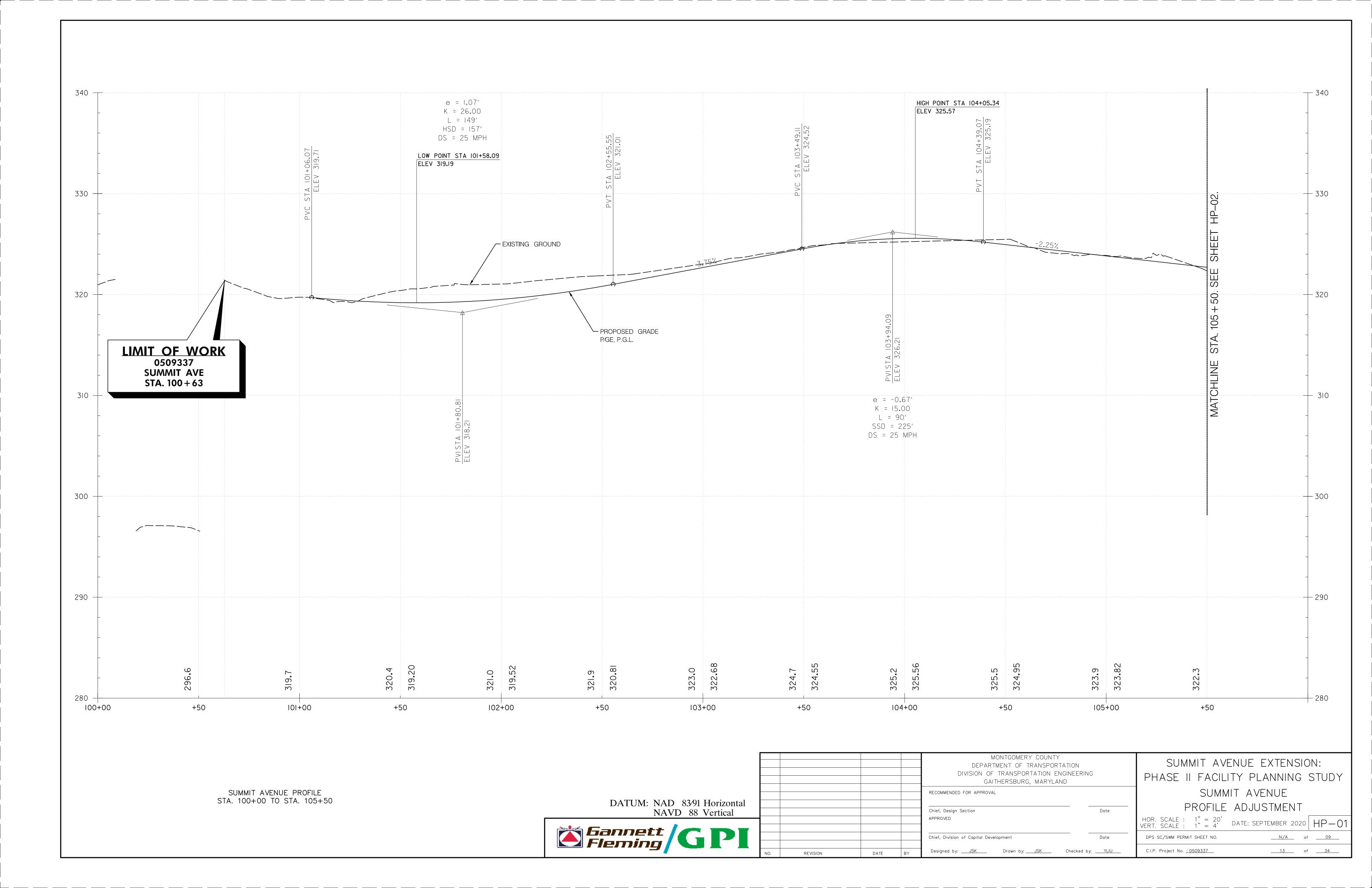
	2 0 001 0111		<b>*</b> L
CALE : 1" = 10'	DATE: SEPTEMBER 2	020	ID-02
DPS SC/SWM PERMIT SHEET NO.	N/A	of	09
C.I.P. Project No. <u>: 0509337</u>	08	of	34

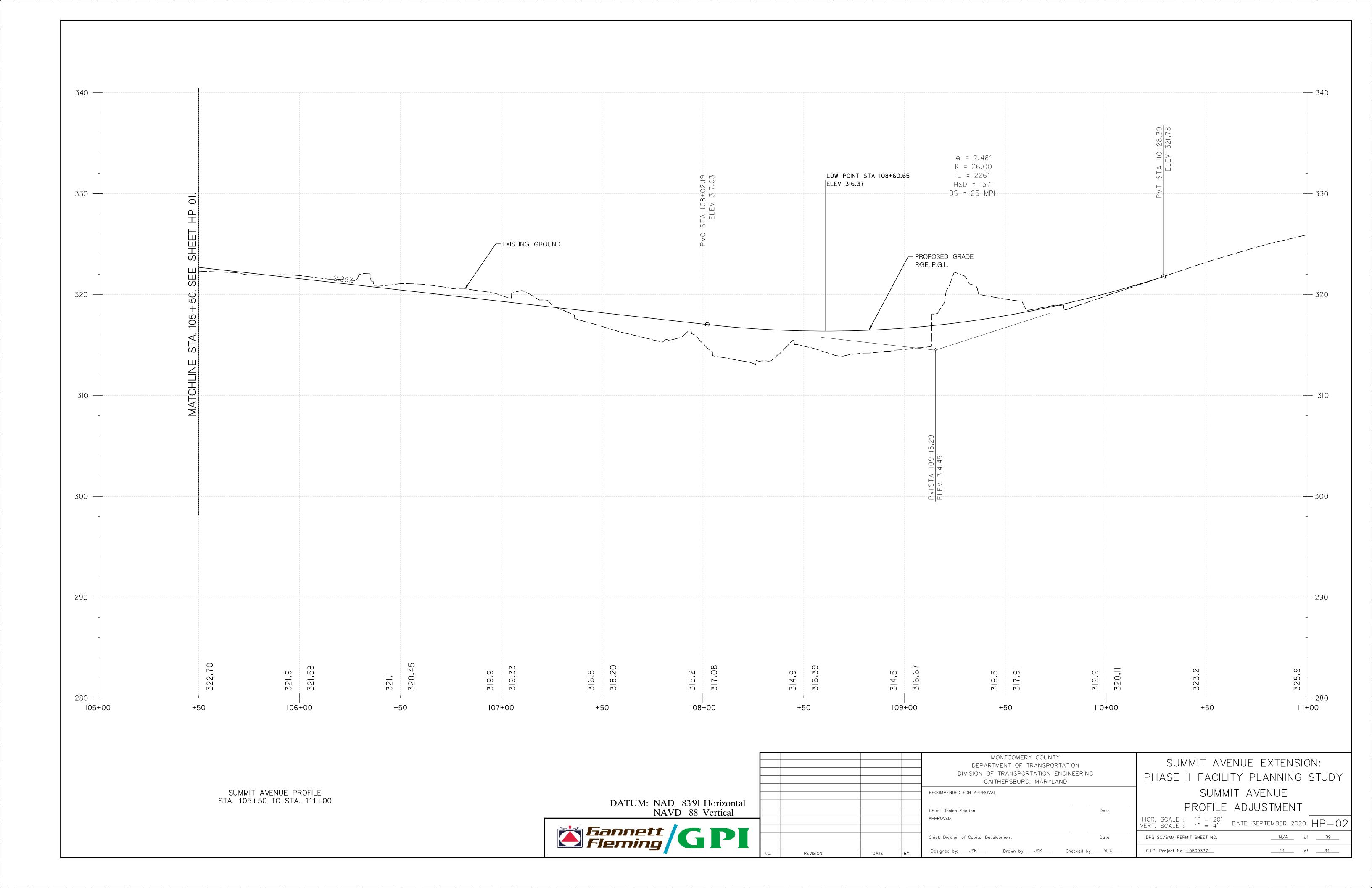


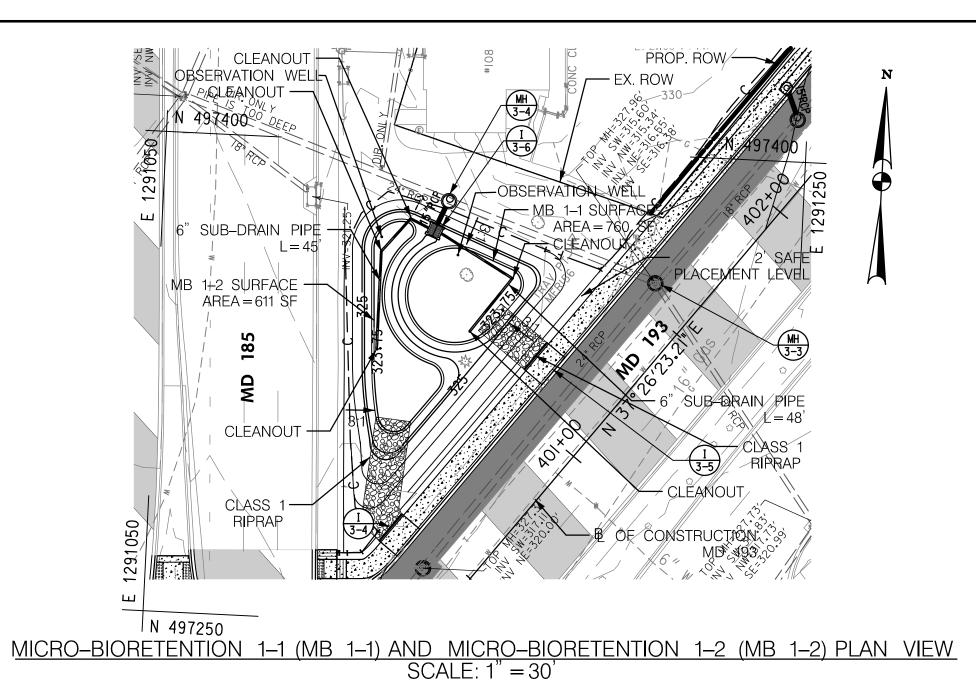


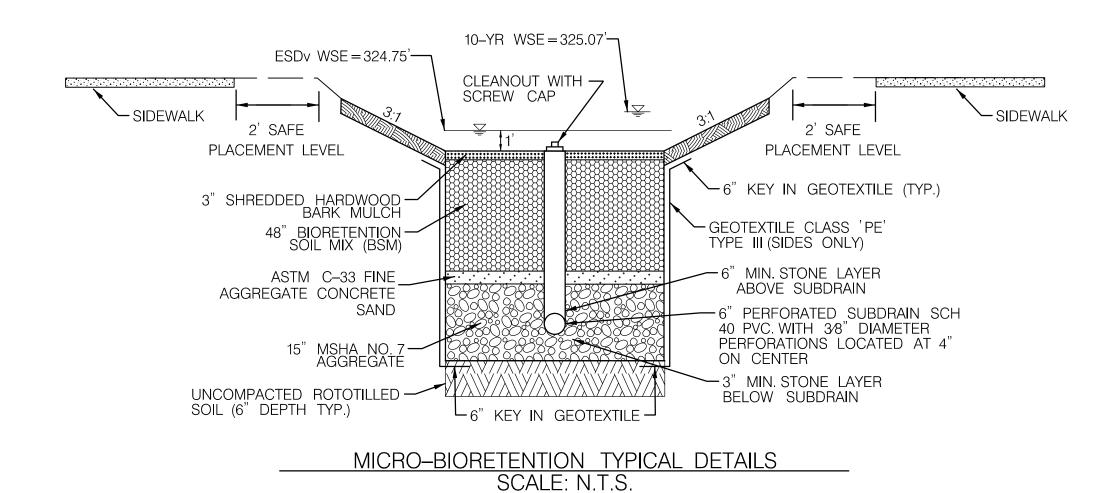












#### SAND SPECIFICATIONS:

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- 1. Sand must meet gradation requirements for ASTM C-33 Fine Aggregate Concrete Sand. AASHTO M-6 gradation is also acceptable.
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- 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
- 4. Manufactured sand or stone dust is not acceptable under any circumstance.

## **CONSTRUCTION INSPECTION**

Sannett / GPI Fleming / GPI

#### CHECK-OFF LIST FOR MICRO BIORETENTION FACILITY

STAGE		COUNTY INSPECTOR	OWNER/ DEVELOPER
required at t required to g telephone 2 the owner/d arrangemen completed v and reconst Stormwater Record Dra	RY NOTIFICATION: Inspection and approval of each practice is these points prior to proceeding with construction. The permittee is give the MCDPS Inspector twenty-four (24) hours notice (DPS 40-777-0311). The DPS inspector may waive an inspection, and allow eveloper to make the required inspection per a prior scheduled at which has been confirmed with the DPS inspector in writing. Work without MCDPS approval may result in the permittee having to remove ruct the unapproved work. Upon completion of the project, a formal r Management As-Built must be submitted to MCDPS unless a liwing Certification has been allowed instead. Each of the steps must be verified by either the MCDPS Inspector OR the	INITIALS/DATE	INITIALS/DATE
1.	Excavation for Micro Bioretention facility conforms to approved plans		
2.	Placement of stone backfill and underdrain system conforms to approved plans		
3.	Placement of filter media conforms to approved plans		
4.	Connecting pipes and/or grading conveyance to the facility constructed per the approved plans		
5.	Final grading and permanent stabilization conforms to approved plans		

TOTAL NUMBER OF MICRO BIORETENTIO	N FACILITIES INSTAL	LED PER THIS PERMI

APPROVED $7$	CONSTRUCTED

## MICRO-BIORETENTION DESIGN SPECIFICATIONS

GRAVEL LAYER:
THE GRAVEL LAYER MUST MEET MSHA SIZE #7 STONE (TABLE 901A) AND SHALL HAVE A THICKNESS AS SHOWN ON THE DETAILS. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN THE FILTER MEDIA.

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

#### PLANTING MEDIUM:

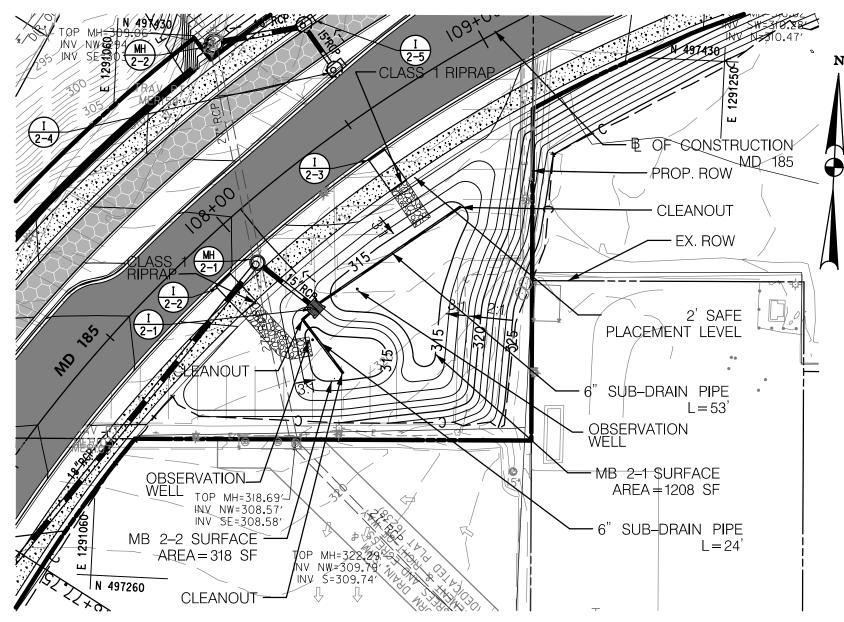
THE BIORETENTION SOIL MIX (BSM) SHALL HAVE A THICKNESS AS SHOWN ON THE DETAILS AND SHALL CONSIST OF 1/3 PERLITE OR SOLITE, 1/3 COMPOST AND 1/3 TOPSOIL. THE PERLITE SHALL BE COARSE GRADE HORTICULTURAL PERLITE. THE COMPOST SHALL BE HIGH GRADE COMPOST FREE OF STONES AND PARTIALLY COMPOSTED WOODY MATERIAL. 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.

		MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND	
		RECOMMENDED FOR APPROVAL	
		Chief, Design Section  APPROVED	Date
		Chief, Division of Capital Development	Date
 55.00.00	 5	Designed by: DBT Drawn by: DBT Checked by:	JM A

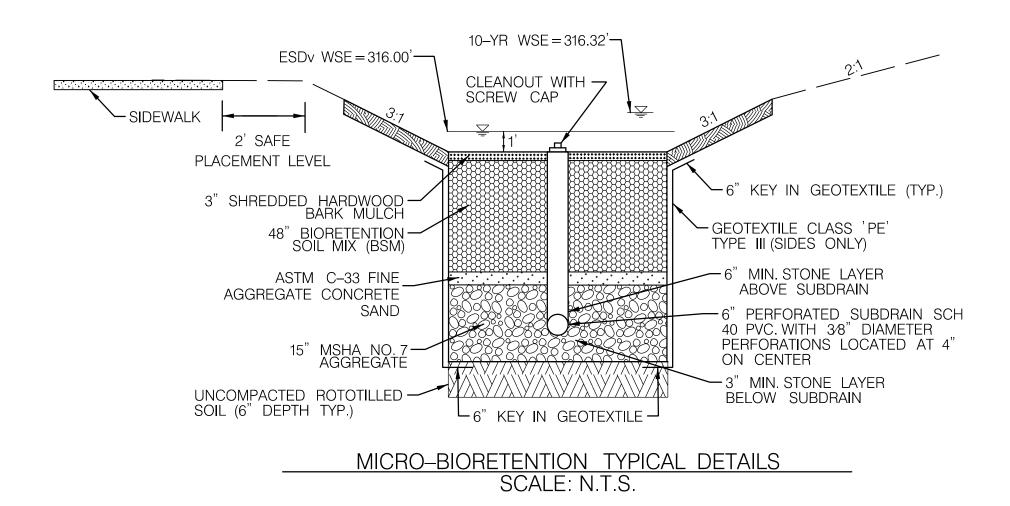
# SUMMIT AVENUE EXTENSION STORMWATER MANAGEMENT PLAN MICRO-BIORETENTION 1-1 AND

MICRO-BIORETENTION 1-2

DATE: SEPTEMBER 2020 SW-01 CALE : AS SHOWN \_\_\_\_03 of \_\_\_09 DPS SC/SWM PERMIT SHEET NO. C.I.P. Project No. <u>: 508000</u> \_\_\_\_15\_\_\_ of \_\_\_34\_\_\_



MICRO-BIORETENTION 2-1 (MB 2-1) AND MICRO-BIORETENTION 2-2 (MB 2-2) PLAN VIEW



#### 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. AASHTO 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.

#### **CONSTRUCTION INSPECTION**

#### CHECK-OFF LIST FOR MICRO BIORETENTION FACILITY

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.  1. Excavation for Micro Bioretention facility conforms to approved plans  2. Placement of stone backfill and underdrain system conforms to approved plans  3. Placement of filter media conforms to approved plans  4. Connecting pipes and/or grading conveyance to the facility constructed per the approved plans  5. Final grading and permanent stabilization conforms to approved plans	STAGE		COUNTY INSPECTOR	OWNER/ DEVELOPER
2. Placement of stone backfill and underdrain system conforms to approved plans  3. Placement of filter media conforms to approved plans  4. Connecting pipes and/or grading conveyance to the facility constructed per the approved plans  5. Final grading and permanent stabilization conforms to approved	required at required to telephone 2 the owner/d arrangemer completed and reconst Stormwate Record Dra listed below	these points prior to proceeding with construction. The permittee is give the MCDPS Inspector twenty-four (24) hours notice (DPS 140-777-0311). The DPS inspector may waive an inspection, and allow leveloper to make the required inspection per a prior scheduled at which has been confirmed with the DPS inspector in writing. Work without MCDPS approval may result in the permittee having to remove truct the unapproved work. Upon completion of the project, a formal or Management As-Built must be submitted to MCDPS unless a sawing Certification has been allowed instead. Each of the steps or must be verified by either the MCDPS Inspector OR the	INITIALS/DATE	INITIALS/DATE
approved plans  3. Placement of filter media conforms to approved plans  4. Connecting pipes and/or grading conveyance to the facility constructed per the approved plans  5. Final grading and permanent stabilization conforms to approved	1.			
Connecting pipes and/or grading conveyance to the facility constructed per the approved plans      Final grading and permanent stabilization conforms to approved	2.			
constructed per the approved plans  5. Final grading and permanent stabilization conforms to approved	3.	Placement of filter media conforms to approved plans		
	4.			
	5.			

TOTAL NUMBER OF MICRO BIORETENTION FACILITIES INSTALLED PER THIS PERMIT	٠:

APPROVED _	7	CONSTRUCTED		

#### MICRO-BIORETENTION DESIGN SPECIFICATIONS

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#### PLANTING MEDIUM:

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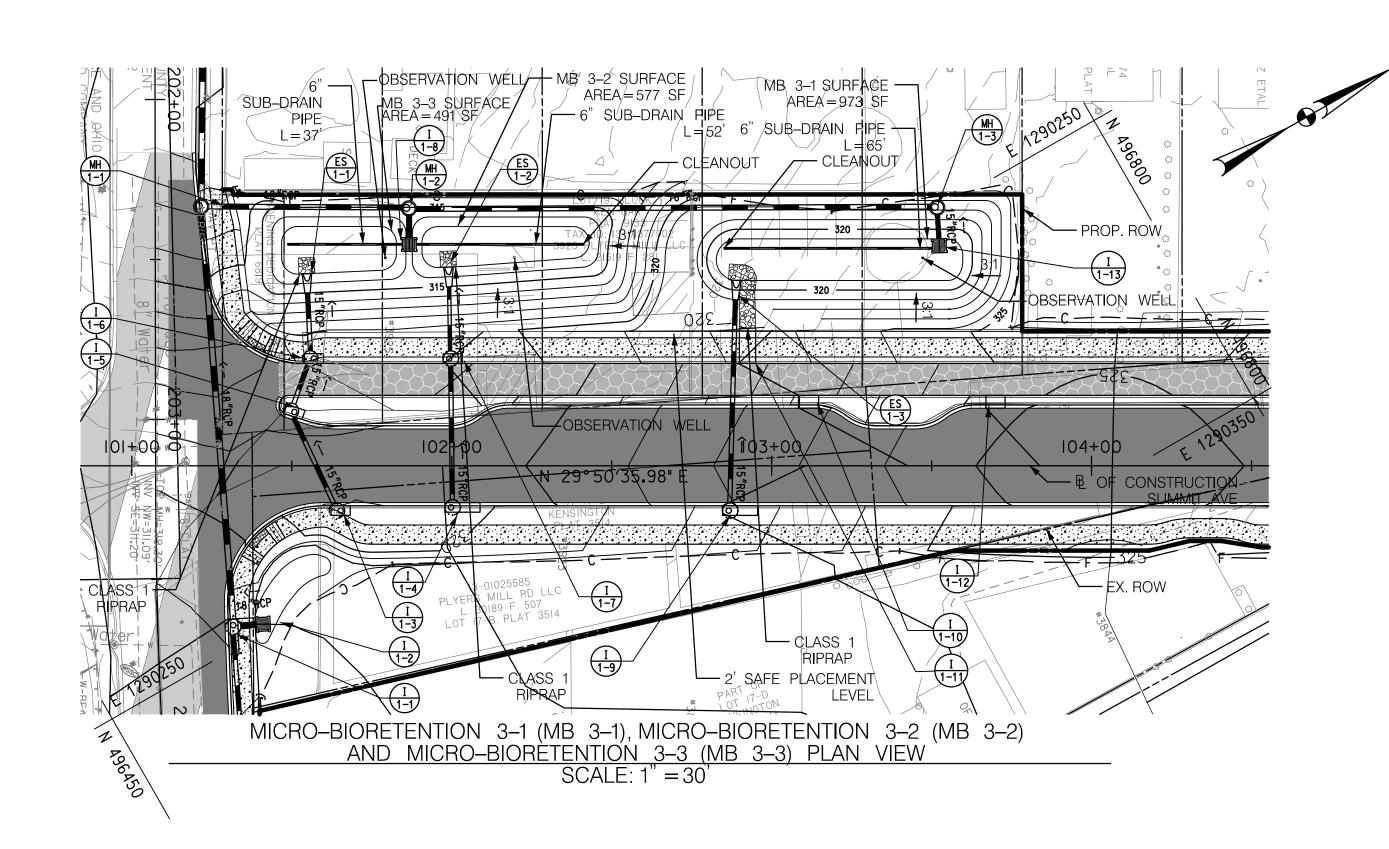
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND RECOMMENDED FOR APPROVAL Chief, Design Section Date APPROVED **Sannett** / GPI Fleming / GPI Chief, Division of Capital Development Date C.I.P. Project No. <u>: 508000</u> Designed by: \_\_\_\_\_ Drawn by: \_\_DBT \_\_\_ Checked by: \_\_JMA DATE

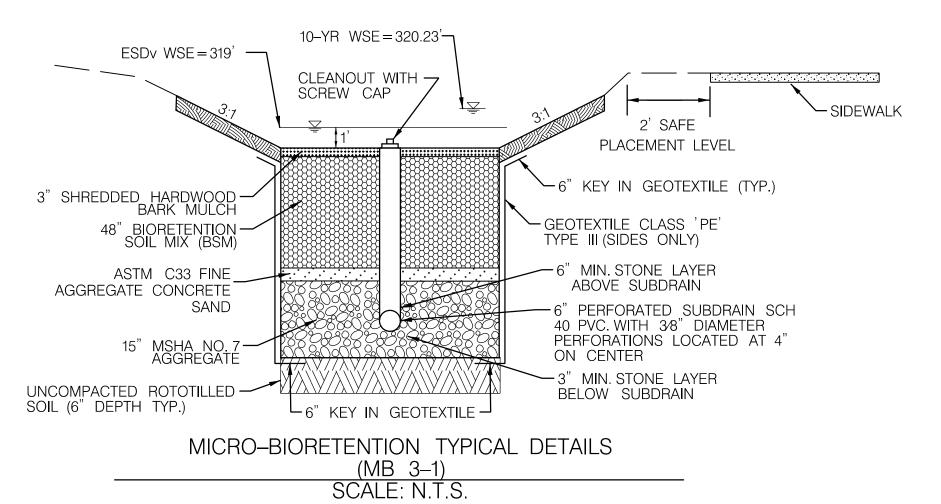
SUMMIT AVENUE EXTENSION STORMWATER MANAGEMENT PLAN MICRO-BIORETENTION 2-1 AND

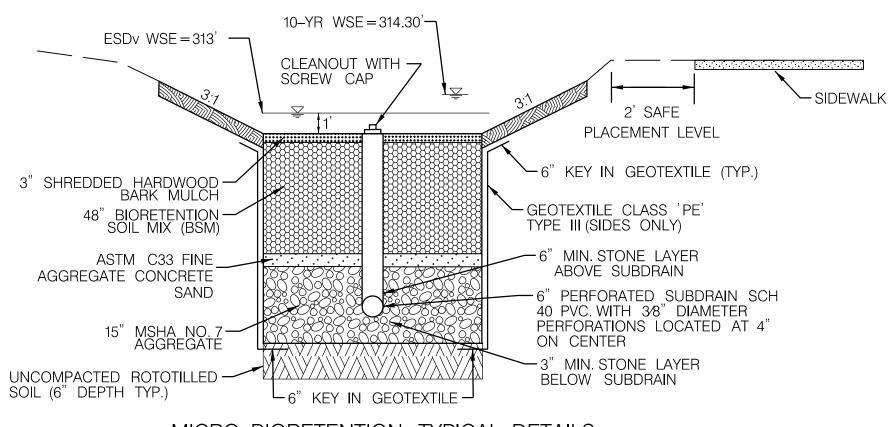
MICRO-BIORETENTION 2-2

DATE: SEPTEMBER 2020 SW-02 SCALE :1"=30' DPS SC/SWM PERMIT SHEET NO. \_\_\_\_04\_\_\_of\_\_\_09\_\_\_

\_\_\_\_16\_\_\_ of \_\_\_34\_\_\_







MICRO-BIORETENTION TYPICAL DETAILS (MB 3-2 AND MB 3-3) SCALE: N.T.S.



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:

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**CONSTRUCTION INSPECTION** 

**Sannett GPI Fleming** 

CHECK-OFF LIST FOR MICRO BIORETENTION FACILITY

STAGE		COUNTY INSPECTOR	OWNER/ DEVELOPER
required at required to telephone 2 the owner/o arrangement completed and recons Stormwater Record Dra	these points prior to proceeding with construction. The permittee is give the MCDPS Inspector twenty-four (24) hours notice (DPS 240-777-0311). The DPS inspector may waive an inspection, and allow developer to make the required inspection per a prior scheduled nt which has been confirmed with the DPS inspector in writing. Work without MCDPS approval may result in the permittee having to remove truct the unapproved work. Upon completion of the project, a formal er Management As-Built must be submitted to MCDPS unless a awing Certification has been allowed instead. Each of the steps of the project.	INITIALS/DATE	INITIALS/DATE
1.	Excavation for Micro Bioretention facility conforms to approved plans		
2.	Placement of stone backfill and underdrain system conforms to approved plans		
3.	Placement of filter media conforms to approved plans		
4.	Connecting pipes and/or grading conveyance to the facility constructed per the approved plans		
5.	Final grading and permanent stabilization conforms to approved plans		

TOTAL NUMBER OF MICRO BIORETENTION FACILITIES INSTALLED PER THIS PERMIT:

APPROVED 7	CONSTRUCTED

### MICRO-BIORETENTION DESIGN SPECIFICATIONS

GRAVEL LAYER:
THE GRAVEL LAYER MUST MEET MSHA SIZE #7 STONE (TABLE 901A) AND SHALL HAVE A THICKNESS AS SHOWN ON THE DETAILS. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN THE FILTER MEDIA.

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

#### PLANTING MEDIUM:

THE BIORETENTION SOIL MIX (BSM) SHALL HAVE A THICKNESS AS SHOWN ON THE DETAILS AND SHALL CONSIST OF 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.

				MONTGOMERY COUNTY  DEPARTMENT OF TRANSPORTATION  DIVISION OF TRANSPORTATION ENGINEERING  GAITHERSBURG, MARYLAND				
				RECOMMENDED FOR APPROVAL				
				Chief, Design Section  APPROVED	Date	SC		
				Chief, Division of Capital Development	Date	D		
NO.	REVISION	DATE	BY	Designed by: <u>DBT</u> Drawn by: <u>DBT</u> Checked b	y:JMA	С		

SUMMIT AVENUE EXTENSION STORMWATER MANAGEMENT PLAN MICRO-BIORETENTION 3-1, MICRO-BIORETENTION 3-2 AND

MICRO-BIORETENTION 3-3DATE: SEPTEMBER 2020 SW-03 CALE : AS SHOWN \_\_\_\_05\_\_\_ of \_\_\_09\_\_\_ DPS SC/SWM PERMIT SHEET NO. C.I.P. Project No. <u>: 508000</u> \_\_\_\_17\_\_\_ of \_\_\_34\_\_\_

# LANDSCAPING GENERAL NOTES

- 7.1 SHA LANDSCAPE NOTES. LANDSCAPE CONSTRUCTION WITHIN RIGHTS OF WAY OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (SHA) AND WITHIN SHA PROPERTY, EASEMENT AREAS AND LANDS TO BE CONVEYED TO SHA SHALL CONFORM TO THESE NOTES. FOR GUIDANCE REGARDING DESIGN MODIFICATIONS DURING CONSTRUCTION, REFER TO SHA LANDSCAPE DESIGN GUIDE, SHA LANDSCAPE ESTIMATING MANUAL, AND SHA ENVIRONMENTAL GUIDE FOR ACCESS AND DISTRICT PERMIT APPLICANTS AT http://www.roads.maryland.gov/index.aspx?PageId=25.
- 5.2 SHA STANDARD SPECIFICATIONS. LANDSCAPE CONSTRUCTION SHALL CONFORM TO SECTIONS 701 THROUGH 716, AND LANDSCAPE MATERIALS SHALL CONFORM TO SECTION 920 OF THE MOST RECENT REVISION OF SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, INCLUDING ALL REVISIONS AND SUPPLEMENTS, AND AS SPECIFIED IN THESE NOTES. THESE REQUIREMENTS SHALL SUPERSEDE ALL OTHER SPECIFICATIONS FOR WORK ON SHA PROPERTY. ALL SHA SPECIFICATIONS FOR LANDSCAPING AND LANDSCAPE MATERIALS PUBLISHED IN 2008 HAVE BEEN REPLACED. CURRENT SPECIFICATIONS ARE AT http://www.roads.maryland.gov/Index.aspx?PageId=44.
- 7.3 EROSION AND SEDIMENT CONTROL MANAGER (ESCM). SOIL DISTURBANCE SUCH AS GRADING, EXCAVATION, SOIL PLACEMENT OR OTHER ACTIVITIES THAT INVOLVE SOIL DISTURBANCE SHALL BE SUPERVISED BY AN ESCM MANAGER WITH A VALID "SHA YELLOW CARD" IN CONFORMANCE WITH SHA STANDARD SPECIFICATIONS AND ANY APPLICABLE EROSION AND SEDIMENT CONTROL PERMIT.
- 7.4 SHA STANDARD DETAILS FOR TREES, SHRUBS AND PLANTING BEDS. THE INSTALLATION OF TREES, SHRUBS, PLANTING BEDS AND OTHER LANDSCAPE CONSTRUCTION RELATED TO SECTION 710 OF THE SHA STANDARD SPECIFICATIONS SHALL CONFORM TO THE "SHA BOOK OF STANDARDS FOR HIGHWAY & INCIDENTAL STRUCTURES CATEGORY 7" AT http://apps.roads.maryland.gov/ BusinessWithSHA/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/tocc at7.asp.
- 7.5 TEMPORARY STABILIZATION SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 704 TO ENSURE THAT AREAS OF SOIL DISTURBANCE ARE PROTECTED FROM WIND, RAINFALL AND FLOWING WATER UNTIL PERMANENT STABILIZATION IS INSTALLED.
  - TEMPORARY MULCH, EITHER AS TEMPORARY STRAW MULCH OR TEMPORARY MATTING MULCH, SHALL BE INSTALLED AT THE END OF EACH WORKING DAY TO PROVIDE SAME DAY STABILIZATION UNLESS OTHER APPROVED STABILIZATION IS INSTALLED.
  - 2. TEMPORARY STRAW MULCH SHALL BE INSTALLED ON AREAS AND SLOPES FLATTER THAN 4:1; TEMPORARY MATTING MULCH SHALL BE APPLIED ON SLOPES 4:1 AND STEEPER, AND TO AREAS WITHIN CHANNELS.
  - 3. TEMPORARY SEED SHALL BE INSTALLED IN LIEU OF TEMPORARY MULCH WHEN SOIL REDISTURBANCE IS EXPECTED MORE THAN 30 DAYS AFTER SOIL DISTURBANCE. THE REQUIRED APPLICATION RATE SHALL BE 100 LBS PER ACRE OF 37-0-0 (SCU) FERTILIZER.
- ROADWAY PAVEMENT REMOVAL. AREAS OF ROADWAY PAVEMENT REMOVAL SHALL BE EXCAVATED TO REMOVE PAVEMENTS, AGGREGATE BASE, AND COMPACTED SOIL TO A MINIMUM DEPTH OF 10 INCHES BELOW THE PAVEMENT SURFACE, OR AS NECESSARY TO REMOVE ALL MATERIALS UNSUITABLE FOR LANDSCAPING. THE EXCAVATED AREAS SHALL BE RESTORED WITH SUBSOIL AND TOPSOIL AS PART OF SOIL RESTORATION.
- 7.7 EXCAVATION AND DEBRIS REMOVAL. DEBRIS RELATED TO THE DEMOLITION OF SIDEWALKS, DRIVEWAYS, CURBS, TREES, STUMPS, ROOTS, FENCING, PIPES, AND OTHER MATERIALS THAT MAY INTERFERE WITH LANDSCAPE INSTALLATION OR FUTURE MAINTENANCE SHALL BE EXCAVATED AS NECESSARY FOR THEIR COMPLETE REMOVAL AND DISPOSAL.
- 7.8 SOIL RESTORATION. AREAS OF PAVEMENT REMOVAL, EXCAVATION OR DRILLING IN LANDSCAPED AREAS SHALL REMOVE EXCAVATED DEBRIS AND RESTORE THE SUBGRADE WITH APPROVED SUBSOIL AND TOPSOIL PLACED IN CONFORMANCE WITH SECTION 701 OF THE SHA STANDARD SPECIFICATIONS.
  - 1. A LAYER OF APPROVED TOPSOIL OF AT LEAST A 4-INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS FLATTER THAN 2:1 AND IN ALL CHANNELS PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED.
  - 2. A LAYER OF APPROVED TOPSOIL OF AT LEAST A 2-INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS 2:1 AND STEEPER PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED.
  - 3. BIORETENTION SOIL MIX (BSM) AND OTHER MATERIALS INSTALLED IN CONJUNCTION WITH SPI 316 STORMWATER FILTRATION FACILITIES AND SHA STORMWATER DETAILS SHALL BE INSTALLED IN CONFORMANCE WITH SHA LANDSCAPE NOTES AND LANDSCAPE PLANS. PLANT MATERIALS AND MULCH SHALL BE INSTALLED IN BSM IN CONFORMANCE WITH STORMWATER DETAILS, SECTION 710 OR OTHER SHA SPECIFICATIONS.
- TURFGRASS SOD ESTABLISHMENT SHALL BE PERFORMED IN ALL DISTURBED AREAS, OR WITHIN THE AREAS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTION 708 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRE, AND NO FERTILIZER SHALL BE APPLIED FROM NOVEMBER 15 TO MARCH 1.
- 7.10 TURFGRASS ESTABLISHMENT SHALL BE PERFORMED IN ALL DISTURBED AREAS, OR WITHIN THE AREAS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTION 705 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRE, AND NO FERTILIZER SHALL BE APPLIED FROM NOVEMBER 15 TO MARCH 1.

#### LANDSCAPE PLANTING SUMMARY

Flowering Trees					
Symbol	mbol Botanical/Common Name		Size	Spacing	
AMCA	Amelanchier canadensis	21	2'cal.	30' o.c.	



## LANDSCAPING GENERAL NOTES: CONTINUED

- 7.11 SOIL STABILIZATION MATTING SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 709 OF THE SHA STANDARD SPECIFICATIONS, IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT PER SECTION 705 OR MEADOW ESTABLISHMENT PER SECTION 707 AS FOLLOWS:
  - 1. AREAS FLATTER THAN 6:1. TYPE A OR TYPE E MATTING MAY BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT.
  - 2. AREAS STEEPER THAN 6:1 AND FLATTER THAN 4:1. TYPE A OR TYPE E MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE.
  - 3. CHANNELS, STORMWATER MANAGEMENT FACILITIES, AND SLOPES 4:1 AND STEEPER TYPE A SOIL STABILIZATION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE
  - 4. IN AREAS OF MEADOW ESTABLISHMENT WITH TYPE D SOIL STABILIZATION MATTING, THE MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.
  - 5. IN HIGH VELOCITY CHANNELS WITH TURFGRASS ESTABLISHMENT, TYPE B SOIL STABILIZATION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.
- 7.12 MEADOW ESTABLISHMENT OR SHRUB SEEDING ESTABLISHMENT SHALL BE PERFORMED IN AREAS AS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTIONS 706 AND 707 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRE.
- 7.13 TREE PRESERVATION AREAS. TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) SHALL BE INSTALLED IN LOCATIONS DELINEATED ON THE PLANS AS TREE PRESERVATION AREAS (TPA) IN CONFORMANCE WITH SECTION 120 OF THE SHA STANDARD SPECIFICATION TO PROTECT EXISTING TREES AND OTHER VEGETATION DURING CONSTRUCTION. AREAS WITHIN TOCF SHALL BE PROTECTED FROM ALL PROHIBITED AND RESTRICTED ACTIVITIES, PER SECTION 120.
- 7.14 ROADSIDE TREE PERMIT. TREE REMOVAL, TREE INSTALLATION, TREE ROOT AND BRANCH PRUNING, AND OTHER REGULATED IMPACTS TO TREES IN THE SHA RIGHT OF WAY SHALL CONFORM TO THE REQUIREMENTS OF THE ROADSIDE TREE PERMIT (RTP) ISSUED BY THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, OR THE APPROVED FOREST CONSERVATION PLAN (FCP) OF THE LOCAL AUTHORITY.
  - 1. A COPY OF THE RTP OR FCP SHALL BE SUBMITTED TO THE SHA OFFICE OF ENVIRONMENTAL DESIGN BEFORE WORK IS PERFORMED, AND A COPY OF THE RTP OR FCP SHALL BE REPRODUCED IN THE PLANS OR BE IN POSSESSION OF THE APPLICANT AT THE PROJECT SITE WHEN THE PERMITTED WORK IS PERFORMED.
  - 2. A MARYLAND LICENSED TREE EXPERT SHALL PERFORM THE SPECIFIED TREE OPERATIONS IN CONFORMANCE WITH THE SHA STANDARD SPECIFICATIONS AND ANSI A300 STANDARDS FOR TREE CARE OPERATIONS.
- 7.15 TREES AND OTHER PLANT MATERIAL INSTALLATION. TREES, SHRUBS, PERENNIALS, ANNUALS, BULBS, LANDSCAPE BEDS, BARK MULCH AND SIMILAR MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 710 AND 711 OF THE SHA STANDARD SPECIFICATIONS. TREE AND SHRUBS SHALL BE PRUNED AT THE TIME OF INSTALLATION TO ENSURE SIDEWALK CLEARANCE FOR PEDESTRIANS IS MAINTAINED TO A HEIGHT OF 8 FEET. NO TREE OR SHRUB SHALL BE INSTALLED WITHIN 3 FEET OF CURBS, SIDEWALKS, OR PAVEMENT EDGES.
- TREE BRANCH PRUNING SHALL BE PERFORMED OR DIRECTLY SUPERVISED BY A MARYLAND LICENSED TREE EXPERT IN CONFORMANCE WITH ANSI A300 STANDARDS PER SECTION 712 AS NECESSARY FOR ANY OF THE FOLLOWING: TO INSTALL TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) ALONG DELINEATIONS ON PLANS; TO PROVIDE 8-FOOT CLEARANCE ABOVE SIDEWALK PAVEMENTS AND 16-FOOT CLEARANCE ABOVE ROADWAY PAVEMENTS; TO REPAIR TREE WOUNDS; AND TO PERFORM OTHER RECOMMENDED CLEANING, THINNING, REDUCING, AND PRUNING NECESSARY TO ACCOMMODATE UTILITIES. ALL DEBRIS SHALL BE REMOVED FROM SHA PROPERTY.
- 7.22 TREE ROOT PRUNING SHALL BE PERFORMED ALONG THE LINE SHOWN ON THE PLANS IN CONFORMANCE WITH SECTION 715. TREE ROOT PRUNING SHALL BE COMPLETED BEFORE BEGINNING EXCAVATION OR CONSTRUCTION ADJACENT TO TREES TO BE PRESERVED.
- 7.23 CONTRACTOR SHALL CONTACT MR. ERIC BEANE (240-777-7655) FOR INSPECTION AND APPROVAL BEFORE ANY TREE BRANCH PRUNING WORK CAN START.
- 7.24 FINISHED MATERIALS. THE SUITABILITY, COLOR AND TEXTURE OF APPLICANT TO INSERT NAME OF MATERIALS WITH REFERENCES TO PAGES OF THE PLANS WHICH SPECIFY THESE MATERIALS TO BE INSTALLED SHALL BE APPROVED BEFORE INSTALLATION. THE CONTRACTOR SHALL FURNISH SAMPLES OR MAKE ARRANGEMENTS FOR INSPECTION AND APPROVAL AT THE PROJECT SITE.
- 7.25 FUTURE MAINTENANCE. ADDITIONAL MAINTENANCE THAT MAY BE REQUIRED AFTER HARDSCAPE, STREET FURNITURE OR PLANT MATERIALS ARE INSTALLED AND ACCEPTED BY SHA SUCH AS REPLACEMENT, WATERING, WEEDING, MULCHING OR PEST CONTROL MAY BE PROVIDED BY THE APPLICANT WHEN A PERMIT FOR THE PROPOSED WORK IS ISSUED BY THE SHA DISTRICT OFFICE.

		IG SERVICES	NEGATE THE NEI ACCESS PERMIT.	ED FOR A MCDPS		
	STORMWATER MANAGEMENT: ESD TO THE MEP		SEDIMENT CONTROL TECHNICAL REQUIREMENTS:		ADMINISTRATIV	E REQUIREMENTS:
					-	DATE 284320
	REVIEWED	DATE	REVIEWED	DATE	SEDIMENT CO	ONTROL PERMIT NO.
	APPROVED	DATE				
	282287 SM_FILE		APPROVED	DATE		THIS PLAN WILL EXPIRE THE DATE OF APPROVAL IF OT STARTED.
DPS APPROVAL OF A SEDIMENT CONTROL OR STORMWATER MANAGEMENT PLAN IS FOR DEMONSTRATED COMPLIANCE WITH MINIMUM ENVIRONMENT RUNOFF TREATMENT STANDARDS AND DOES NOT CREATE OR IMPLY ANY RIGHT TO DIVERT OR CONCENTRATE RUNOFF ONTO ANY ADJACENT PROFESSIONAL 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.					O ANY ADJACENT PROPERTY RSON OF PROFESSIONAL	

C.I.P. Project No. : 0509337

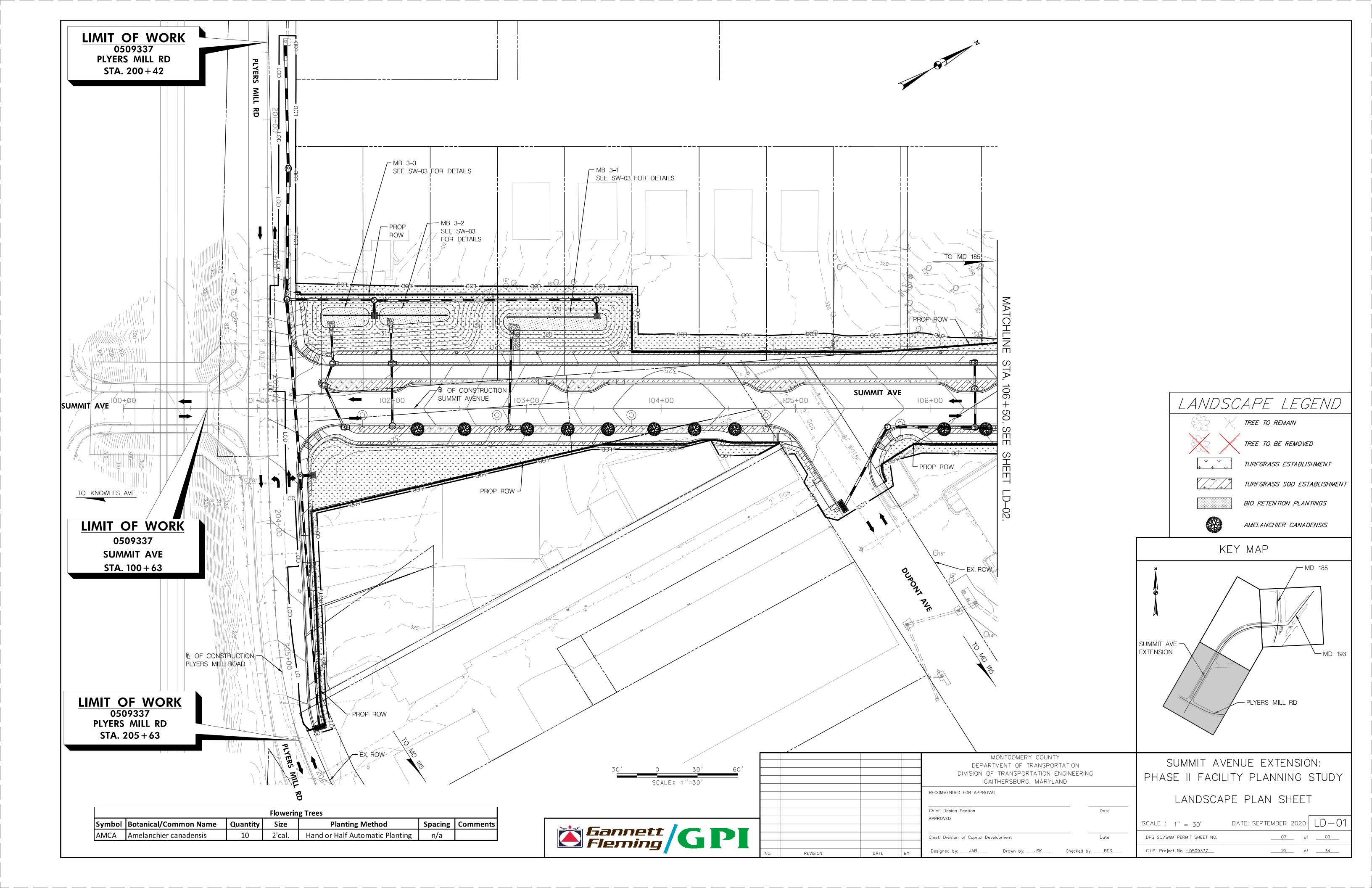
NOTE: MCDPS APPROVAL DOES NOT

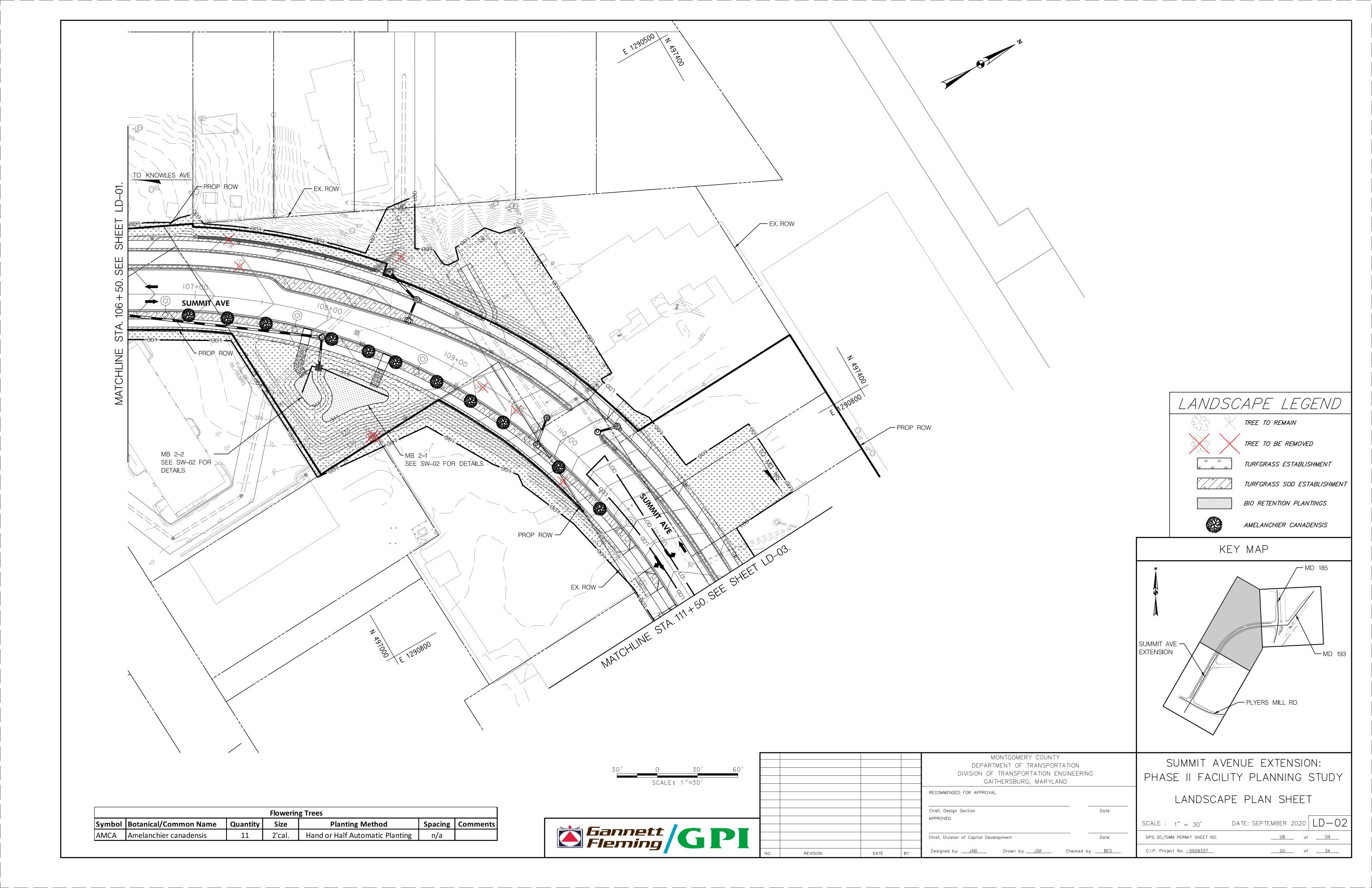
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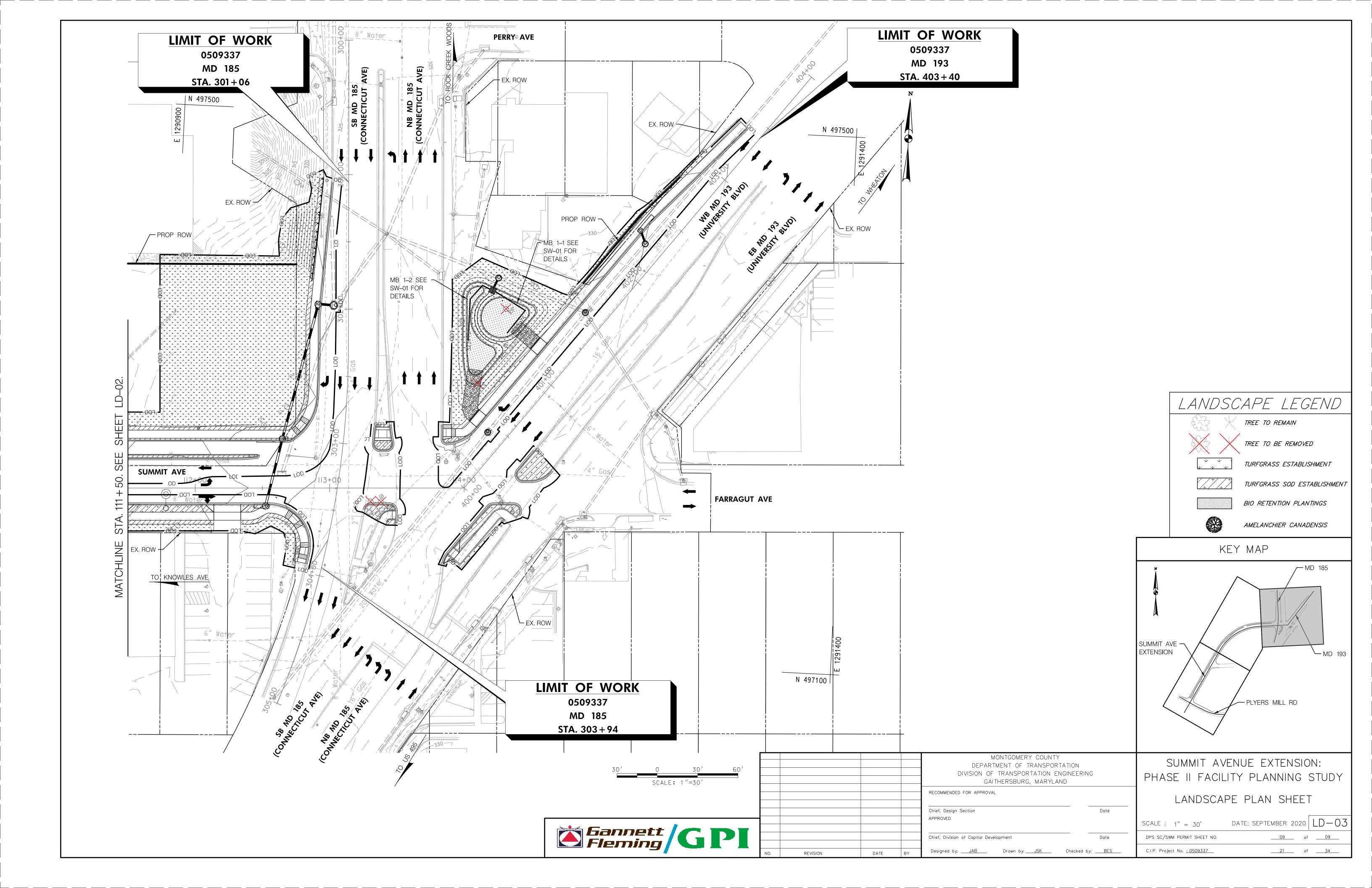
MONTGOMERY COUNTY SUMMIT AVENUE EXTENSION: DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING PHASE II FACILITY PLANNING STUDY GAITHERSBURG, MARYLAND LANDSCAPE RECOMMENDED FOR APPROVAL GENERAL NOTES Chief, Design Section APPROVED DATE: SEPTEMBER 2020  $\mid$  LN-O SCALE: N.T.S. Chief, Division of Capital Development DPS SC/SWM PERMIT SHEET NO.

Designed by: <u>JAB</u> Drawn by: <u>JSK</u> Checked by: <u>BES</u>

MONTOOMEDY COLINITY DEDADTMENT OF







#### GENERAL NOTES

- (I) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MONTGOMERY COUNTY, MD SHA WORK ZONE TRAFFIC CONTROL STANDARDS, THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 20II EDITION (MD MUTCD) AND SUBSEQUENT REVISIONS ADOPTED BY THE STATE OF MARYLAND, THE PROJECT BOOK OF SPECIAL PROVISIONS, AND THE OTHER CONTRACT DOCUMENTS.
- (2) PRIOR TO STARTING ANY LAND DISTURBING ACTIVITIES, THE CONTRACTOR SHALL FIELDMARK THE LIMITS OF DISTURBANCE.
- (3) PRIOR TO BEGINNING WORK OR NEW CONSTRUCTION PHASE, THE CONTRACTOR SHALL REFER TO THE EROSION AND SEDIMENT CONTROL SHEETS FOR THE REQUIRED EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED.
- (4) THE CONTRACTOR IS RESPONSIBLE FOR EXPEDITING THE MOVEMENT OF TRAFFIC DURING CONSTRUCTION.
- (5) ALL STANDARD REGULATORY AND WARNING SIGNS USED FOR MAINTENANCE OF TRAFFIC SHALL CONFORM TO THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES 2011 EDITION (MD MUTCD 2011) AS WELL AS THE MARYLAND STATE HIGHWAY ADMINISTRATION'S STANDARD SIGN BOOK STANDARD SIGNS 2009 REVISION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING THE LATEST EDITIONS AND SUPPLEMENTS OF THE MUTCD.
- (6) THE MAINTENANCE OF TRAFFIC PLAN SHALL UTILIZE THE GENERAL NOTES STANDARD NOS. MD 104.00-01 TO 104.00-18, STANDARD NOS. MD 104.01-01 TO 104.01-81, AND STANDARD NOS. MD 104.02-02, 104.02-04, 104.02-06, 104.02-10, AND 104.02-14.
- (7) FOR INFORMATION ON CHANNELIZATION DEVICES, REFER TO STANDARD NOS. MD 104.01-30B AND 104.01-30D.
- (8) FOR INFORMATION ON STAGED ROADWAY CONSTRUCTION, REFER TO STANDARD NO. MD 104.01-28.
- (9) ALL TRAVEL LANES SHALL BE A MINIMUM WIDTH OF 10 FT.
- (10) ALL EXCAVATION WHICH RESULTS IN A PAVEMENT EDGE DROP-OFF SHALL BE IN ACCORDANCE WITH STANDARD NOS. MD 104.06-15 TO 104.06-19. TEMPORARY GRADED AGGREGATE BASE COURSE AND HMA FOR MOT SHALL BE USED AS BACKFILL TO SATISFY THE PAVEMENT EDGE DROP-OFF STANDARDS.
- (II) EXCAVATIONS SHALL BE BACKFILLED WITH GRADED AGGREGATE BASE PRIOR TO THE END OF THE WORK DAY IN CONFORMANCE WITH STANDARD NO. MD 104.01-28.
- (12) NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS, CHANNELIZATION DEVICES AND PAVEMENT MARKINGS ARE OPERATIONAL.
- (13) ADVANCED WARNING SIGNS SHALL BE INSTALLED AT A MINIMUM SPACING OF 200 FEET TO AN EXISTING SIGN, UNLESS OTHERWISE DIRECTED BY ENGINEER.
- (14) SIGNS USED FOR TEMPORARY TRAFFIC CONTROL THAT ARE NOT APPLICABLE FOR A PARTICULAR CONSTRUCTION PHASE SHALL BE REMOVED OR COMPLETELY COVERED WITH AN OPAQUE MATERIAL.
- (15) EXISTING SIGNS THAT ARE LOCATED IN THE WORK AREA NEED TO EITHER REMAIN IN PLACE OR BE RELOCATED AS DIRECTED BY THE ENGINEER.
- (16) ALL TEMPORARY SIGNAGE AND DEVICES USED DURING LANE CLOSURES SHALL BE REMOVED OR COVERED WHEN LANE CLOSURES ARE PROHIBITED.

- (17) DURING EACH CONSTRUCTION PHASE THE CONTRACTOR SHALL MAINTAIN ALL APPLICABLE ROUTE MARKERS AND REMOVE OR COVER ANY NON APPLICABLE SIGNS.
- (18) PAVEMENT MARKINGS NO LONGER APPLICABLE FOR A PARTICULAR PHASE SHALL BE REMOVED OR COVERED AS DIRECTED BY THE ENGINEER.
- (19) PERMANENT MARKINGS THAT ARE DAMAGED SHALL BE REPAIRED AT THE DISCRETION OF THE ENGINEER.
- (20) PORTABLE VARIABLE MESSAGE SIGNS AND/ OR ARROW PANELS SHALL BE USED AS DIRECTED BY THE CONSTRUCTION PROJECT ENGINEER.
- (21) STORAGE OF CONSTRUCTION EQUIPMENT AND MATERIAL SHALL BE LOCATED OFF THE TRAVEL LANES AND BEHIND PROTECTION AT ALL TIMES.
- (22) NO CONSTRUCTION VEHICLES SHALL ENTER THE RESIDENTIAL STREETS OR ROADWAYS ADJACENT TO THE WORK ZONE.
- (23) WHERE TWO ENTRANCES EXIST FOR ONE PROPERTY, CONSTRUCTION SHALL BE SEQUENCED SO THAT ONLY ONE ENTRANCE WILL BE DISTURBED AT ANY GIVEN TIME. WHEN ONLY ONE ENTRANCE EXISTS FOR A PROPERTY, WHEN NECESSARY, THE CONTRACTOR SHALL PROVIDE FLAGGERS TO CONTROL ENTRANCE CONSTRUCTION.
- (24) TRAFFIC CONTROL DEVICES AND OTHER CONSTRUCTION MATERIALS SHALL NOT INTRUDE INTO THE USABLE WIDTH OF THE SIDEWALK, TEMPORARY PATHWAY, OR OTHER PEDESTRIAN FACILITY.
- (25) WHERE A SIDEWALK IS CLOSED DURING CONSTRUCTION, THE CONTRACTOR SHALL INSTALL A BARRIER ACROSS THE FULL WIDTH OF THE SIDEWALK APPROACHING THE CLOSURE. THIS BARRIER SHALL BE DETECTABLE BY A VISUALLY IMPAIRED INDIVIDUAL TRAVELING WITH THE AID OF A CANE.
- (26) WHERE SIDEWALK INTERSECTS A TEMPORARY CONSTRUCTION ACCESS, THE CONTRACTOR SHALL PROVIDE AN ADA COMPLIANT PEDESTRIAN CROSSING THROUGH THE TEMPORARY CONSTRUCTION ACCESS.
- (27) THE CONTRACTOR SHALL FOLLOW STANDARD NOS. MD 104.06-09B AND 104.06-09D TO MAINTAIN PEDESTRIAN ACCESS THROUGH THE SITE AND SHALL DO SIDEWALK IMPROVEMENTS TO ONE SIDE OF THE ROAD AT A TIME.
- (28) THE CONTRACTOR SHALL MAINTAIN ACCESS/ EGRESS FOR ALL EMERGENCY VEHICLES.
- (29) THE CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENTIAL STREETS/DRIVEWAYS AT ALL TIMES.
- (30) IF A CONCURRENT CONSTRUCTION PROJECT OCCURS ADJACENT TO THIS CONTRACT, COORDINATION OF THE TRAFFIC CONTROL PLANS FOR EACH CONTRACT WILL BE REQUIRED AND IS THE RESPONSIBILITY OF THE CONTRACTOR. THE TRAFFIC CONTROL ELEMENTS TO BE COORDINATED INCLUDE BUT ARE NOT LIMITED TO ADVANCED SIGNING, PAVEMENT MARKINGS AND CHANNELIZATION DEVICES. THE COORDINATED TRAFFIC CONTROL EFFORT FOR BOTH CONTRACTS SHALL BE PERFORMED IN ACCORDANCE WITH THE MDSHA WORK ZONE TRAFFIC CONTROL STANDARDS AND THE MD MUTCD AND SUBSEQUENT REVISIONS ADOPTED BY THE STATE OF MARYLAND.

**Sannett GPI Fleming** 

#### MAINTENANCE OF TRAFFIC - CONSTRUCTION PHASING

#### SEQUENCE OF CONSTRUCTION - STAGE I

- (I) SET TEMPORARY LANE MARKINGS FOR PLYERS MILL RD EAST OF INTERSECTION WITH SUMMIT TO SHIFT TRAFFIC AWAY FROM NORTH SIDE WORK AREA, MAINTAIN 10' LANES, PROVIDE CHANNELIZING DEVICES ALONG NORTH EDGE OF RE-STRIPED LANE. IMPLEMENT SHOULDER WORK PER STANDARD NO. 104.02-02 (SHOULDER WORK/2-LANE, 2-WAY EQL/LESS THAN 40 MPH) AND STANDARD NO. 104.04-03 (LEFT LANE CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH). PLYERS MILL RD WEST OF INTERSECTION WITH SUMMIT REDUCED TO ONE 12' LANE SEPARATED FROM THE WORK ZONE USING CHANNELIZING DEVICES. IMPLEMENT SHOULDER/LANE WORK PER STANDARD NO. 104.02-14 (INTERSECTION FLAGGING OPERATION 2-LANE, 2-WAY EQL/LESS THAN 40 MPH). DUPONT AVE SHALL BE BLOCKED WITH TYPE 3 BARRICADE JUST WEST OF THE CAR WASH TO PREVENT VEHICULAR AND PEDESTRIAN MOVEMENTS.
- (2) CONTRACTOR SHALL MAINTAIN THE PEDESTRIAN ACCESS ALONG PLYERS MILL ROAD THROUGHOUT CONSTRUCTION, WITH TEMPORARY CROSSING TO SOUTH SIDE OF ROAD AT THE INTERSECTION WITH SUMMIT TO ALLOW PEDESTRIANS TO TRAVERSE THE SOUTH SIDE OF PLYERS MILL RD EAST OF THE INTERSECTION WITH SUMMIT. PEDESTRIAN ACCESS FROM THE APARTMENTS ADJACENT TO SHAFTSBURY ST WILL BE TEMPORARILY BLOCKED WITH TYPE 2 BARRICADE THROUGHOUT CONSTRUCTION DURING PHASE I.
- (3) PERFORM WIDENING OF PLYERS MILL RD AND EXTENSION OF 21-INCH RCP ALONG NORTH EDGE OF PLYERS MILL RD WEST OF THE INTERSECTION WITH SUMMIT AVE. CONSTRUCTION OF SUMMIT AVE EXTENSION SHALL TAKE PLACE UP TO THE ENTRANCE TO THE KENSINGTON PARK BUSINESS COMPLEX. WORK PERFORMED AT THE ENTRANCE TO THIS FACILITY MUST MAINTAIN ACCESS FOR VEHICLES AND PEDESTRIANS FROM SB MD 185 TO THIS FACILITY.
- (4) PERFORM CONSTRUCTION OF FACILITIES MB 3-1, MB 3-2, MB 3-3, MB 2-1 AND MB 2-2 DURING THIS PHASE.
- (5) CONTRACTOR SHALL PERFORM AS MUCH WORK AS CAN BE ACCOMPLISHED DURING OFF PEAK HOURS.

#### SEQUENCE OF CONSTRUCTION - STAGE II

- (I) SET DETOUR IN PLACE FOR KENSINGTON PARK BUSINESS COMPLEX TENANTS, THEY WILL ACCESS THE OFFICE VIA PLYERS MILL RD AND THE NEWLY CONSTRUCTED SECTION OF SUMMIT AVE. FARRAGUT AVE AT SB MD 185 CLOSED BY TYPE 3 BARRICADE.
- (2) PLACE CHANNELIZING DEVICES ALONG SB MD 185 TO CLOSE OUTSIDE LANE TO TRAFFIC IN ACCORDANCE WITH STANDARD NO. 104.03-05 (RIGHT LANE CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH). SB MD 185 TRAFFIC WILL BE REDUCED TO TWO LANES THROUGHOUT PHASE II.
- (3) TYPE 2 BARRICADES WILL BE PLACED ON SIDEWALK NORTH AND SOUTH OF THE WORK ZONE ALONG THE WEST SIDE OF MD 185, RELEVANT SIGNAGE WILL BE PLACED TO DETOUR PEDESTRIAN TRAFFIC TO THE EAST SIDE OF MD 185. SB PEDESTRIAN TRAFFIC WILL BE DETOURED ACROSS MD 185 AT THE INTERSECTION WITH MD 185. NB PEDESTRIAN TRAFFIC WILL STILL BE ABLE TO USE THE EXISTING CROSSING (SOUTH OF FARRAGUT) BY DEVIATING PEDESTRIAN TRAFFIC INTO CLOSED OUTERMOST LANE. CONSTRUCTION OF PEDESTRIAN LANDING HERE SHOULD BE PHASED ACCORDINGLY TO ALLOW FOR UNENCUMBERED PEDESTRIAN MOVEMENT THROUGH THIS AREA. SIGNS SHOULD ALSO BE PLACED AT THE INTERSECTION BETWEEN PLYERS MILL RD AND MD 185 TO DISCOURAGE PEDESTRIAN MOVEMENT ALONG THE WEST SIDE OF MD 185.
- (4) PERFORM WIDENING OF SB MD 185 AND REMAINING WORK RELATED TO THE EXTENSION OF SUMMIT AVE. PEDESTRIAN PUSH BUTTONS ALONG WEST SIDE OF SB MD 185 NORTH AND SOUTH OF SUMMIT AVE ALONG WITH SIGNAL EQUIPMENT SOUTH OF SUMMIT AVE TO BE INSTALLED DURING THIS PHASE.
- (5) THE CONTRACTOR SHALL COORDINATE WITH MOCO AND WMATA REGARDING BUS STOPS WITHIN WORK ZONE. METROBUS STOP ID NO. 2000440 AT THE CORNER OF SB MD 185 AND FARRAGUT AVE WILL BE TEMPORARILY IMPACTED.
- (6) CONTRACTOR SHALL PERFORM AS MUCH WORK AS CAN BE ACCOMPLISHED DURING OFF PEAK HOURS.

#### SEQUENCE OF CONSTRUCTION - STAGE III

- (I) PLACE CHANNELIZING DEVICES ALONG NB AND SB MD 185 AS WELL AS EB AND WB MD 193 TO CLOSE INSIDE LANES TO TRAFFIC IN ACCORDANCE WITH STANDARD NO.104.04-03 (LEFT LANE CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH) AND STANDARD NO.104.04-03 (LEFT LANE CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH). BOTH MD 185 AND MD 193 WILL BE REDUCED TO TWO LANES THROUGHOUT PHASE III.
- (2) RELEVANT SIGNAGE WILL BE PLACED NORTH ALONG MD 185 TO DETOUR PEDESTRIAN TRAFFIC TO THE WEST SIDE OF MD 185 AND EAST ALONG MD 193 TO DETOUR PEDESTRIAN TRAFFIC TO THE SOUTH SIDE OF MD 193. SB PEDESTRIAN TRAFFIC ALONG MD 185 WILL BE DETOURED ACROSS MD 185 AT THE INTERSECTION WITH PERRY AVE, WHERE THEY WILL OPERATE ALONG SB MD 185. NB PEDESTRIAN TRAFFIC ALONG MD 185 WILL BE DETOURED AT THE INTERSECTION WITH PLYERS MILL RD TO THE WEST SIDE. WB PEDESTRIAN TRAFFIC SHOULD BE DETOURED TO THE SOUTH SIDE OF MD 193 AT THE INTERSECTION WITH PERRY AVE.
- (3) PERFORM MEDIAN WORK ALONG MD 185 AND MD 193. PEDESTRIAN PUSH BUTTONS ALONG AND SIGNAL EQUIPMENT LOCATED IN THE MEDIAN TO BE INSTALLED DURING THIS PHASE.
- (4) CONTRACTOR SHALL PERFORM AS MUCH WORK AS CAN BE ACCOMPLISHED DURING OFF PEAK HOURS.

#### SEQUENCE OF CONSTRUCTION - STAGE IV

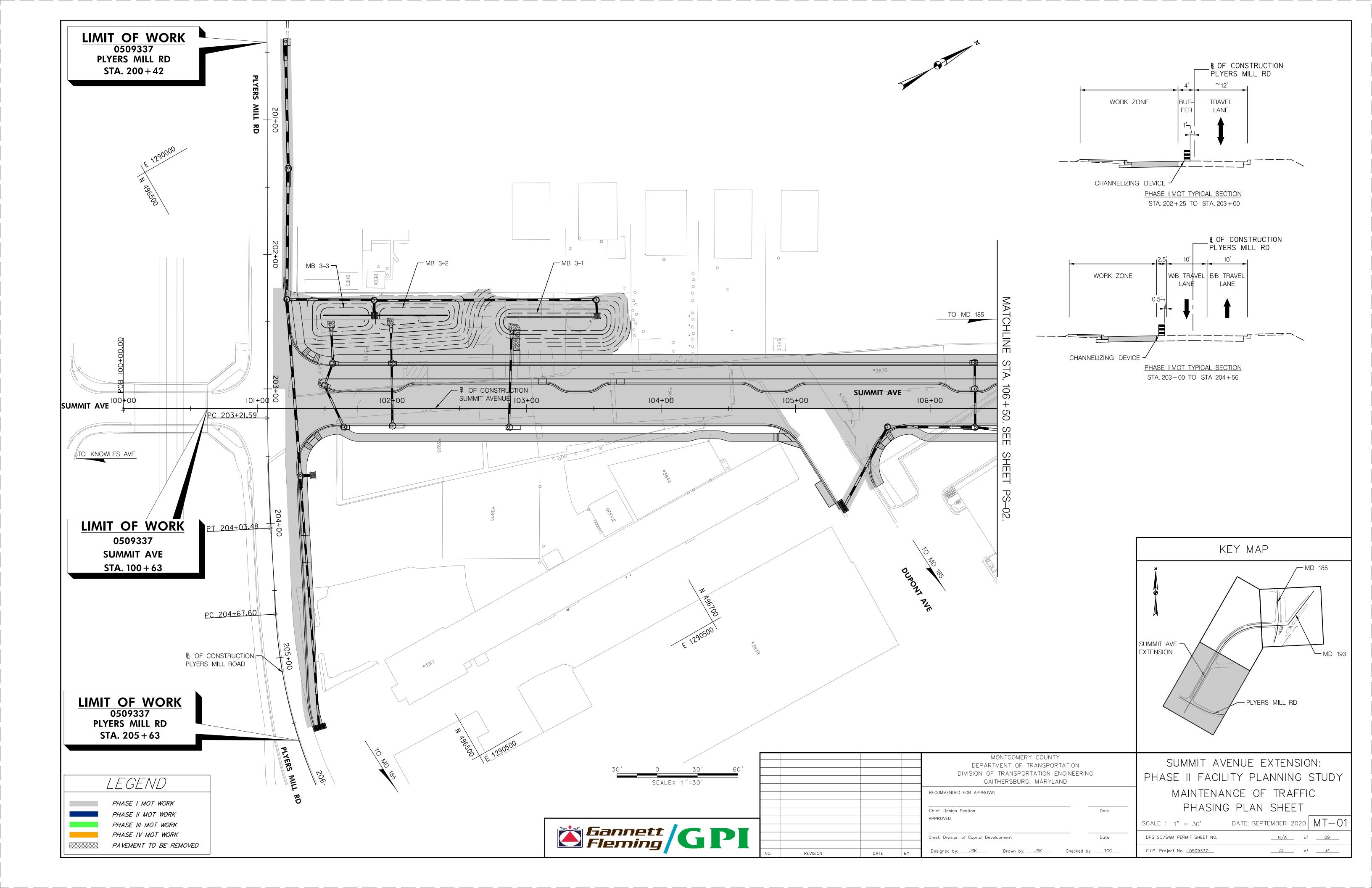
- (I) PLACE CHANNELIZING DEVICES ALONG WB MD 193 TO CLOSE OUTSIDE LANE TO TRAFFIC IN ACCORDANCE WITH STANDARD NO.104.03-05 (RIGHT LANE CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH). WB MD 193 TRAFFIC WILL BE REDUCED TO TWO LANES THROUGHOUT PHASE IV.
- (2) TYPE 2 BARRICADES WILL BE PLACED ON SIDEWALK NORTH OF THE WORK ZONE ALONG NB MD 185 AND EAST OF THE WORK ZONE ALONG WB MD 193, RELEVANT SIGNAGE WILL BE PLACED TO DETOUR PEDESTRIAN TRAFFIC TO THE WEST SIDE OF MD 185 AND SOUTH SIDE OF MD 193. SB PEDESTRIAN TRAFFIC ALONG MD 185 WILL BE DETOURED ACROSS MD 185 AT THE INTERSECTION WITH PERRY AVE, SIMILAR TO THE PREVIOUS PHASE. WB PEDESTRIAN TRAFFIC ALONG MD 193 WILL BE DETOURED TO THE SOUTH SIDE OF MD 193, SIMILAR TO THE PREVIOUS PHASE. PEDESTRIANS WILL BE ABLE TO USE THE PROPOSED INTERSECTION CROSSING FACILITIES (CONSTRUCTED IN THE PREVIOUS PHASE).
- (3) PERFORM WIDENING OF WB MD 193. PEDESTRIAN PUSH BUTTONS ALONG NORTH SIDE OF WB MD 193 ALONG WITH SIGNAL EQUIPMENT TO BE INSTALLED DURING THIS PHASE.
- (4) PERFORM CONSTRUCTION OF FACILITIES MB I-I AND MB I-2 DURING THIS PHASE.
- (5) THE CONTRACTOR SHALL COORDINATE WITH MOCO AND WMATA REGARDING BUS STOPS WITHIN WORK ZONE. RIDEON STOP ID NO. 26784 AT THE CORNER OF NB MD 185 AND WB MD 193 WILL BE TEMPORARILY IMPACTED.
- (6) CONTRACTOR SHALL PERFORM AS MUCH WORK AS CAN BE ACCOMPLISHED DURING OFF PEAK HOURS.

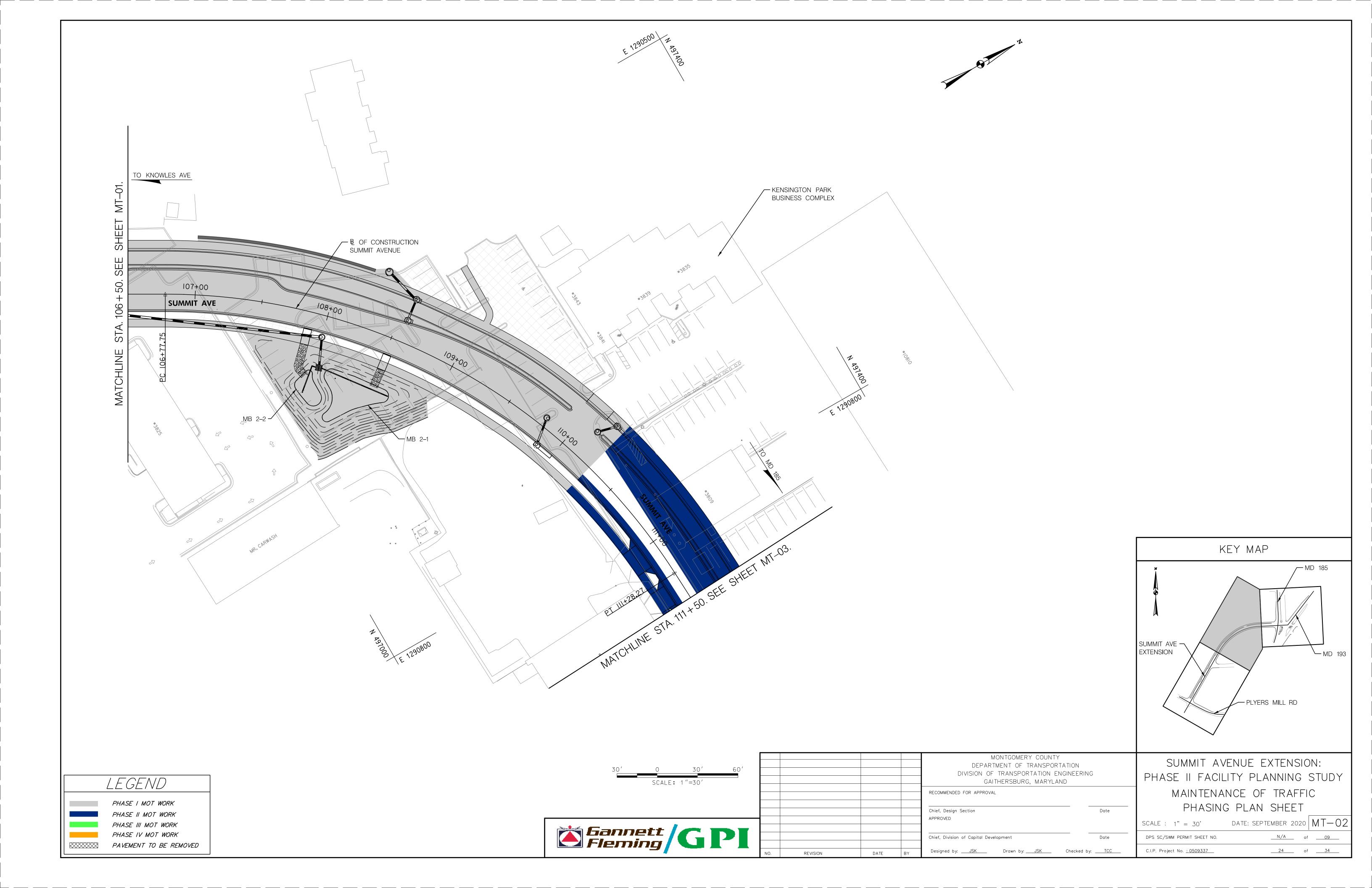
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING GAITHERSBURG, MARYLAND		SUMMIT AVENUE EXTENSION: PHASE II FACILITY PLANNING STUDY
RECOMMENDED FOR APPROVAL  Chief, Design Section	Date	MAINTENANCE OF TRAFFIC PLAN GENERAL NOTES & SEQUENCE
APPROVED		SCALE: N.T.S. DATE: SEPTEMBER 2020 MT-00
Chief, Division of Capital Development	Date	DPS SC/SWM PERMIT SHEET NO. <u>N/A</u> of <u>09</u>

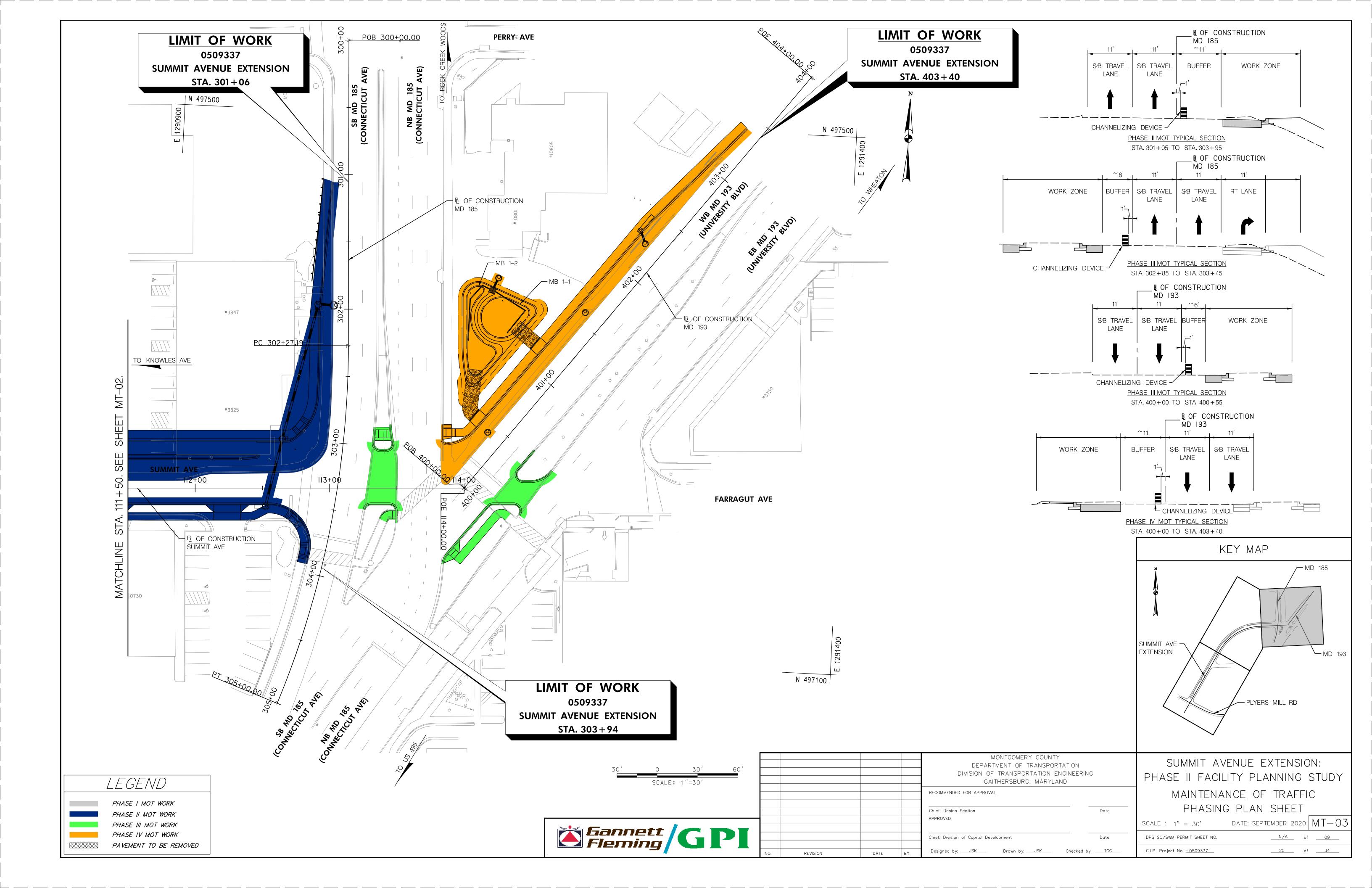
Designed by: \_\_\_JSK \_\_\_ Drawn by: \_\_\_JSK \_\_\_ Checked by: \_\_\_TCC

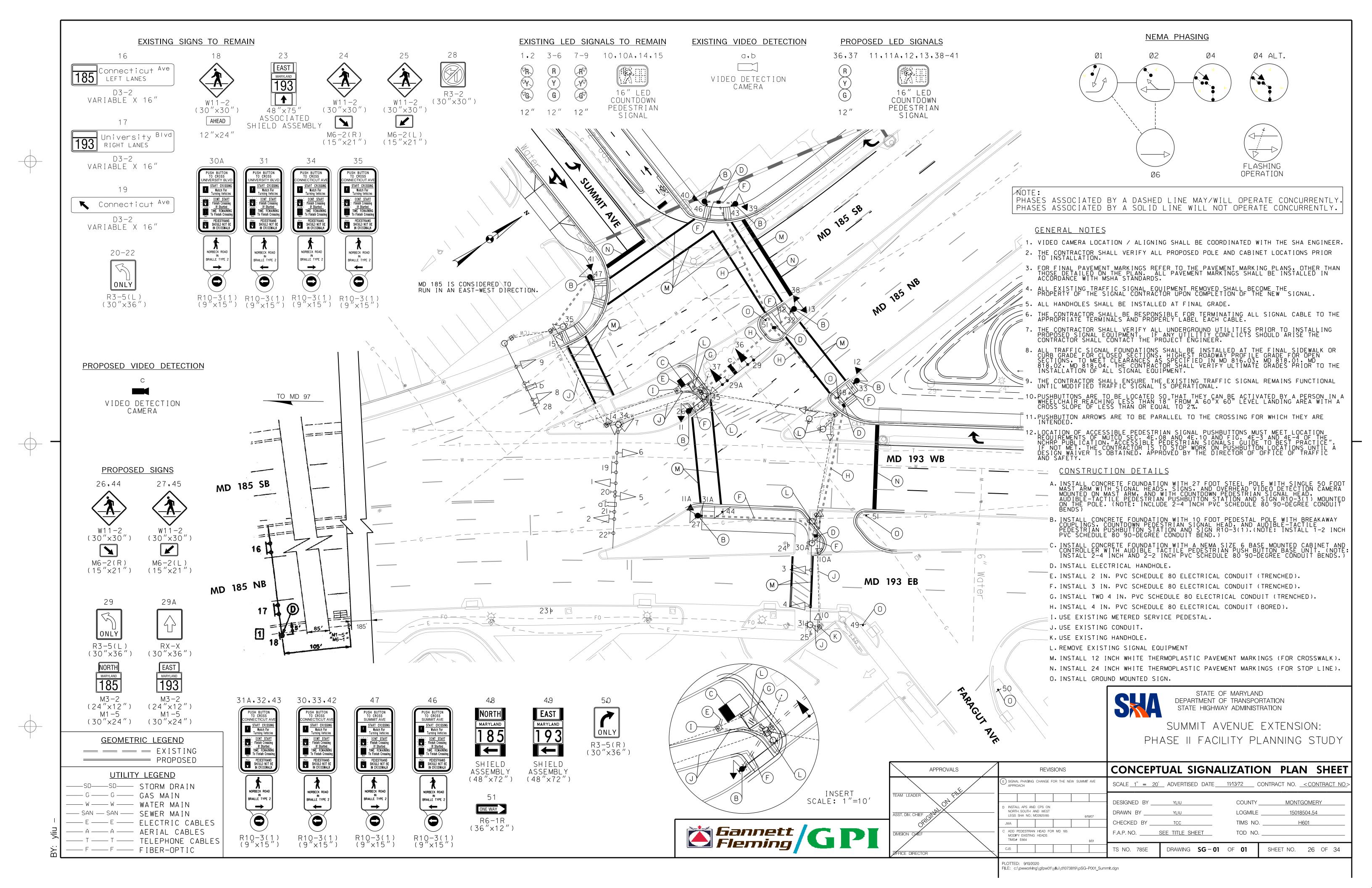
C.I.P. Project No. <u>: 0509337</u>

\_\_\_\_\_22\_\_\_ of \_\_\_\_34\_\_\_\_









#### <u>CRITERIA</u>

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

#### DESIGN

- MDOT SHA "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MDMUTCD)
- A A S H T O "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" -1997
- A A S H T O "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2001 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

#### MATERIALS AND CONSTRUCTION

- MDOT SHA "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.
- MDOT SHA "BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

#### DESIGN WIND

100 MPH - WOOD SUPPORTS IO YEAR RECURRENCE INTERVAL

100 MPH - GROUND MOUNT SIGN STEEL SUPPORTS

10 YEAR RECURRENCE INTERVAL

100 MPH - OVERHEAD AND CANTILEVER STRUCTURES 50 YEAR RECURRENCE INTERVAL

## 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. B) PANELS

I. GUIDE SIGNS

A) STRUCTURAL TYPES

OH - OVERHEAD C - CANTILEVER

GM - GROUND MOUNT, BREAKAWAY

OR NON-BREAKWAY

BM - BRIDGE MOUNTED

2. STANDARD SIGNS (REGULATORY, WARNING, ETC.) A) STRUCTURAL TYPES WOOD SUPPORTS

B) PANELS

ALL DISTRICTS

MATERIAL - SHEET ALUMINUM COPY - DIRECT APPLIED

COPY - DIRECT APPLIED

MATERIAL - EXTRUDED ALUMINUM

I) HIGH INTENSITY (NEW SIGNS AND

REVISIONS TO EXISTING SIGNS)

#### IDENTIFICATION OF SIGNS AND PANELS

SQUARE TUBE

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM-I, GM-2, GM-3, etc)

SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH-Ia, OH-Ib, OH-Ic)

#### STANDARD SIGNS

STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS

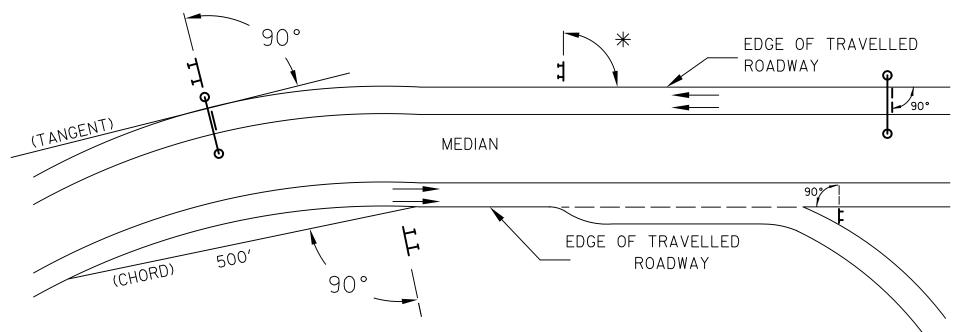
- R REGULATORY W - WARNING
- M ROUTE MARKERS AND ACCESSORIES
- D DESTINATION AND MILEAGE PANELS
- S SCHOOL

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

I. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE. 2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MDMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE AT http://apps.roads.maryland.gov/businesswithsha/ bizstdsspecs/desmanualstdpub/publicationsonline/oots/internet\_signbook.asp

## 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°

#### REFLECTORIZATION

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

#### SIGN LOCATIONS

- I. 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

- I. 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

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

#### PROJECT REQUIREMENTS

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

### PROJECT REQUIREMENTS CONT'D

- I. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDOT SHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS 2017 EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.
- 2. LISTED ON MDOT SHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL).
- 3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS:

GENERAL NOTE: ALL COLORS SHALL BE RETROREFLECTIVE EXCEPT BLACK. BLACK TEXT, BORDERS, SYMBOLS OR ANY BLACK ELEMENTS OF ANY SIGN SHALL BE NON-REFLECTIVE. THIS APPLIES TO ALL MDOT SHA SIGNS AS SHOWN BELOW.

A) GUIDE, EXIT GORE, GENERAL INFORMATION, AND SERVICE SIGNS - FALL INTO TWO SUB CATEGORIES:

(I). GROUND MOUNTED:

ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).

(II). OVERHEAD STRUCTURE SIGNS AND OVERHEAD CANTILEVER SIGNS: ALL RETROREFLECTIVE SHEETING ELEMENTS OF ALL OVERHEAD SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE XI(II). (THIS SECTION DOES NOT APPLY TO OVERHEAD SIGNALIZED INTERSECTION SIGNING; MAST ARM OR SPAN WIRE, FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION FOR SIGNAL SIGNING.)

B) WARNING SIGNS - RETROREFLECTIVE SHEETING FOR WARNING SIGNS (FLUORESCENT YELLOW AND FLUORESCENT ORANGE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

C) SCHOOL SIGNS - RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (FLUORESCENT YELLOW AND FLUORESCENT YELLOW-GREEN) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

D) REGULATORY SIGNS - FALL INTO THREE SUBCATEGORIES:

- (I). "RED" REGULATORY SIGNS; (SPECIFICALLY STOP, YIELD, DO NOT ENTER AND WRONG WAY). ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).
- (II). ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE REQUIREMENTS FOR ASTM TYPE IV (4).
- (III). ALL OTHER REGULATORY SIGNS ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET ASTM TYPE IV (4) INCLUDING RED ELEMENTS. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE REQUIREMENTS FOR WARNING SIGNS.
- E) ROUTE MARKERS (INDEPENDENT USE AND GUIDE SIGN USE)

INDEPENDENT USE: ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET BUT NOT TO EXCEED THE REQUIREMENTS FOR ASTM TYPE IV (4).

GUIDE SIGN USE: WHEN INCORPORATED IN THE BODY OF A GUIDE SIGN, ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE SHEETING REQUIREMENTS OF THE GUIDE SIGNS FOR WHICH THEY ARE TO BE APPLIED; GROUND MOUNT ASTM TYPE IX (9) OR OVERHEAD ASTM TYPE XI(II).

F) LOGOS AND / OR GRAPHICS - WITHIN SIGNS SHALL FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS. OR AS DIRECTED BY THE ENGINEER.

G) SPECIFIC SERVICE (LOGO) SIGNING - ALL COPY. DIVIDER BORDERS. LOGOS AND ARROWS SHALL BE DEMOUNTABLE ALUMINUM OVERLAYS. .032 MINIMUM TO .063 MAXIMUM. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9), DISTANCES ON DIRECTIONAL ARROWS WHEN SPECIFIED SHALL BE BLACK. THE OVERLAYS ARE TO BE APPLIED WITH .125 ALUMINUM POP RIVETS TO THE BODY OF THE MAIN SIGN.

H) CIVIL DEFENSE SIGNS AND OTHER SIGNS - NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE. SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.

SUMMIT AVENUE EXTENSION:

SIGNING AND MARKING

DATE: SEPTEMBER 2020 SN-OC

<u>N/A</u> of <u>09</u>

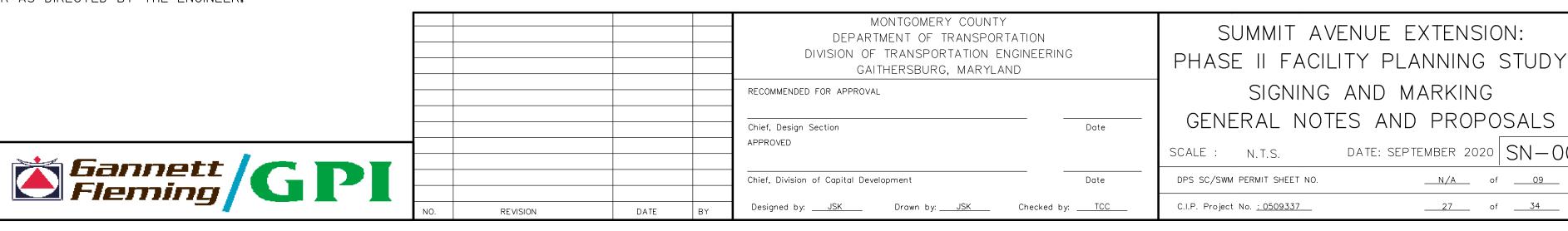
\_\_\_\_\_27\_\_\_ of \_\_\_\_34

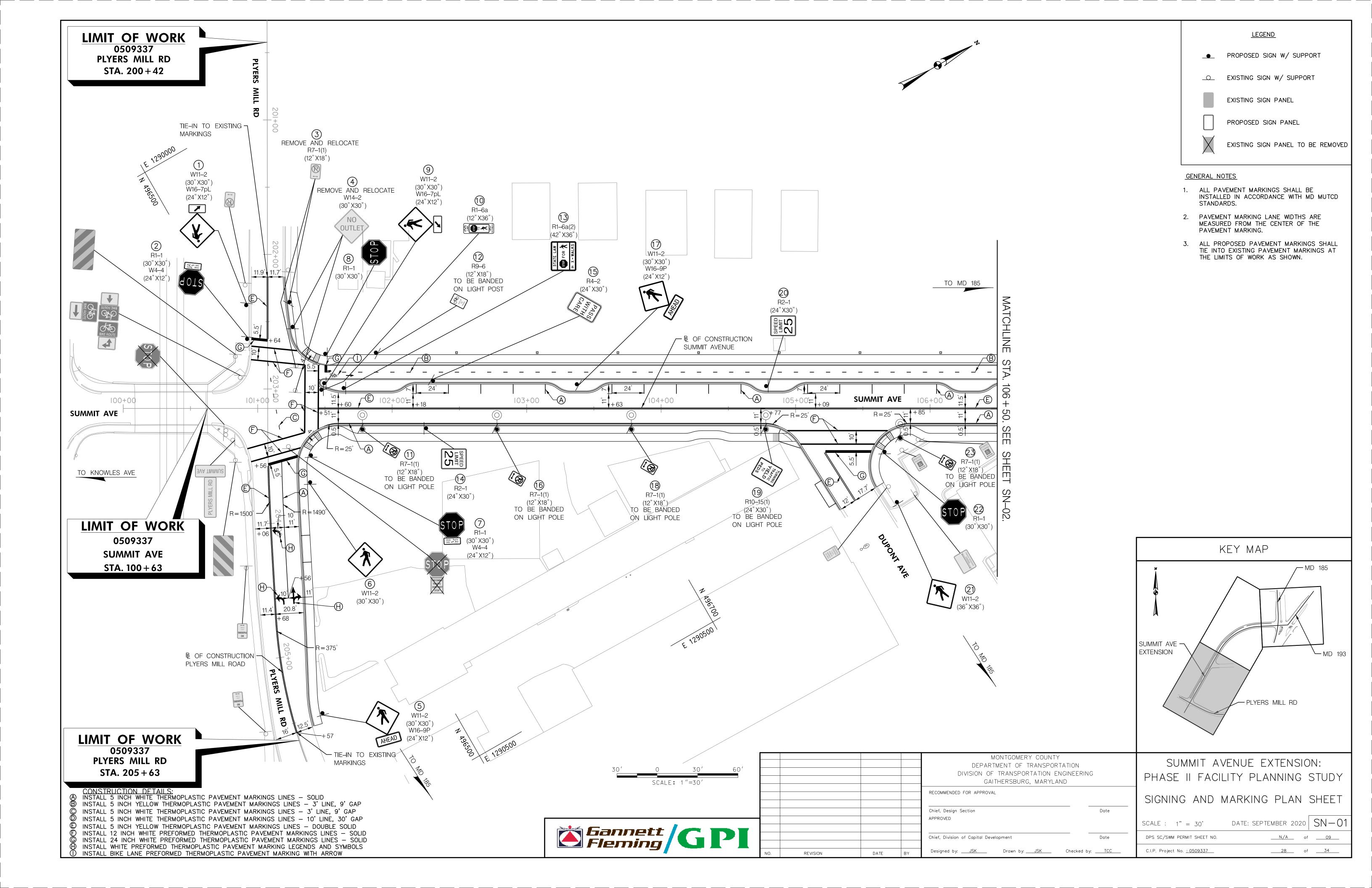
MINIMUM THICKNESS

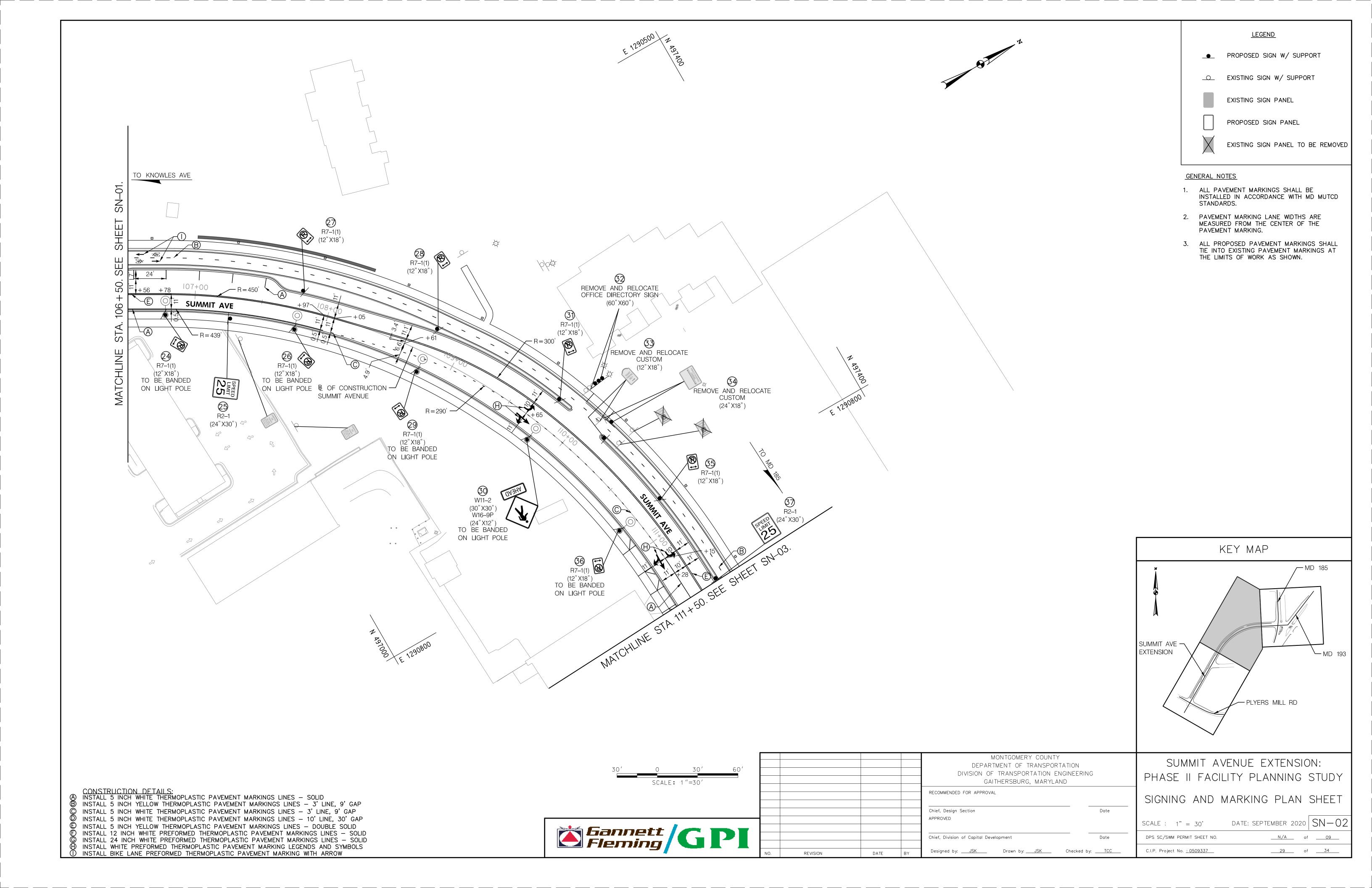
4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS:

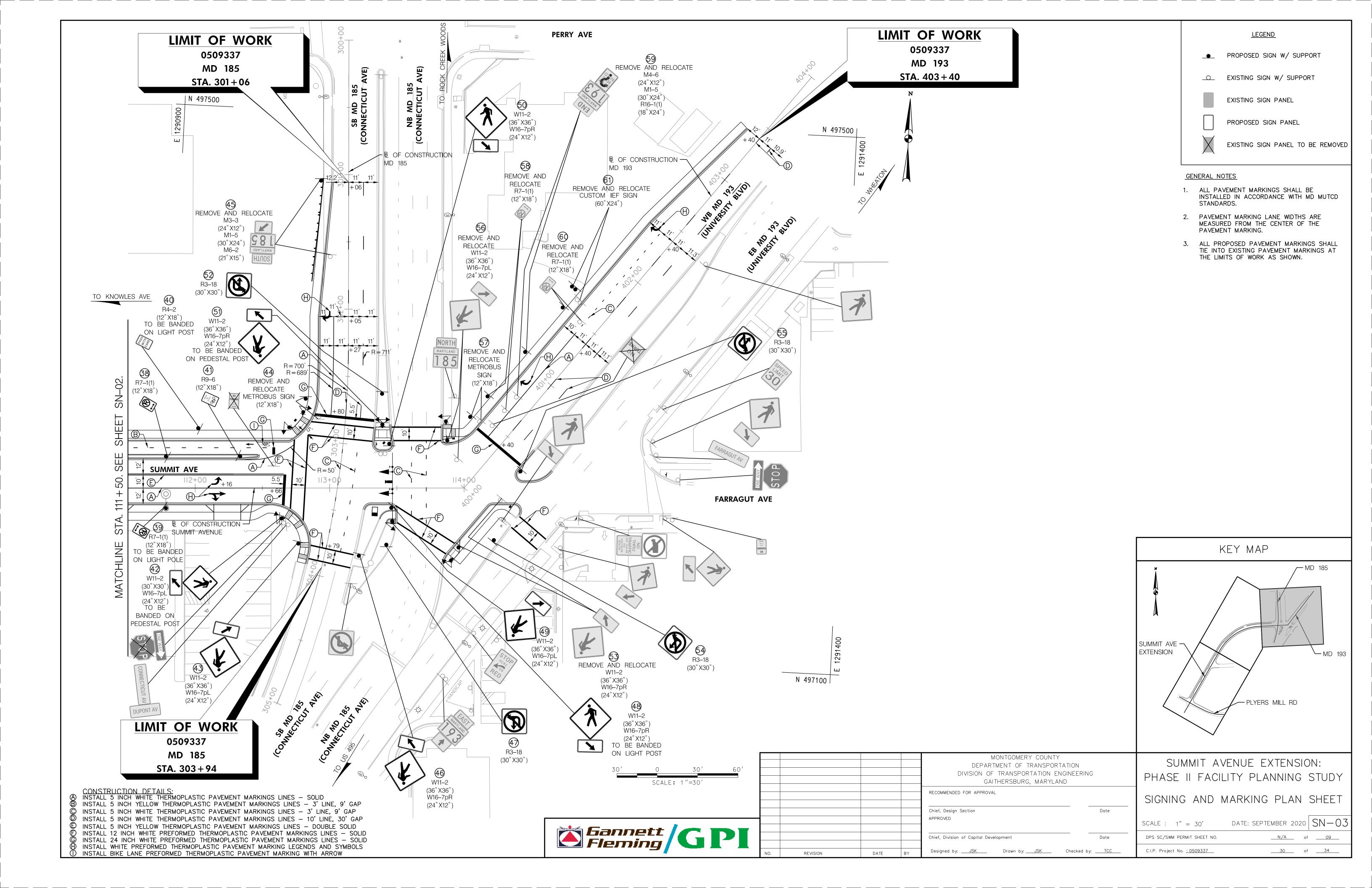
#### UP TO 12"..... ...0.040" GREATER THAN 12" TO 24"... ..0.063" GREATER THAN 24" TO 36"...... .\_0.080" GREATER THAN 36" TO 48".... ..0.100" OVER 48"\_\_\_\_ ..0.125"

LONGEST DIMENSION









#### GENERAL NOTES:

- I. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF NATIONAL ELECTRICAL CODE AND THE REQUIREMENTS OF ALL LOCAL CODES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORK.
- 2. ALL UNDERGROUND UTILITIES ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL CONTACT "MISS UTILITY" AT LEAST 48 HOURS PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE LIGHTING STRUCTURE WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED.
- 3. ALL STREET LIGHT EQUIPMENT AND MATERIALS SHALL BE SUBMITTED TO MCDOT FOR APPROVAL PRIOR TO BEING INSTALLED ON THE PROJECT.
- 4. INSTALLATION OF ALL UNDERGROUND LIGHTING FACILITIES ARE ALSO SUBJECT TO PEPCO INSPECTION AND WRITTEN APPROVAL BEFORE CONCEALMENT. FAILURE TO OBTAIN SUCH INSPECTION WILL RESULT IN THE UNCOVERING OF FACILITIES AT THE CONTRACTOR'S EXPENSE. CALL 301-670-8808 OR 301-670-8828 7:00 TO 9:00 AM OR 3:00 TO 4:00 PM TWO WORKING DAYS IN ADVANCE TO ARRANGE INSPECTION.
- 5. ALL CONDUITS SHALL BE INSTALLED PRIOR TO SIDE PATH OR SIDEWALK CONSTRUCTION.
- 6. RUN TWO WAY CONDUIT FOR ROADWAY AND DRIVEWAY CROSSINGS BETWEEN LIGHTING HANDHOLES. RUN ONE WAY CONDUIT BETWEEN OTHER LIGHTING HANDHOLES AND BETWEEN LIGHTING HANDHOLE AND THE POLE LOCATION.
- 7. MINIMUM TRENCH DIMENSIONS SHALL BE BASED ON PROVIDING ADEQUATE COVER PER NEC AND NESC CODES (DEPTH) AND ACCEPTABLE WORKING AREAS (WIDTH), CONDUIT IS TO HAVE TWO (2) FEET MINIMUM OF COVER OVER IT.
- 8. THE BOTTOM OF THE TRENCH SHALL BE RELATIVELY SMOOTH, UNDISTURBED EARTH, WELL-TAMPED EARTH, OR SAND, WHICH IS FREE OF ROCK, CINDERS OR SHARP OBJECTS.
- 9. ALL SWEEPBENDS SHALL BE A MINIMUM OF 36 INCHES RADIUS.
- IO. ALL JOINTS SHALL BE GLUED TOGETHER. CONDUIT SHALL BE CLEANED AND PLUGGED AT EACH END TO KEEP WATER AND DIRT OUT. 1/4" UNBROKEN NYLON PULL LINE SHALL BE INSTALLED IN EACH CONDUIT DUCT.
- II. CONTRACTOR SHALL INSTALL MARKING TAPE ONE FOOT (I') ABOVE EACH CONDUIT RUN.

NON SKID SURFACE

- 12. CONTRACTOR SHALL BACKFILL AROUND ALL CONDUITS WITH SIX (6) INCHES OF STONE DUST. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED WITH NATIVE SOIL AND NOT CONTAIN LARGE ROCKS (GREATER THAN 4 INCH) OR ROCKS WITH SHARP EDGES.
- 13. BACKFILL SHALL BE COMPACTED IN SIX INCH LAYERS BY HAND OR USING WITH PNEUMATIC OR VIBRATING TAMPING EQUIPMENT TO LESSEN THE EFFECTS OF SETTING.

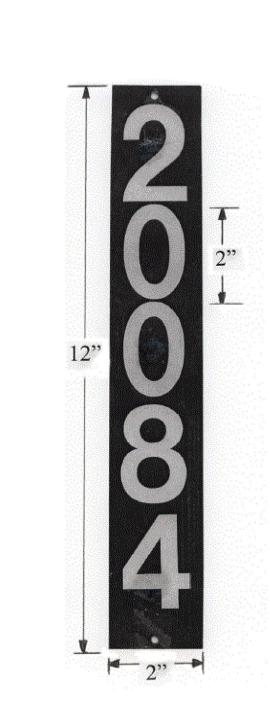
SPLICE BOX SHALL BE DESIGNED FOR LIGHT TRUCK LOADING PER ASTM CB57.

- 14. ALL LIGHTING HANDHOLES SHALL BE PEPCO 12X24X24 STREET LIGHT SPLICE BOX AS SHOWN AND SHALL BE PURCHASED FROM PEPCO.
- 15. ALL SPLICE BOX SHALL BE INSTALLED WITH THE LONG DIMENSION PARALLEL TO THE ROADWAY/SIDE PATH/SIDEWALK.
- 16. ALL SPLICE BOX SHALL INCLUDE A GROUND ROD.

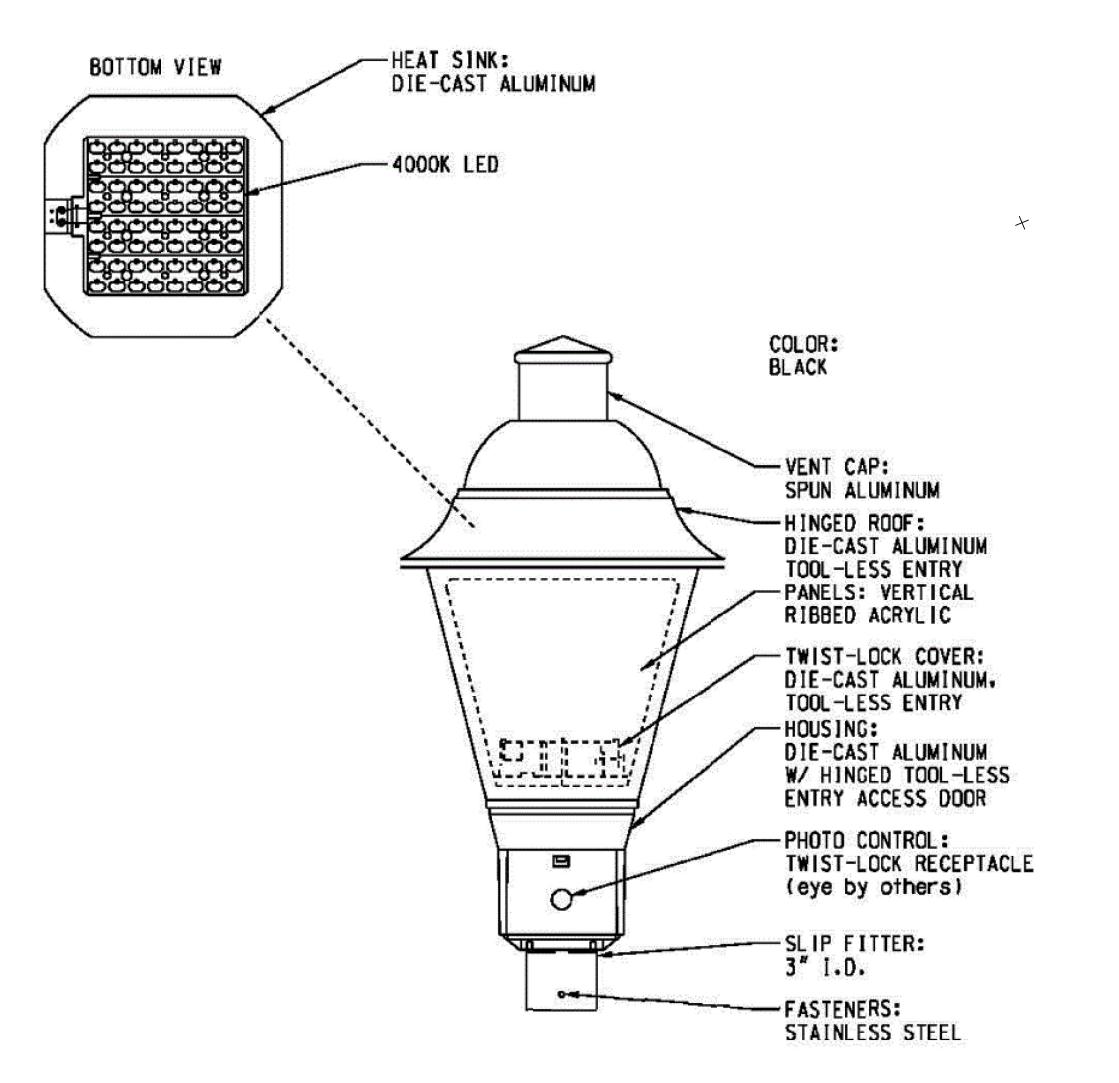
—PEPCO—

PEPCO LOGO

ON EACH COVERY



STREETLIGHT POST NUMBERING TAG SCALE: N.T.S.

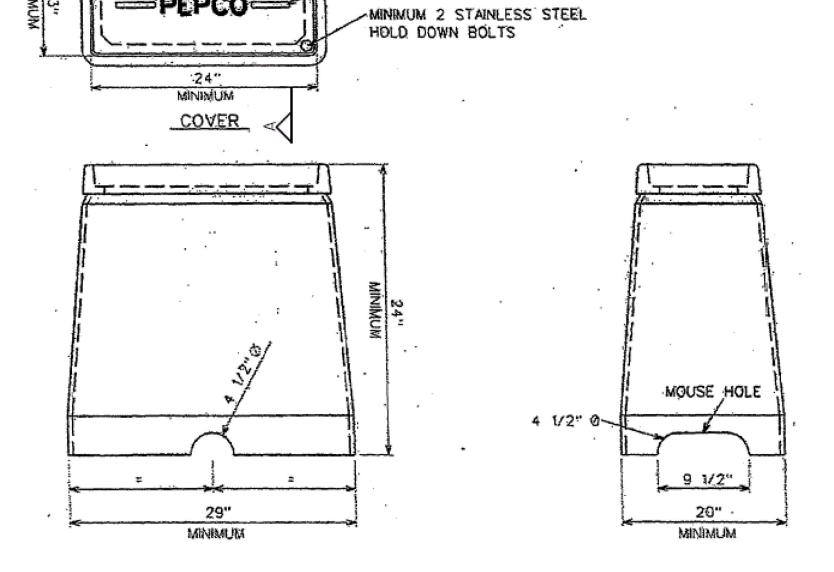


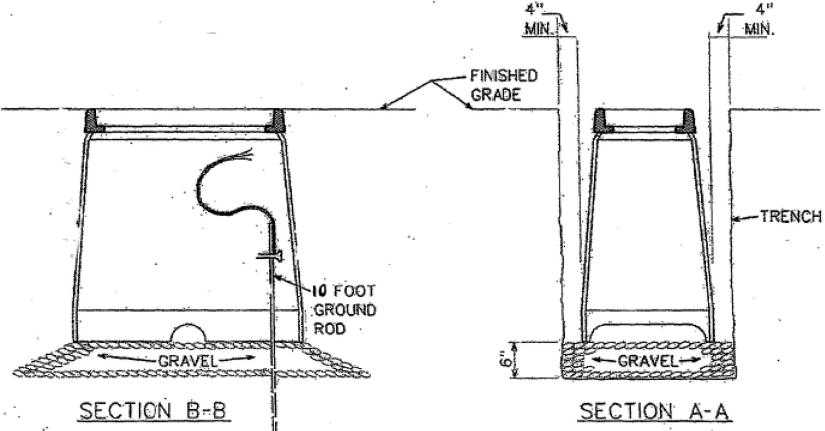
COLONIALPOST-TOP LED LUMINAIRE

SCALE: N.T.S.

DIRECT BURIAL FIBERGLASS POLE SCALE: N.T.S.

16' +/-





PEPCO 12X24X24 STREET LIGHT SPLICE BOX

SCALE: N.T.S.



	MONTGOMERY COUNTY
	DEPARTMENT OF TRANSPORTATION
	DIVISION OF TRANSPORTATION ENGINEERING
	GAITHERSBURG, MARYLAND
	RECOMMENDED FOR APPROVAL

Designed by: YLIU Drawn by: MF Checked by: TCC

Chief, Division of Capital Development

APPROVED

LIGHTING GENERAL NOTES AND DETAILS Chief, Design Section Date

DATE: SEPTEMBER 2020 LT-00 SCALE: N.T.S. <u>N/A</u> of <u>09</u> DPS SC/SWM PERMIT SHEET NO. \_\_\_\_31\_\_\_ of \_\_34\_\_\_ C.I.P. Project No. <u>: 0509337</u>

SUMMIT AVENUE EXTENSION:

PHASE II FACILITY PLANNING STUDY

