

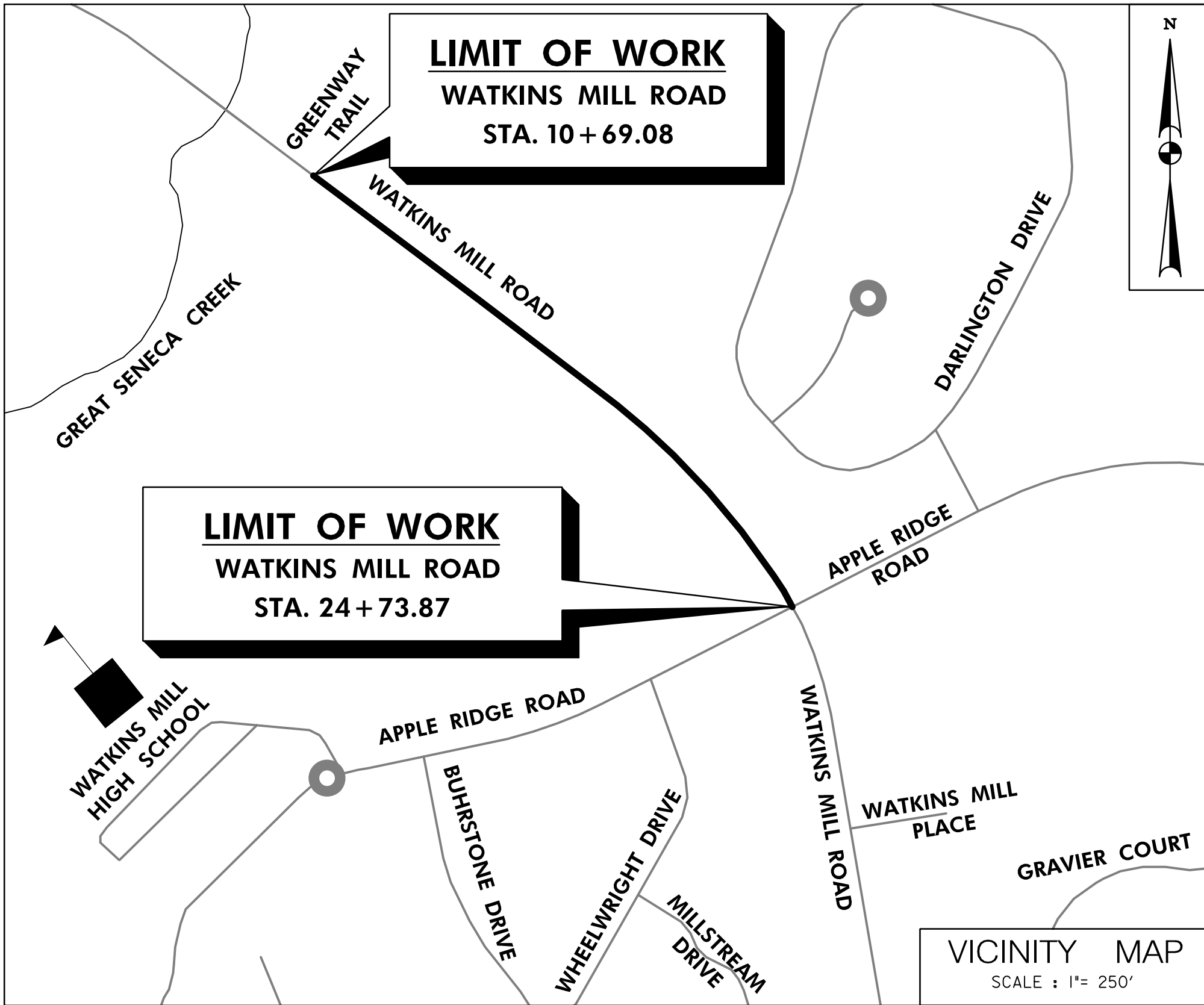
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
WATKINS MILL ROAD
FROM GREENWAY TRAIL
TO APPLE RIDGE ROAD
PEDESTRIAN IMPROVEMENTS

INDEX OF SHEETS

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GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION, MONTGOMERY COUNTY, AND THE WASHINGTON SUBURBAN SANITARY COMMISSION.
- TYPES OF STORM DRAIN STRUCTURES REFER TO THE 'DESIGN STANDARDS' OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
- 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.
- 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.
- 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.
- CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK.THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION.THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.
- ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
- ALL DISTURBED AREAS MUST BE TOPSOILED PER THE MDE '2011 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL', PRIOR TO FINAL VEGETATIVE STABILIZATION.
- ALL DISTURBED AREAS TO BE STABILIZED PER MDE REQUIREMENTS.
- HORIZONTAL DATUM: MSHA, NAD 83/91 VERTICAL DATUM: NAVD 88



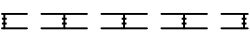


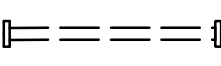

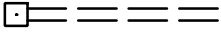
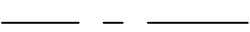
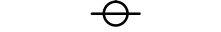

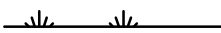
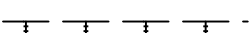

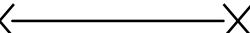
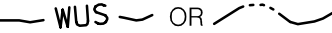




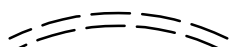

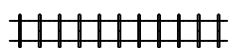
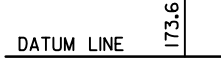
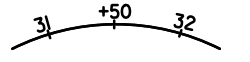
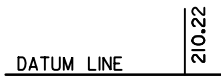



PROJECT LENGTH = 0.54 MILES

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical


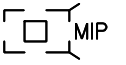



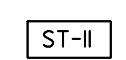
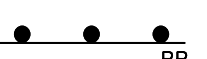

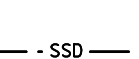
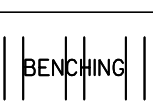
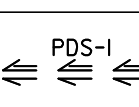



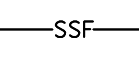
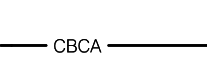
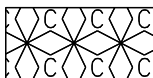
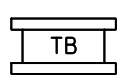




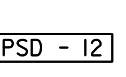
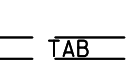

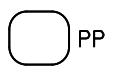
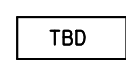




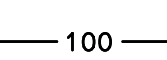
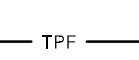
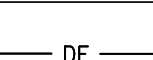


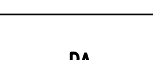



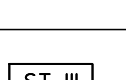


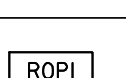
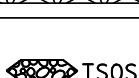
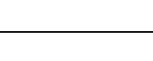
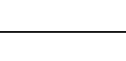
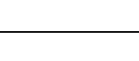

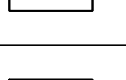
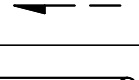
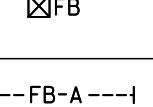
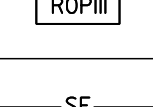
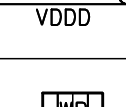
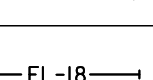
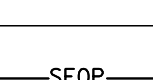
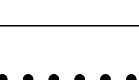
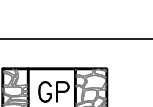
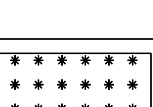
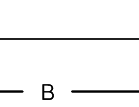


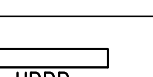
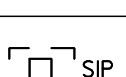
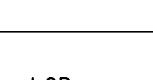

ABBREVIATIONS

AASHTO American Association of State Highway Transportation Officials	HDWL..... Headwall	RW or RW.... Right of Way
ADT.....Average Daily Traffic	HERCP..... Horizontal Elliptical Reinforced Concrete Pipe	RCP Reinforced Concrete Pipe
AHD.....Ahead	HP.....High Point	RCPP Reinforced Concrete Pressure Pipe
APPROX.....Approximate	IN.....Inch	R.Q.D. Rock Quality Designation
BL or BL.....Baseline	I.S.T.....Inlet Sediment Trap	R.M. Rootmat
BK Back /Book	INV.....Invert	S South
BIT. Bituminous	J.B.....Junction Box	SAN. Sanitary Sewer
B.C. Bituminous Concrete	K K Inlet	SB or S/B Southbound
B.M..... Bench Mark	L Length	S.D. Storm Drain
BOT..... Bottom	LF Linear Feet	S.D.D. Surface Drain Ditch
C.C. Center of Curve	L.L. Liquid Limit	SE Super Elevation
CAP..... Corrugated Aluminum Pipe	LP Low Point	SF Silt Fence
CAPA..... Corrugated Aluminum Pipe Arch	L.P. Light Pole	SF Square Feet
CATV..... Cable Television	LT.....Left	SHT. Sheet
C.B.R..... California Bearing Ratio	MAC..... Macadam	SPP Structural Steel Plate Pipe
CL or CL..... Centerline	M.C. Moisture Content	SPPA Structural Steel Plate Pipe Arch
CL..... Class	MAX. Maximum	S.P.T. Standard Penetration Testing
CLF..... Chainlink Fence	M.D.D..... Maximum Dry Content	SRP Steel Spiral Rib Pipe – Aluminumized Type 2
CMP..... Corrugated Metal Pipe	MOD..... Modified	SRPA Steel Spiral Rib Pipe Arch – Aluminumized Type 2
C.O..... Cleanout	MIN.....Minimum	SSD Stopping Sight Distance
COMB..... Combination	N North	SSF Super Silt Fence
CONC..... Concrete	NB Northbound	STD. Standard
CONSTR. Construction	NE Northeast	STA. Station
COR..... Corner	N.P. Non-Plastic	SO. Single Opening
CORR..... Correction	O.C. On Center	SY Square Yards
CPP-S Corrugated Polyethylene Pipe – Type ‘S’	OHE Overhead Electric	SWM Stormwater Management
CSP Corrugated Steel Pipe – Aluminumized Type 2	O.M. Optimum Moisture	T Tangent
CSPA Corrugated Steel Pipe Arch – Aluminumized Type 2	PAV’ T..... Pavement	T Telephone
DC.....Degree of Curve	PC Point of Curvature	T.C. Top of Cover
D.H.V.....Design Hourly Volume	PCC Point of Compound Curvature	T.G. Top of Grate
D.I..... Drop Inlet	P/C Point of Crown	T or TL Traverse Line
DIA..... Diameter	P/G.E. Profile Grade Elevation	T.M. Top of Manhole
D.O..... Double Opening	P.G.E. Profile Ground Elevation	TRAV. Traverse
E East	P.G.L. Profile Grade Line	TS Temporary Swale
E Electric	P/GL Profile Ground Line	T.S. Top of Slab
E External Distance	P/R Point of Rotation	T.S. Topsoil
EA Each	P.I. Plasticity Index	TYP. Typical
EB Eastbound	PI Point of Intersection	U.D. Under Drain
ELEV..... Elevation	POC Point On Curve	U.G. Underground
ES..... End Section	POT Point On Tangent	U.P. Utility Pole
EX or EXIST.....Existing	PPWP Polyvinyl Chloride Profile Wall Pipe	USDA United States Department of Agriculture
FT Feet	PROP Proposed	VCL Vertical Clearance
F or FL Flowline	PRC Point of Reverse Curve	V.C.L. Vertical Curve Length
F.B.D. Flat Bottom Ditch	PT Point	W Water
F.H. Fire Hydrant	PT Point of Tangency	W West
FWD..... Forward	PVC Point of Vertical Curve	WB Westbound
G Gas	PVC Polyvinyl Chloride	WB Wetland Buffer
G.V. Gas Valve	PVI Point of Vertical Intersection	W.B. Water Meter
H.B..... Handbox	PVRC Point of Vertical Reverse Curve	W.S. Wrapped Steel
HDPEHigh Density Polyethylene	PVT Point of Vertical Tangency	WUS Waters of the United States
	R Radius	W.V. Water Valve
	R.F. Rock Fragments	
	RT Right	

CONVENTIONAL SIGNS
(SAMPLES)

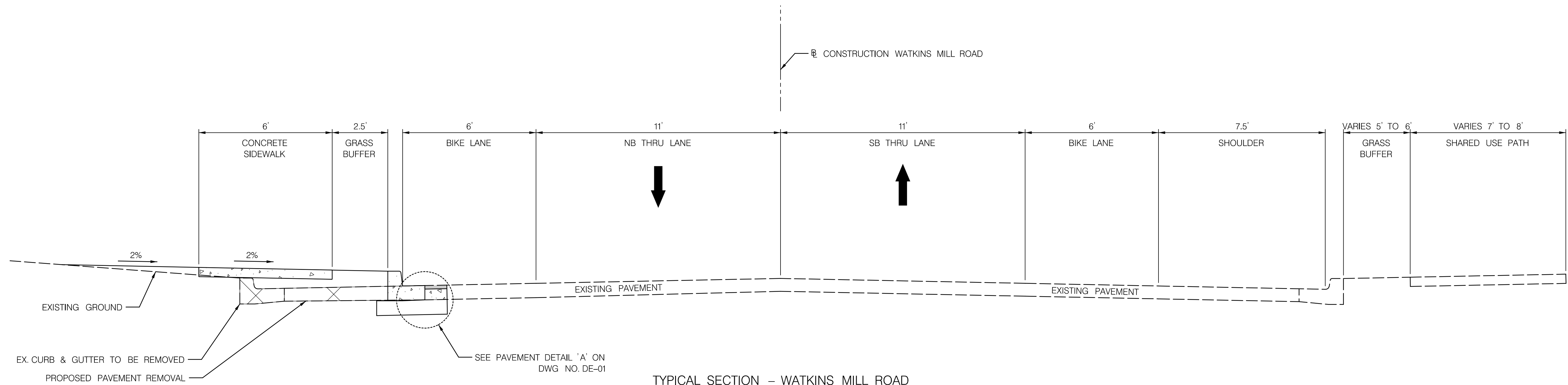
PROPOSED MEDIAN BARRIER		PROPOSED PIPE / CULVERT	
ELECTRICAL HAND BOX – SIGNALS		EXISTING PIPE / CULVERT	
FLOW LINE		EXISTING DROP INLET	
STATE, COUNTY OR CITY LINES		UTILITY POLE	
PROPOSED TRAFFIC BARRIER		WETLAND	
EXISTING TRAFFIC BARRIER		WETLAND BUFFER	
PROPOSED FENCE LINE		WATERS OF THE U.S.	
EXISTING FENCE LINE		HEDGE /TREE LINE	
RIGHT OF WAY LINE		BUSH /TREE	
EXISTING ROADWAY		CONIFEROUS TREE	
RAILROAD		GROUND ELEVATION	
BASE LINE OR SURVEY LINE		GRADE ELEVATION	
FIRE HYDRANT			
HISTORIC BOUNDARY			
WETLAND BOUNDARY			

STANDARD SYMBOLS

100-YEAR FLOODPLAIN		MEDIAN INLET PROTECTION		STONE CHECK DAM	
AT-GRADE INLET PROTECTION		MEDIAN SUMP INLET PROTECTION		STONE/RIPRAP OUTLET SEDIMENT TRAP ST II	
BAFFLE BOARDS		MOUNTABLE BERM		SUBSURFACE DRAINS	
BENCHING		PERIMETER DIKE/SWALE		SUMP PIT	
CATCH BASIN INSERT		PERMANENT SOIL STABILIZATION MATTING-TYPE B		SUPER SILT FENCE	
CHESAPEAKE BAY CRITICAL AREA		PERMANENT SOIL STABILIZATION MATTING-TYPE C		TEMPORARY ACCESS BRIDGE	
CLEAR WATER DIVERSION PIPE		PIPE OUTLET SEDIMENT TRAP ST I		TEMPORARY ACCESS CULVERT	
CLEAR WATER PIPE		PIPE SLOPE DRAIN		TEMPORARY ASPHALT BERM	
COMBINATION INLET PROTECTION		PLUNGE POOL		TEMPORARY BARRIER DIVERSION	
CONCRETE WASHOUT STRUCTURE		PORTABLE SEDIMENT TANK		TEMPORARY GABION OUTLET STRUCTURE	
CURB INLET PROTECTION		PROPOSED CONTOURS		TREE PRESERVATION AREA FENCE (TPAF)	
DIVERSION FENCE		REMOVABLE PUMPING STATION		TEMPORARY SOIL STABILIZATION MATTING-TYPE A	
DRAINAGE BOUNDARY		RIPRAP INFLOW PROTECTION		TEMPORARY SOIL STABILIZATION MATTING-TYPE E	
EARTH DIKE		RIPRAP OUTLET SEDIMENT TRAP ST III		TEMPORARY SOIL STABILIZATION MATTING-TYPE D	
EMERGENCY SPILLWAY		ROCK OUTLET PROTECTION I		TEMPORARY STONE OUTLET STRUCTURE	
EXISTING CONTOURS		ROCK OUTLET PROTECTION II		TEMPORARY SWALE	
FILTER BAG		ROCK OUTLET PROTECTION III		VERTICAL DRAW-DOWN DEVICE	
FILTER BERM		SILT FENCE		WASH RACK OPTION	
FILTER LOG		SILT FENCE ON PAVEMENT		WETLAND	
GABION INFLOW PROTECTION		SOD		WETLAND BUFFER	
GABION INLET PROTECTION		STABILIZED CONSTRUCTION ENTRANCE (SCE)			
HORIZONTAL DRAW-DOWN DEVICE		STANDARD INLET PROTECTION			
LIMIT OF DISTURBANCE		STOCKPILE AREA			

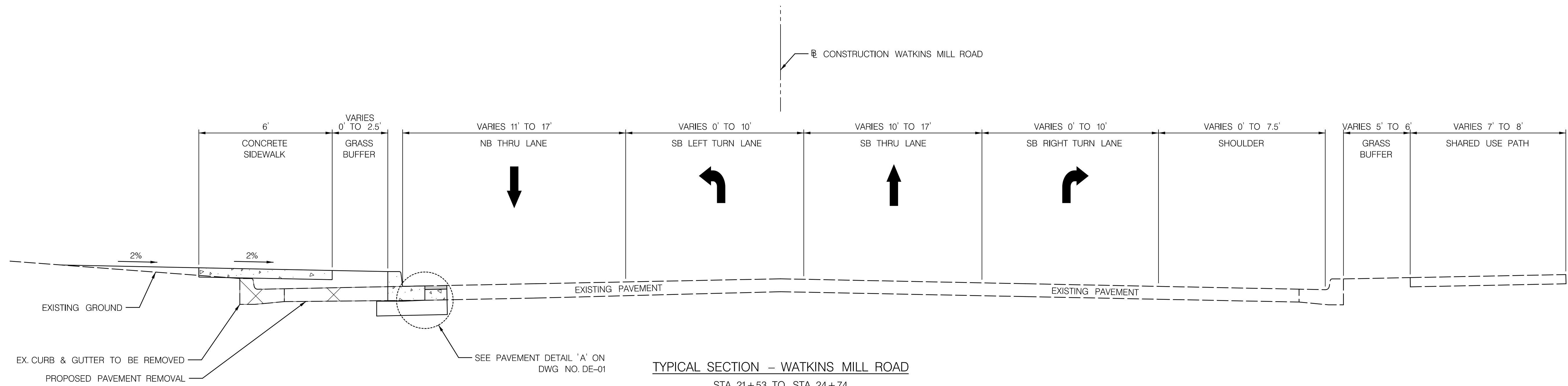
GN-01

NO.	REVISION	BY	DATE	DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING MONTGOMERY COUNTY, MARYLAND ABBREVIATIONS, CONVENTIONAL SIGNS, & STANDARD SYMBOLS WATKINS MILL ROAD FROM GREENWAY TRAIL TO APPLE RIDGE ROAD PEDESTRIAN IMPROVEMENTS SCALE: N.T.S.
Designed By <u>KAM</u> Drawn By <u>KAM</u> Checked By <u>MCG</u>				



TYPICAL SECTION - WATKINS MILL ROAD

STA. 10+69 TO STA. 21+53
NOT TO SCALE



TYPICAL SECTION - WATKINS MILL ROAD

STA. 21+53 TO STA. 24+74
NOT TO SCALE

HT-01

NO.	REVISION	BY	DATE
Designed By <u>KAM</u> Drawn By <u>KAM</u> Checked By <u>MCG</u>			

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

TYPICAL SECTIONS
WATKINS MILL ROAD
FROM GREENWAY TRAIL TO
APPLE RIDGE ROAD
PEDESTRIAN IMPROVEMENTS

SCALE: 1"= 20'



BY: misnerka -

LIMIT OF WORK

Watkins Mill Road

STA. 10 + 69.08

N 553750

E 1252750



TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
TRAV PT 100	553,760.42	1,251,494.64	356.83
TRAV PT 101	553,478.27	1,251,760.94	380.26
TRAV PT 102	553,311.26	1,251,984.19	402.29
TRAV PT 103	553,149.28	1,252,189.90	423.24
TRAV PT 104	552,963.96	1,252,367.68	436.52
TRAV PT 105	552,772.08	1,252,583.91	439.01

BASELINE COORDINATES		
STATION	NORTH	EAST
E OF CONSTRUCTION WATKINS MILL ROAD		
P.O.B. STA. 10+00.00	553,771.40	1,251,429.94
P.C. STA. 18+43.79	553,263.72	1,252,103.92
P.I. STA. 21+76.03	553,063.82	1,252,369.29
P.T. STA. 25+00.00	552,778.72	1,252,539.88
P.O.E. STA. 25+00.00	552,778.72	1,252,539.88

CURVE DATA							
CURVE	P.I. STATION	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
E OF CONSTRUCTION WATKINS MILL ROAD							
I	21+76.03	22° 6' 59.34" RT.	3° 22' 13.22"	1700.00'	332.24'	656.21'	32.16'

E 1251250

N 552750

LIMIT OF WORK

Watkins Mill Road

STA. 24 + 73.87

N 552750

E 1252750

NO.	REVISION	BY	DATE
Designed By <u>KAM</u>		Drawn By <u>KAM</u>	Checked By <u>MCG</u>

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

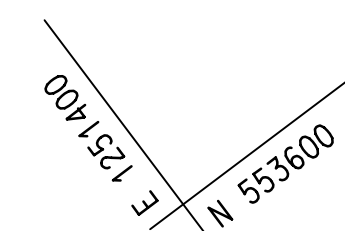
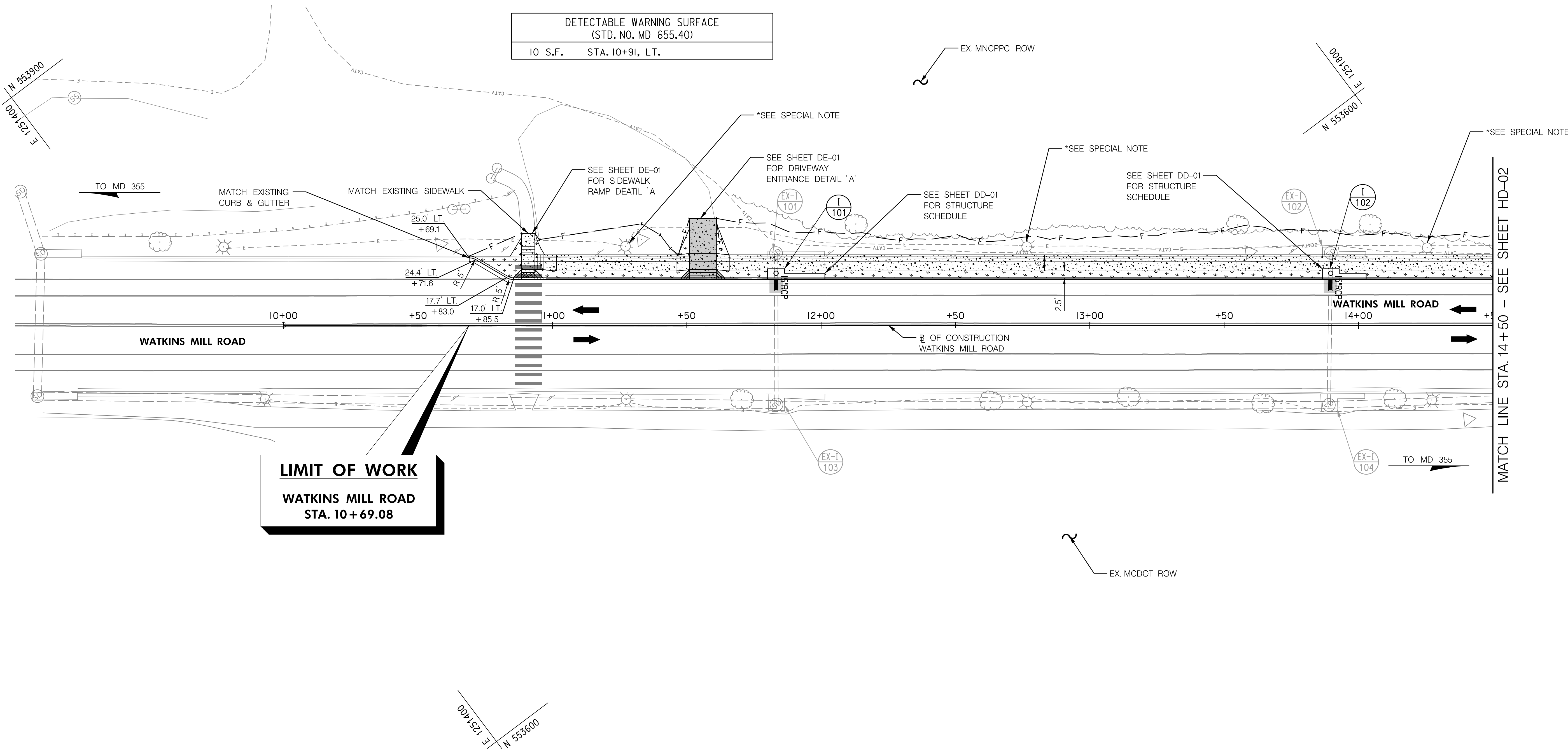
GEOMETRY SHEET
WATKINS MILL ROAD
FROM GREENWAY TRAIL TO
APPLE RIDGE ROAD
PEDESTRIAN IMPROVEMENTS

SCALE: 1"= 60'

BY: misnerka -

FULL DEPTH SAW CUTS	
383 L.F.	STA. 10+69 TO STA. 14+50, LT.
REMOVAL OF EXISTING PAVEMENT AND SIDEWALK	
147 C.Y.	STA. 10+69 TO STA. 14+50, LT.
REMOVAL OF EXISTING CONCRETE COMBINATION CURB AND GUTTER	
381 L.F.	10+69 TO STA. 14+50, LT.

COMBINATION CONCRETE CURB & GUTTER TYPE A (STD. NO. MC-100.01)	
383 L.F.	STA. 10+69 TO STA. 14+50, LT.
5 INCH DEPTH BUSINESS DISTRICT SIDEWALK/RAMP (STD. NO. MC-III.01)	
433 S.F.	STA. 10+85 TO STA. 11+51, LT.
1733 S.F.	STA. 11+61 TO STA. 14+50, LT.
7 INCH DEPTH CONCRETE DRIVEWAY	
230 S.F.	STA. 10+48 TO STA. 10+64, LT.
DETECTABLE WARNING SURFACE (STD. NO. MD 655.40)	
10 S.F.	STA. 10+91, LT.



LEGEND			
	CONCRETE SIDEWALK		
	DETECTABLE WARNING SURFACE		
	EXISTING PAVEMENT REMOVAL & PROPOSED TURFGRASS SOD		
	PORTLAND CEMENT CONCRETE FOR DRIVEWAYS		
	FULL DEPTH PAVEMENT		

NO.	REVISION	BY	DATE

Designed By <u>KAM</u>	Drawn By <u>KAM</u>	Checked By <u>MCG</u>
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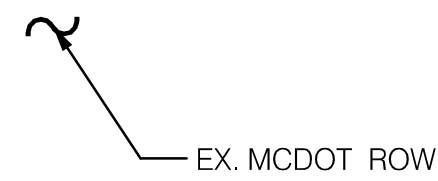
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

ROADWAY PLAN
WATKINS MILL ROAD
FROM GREENWAY TRAIL TO
APPLE RIDGE ROAD
PEDESTRIAN IMPROVEMENTS

SCALE: 1"= 20'

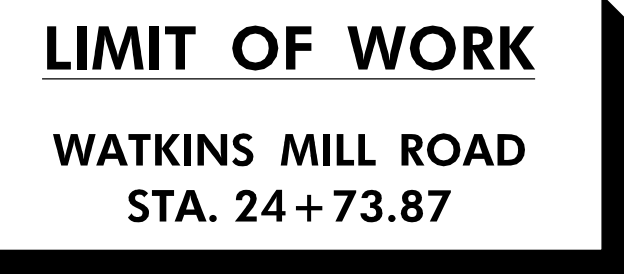
*SPECIAL NOTE: CONTRACTOR SHALL FILL AROUND LIGHT POLE FOUNDATIONS TO PROVIDE POSITIVE DRAINAGE. LIGHT POLE FOUNDATIONS SHALL NOT BE COMPLETELY COVERED WITH FILL. CONTRACTOR SHALL DETERMINE IF LIGHT POLES NEED TO BE RESET ON NEW FOUNDATIONS AND NOTIFY THE PROJECT ENGINEER.

COMBINATION CONCRETE CURB & GUTTER TYPE A (STD. NO. MC-100.01)	
552 L.F.	STA. 14+50 TO STA. 20+00, LT.
5 INCH DEPTH BUSINESS DISTRICT SIDEWALK/RAMP (STD. NO. MC-III.01)	
2685 S.F. 531 S.F.	STA. 14+50 TO STA. 18+97, LT. STA. 19+13 TO STA. 20+00, LT.
7 INCH DEPTH CONCRETE DRIVEWAY	
357 S.F.	STA. 10+48 TO STA. 10+64, LT.



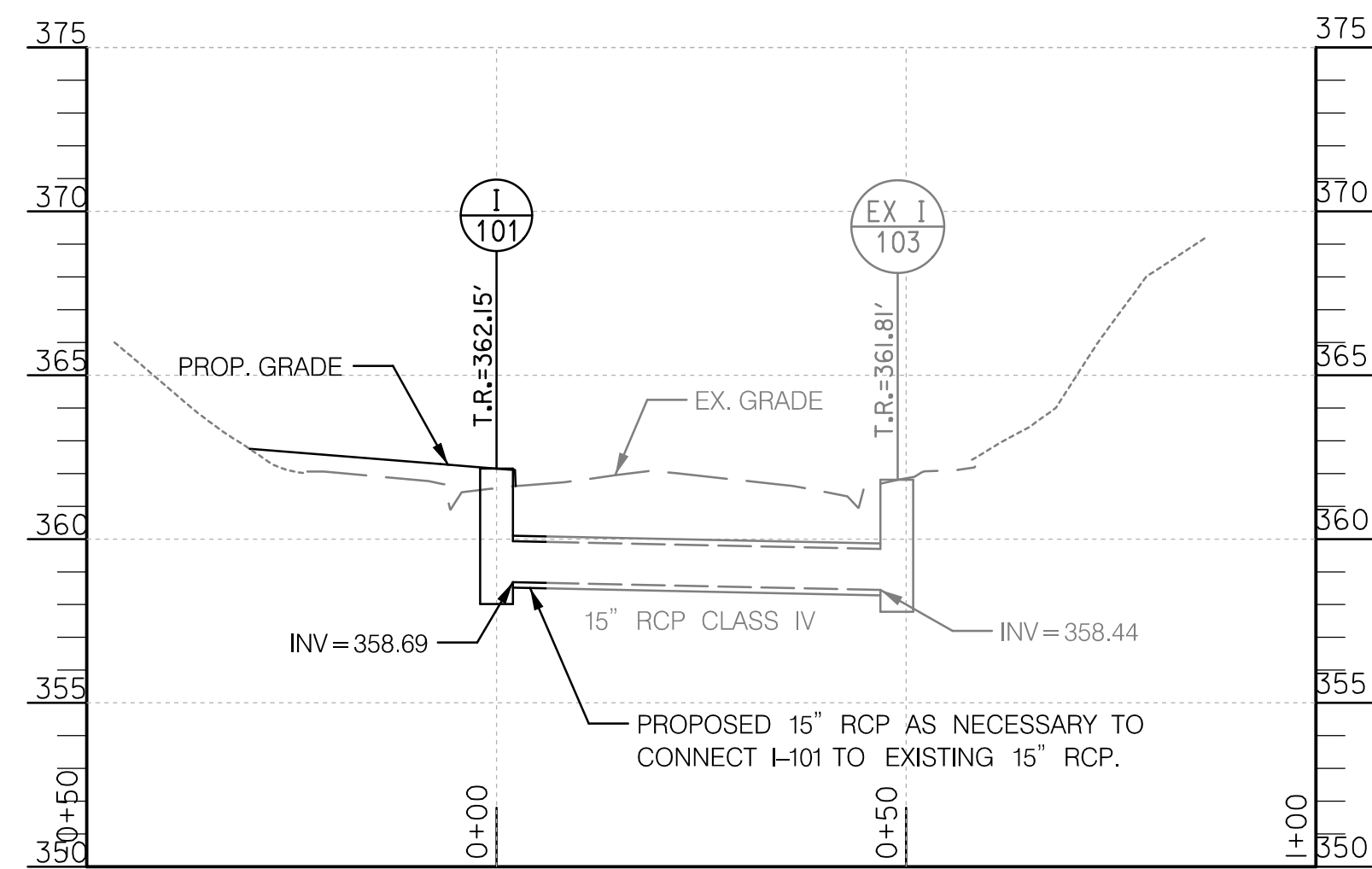
<p>LEGEND</p> <div style="display: flex; align-items: center;"> <p>CONCRETE SIDEWALK</p> </div> <div style="display: flex; align-items: center;"> <p>DETECTABLE WARNING SURFACE</p> </div> <div style="display: flex; align-items: center;"> <p>EXISTING PAVEMENT REMOVAL & PROPOSED TURFGRASS SOD</p> </div> <div style="display: flex; align-items: center;"> <p>PORTLAND CEMENT CONCRETE FOR DRIVEWAYS</p> </div> <div style="display: flex; align-items: center;"> <p>FULL DEPTH PAVEMENT</p> </div>		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 40%;">REVISION</th> <th style="width: 20%;">BY</th> <th style="width: 30%;">DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> Designed By <u>KAM</u> Drawn By <u>KAM</u> Checked By <u>MCG</u> </div>	NO.	REVISION	BY	DATE																													<div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING MONTGOMERY COUNTY, MARYLAND</p> </div> <div style="border: 1px solid black; padding: 10px; text-align: center; margin-top: 10px;"> <p>ROADWAY PLAN WATKINS MILL ROAD FROM GREENWAY TRAIL TO APPLE RIDGE ROAD PEDESTRIAN IMPROVEMENTS</p> </div> <p style="margin-top: 10px;">SCALE: 1"= 20'</p>
NO.	REVISION	BY	DATE																																

CONCRETE CURB TYPE A	
49 L.F.	STA. 24+49 TO STA. 24+72, LT.
COMBINATION CONCRETE CURB & GUTTER TYPE A (STD. NO. MC-100.01)	
485 L.F.	STA. 20+00 TO STA. 24+73, LT.
5 INCH DEPTH BUSINESS DISTRICT SIDEWALK/RAMP (STD. NO. MC-III.01)	
2979 S.F.	STA. 20+00 TO STA. 24+73, LT.
DETECTABLE WARNING SURFACE (STD. NO. MD 655.40)	
15 S.F.	STA. 24+60, LT.
12 S.F.	STA. 24+70, LT.

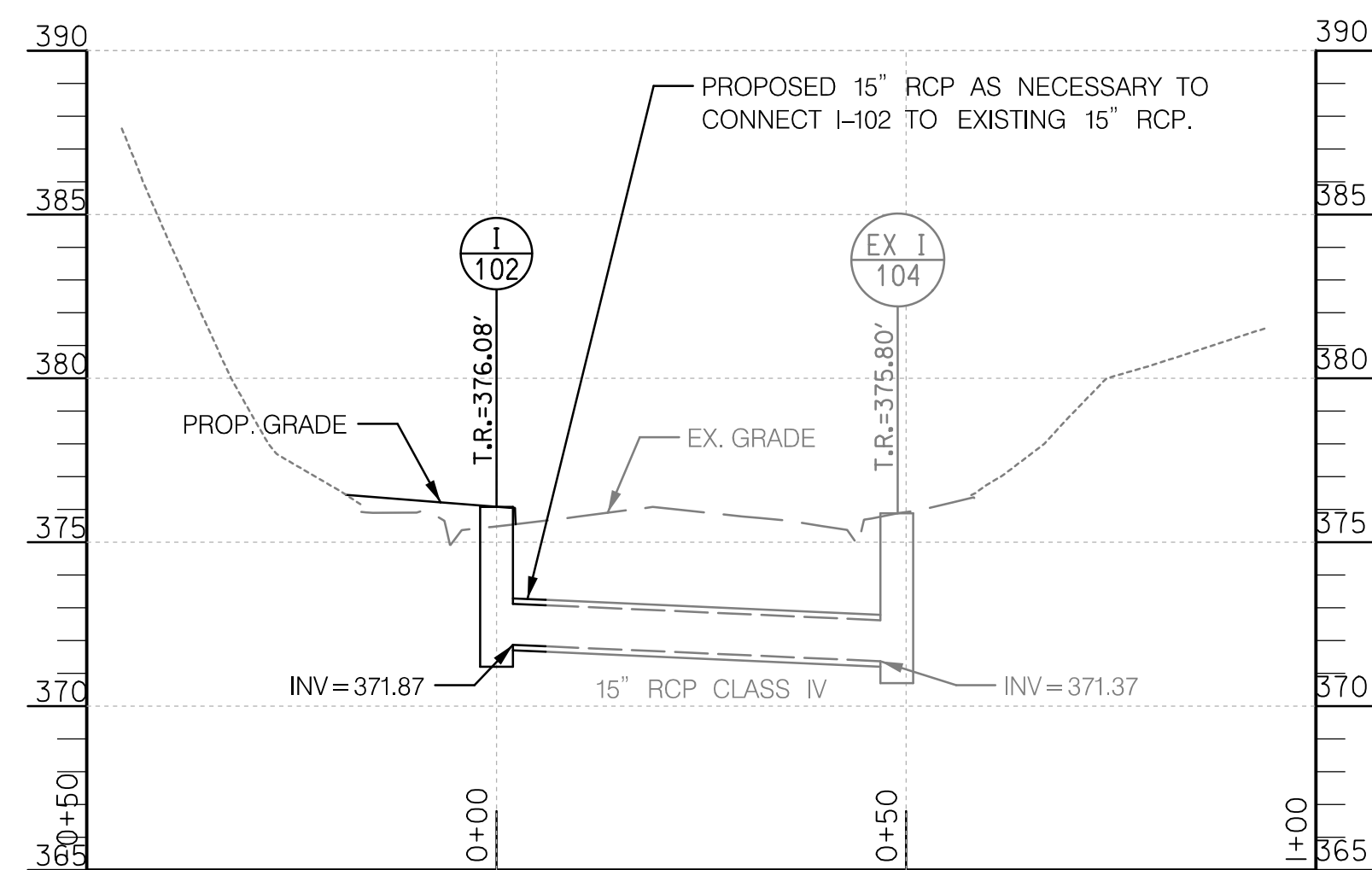


SCALE: 1"= 20'

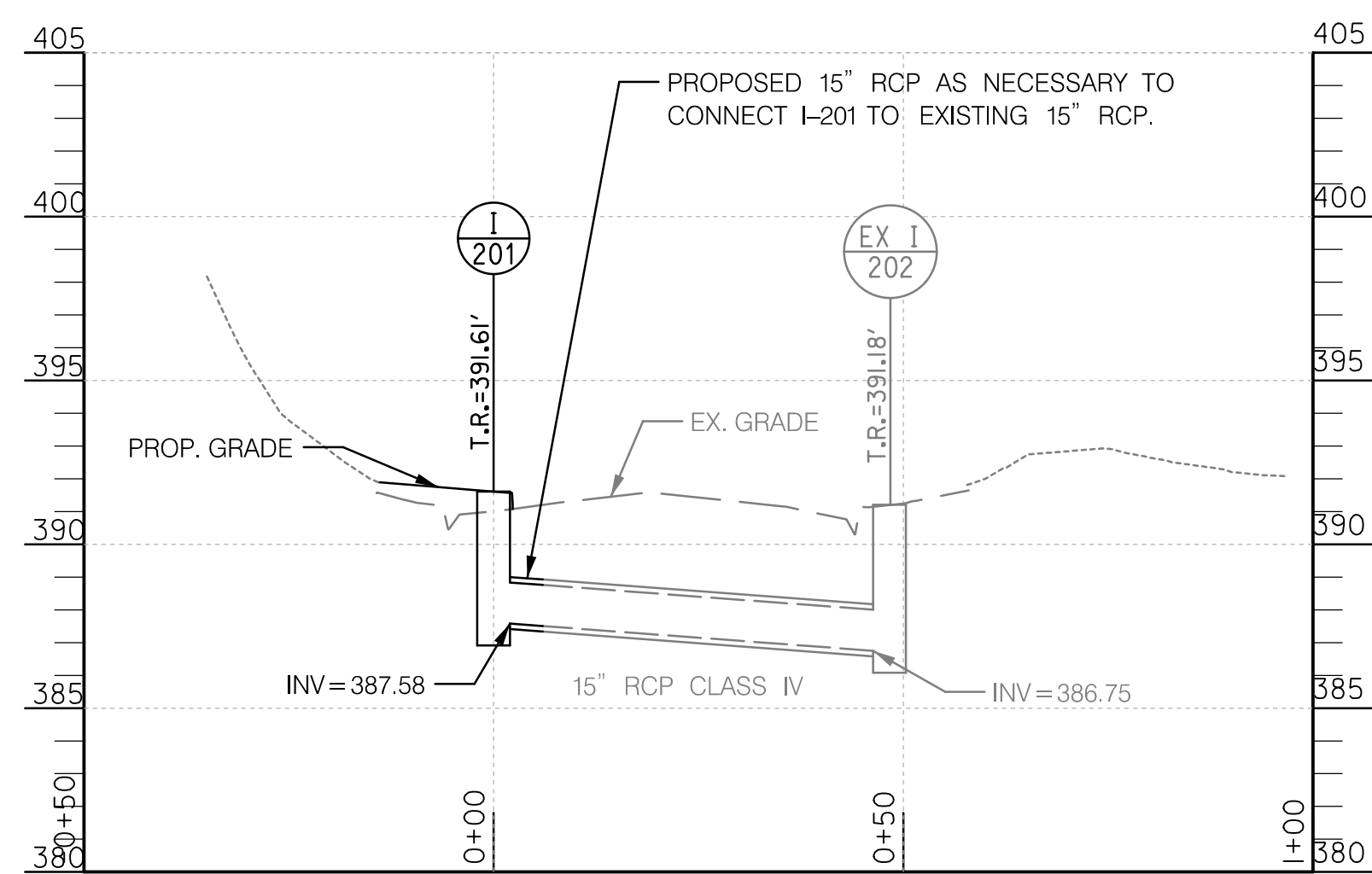
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I-101 TO EX I-103 PROFILE
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

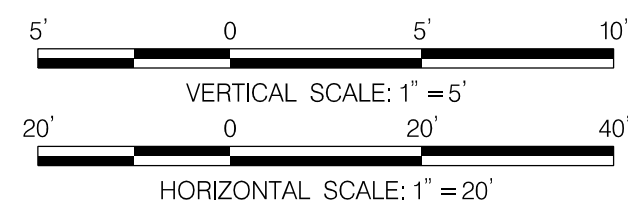


I-102 TO EX I-104 PROFILE
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



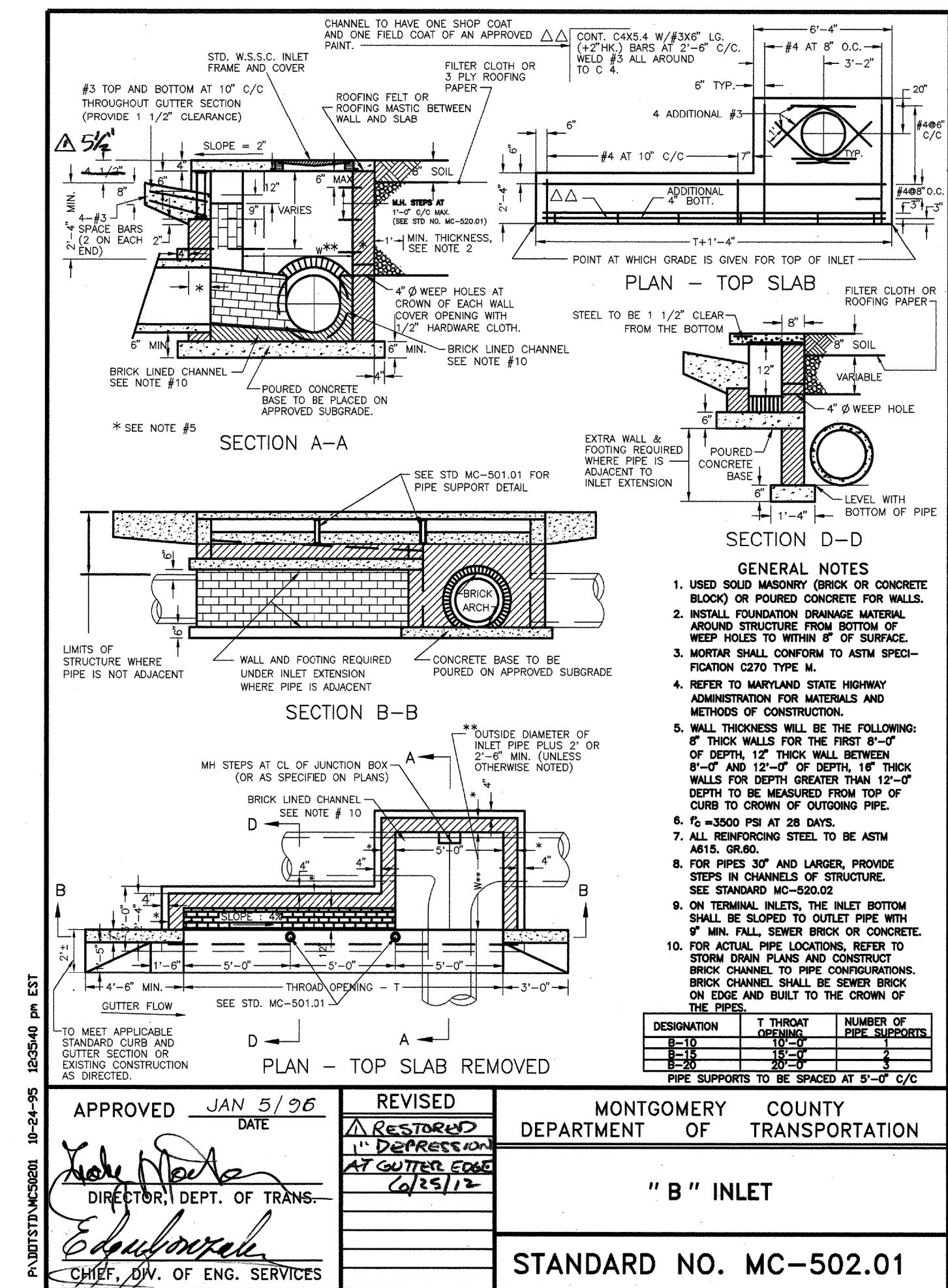
I-201 TO EX I-202 PROFILE
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical



STRUCTURE SCHEDULE					
NO.	DETAIL	REMARKS	BASELINE	STATION	OFFSET
I-101	MC-502.01	"B" 20' INLET	WATKINS MILL ROAD	11+83.24	19.33 LT
I-102	MC-502.01	"B" 15' INLET	WATKINS MILL ROAD	13+89.68	19.33 LT
I-201	MC-502.01	"B" 20' INLET	WATKINS MILL ROAD	15+83.26	19.33 LT

NOTE: STORM DRAIN STRUCTURES SHOWN ARE FOR INFORMATION ONLY. CONTRACTOR TO VERIFY STRUCTURE LOCATIONS AND INVERTS PRIOR TO BEGINNING WORK.



DD-01

NO.	REVISION	BY	DATE	DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING MONTGOMERY COUNTY, MARYLAND
				DRAINAGE DETAILS WATKINS MILL ROAD FROM GREENWAY TRAIL TO APPLE RIDGE ROAD PEDESTRIAN IMPROVEMENTS
				SCALE: AS SHOWN
				Designed By <u>KAM</u> Drawn By <u>KAM</u> Checked By <u>MCG</u>

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

- MDSHA - "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

MDSHA - "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", 2008 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
- I) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)
2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
- A) STRUCTURAL TYPES
- WOOD SUPPORTS
- SQUARE TUBE
- B) PANELS
- MATERIAL - SHEET ALUMINUM
- COPY - DIRECT APPLIED

IDENTIFICATION OF SIGNS AND PANELS

- GUIDE SIGNS
- EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM-1, GM-2, GM-3, etc)
- SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH-1a, OH-1b, OH-1c)
- STANDARD SIGNS
- STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS
- R - REGULATORY
- W - WARNING
- M - ROUTE MARKERS AND ACCESSORIES
- D - DESTINATION AND MILEAGE PANELS
- S - SCHOOL
- PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK. EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN. FOR EXAMPLE SHEET SN 2.1-101,102,103, ETC. SHEET SN 2.2-201,202,203,ETC.

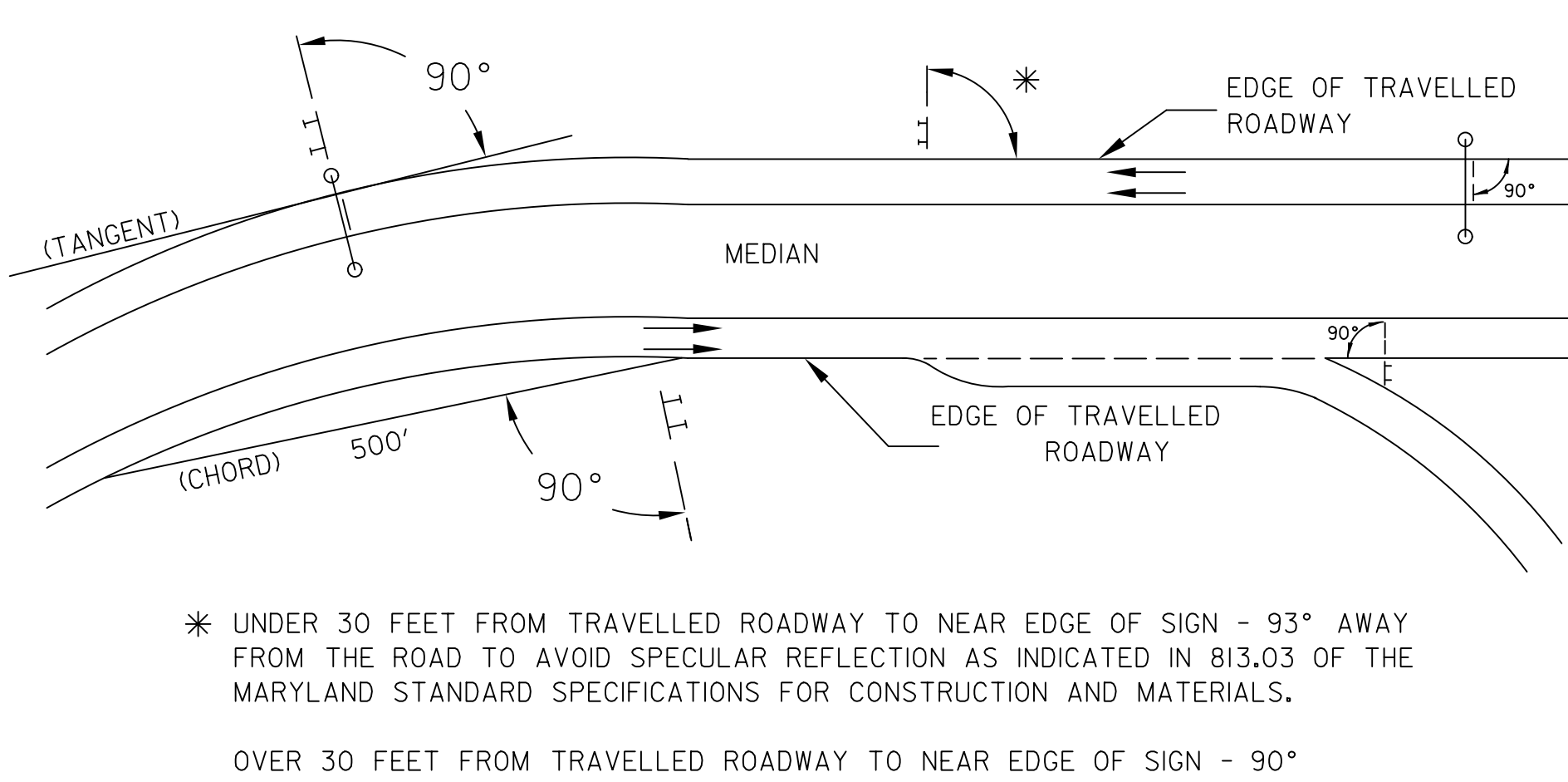
PANEL LAYOUT AND ALPHABETS

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



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 MSHA 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. "RED" 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"

SN-01

NO.	REVISION	BY	DATE	DEPARTMENT OF TRANSPORTATION DIVISION OF TRANSPORTATION ENGINEERING MONTGOMERY COUNTY, MARYLAND
				GENERAL NOTES AND PROPOSALS WATKINS MILL ROAD FROM GREENWAY TRAIL TO APPLE RIDGE ROAD PEDESTRIAN IMPROVEMENTS SCALE: N.T.S.
Designed By <u>KAM</u> Drawn By <u>KAM</u> Checked By <u>MCG</u>				

☐ (A) PERMANENT WHITE PREFORMED PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS, AND NUMBERS
☐ (B) REMOVAL OF EXISTING PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS, AND NUMBERS

1. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH SHA STANDARDS.
2. ALL EXISTING SIGNS SHALL REMAIN UNLESS NOTED ON THE PLAN.
3. TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH MCDOT STANDARDS.
4. THE CONTRACTOR SHALL CONTACT MISS UTILITY TO VERIFY ALL UNDERGROUND UTILITIES PRIOR TO THE START OF CONSTRUCTION. IF ANY CONFLICTS ARISE THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER.
5. ALL PROPOSED SIGNS SHALL BE INSTALLED ON SQUARE PERFORATED TUBULAR STEEL SIGN POST(S).
6. ALL PAVEMENT MARKINGS LINE WIDTH DIMENSIONS ARE FROM CENTER OF MARKING TO FACE OF CURB FOR INSIDE/OUTSIDE LANES AND FROM CENTER OF MARKING TO CENTER OF MARKING FOR ALL OTHERS.

SIGNING LEGEND	
SYMBOL	
	EXISTING GROUND MOUNTED SIGN AND SUPPORTS
	PROPOSED GROUND MOUNTED SIGN AND SUPPORTS
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

[illegible]

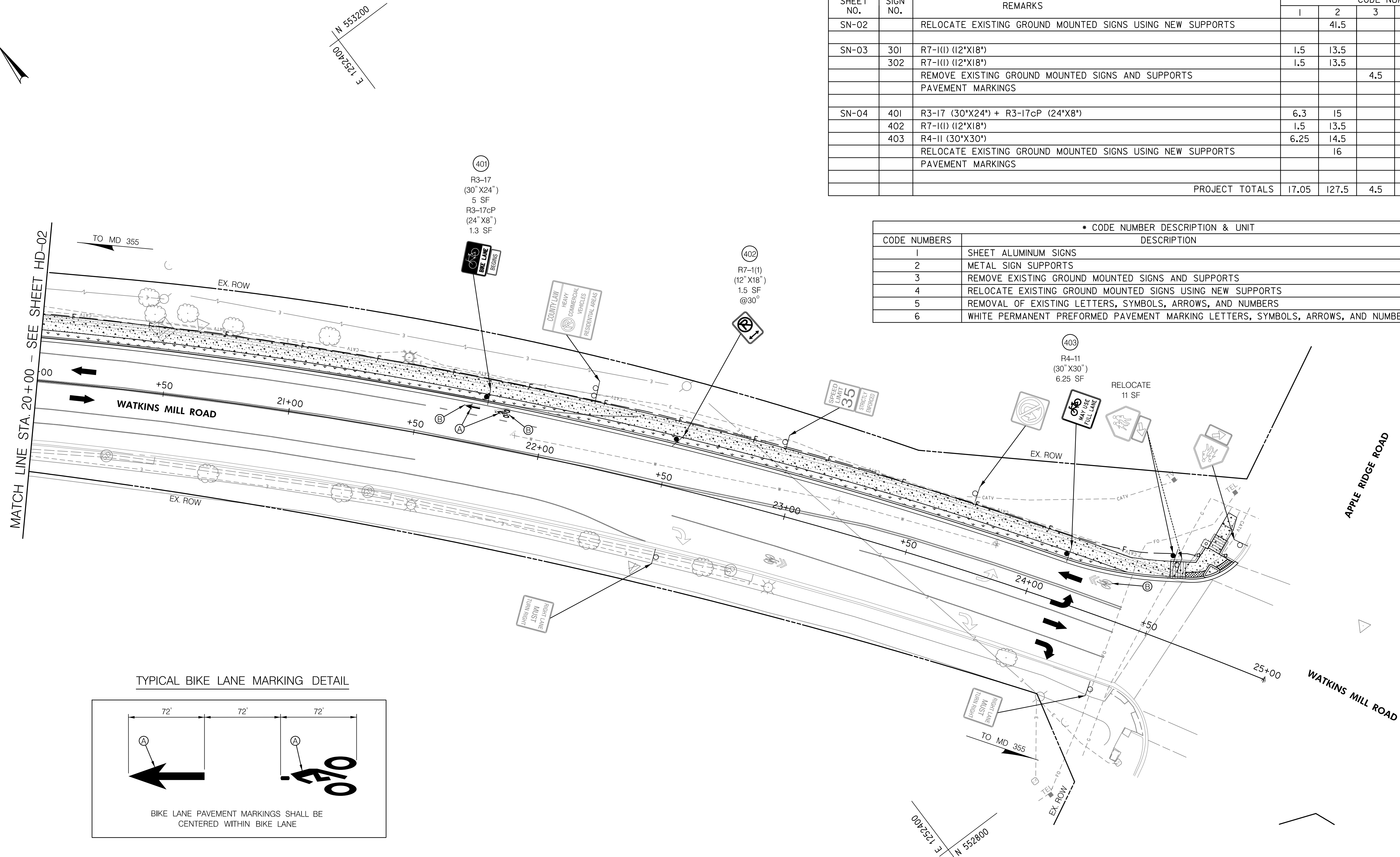
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

SIGNING AND MARKING PLAN
WATKINS MILL ROAD
FROM GREENWAY TRAIL TO
APPLE RIDGE ROAD
PEDESTRIAN IMPROVEMENTS

SCALE: 1" = 20'

SHEET NO.	SIGN NO.	REMARKS	CODE NUMBERS*					
			1	2	3	4	5	6
SN-02		RELOCATE EXISTING GROUND MOUNTED SIGNS USING NEW SUPPORTS		41.5		15.75		
SN-03	301	R7-I(1) (12*X18")	1.5	13.5				
	302	R7-I(1) (12*X18")	1.5	13.5				
		REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS			4.5			
		PAVEMENT MARKINGS					2	2
SN-04	401	R3-I7 (30*X24") + R3-I7cP (24*X8")	6.3	15				
	402	R7-I(1) (12*X18")	1.5	13.5				
	403	R4-II (30*X30")	6.25	14.5				
		RELOCATE EXISTING GROUND MOUNTED SIGNS USING NEW SUPPORTS		16		11		
		PAVEMENT MARKINGS					3	2
		PROJECT TOTALS	17.05	127.5	4.5	26.75	5	4

* CODE NUMBER DESCRIPTION & UNIT		
CODE NUMBERS	DESCRIPTION	UNIT
1	SHEET ALUMINUM SIGNS	SF
2	METAL SIGN SUPPORTS	LF
3	REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS	SF
4	RELOCATE EXISTING GROUND MOUNTED SIGNS USING NEW SUPPORTS	SF
5	REMOVAL OF EXISTING LETTERS, SYMBOLS, ARROWS, AND NUMBERS	EA
6	WHITE PERMANENT PREFORMED PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS, AND NUMBERS	EA



BIKE LANE PAVEMENT MARKINGS SHALL BE CENTERED WITHIN BIKE LANE

☐ PERMANENT WHITE PREFORMED PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS, AND NUMBERS
☐ REMOVAL OF EXISTING PAVEMENT MARKING LETTERS, SYMBOLS, ARROWS, AND NUMBERS

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SYMBOL	
	EXISTING GROUND MOUNTED SIGN AND SUPPORTS
	PROPOSED GROUND MOUNTED SIGN AND SUPPORTS
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

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Designed By KAM Drawn By KAM Checked By MCG

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PEDESTRIAN IMPROVEMENTS

SCALE: 1"= 20'

PLOTTED: Friday, May 09, 2025 AT 10:09 AM
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