MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

DALE DRIVE SHARED USE PATH & SAFETY IMPROVEMENTS

GEORGIA AVENUE (MD 97) TO COLESVILLE ROAD (US-29)

C. I. P. PROJECT NO. 502109

70% DESIGN SUBMISSION

INDEX OF SHEETS

SHT.NO.	DWG.NO.	SC/SWM NO.	DWG. DESCRIPTION
1	GN-01	1	TITLE SHEET
2	GN-02		ABBREVIATIONS AND SYMBOLS
3	GN-03		GENERAL NOTES
4-5	TS-01 TO TS-02		TYPICAL SECTIONS
6-9	GG-01 TO GG-04		GEOMETRICS
10-18	DT-01 TO DT-09		PEDESTRIAN RAMP DETAILS
19-26	PS-01 TO PS-08		ROADWAY PLANS
27-28	DD-01 TO DD-02	2-3	DRAINAGE PLANS
29-30	DP-01 TO DP-02		DRAINAGE PROFILES
31-41	SC-01 TO SC-11	4-14	EROSION AND SEDIMENT CONTROL
42-44	SWM-01 TO SWM-03	15-17	STORMWATER MANAGEMENT
45-53	MT-01 TO MT-09		MAINTENANCE OF TRAFFIC
54-63	SN-00 TO SN-09		SIGNING AND MARKING
64-73	LT-01 TO LT-10		LIGHTING PLANS
74-83	LS-01 TO LS-10		LANDSCAPE PLANS
84	SLP-01		STRUCTURE LOCATION PLAN
85-90	S-0.1 TO S-0.6		GENERAL STRUCTURE INFORMATION
91-97	S-01 TO ST-06		STRUCTURE PLAN AND ELEVATION
98-104	S-07 TO S-13		STRUCTURE BORINGS
105-109	S-14 TO S-18		STRUCTURE DETAILS
110-157	XS-01 TO XS-48		CROSS SECTIONS
158-180	XS-49 TO XS-71		DRIVEWAY CROSS SECTIONS

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION MAINTENANCE CERTIFICATION

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

DATE

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

OWNER'S CERTIFICATION

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

DATE

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

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL," MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN CRITERIA" DATED AUGUST, 1988.

DATE

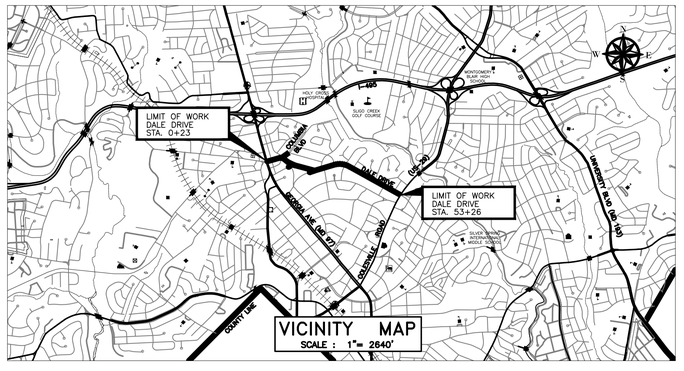
MICHAEL ROTHENHEBER, P.E.
MD. REGISTRATION NO. 18589

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO 1,885 CUBIC YARDS OF EXCAVATION, 670 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 124,263 SQUARE FEET OR 2.85 ACRES.

DATE

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



THE FOLLOWING MONTGOMERY COUNTY STANDARDS ARE REQUIRED FOR THIS PROJECT:

MC-100.01 - COMBINATION CONCRETE CURB AND GUTTER - TYPE A
MC-110.01 - RESIDENTIAL SIDEWALK
MC-301.01 - RESIDENTIAL DRIVEWAY

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

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

MD-655.40 - DETECTABLE WARNING SURFACES

FOR ALL SHA STANDARDS REFERRED TO ON THE PLANS, THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS WHICH WILL HAVE THE MOST CURRENT VERSION. THE BOOK OF STANDARDS CAN BE ACCESSED AT: http://apps.roads.maryland.gov/businesswithsha/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/index.asp

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

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 18589 EXPIRATION DATE 02/10/2022

DATE

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

RELATED REQUIRED PERMITS

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

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

TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District					
WATERWAYS/WETLAND(S):					
a. Corps of Engineers					
b. MDE					
c. MDE Water Quality Certification					
MDE Dam Safety					
DNR Roadside Tree Care Permit				Approval Date	
DPS Roadside Tree Protection Plan				Approval Date	
N.P.D.E.S. NOTICE OF INTENT					DATE FILED
OTHERS (Please List):					

JUNE 2014

TREE CANOPY REQUIREMENTS TABLE

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

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

Total Property Area	Total Disturbed Area
436,700 square feet	209,593 square feet

Shade Trees Required	Shade Trees Proposed to be Planted
78	0

Fee in Lieu (Trees Required – Trees Planted) x $250	$ 19,500

Required Number of Shade Trees

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

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

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

EXEMPTION CATEGORIES:

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

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

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

Stormwater Management:

Reviewed Date

Approved Date

SM FILE #

Sediment Control Technical Requirements:

Reviewed Date

Approved Date

Administrative Requirements:

Reviewed Date

SEDIMENT CONTROL PERMIT NO.

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

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

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

CONTACT:
ANGEL CHENG, P.E.
PROJECT MANAGER
DESIGN SECTION
DIVISION OF TRANSPORTATION ENGINEERING
240-777-7274

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

GN-01
TITLE SHEET

DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 1 of 180

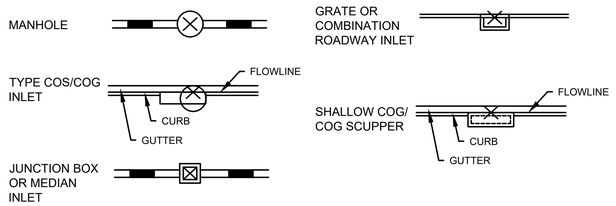
ABBREVIATIONS

A.A.S.H.T.O.	American Association of State Highway Transportation Officials
APPROX.	Approximate
B or B/L	Baseline
C.C.	Center of Curve
C or C/L	Centerline
C.I.P.	Cast Iron Pipe
C.M.P.	Corrugated Metal Pipe
C.O.	Cleanout
COMB.	Combination
CONC.	Concrete
CONSTR.	Construction
C.P.P.	Corrugated Polyethylene Pipe
D.B.H.	Diameter Breast Height
DC	Degree of Curve
D.H.V.	Design Hour Volume
D.I.	Drop Inlet
DIA.	Diameter
D.O.	Double Opening
E	East
E	Electric
E	External Distance
EA.	Each
E.B.	Eastbound
ELEV.	Elevation
E.R.C.C.P.	Elliptical Reinforced Cement Concrete Pipe
ES	End Section
EX. or EXIST.	Existing
FT	Feet
F or FL	Flowline
FWD	Forward
G	Gas
H.D.P.E.	High-Density Polyethylene
H.E.R.C.P.	Horizontal Elliptical Reinforced Concrete Pipe
HP	Hight Point
HMA	Hot Mix Asphalt
HT	Height
IN	Inch
INV	Invert
L	Length
LANDSC.	Landscaped
L.F.	Linear Feet
LP	Low Point
LT	Left
MAX.	Maximum
MOD.	Modified
MIN.	Minimum
N	North
NB	Northbound
NE	Northeast
N.T.S.	Not To Scale
O.C.	On Center
P.C.	Point of Curvature
P.C.C.	Point of Compound Curve
P/C	Point of Grown
PGA	Point of Grade Application
P/GE	Profile Grade Elevation
P.G.E.	Profile Ground Elevation
P.G.L.	Profile Grade Line
P/GL	Profile Ground Line
P/R	Point of Rotation
P.I.	Point of Intersection
P.O.C.	Point on Curve
P.O.T.	Point on Tangent
PROP.	Proposed
PT.	Point
P.T.	Point of Tangency
P.V.C.	Point of Vertical Curve
PVC	Polyvinyl Chloride
PVI	Point of Intersection
R	Radius
RET. WALL	Retaining Wall
RT	Right
RW or R/W	Right of Way
R.C.P.	Reinforced Cement Pipe
R.C.C.P.	Reinforced Cement Concrete Pipe
S	South
SAN.	Sanitary Sewer
SB	Southbound
S.D.	Storm Drain
S.E.	Superelevation
SF	Silt Fence
S.F.	Square Feet
SSD	Stopping Sight Distance
SSF	Super Silt Fence
STD.	Standard
SO.	Single Opening
S.Y.	Square Yards
SWM	Stormwater Management
SW	Sidewalk
T	Tangent
T	Telephone
T.C.P.	Terra Cotta Pipe
TYP.	Typical
U.P.	Utility Pole
VAR.	Varies
V.C.L.	Vertical Curve Length
W	Water
W	West
WB	Westbound

LEGEND

	SIGN		HEDGE/BUSHES
MB	MAIL BOX	434.0	SPOT ELEVATION
FP	FLAG POLE	II	WOOD FENCE
LL	LANDSCAPE LIGHTING	XXXXXXXXXXXXX	WIRE FENCE / CHAIN LINK FENCE
	LIGHT POST		STREAM
	UTILITY POLE		INDEX CONTOUR
	GUY WIRE ANCHOR	430	INTERVAL CONTOUR
	GUY POLE	OHW	OVERHEAD WIRES
GV	GAS VALVE		ABANDONED GAS LINE
	WATER VALVE	G	EXISTING GAS LINE
W	WATER METER		PROPERTY LINE
	FIRE HYDRANT		EXISTING RIGHT OF WAY
SS	SANITARY MANHOLE	F	TOE OF FILL
D	STORM DRAIN MANHOLE	C	TOP OF CUT
	DECIDUOUS TREE		GUARDRAIL W-BEAM
		LOD	LIMIT OF DISTURBANCE
	CONIFER TREE	TCE	TEMPORARY CONSTRUCTION EASEMENT
	BUSH	RSE	REVERTIBLE SLOPE EASEMENT
		PE	PERPETUAL EASEMENT

DRAINAGE STRUCTURE STAKEOUT LOCATIONS



DRAINAGE BUBBLES

INLET ---------- I 1

MANHOLE ---------- MH 1

JUNCTION BOX ---------- JB 1

FIELD CONNECTION ---------- C 1

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

GN-02
ABBREVIATIONS AND SYMBOLS

DALE DRIVE
SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 2 of 180

GENERAL NOTES

1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION DATED JULY 2008, ALL ERRATA AND ADDENDA THERETO, THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES, WASHINGTON SUBURBAN SANITARY COMMISSION (W.S.S.C.) STANDARDS, MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION STANDARDS, AND SOIL CONSERVATION SERVICE POND CONSTRUCTION SPECIFICATIONS FOR MARYLAND.
2. FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE BASED ON NAD 83/91, NAVD 88 DATUM.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. WHEN THE DROP ON THE MAIN LINE THROUGH A STORM DRAIN STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1.5:1 OR FLATTER, A ROUNDED CHANNEL LINED WITH SEWER BRICK ON EDGE SHALL BE BUILT TO THE CROWN OF THE PIPES. WHEN THE INVERT SLOPES WOULD BE GREATER THAN 1.5:1 A SPECIAL INVERT SHALL BE CONSTRUCTED AS NOTED.
5. ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
6. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR.
7. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
8. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
9. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
10. CLEARING IS TO BE LIMITED TO THE "LIMIT OF GRADING" AS SHOWN ON THE PLANS.
11. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
12. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
13. THE CONTRACTOR SHALL MAINTAIN THE APPROVED ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060
14. THE LOCATION OF RIGHT-OF-WAY AND EASEMENT LINES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE AS TO THE ACCURACY OF SAID LOCATIONS. PLEASE REFER TO THE APPROPRIATE RIGHT-OF-WAY PLATS.
15. ALL UTILITY POLES AND GUY WIRES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS.
16. CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL TO BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-699-4420
17. THE CONTRACTOR SHALL INSTALL PEDESTRIAN DETECTABLE WARNING SURFACES AT ALL SIDEWALK & PEDESTRIAN CROSSINGS. LOCATIONS AS DIRECTED BY THE ENGINEER. THE WARNING SURFACES SHALL BE IN CONFORMANCE WITH ADA REQUIREMENTS AND THE PROJECT SPECIAL PROVISION.
18. THE CONTRACTOR SHALL BE AWARE THAT OVERHEAD UTILITY WIRES EXIST WITHIN THE PROJECT SITE. LOCATIONS OF WIRES SHOULD BE NOTED IN FIELD WITH SIGNAGE TO AVOID CONFLICTS DURING CONSTRUCTION.

M-NCPPC NOTES

1. A PRE-CONSTRUCTION MEETING MUST BE HELD PRIOR TO START OF WORK WITH A MINIMUM OF 72 HOURS PRIOR NOTICE. THE M-NCPPC PARK MANAGER, PARK INSPECTOR, AND PARK URBAN FORESTER SHALL BE REPRESENTED AT THE MEETING.
2. M-NCPPC RESERVES THE RIGHT TO ADJUST AND MODIFY THE LIMITS OF DISTURBANCE (LOD) IN THE FIELD TO MINIMIZE IMPACTS OF WORK.
3. NO CLEARING, GRUBBING, OR GRADING SHALL COMMENCE UNTIL THE LOD ARE STAKED IN THE FIELD AND ARE APPROVED BY THE PARK INSPECTOR AS WELL AS ANY OTHER APPLICABLE PERMITTING AGENCIES. AFTER THE LOD IS APPROVED, NO DISTURBANCE WILL BE ALLOWED OUTSIDE OF THE APPROVED LIMITS. ANY ITEMS DISTURBED OUTSIDE OF THE APPROVED LIMITS WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
4. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR IDENTIFYING THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO START OF THE CONSTRUCTION RELATED WORK AND SHALL COORDINATE THE WORK WITH PARK INSPECTOR. THE CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES BETWEEN ALL EXISTING AND PROPOSED UTILITIES AT ALL TIMES AS REQUIRED BY THE UTILITY COMPANIES. ANY COST ASSOCIATED WITH THE REPAIR OR REPLACEMENT OF UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ANY DAMAGE MADE TO THE UTILITY SHALL BE REPAIRED ON AN EMERGENCY BASIS PER THE LATEST SPECIFICATIONS OF THE CONCERNED UTILITY AND COMPLETED WORK SHALL BE APPROVED BY THE CONCERNED UTILITY. ANY DAMAGE SHALL BE DOCUMENTED IMMEDIATELY AND REPORTED TO THE PARK INSPECTOR.
5. THE ENTIRE LOD SHALL BE FENCED AS DIRECTED BY THE PARK INSPECTOR. WHERE SILT FENCE, SUPER SILT FENCE, OR TREE PROTECTION FENCE IS NOT REQUIRED, ORANGE BLAZE SAFETY FENCE MAY BE USED.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE FACILITY ACCESS THROUGHOUT CONSTRUCTION AND PROVIDE ANY APPROPRIATE DETOURS, TEMPORARY FACILITIES, AND SIGNAGE AS REQUESTED BY THE PARK MANAGER.
7. SITE RESTORATION AND REPAIR/REPLACEMENT OF DAMAGED INFRASTRUCTURE SHALL BE IN ACCORDANCE WITH M-NCPPC DETAILS, STANDARDS, AND SPECIFICATIONS AT THE DIRECTION OF THE PARK INSPECTOR AT NO COST TO M-NCPPC. SITE RESTORATION IS TO BE ACHIEVED TO THE SATISFACTION OF THE PARK INSPECTOR PRIOR TO DEMOBILIZATION.
8. STAGING AREAS AND ACCESS ROUTES SHALL BE DETERMINED IN FIELD AND APPROVED BY THE PARK INSPECTOR TO MINIMIZE IMPACTS.
9. EQUIPMENT RESTRICTIONS (E.G. 8 P.S.I. OR LESS) MAY BE REQUIRED BY M-NCPPC IN SENSITIVE AREAS.
10. THE CONTRACTOR SHALL COORDINATE WITH MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES INSPECTOR AND/OR PARK INSPECTOR ON THE USE OF TRENCHLESS SILT FENCES AND/OR DAILY STABILIZATION TO AVOID CUTTING THROUGH MATURE TREES. WHERE TRENCHING IS REQUIRED, ROOT PRUNE PRIOR TO EXCAVATION FOR TRENCH AT THE DIRECTION OF THE PARK URBAN FORESTER.
11. SPECIAL PROTECTION MEASURES SHALL BE PROVIDED AS DIRECTED IN THE FIELD DURING CONSTRUCTION BY PARK INSPECTOR OR PARK URBAN FORESTER. THESE MAY INCLUDE, BUT NOT BE LIMITED TO, ROOT PRUNING, 12-INCH THICK MULCH LAYER ACCESS BEDDING, HARDWOOD MATS, ADDITIONAL TREE PROTECTION FENCING, TREE PLANKING, AND ADDITIONAL SEDIMENT CONTROLS.
12. TREE PROTECTION FENCING SHOULD BE 14-GAUGE WELDED WIRE TYPE (WITH METAL STAKES AT 10 FEET O.C.) AND MUST BE MAINTAINED THROUGHOUT CONSTRUCTION. TREE SAVE AREA SIGNAGE SHOULD BE POSTED EVERY 30 FEET ALONG FENCING. TREE PROTECTION FENCE SHOULD BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE M-NCPPC PARK URBAN FORESTER PRIOR TO THE START OF CONSTRUCTION.
13. M-NCPPC MAY INSPECT CONDITION OF TREES THROUGHOUT CONSTRUCTION AND REQUIRE REPAIR, REMOVAL, AND/OR REPLACEMENT OF ANY DAMAGED TREES AT NO COST TO M-NCPPC. TREES TO BE REMOVED ARE INDICATED WITH AN "X". NO OTHER TREES LARGER THAN 6" DBH SHALL BE DAMAGED OR REMOVED DURING CONSTRUCTION UNLESS APPROVED BY PARK URBAN FORESTER.
14. ALL PLANTING SUBSTITUTIONS MUST BE APPROVED BY PARK URBAN FORESTER. PLANT MATERIALS AND LOCATIONS SHOULD BE INSPECTED BY PARK URBAN FORESTER PRIOR TO INSTALLATION.
15. CONTRACTOR SHALL PROVIDE 4-FOOT HIGH (1-FOOT MINIMUM DIAMETER) 14-GAUGE WELDED WIRE DEER PROTECTION CAGES WITH MINIMUM OF ONE SUPPORT STAKE (OR TO CURRENT M-NCPPC SPECIFICATIONS) FOR ALL LANDSCAPE AND REFORESTATION TREES AND SHRUBS TO PREVENT DAMAGE BY DEER. TUBEX SHALL NOT BE USED AS A SUBSTITUTE.
16. NOTES AND DETAILS SHOWN ON THE DRAWINGS ARE TYPICAL UNLESS OTHERWISE SHOWN OR NOTED.

EARTHWORK SUMMARY

CLASS I EXCAVATION

			PROPOSAL QUANTITY
CUT (FROM CROSS SECTIONS)	3,842	CY	
PAVEMENT REMOVAL	3,045	CY	
TOPSOIL UNDER FILL	–	CY	
ROOT MAT UNDER FILL	–	CY	
PLUS CUT (FROM SWM AREA)	415	CY	
TOTAL CLASS I EXCAVATION	7,302	CY	7,302 CY

CLASS IA EXCAVATION (ESTIMATED)

MUCK REMOVAL (IF ANY)	–	CY	
UNDERCUTTING	–	CY	
TOTAL CLASS IA EXCAVATION	–	CY	– CY

CLASS 2 EXCAVATION

CUT (FROM CROSS SECTIONS)	–	CY	
TOTAL CLASS 2 EXCAVATION	–	CY	– CY

EXCAVATION AVAILABLE FOR EMBANKMENT

TOTAL CLASS I EXCAVATION + CLASS 2 EXCAVATION	6,887	CY
MINUS:		
TOPSOIL (REMOVED IN CUT)	–	CY
TOPSOIL (REMOVED UNDER FILL)	–	CY
ROOT MAT (REMOVED IN CUT)	–	CY
ROOT MAT (REMOVED IN FILL)	–	CY
CUT ADJUSTED	6,887	CY
CUT DENSIFIED (x 0.83)	5,716	CY
TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT	5,716	CY

EMBANKMENT REQUIRED

FILL (FROM CROSS SECTIONS)	709	CY	
REFILL FOR TOPSOIL UNDER FILL	–	CY	
REFILL FOR ROOT MAT UNDER FILL	–	CY	
FILL (FROM SWM AREA)	207	CY	
TOTAL	916	CY	
MINUS EXCAVATION AVAILABLE FOR EMBANKMENT	(5,716)	CY	
ADJUSTED TOTAL	0	CY	
PLUS DENSIFICATION FACTOR (x 1.20)	0	CY	
MINUS SELECT BORROW	–	CY	
COMMON BORROW	0	CY	0 CY
SELECT BORROW	–	CY	– CY

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

GN-03
GENERAL NOTES

DALE DRIVE
SHARED USE PATH

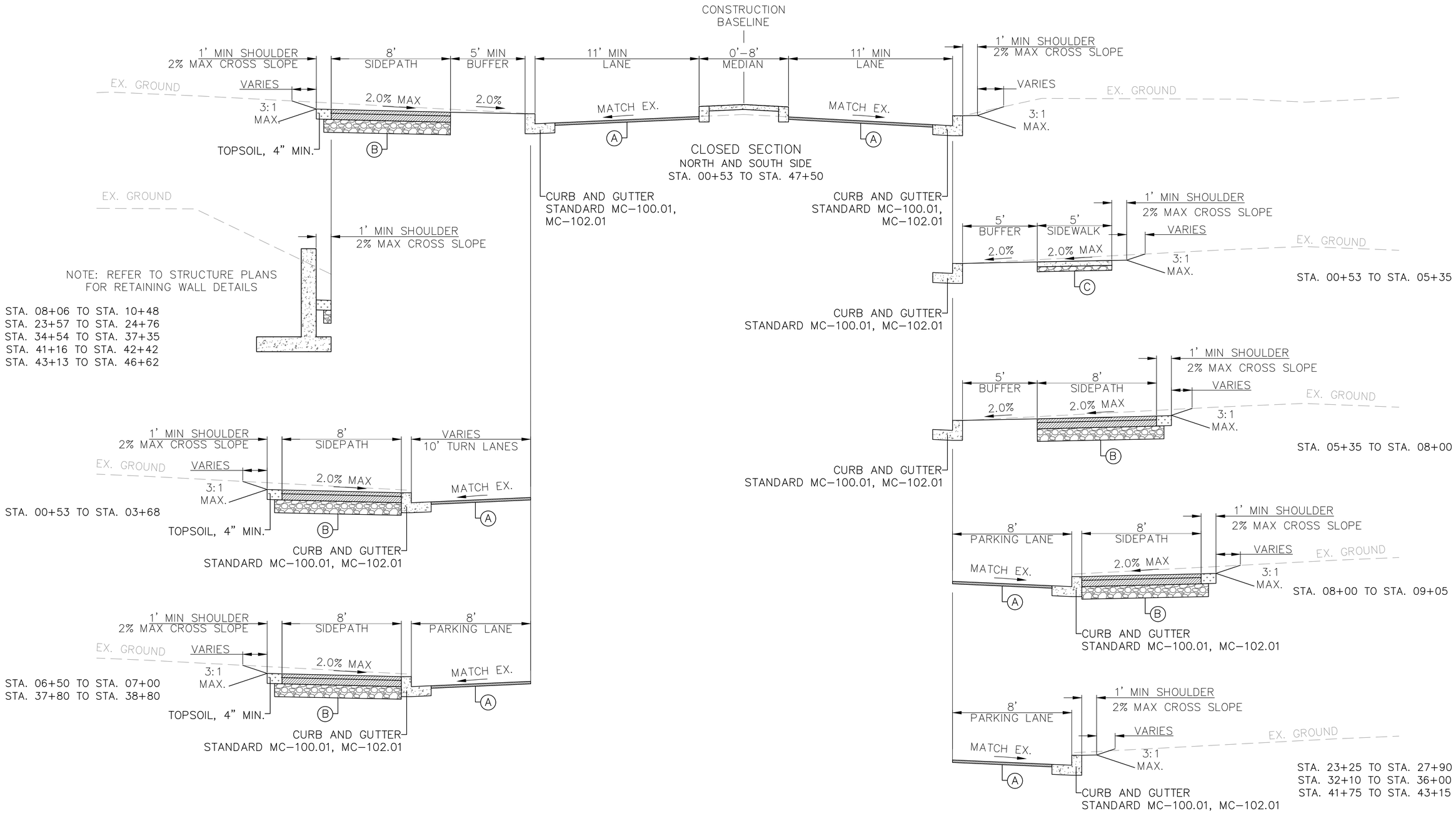
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No.: 502109

SHEET 3 of 180

FILE NAME: G:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pGN_General Notes.dwg LAYOUT NAME: GN-03 GENERAL_MNCPPC NOTES PLOTTED: Tuesday, November 02, 2021 - 4:34pm USER: AHavener



NOTES:
1. MAXIMUM ALLOWABLE TRAIL CROSS SLOPE IS 2.0% MAX. FOR ADA COMPLIANCE, WITH ZERO CONSTRUCTION TOLERANCE TO EXCEED 2.0%.
2. IMPERVIOUS TRAIL PAVEMENT DETAIL REFLECTS A DEVIATION FROM THE PAVEMENT SECTION SHOWN ON M-NCPPC STANDARD TRAIL DETAILS. THIS CHANGE HAS BEEN APPROVED BY MONTGOMERY COUNTY AND M-NCPPC.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

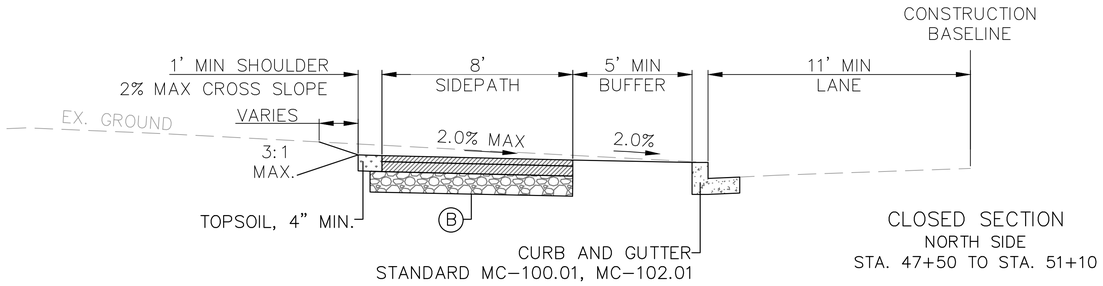
TS-01
TYPICAL SECTION
DALE DRIVE SHARED USE PATH

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

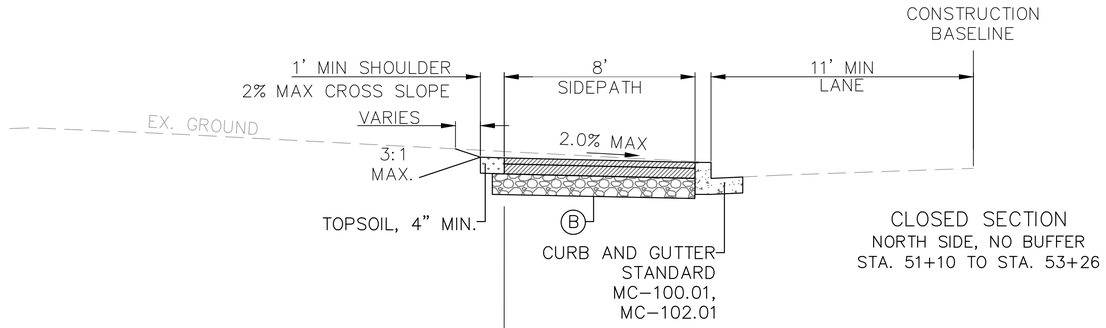
DATE: NOVEMBER 2021

CIP No.: 502109

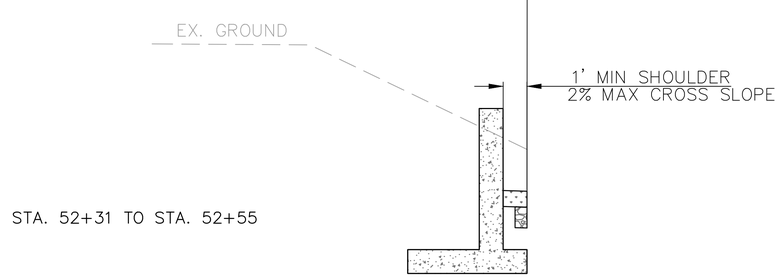
SHEET 4 of 180



CLOSED SECTION
NORTH SIDE
STA. 47+50 TO STA. 51+10



CLOSED SECTION
NORTH SIDE, NO BUFFER
STA. 51+10 TO STA. 53+26



STA. 52+31 TO STA. 52+55

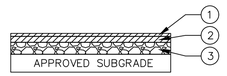
NOTE: REFER TO STRUCTURE PLANS FOR RETAINING WALL DETAILS



(1) MILL EXISTING HOT MIX ASPHALT PAVEMENT, 2 INCHES

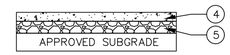
2" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64-22, LEVEL 2

(A) MILL/OVERLAY DETAIL
NTS



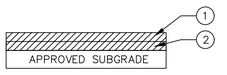
(1) 1.5" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64-22, LEVEL-2
(2) 2.5" HMA SUPERPAVE 12.5MM FOR BASE, PG64-22, LEVEL-2
(3) 5" CR-6 GRADED AGGREGATE BASE COURSE

(B) IMPERVIOUS TRAIL PAVEMENT DETAIL
NTS



(4) 4" CONCRETE SIDEWALK
(5) 4" CR-6 GRADED AGGREGATE BASE COURSE

(C) CONCRETE SIDEWALK DETAIL
NTS



(1) 3" HMA SUPERPAVE 12.5MM FOR SURFACE, PG64-22, LEVEL 2
(2) 3" HMA SUPERPAVE 19.0MM FOR BASE, PG64-22, LEVEL 2

IMPERVIOUS PAVEMENT DETAIL - DRIVEWAYS
NTS

NOTES:
1. MAXIMUM ALLOWABLE TRAIL CROSS SLOPE IS 2.0% MAX. FOR ADA COMPLIANCE, WITH ZERO CONSTRUCTION TOLERANCE TO EXCEED 2.0%.
2. IMPERVIOUS TRAIL PAVEMENT DETAIL REFLECTS A DEVIATION FROM THE PAVEMENT SECTION SHOWN ON M-NCPPC STANDARD TRAIL DETAILS. THIS CHANGE HAS BEEN APPROVED BY MONTGOMERY COUNTY AND M-NCPPC.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: ADH Checked by: JJR

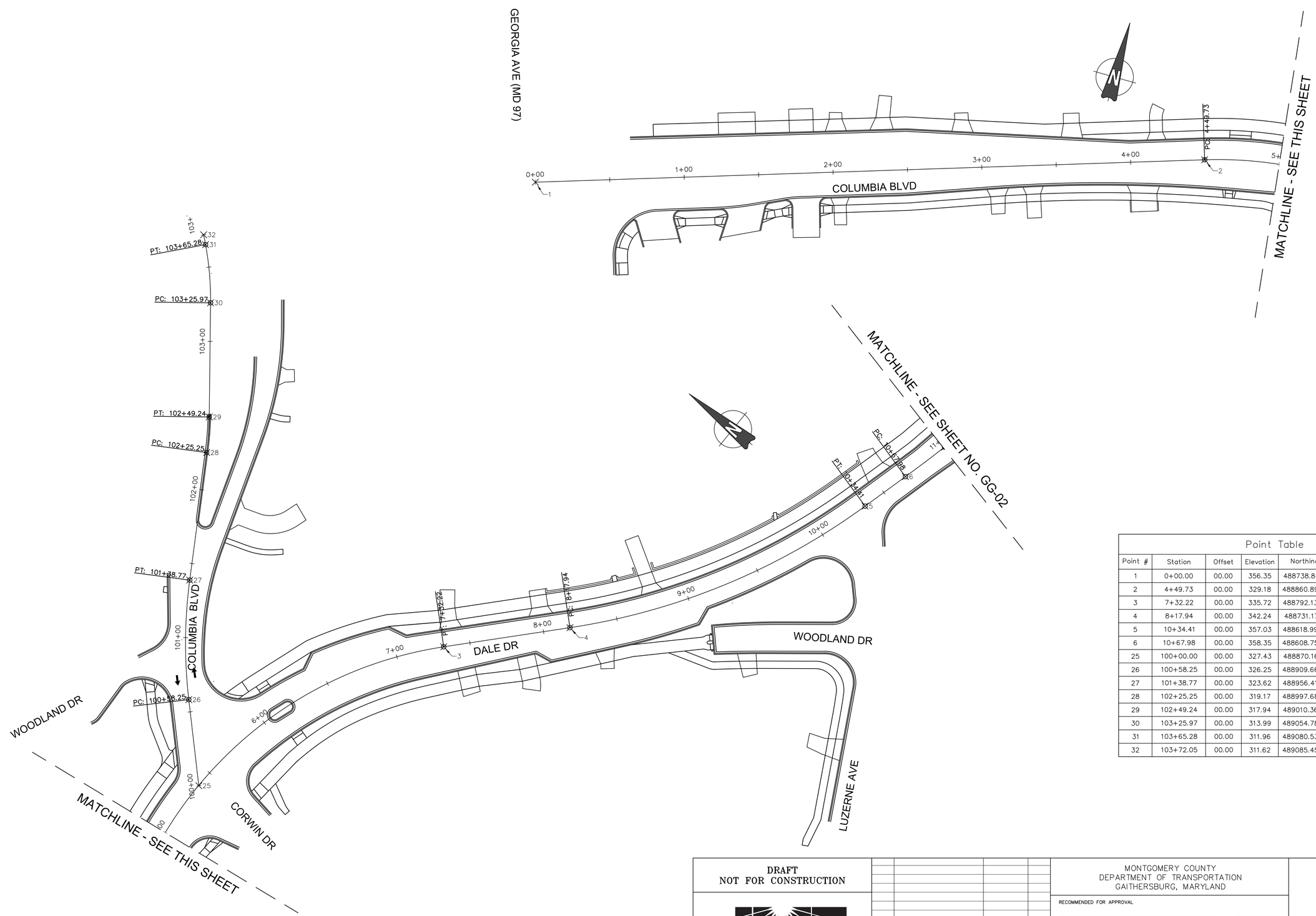
TS-02
TYPICAL SECTION
DALE DRIVE SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 5 of 180



Point Table						
Point #	Station	Offset	Elevation	Northing	Easting	Description
1	0+00.00	00.00	356.35	488738.8451	1300900.4368	POB
2	4+49.73	00.00	329.18	488860.8924	1301333.2940	PC
3	7+32.22	00.00	335.72	488792.1368	1301593.6692	PT
4	8+17.94	00.00	342.24	488731.1721	1301653.9350	PC
5	10+34.41	00.00	357.03	488618.9972	1301836.6332	PT
6	10+67.98	00.00	358.35	488608.7544	1301868.5958	PC
25	100+00.00	00.00	327.43	488870.1612	1301421.3931	POB
26	100+58.25	00.00	326.25	488909.6630	1301464.2049	PC
27	101+38.77	00.00	323.62	488956.4154	1301529.5090	PT
28	102+25.25	00.00	319.17	488997.6832	1301605.5086	PC
29	102+49.24	00.00	317.94	489010.3656	1301625.8536	PT
30	103+25.97	00.00	313.99	489054.7873	1301688.4208	PC
31	103+65.28	00.00	311.96	489080.5375	1301718.0380	PT
32	103+72.05	00.00	311.62	489085.4542	1301722.6817	POE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

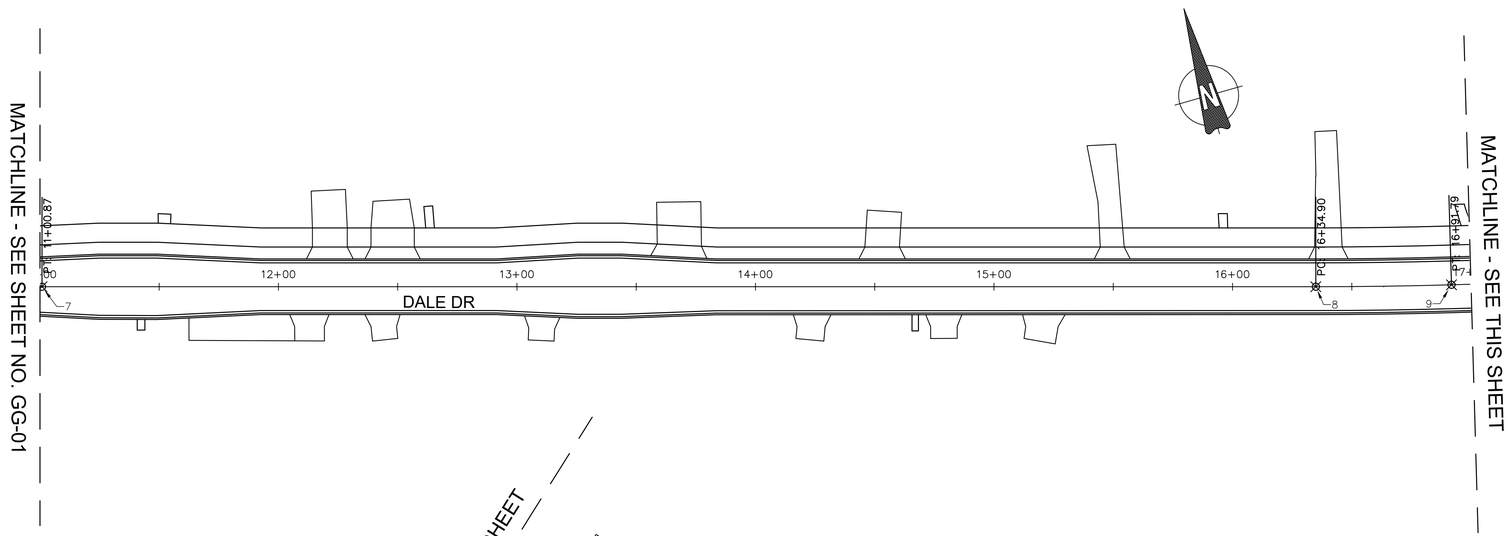
Designed by: ADH Drawn by: MED Checked by: JJR

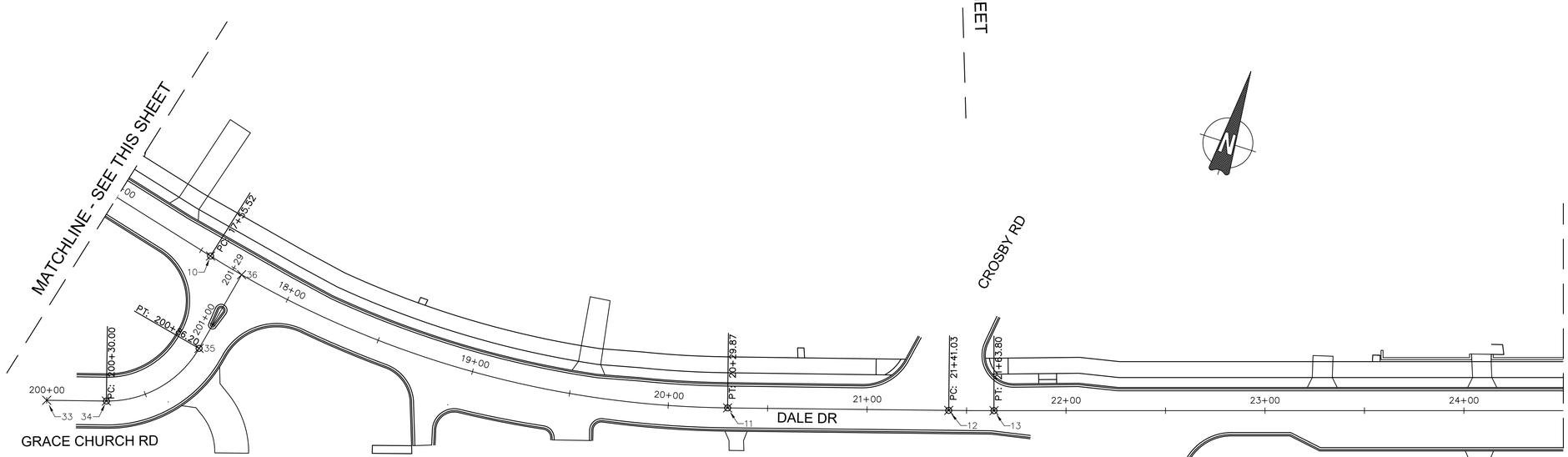
GG-01
GRADES AND GEOMETRICS
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 6 of 180





Point Table

Point #	Station	Offset	Elevation	Northing	Easting	Description
7	11+00.87	00.00	358.99	488599.2334	1301900.0783	PT
8	16+34.90	00.00	335.28	488453.0720	1302413.7213	PC
9	16+91.79	00.00	331.10	488438.2820	1302468.6527	PT
10	17+55.52	00.00	326.41	488422.5894	1302530.4223	PC
11	20+29.87	00.00	309.83	488429.5137	1302801.2523	PT
12	21+41.03	00.00	309.93	488462.3528	1302907.4466	PC
13	21+63.80	00.00	310.37	488469.2031	1302929.1604	PT
33	200+00.00	00.00	0.00	488328.3247	1302474.2522	POB
34	200+30.00	00.00	321.89	488337.1357	1302502.9292	PC
35	200+86.20	00.00	322.89	488376.6307	1302539.1731	PT
36	201+28.95	00.00	324.67	488418.4212	1302548.1810	POE

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

GG-02
GRADES AND GEOMETRICS

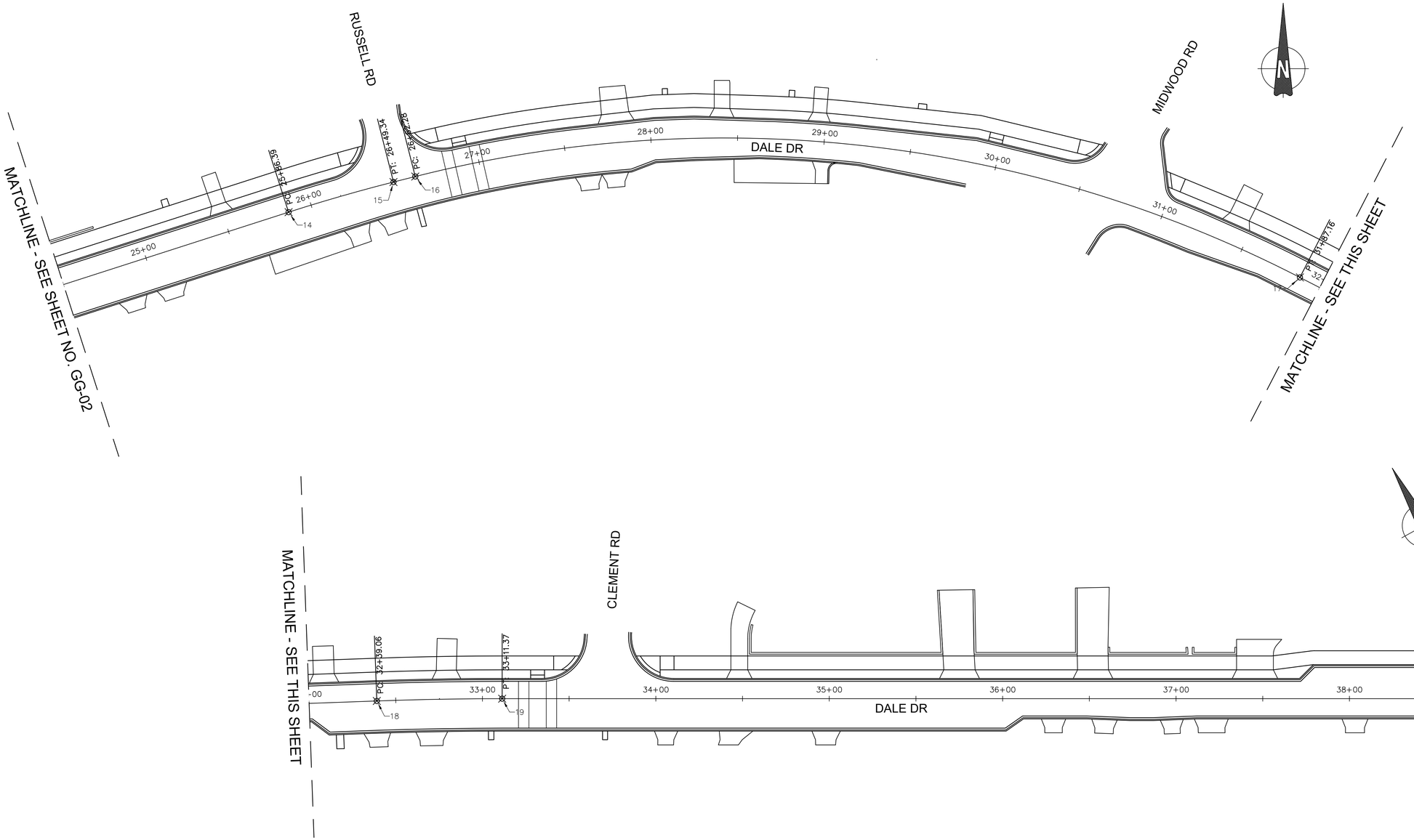
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 7 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pGG_Dale.dwg LAYOUT NAME: GG-02 PLOTTED: Tuesday, November 02, 2021 - 4:35pm USER: AHavener



Point Table						
Point #	Station	Offset	Elevation	Northing	Easting	Description
14	25+86.39	00.00	328.09	488598.6385	1303331.4416	PC
15	26+49.34	00.00	328.61	488616.0213	1303391.9334	PT
16	26+62.28	00.00	328.48	488619.2021	1303404.4772	PC
17	31+87.16	00.00	316.15	488560.9742	1303914.6538	PT
18	32+39.06	00.00	320.15	488537.2079	1303960.7964	PC
19	33+11.37	00.00	325.23	488502.9437	1304024.4664	PT

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

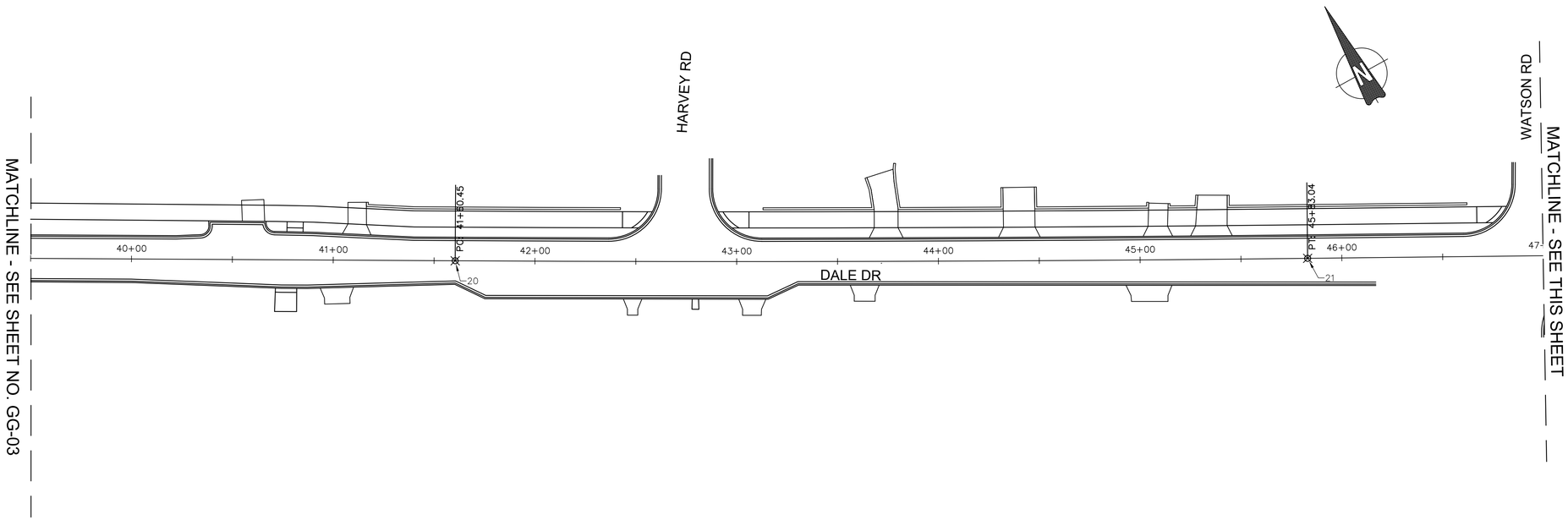
Designed by: ADH Drawn by: MED Checked by: JJR

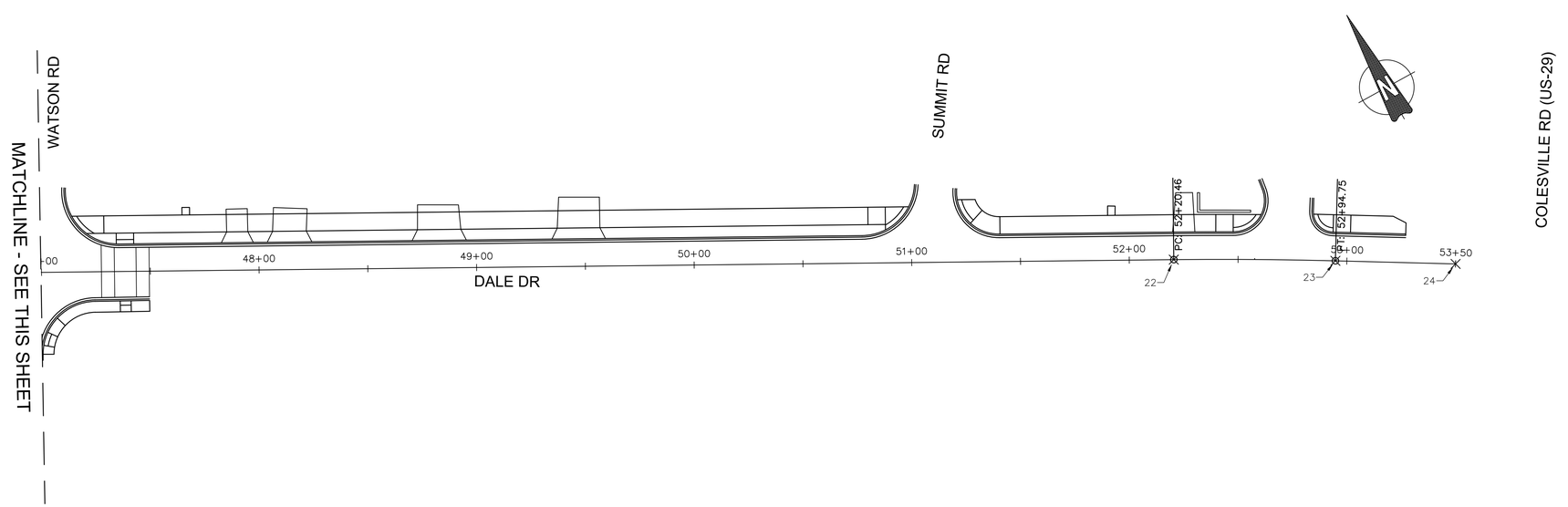
GG-03
GRADES AND GEOMETRICS
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 8 of 180





Point Table						
Point #	Station	Offset	Elevation	Northing	Easting	Description
20	41+60.45	00.00	280.55	488087.1236	1304764.7597	PC
21	45+83.04	00.00	311.58	487883.2905	1305134.9411	PT
22	52+20.46	00.00	298.96	487580.5682	1305695.8843	PC
23	52+94.75	00.00	292.96	487544.0816	1305760.5891	PT
24	53+50.00	00.00	288.85	487516.0511	1305808.2089	POE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

GG-04
GRADES AND GEOMETRICS
DALE DRIVE
SHARED USE PATH

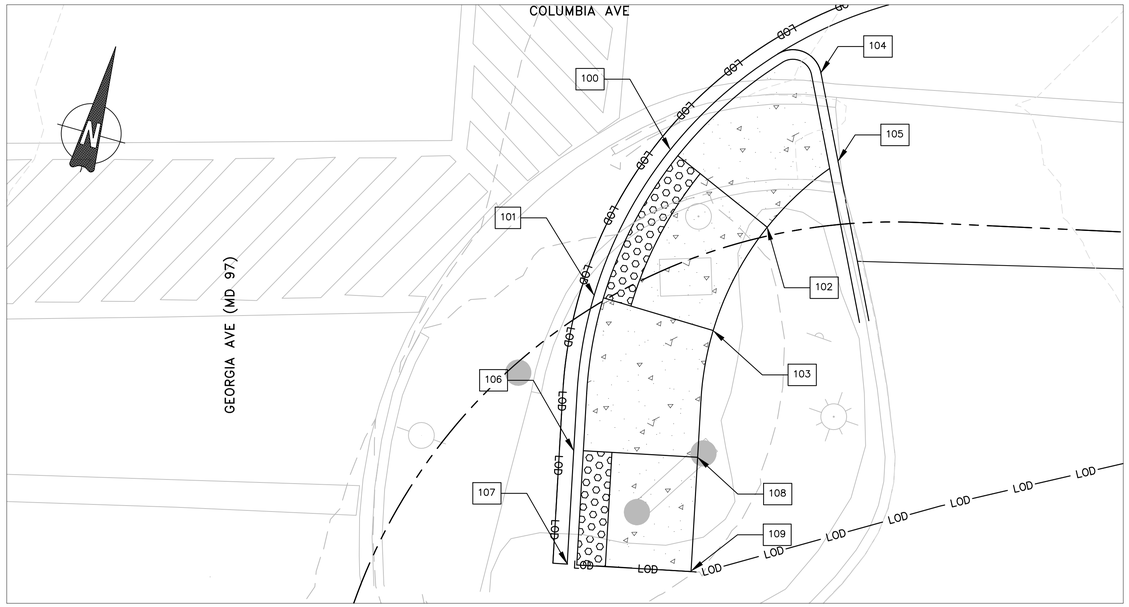
0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

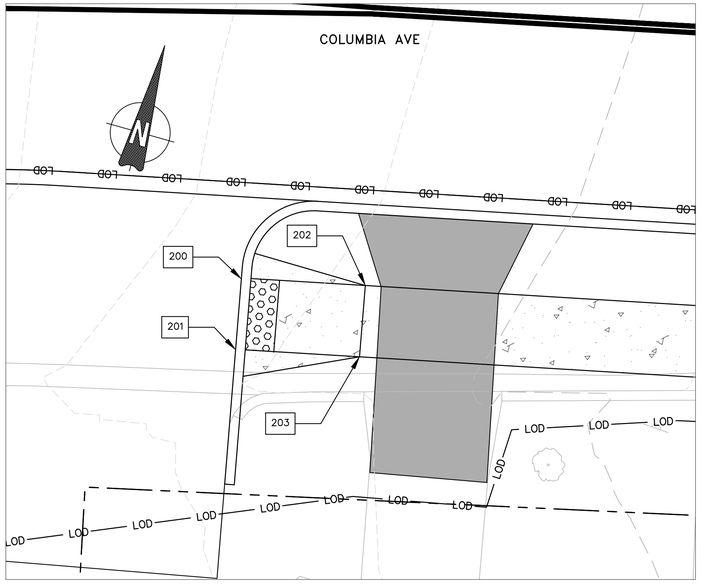
CIP No. : 502109 SHEET 9 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pGG_Dale.dwg LAYOUT NAME: GG-04 PLOTTED: Tuesday, November 02, 2021 - 4:35pm USER: AHavener

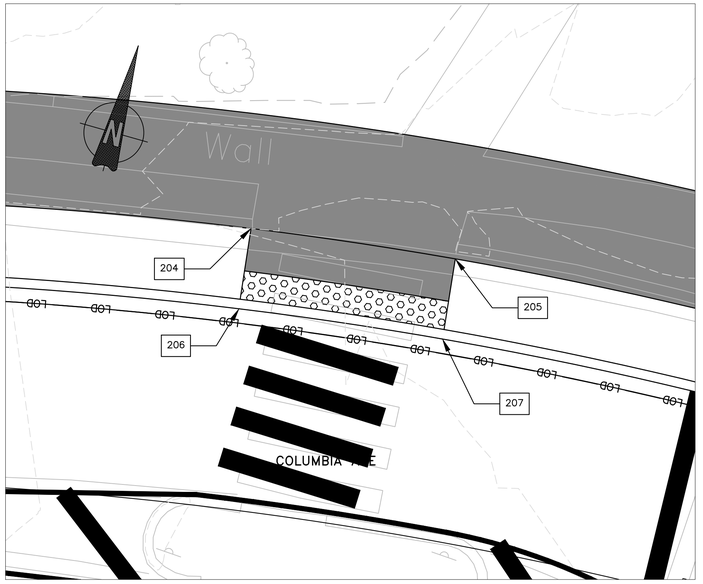
SPACE RESERVED FOR M-NCPPC PARK CONSTRUCTION PERMIT STAMP


COLUMBIA AVE
GEORGIA AVE (MD 97)
100
101
102
103
104
105
106
107
108
109
LOD
LOD
LOD

SPACE RESERVED FOR M–NCPPC PARK CONSTRUCTION PERMIT STAMP



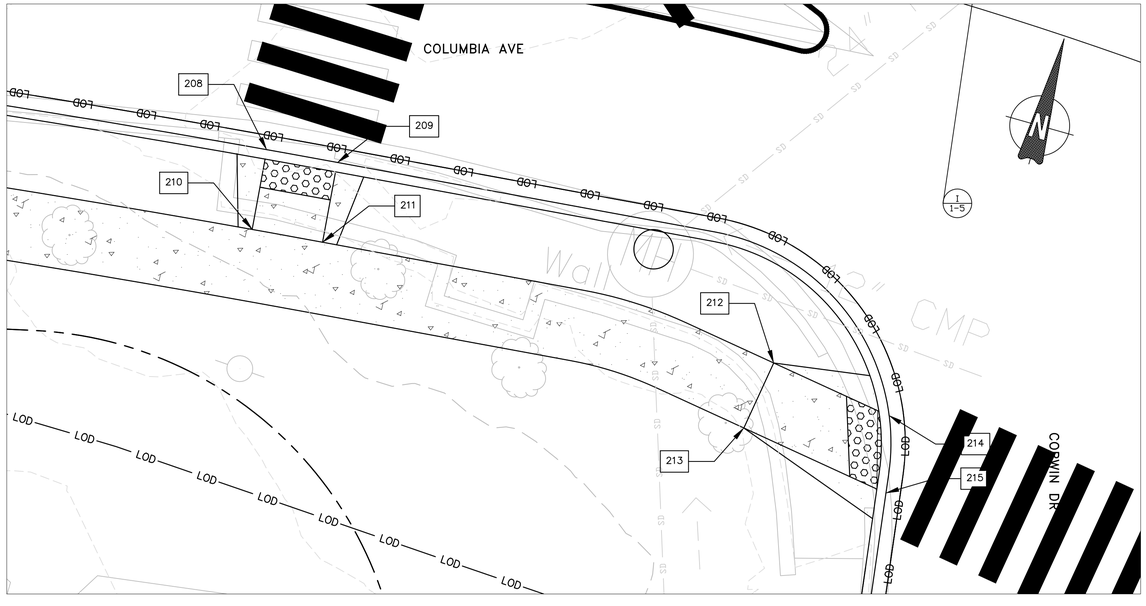
2+00 RT



4+75 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
200	488768.94	1301089.45	–	DRIVEWAY FLOWLINE
201	488764.10	1301090.71	–	DRIVEWAY FLOWLINE
202	488771.29	1301097.80	–	TOP OF RAMP
203	488766.45	1301099.06	–	TOP OF RAMP
204	488884.10	1301345.13	–	TOP OF RAMP
205	488886.78	1301359.31	–	TOP OF RAMP
206	488878.52	1301346.16	–	ROADWAY FLOWLINE
207	488881.20	1301360.31	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%



4+70 RT

5+10 RT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
208	488844.98	1301351.71	–	ROADWAY FLOWLINE
209	488845.76	1301356.65	–	ROADWAY FLOWLINE
210	488839.39	1301352.57	–	TOP OF RAMP
211	488840.16	1301357.51	–	TOP OF RAMP
212	488842.55	1301390.05	–	TOP OF RAMP
213	488837.57	1301389.58	–	TOP OF RAMP
214	488841.70	1301398.90	–	ROADWAY FLOWLINE
215	488836.53	1301400.45	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT-02
PEDESTRIAN RAMP DETAILS
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

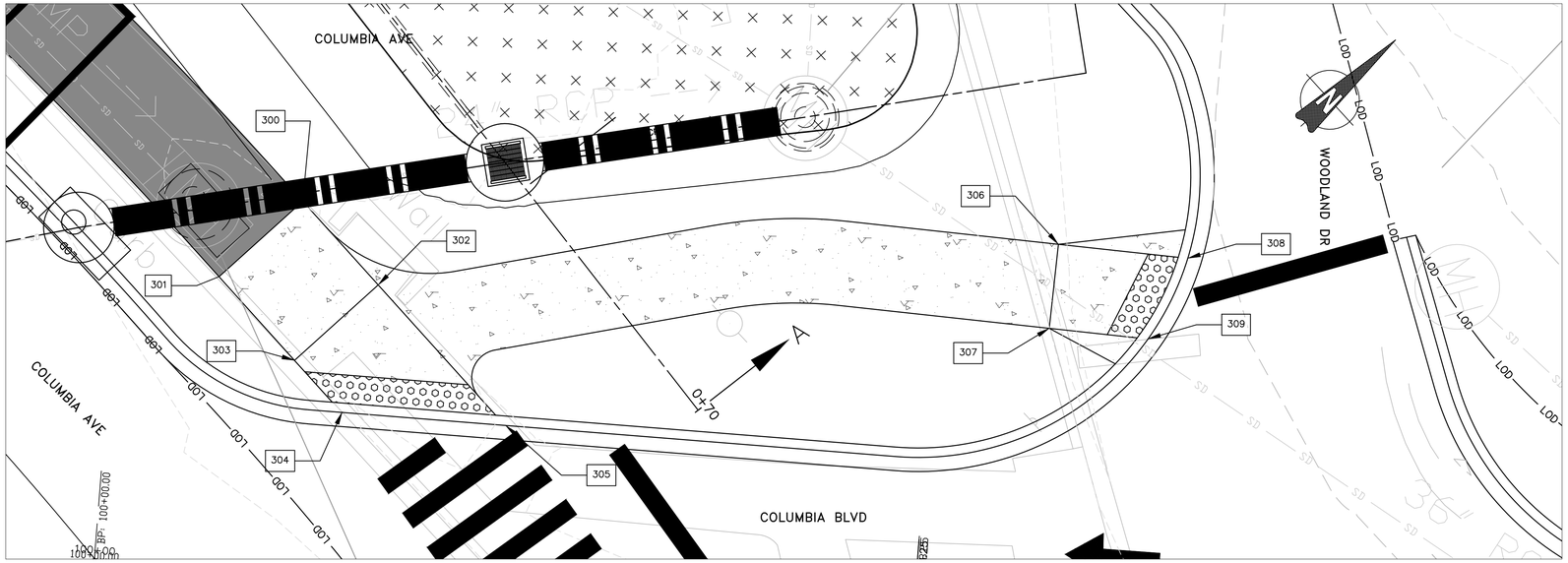
DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 11 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT-Dale.dwg LAYOUT NAME: DT-02 PLOTTED: Tuesday, November 02, 2021 – 4:37pm USER: AHavener

SPACE RESERVED FOR M–NCPPC PARK CONSTRUCTION PERMIT STAMP

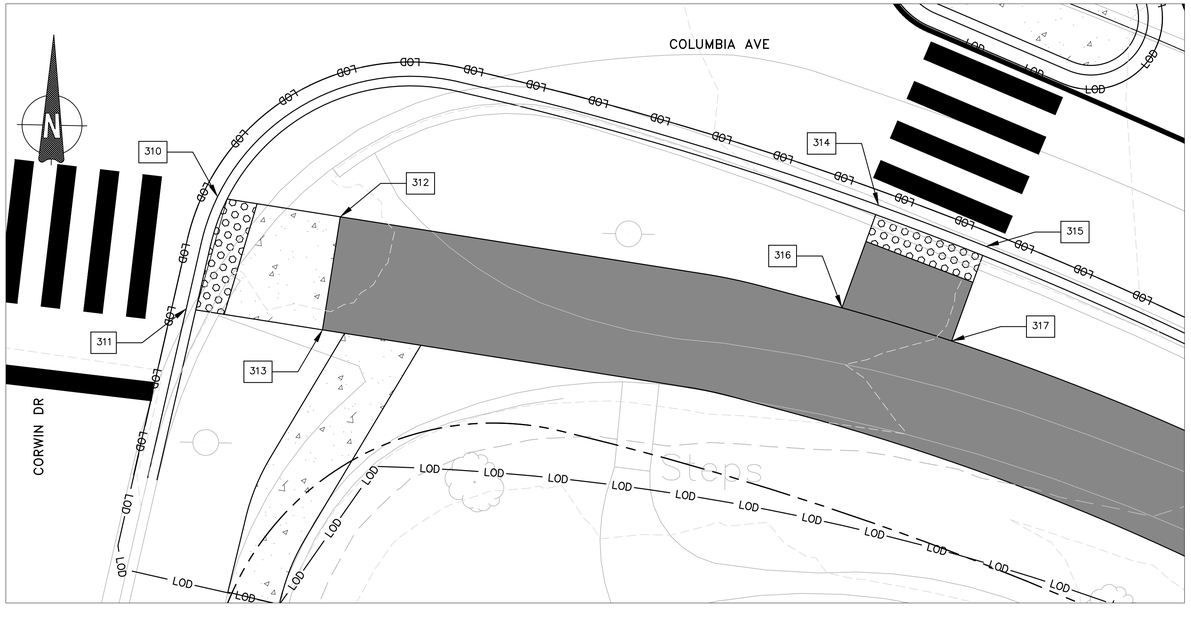


5+40 LT

5+60 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
300	488898.44	1301412.62	–	TOP OF LANDING
301	488890.44	1301412.52	–	TOP OF LANDING
302	488898.34	1301420.62	–	TOP OF RAMP
303	488890.34	1301420.52	–	TOP OF RAMP
304	488890.33	1301425.55	–	ROADWAY FLOWLINE
305	488898.17	1301434.05	–	ROADWAY FLOWLINE
306	488935.75	1301451.28	–	TOP OF RAMP
307	488931.24	1301455.24	–	TOP OF RAMP
308	488941.82	1301458.25	–	ROADWAY FLOWLINE
309	488935.83	1301460.55	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%



5+70 RT

6+15 RT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
310	488839.36	1301438.52	–	ROADWAY FLOWLINE
311	488831.56	1301436.52	–	ROADWAY FLOWLINE
312	488838.19	1301447.14	–	TOP OF RAMP
313	488830.26	1301446.06	–	TOP OF RAMP
314	488839.74	1301484.76	–	TOP OF RAMP
315	488837.04	1301492.29	–	TOP OF RAMP
316	488832.56	1301482.32	–	ROADWAY FLOWLINE
317	488830.39	1301490.03	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
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JMT

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT–03
PEDESTRIAN RAMP DETAILS
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

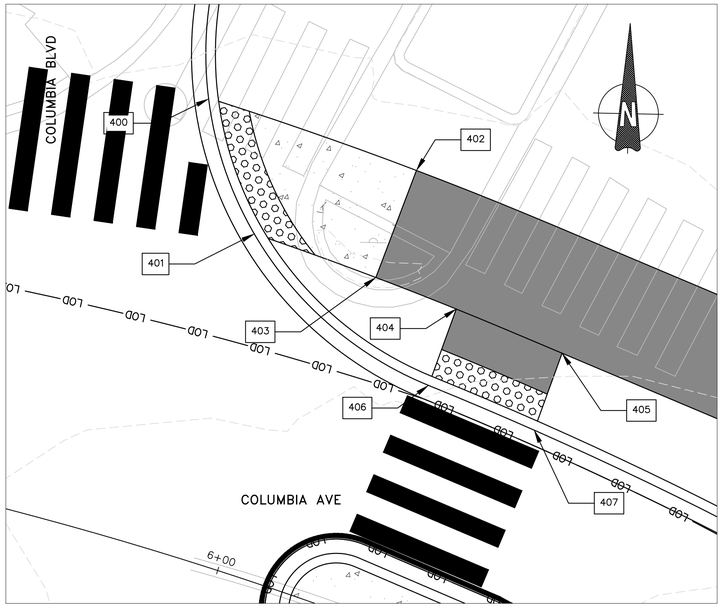
DATE: NOVEMBER 2021

CIP No.: 502109

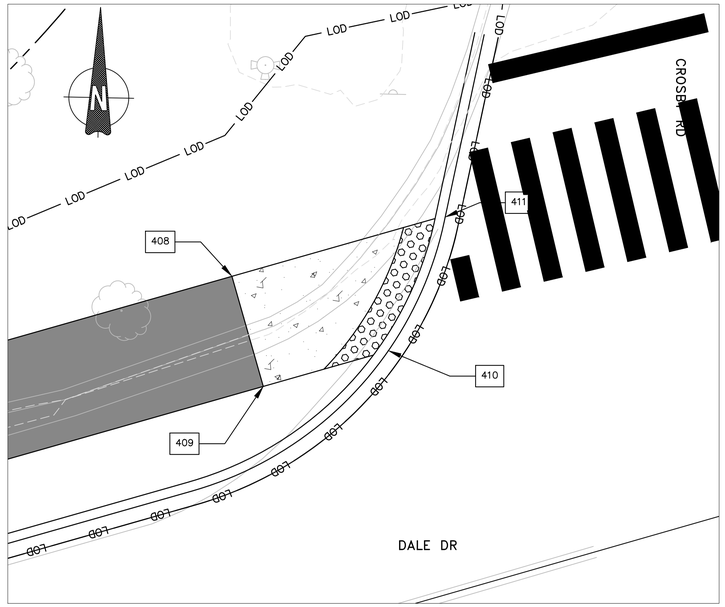
SHEET 12 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT-Dale.dwg LAYOUT NAME: DT-03 PLOTTED: Tuesday, November 02, 2021 – 4:37pm USER: AHavener

SPACE RESERVED FOR M–NCPPC PARK CONSTRUCTION PERMIT STAMP



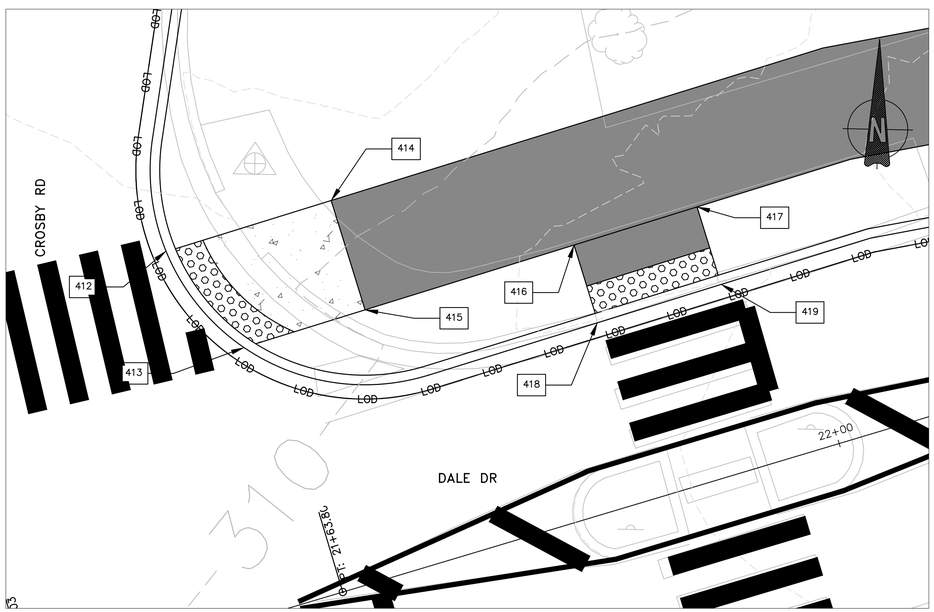
5+90 LT 6+15 LT



21+15 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
400	488892.54	1301480.24	–	ROADWAY FLOWLINE
401	488883.17	1301483.63	–	ROADWAY FLOWLINE
402	488887.84	1301494.86	–	TOP OF RAMP
403	488880.30	1301492.18	–	TOP OF RAMP
404	488878.21	1301497.85	–	TOP OF RAMP
405	488875.28	1301505.30	–	TOP OF RAMP
406	488872.82	1301496.05	–	ROADWAY FLOWLINE
407	488869.86	1301503.48	–	ROADWAY FLOWLINE
408	488475.87	1302864.81	–	TOP OF RAMP
409	488468.22	1302867.16	–	TOP OF RAMP
410	488480.31	1302879.62	–	ROADWAY FLOWLINE
411	488470.90	1302875.85	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%



21+60 RT 21+90 RT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
412	488492.78	1302916.32	–	ROADWAY FLOWLINE
413	488486.14	1302921.91	–	ROADWAY FLOWLINE
414	488496.54	1302927.79	–	TOP OF RAMP
415	488488.95	1302930.31	–	TOP OF RAMP
416	488493.78	1302944.82	–	TOP OF RAMP
417	488496.62	1302953.36	–	TOP OF RAMP
418	488488.38	1302946.56	–	ROADWAY FLOWLINE
419	488491.24	1302955.14	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT–04
PEDESTRIAN RAMP DETAILS
DALE DRIVE SHARED USE PATH

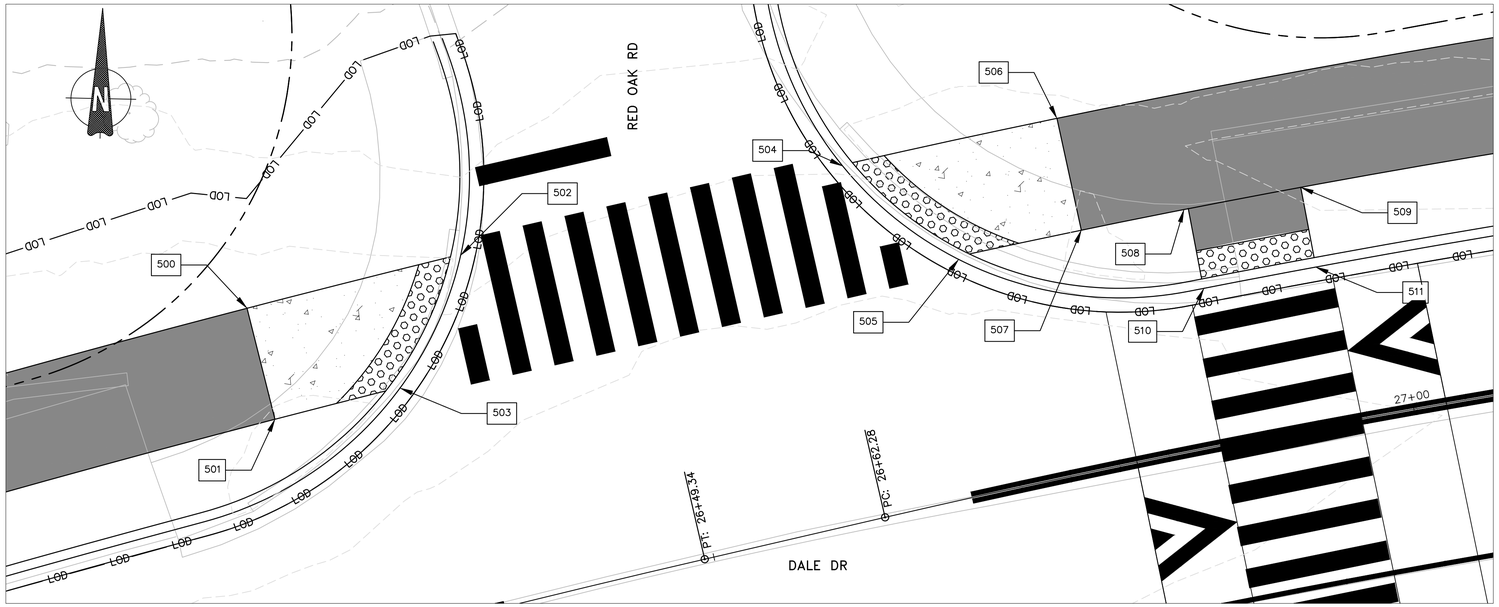
0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 13 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT-Dale.dwg LAYOUT NAME: DT-04 PLOTTED: Tuesday, November 02, 2021 – 4:38pm USER: AHavener

SPACE RESERVED FOR M–NCPPC PARK CONSTRUCTION PERMIT STAMP



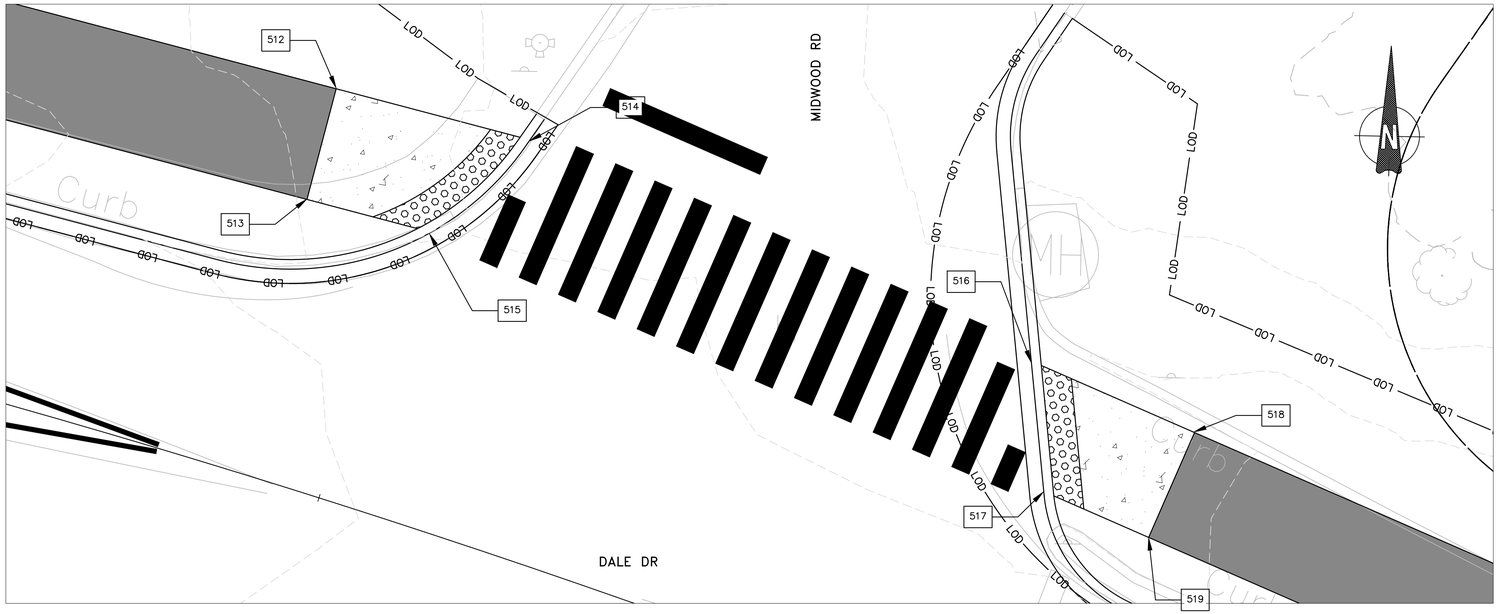
26+30 LT

26+70 LT

26+90 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
500	488632.90	1303359.60	–	TOP OF RAMP
501	488625.20	1303361.77	–	TOP OF RAMP
502	488636.93	1303374.46	–	ROADWAY FLOWLINE
503	488627.54	1303370.40	–	ROADWAY FLOWLINE
504	488643.69	1303401.01	–	ROADWAY FLOWLINE
505	488637.33	1303409.24	–	ROADWAY FLOWLINE
506	488647.33	1303415.91	–	TOP OF RAMP
507	488639.55	1303417.77	–	TOP OF RAMP
508	488641.21	1303425.21	–	TOP OF RAMP
509	488642.86	1303433.04	–	TOP OF RAMP
510	488635.66	1303426.40	–	ROADWAY FLOWLINE
511	488637.31	1303434.18	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%



30+00 LT

30+90 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
512	488640.51	1303788.14	–	TOP OF RAMP
513	488632.78	1303786.28	–	TOP OF RAMP
514	488637.12	1303801.69	–	ROADWAY FLOWLINE
515	488630.54	1303794.85	–	ROADWAY FLOWLINE
516	488622.30	1303837.11	–	ROADWAY FLOWLINE
517	488613.39	1303838.15	–	ROADWAY FLOWLINE
518	488617.72	1303848.60	–	TOP OF RAMP
519	488610.33	1303845.54	–	TOP OF RAMP

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT–05
PEDESTRIAN RAMP DETAILS
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

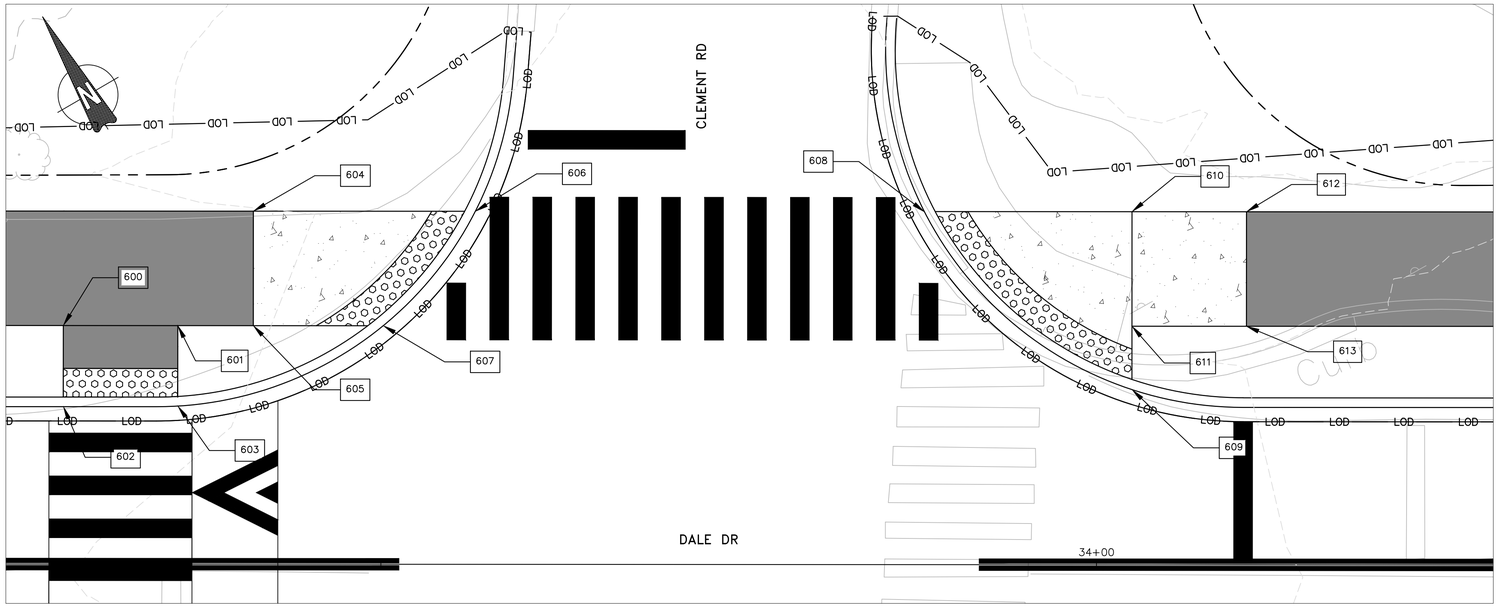
DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 14 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT-Dale.dwg LAYOUT NAME: DT-05 PLOTTED: Tuesday, November 02, 2021 – 4:38pm USER: AHavener

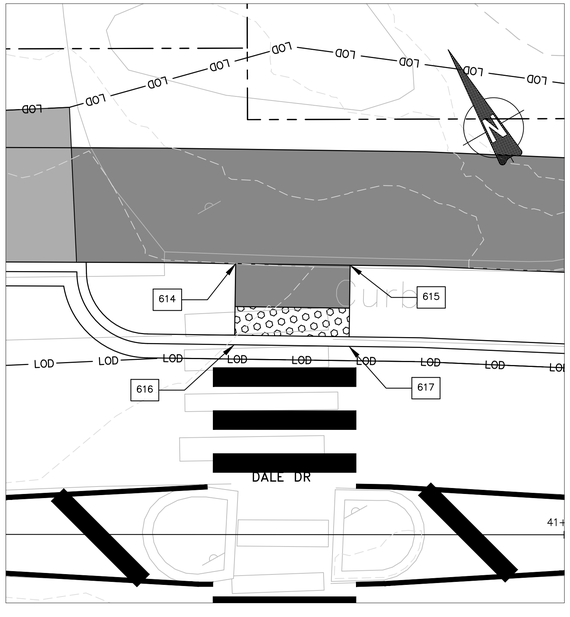
SPACE RESERVED FOR M-NCPPC PARK CONSTRUCTION PERMIT STAMP



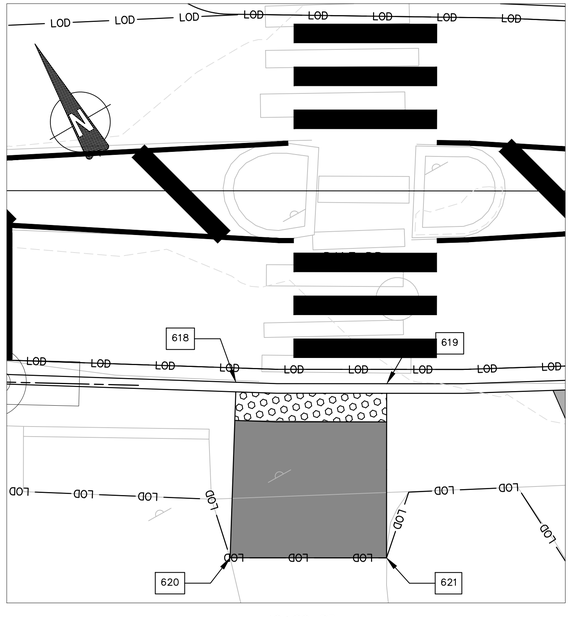
33+30 LT 33+50 LT 33+90 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
600	488509.43	1304046.96	–	TOP OF RAMP
601	488505.51	1304053.93	–	TOP OF RAMP
602	488504.49	1304044.18	–	ROADWAY FLOWLINE
603	488500.60	1304051.19	–	ROADWAY FLOWLINE
604	488509.90	1304062.45	–	TOP OF RAMP
605	488502.93	1304058.53	–	TOP OF RAMP
606	488502.30	1304075.96	–	ROADWAY FLOWLINE
607	488498.48	1304066.45	–	ROADWAY FLOWLINE
608	488486.91	1304103.33	–	ROADWAY FLOWLINE
609	488468.99	1304109.90	–	ROADWAY FLOWLINE
610	488479.84	1304115.98	–	TOP OF RAMP
611	488472.86	1304112.06	–	TOP OF RAMP
612	488475.92	1304122.95	–	TOP OF LANDING
613	488468.94	1304119.04	–	TOP OF LANDING

TABLE WILL BE COMPLETED FOLLOWING 70%



40+80 LT



40+80 RT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
614	488144.47	1304701.31	–	TOP OF RAMP
615	488140.46	1304708.24	–	TOP OF RAMP
616	488139.57	1304698.47	–	ROADWAY FLOWLINE
617	488135.56	1304705.39	–	ROADWAY FLOWLINE
618	488119.04	1304680.62	–	ROADWAY FLOWLINE
619	488113.80	1304689.75	–	ROADWAY FLOWLINE
620	488108.55	1304674.25	–	TOP OF RAMP
621	488108.55	1304674.25	–	TOP OF RAMP

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT-06
PEDESTRIAN RAMP DETAILS
DALE DRIVE
SHARED USE PATH

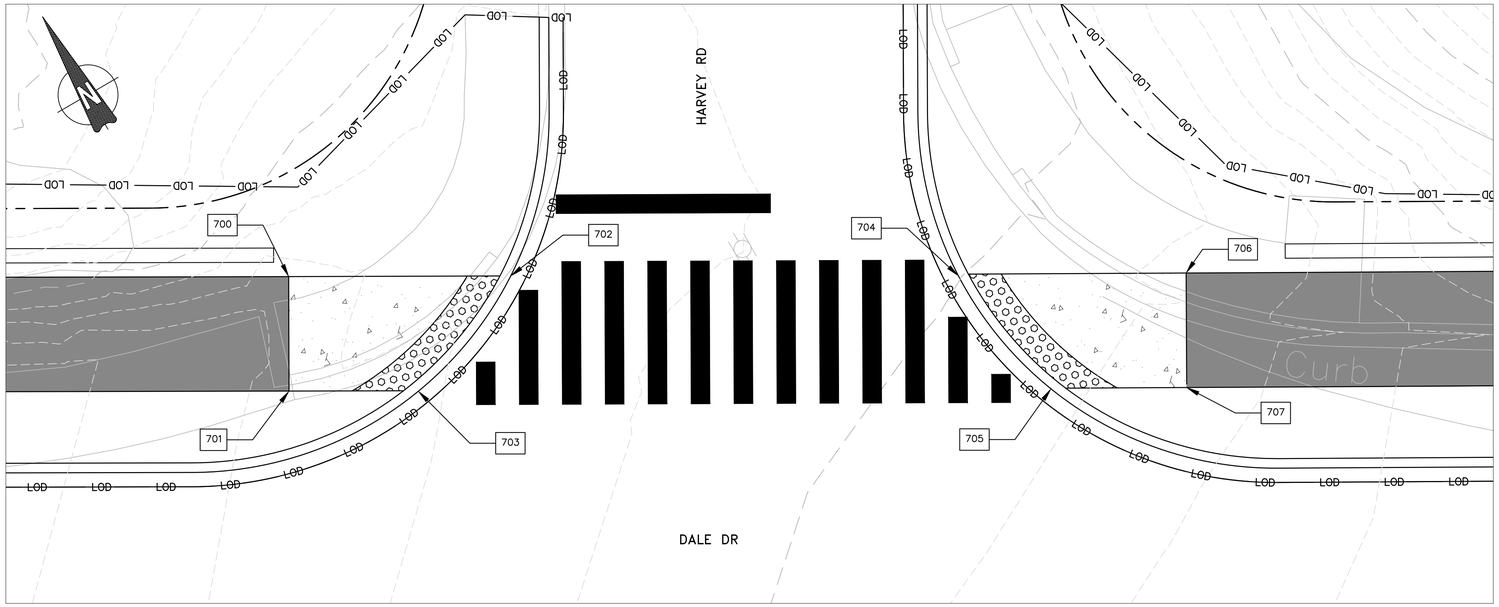
0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 15 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT-Dale.dwg LAYOUT NAME: DT-06 PLOTTED: Tuesday, November 02, 2021 - 4:38pm USER: AHavener

SPACE RESERVED FOR M–NCPPC PARK CONSTRUCTION PERMIT STAMP

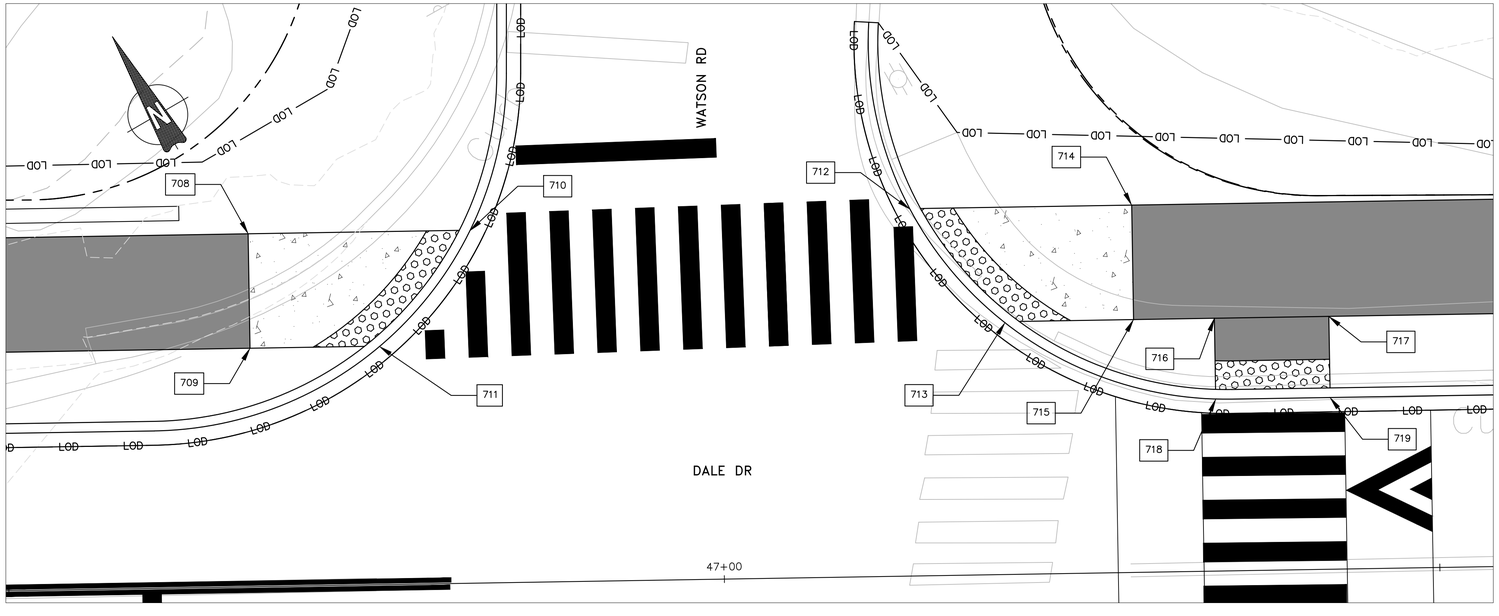


42+50 LT

43+00 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
700	488068.19	1304849.11	–	TOP OF RAMP
701	488061.20	1304845.22	–	TOP OF RAMP
702	488060.62	1304862.64	–	ROADWAY FLOWLINE
703	488056.78	1304853.10	–	ROADWAY FLOWLINE
704	488045.33	1304889.95	–	ROADWAY FLOWLINE
705	488035.30	1304891.73	–	ROADWAY FLOWLINE
706	488037.73	1304903.93	–	TOP OF RAMP
707	488030.74	1304900.05	–	TOP OF RAMP

TABLE WILL BE COMPLETED FOLLOWING 70%



46+75 LT

47+25 LT

47+40 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
708	487865.07	1305220.65	–	TOP OF RAMP
709	487858.03	1305216.85	–	TOP OF RAMP
710	487857.68	1305234.25	–	ROADWAY FLOWLINE
711	487853.71	1305224.80	–	ROADWAY FLOWLINE
712	487843.94	1305261.82	–	ROADWAY FLOWLINE
713	487833.78	1305263.73	–	ROADWAY FLOWLINE
714	487836.62	1305275.47	–	TOP OF RAMP
715	487829.58	1305271.67	–	TOP OF RAMP
716	487826.89	1305276.64	–	TOP OF RAMP
717	487823.10	1305283.68	–	TOP OF RAMP
718	487821.93	1305273.96	–	ROADWAY FLOWLINE
719	487818.11	1305280.98	–	ROADWAY FLOWLINE

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT–07
PEDESTRIAN RAMP DETAILS
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

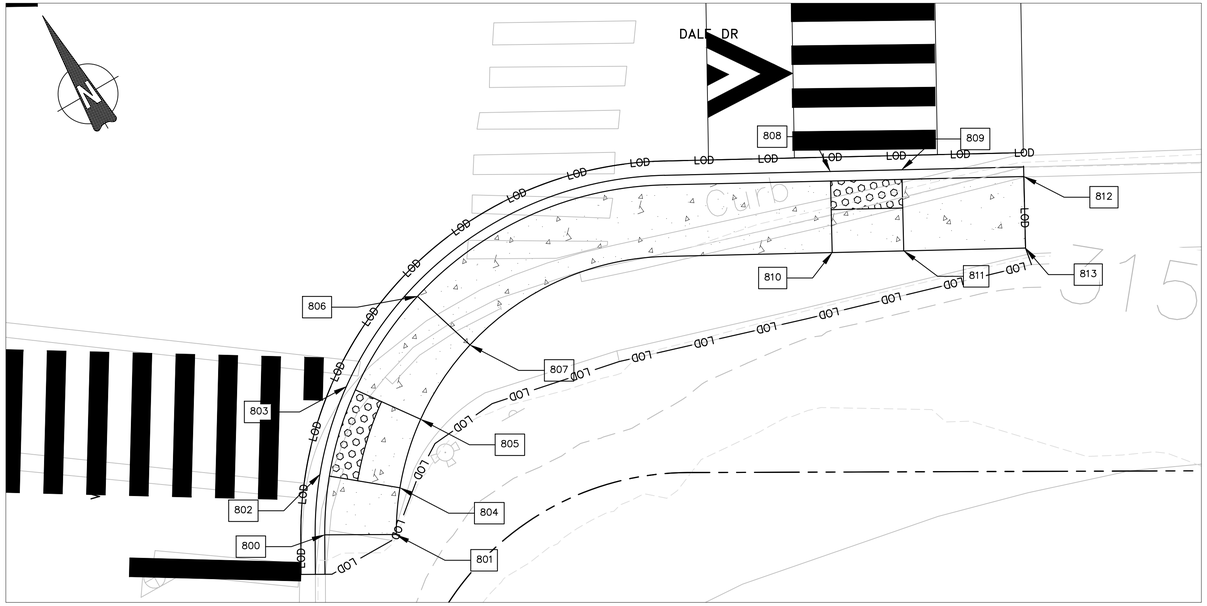
DATE: NOVEMBER 2021

CIP No.: 502109

SHEET 16 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT–Dale.dwg LAYOUT NAME: DT–07 PLOTTED: Tuesday, November 02, 2021 – 4:38pm USER: AHavener

SPACE RESERVED FOR M-NCPPC PARK CONSTRUCTION PERMIT STAMP

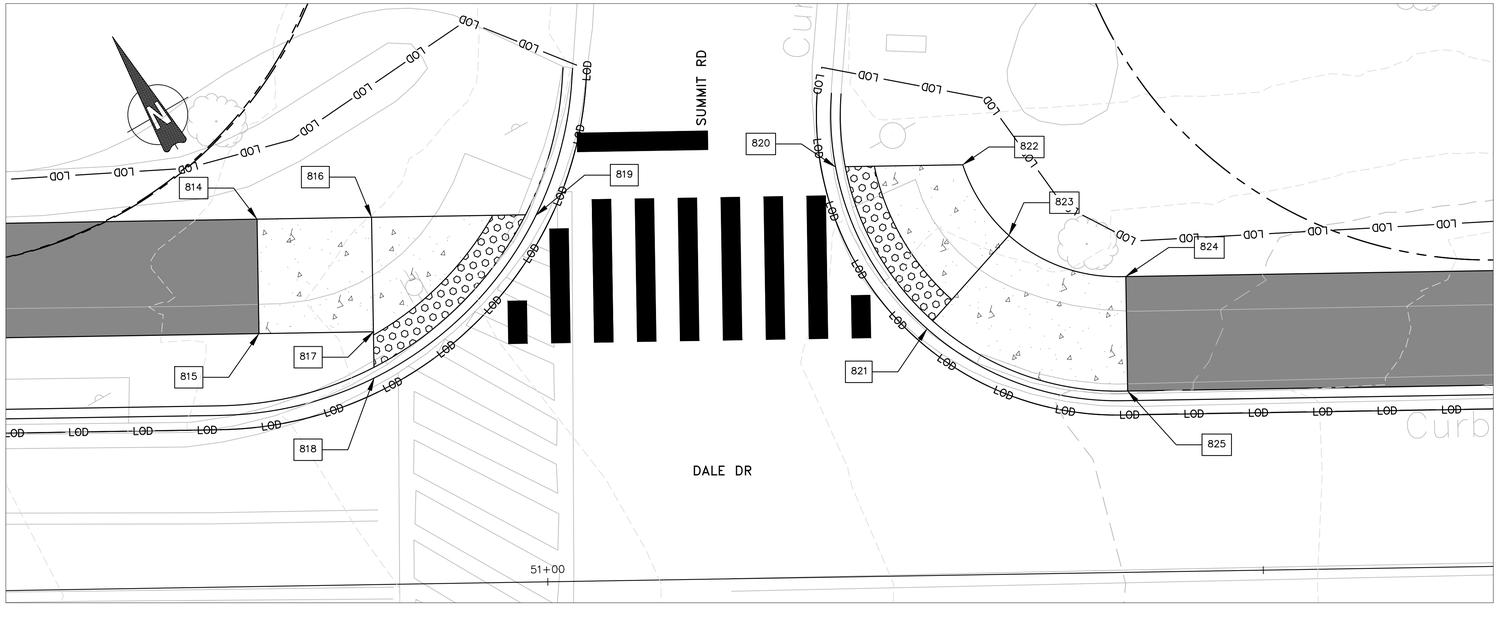


47+00 RT

47+40 RT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
800	487794.46	1305220.23	–	BACK OF CURB
801	487792.03	1305224.60	–	TOP OF RAMP
802	487798.28	1305221.99	–	ROADWAY FLOWLINE
803	487794.75	1305226.43	–	ROADWAY FLOWLINE
804	487802.75	1305226.62	–	BACK OF LANDING
805	487798.22	1305230.03	–	BACK OF LANDING
806	487805.82	1305234.04	–	BACK OF CURB
807	487801.07	1305235.57	–	TOP OF RAMP
808	487799.33	1305263.45	–	ROADWAY FLOWLINE
809	487796.99	1305267.87	–	ROADWAY FLOWLINE
810	487794.32	1305260.81	–	TOP OF RAMP
811	487791.98	1305265.22	–	TOP OF RAMP
812	487792.40	1305275.08	–	BACK OF CURB
813	487787.98	1305272.74	–	TOP OF RAMP

TABLE WILL BE COMPLETED FOLLOWING 70%



50+90 LT

51+35 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
814	487669.82	1305584.56	–	BACK OF LANDING
815	487662.78	1305580.76	–	BACK OF LANDING
816	487666.02	1305591.60	–	TOP OF RAMP
817	487658.98	1305587.80	–	TOP OF RAMP
818	487656.14	1305586.26	–	ROADWAY FLOWLINE
819	487660.52	1305601.67	–	ROADWAY FLOWLINE
820	487653.21	1305621.59	–	ROADWAY FLOWLINE
821	487640.23	1305621.64	–	ROADWAY FLOWLINE
822	487649.02	1305629.42	–	BACK OF LANDING
823	487643.12	1305629.82	–	BACK OF LANDING
824	487636.63	1305635.53	–	TOP OF RAMP
825	487629.58	1305631.74	–	TOP OF RAMP

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT-08
PEDESTRIAN RAMP DETAILS
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

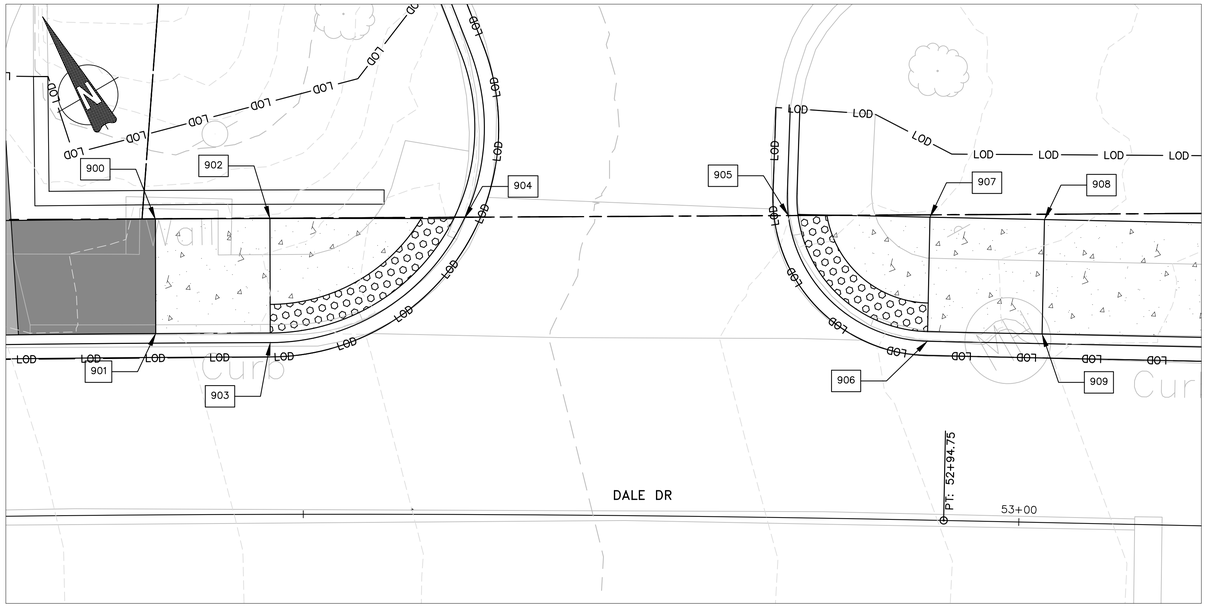
DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 17 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT-Dale.dwg LAYOUT NAME: DT-08 PLOTTED: Thursday, November 04, 2021 - 11:37am USER: AHavener

SPACE RESERVED FOR M–NCPPC PARK CONSTRUCTION PERMIT STAMP



52+50 LT

52+90 LT

POINT TABLE				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
900	487589.34	1305722.83	–	TOP OF LANDING
901	487582.42	1305718.97	–	TOP OF LANDING
902	487585.49	1305729.84	–	TOP OF RAMP
903	487577.94	1305725.63	–	ROADWAY FLOWLINE
904	487578.86	1305741.69	–	ROADWAY FLOWLINE
905	487567.97	1305761.55	–	ROADWAY FLOWLINE
906	487555.56	1305765.73	–	ROADWAY FLOWLINE
907	487563.03	1305770.13	–	TOP OF RAMP
908	487558.97	1305777.02	–	TOP OF LANDING
909	487552.08	1305772.96	–	TOP OF LANDING

TABLE WILL BE COMPLETED FOLLOWING 70%

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: AHB Checked by: JJR

DT–09
PEDESTRIAN RAMP DETAILS
DALE DRIVE
SHARED USE PATH

0 30' 60'

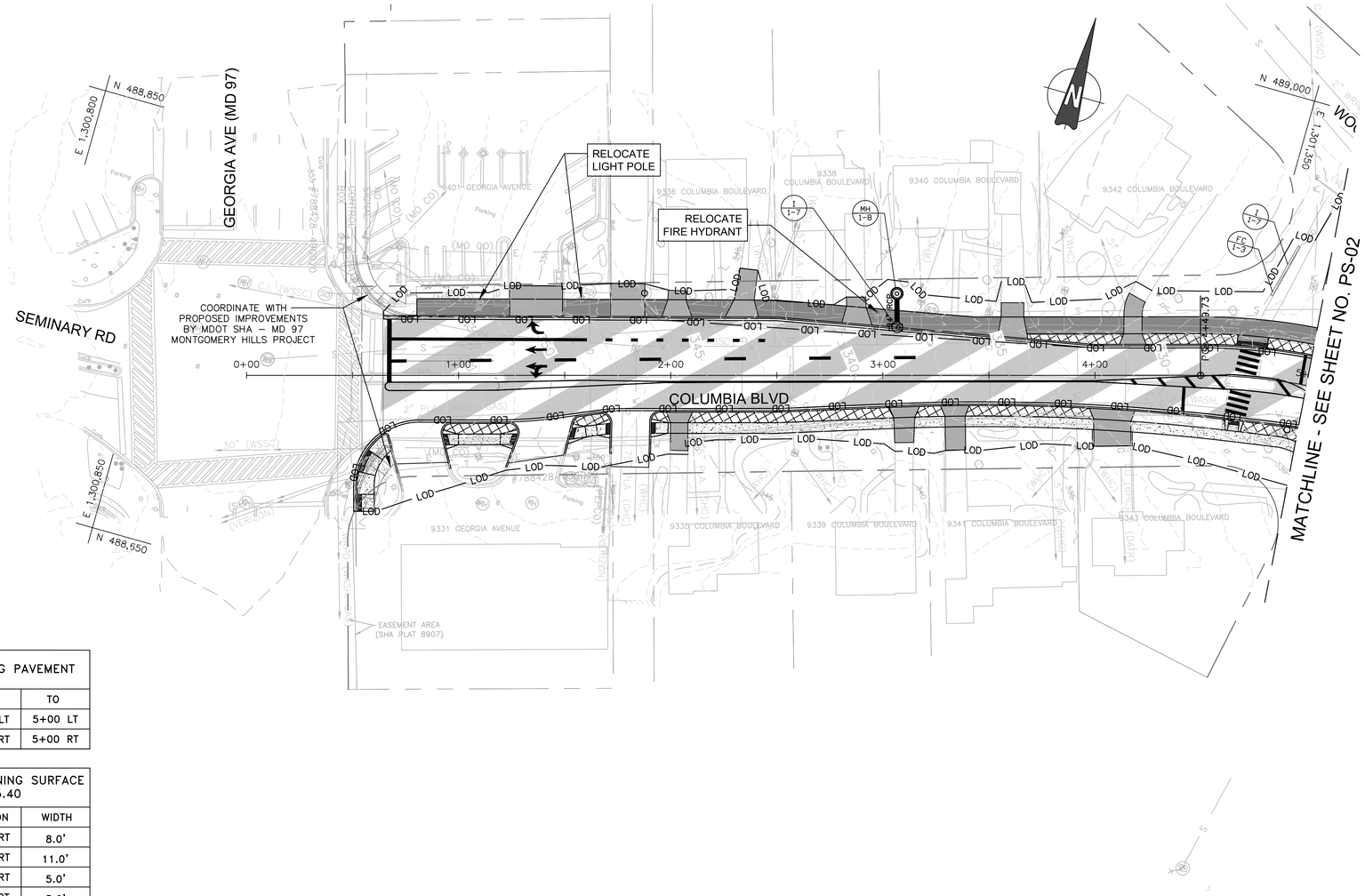
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 18 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pDT-Dale.dwg LAYOUT NAME: DT-09 PLOTTED: Tuesday, November 02, 2021 – 4:39pm USER: AHavener



SIDEPATH		
QUANTITY	FROM	TO
2,665 SF	0+80 LT	5+00 LT

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
1,863 SF	0+51 RT	5+00 RT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
440 LF	0+65 LT	5+00 LT
475 LF	0+51 RT	5+00 RT

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
14 SY	2+03 LT	9.0'
18 SY	2+04 RT	8.0'
26 SY	2+35 LT	9.0'
15 SY	2+87 LT	9.0'
19 SY	3+10 RT	9.0'
24 SY	3+34 RT	10.0'
21 SY	3+61 LT	11.0'
35 SY	4+08 RT	19.0'
23 SY	4+15 LT	9.0'

COMMERCIAL DRIVEWAY MC – 302.01		
QUANTITY	STATION	WIDTH
52 SY	0+83 LT	24.0'
40 SY	1+36 LT	25.0'
51 SY	1+37 RT	26.0'
28 SY	1+80 LT	16.0'
54 SY	1+81 RT	18.0'

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
506 SF	3+68 LT	5+00 LT
1,210 SF	0+93 RT	5+00 RT

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
16 SF	0+52 RT	8.0'
22 SF	0+55 RT	11.0'
10 SF	0+95 RT	5.0'
10 SF	1+28 RT	5.0'
10 SF	1+55 RT	5.0'
10 SF	1+70 RT	5.0'
10 SF	1+93 RT	5.0'
10 SF	4+67 RT	5.0'
28 SF	4+73 LT	14.0'

MILL AND OVERLAY		
QUANTITY	FROM	TO
15,986 SF	0+80	5+00

LEGEND

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

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

PS–01
ROADWAY PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 19 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–01 PLOTTED: Thursday, November 04, 2021 – 12:58pm USER: AHavener

SIDEPATH		
QUANTITY	FROM	TO
256 SF	5+00 LT	5+20 LT
2,364 SF	5+70 RT	9+07 RT
3,659 SF	6+04 LT	11+00 LT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
161 LF	5+00 LT	100+73 LT
66 LF	100+88 LT	101+42 LT
202 LF	101+75	102+90
804 LF	103+28 RT	11+00 LT
35 LF	5+00 RT	5+20 RT
820 LF	5+58 RT	10+00 RT
45 LF	6+05 RT	6+23 RT
79 LF	10+29 RT	11+00 RT

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
76 SF	5+00 RT	5+17 RT
437 SF	5+29 LT	100+74 LT
10 SF	101+29 LT	101+33 LT
135 SF	101+67 RT	101+70 RT
52 SF	102+48 RT	102+52 RT
51 SF	5+63 RT	5+70 RT
95 SF	5+67 RT	5+78 RT
102 SF	6+05	6+23
1,026 SF	8+77 RT	9+66 RT
12 SF	8+53 LT	8+57 LT
14 SF	9+76 LT	9+80 LT

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
652 SF	5+00 LT	101+29 LT
1,900 SF	5+96 LT	11+00 LT
3,700 SF	5+00 RT	11+00 RT
4,667 SF	100+60 RT	102+73 RT

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
67 SY	101+85 RT	12.0'
10 SY	102+77 RT	8.0'
30 SY	7+40 LT	10.0'
22 SY	8+00 LT	11.0'
42 SY	8+75 LT	10.0'
28 SY	10+56 LT	11.0'
22 SY	7+46 RT	12.0'
31 SY	7+87 RT	12.0'
14 SY	8+37 RT	9.0'
18 SY	9+18 RT	9.0'
29 SY	9+41 RT	10.0'

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
12 SF	5+13 RT	5.0'
23 SF	5+42 LT	8.0'
18 SF	5+62 RT	8.0'
21 SF	5+95 LT	8.0'
16 SF	6+13 LT	8.0'
16 SF	6+14 RT	8.0'
14 SF	100+70 LT	6.0'

MILL AND OVERLAY		
QUANTITY	FROM	TO
17,030 SF	5+00	11+00
1,825 SF	9+10 RT	10+00 RT

FULL DEPTH PAVEMENT		
QUANTITY	FROM	TO
7,905 SF	100+04	102+90
515 SF	6+41 LT	7+09 LT
861 SF	7+93 RT	9+10 RT

LEGEND

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

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

PS–02
ROADWAY PLAN

DALE DRIVE SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 20 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–02 PLOTTED: Thursday, November 04, 2021 – 12:58pm USER: AHavener

SIDEPATH		
QUANTITY	FROM	TO
4,102 SF	11+00 LT	17+00 LT

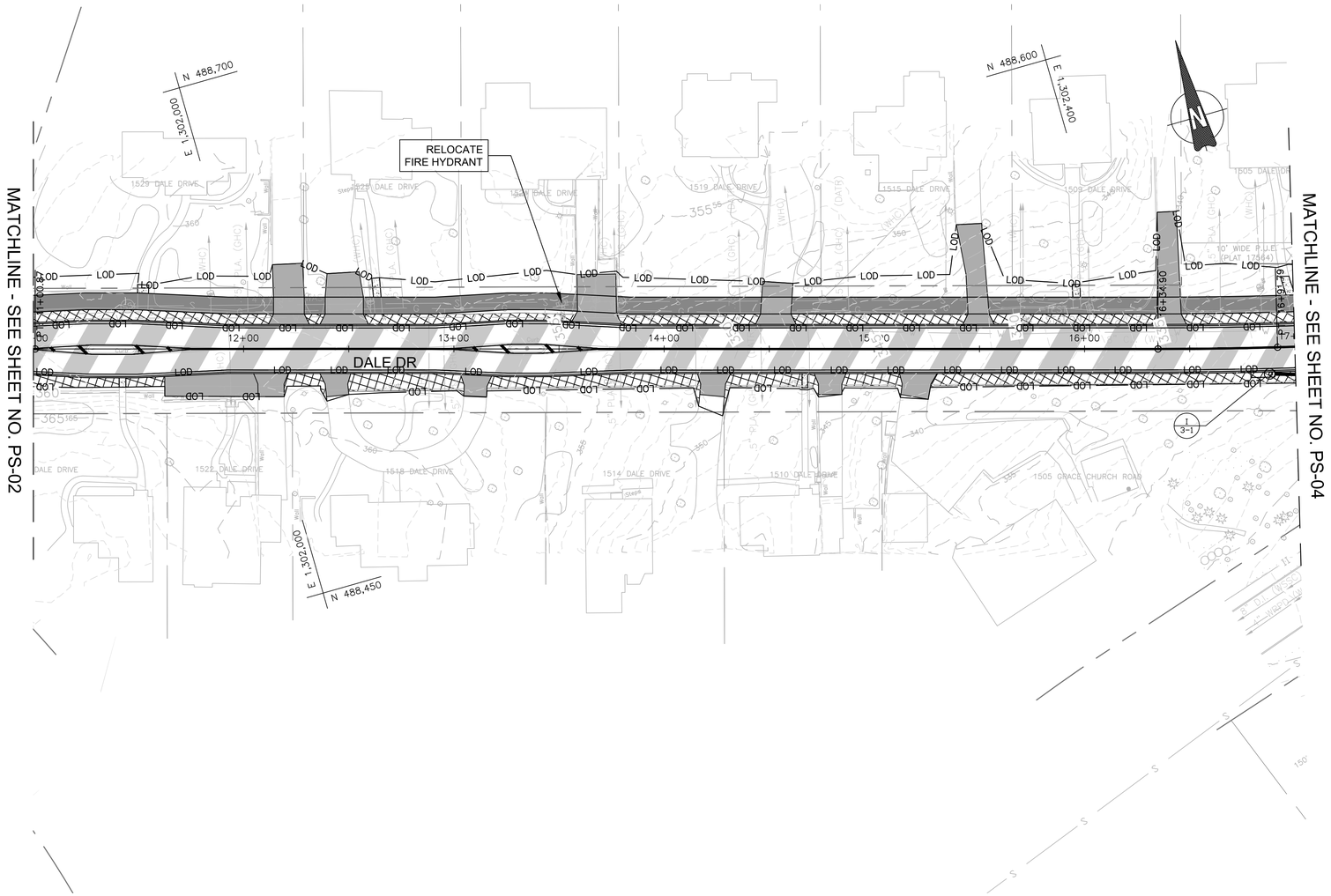
COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
600 LF	11+00 LT	17+00 LT
600 LF	11+00 LT	17+00 LT

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
48 SY	12+21 LT	14.0'
49 SY	12+47 LT	15.0'
49 SY	13+68 LT	18.0'
34 SY	14+54 LT	14.0'
56 SY	15+48 LT	10.0'
63 SY	16+40 LT	10.0'
67 SY	12+13 RT	57.0'
14 SY	12+45 RT	11.0'
13 SY	13+10 RT	11.0'
15 SY	14+23 RT	12.0'
13 SY	14+80 RT	11.0'
18 SY	15+20 RT	18.0'

MILL AND OVERLAY		
QUANTITY	FROM	TO
12,457 SF	11+00	17+00

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
21 SF	11+50 LT	11+55 LT
33 SF	12+62 LT	12+65 LT
22 SF	15+94 LT	15+98 LT
37 SF	16+96 LT	17+00 LT
14 SF	11+40 RT	11+44 RT
18 SF	14+65 RT	14+68 RT

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
2,377 SF	11+00 LT	17+00 LT
2,849 SF	11+00 RT	17+00 RT



LEGEND

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

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

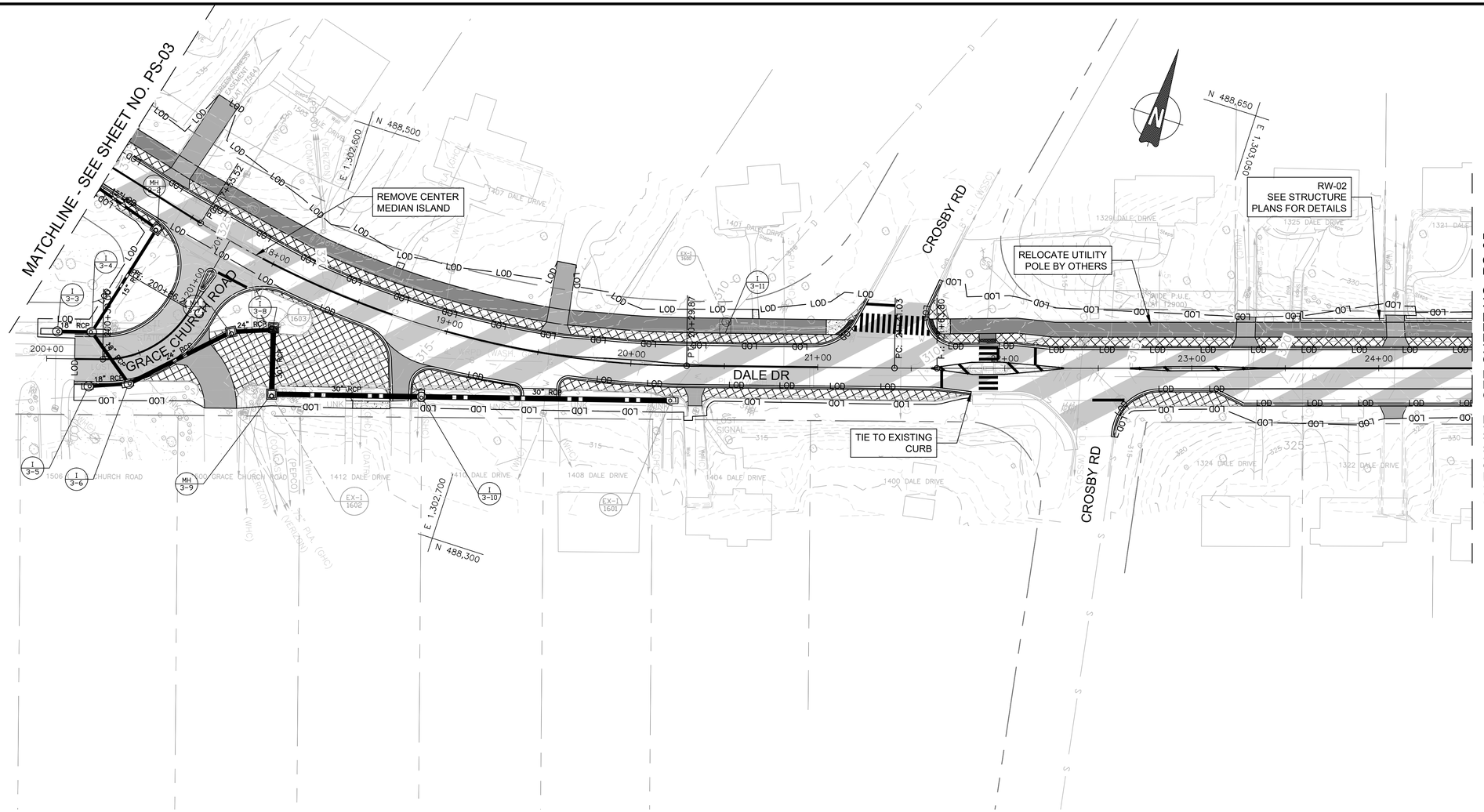
PS–03
ROADWAY PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 21 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS-03 PLOTTED: Thursday, November 04, 2021 – 12:58pm USER: AHavener



SIDEPATH		
QUANTITY	FROM	TO
2,961 SF	17+00 LT	21+04 LT
2,103 SF	210+71 LT	24+50 LT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
432 LF	17+00 LT	21+26 LT
321 LF	21+58 LT	24+50 LT
139 LF	17+00 RT	200+15 LT
27 LF	200+99	201+10
224 LF	200+15 RT	18+82 RT
77 LF	18+92 RT	19+45 RT
229 LF	19+64 RT	21+82 RT
207 LF	22+58 RT	24+50 RT

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
22 SF	21+19 LT	8.0'
18 SF	21+59 LT	8.0'
18 SF	21+90 LT	9.0'

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
70 SY	17+32 LT	12.0'
47 SY	19+58 LT	10.0'
19 SY	23+29 LT	10.0'
19 SY	24+09 LT	11.0'
72 SY	200+72 RT	17.0'
32 SY	18+80 RT	9.0'
9 SY	20+35 RT	8.0'
9 SY	24+08 RT	10.0'

MILL AND OVERLAY		
QUANTITY	FROM	TO
19,572 SF	17+00	24+50

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
224 SF	17+00 RT	17+49 RT
1,854 SF	17+00 LT	21+25 LT
4,706 SF	17+68 RT	21+82 RT
1,307 SF	21+59 LT	24+50 LT
407 SF	22+58 RT	23+27 RT

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
11 SF	18+62 LT	18+66 LT
16 SF	20+65 LT	20+68 LT
73 SF	21+04 LT	21+19 LT
63 SF	21+59 LT	21+71 LT
12 SF	23+54 LT	23+58 LT
30 SF	24+14 LT	24+20 LT
80 SF	18+65 RT	18+83 RT

FULL DEPTH PAVEMENT		
QUANTITY	FROM	TO
2,800 SF	200+15	201+19
308 SF	17+46	17+98

LEGEND

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

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

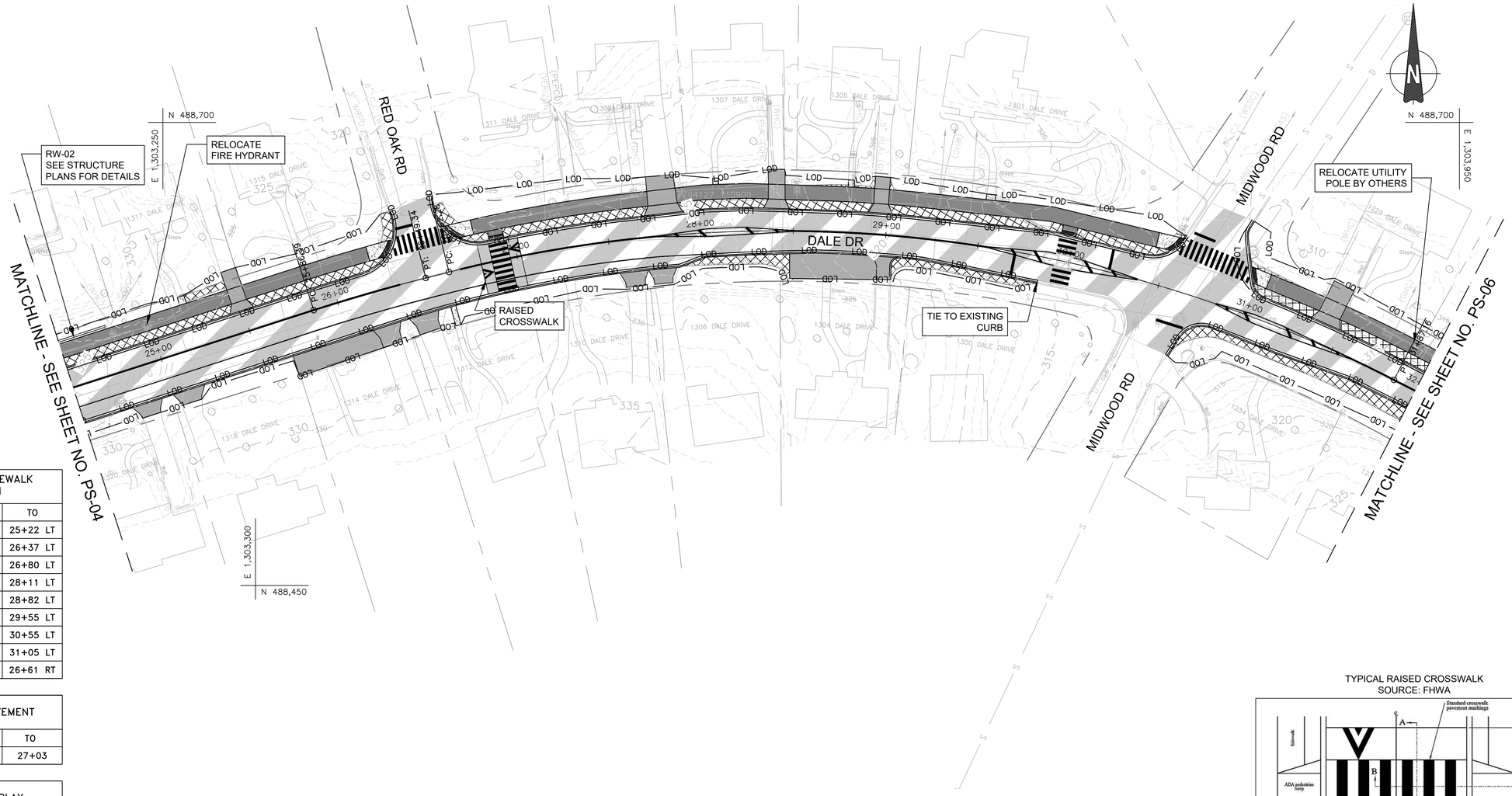
Designed by: ADH Drawn by: MED Checked by: JJR

PS–04
ROADWAY PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 22 of 180



SIDEPATH		
QUANTITY	FROM	TO
1,320 SF	24+50 LT	26+23 LT
2,778 SF	26+80 LT	30+43 LT
682 SF	31+05 LT	32+00 LT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
209 LF	24+50 LT	26+40 LT
430 LF	26+63 LT	30+57 LT
141 LF	30+87 LT	32+00 LT
528 LF	24+50 RT	29+85 RT
146 LF	30+66 RT	32+00 RT

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
22 SF	26+37 LT	8.0'
22 SF	26+65 LT	8.0'
16 SF	26+90 LT	8.0'
16 SF	29+97 LT	8.0'
20 SF	30+55 LT	8.0'
18 SF	30+94 LT	8.0'

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
23 SY	25+50 LT	9.0'
37 SY	27+80 LT	15.0'
23 SY	28+41 LT	9.0'
19 SY	28+96 LT	8.0'
32 SY	31+42 LT	12.0'
10 SY	24+86 RT	10.0'
11 SY	25+09 RT	11.0'
72 SY	26+23 RT	59.0'
14 SY	26+45 RT	12.0'
11 SY	27+62 RT	10.0'
11 SY	27+78 RT	10.0'
81 SY	29+00 RT	55.0'

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
16 SF	25+18 LT	25+22 LT
73 SF	26+23 LT	26+37 LT
73 SF	26+65 LT	26+80 LT
10 SF	28+08 LT	28+11 LT
12 SF	28+78 LT	28+82 LT
15 SF	29+50 LT	29+55 LT
69 SF	30+43 LT	30+55 LT
57 SF	30+94 LT	31+05 LT
30 SF	26+58 RT	26+61 RT

FULL DEPTH PAVEMENT		
QUANTITY	FROM	TO
584 SF	26+80	27+03

MILL AND OVERLAY		
QUANTITY	FROM	TO
21,360 SF	24+50	32+00

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
994 SF	24+50 LT	26+39 LT
1,698 SF	26+63 LT	30+56 LT
470 SF	30+92 LT	32+00 LT
572 SF	267+89 RT	29+85 RT
693 SF	30+68 RT	32+00 RT

LEGEND

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
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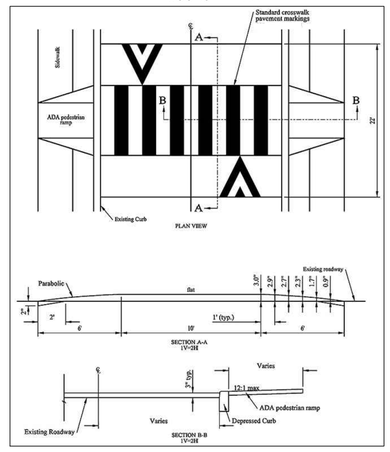
- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

TYPICAL RAISED CROSSWALK
SOURCE: FHWA



DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

PS–05
ROADWAY PLAN
DALE DRIVE
SHARED USE PATH

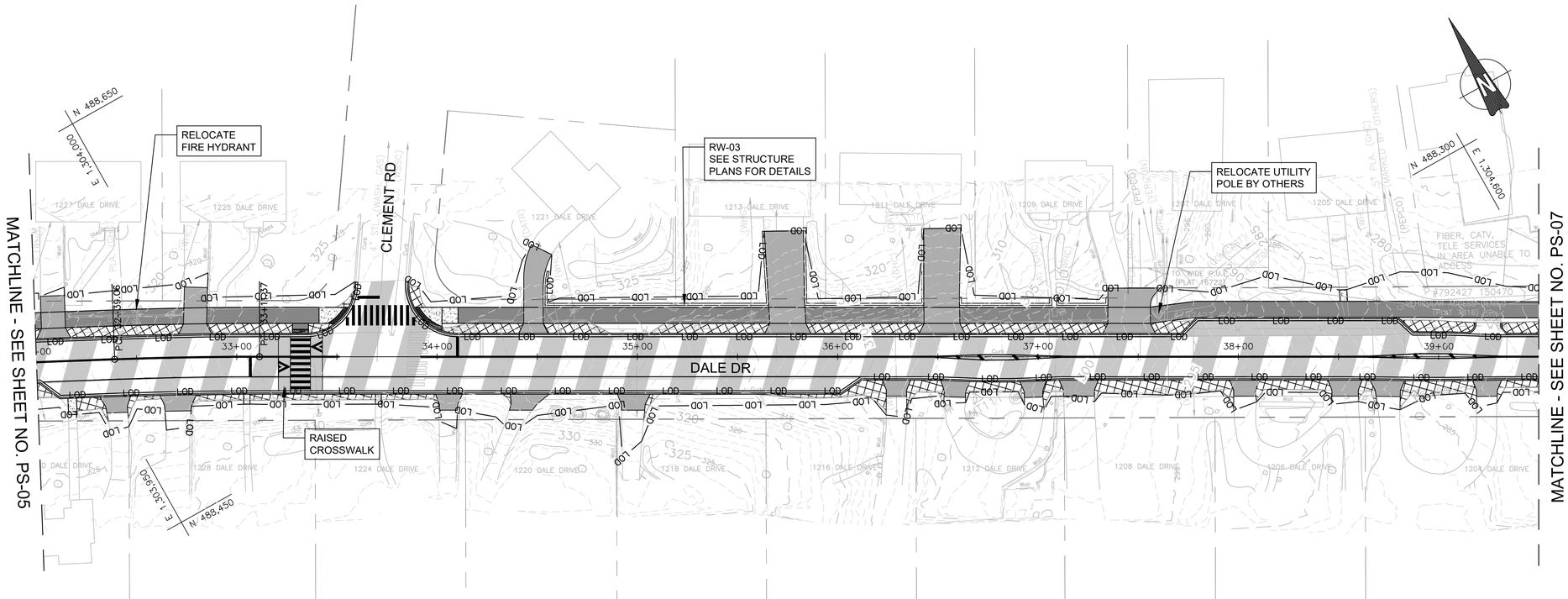
0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 23 of 180



SIDEPATH		
QUANTITY	FROM	TO
970 SF	32+00 LT	33+41 LT
3,784 SF	34+10 LT	39+50 LT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
175 LF	32+00 LT	33+60 LT
587 LF	33+85 LT	39+50 LT
754 LF	32+00 RT	39+50 RT

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
16 SF	33+32 LT	8.0'
22 SF	33+56 LT	8.0'
34 SF	33+88 LT	15.0'

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
30 SY	32+09 LT	12.0'
31 SY	32+80 LT	12.0'
49 SY	34+48 LT	10.0'
107 SY	35+74 LT	18.0'
106 SY	36+50 LT	18.0'
56 SY	37+45 LT	21.0'
11 SY	32+39 RT	10.0'
13 SY	32+70 RT	13.0'
9 SY	34+06 RT	9.0'
13 SY	34+42 RT	11.0'
12 SY	34+98 RT	11.0'
10 SY	36+29 RT	10.0'
11 SY	36+58 RT	11.0'
9 SY	36+98 RT	9.0'
15 SY	37+20 RT	15.0'
11 SY	38+03 RT	11.0'
13 SY	38+53 RT	13.0'
12 SY	38+75 RT	12.0'
10 SY	39+24 RT	10.0'

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
73 SF	33+41 LT	33+56 LT
132 SF	33+89 LT	34+10 LT
21 SF	38+51 LT	38+55 LT
35 SF	32+15 RT	32+19 RT
16 SF	33+03 RT	33+07 RT
14 SF	33+69 RT	33+72 RT

FULL DEPTH PAVEMENT		
QUANTITY	FROM	TO
598 SF	33+20	33+43
815 SF	37+72 LT	38+87 LT

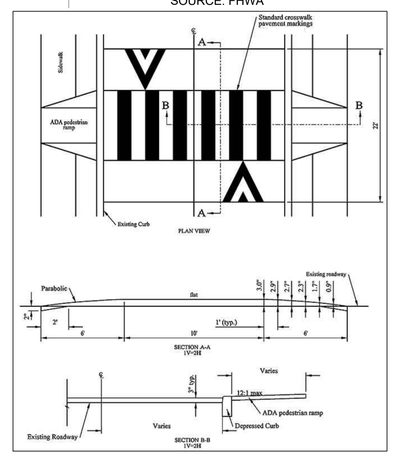
MILL AND OVERLAY		
QUANTITY	FROM	TO
18,874 SF	32+00	39+50

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
563 SF	32+00 LT	33+58 LT
1,487 SF	33+86 LT	39+50 LT
2,217 SF	32+00 RT	39+50 RT

LEGEND

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

TYPICAL RAISED CROSSWALK
SOURCE: FHWA



DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

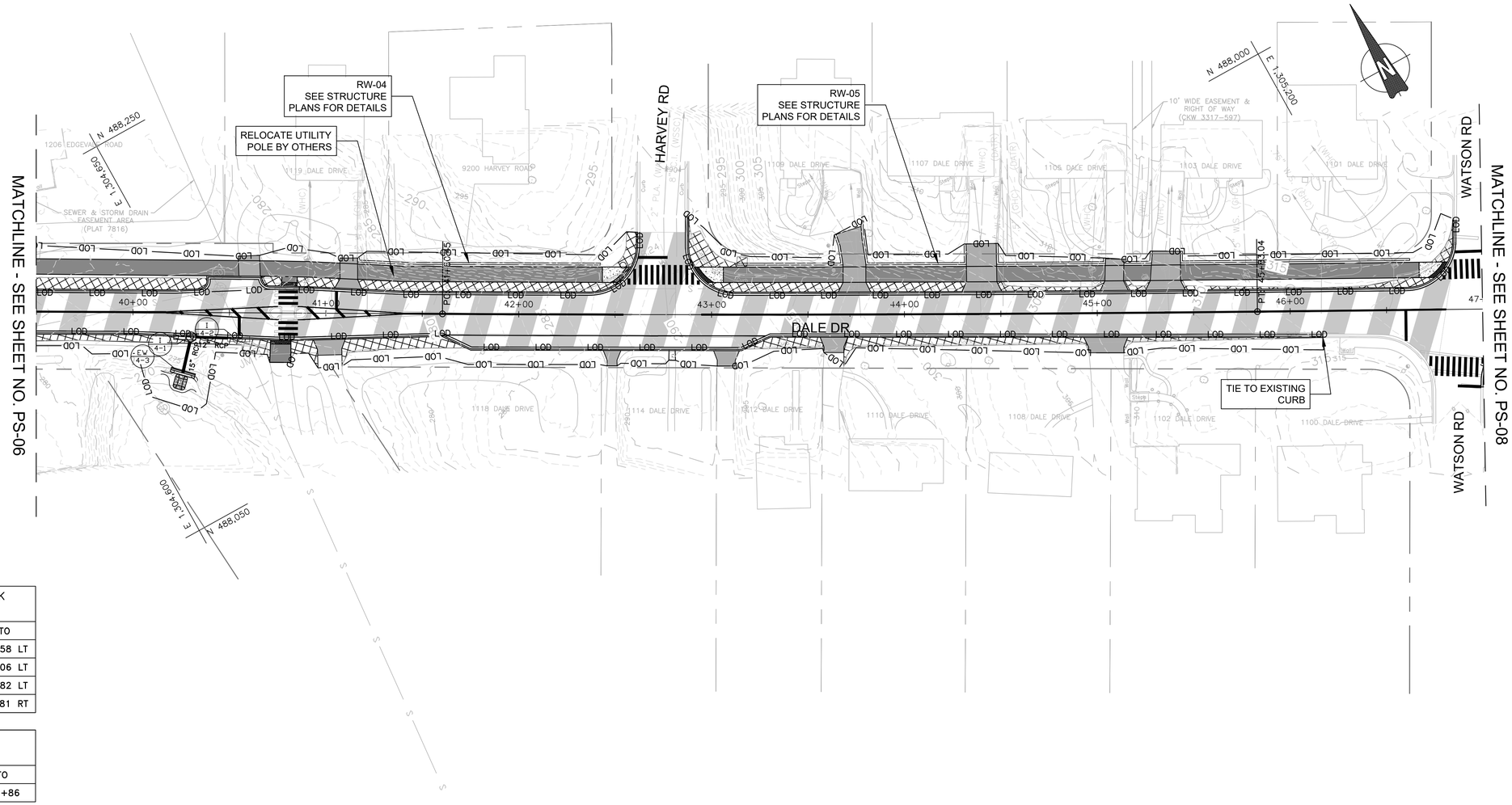
PS–06
ROADWAY PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 24 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS–06 PLOTTED: Thursday, November 04, 2021 – 12:58pm USER: AHavener



SIDEPATH		
QUANTITY	FROM	TO
2,209 SF	39+50 LT	42+43 LT
2,468 SF	43+06 LT	46+67 LT
103 SF	40+71 RT	40+82 RT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC-100.01		
QUANTITY	FROM	TO
340 LF	39+50 LT	42+62 LT
452 LF	42+87 LT	46+86 LT
670 LF	39+50 RT	46+17 RT

DETECTABLE WARNING SURFACE MD-655.40		
QUANTITY	STATION	WIDTH
22 SF	40+77 RT	11.0'
16 SF	40+81 LT	8.0'
22 SF	42+58 LT	8.0'
22 SF	42+91 LT	8.0'
22 SF	46+82 LT	8.0'

RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
13 SY	40+59 LT	11.0'
17 SY	41+11 LT	9.0'
44 SY	43+73 LT	12.0'
44 SY	44+40 LT	16.0'
19 SY	45+09 LT	10.0'
36 SY	45+36 LT	15.0'
12 SY	41+02 RT	13.0'
6 SY	42+48 RT	5.0'
9 SY	43+08 RT	9.0'
10 SY	43+63 RT	10.0'
17 SY	45+05 RT	18.0'

RESIDENTIAL SIDEWALK MC-110.01		
QUANTITY	FROM	TO
73 SF	42+43 LT	42+58 LT
77 SF	42+91 LT	43+06 LT
73 SF	46+67 LT	46+82 LT
17 SF	42+78 RT	42+81 RT

MILL AND OVERLAY		
QUANTITY	FROM	TO
18,027 SF	39+50	46+86

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
1,449 SF	39+50 LT	42+60 LT
1,297 SF	42+89 LT	46+85 LT
948 SF	39+50 RT	41+73 RT
859 SF	43+18 RT	46+17 RT

LEGEND

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

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: ADH Drawn by: MED Checked by: JJR

PS-07
ROADWAY PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

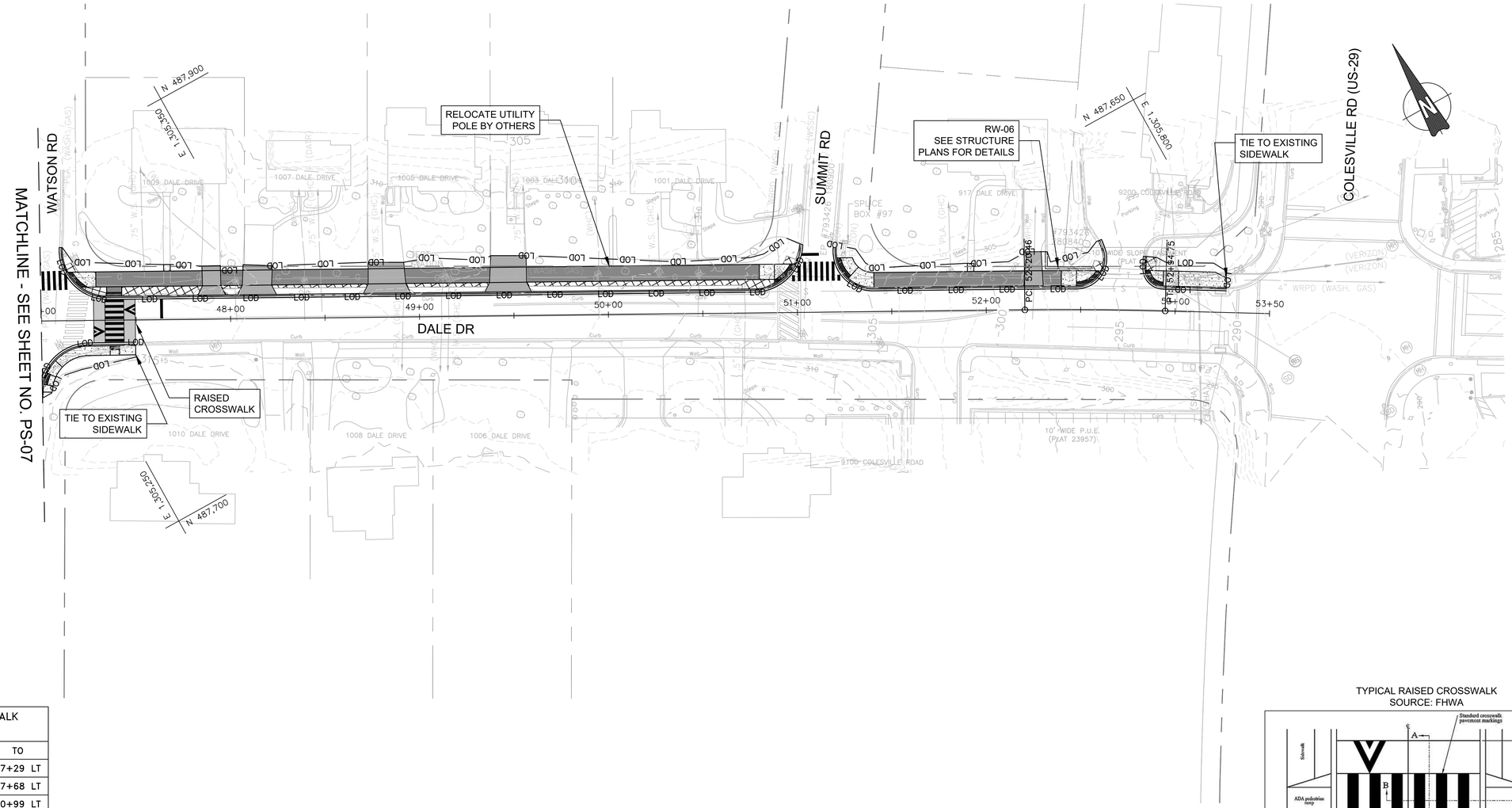
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 25 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pHD_Dale.dwg LAYOUT NAME: PS-07 PLOTTED: Thursday, November 04, 2021 – 12:59pm USER: AHavener



SIDEPATH		
QUANTITY	FROM	TO
2,321 SF	47+29 LT	50+80 LT
716 SF	51+41 LT	52+40 LT

COMBINATION CONCRETE CURB AND GUTTER – TYPE A MC–100.01		
QUANTITY	FROM	TO
67 LF	47+00 RT	47+50 RT
421 LF	47+10 LT	51+02 LT
175 LF	51+20 LT	52+62 LT
55 LF	52+84 LT	53+26 LT

DETECTABLE WARNING SURFACE MD–655.40		
QUANTITY	STATION	WIDTH
22 SF	47+14 LT	8.0'
16 SF	47+39 LT	8.0'
27 SF	50+99 LT	12.0'
24 SF	51+21 LT	10.0'
29 SF	52+60 LT	12.0'
24 SF	52+84 LT	10.0'
12 SF	47+01 RT	5.0'
10 SF	47+39 RT	5.0'

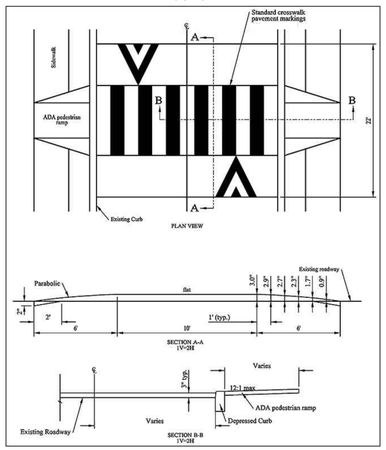
RESIDENTIAL DRIVEWAY MC – 301.01		
QUANTITY	STATION	WIDTH
18 SY	47+90 LT	10.0'
28 SY	48+15 LT	15.0'
37 SY	48+82 LT	19.0'
42 SY	49+47 LT	19.0'
18 SY	52+25 LT	8.0'

RESIDENTIAL SIDEWALK MC–110.01		
QUANTITY	FROM	TO
73 SF	47+14 LT	47+29 LT
12 SF	47+65 LT	47+68 LT
105 SF	50+80 LT	50+99 LT
146 SF	51+21 LT	51+41 LT
15 SF	51+90 LT	51+94 LT
109 SF	52+40 LT	52+60 LT
291 SF	52+84 LT	53+26 LT
273 SF	47+00 RT	47+50 RT

REMOVE EXISTING PAVEMENT		
QUANTITY	FROM	TO
944 SF	47+13 LT	52+90 LT

FULL DEPTH PAVEMENT		
QUANTITY	FROM	TO
505 SF	47+27	47+50

TYPICAL RAISED CROSSWALK
SOURCE: FHWA



LEGEND

- LOD — LIMIT OF DISTURBANCE
- LIMIT OF GRADING
- PROPOSED PAVEMENT MARKINGS
- TPF — TREE PROTECTION FENCE
- TCE — TEMPORARY CONSTRUCTION EASEMENT
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- PROPOSED PERVIOUS PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- PROPOSED RIP–RAP SLOPE STABILIZATION
- PROPOSED CONCRETE SIDEWALK

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

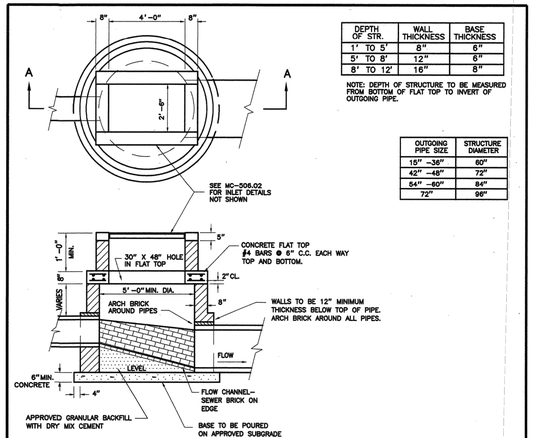
Designed by: ADH Drawn by: MED Checked by: JJR

PS–08
ROADWAY PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 26 of 180



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

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

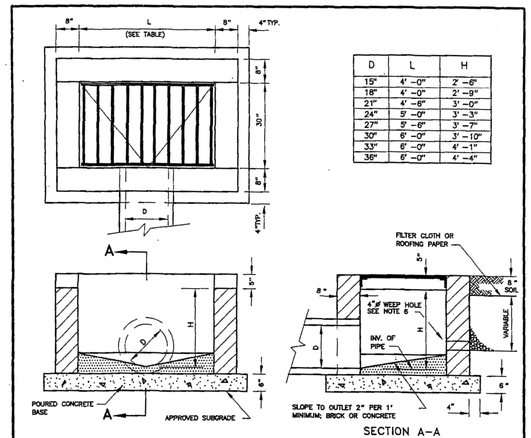
OUTGOING PIPE SIZE	STRUCTURE DIAMETER
15" –36"	60"
42" –48"	72"
54" –60"	84"
72"	96"

SECTION A–A

GENERAL NOTES

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

APPROVED JAN 5 '96 DATE	REVISED	MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
DIRECTOR, DEPT. OF TRANS.		"J" INLET
CHIEF, DIV. OF ENG. SERVICES		STANDARD NO. MC–506.01



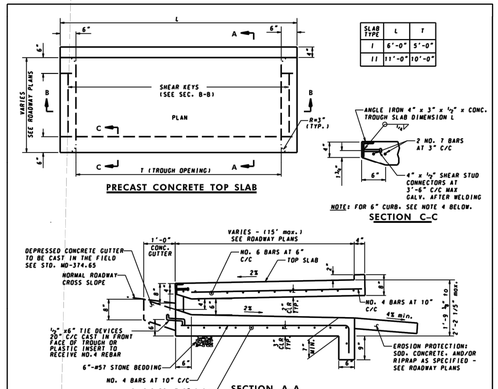
D	L	H
15"	4'–0"	2'–6"
18"	4'–0"	2'–9"
21"	4'–6"	3'–0"
24"	5'–0"	3'–3"
27"	5'–6"	3'–7"
30"	6'–0"	3'–10"
33"	6'–0"	4'–1"
36"	6'–0"	4'–4"

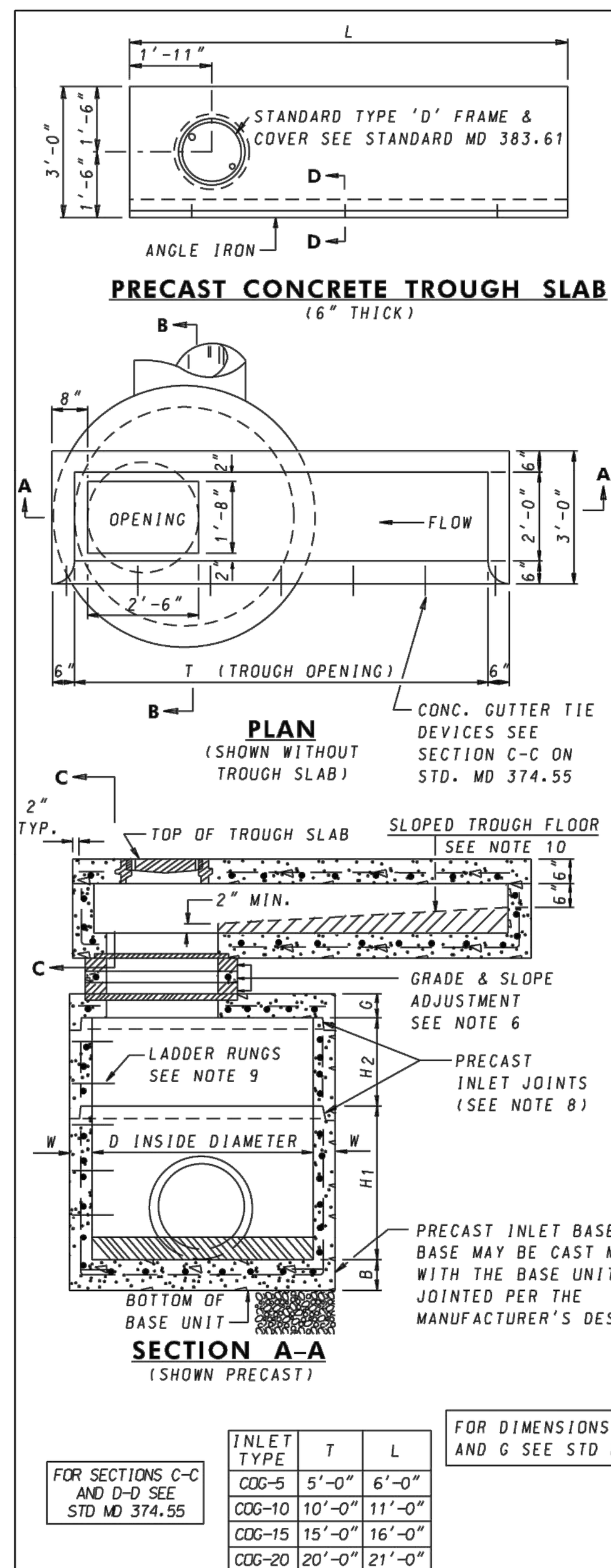
SECTION A–A

GENERAL NOTES

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

APPROVED JAN 5 '96 DATE	REVISED	MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
DIRECTOR, DEPT. OF TRANS.		"J" INLET AS A TERMINUS
CHIEF, DIV. OF ENG. SERVICES		STANDARD NO. MC–506.02


L
6"
A
6"
6"
VARIES
SEE ROADWAY PLANS
B
B
SHEAR KEYS (SEE SEC. B–B)
PLAN
C
C
T (TROUGH OPENING)
A
8"
8"
6"
6"
8"
8"
8"
8"
6"
6"
6

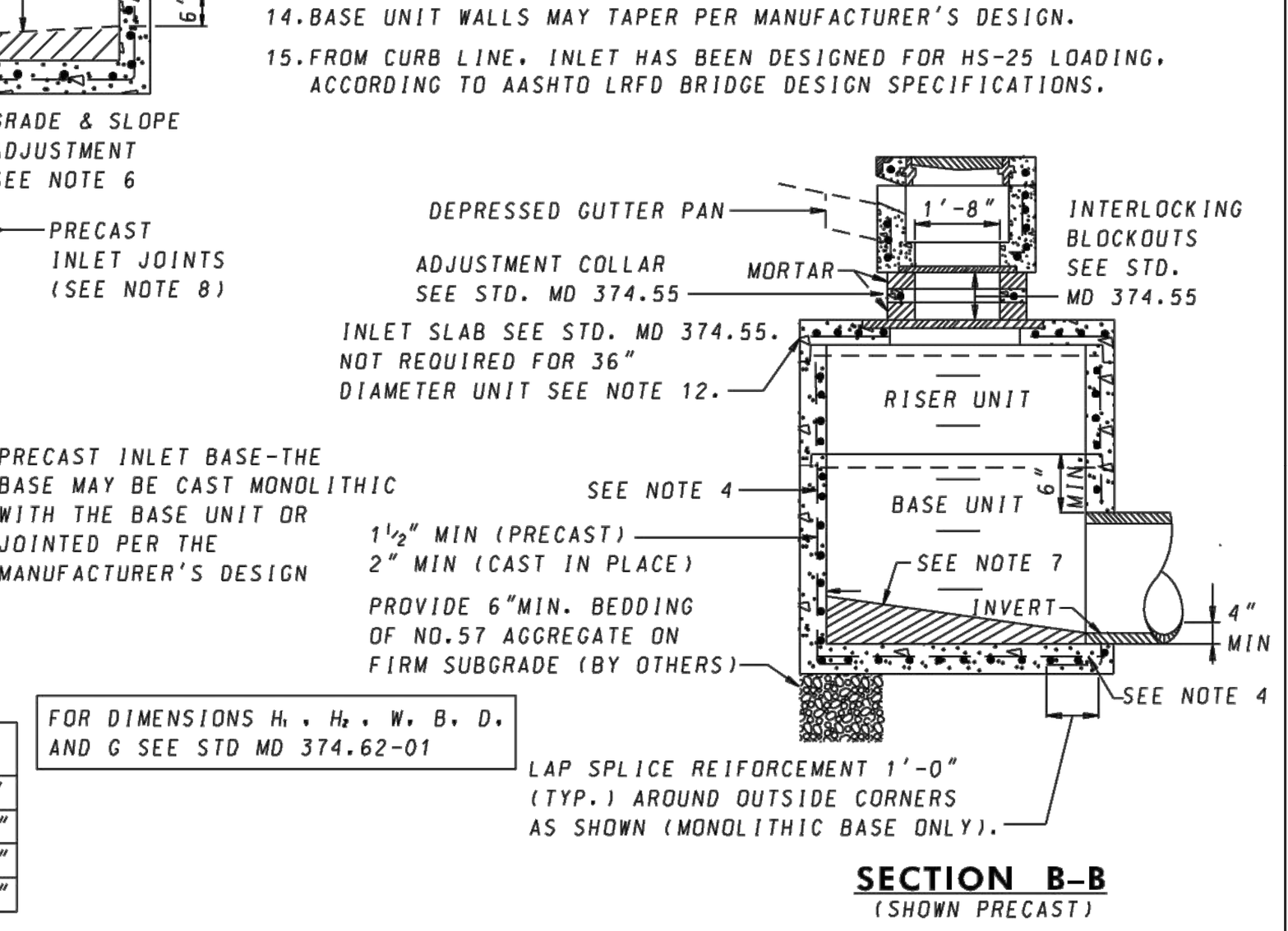


INLET TYPE	T	L
COG-5	5'-0"	6'-0"
COG-10	10'-0"	11'-0"
COG-15	15'-0"	16'-0"
COG-20	20'-0"	21'-0"

FOR DIMENSIONS H_1, H_2, W, B, D, AND G SEE STD MD 374.62-01

NOTES

1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE SHALL BE MIX. NO.6(4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3(3500 PSI) FOR CAST IN PLACE UNITS.
4. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE EITHER WELDED WIRE FABRIC (PRECAST) OR REINFORCING BARS (CAST IN PLACE)AND SHALL CONFORM TO THE AREAS GIVEN UNDER IN THE CHART ON STD MD 374.62-01. WALL REINFORCEMENT SHALL BE CENTERED AT THE MIDDLE OF THE WALL. BASE REINFORCEMENT SHALL HAVE 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE) FROM THE TOP OF THE BASE.
5. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & 374.64.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT. TOWARD OUTLET SHALL BE PROVIDED IN THE FIELD.
8. PRECAST INLET JOINTS-THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURERS RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. SLOPED TROUGH FLOOR TO BE CONSTRUCTED IN THE FIELD USING BRICK OR CONCRETE AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS.WHEN SLOPED TROUGH FLOOR IS USED, ROUGHEN PRECAST TROUGH FLOOR.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
12. INLET SLAB NOT REQUIRED FOR 36" DIAMETER INLET. TROUGH SITS DIRECTLY ON TOP OF THE CIRCULAR UNIT. MORTAR AREA BETWEEN THE OUTSIDE WALLS OF THE TROUGH AND THE UNIT WALL.
13. SEE STD. MD 374.64 FOR ALTERNATE PRECAST COG TROUGHS AND STD. MD 374.65 FOR DEPRESSED GUTTER PAN DETAILS.
14. BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.
15. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.



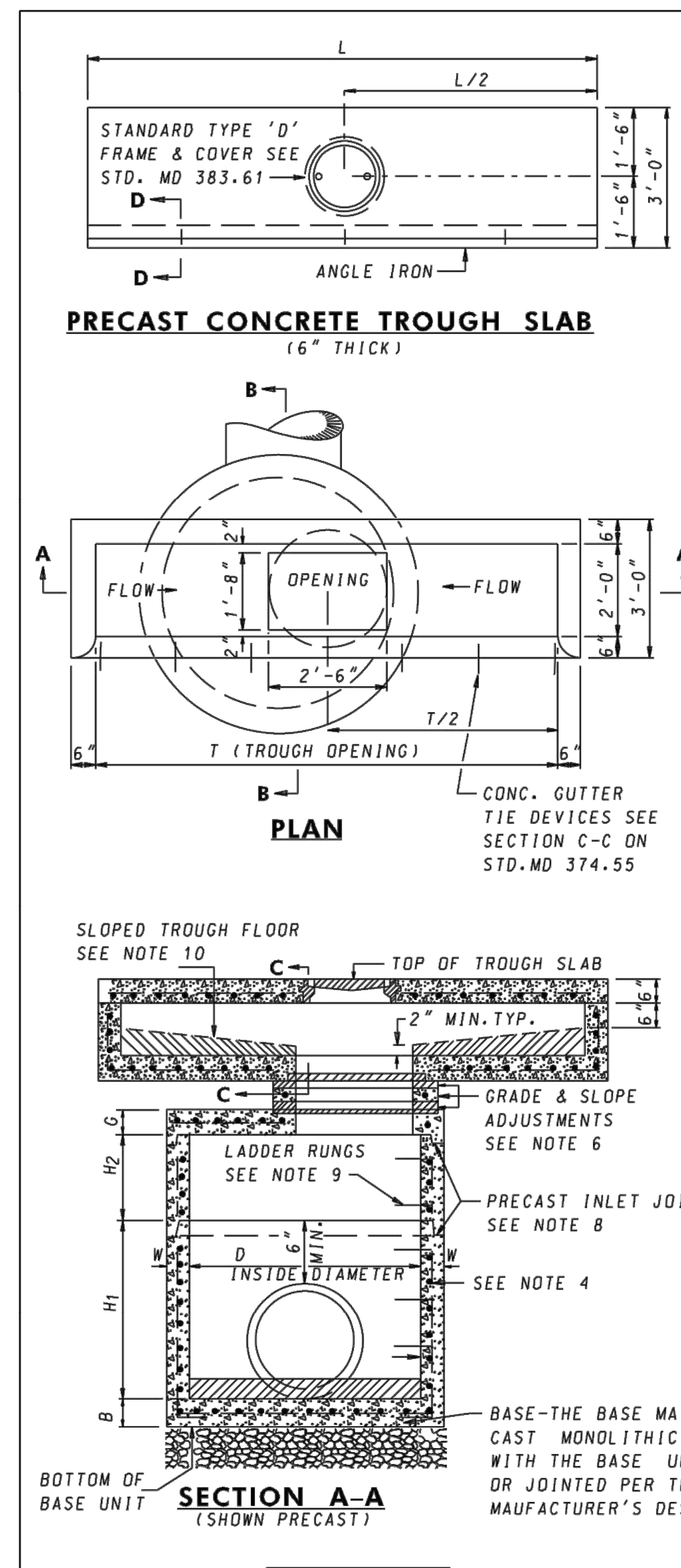
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 2-22-91	APPROVAL 1-2-91
REVISED 8-3-10	REVISED 7-26-10
REVISED 10-7-14	REVISED 9-29-14
REVISED -	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE CIRCULAR COG INLETS 5', 10', 15', & 20'
STANDARD NO. MD 374.62

CIRCULAR BASE AND RISER UNIT DIMENSIONS										INLET SLAB	
PIPE SIZE MIN. TO MAX.	H_1 BASE	H_2 RISER	W	WALL AREA STEEL IN²/FT	MAX. SPACING IN.	B	BASE AREA STEEL IN²/FT	MAX. SPACING IN.	D	G	Min. Distance, ft. Top of Curb - Pipe Invert
12"	2' TO 4'	1' TO 4'	4"	.09	12"	6.5"	.15	6"	36"	NOT REQ.	3.84
15" TO 24"	3' TO 5'	1' TO 5'	5"	.12	12"	6.5"	.18	6"	48"	8"	4.11-4.92
27" TO 33"	3' TO 6'	1' TO 6'	6"	.15	12"	6.5"	.27	6"	60"	8"	5.19-5.73
36"	5' TO 6'	1' TO 6'	6"	.15	12"	6.5"	.27	6"	60"	8"	6.00
42"	5' TO 7'	1' TO 7'	7"	.18	11"	7.5"	.30	6"	72"	8"	6.55
48"	6' TO 7'	1' TO 7'	7"	.18	11"	7.5"	.30	6"	72"	8"	7.09
54"	6' TO 8'	1' TO 8'	8"	.21	8"	9.5"	.36	6"	84"	8"	7.63
60"	7' TO 8'	1' TO 8'	8"	.21	8"	9.5"	.36	6"	84"	8"	8.17
66" TO 72"	8' TO 9'	1' TO 8'	9"	.24	7"	9.5"	.40	6"	96"	8"	8.71-9.25
78" TO 84"	9' TO 10'	1' TO 8'	10"	.27	4"	12.5"	.40	6"	120"	8"	9.80-10.34

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 10-7-14	APPROVAL 9-29-14
REVISED	REVISED
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE CIRCULAR COG/COS INLETS 5', 10', 15', & 20'
STANDARD NO. MD 374.62-01

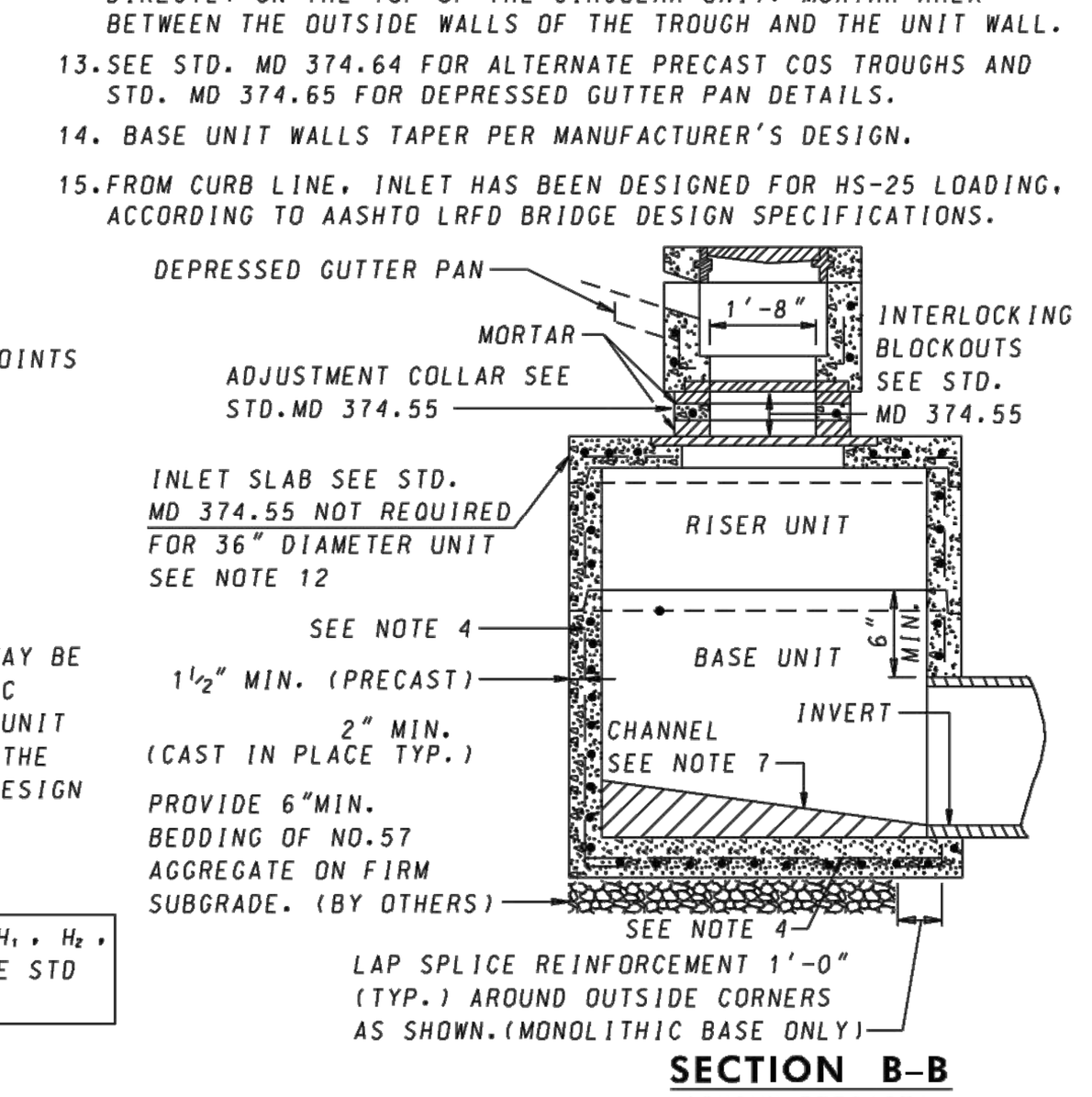


INLET TYPE	T	L
COS-5	5'-0"	6'-0"
COS-10	10'-0"	11'-0"
COS-15	15'-0"	16'-0"
COS-20	20'-0"	21'-0"

FOR DIMENSION H_1, H_2, W, B, AND G SEE STD MD 374.62-01

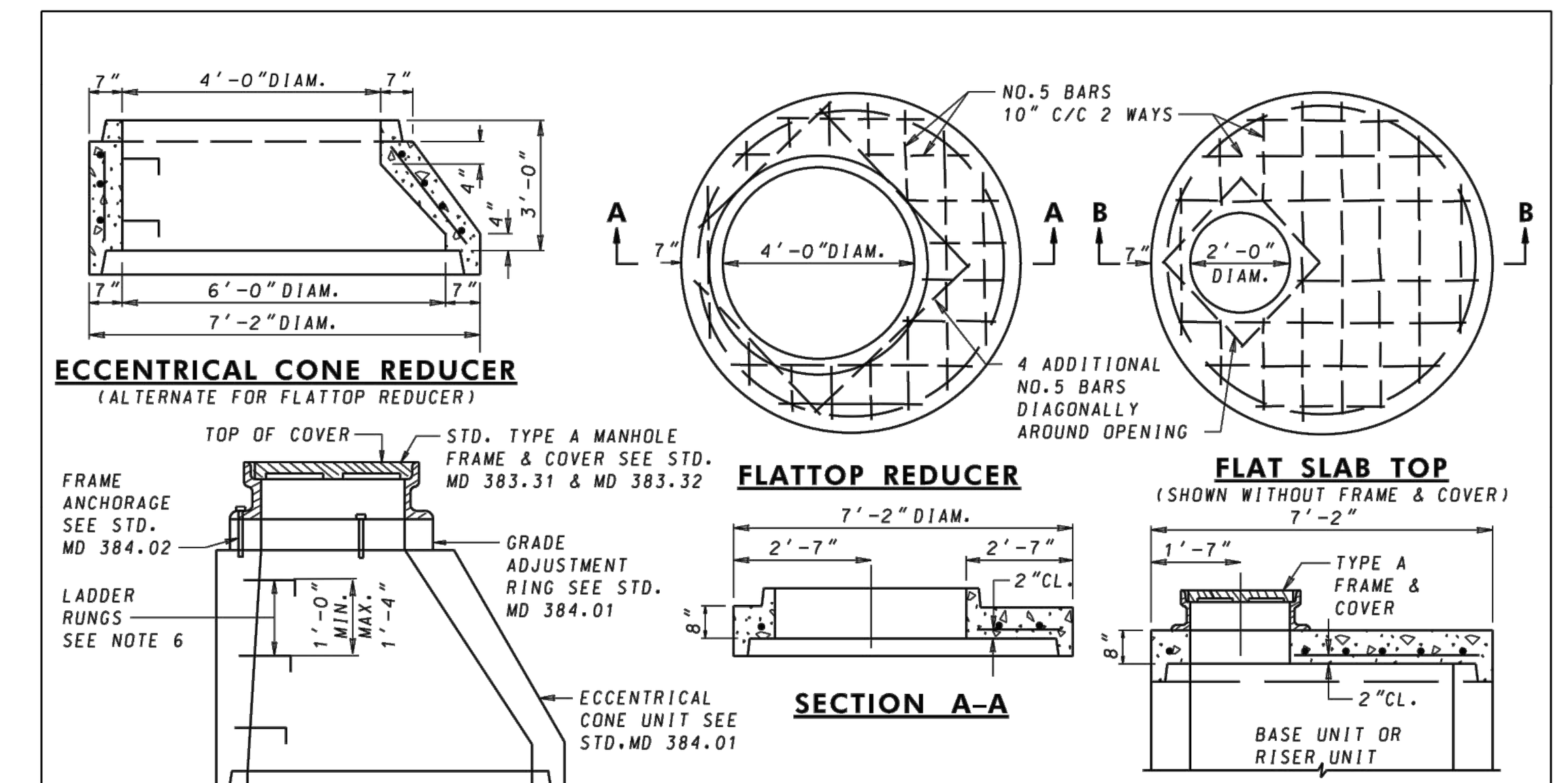
NOTES

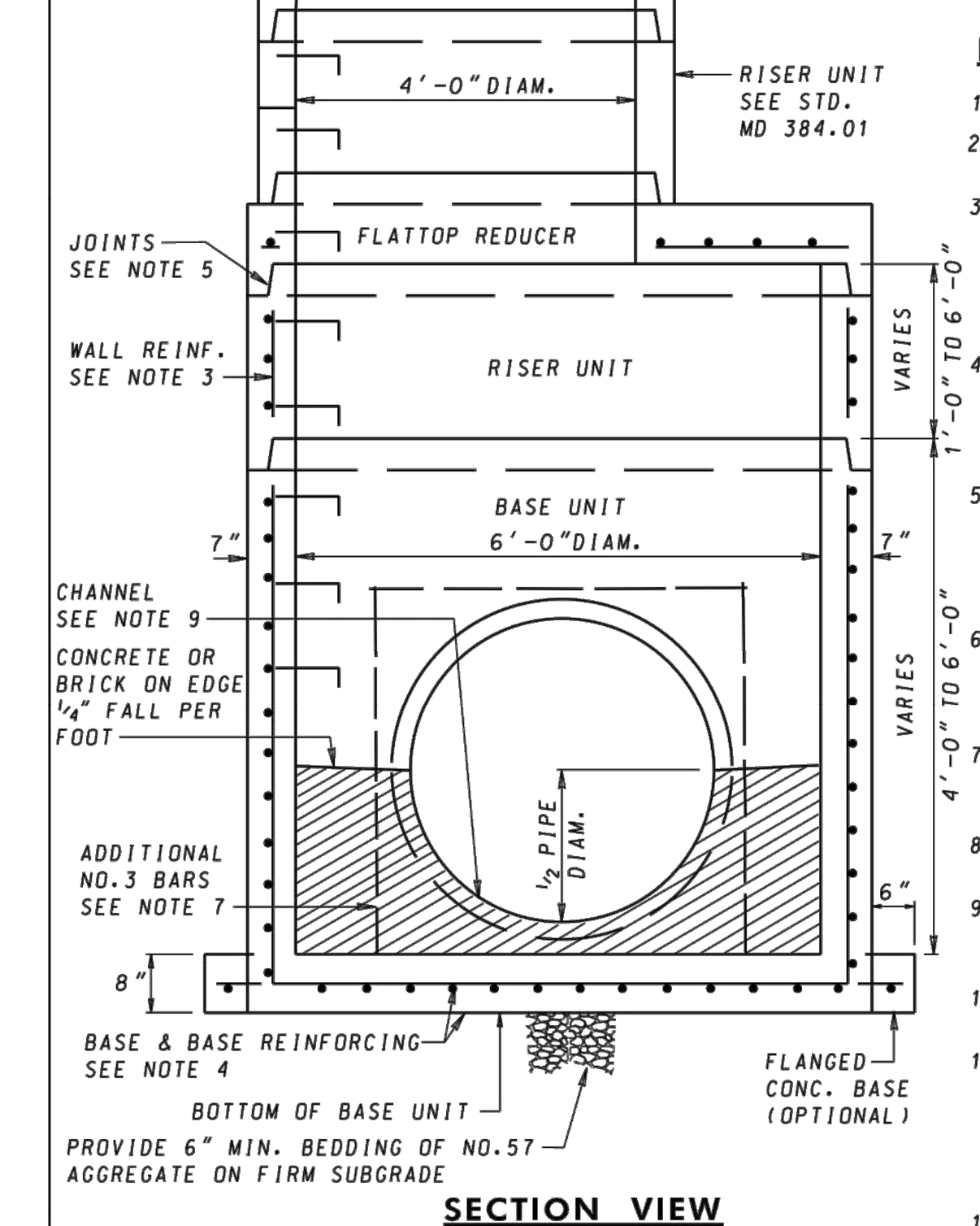
1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENING SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE TO BE MIX NO.6 (4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3 (3500 PSI) FOR STRUCTURES CAST IN PLACE.
4. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE EITHER WELDED WIRE FABRIC (PRECAST) OR REINFORCING BARS (CAST IN PLACE) AND SHALL CONFORM TO THE AREAS AND SPACING GIVEN IN THE TABLE ON STD MD 374.62-01. WALL REINFORCEMENT SHALL BE CENTERED AT THE MIDDLE OF THE WALL. BASE REINFORCEMENT SHALL HAVE 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE) FROM THE TOP OF THE BASE.
5. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & 374.64.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT. TOWARD OUTLET SHALL BE PROVIDED IN THE FIELD.
8. PRECAST INLET JOINTS- THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURERS RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C RUNG TYPE SHALL BE IN ACCORDANCE WITH STDS. MD 383.91 OR MD 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. SLOPED TROUGH FLOOR TO BE CONSTRUCTED IN THE FIELD USING BRICK OR CONCRETE AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS. WHEN SLOPED TROUGH FLOOR IS USED, ROUGHEN PRECAST TROUGH FLOOR.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
12. INLET SLAB NOT REQUIRED FOR 36" DIAMETER INLET. TROUGH SITS DIRECTLY ON THE TOP OF THE CIRCULAR UNIT. MORTAR AREA BETWEEN THE OUTSIDE WALLS OF THE TROUGH AND THE UNIT WALL.
13. SEE STD. MD 374.64 FOR ALTERNATE PRECAST COS TROUGHS AND STD. MD 374.65 FOR DEPRESSED GUTTER PAN DETAILS.
14. BASE UNIT WALLS TAPER PER MANUFACTURER'S DESIGN.
15. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.



SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 2-22-91	APPROVAL 1-2-91
REVISED 8-3-10	REVISED 7-26-10
REVISED 10-7-14	REVISED 9-29-14
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE CIRCULAR COS INLETS 5', 10', 15, & 20'
STANDARD NO. MD 374.63





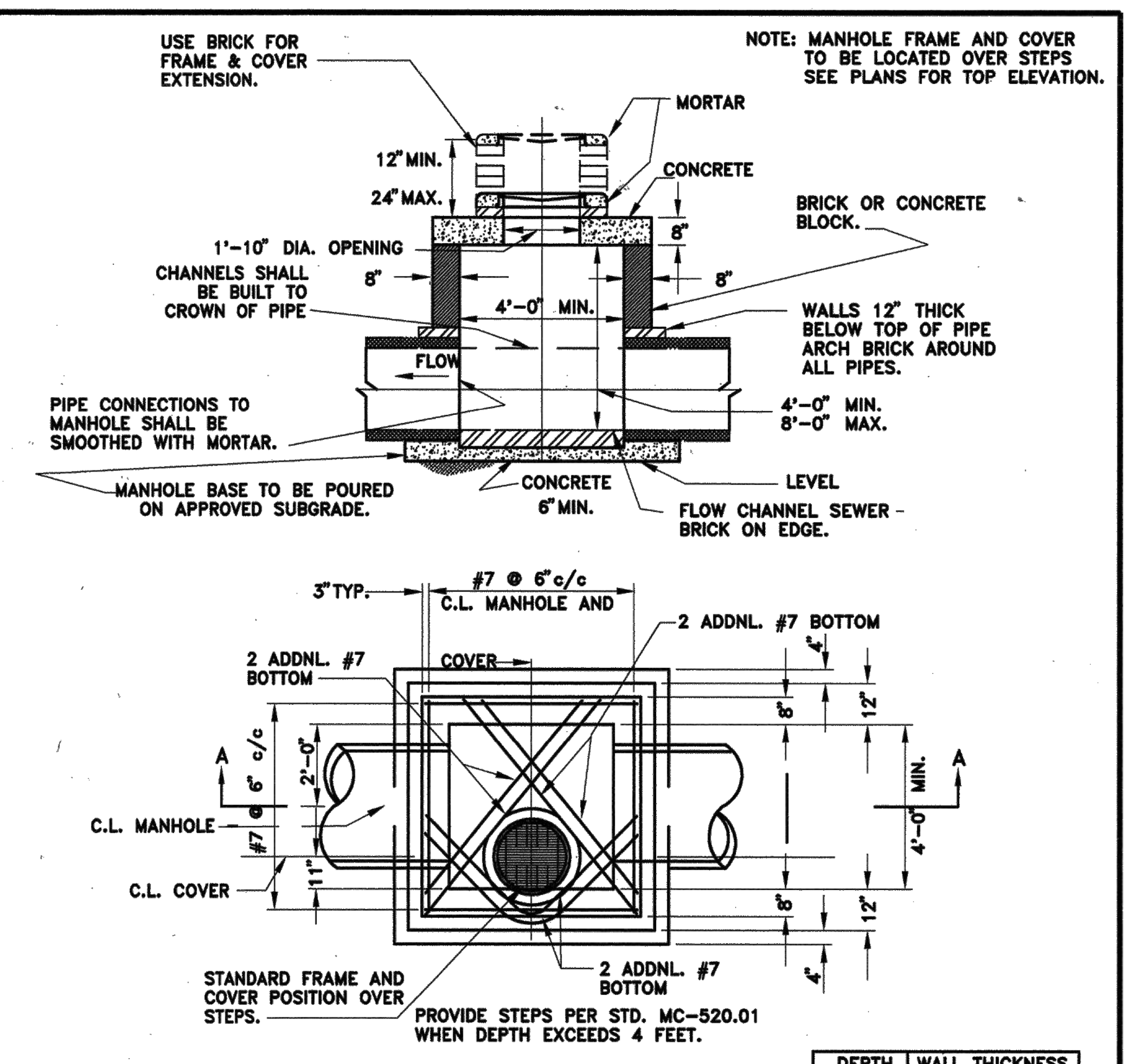
NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500PSI.
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.18 IN.²/FT AND MAXIMUM SPACING OF 6" FOR THE 72" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 52. REINFORCEMENT SHALL MEET ASTM A 615 OR ASTM A 706, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.27 IN. /FT. AND A MAXIMUM SPACING OF 4" WITH 2" COVERED FRO THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE BASE UNIT OR JOINTED PER MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198, TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR 383.92. LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN THE MULTIPLE OPENINGS IN THE BASE UNIT OR IN ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. MD 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO.57 AGGREGATE, GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.
12. MANHOLE HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT
APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 2-22-91	APPROVAL 1-2-91
REVISED 4-12-16	REVISED 3-4-16
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
72" DIAMETER PRECAST MANHOLE FOR 42" & 48" PIPES
STANDARD NO. MD 384.05

NOTE: MANHOLE FRAME AND COVER TO BE LOCATED OVER STEPS SEE PLANS FOR TOP ELEVATION.



DEPTH	WALL THICKNESS
0' - 6'	8"
6' - 8'	12"

GENERAL NOTES

1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS.
3. PARGE OUTSIDE WALLS.
4. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
5. f'c =3,500 P.S.I. at 28 DAYS.
6. FOR PIPES LARGER THAN 30" PROVIDE STEPS IN CHANNELS OF STRUCTURES. SEE STANDARD DETAIL . STANDARD MC-520.02

P:\DOTSTD\MC51001 7-12-94 B:41d5 an EST

APPROVED JAN 5/96 DATE

DIRECTOR, DEPT. OF TRANS.

CHIEF, DIV. OF ENG. SERVICES

REVISED

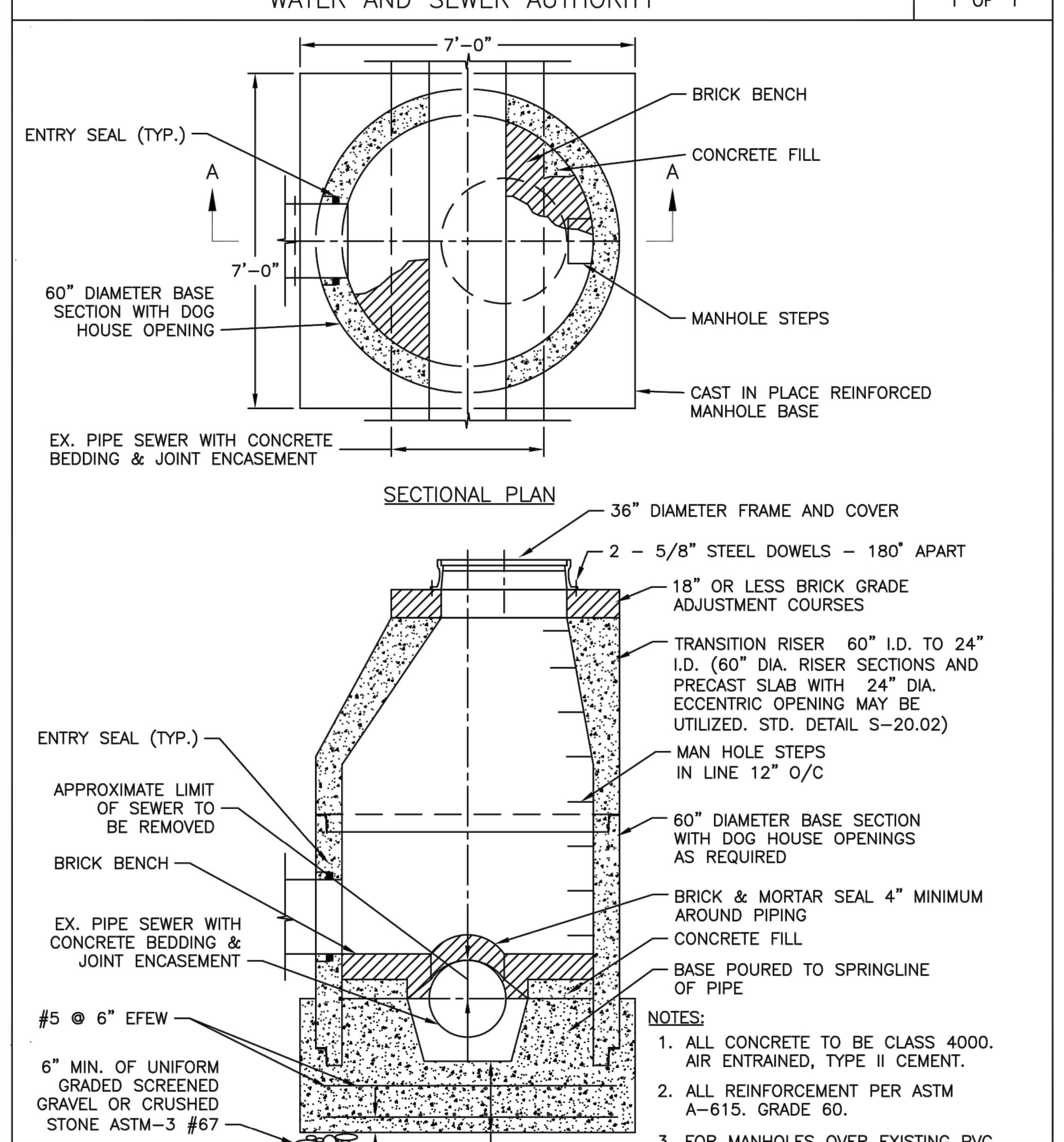
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

"B" MANHOLE

STANDARD NO. MC-515.01

DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

S-20.12
1 OF 1



NOTES:

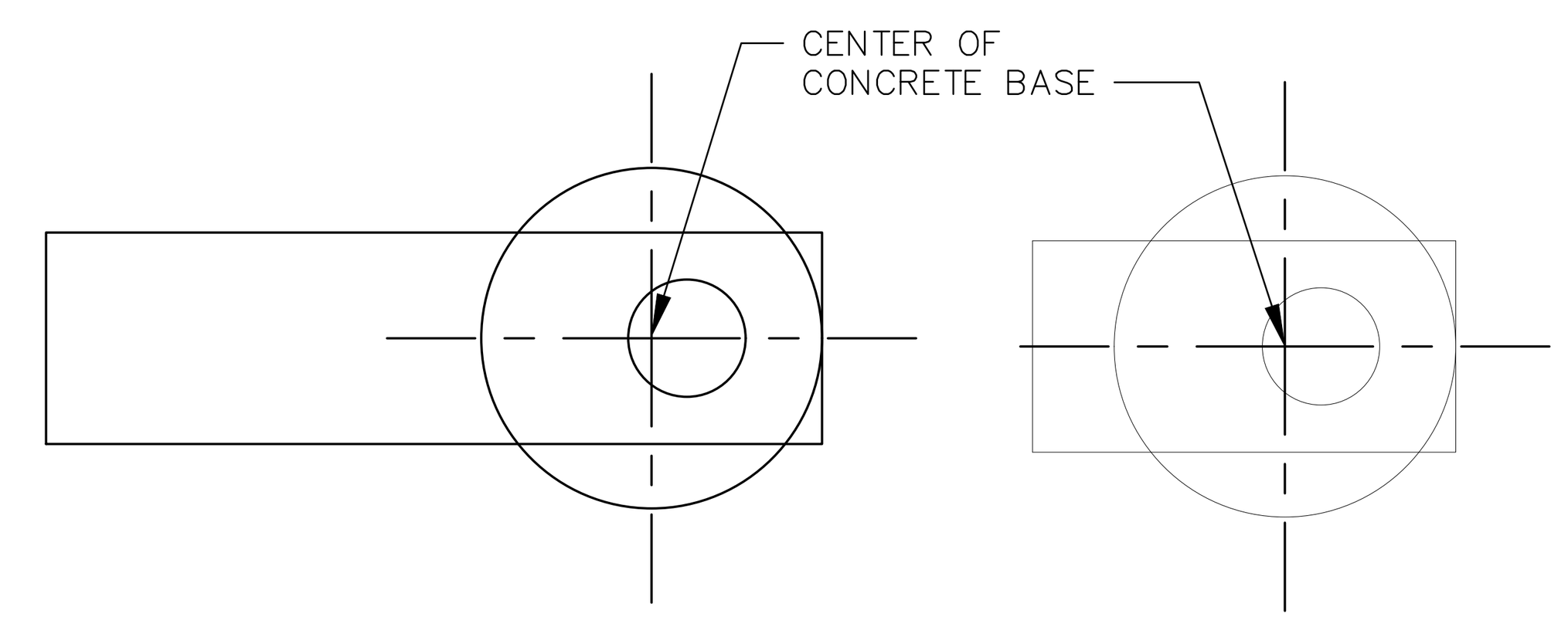
1. ALL CONCRETE TO BE CLASS 4000. AIR ENTRAINED, TYPE II CEMENT.
2. ALL REINFORCEMENT PER ASTM A-615. GRADE 60.
3. FOR MANHOLES OVER EXISTING PVC SEWERS USE STANDARD DETAIL SW/20.02 INSTEAD OF THIS ONE. CUT EXISTING PVC SEWER AND RECONNECT ON EITHER SIDE OF MANHOLE

APPROVED DATE: June 20, 2003

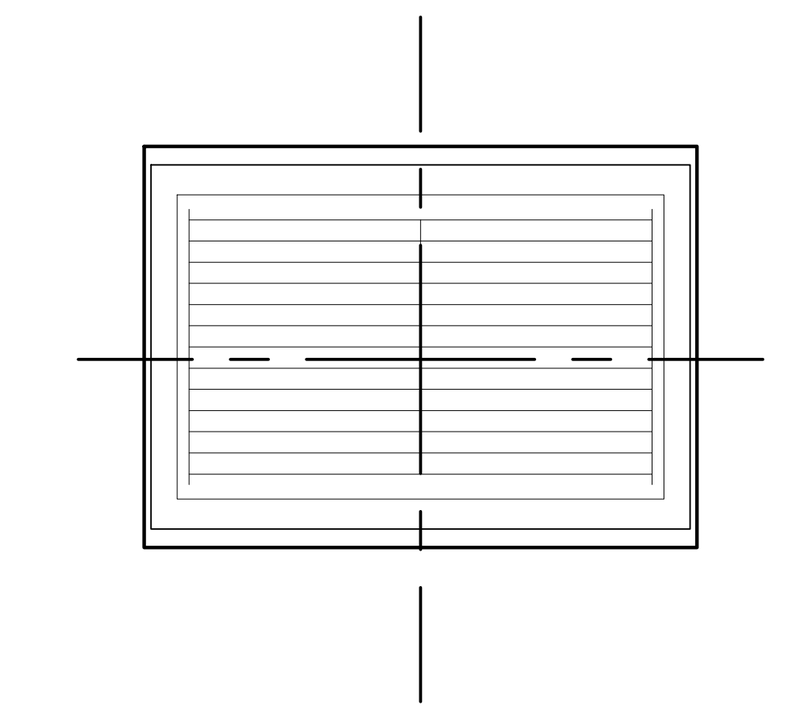
DIRECTOR, DEPARTMENT OF ENGINEERING AND TECHNICAL SERVICES

REVISION NO.: 0
DATE: 6/20/03
PREPARED BY: OBG/BKJV
CHECKED BY: W.DARROW

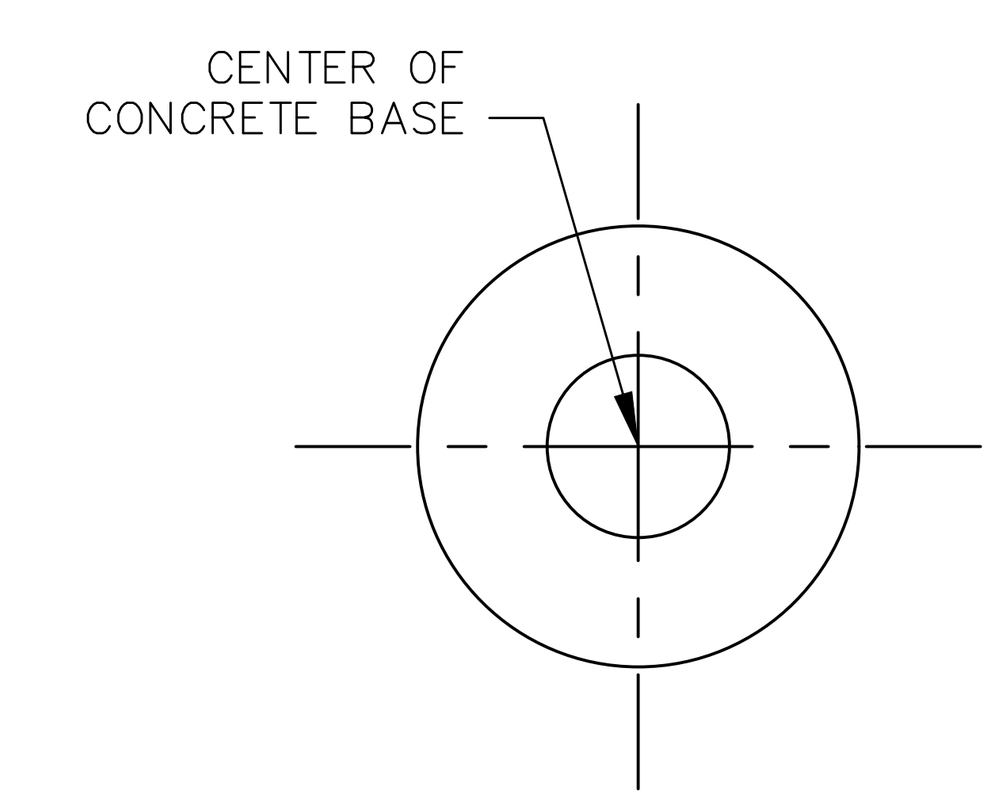
STANDARD DETAIL
PRECAST CONCRETE MANHOLE OVER EXISTING 24" THRU 30" DIAMETER SEWERS WITH CAST IN PLACE CONCRETE BASE



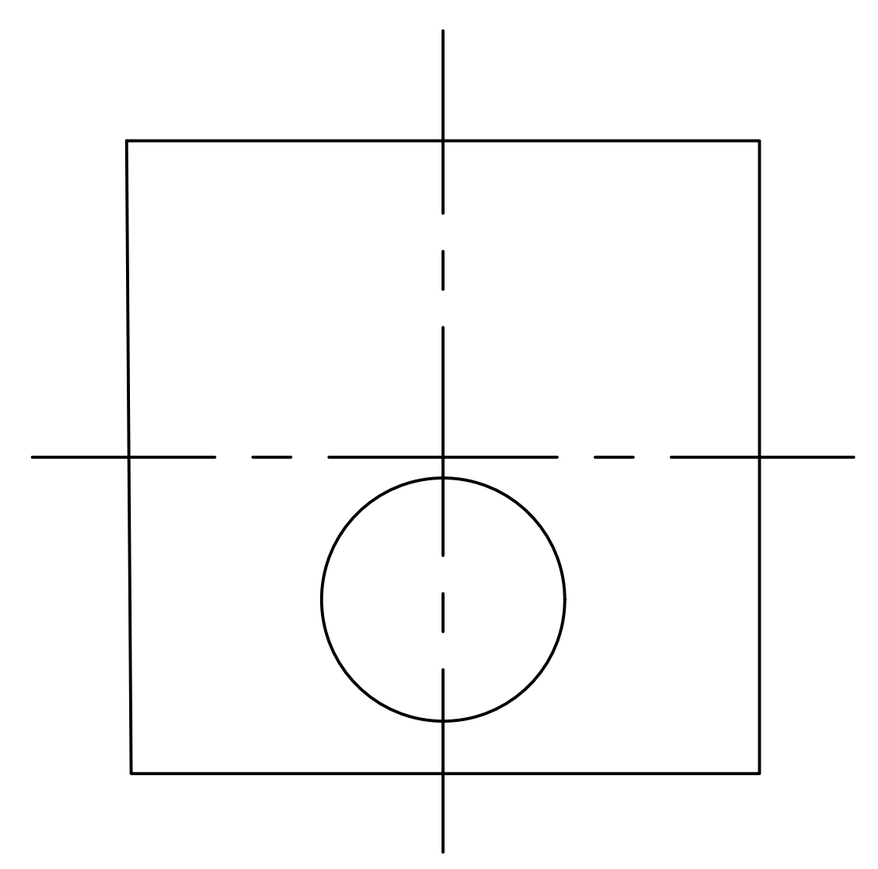
STATION AND OFFSET LOCATION
FOR COG INLETS



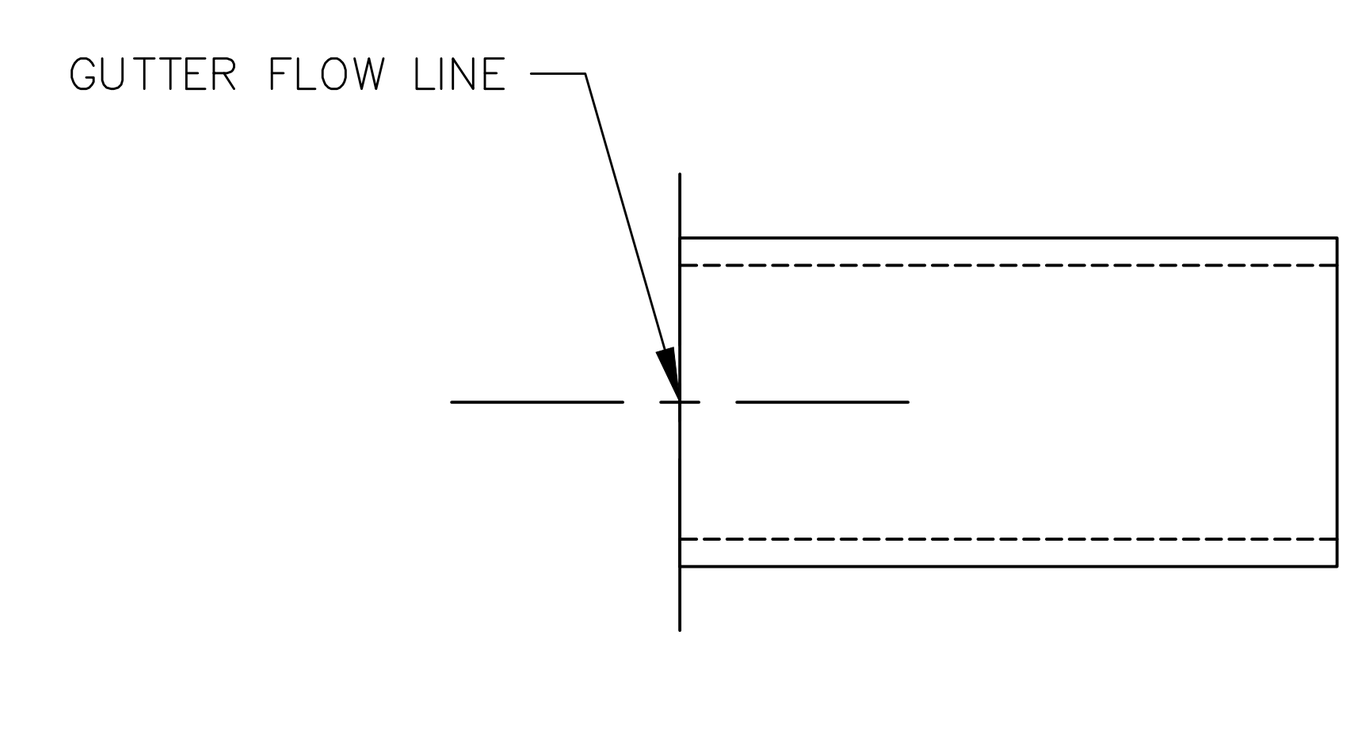
STATION AND OFFSET LOCATION
FOR SQUARE/RECTANGULAR BASE INLETS



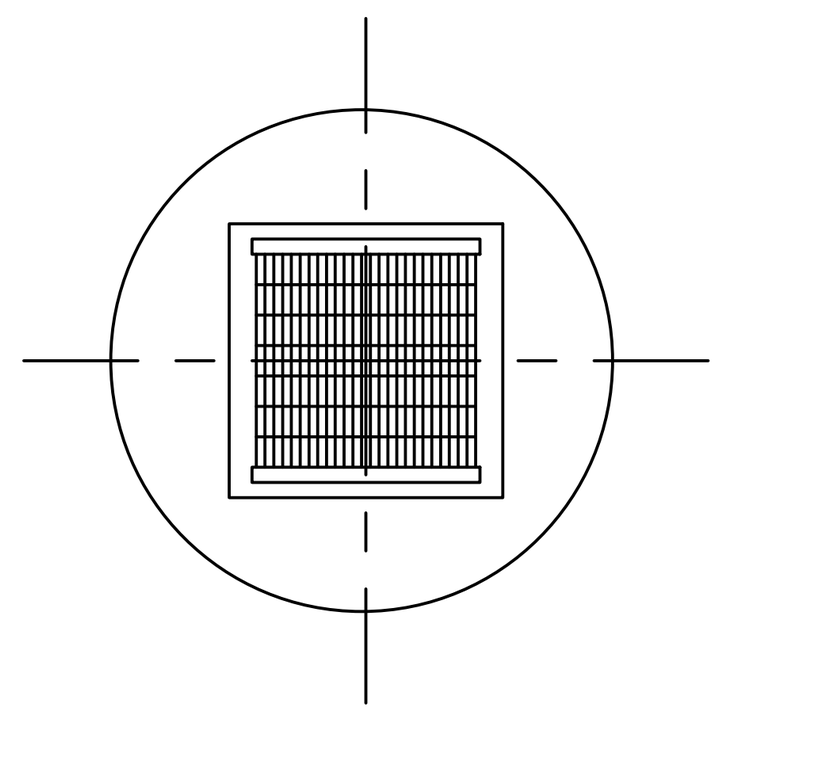
STATION AND OFFSET LOCATION
FOR CIRCULAR MANHOLES



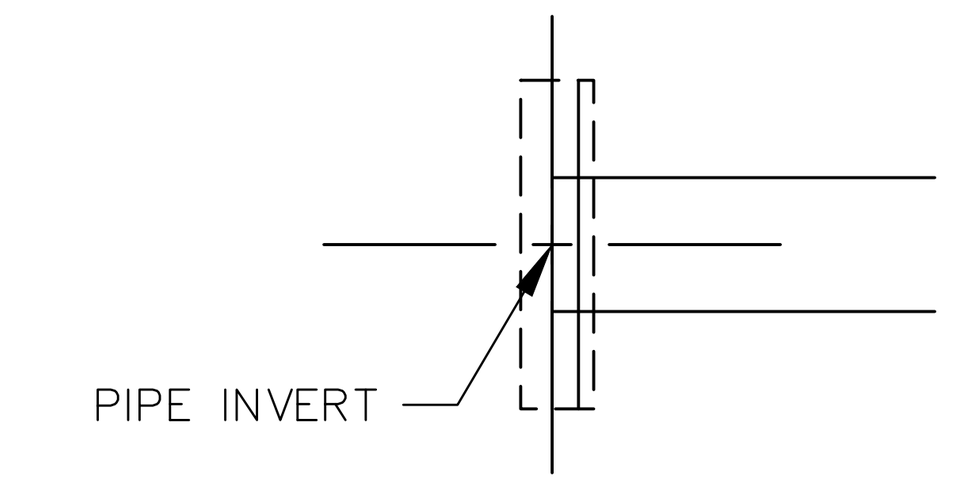
STATION AND OFFSET LOCATION
FOR SQUARE MANHOLES



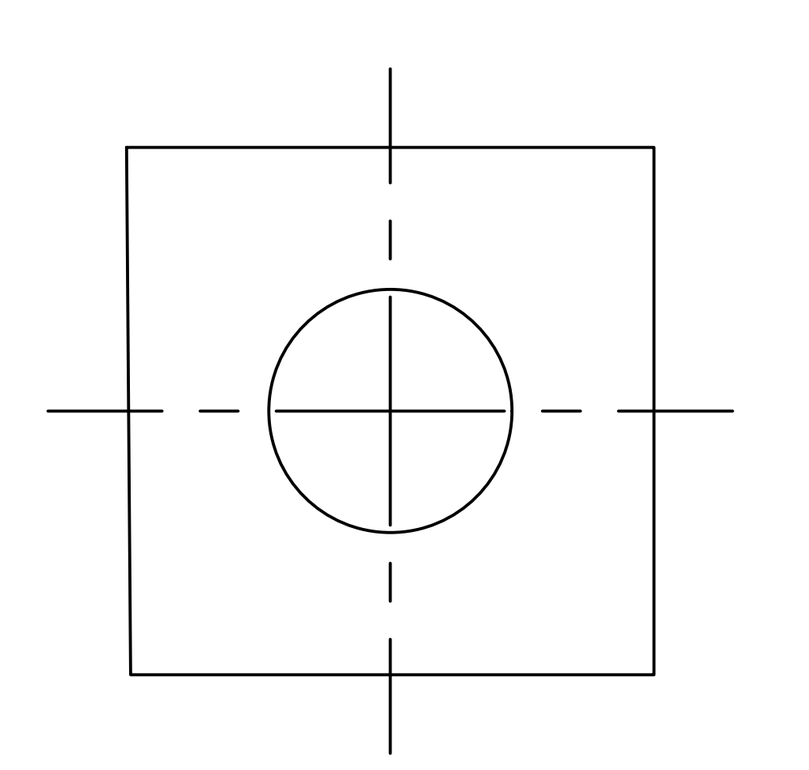
STATION AND OFFSET LOCATION
FOR COG OPENINGS



STATION AND OFFSET LOCATION
FOR CIRCULAR BASE INLETS



STATION AND OFFSET LOCATION
FOR ENDWALLS



STATION AND OFFSET LOCATION
FOR JUNCTION BOXES

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

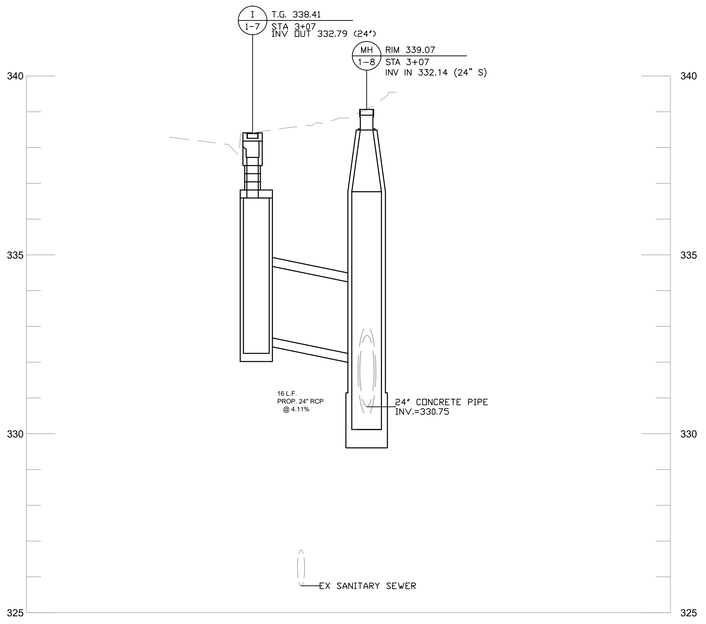
DD-02
DRAINAGE DESIGN

DALE DRIVE SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

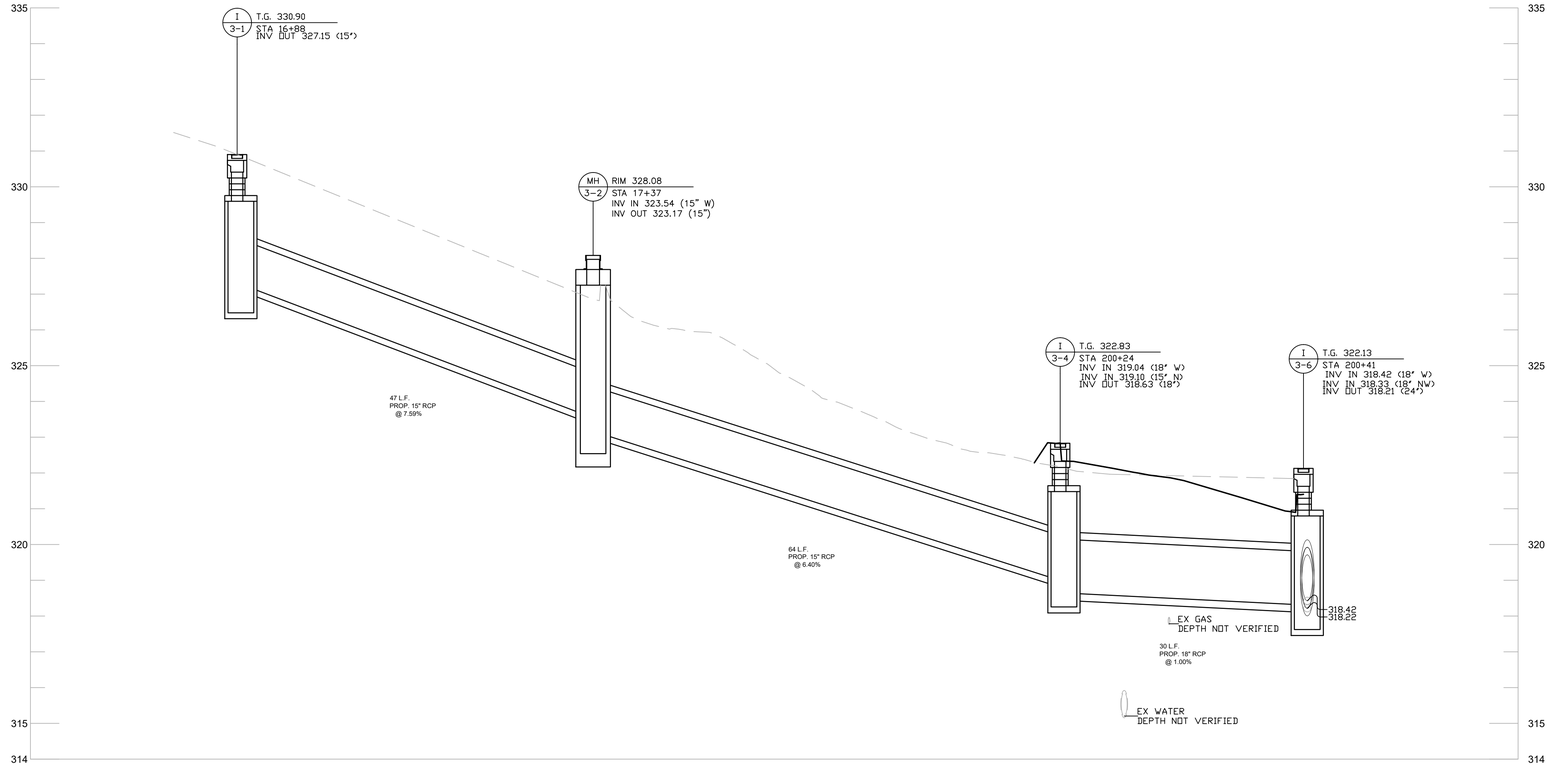
CIP No. : 502109 SHEET 28 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pDT-P001_DaleDr.dwg LAYOUT NAME: DD-02 (Details) PLOTTED: Tuesday, November 02, 2021 - 3:51pm USER: lilyz



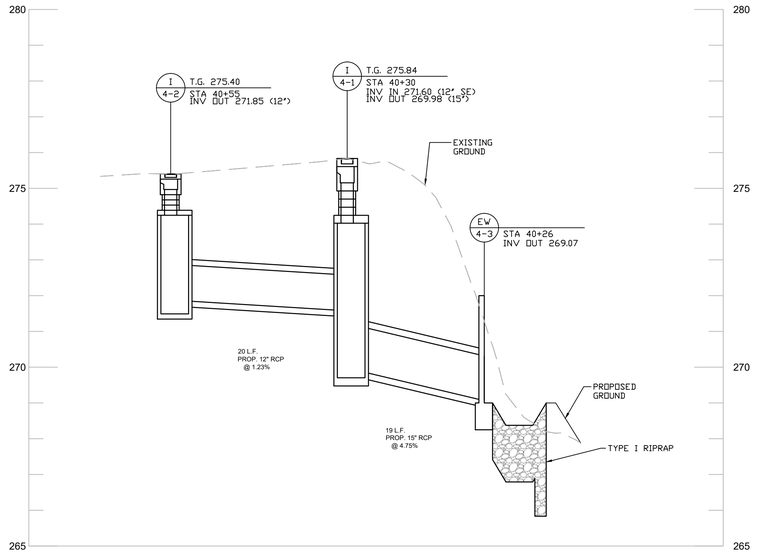
I-1-7 TO MH-1-8

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



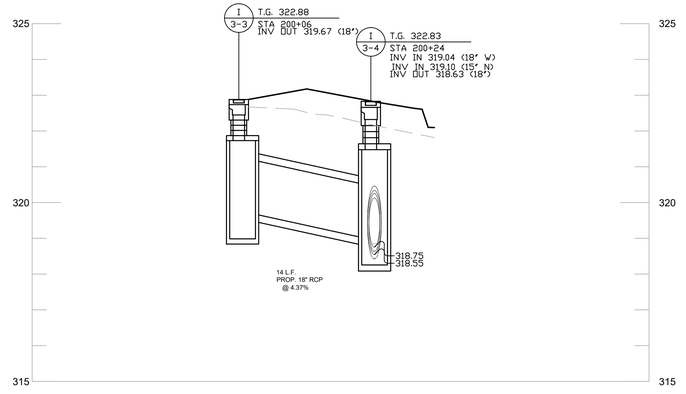
I-3-8 TO I-3-4

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



PV - I-4-2 to EW-4-3

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

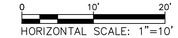


I-3-3 TO I-3-4

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



VERTICAL SCALE: 1"=2'



HORIZONTAL SCALE: 1"=10'

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

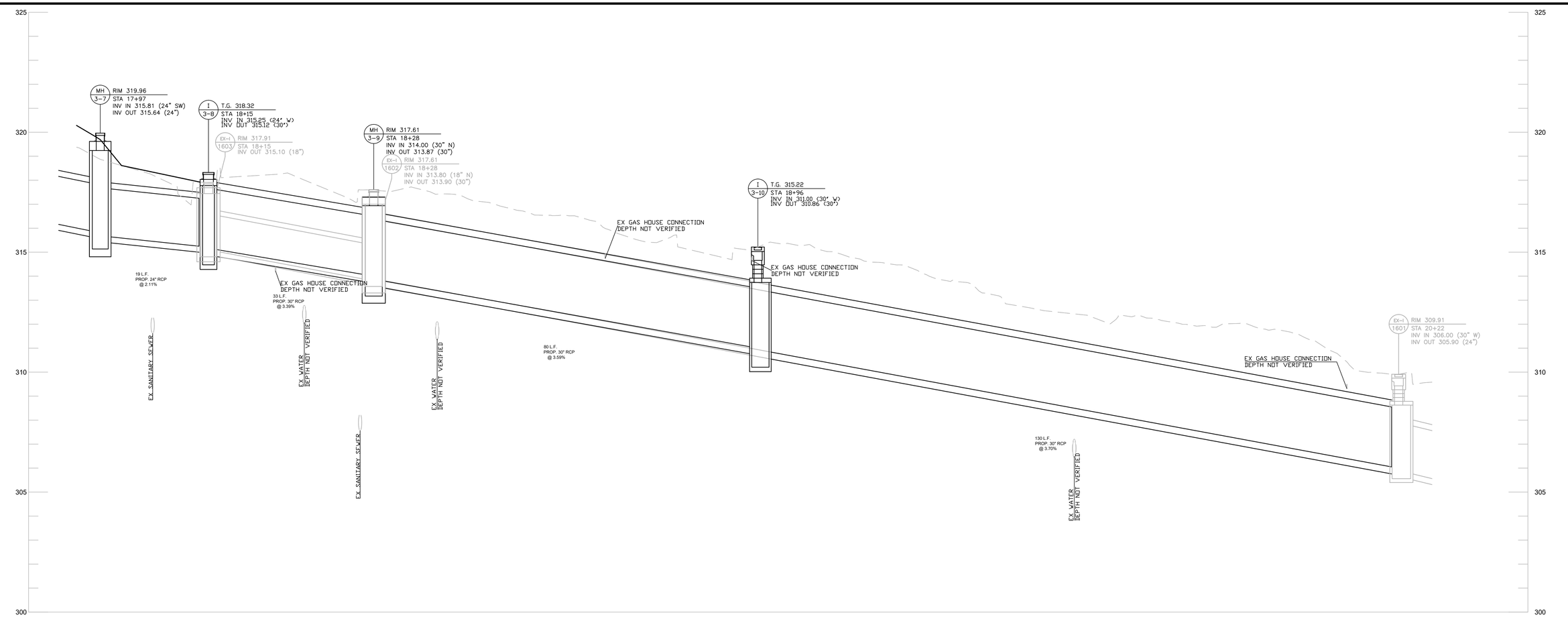
DP-01 DRAINAGE PROFILE DRAINAGE DESIGN

DALE DRIVE SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2021

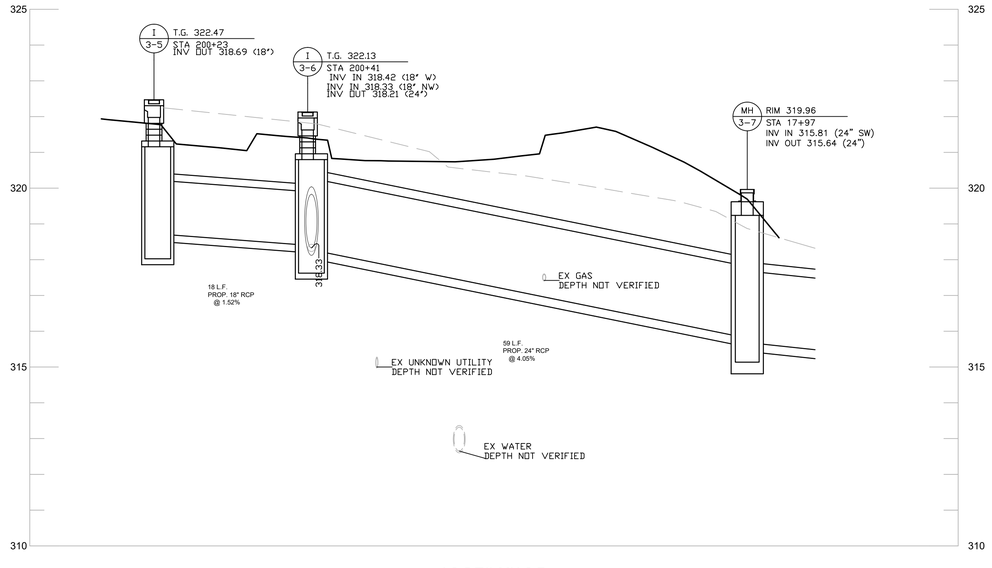
CIP No. : 502109 SHEET 29 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pDP-P001-DaleDr.dwg LAYOUT NAME: DP-01 PLOTTED: Tuesday, November 02, 2021 - 3:54pm USER: lilyz



MH-3-7 TO EX-I-1601

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



I-3-5 TO MH-3-7

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

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

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

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

DP-02 DRAINAGE PROFILE
DRAINAGE DESIGN
DALE DRIVE SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 30 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pDP-P001-DaleDr.dwg LAYOUT NAME: DP-02 PLOTTED: Tuesday, November 02, 2021 - 3:55pm USER: lilyz

EROSION AND SEDIMENT CONTROL – GENERAL NOTES

STANDARD EROSION AND SEDIMENT CONTROL NOTES

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

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

   A. At the required pre–construction meeting.

   B. Following installation of sediment control measures and prior to any other land disturbing activity.

   C. During the installation of a sediment basin or stormwater management structure at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction is mandatory.

   D. Prior to removal or modification of any sediment control structure(s).

   E. Prior to final acceptance.

3. The permittee shall construct all erosion and sediment control measures per the approved plan and construction sequence, shall have them inspected and approved by the Department prior to beginning any other land disturbances, shall ensure that all runoff from disturbed areas is directed to the sediment control devices, and shall not remove any erosion or sediment control measure without prior permission from the Department.

4. The permittee shall protect all points of construction ingress and egress to prevent the deposition of materials onto traversed public thoroughfare(s). All materials deposited onto public thoroughfare(s) shall be removed immediately.

5. The permittee shall inspect periodically and maintain continuously in effective operating condition, all erosion and sediment control measures until such time as they are removed with prior permission from the Department. The permittee is responsible for immediately repairing or replacing any sediment control measures which have been damaged or removed by the permittee or any other person.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

   C. the pump intake may be floated and discharge into a Dirt Bag (12 oz. non–woven fabric), or approved equivalent, located in an undisturbed buffer area.

   Remember: Dewatering operation and method must have prior approval by the DPS inspector.

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

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

STANDARD SYMBOLS

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

STANDARD NOTES

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

STANDARD SEQUENCE OF CONSTRUCTION NOTES

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

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

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

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

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

SITE INFORMATION		
DISTURBED AREA (LOD)	CUT (CY)	FILL (CY)
4.41 ac	7,302	916

P.E. CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 43192 , EXPIRATION DATE: 12–19–22

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SC–01 NOTES SHEET
EROSION AND SEDIMENT CONTROL

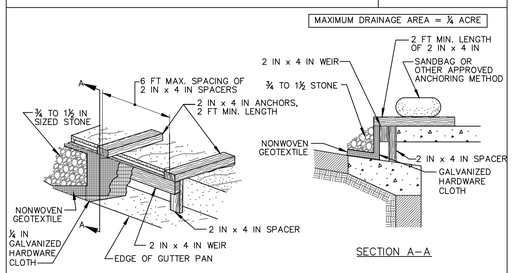
DALE DRIVE SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 31 of 180

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP



ISOMETRIC

SECTION A–A

CONSTRUCTION SPECIFICATIONS

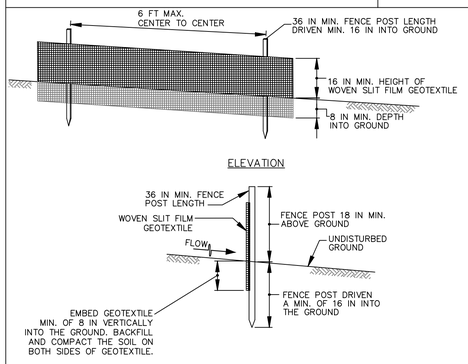
1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

1 OF 2

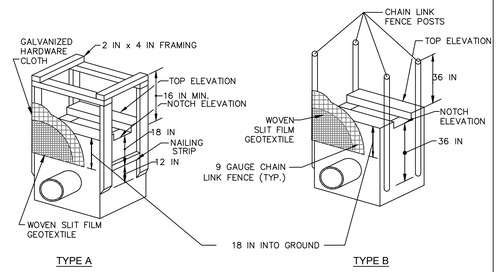
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

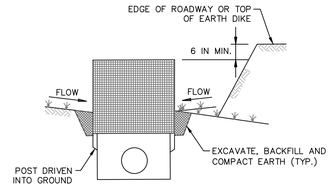
DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

TYPE A MAXIMUM DRAINAGE AREA = ¼ ACRE
TYPE B MAXIMUM DRAINAGE AREA = 1 ACRE



ISOMETRIC VIEW



SECTION FOR TYPE A AND B

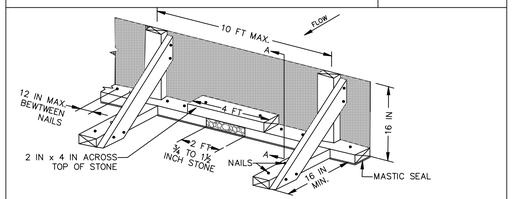
1 OF 2

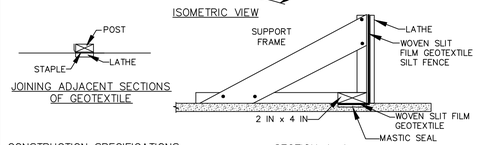
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP





CONSTRUCTION SPECIFICATIONS

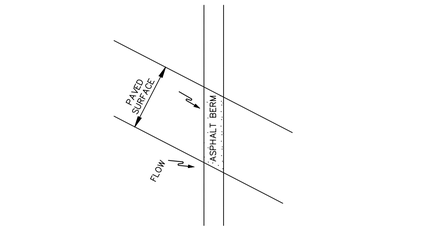
1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H–1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

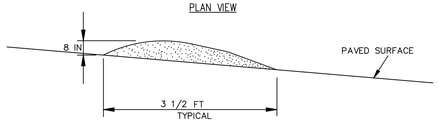
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-5 TEMPORARY ASPHALT BERM

STANDARD SYMBOL: TAB



PLAN VIEW



CROSS SECTION

CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ⅛ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID–SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H–1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-1 STANDARD INLET PROTECTION

STANDARD SYMBOL: SIP

CONSTRUCTION SPECIFICATIONS

1. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H–1 MATERIALS.
2. EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18 INCHES BELOW THE NOTCH ELEVATION.
3. FOR TYPE A, USE NOMINAL 2 INCH X 4 INCH CONSTRUCTION GRADE LUMBER POSTS, DRIVEN 1 FOOT INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2X4 FRAME AS SHOWN. STRETCH ½ INCH GALVANIZED HARDWARE CLOTH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. FASTEN GEOTEXTILE SECURELY TO THE HARDWARE CLOTH WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND HARDWARE CLOTH A MINIMUM OF 18 INCHES BELOW THE WEIR CREST. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE POST.

   FOR TYPE B, USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND 6 FOOT LENGTH, DRIVEN A MINIMUM OF 36 INCHES BELOW THE WEIR CREST AT EACH CORNER OF THE STRUCTURE. FASTEN 9 GAUGE OR HEAVIER CHAIN LINK FENCE, 42 INCHES IN HEIGHT, SECURELY TO THE FENCE POSTS WITH WIRE TIES. FASTEN GEOTEXTILE SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 18 INCHES BELOW THE WEIR CREST.
4. BACKFILL AROUND THE INLET IN LOOSE 4 INCH LIFTS AND COMPACT UNTIL SOIL IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SC–02 DETAIL SHEET EROSION AND SEDIMENT CONTROL

DALE DRIVE SHARED USE PATH

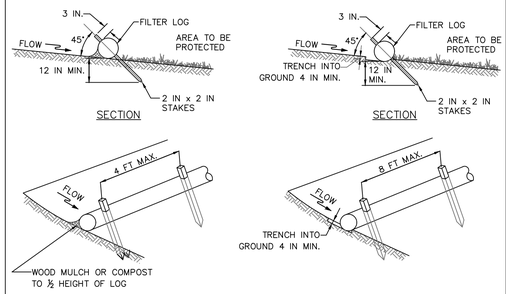
SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 32 of 180

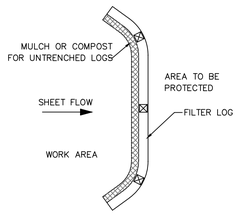
DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.



ISOMETRIC VIEW



PLAN

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18

DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG.

CONSTRUCTION SPECIFICATIONS

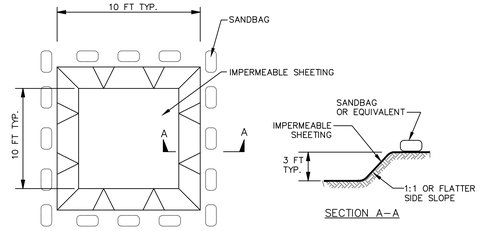
1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

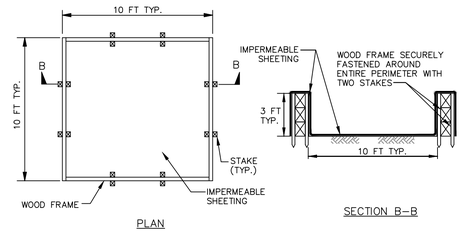
STANDARD SYMBOL: CWS



PLAN

SECTION A–A

EXCAVATED WASHOUT STRUCTURE



PLAN

SECTION B–B

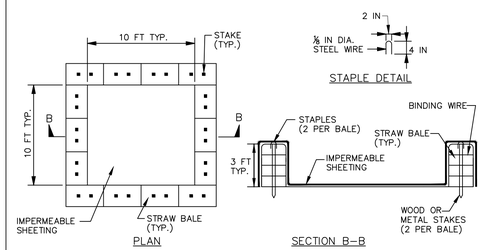
WASHOUT STRUCTURE WITH WOOD PLANKS

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



PLAN

SECTION B–B

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

WASHOUT STRUCTURE WITH STRAW BALES

CONSTRUCTION SPECIFICATIONS

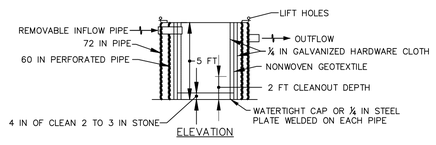
1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD.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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

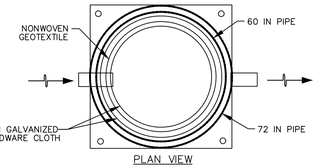
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-3 PORTABLE SEDIMENT TANK

STANDARD SYMBOL: ☒PST



ELEVATION



PLAN VIEW

CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

TREE PRESERVATION NOTES

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

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

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

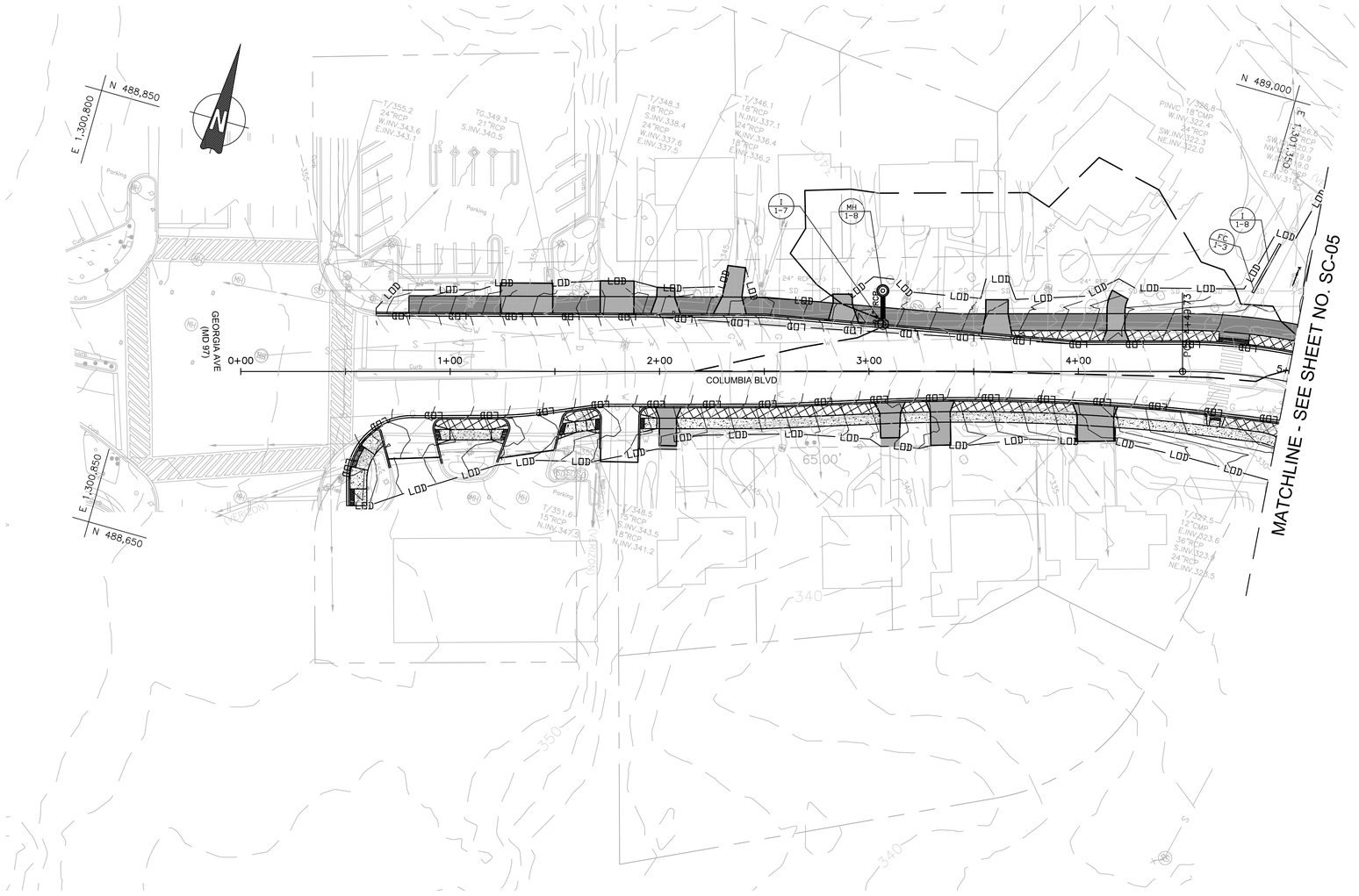
Designed by: KJS Drawn by: LZ Checked by: DZ

SC-03 DETAIL SHEET EROSION AND SEDIMENT CONTROL

DALE DRIVE SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 33 of 180



GENERAL NOTES:

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

SC-04 DETAILED SEQUENCE OF CONSTRUCTION

1. SET UP MAINTENANCE OF TRAFFIC CONTROLS AS DIRECTED ON THE MOT PLANS.
2. DURING A 3-DAY DRY WEATHER PERIOD PER NOAA, CONSTRUCT THE DOGHOUSE MANHOLE MH-1-3 ON THE EXISTING STORM DRAIN PIPE. CONSTRUCT PROPOSED 24" RCP AND INLET I-1-4. .
3. CONTRACTOR SHALL ENSURE THAT NO SEDIMENT LADEN RUNOFF ENTERS THE STORM DRAIN NETWORK WITHOUT PASSING THROUGH AN APPROVED SEDIMENT CONTROL DEVICE AT ANY POINT DURING CONSTURCTION. DEWATERING OF PONDED WATER FROM ANY EXCAVATION AREAS SHALL BE DIRECTED THROUGH AN APPROVED SEDIMENT CONTROL DEVICE.
4. INSTALL THE PROPOSED TRENCH DRAIN I-1-7 ALONG THE EDGE OF THE EXISTING SIDEWALK. INSTALL THE FIELD CONNECTION FC 1-3 OF THE TRENCH DRAIN TO THE EXISTING STORM DRAIN PIPE.
5. STABILIZE SURROUNDING AREAS.

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SC-04 PLAN SHEET
EROSION AND SEDIMENT CONTROL
DALE DRIVE SHARED USE PATH

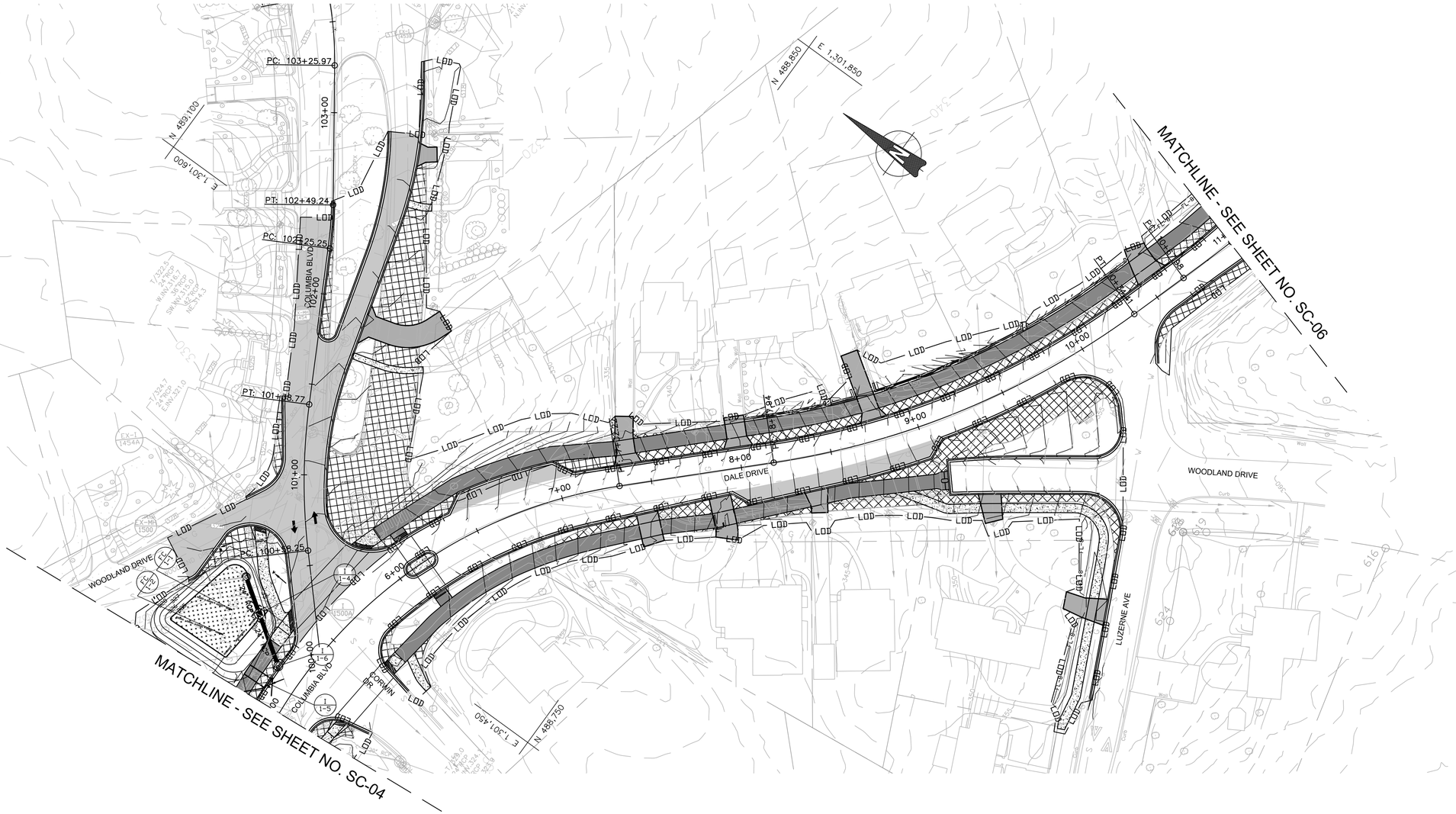
0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 34 of 180



GENERAL NOTES:

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

SE–05 DETAILED SEQUENCE OF CONSTRUCTIO – DRAINAGE/SWM FACILITIES

1. SET UP MAINTENANCE OF TRAFFIC CONTROLS AS DIRECTED ON THE MOT PLANS.
2. DURING A 3–DAY DRY WEATHER PERIOD PER NOAA, INSTALL THE PROPOSED STORM DRAIN PIPES AND STRUCTURES FROM EXISTING MANHOLE EX–MH–1500 TO INLET I–1–6. INSTALL STANDARD INLET PROTECTION (SIP) ON INLET I–1–4 IMMEDIATELY FOLLOWING INSTALLATION AND BACKFILL. INSTALL PERIMETER CONTROLS AROUND THE PROPOSED MICROBIORETENTION FACILITY (MBR–1).
3. CONTRACTOR SHALL ENSURE THAT NO SEDIMENT LADEN RUNOFF ENTERS THE STORM DRAIN NETWORK WITHOUT PASSING THROUGH AN APPROVED SEDIMENT CONTROL DEVICE AT ANY POINT DURING CONSTURCTION. DEWATERING OF PONDED WATER FROM ANY EXCAVATION AREAS SHALL BE DIRECTED THROUGH AN APPROVED SEDIMENT CONTROL DEVICE.
4. DIRECT RUNOFF FROM ALONG THE EXISTING CURB AND GUTTER LINE TO INLET I–1–6 BY INSTALLING A TEMPORARY ASPHALT BERM OR OTHER APPROVED METHOD. THE TEMPORARY DIVERSION SHALL REMAIN IN PLACE UNTIL THE PROPOSED CURB IS CONSTRUCTED AND THE DIVERSION IS NO LONGER NECESSARY TO REDIRECT GUTTER FLOW TO INLET I–1–6.
5. INSTALL COG OPENING I–1–3 AND IMMEDIATELY BLOCK THE INLET OPENING TO DIRECT GUTTER FLOW TO INLET I–1–3. COG OPENING I–1–3 SHALL REMAIN BLOCKED UNTIL CONSTRUCTION OF MBR–1 IS COMPELTE AND ALL SURROUNDING AREAS HAVE BEEN FULLY STABILIZED.
6. EXCAVATE TO FACILITY SUBGRADE AND THEN INSTALL AGGREGATE, UNDERDRAIN PIPING, SAND, BIORETENTION SOIL MEDIA, AND MULCH LAYERS. INSTALL PLANTINGS IN ACCORDANCE WITH THE LANDSCAPE PLANS.
7. PERIMETER CONTROLS AND SIP FOR MBR–1 SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED AND WRITTEN APPROVAL IS RECEIVED FROM THE MCDPS INSPECTOR.

SE–05 DETAILED SEQUENCE OF CONSTRUCTION – INTERSECTION MODIFICATIONS

1. SET UP MAINTENANCE OF TRAFFIC CONTROLS AS DIRECTED ON THE MOT PLANS.
2. CONSTRUCT PROPOSED ROADWAY LIMITING THE DISTURBED AREA TO THE EXTENT THAT CAN BE STABILIZED AT THE END OF EACH WORKDAY.
3. REMOVAL OF EXISTING PAVEMENT SHALL BE LIMITED TO THE EXTENT THAT CAN BE STABILIZED THE SAME DAY. .

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SC–05 PLAN SHEET
EROSION AND SEDIMENT CONTROL
DALE DRIVE SHARED USE PATH

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

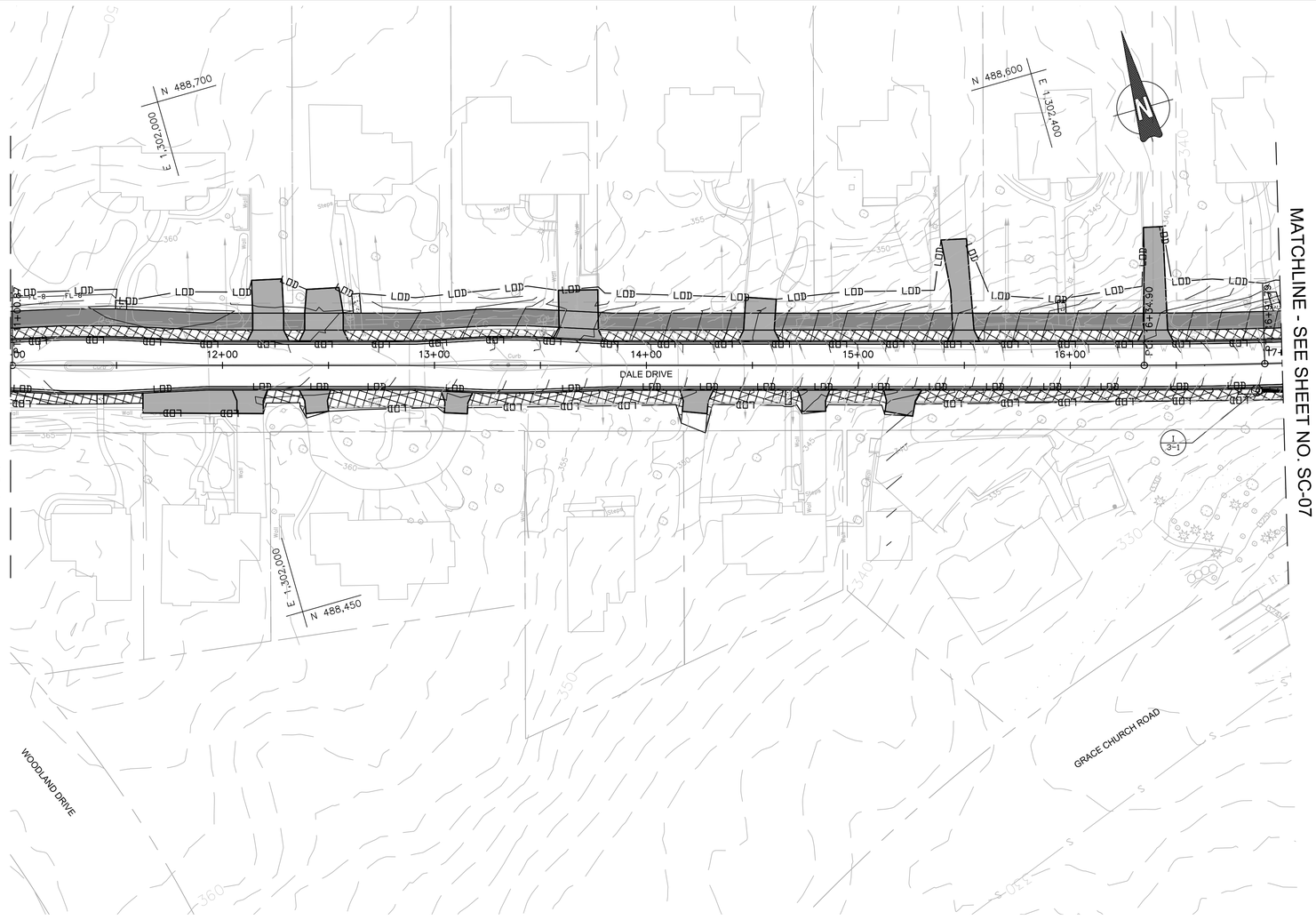
DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 35 of 180

FILE NAME: P:\MoCo\Dale Drive Bike–Ped Path\00_Working\pES–P002–DaleDr.dwg LAYOUT NAME: SC–05 PLOTTED: Tuesday, November 02, 2021 – 3:39pm USER: lilyz

MATCHLINE - SEE SHEET NO. SC-05



MATCHLINE - SEE SHEET NO. SC-07

GENERAL NOTES:

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

SC-06 DETAILED SEQUENCE OF CONSTRUCTION

1. REFER TO SHEET 23 FOR SEQUENCE OF CONSTRUCTION INVOLVING INLET I-3-1 AND THE ASSOCIATED DRAINAGE NETWORK.

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

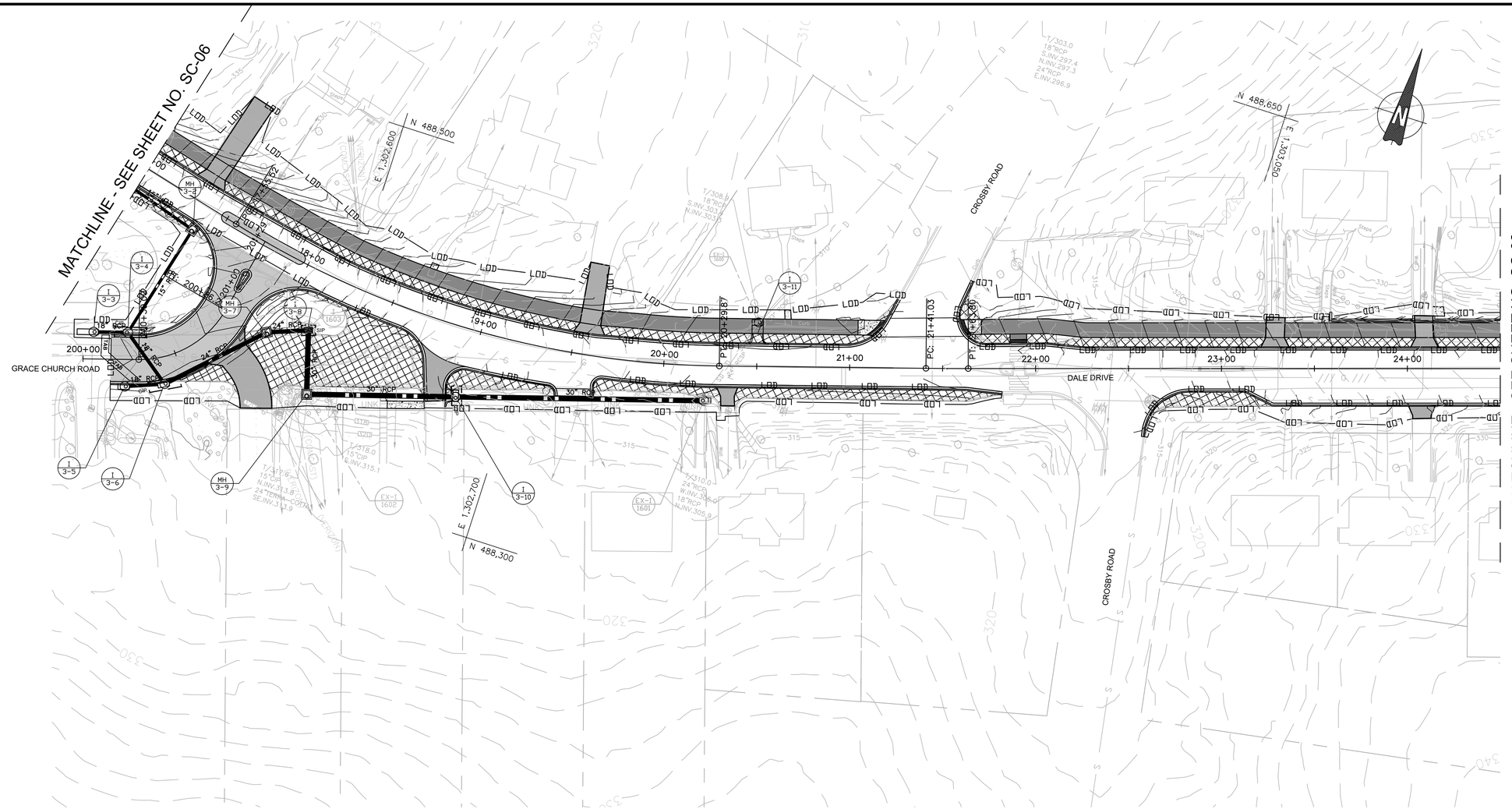
Designed by: KJS Drawn by: LZ Checked by: DZ

SC-06 PLAN SHEET
EROSION AND SEDIMENT CONTROL
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 36 of 180



GENERAL NOTES:

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

SC-07 DETAILED SEQUENCE OF CONSTRUCTION

1. SET UP MAINTENANCE OF TRAFFIC (MOT) CONTROLS AS INDICATED ON THE MOT AND DETOUR PLANS.
2. CONSTRUCT JUNCTION BOX JB-3-7 AND UPSTREAM DRAINAGE PIPES AND STRUCTURES (TO I-3-1, I-3-3, AND I-3-5). IMMEDIATELY BLOCK THE INLET OPENINGS TO PREVENT DRAINAGE FROM ENTERING THE INLETS.
3. CONSTRUCT DRAINAGE PIPES AND INLETS BETWEEN EXISTING INLET EX-I-1601 AND JUNCTION BOX JB-3-7, BEGINNING DURING A NOAA 3-DAY DRY WEATHER FORECAST. CONTRACTOR SHALL ENSURE DRAINAGE CAN BE CONVEYED TO EXISTING INLET EX-I-1601 FROM EX-I-1603 (TO BE REPLACED BY I-3-8) AT ALL TIMES DURING CONSTRUCTION. TEMPORARY CONNECTIONS BETWEEN EXISTING DRAINAGE PIPES/STRUCTURES TO PROPOSED PIPES/STRUCTURES SHALL BE CONSTRUCTED AS REQUIRED TO CONVEY STORMWATER IN A NON-EROSIVE MANNER.
4. FOLLOWING INSTALLATION OF STORM DRAIN PIPES AND STRUCTURES, INSTALL TYPE B SIP ON INLET I-3-8.
5. INSTALL THE TEMPORARY ASPHALT BERM DOWNSLOPE FROM INLETS I-3-3 AND I-3-5 AS SHOWN ON THE PLANS, CREATING A SUMP THAT COLLECTS OFFSITE DRAINAGE AT EACH INLET.
6. INSTALL CURB INLET PROTECTION (CIP) AT INLETS I-3-4, I-3-6, AND I-3-10.
7. CONDUCT GRADING AND ROADWAY CONSTRUCTION PROVIDING SAME DAY STABILIZATION TO ANY DISTURBED AREAS NOT DRAINING TO AN INLET WITH INLET PROTECTION.
8. ALL INLET PROTECTION SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED AND WRITTEN APPROVAL IS RECEIVED FROM THE MCDPS INSPECTOR.

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SC-07 PLAN SHEET
EROSION AND SEDIMENT CONTROL
DALE DRIVE SHARED USE PATH

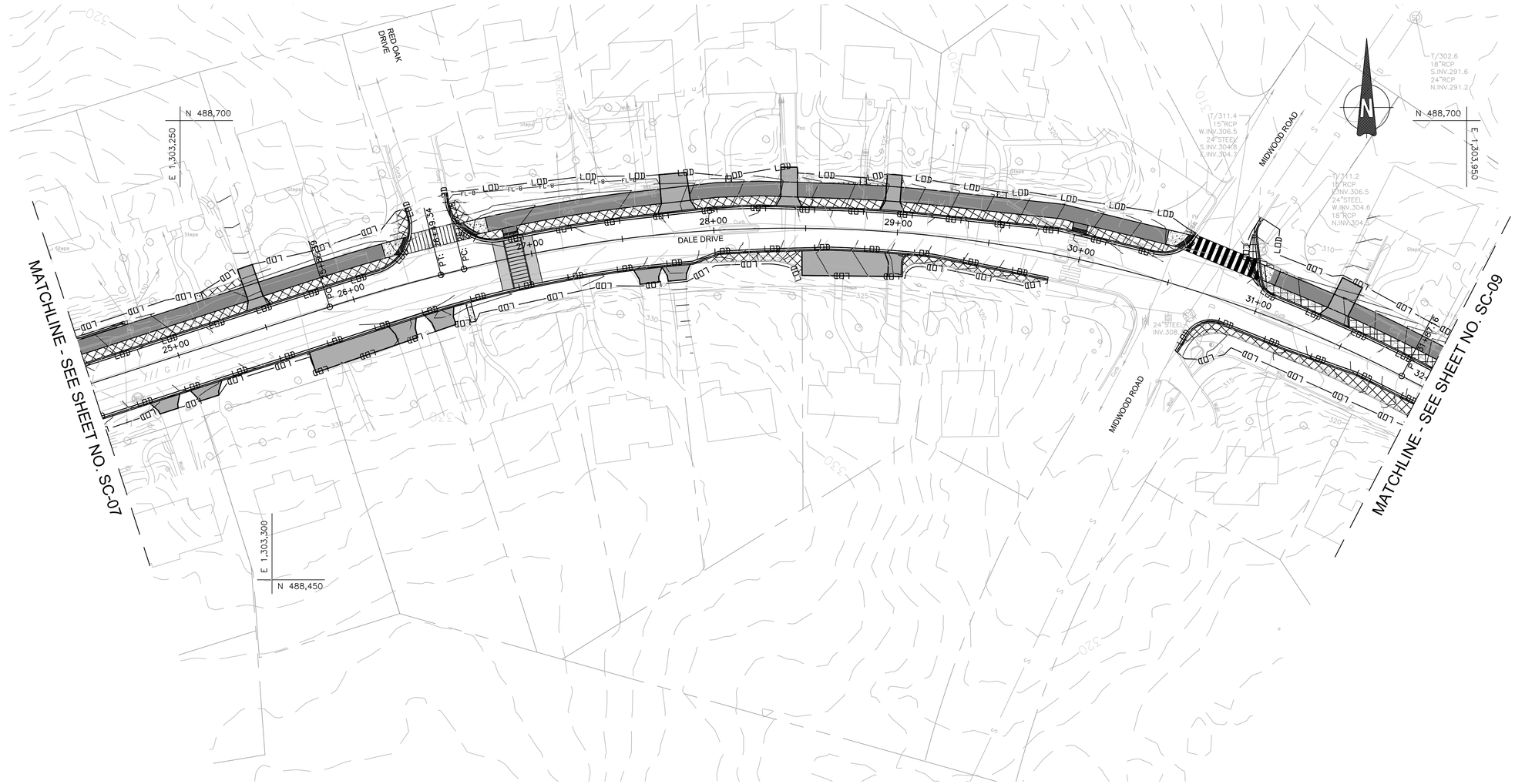
0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 37 of 180



GENERAL NOTES:

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

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RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

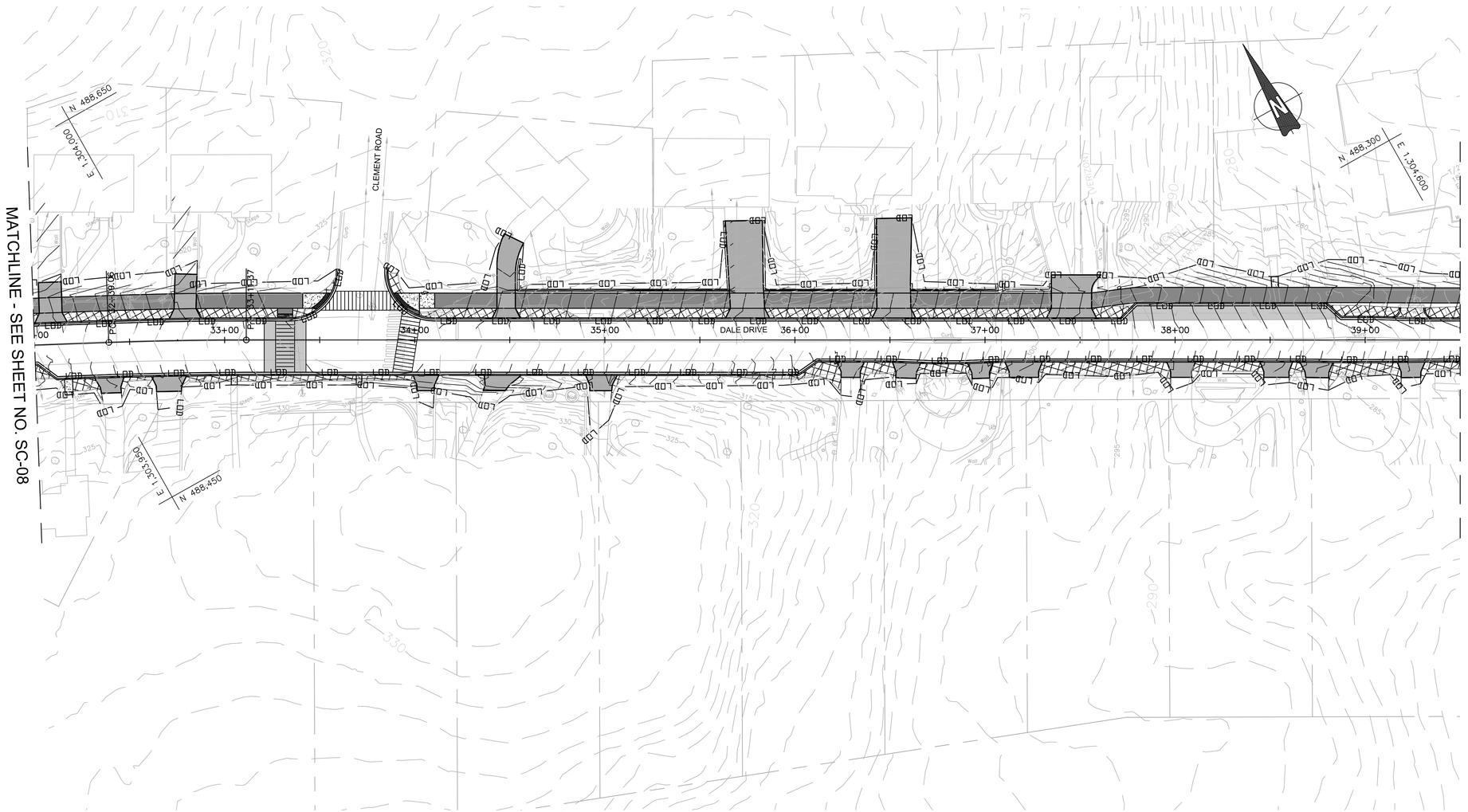
SC–08 PLAN SHEET
EROSION AND SEDIMENT CONTROL
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 38 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pES-P002-DaleDr.dwg LAYOUT NAME: SC-08 PLOTTED: Tuesday, November 02, 2021 – 3:39pm USER: lilyz



GENERAL NOTES:

1. FOLLOWING THE INSTALLATION OF SEDIMENT CONTROLS, WRITTEN APPROVAL MUST BE OBTAINED FROM THE MCDPS INSPECTOR PRIOR TO PROCEEDING WITH WORK.
2. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MCDPS-APPROVED SEDIMENT CONTROL DEVICE.
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RJM ENGINEERING

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

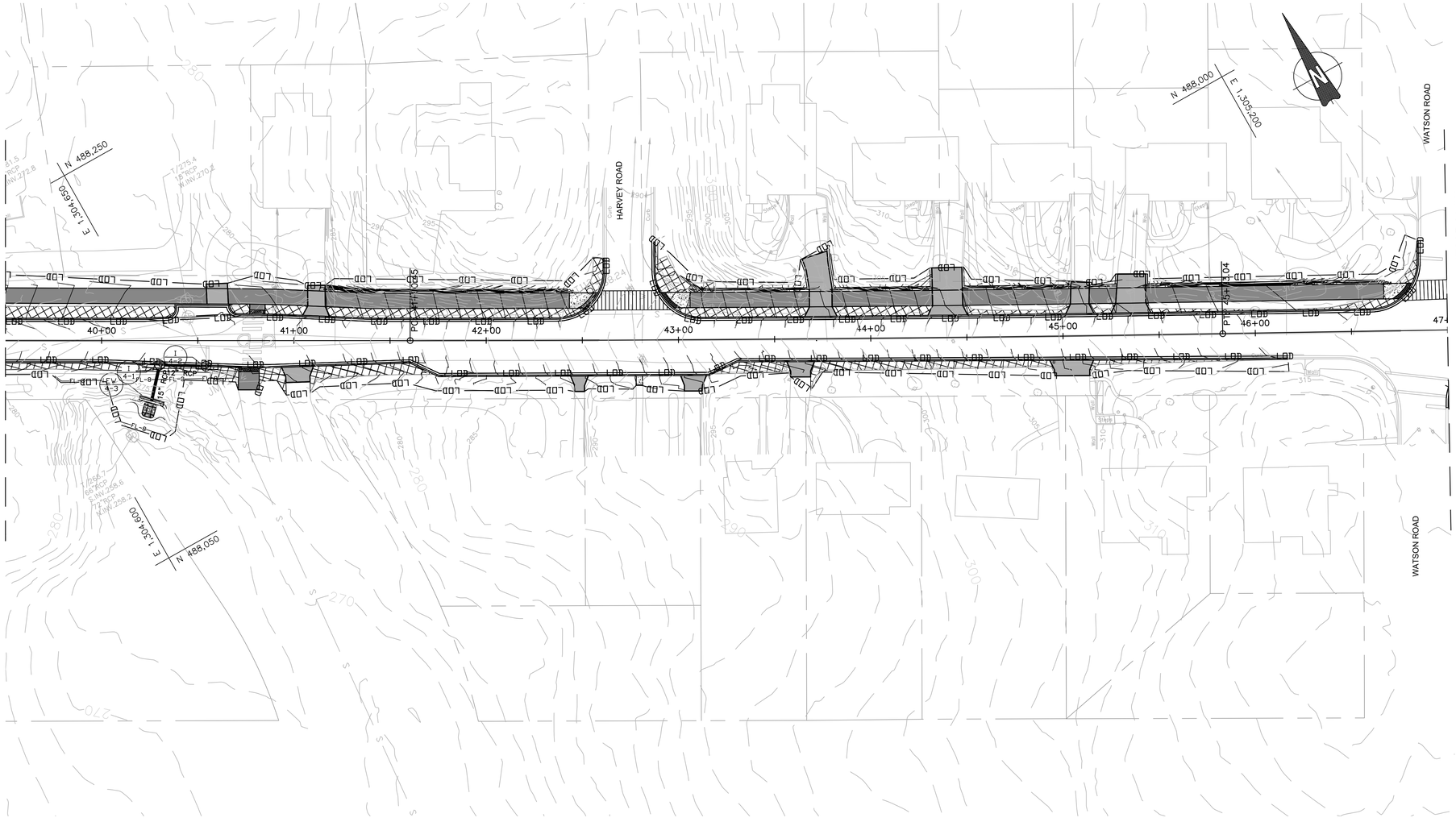
Designed by: KJS Drawn by: LZ Checked by: DZ

SC-09 PLAN SHEET
EROSION AND SEDIMENT CONTROL
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 39 of 180


MATCHLINE - SEE SHEET NO. SC-09
MATCHLINE - SEE SHEET NO. SC-11
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WATSON ROAD
WATSON ROAD
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E 1,305,200
40+00
41+00
42+00
43+00
44+00
45+00
46+00
47+
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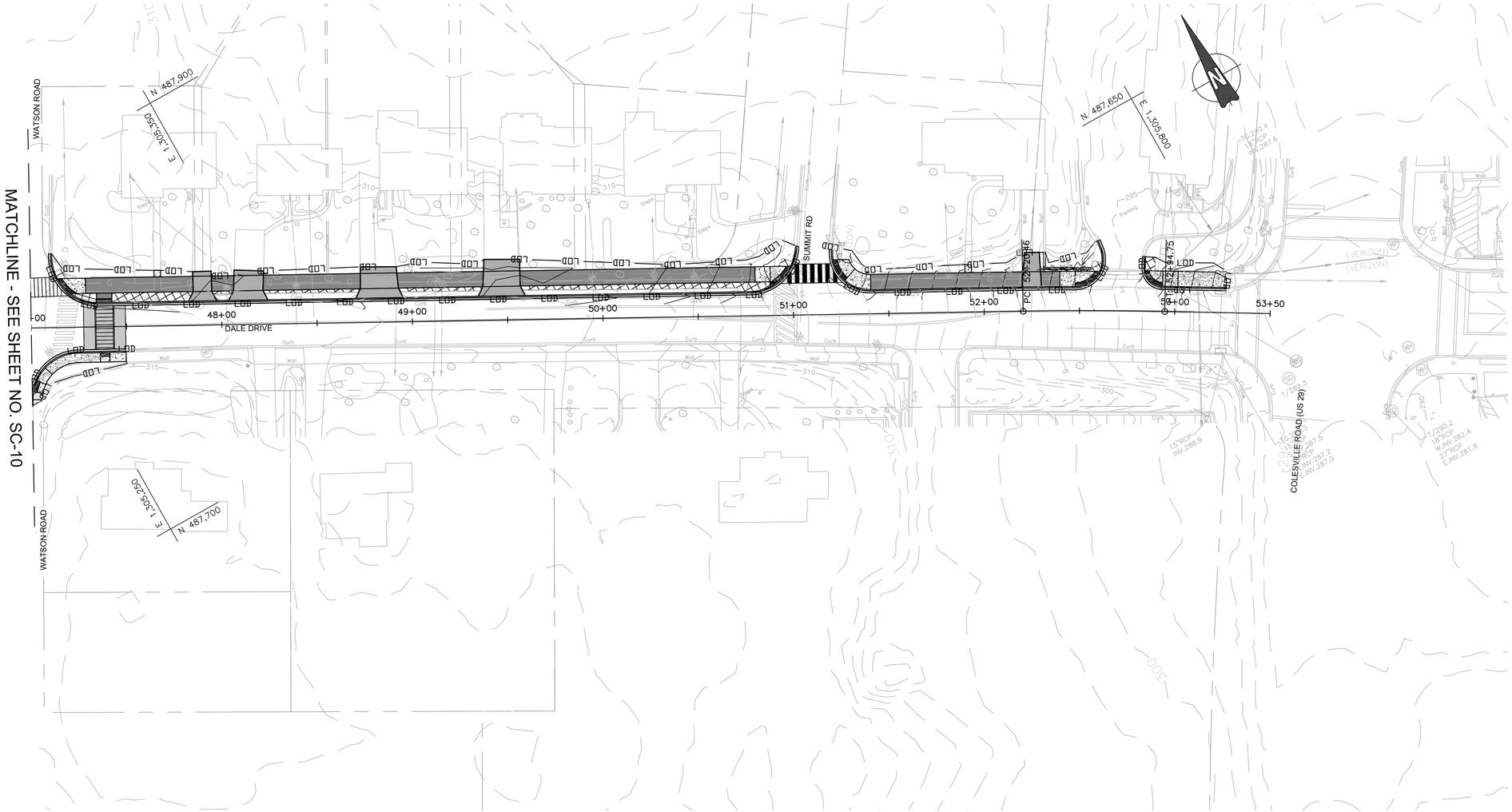


MATCHLINE - SEE SHEET NO. SC-10

GENERAL NOTES:

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

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SC-11 PLAN SHEET
EROSION AND SEDIMENT CONTROL
DALE DRIVE SHARED USE PATH

0 30' 60'

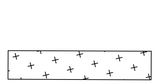
SCALE: 1"=30' DATE: NOVEMBER 2021

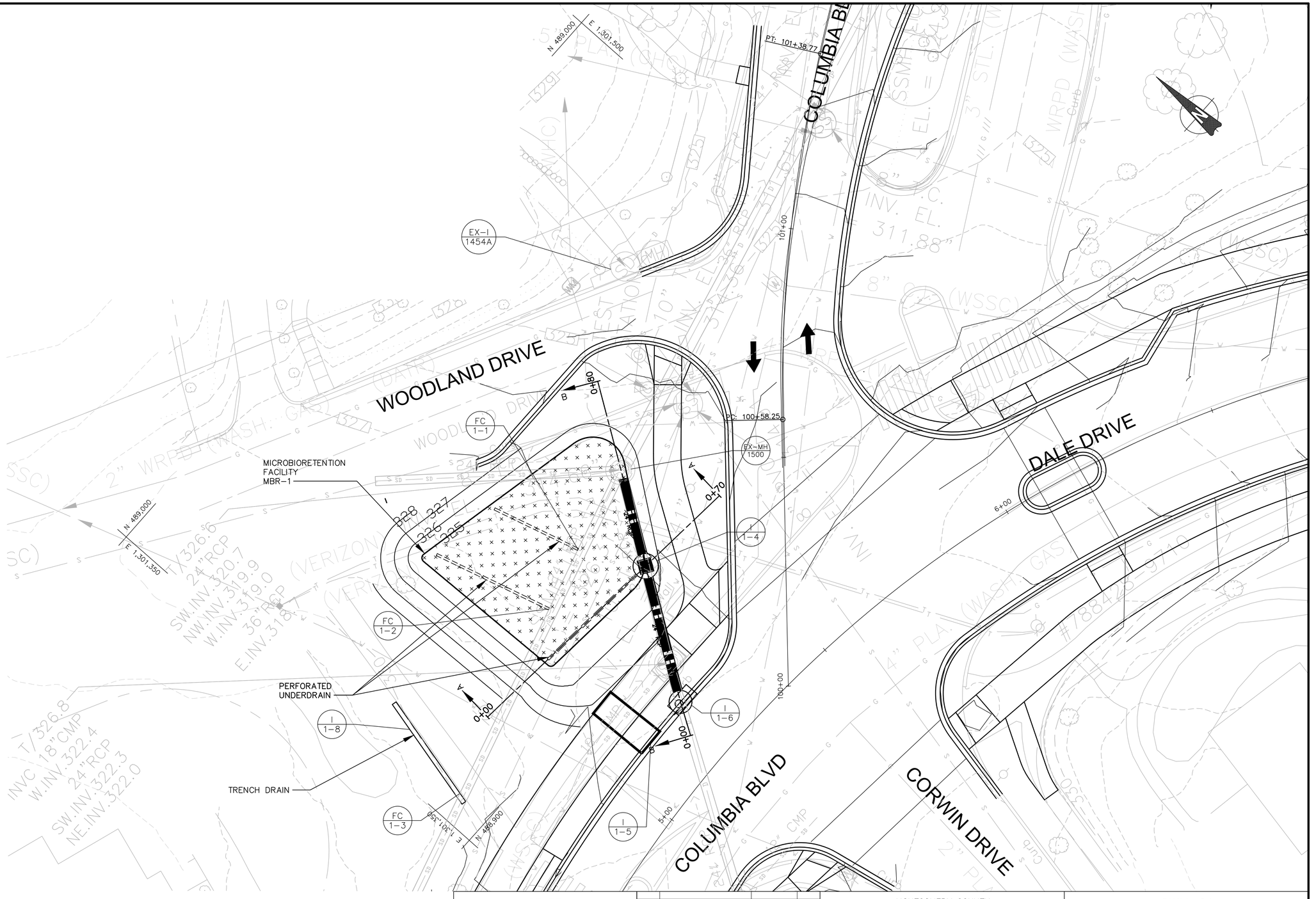
CIP No. : 502109 SHEET 41 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pES-P002-DaleDr.dwg LAYOUT NAME: SC-11 PLOTTED: Tuesday, November 02, 2021 - 3:40pm USER: lilyz

LEGEND

MICROBIORETENTION FACILITY BOTTOM AREA/AGGREGATE STORAGE AREA





GENERAL NOTES:

1. REFER TO SHEET 43 FOR COMPLETE DRAINAGE AREA TO MBR-1.

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NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SWM-01
STORMWATER MANAGEMENT

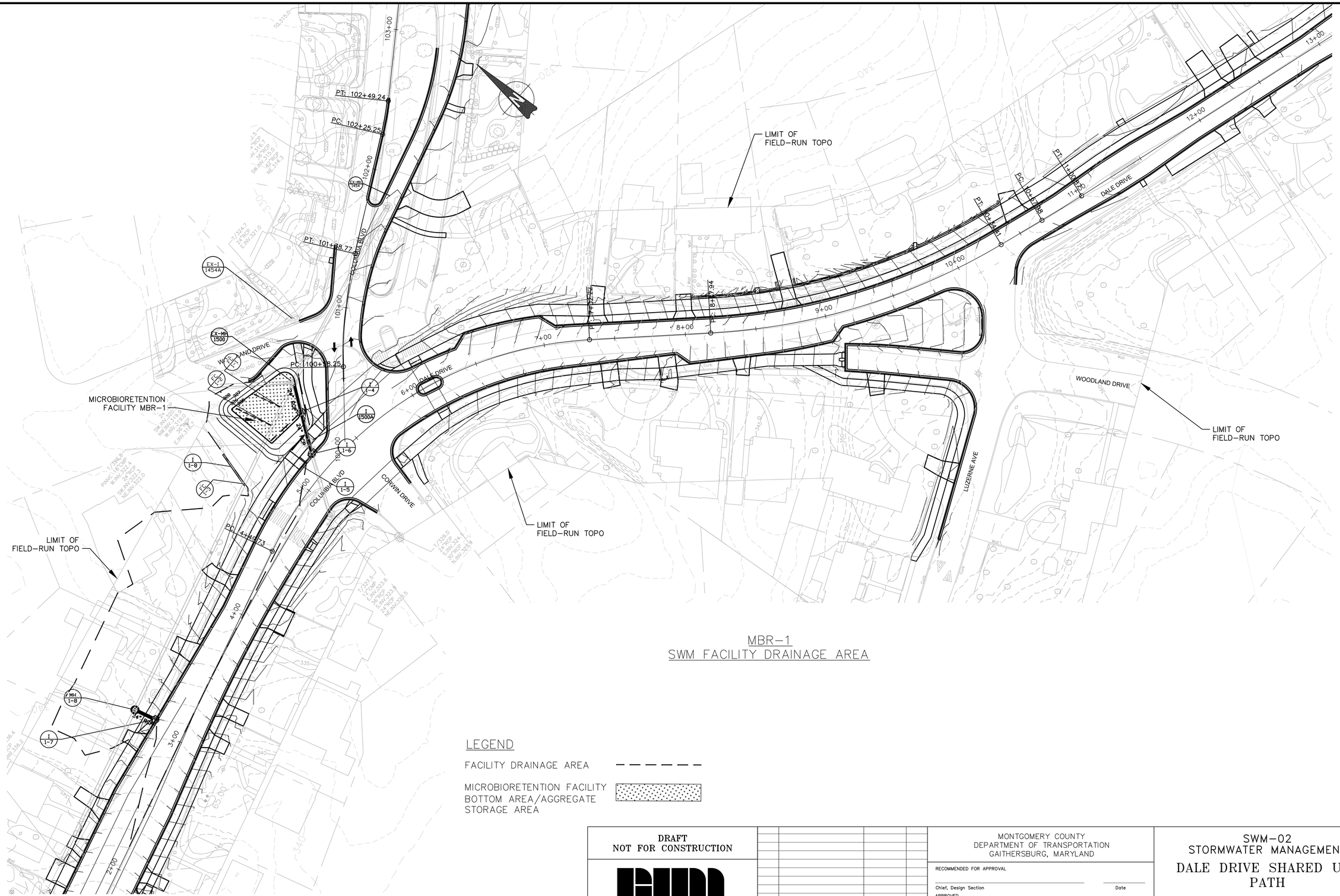
DALE DRIVE SHARED USE PATH

0 10' 20'

SCALE: 1"=10' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 42 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pSW-P001_3D_DaleDr.dwg LAYOUT NAME: SWM1 PLOTTED: Tuesday, November 02, 2021 - 4:07pm USER: kevin



MBR-1
SWM FACILITY DRAINAGE AREA

LEGEND

FACILITY DRAINAGE AREA

MICROBIORETENTION FACILITY BOTTOM AREA/AGGREGATE STORAGE AREA

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

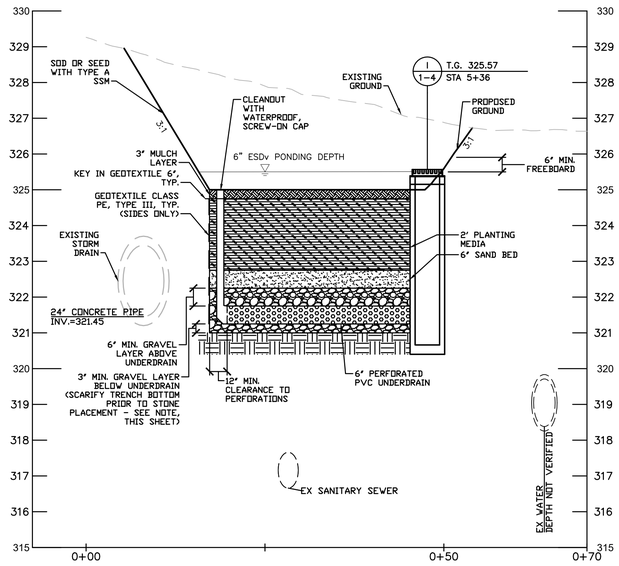
SWM-02
STORMWATER MANAGEMENT

DALE DRIVE SHARED USE PATH

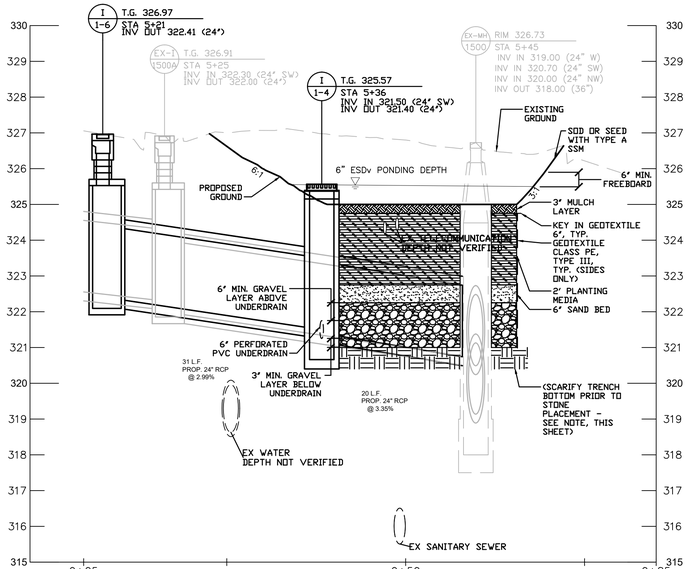
DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 43 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pSW-P001_3D_DaleDr.dwg LAYOUT NAME: SWM DA Map PLOTTED: Tuesday, November 02, 2021 - 3:48pm USER: kevin



MBR CROSS SECTION (A-A)
STA. 0+00 TO 0+70
SCALE: HORIZ. 1"=10' VERT. 1"=2'



I-1-6 TO EX-MH-1500 (B-B)
STA. 0+05 TO 0+85
SCALE: HORIZ. 1"=10' VERT. 1"=2'

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

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

SAND SPECIFICATIONS:

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

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

NOTES:

1. PLANTING MEDIA SHALL CONFORM TO MONTGOMERY COUNTY MICRO-BIORETENTION FACILITY PLANTING MEDIA SPECIFICATIONS:

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

   THE TOPSOIL COMPONENT SHALL MEET THE FOLLOWING CRITERIA:

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

2. THE FIRST LAYER OF THE PLANTING MEDIUM SHALL BE LIGHTLY TILLED TO MIX IT INTO THE 6-INCH SAND LAYER, SO AS NOT TO CREATE A DEFINITIVE BOUNDARY. THE PLANTING BED SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
3. THE MULCH LAYER IS AN IMPORTANT PART OF THE MICRO-BIORETENTION DEVICE. MUCH OF THE POLLUTANT REMOVAL CAPACITY OF THE MICRO-BIORETENTION SYSTEM IS WITHIN THE MULCH LAYER. THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD DOUBLE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE APPLIED UNIFORMLY TO A DEPTH OF 3 INCHES. YEARLY REPLENISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.
4. GRAVEL BED: THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPE(S) MUST MEET MSHA SIZE #7 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE(S), AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED TO BE PLACED HORIZONTALLY ANYWHERE WITHIN FILTER MEDIA. THE GRAVEL MUST BE CLEAN AND MUST BE STORED AND INSTALLED IN SUCH A MANNER THAT IT DOES NOT BECOME CONTAMINATED WITH SEDIMENT BEFORE OR AFTER INSTALLATION.
5. PERFORATED PIPE MUST HAVE PERFORATIONS ⅜ INCH IN DIAMETER AND LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BE AT LEAST 12 INCHES INSIDE THE FILTER MEDIA. IF THIS CANNOT BE ACHIEVED, THEN SIDES OF THE FILTER MEDIA MUST BE LINED WITH FILTER FABRIC. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE. AN ACCEPTABLE ALTERNATIVE TO PERFORATED PIPE IS 6" DIAMETER SCHEDULE 40 SLOTTED PVC PIPE WITH 0.125 INCH SLOTS. SLOTS SHALL BE 0.125 INCHES WIDE AND A MINIMUM OF 1.9 INCHES IN LENGTH, WITH A MINIMUM OF 4 SLOTS PER ROW AND 4 ROWS PER LINEAR FOOT OF PIPE.

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

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

SWM-03
STORMWATER MANAGEMENT

DALE DRIVE SHARED USE PATH

SCALE: AS NOTED DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 44 of 180

MAINTENANCE OF TRAFFIC – GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S "WORK ZONE TEMPORARY TRAFFIC CONTROL STANDARDS" – JULY 2014, GENERAL NOTES AND STANDARDS PROVIDED IN CATEGORY "1" OF THE MDOT SHA BOOK OF STANDARDS, THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MD MUTCD) AND SUBSEQUENT REVISIONS ADOPTED BY THE STATE OF MARYLAND, AND THESE PLANS.
2. THE CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN TRAFFIC CONTROL SIGNS AND DEVICES. THE CONTRACTOR SHALL MAINTAIN TRAFFIC DURING HOURS OF CONSTRUCTION IN ACCORDANCE WITH THE METHOD OF TRAFFIC CONTROL SHOWN ON THESE DRAWINGS, OTHER CONTRACT DOCUMENTS, AND THE 2011 MD MUTCD AND SUBSEQUENT REVISIONS.
3. THE CONTRACTOR SHALL COORDINATE TEMPORARY TRAFFIC CONTROL WITH ADJACENT PROJECTS AS NECESSARY.
4. THE CONTRACTOR SHALL NOTIFY ALL TRANSIT AGENCIES WITH ROUTES IMPACTED BY MOT OPERATIONS AND PROVIDE ANTICIPATED IMPACT DURATION PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL MAINTAIN ANY TEMPORARY BUS STOPS.
5. LONGITUDINAL DISTANCES OF ALL ADVANCED WARNING SIGNS MAY BE ADJUSTED DUE TO INTERSECTING STREETS, DRIVEWAYS, AND/OR FIELD CONDITIONS AS APPROVED BY THE ENGINEER. WHERE ADVANCE SIGNING CONFLICTS WITH TEMPORARY SIGNING FOR LANE CLOSURES, LANE SHIFTS, OR FLAGGING OPERATIONS, ADJUSTMENTS TO ADVANCE SIGNING SHALL BE MADE PER THE ENGINEER TO AVOID CONFUSING AND/OR CONFLICTING MESSAGES.
6. ALL TEMPORARY SIGNS SHALL BE PLACED SO THAT THEY DO NOT OBSTRUCT EXISTING TRAFFIC CONTROL DEVICES.
7. NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS, DRUMS, BARRIERS, AND TEMPORARY PAVEMENT MARKINGS ARE IN PLACE AND OPERATIONAL.
8. EXISTING SIGNS THAT CONFLICT WITH TEMPORARY TRAFFIC PATTERNS SHALL BE REMOVED OR COVERED. PERMANENT SIGNS THAT ARE REMOVED (OR COVERED) DURING CONSTRUCTION SHALL BE REINSTALLED PRIOR TO RETURNING THE ROAD TO PRE-CONSTRUCTION TRAFFIC PATTERNS.
9. WHERE TEMPORARY PAVEMENT MARKINGS ARE REQUIRED, EXISTING PAVEMENT MARKINGS SHALL BE REMOVED BY GRINDING WHEN WITHIN THE FINAL LIMITS OF PAVING, OR COVERED WITH BLACKOUT TAPE WHEN OUTSIDE THE FINAL LIMITS OF PAVING, AS SHOWN ON THE MOT PLANS.
10. ALL EXISTING SIGNS AND PAVEMENT MARKINGS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION UNLESS A CHANGE IS SHOWN ON THE PLANS AND/OR IS DIRECTED BY THE ENGINEER.
11. EXCAVATIONS SHALL BE BACKFILLED WITH GRADED AGGREGATE BASE PRIOR TO THE END OF THE WORK DAY IN CONFORMANCE WITH MONTGOMERY COUNTY'S TEMPORARY TRAFFIC CONTROL REQUIREMENTS.
12. 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 SHOULD BE DETECTABLE BY A VISUALLY IMPAIRED INDIVIDUAL TRAVELING WITH THE AID OF A CANE.
13. RADIO COMMUNICATION IS REQUIRED BETWEEN FLAGGERS AT THE DISCRETION OF THE MONTGOMERY COUNTY INSPECTOR, OR IF THE FLAGGERS CANNOT SEE EACH OTHER, AND/OR THE LANE CLOSURE EXCEEDS 200 FEET.
14. THE CONTRACTOR SHALL NOTIFY MONTGOMERY COUNTY TRANSPORTATION MANAGEMENT CENTER AT 240-777-2100 AT LEAST 72 HOURS PRIOR TO STARTING ALL WORK.
15. IF ACCESS TO ANY PROPERTY MUST BE CLOSED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE PROPERTY OWNERS TO COORDINATE ANY CLOSURE OR ACCESS RESTRICTIONS AT LEAST 72 HOURS PRIOR TO THE IMPLEMENTATION OF THOSE RESTRICTIONS.
16. WHEN DRIVEWAYS ARE IMPACTED BY THE WORK ZONE, THE CONTRACTOR SHALL COORDINATE WITH THE AFFECTED PROPERTY OWNERS. WHERE TWO ENTRANCES EXIST FOR ONE PROPERTY, CONSTRUCTION SHALL BE SEQUENCED SO THAT ONLY ONE ENTRANCE WILL BE DISTURBED AT ANY GIVEN TIME. ACCESS TO DRIVEWAYS AND SIDE STREETS MUST BE MAINTAINED AT ALL TIMES UNLESS CLOSURES ARE PERMITTED BY THE PROPERTY OWNER OR A DETOUR PLAN IS PROVIDED.
17. EMERGENCY ACCESS MUST BE MAINTAINED AT ALL TIMES TO ALL PROPERTIES. ADEQUATE STOPPING SIGHT DISTANCE MUST BE MAINTAINED AT ALL TIMES FOR ALL ACCESS POINTS.
18. ONCE ALL PHASES ARE COMPLETE, FINAL PAVEMENT MARKINGS AND SIGNING SHALL MATCH THE SIGNING AND PAVEMENT MARKING PLANS.
19. IN THE AREAS TO BE CONSTRUCTED WITH FLAGGING OPERATIONS OR TEMPORARY LANE CLOSURES, THE CONTRACTOR SHALL ONLY DISTURB AS MUCH OF THE ROADWAY AS CAN BE RECONSTRUCTED BY THE END OF EACH WORK DAY TO ALLOW ALL LANES TO BE OPEN TO TRAFFIC.
20. ADVANCE NOTICE OF ROADWAY CLOSURES SHALL BE PROVIDED TWO WEEKS PRIOR TO THE CLOSURE TAKING EFFECT. NOTICE OF THE ANTICIPATED DATE THE ROADWAY WILL REOPEN SHALL BE PROVIDED NO MORE THAN TWO DAYS AFTER THE ACTUAL DATE OF THE ROAD CLOSURE.
21. CONTRACTOR SHALL CONSTRUCT TEMPORARY WEDGE AND LEVEL AT RESIDENTIAL DRIVEWAYS TO MAINTAIN ACCESS DURING CONSTRUCTION AS NEEDED

SEQUENCE OF CONSTRUCTION

THE SEQUENCE OF CONSTRUCTION FOR EACH PHASE OF WORK IS DETAILED BELOW. CONSTRUCTION PHASES ARE SPECIFIC TO A CERTAIN WORK ZONE. PHASES MAY BE CONSTRUCTED IN A DIFFERENT ORDER THAN OUTLINED BLOW, BUT THE SEQUENCE OF CONSTRUCTION WITHIN EACH PHASE MUST BE MAINTAINED UNLESS MODIFICATIONS ARE APPROVED BY THE ENGINEER.

PHASE 1: SHARED-USE PATH CONSTRUCTION & CURB/GUTTER WORK ON WESTBOUND DALE DR/COLUMBIA BLVD

1. WORK BETWEEN INTERSECTIONS SHALL BE PERFORMED USING FLAGGING CONTROLS, NON-INTERSECTION (STANDARD TCP-102.02).
2. WORK AT 4-LEG INTERSECTIONS SHALL BE PERFORMED USING FLAGGING CONTROLS, 3-LEG INTERSECTION (STANDARD TCP-105.01 AND TCP-105.02).
3. WORK AT 3-LEG INTERSECTIONS SHALL BE PERFORMED USING FLAGGING CONTROLS, 3-LEG INTERSECTION (STANDARD TCP-105.03 THROUGH TCP-105.07).

PHASE 2: CURB/GUTTER WORK ON EASTBOUND DALE DR/COLUMBIA BLVD

1. WORK BETWEEN INTERSECTIONS SHALL BE PERFORMED USING FLAGGING CONTROLS, NON-INTERSECTION (STANDARD TCP-102.02).
2. WORK AT 4-LEG INTERSECTIONS SHALL BE PERFORMED USING FLAGGING CONTROLS, 3-LEG INTERSECTION (STANDARD TCP-105.01 AND TCP-105.02).
3. WORK AT 3-LEG INTERSECTIONS SHALL BE PERFORMED USING FLAGGING CONTROLS, 3-LEG INTERSECTION (STANDARD TCP-105.03 THROUGH TCP-105.07).

PHASE 3: DETOUR – COLUMBIA BLVD/WOODLAND DR

1. SET UP DETOUR SIGNS FOR ROAD CLOSURE.
2. DETOUR TRAFFIC ONTO DETOUR ROUTE AND CLOSE THE ROADWAY AS INDICATED ON THE PLANS.
3. UPON COMPLETION OF THE INTERSECTION WORK, REMOVE DETOUR SIGNS.

PHASE 4: DETOUR – LUZERNE AVE/WOODLAND DR

1. SET UP DETOUR SIGNS FOR ROAD CLOSURE.
2. DETOUR TRAFFIC ONTO DETOUR ROUTE AND CLOSE THE ROADWAY AS INDICATED ON THE PLANS.
3. UPON COMPLETION OF THE INTERSECTION WORK, REMOVE DETOUR SIGNS.

PHASE 5: DETOUR – GRACE CHURCH RD

1. SET UP DETOUR SIGNS FOR ROAD CLOSURE.
2. DETOUR TRAFFIC ONTO DETOUR ROUTE AND CLOSE THE ROADWAY AS INDICATED ON THE PLANS.
3. UPON COMPLETION OF THE INTERSECTION WORK, REMOVE DETOUR SIGNS.

PHASE 6: ROADWAY MILLING/RESURFACING

LIMITS PER WORK DAY/NIGHT WILL VARY AS TO THE LENGTH OF WORK WHICH CAN BE MILLED/RESURFACED WITHIN THE WORK DAY. MILLED SURFACE SHALL NOT BE EXPOSED TO TRAFFIC UNLESS APPROVED BY THE ENGINEER.

1. UTILIZE MARYLAND TRAFFIC CONTROL MDOT SHA STANDARD MD STD. 104.02-10.
2. INSTALL ADVANCE WARNING AND INFORMATION SIGNS.
3. INSTALL TRAFFIC CONTROL DEVICES.
4. PERFORM PAVEMENT MILLING/RESURFACING OPERATIONS WITHIN THE PROJECT LIMITS AS DETAILED ON THE ROADWAY PLANS. INSTALL TEMPORARY PAVEMENT MARKINGS AS REQUIRED.
5. INSTALL FINAL PAVEMENT MARKINGS AS SHOWN ON THE SIGNING AND PAVEMENT MARKING PLANS.

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

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

MT-01 MAINTENANCE OF TRAFFIC MOT NOTES

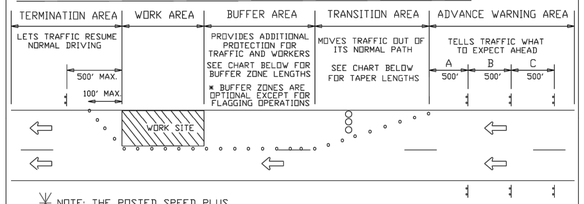
DALE DRIVE SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 45 of 180

SPEED M.P.H.	MINIMUM DISTANCE FROM TAPER TO FIRST SIGN A	ADDITIONAL SIGNS IN SERIES TO BE SPACED AT A MINIMUM B	C	D	MINIMUM COMBINED ADVANCED WARNING
25	200′	200′	200′		600′
30-35	300′	300′	300′		900′
40	500′	500′	500′		1500′
45-65	800′	700′	1100′	2600′ (OPTIONAL)	2600′

EXAMPLE: TWO LANES, ONE-WAY ROADWAY, POSTED SPEED LIMIT IS 30 M.P.H.



✳ NOTE: THE POSTED SPEED PLUS 10 MPH SHOULD BE USED FOR THE DESIGN OF SIGN SPACING, TAPER AND BUFFER LENGTHS

GUIDELINES FOR TAPER LENGTHS

✳ SPEED M.P.H.	TAPER LENGTH LANE WIDTH IN FEET 10	11	12	NUMBER OF SPACING OF DEVICES FOR TAPER	SPACING OF DEVICES ALONG TAPER IN FEET
20	70	75	80	5	20
25	105	115	125	6	25
30	150	165	180	7	30
35	205	225	245	8	35
40	270	295	320	9	40
45	450	495	540	13	45
50	500	550	600	13	50
55	550	605	660	13	55
60	600	660	720	13	60
65	650	715	780	13	65

GUIDELINES FOR BUFFER ZONE LENGTHS

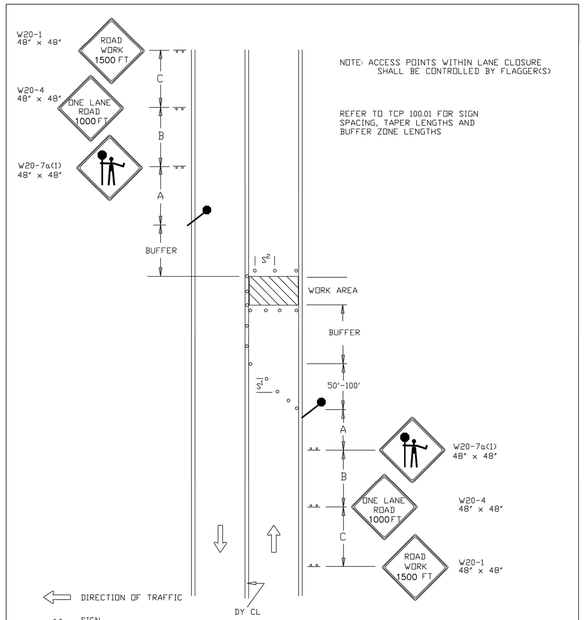
SPEED (MPH)	LENGTH (FEET)
20	35
25	55
30	85
35	120
40	170
45	220
50	280
55	335
60	415
65	485

REVISION BY	DATE	APPROVAL

DATE	07-01-16
DES. BY	
MCDPWT	
DRAWN BY	
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-100.01 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

SPACING CHART

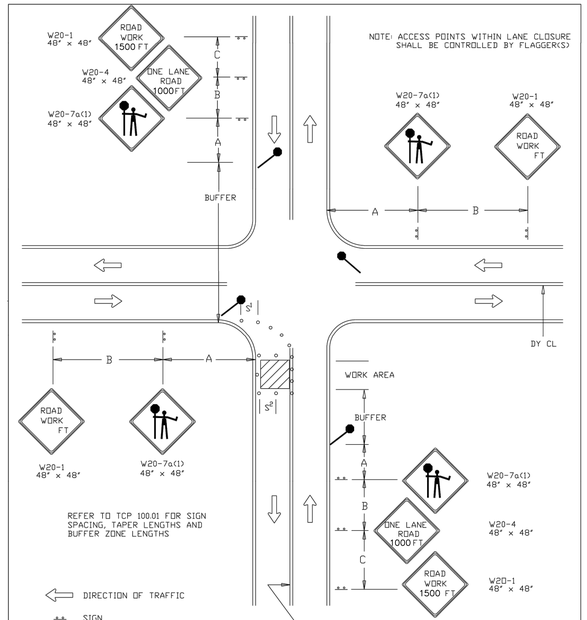


REVISION BY	DATE	APPROVED

DATE	07-01-16
DES. BY	
MCDPWT	
DRAWN BY	
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-102.02 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL
NON - INTERSECTION

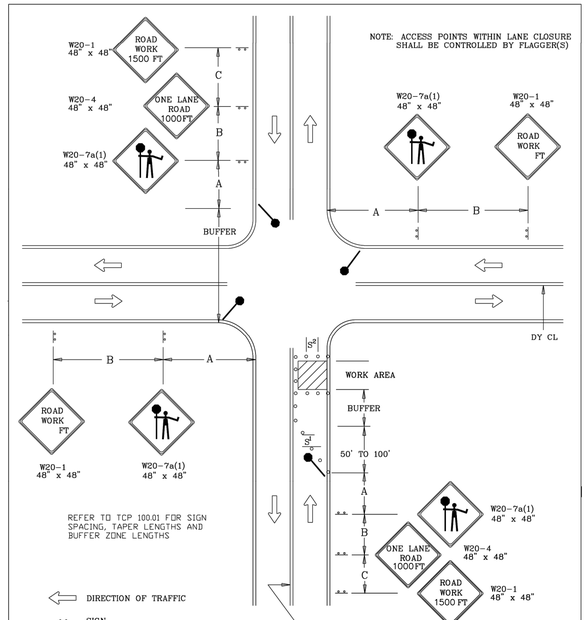


REVISION BY	DATE	APPROVED

DATE	07-01-16
DES. BY	
MCDPWT	
DRAWN BY	
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-105.01 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL
AT 4 - LEG INTERSECTION (1)

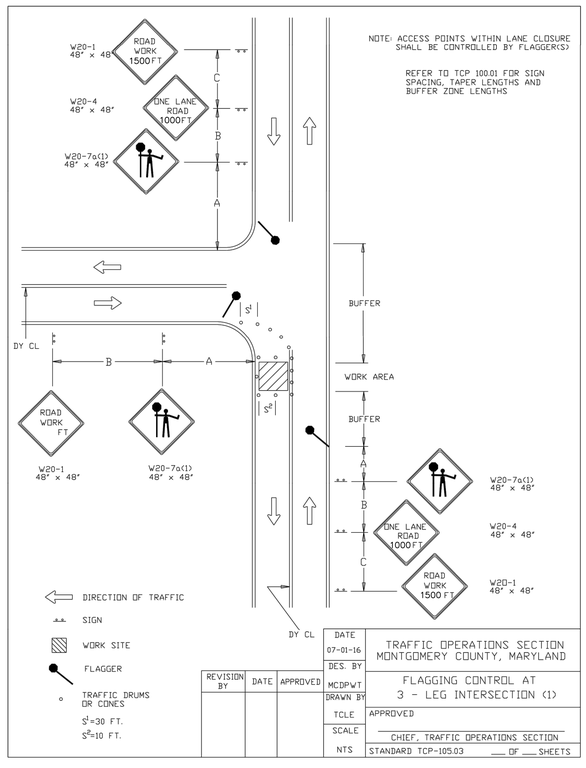


REVISION BY	DATE	APPROVED

DATE	07-01-16
DES. BY	
MCDPWT	
DRAWN BY	
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-105.02 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL
AT 4 - LEG INTERSECTION (2)



REVISION BY	DATE	APPROVED

DATE	07-01-16
DES. BY	
MCDPWT	
DRAWN BY	
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-105.03 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL AT
3 - LEG INTERSECTION (1)

DALE DRIVE
A = 500'
B = 500'
C = 500'

GRACE CHURCH RD & COLUMBIA BLVD
A = 300'
B = 300'
C = 300'

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

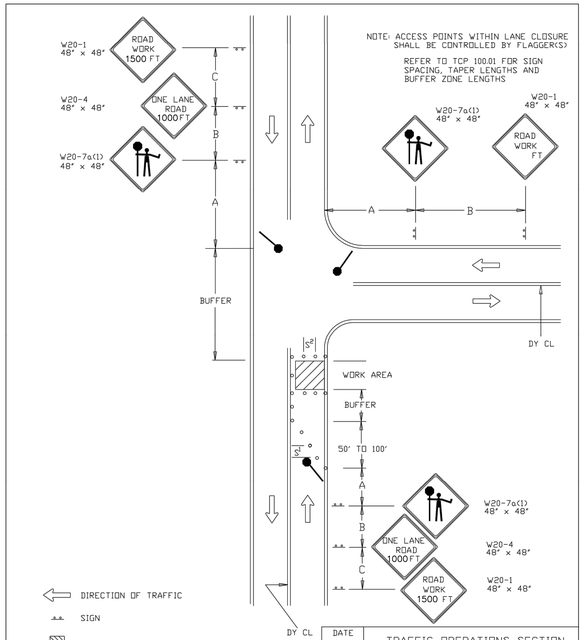
MT-02 MAINTENANCE OF TRAFFIC MOT DETAILS

DALE DRIVE SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 46 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pMT-P001-DaleDr.dwg LAYOUT NAME: MT-02 MOT Details PLOTTED: Tuesday, November 02, 2021 - 3:32pm USER: lilyz

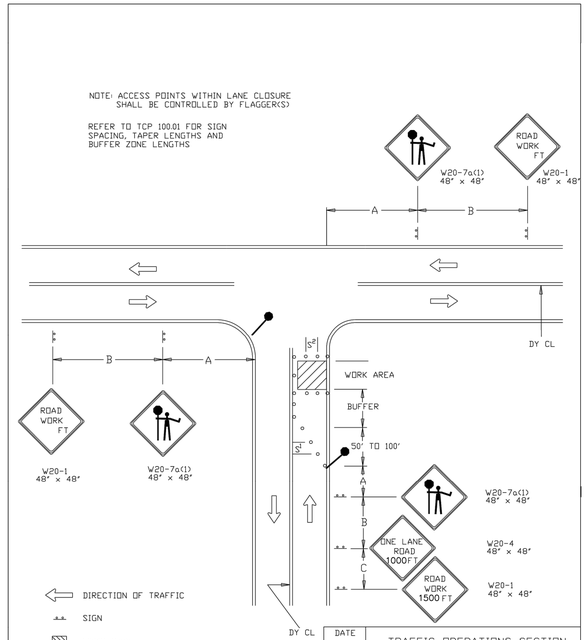


REVISION BY	DATE	APPROVED

DATE	07-01-16
DES. BY	MCDPWT
DRAWN BY	MCDPWT
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-105.04 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL AT
3 - LEG INTERSECTION (2)

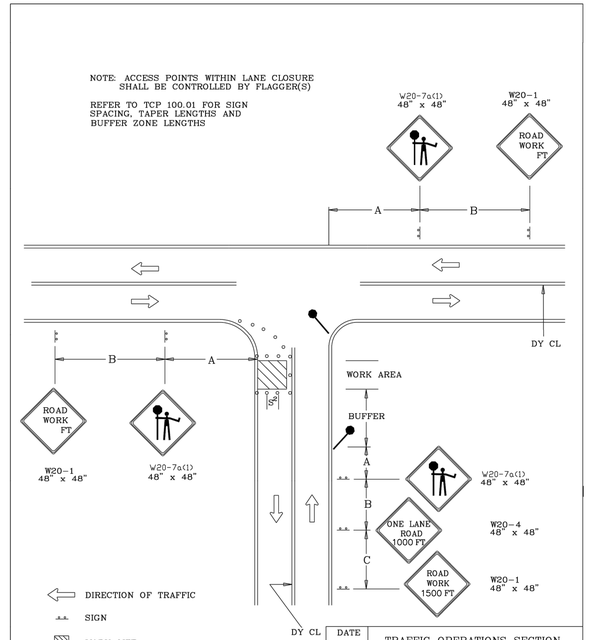


REVISION BY	DATE	APPROVED

DATE	07-01-16
DES. BY	MCDPWT
DRAWN BY	MCDPWT
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-105.05 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL AT
3 - LEG INTERSECTION (3)



REVISION BY	DATE	APPROVED

DATE	07-01-16
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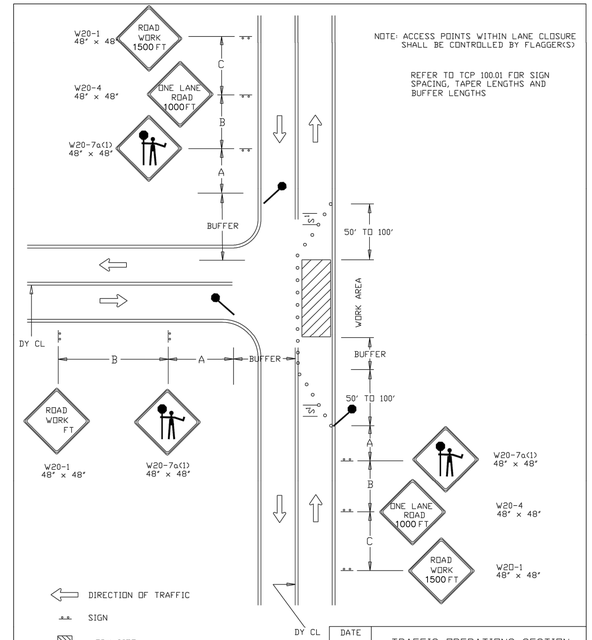
DRAWN BY	MCDPWT
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-105.06 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL AT
3 - LEG INTERSECTION (4)



REVISION BY	DATE	APPROVED

DATE	07-01-16
DES. BY	MCDPWT
DRAWN BY	MCDPWT
TCLE	APPROVED
SCALE	CHIEF, TRAFFIC OPERATIONS SECTION
NTS	STANDARD TCP-105.07 ___ OF ___ SHEETS

TRAFFIC OPERATIONS SECTION
MONTGOMERY COUNTY, MARYLAND

FLAGGING CONTROL AT
3 - LEG INTERSECTION
FAR - SIDE CLOSURE

DALE DRIVE:
A = 500'
B = 500'
C = 500'

GRACE CHURCH RD & COLUMBIA BLVD
A = 300'
B = 300'
C = 300'

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

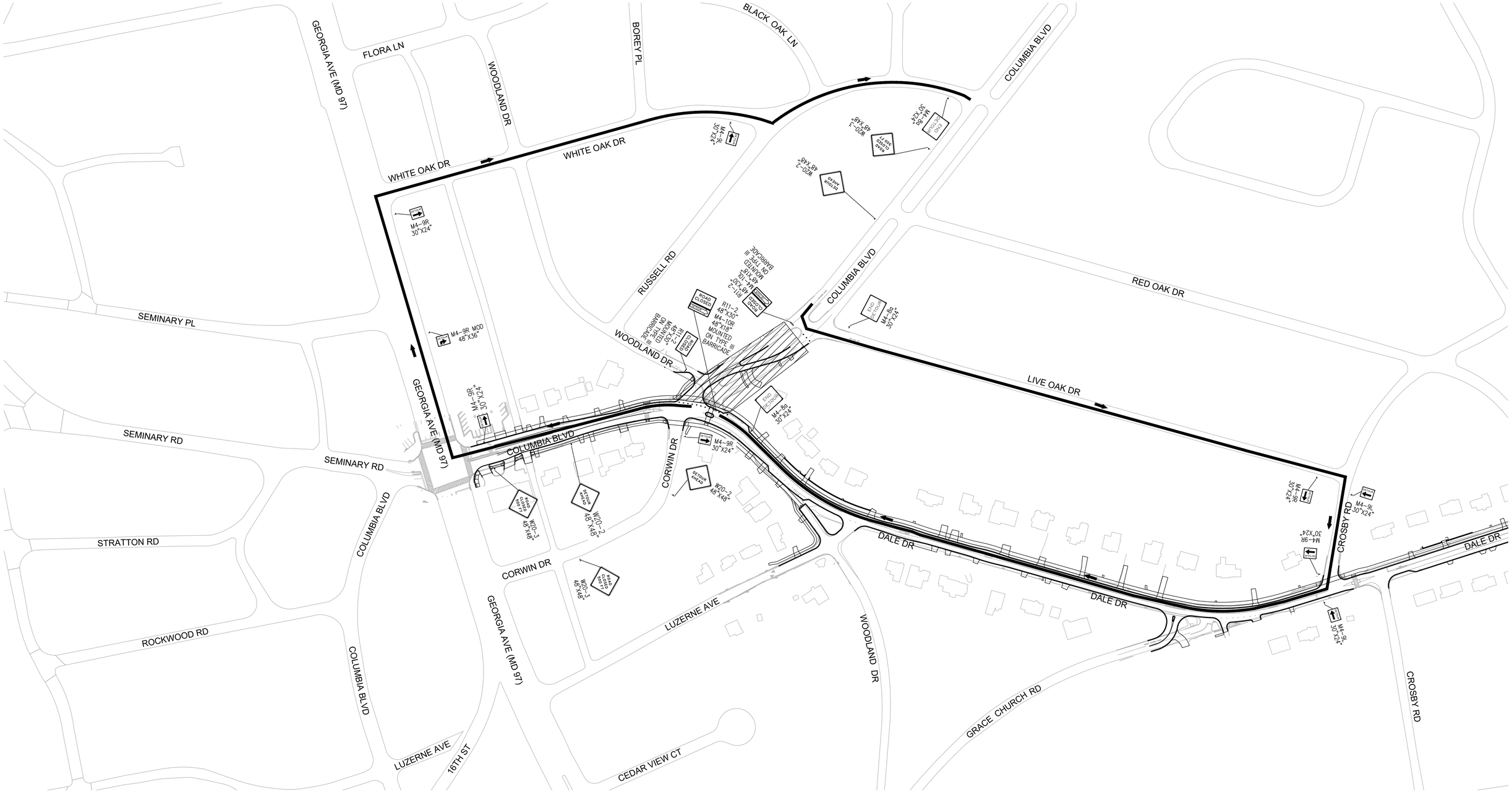
Designed by: KJS Drawn by: LZ Checked by: DZ

MT-03 MAINTENANCE OF TRAFFIC MOT DETAILS

DALE DRIVE SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 47 of 180


GEORGIA AVE (MD 97)
FLORA LN
WOODLAND DR
BOREY PL
BLACK OAK LN
COLUMBIA BLVD
WHITE OAK DR
WHITE OAK DR
RUSSELL RD
COLUMBIA BLVD
RED OAK DR
SEMINARY PL
WOODLAND DR
GEORGIA AVE (MD 97)
LIVE OAK DR
SEMINARY RD
SEMINARY RD
COLUMBIA BLVD
CORWIN DR
CROSBY RD
STRATTON RD
DALE DR
DALE DR
DALE DR
CORWIN DR
LUZERNE AVE
ROCKWOOD RD
COLUMBIA BLVD
GEORGIA AVE (MD 97)
WOODLAND DR
CROSBY RD
LUZERNE AVE
16TH ST
CEDAR VIEW CT
GRACE CHURCH RD
M4-9R 30"X24"
M4-9R MOD 48"X36"
M4-9L 30"X24"
M4-9R 30"X24"
M4-8a 30"X24"
M4-8a 30"X24"
M4-9R 30"X24"
M4-9L 30"X24"
M4-9R 30"X24"
M4-9L 30"X24"
R11-2 48"X30"
M4-10R 48"X18"
M18* MOUNTED ON TYPE III BARRICADE
R11-2 48"X30"
M4-10R 48"X18"
M18* MOUNTED ON TYPE III BARRICADE
R11-2 48"X30"
M4-10R 48"X18"
M18* MOUNTED ON TYPE III BARRICADE
W20-2 48"X48"
W20-2 48"X48"
W20-2 48"X48"
W20-2 48"X48"
W20-2 48"X48"
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
ROAD CLOSED
DETOUR AHEAD
DETOUR AHEAD
DETOUR AHEAD
DETOUR AHEAD
ROAD CLOSED 500 FT
ROAD CLOSED 500 FT
ROAD CLOSED 500 FT

LEGEND

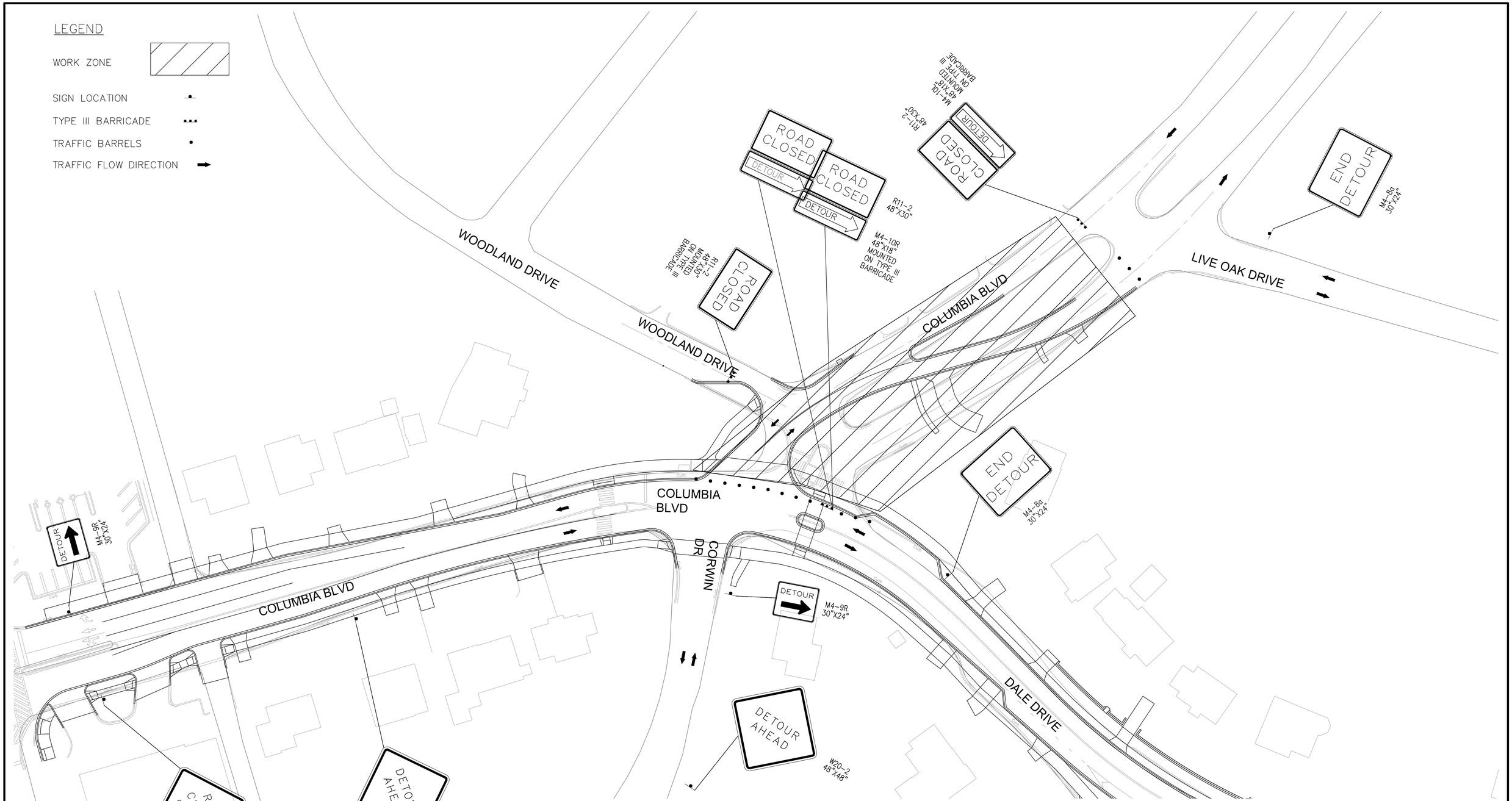
WORK ZONE

SIGN LOCATION

TYPE III BARRICADE

TRAFFIC BARRELS

TRAFFIC FLOW DIRECTION



TRAFFIC CONTROL PLAN - COLUMBIA BOULEVARD/WOODLAND DRIVE

SCALE: 1" = 30'

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

MT-05 MAINTENANCE OF TRAFFIC TCP - COLUMBIA/WOODLAND

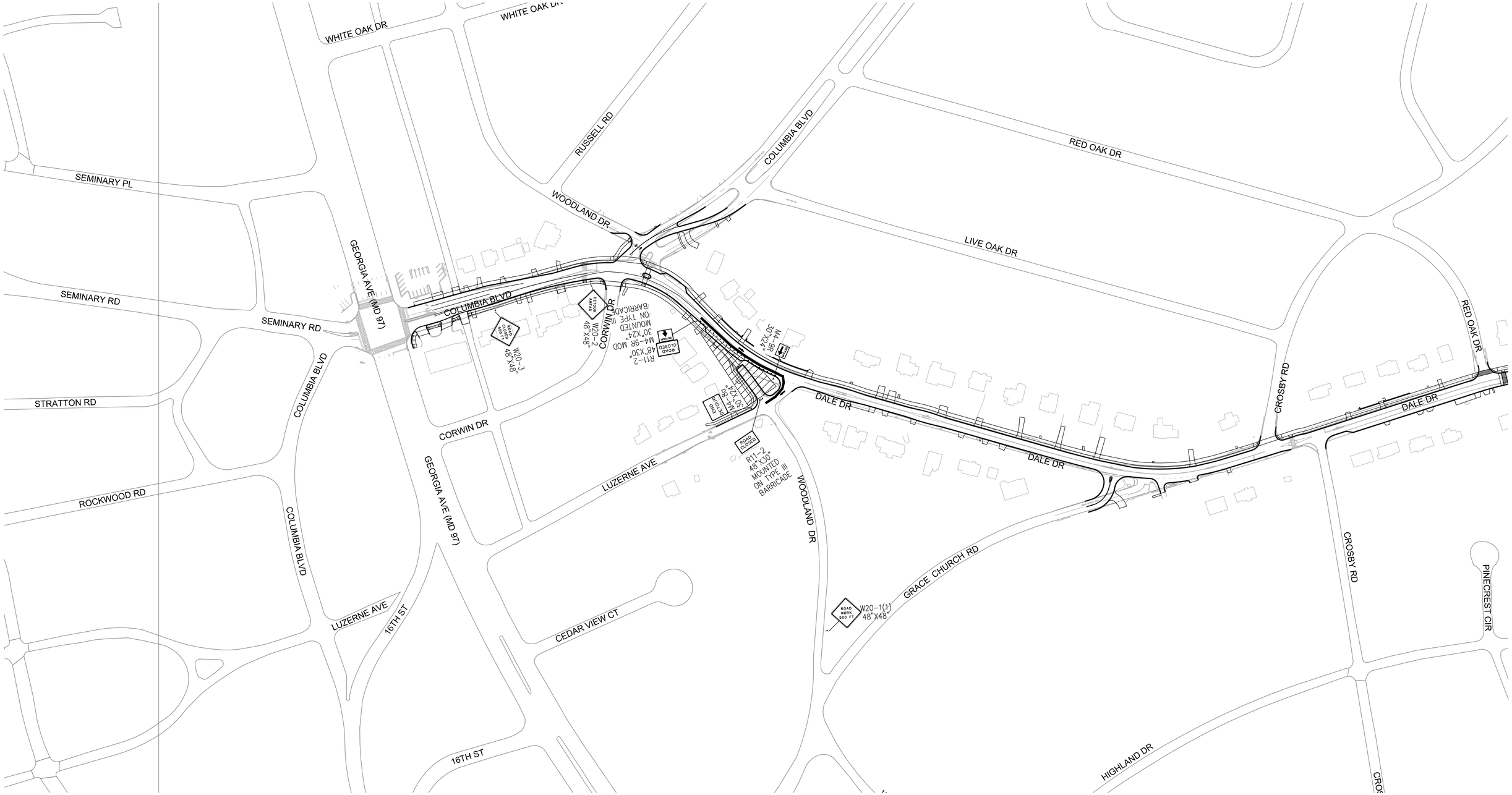
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 49 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pMT-P001-DaleDr.dwg LAYOUT NAME: MT-05 Columbia-Woodland MOT PLOTTED: Tuesday, November 02, 2021 - 3:33pm USER: lilyz



LEGEND

- WORK ZONE
- SIGN LOCATION
- TYPE III BARRICADE
- TRAFFIC BARRELS
- DETOUR ROUTE
- DETOUR DIRECTION

DETOUR PLAN - LUZERNE AVENUE/WOODLAND DRIVE

SCALE: 1" = 100'

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

MT-06 MAINTENANCE OF TRAFFIC DETOUR PLAN-LUZERNE/WOODLAND

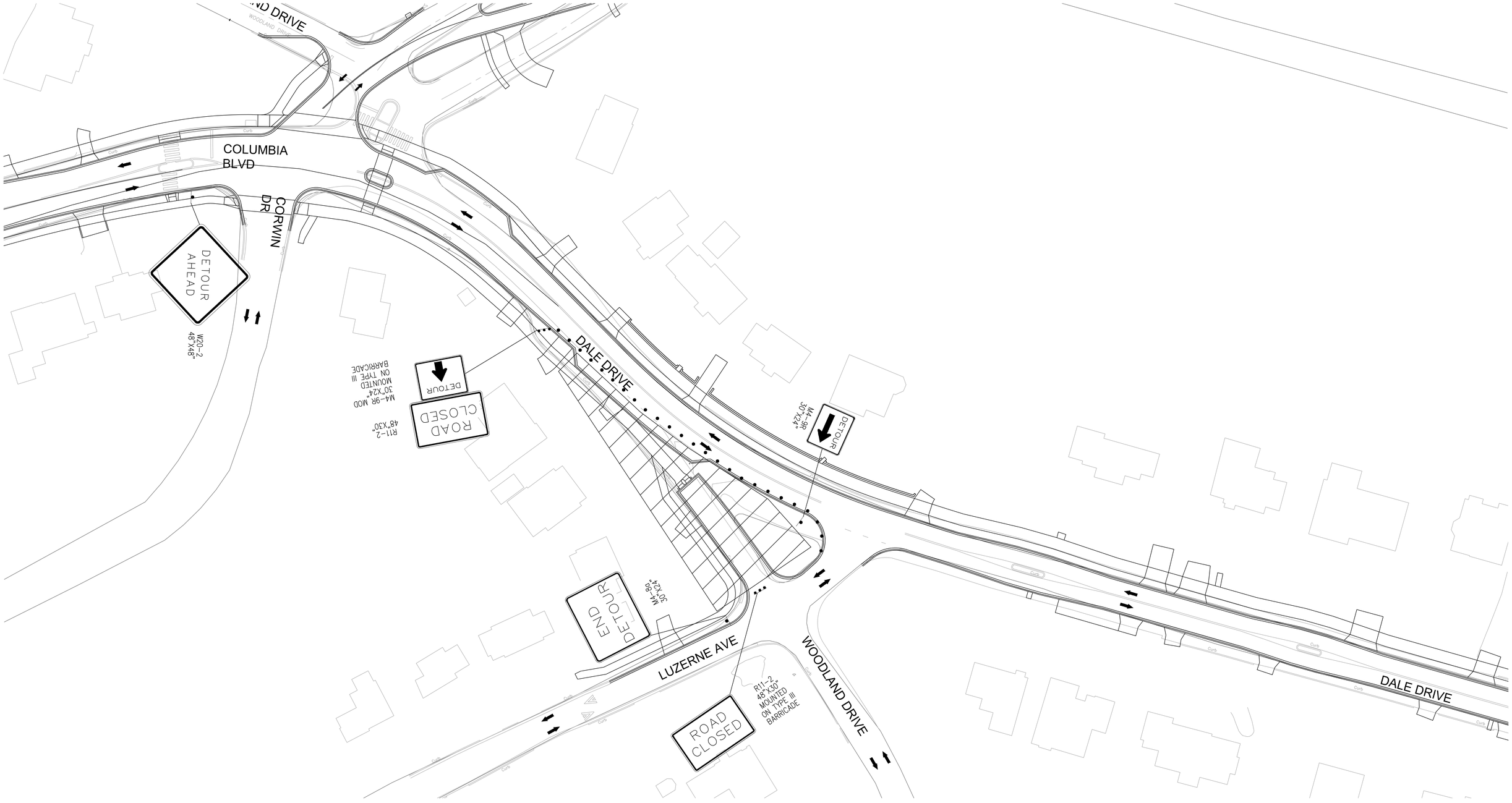
DALE DRIVE SHARED USE PATH

0 100' 200'

SCALE: 1"=100' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 50 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pMT-P001-DaleDr.dwg LAYOUT NAME: MT-06 Luzerne Ave Detour PLOTTED: Tuesday, November 02, 2021 - 3:33pm USER: lilyz



TRAFFIC CONTROL PLAN - LUZERNE AVENUE/WOODLAND DRIVE

SCALE: 1" = 30'

LEGEND

WORK ZONE

SIGN LOCATION

TYPE III BARRICADE

TRAFFIC BARRELS

TRAFFIC FLOW DIRECTION

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

MT-07 MAINTENANCE OF TRAFFIC
TCP – LUZERNE/WOODLAND

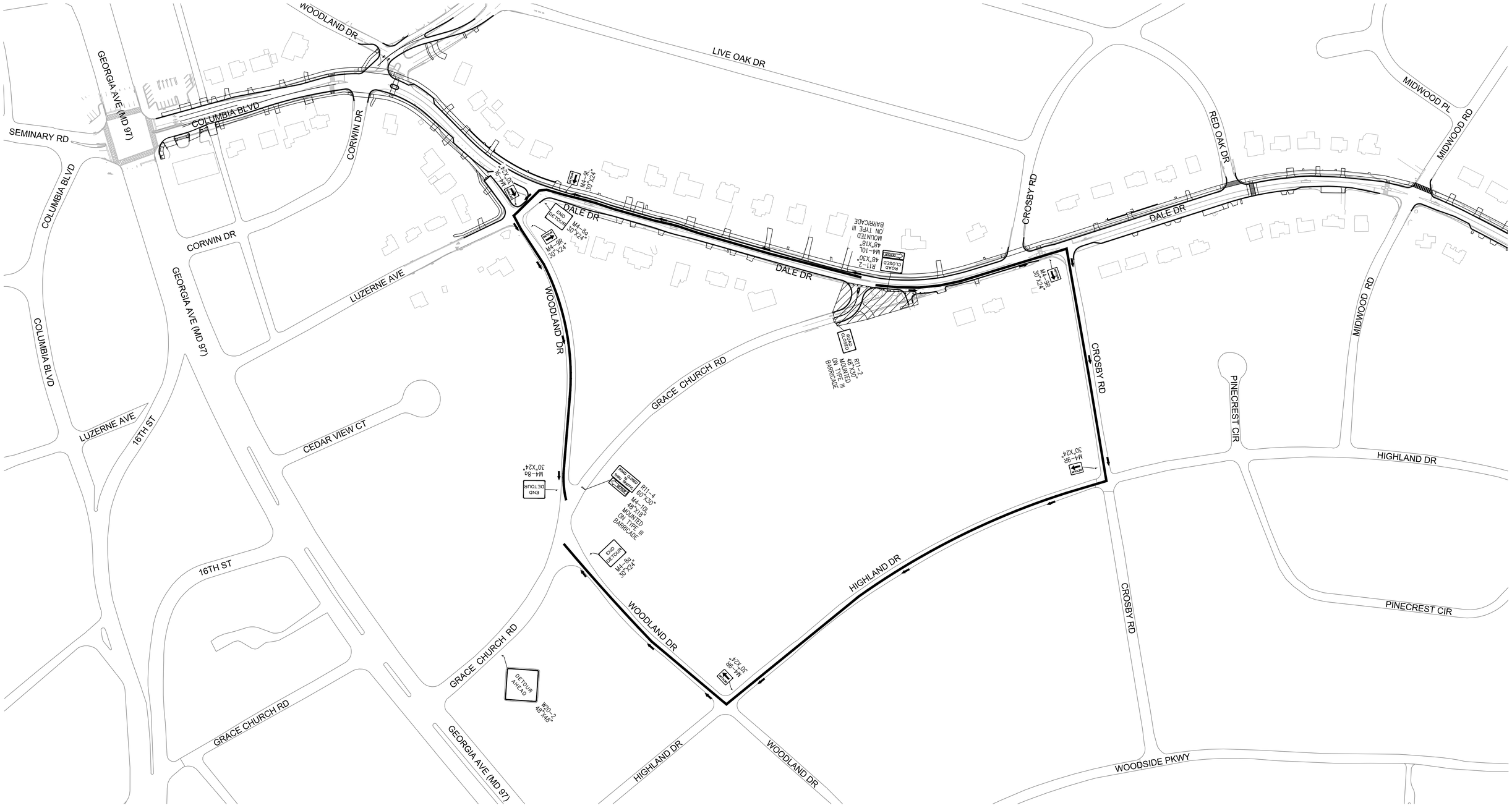
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 51 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pMT-P001-DaleDr.dwg LAYOUT NAME: MT-07 Luzerne Ave MOT PLOTTED: Tuesday, November 02, 2021 - 3:33pm USER: lilyz



DETOUR PLAN - GRACE CHURCH ROAD

SCALE: 1" = 100'

LEGEND

WORK ZONE

SIGN LOCATION

TYPE III BARRICADE

TRAFFIC BARRELS

DETOUR ROUTE

DETOUR DIRECTION

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

MT-08 MAINTENANCE OF TRAFFIC DETOUR PLAN-GRACE CHURCH RD

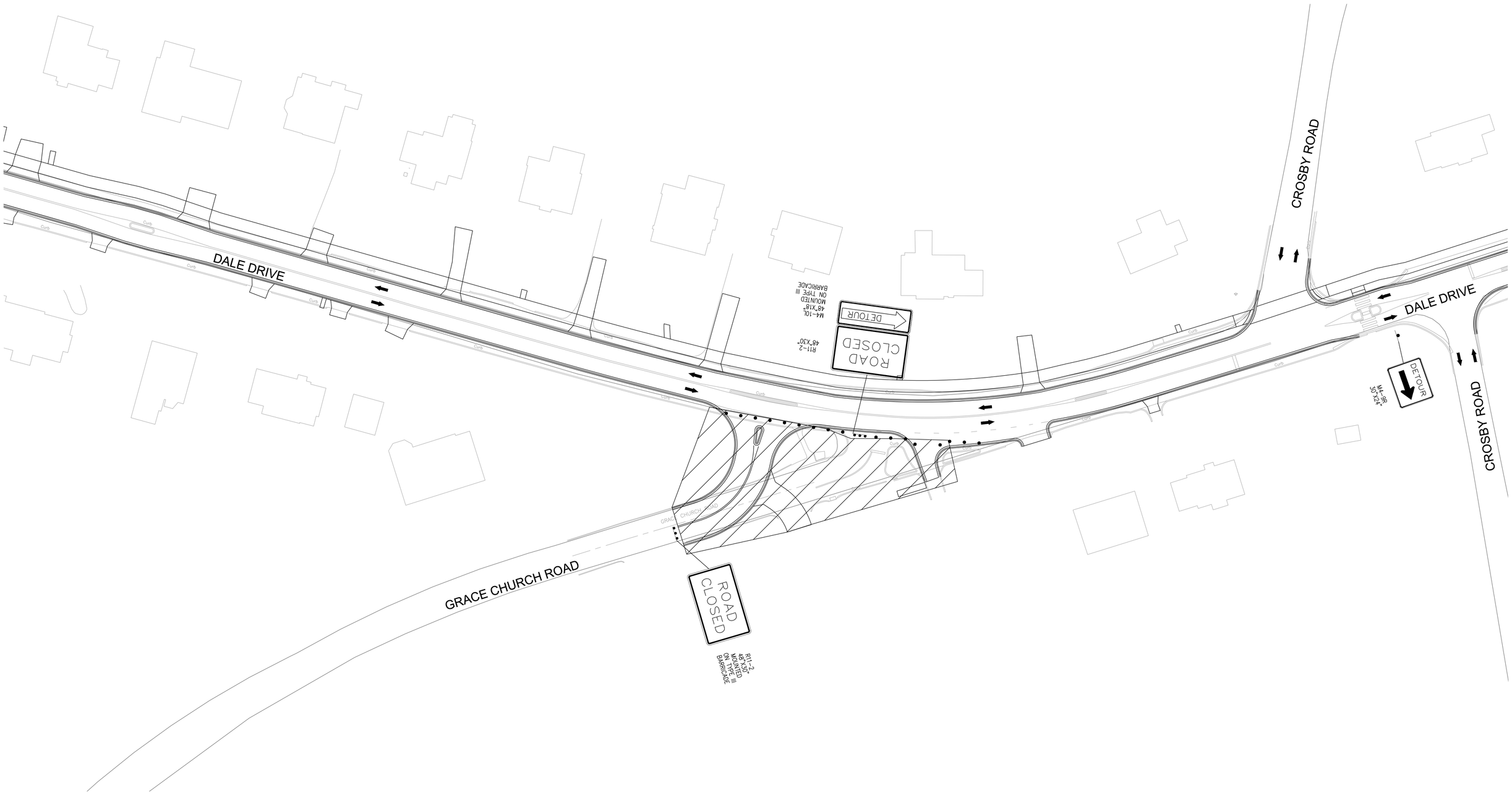
DALE DRIVE SHARED USE PATH

0 100' 200'

SCALE: 1"=100' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 52 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pMT-P001-DaleDr.dwg LAYOUT NAME: MT-08 Grace Church Rd Detour PLOTTED: Tuesday, November 02, 2021 - 3:33pm USER: lilyz



LEGEND

WORK ZONE

SIGN LOCATION

TYPE III BARRICADE

TRAFFIC FLOW DIRECTION

TRAFFIC CONTROL PLAN - GRACE CHURCH ROAD

SCALE: 1" = 30'

DRAFT
NOT FOR CONSTRUCTION

RJM ENGINEERING

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

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

MT-09 MAINTENANCE OF TRAFFIC TCP – GRACE CHURCH RD

DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 53 of 180

FILE NAME: P:\MoCo\Dale Drive Bike-Ped Path\00_Working\pMT-P001-DaleDr.dwg LAYOUT NAME: MT-09 Grace Church Rd MOT PLOTTED: Tuesday, November 02, 2021 - 3:34pm USER: ilyz

CRITERIA

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

DESIGN

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

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

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

MATERIALS AND CONSTRUCTION

MDOT SHA – "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", 2021 EDITION AND SUBSEQUENT SUPPLEMENTS.

DESIGN WIND

100 MPH – WOOD SUPPORTS
10 YEAR RECURRENCE INTERVAL

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

100 MPH – OVERHEAD AND CANTILEVER STRUCTURES
50 YEAR RECURRENCE INTERVAL

} ALL DISTRICTS

DESIGN STRESS

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

CHAMFER

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

CLASSIFICATION OF SIGNS

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

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

2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
   - A) STRUCTURAL TYPES
     - WOOD SUPPORTS
     - SQUARE TUBE
   - B) PANELS
     - MATERIAL – SHEET ALUMINUM
     - COPY – DIRECT APPLIED

IDENTIFICATION OF SIGNS AND PANELS

GUIDE SIGNS

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

STANDARD SIGNS

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

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

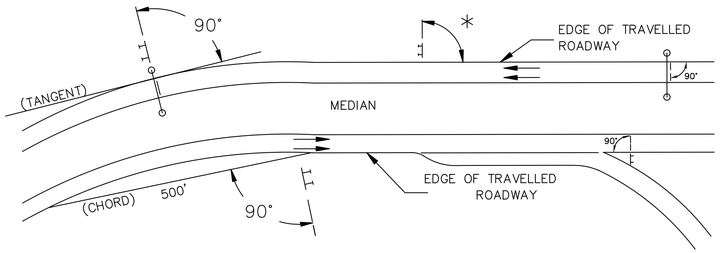
PANEL LAYOUT AND ALPHABETS

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

REFLECTORIZATION

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

ORIENTATION OF SIGN FACES



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

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

SIGN LOCATIONS

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

EXISTING UTILITIES

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

ROADSIDE SIGNS

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

OVERHEAD SIGNS

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

PROJECT REQUIREMENTS

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

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDSHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JULY 2021) AND SUBSEQUENT REVISIONS
2. LISTED ON MDSHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL)

PROJECT REQUIREMENTS CONT'D

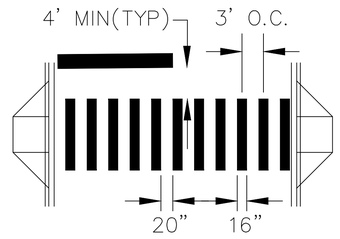
3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS
   - A) GUIDE, EXIT GORE, AND GENERAL INFORMATION SIGNS– RETROREFLECTIVE SHEETING FOR GUIDE SIGNS, EXIT GORE, AND GENERAL INFORMATION (INCLUDES WHITE ON GREEN, WHITE ON BLUE, WHITE ON BROWN AND THE REVERSE OF THESE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

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

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

NOTE:

20' MINIMUM LENGTH FROM CROSSWALK TO STOPBAR WHEN R1–6A(3) SIGNAGE "STOP HERE FOR PEDESTRIANS" IS UTILIZED – SEE PLANS FOR PLACEMENT.



LADDER BAR CROSSWALK WITH STOPBAR DETAIL

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

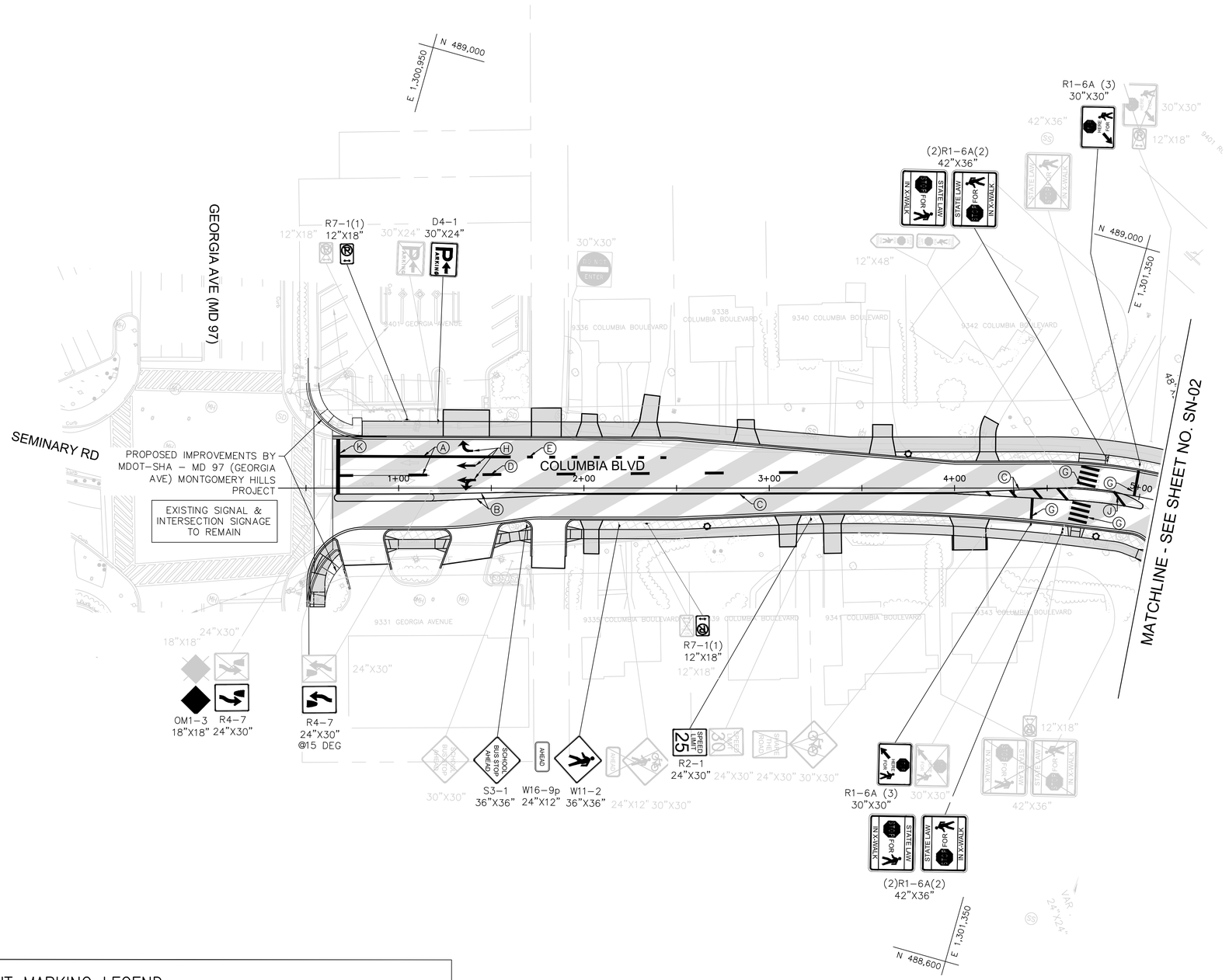
Designed by: MDS Drawn by: MDS Checked by: JMC

SN–00
SIGNING & MARKING NOTES/DETAILS

DALE DRIVE
SHARED USE PATH

DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 54 of 180



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

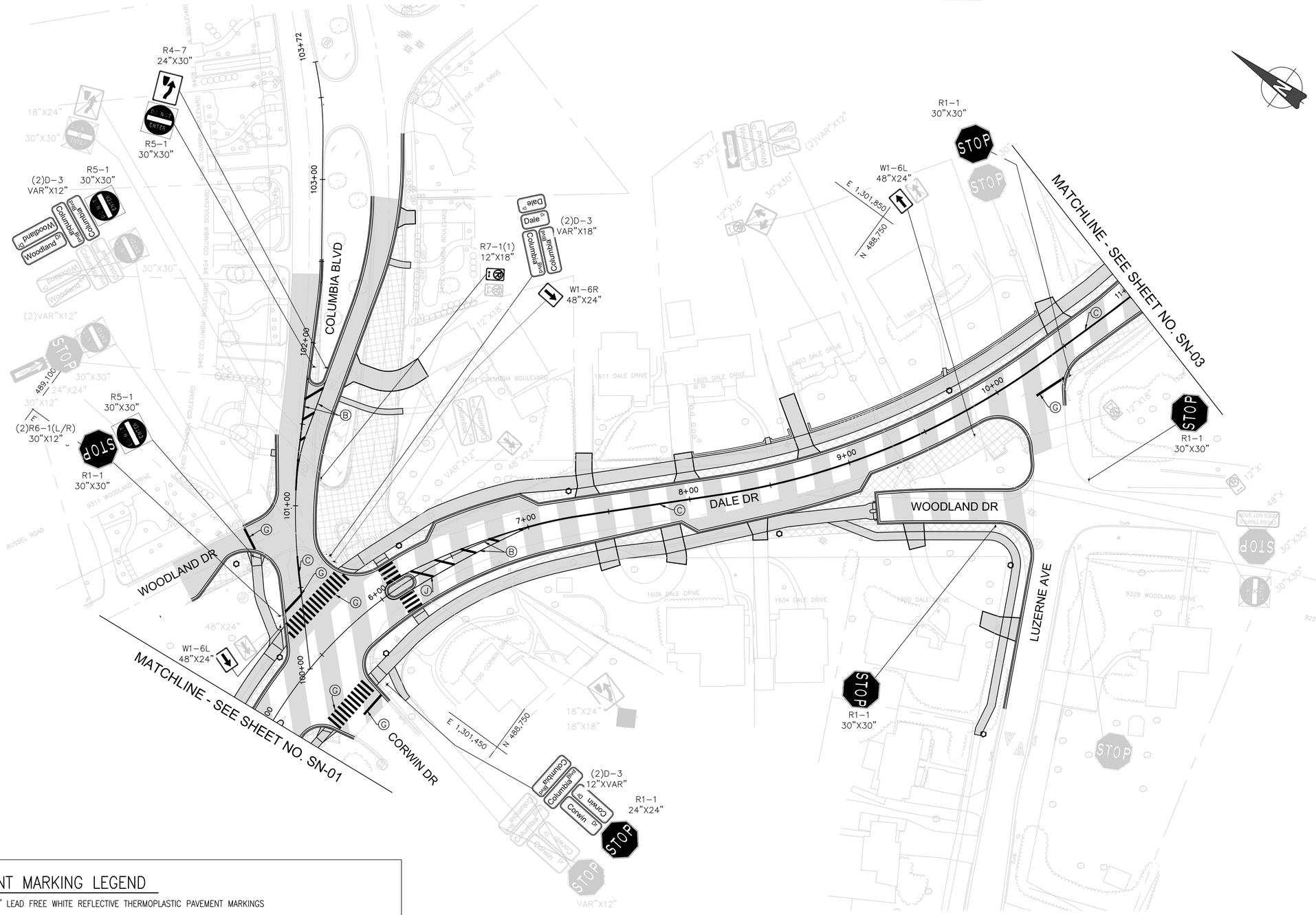
Designed by: MDS Drawn by: MDS Checked by: JMC

SN-01
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE
SHARED USE PATH

0 30' 60'
SCALE: 1"=30'
DATE: NOVEMBER 2021

CIP No. : 502109
SHEET 55 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pSN_Dale.dwg LAYOUT NAME: SN-01 PLOTTED: Thursday, November 04, 2021 - 5:03pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

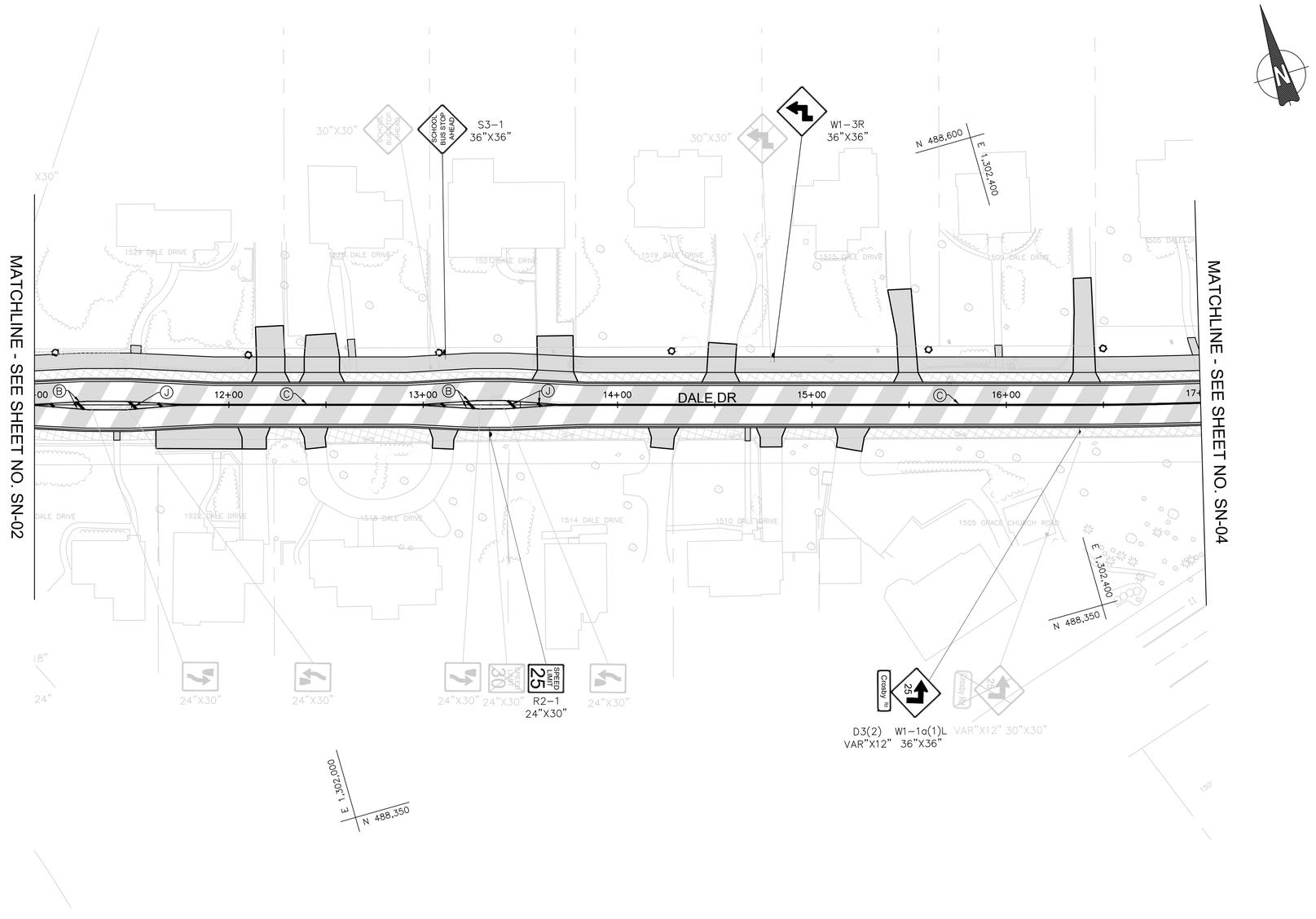
SN-02
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 56 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pSN_Dale.dwg LAYOUT NAME: SN-02 PLOTTED: Thursday, November 04, 2021 - 5:03pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

SN-03
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

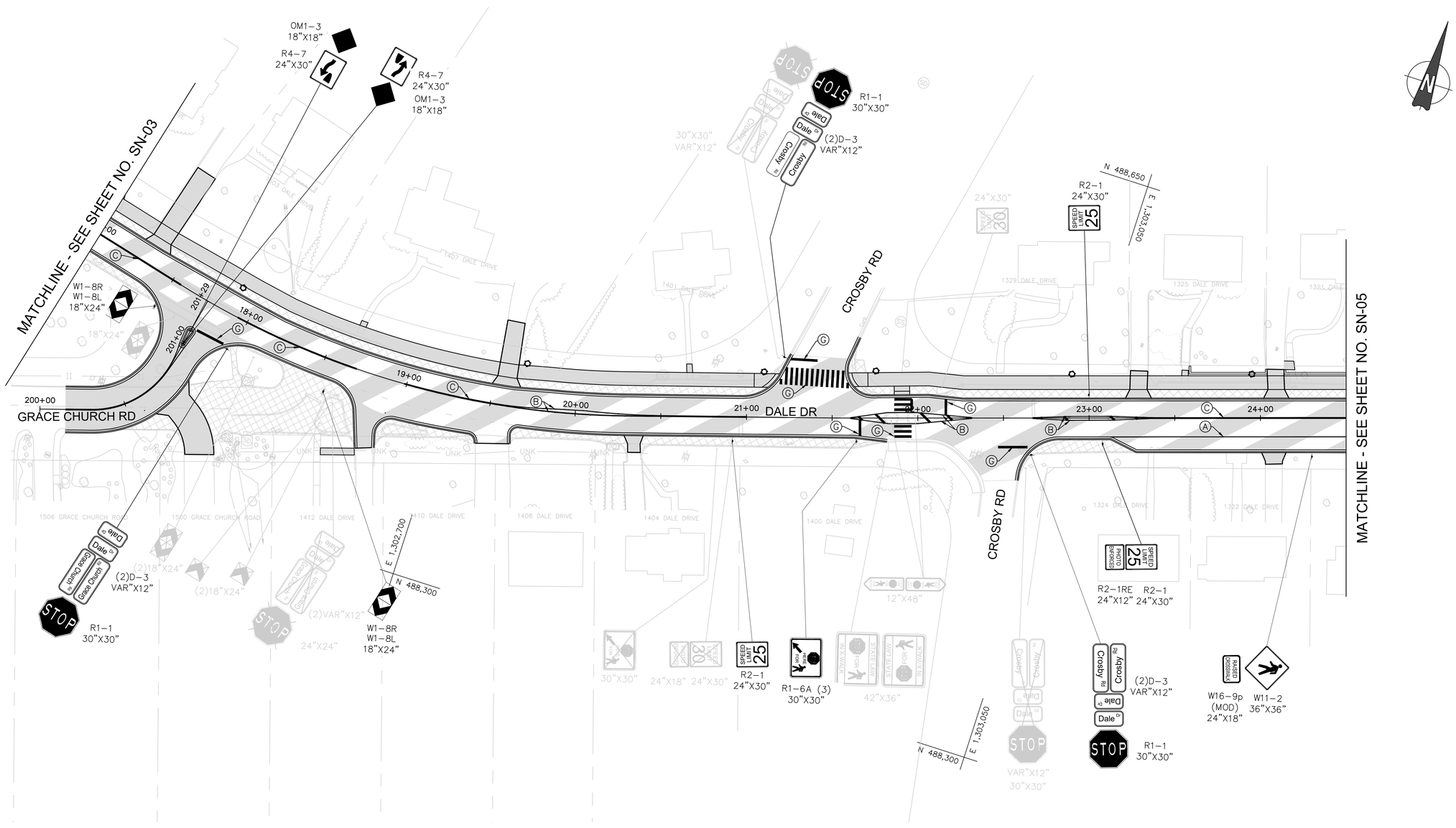
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 57 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pSN_Dale.dwg LAYOUT NAME: SN-03 PLOTTED: Thursday, November 04, 2021 - 5:04pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

SN-04
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

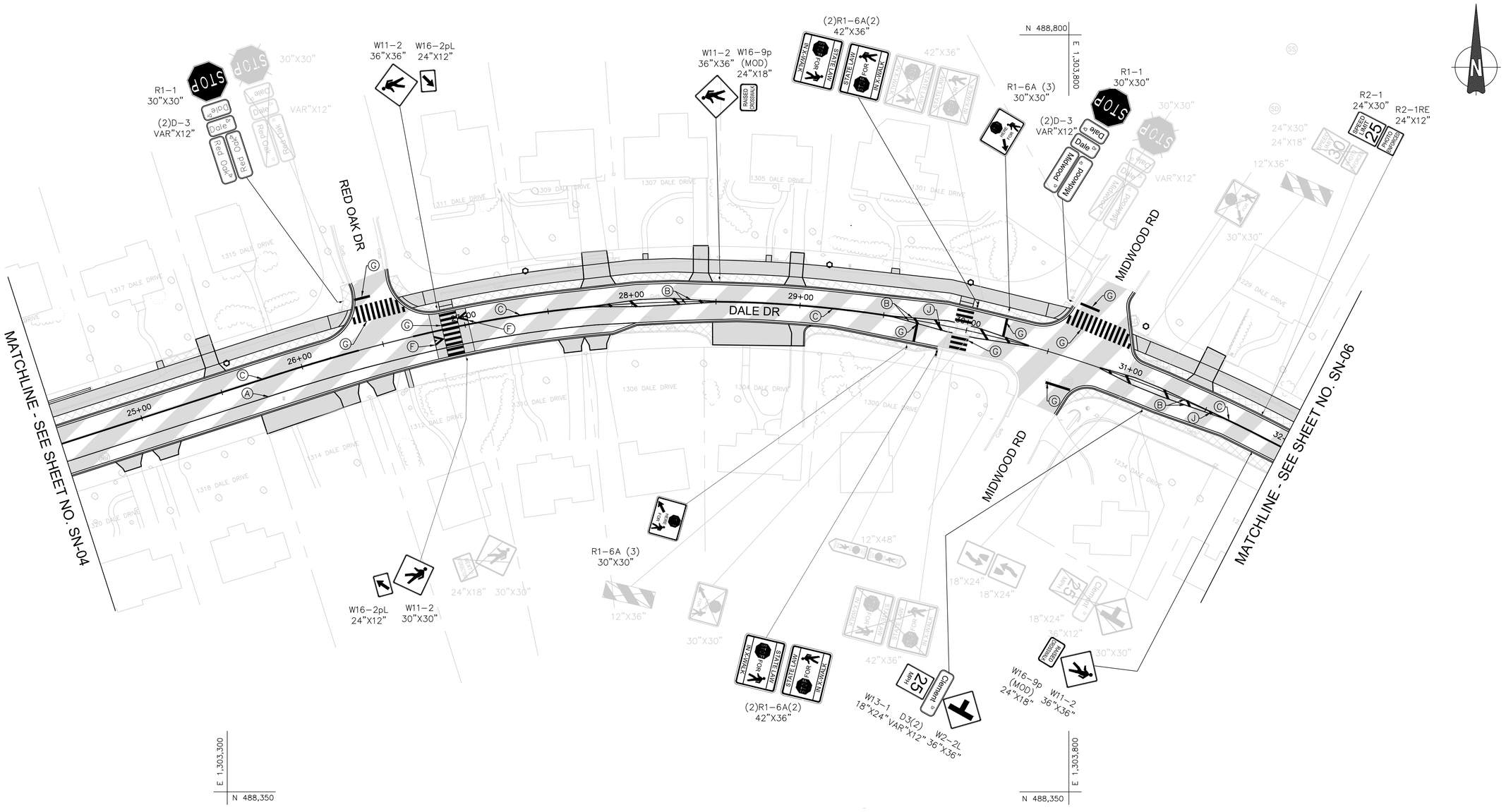
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 58 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pSN_Dale.dwg LAYOUT NAME: SN-04 PLOTTED: Thursday, November 04, 2021 - 5:04pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

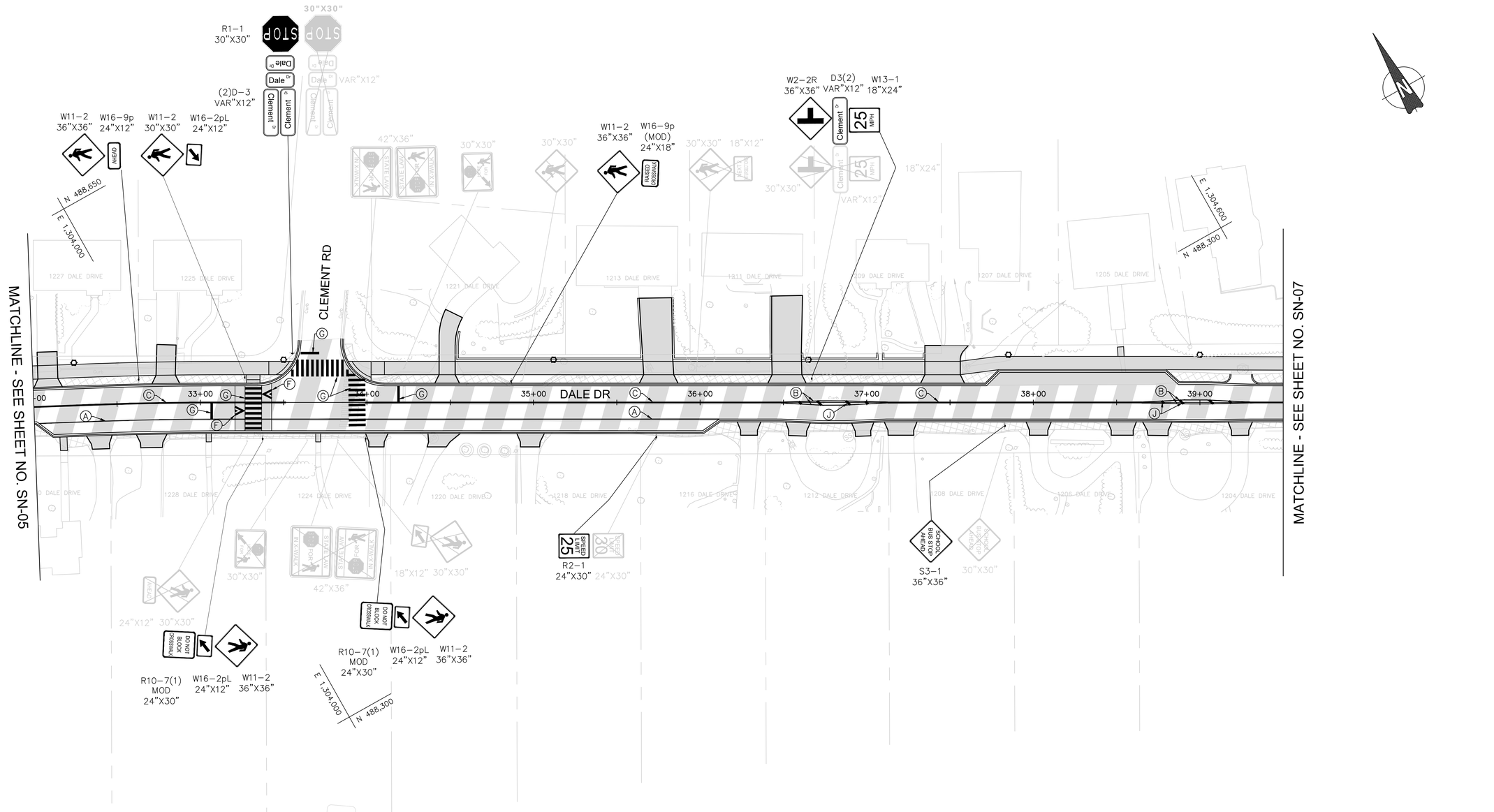
SN–05
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 59 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pSN_Dale.dwg LAYOUT NAME: SN–05 PLOTTED: Thursday, November 04, 2021 – 5:04pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

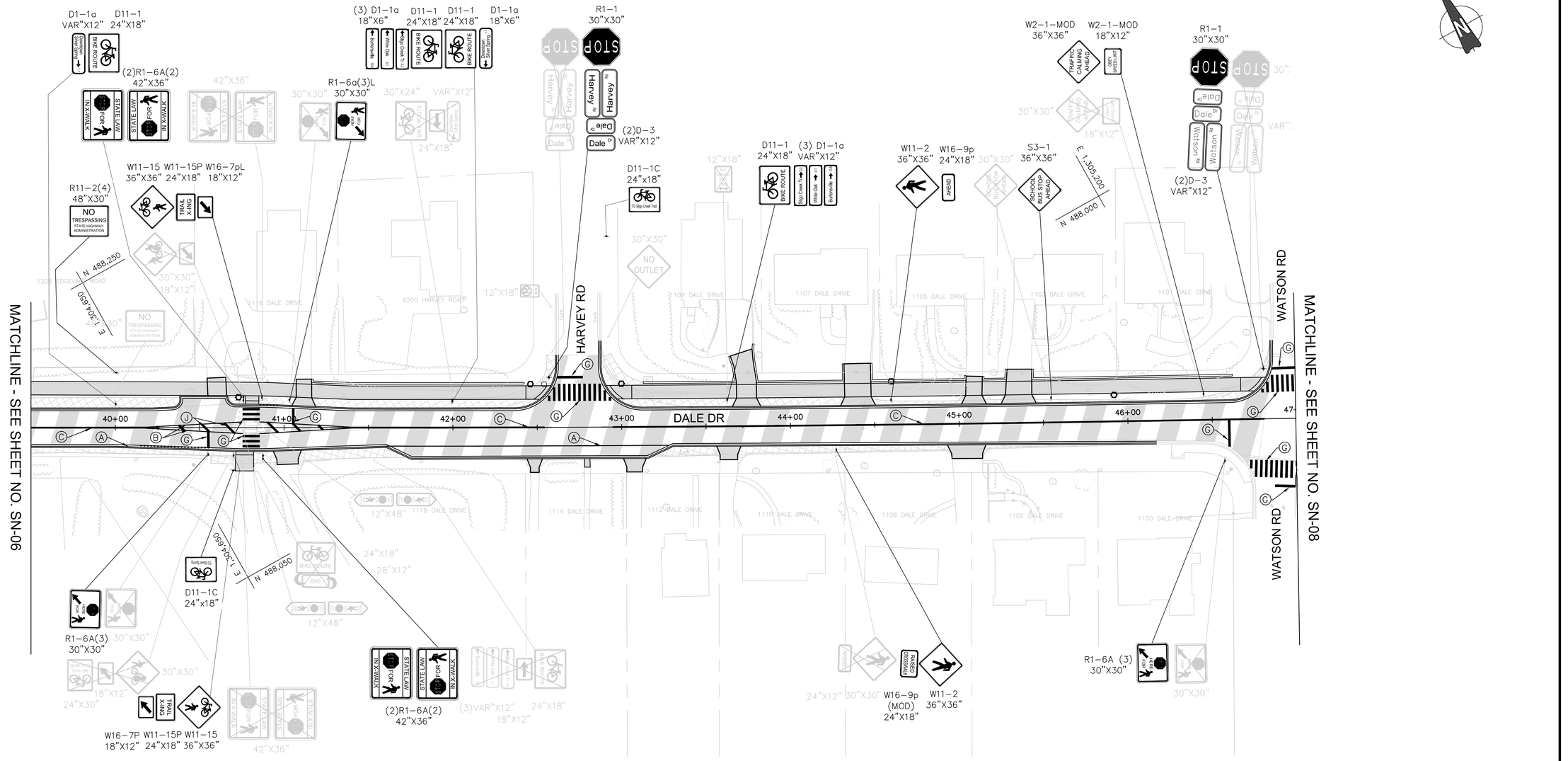
SN-06
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 60 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pSN_Dale.dwg LAYOUT NAME: SN-06 PLOTTED: Friday, November 05, 2021 - 8:24am USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

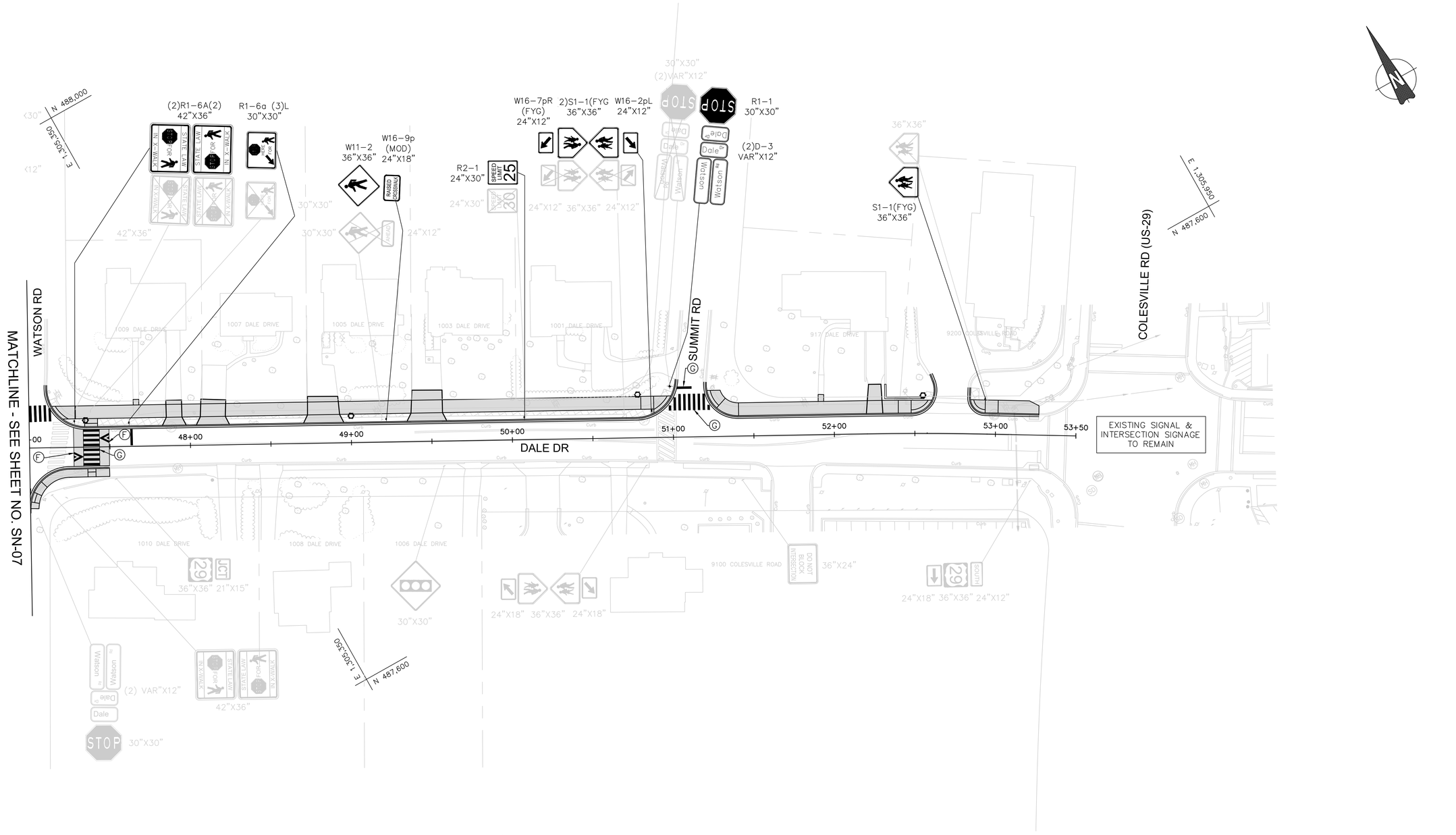
SN-07
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 61 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pSN_Dale.dwg LAYOUT NAME: SN-07 PLOTTED: Thursday, November 04, 2021 - 5:05pm USER: MStraughan



SIGNING LEGEND

- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- PROPOSED PEDESTRIAN LIGHT (SEE LIGHTING PLANS)

PAVEMENT MARKING LEGEND

- (A) SOLID SINGLE 4" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) SOLID SINGLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) SOLID DOUBLE 4" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (D) SINGLE WHITE 10' STRIPE 30' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (E) SINGLE WHITE 4" 3' STRIPE 9' SKIP LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) SOLID SINGLE 12" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (RAISED CROSSWALK ARROWS)
- (G) SOLID SINGLE 16" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (CROSSWALK / STOP BAR)
- (H) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (J) SOLID SINGLE 15" LEAD FREE YELLOW REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (K) SOLID SINGLE 24" LEAD FREE WHITE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (STOP BAR)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

SN-08
SIGNING & PAVEMENT MARKING PLAN
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 62 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pSN_Dale.dwg LAYOUT NAME: SN-08 PLOTTED: Thursday, November 04, 2021 - 5:05pm USER: MStraughan

SHEET	REMARKS	LINEAR FEET
SN-01		
	4 INCH WHITE THERMOPLASTIC	181
	4 INCH YELLOW THERMOPLASTIC	880
	12 INCH WHITE THERMOPLASTIC	
	15 INCH YELLOW THERMOPLASTIC	25
	16 INCH WHITE THERMOPLASTIC	135
	24 INCH WHITE THERMOPLASTIC	30
SN-02		
	4 INCH WHITE THERMOPLASTIC	
	4 INCH YELLOW THERMOPLASTIC	1187
	12 INCH WHITE THERMOPLASTIC	
	15 INCH YELLOW THERMOPLASTIC	71
	16 INCH WHITE THERMOPLASTIC	334
SN-03		
	4 INCH WHITE THERMOPLASTIC	
	4 INCH YELLOW THERMOPLASTIC	1148
	12 INCH WHITE THERMOPLASTIC	
	15 INCH YELLOW THERMOPLASTIC	32
	16 INCH WHITE THERMOPLASTIC	
SN-04		
	4 INCH WHITE THERMOPLASTIC	137
	4 INCH YELLOW THERMOPLASTIC	1691
	12 INCH WHITE THERMOPLASTIC	
	15 INCH YELLOW THERMOPLASTIC	36
	16 INCH WHITE THERMOPLASTIC	260
SN-05		
	4 INCH WHITE THERMOPLASTIC	319
	4 INCH YELLOW THERMOPLASTIC	1352
	12 INCH WHITE THERMOPLASTIC	28
	15 INCH YELLOW THERMOPLASTIC	65
	16 INCH WHITE THERMOPLASTIC	355
SN-06		
	4 INCH WHITE THERMOPLASTIC	410
	4 INCH YELLOW THERMOPLASTIC	1418
	12 INCH WHITE THERMOPLASTIC	28
	15 INCH YELLOW THERMOPLASTIC	12
	16 INCH WHITE THERMOPLASTIC	342
SN-07		
	4 INCH WHITE THERMOPLASTIC	167
	4 INCH YELLOW THERMOPLASTIC	1358
	12 INCH WHITE THERMOPLASTIC	
	15 INCH YELLOW THERMOPLASTIC	39
	16 INCH WHITE THERMOPLASTIC	411
SN-08		
	4 INCH WHITE THERMOPLASTIC	
	4 INCH YELLOW THERMOPLASTIC	
	12 INCH WHITE THERMOPLASTIC	28
	15 INCH YELLOW THERMOPLASTIC	
	16 INCH WHITE THERMOPLASTIC	215
TOTALS		
	4 INCH WHITE THERMOPLASTIC	1214
	4 INCH YELLOW THERMOPLASTIC	9034
	12 INCH WHITE THERMOPLASTIC	84
	15 INCH YELLOW THERMOPLASTIC	783
	16 INCH WHITE THERMOPLASTIC	1950
	24 INCH WHITE THERMOPLASTIC	30

SHEET	REMARKS	SUPPORTS	SHEET ALUMINUM SIGN (SF)
SN-01			
	R7-11(1) (12"X18")	SINGLE SQUARE TUBULAR	1.5
	D4-1 (30"X24")	SINGLE SQUARE TUBULAR	5
	R1-6A(2) (42"X36")	DOUBLE SQUARE TUBULAR	10.5
	R1-6A(2) (42"X36")		10.5
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R4-7 (24"X30")	SINGLE SQUARE TUBULAR	5
	OM1-3 (18"X18")		2.25
	R4-7 (24"X30")	SINGLE SQUARE TUBULAR	6.25
	R4-7 (24"X30")	SINGLE SQUARE TUBULAR	6.25
	S3-1 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9 (12"X24")	SINGLE SQUARE TUBULAR	2
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	6.25
	R2-1 (24"X30")	SINGLE SQUARE TUBULAR	5
	R7-11(1) (12"x18")	SINGLE SQUARE TUBULAR	1.5
	R1-6A(2) (42"X36")	DOUBLE SQUARE TUBULAR	10
	R1-6A(2) (42"X36")		10
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	5
SN-02			
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R5-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R5-1 (30"x30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (12"X VAR)		3
	D-3 (12"X VAR)		3
	R4-7 (24"X30")	SINGLE SQUARE TUBULAR	5
	R5-1 (30"X30")		6.25
	R7-1(1)(12"x18")	SINGLE SQUARE TUBULAR	1.5
	W1-6R (48"X24")	SINGLE SQUARE TUBULAR	8
	D-3 (VAR"X12")	SINGLE SQUARE TUBULAR	4
	D-3 (VAR"X12")		4
	W1-6L (48"X24")	SINGLE SQUARE TUBULAR	4
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (VAR"X12")		4
	D-3 (VAR"X12")		4
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
SN-03			
	S3-1 (36"X36")	SINGLE SQUARE TUBULAR	9
	W1-3R (36"X36")	SINGLE SQUARE TUBULAR	9
	R2-1 (24"X30")	SINGLE SQUARE TUBULAR	5
	W1-1a(1)L (36"X36")	SINGLE SQUARE TUBULAR	9
	D1-1 (VAR"X12")		4
SN-04			
	R4-7 (24"X30")	SINGLE SQUARE TUBULAR	5
	OM1-3 (18"X18")		2.25
	R4-7 (24"X30")	SINGLE SQUARE TUBULAR	5
	OM1-3(18"X18")		2.25
	R1-1 (24"X24")	SINGLE SQUARE TUBULAR	4
	D-3 (12"X VAR)		4
	D-3 (12"X VAR)		4
	R2-1 (24"X30")	SINGLE SQUARE TUBULAR	5
	W1-8R (18"X24")	SINGLE SQUARE TUBULAR	3
	W1-8L (18"X24")		3
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (12"X VAR)		4
	D-3 (12"X VAR)		4
	W1-8R (18"X24")	SINGLE SQUARE TUBULAR	3
	W1-8L (18"X24")		3
	R2-1 (24"X30")	SINGLE SQUARE TUBULAR	5
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (VAR"X12")		4
	D-3 (VAR"X12")		4
	R2-1 (24"X30")	SINGLE SQUARE TUBULAR	5
	R2-1RE (24"X12")	SINGLE SQUARE TUBULAR	2
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	6.25
	W16-9p(MOD)(24"X18")	SINGLE SQUARE TUBULAR	3

SHEET	REMARKS	SUPPORTS	SHEET ALUMINUM SIGN (SF)
SN-05			
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (VAR"X12")		4
	D-3 (VAR"X12")		4
	W11-2 (30"X30")	SINGLE SQUARE TUBULAR	9
	W16-2pL (24"X12")		2
	W11-2 (30"X30")	SINGLE SQUARE TUBULAR	9
	W16-2pL (24"X12")		2
	R1-6A(2) (42"X36")	DOUBLE SQUARE TUBULAR	10.5
	R1-6A(2) (42"X36")		10.5
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (VAR"X12")		4
	D-3 (VAR"X12")		4
	R2-1 (24"x30")	SINGLE SQUARE TUBULAR	5
	R2-1RE (12"X24")		2
	W11-2 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	W16-2pL (24"x12")		2
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	6.25
	R1-6A(2) (42"X36")	DOUBLE SQUARE TUBULAR	10.5
	R1-6A(2) (42"X36")		10.5
	W2-2L (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D1-1 (VAR"X12")		2
	W13-1 (18"X24")		3
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9p (MOD) (24"X18")		3
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9p (24"X12")		2
SN-06			
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9p (24"X12")		2
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9pL (24"X12")		2
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (VAR"X12")		4
	D-3 (VAR"X12")		4
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9p(MOD) (24"X18")		3
	W2-2R (36"X36")	SINGLE SQUARE TUBULAR	9
	D3(2) (VAR"X12")		4
	W13-1 (18"X24")		3
	W11-2(36"X36")	SINGLE SQUARE TUBULAR	9
	W16-2pL (24"X12")		2
	W10-7(1)MOD (24"X30")		5
	W11-2(36"X36")	SINGLE SQUARE TUBULAR	9
	W16-2pL (24"X12")		2
	W10-7(1)MOD (24"X30")		5
	R2-1 (24"X30")	SINGLE SQUARE TUBULAR	5
	S3-1 (36"X36")	SINGLE SQUARE TUBULAR	9

SHEET	REMARKS	SUPPORTS	SHEET ALUMINUM SIGN (SF)
SN-07			
	D11-1 (18"X24")	SINGLE SQUARE TUBULAR	3
	D1-1a (18"X VAR)		2
	R1-6A(2) (42"X36")	DOUBLE SQUARE TUBULAR	10.5
	R1-6A(2) (42"X36")		10.5
	W11-15 (36"X36")	SINGLE SQUARE TUBULAR	9
	W11-15P (18"X24")		3
	W16-7P (12"X18")		1.5
	R11-2(4) (48"X30")	DOUBLE SQUARE TUBULAR	10
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D11-1 (24"X18")	SINGLE SQUARE TUBULAR	3
	D1-1a (VAR"X12")		2
	D1-1a (VAR"X12")		2
	D1-1a (VAR"X12")		2
	D11-1 (24"X18")	SINGLE SQUARE TUBULAR	3
	D1-1a (VAR"X12")		2
	R1-1 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	D-3 (VAR"X12")		4
	D-3 (VAR"X12")		4
	D11-1C (24"X18")	SINGLE SQUARE TUBULAR	3
	D11-1 (24"X18)	SINGLE SQUARE TUBULAR	3
	D1-1a (VAR"X12")		2
	D1-1a (VAR"X12")		2
	D1-1a (VAR"X12")		2
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9 (24"X12")		2
	S3-1 (36"X36")	SINGLE SQUARE TUBULAR	9
	W2-1-MOD (36"X36")	SINGLE SQUARE TUBULAR	9
	W2-1-MOD (18"X12")		1.5
	R1-1 (24"X24")	SINGLE SQUARE TUBULAR	4
	D-3 (12"X VAR)		1.5
	D-3 (12"x VAR)		1.5
	R1-6A(3) (24"X30")	SINGLE SQUARE TUBULAR	5
	W11-15 (30"X30")	SINGLE SQUARE TUBULAR	6.25
	W11-15P (24"X18")		3
	W16-7P (12"X18")		1.5
	D11-1C (18"X24")	SINGLE SQUARE TUBULAR	3
	R1-6A(2) (42"X36")	DOUBLE SQUARE TUBULAR	10.5
	R1-6A(2) (42"X36")		10.5
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9p (MOD) (24"X18")		3
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	6.25
SN-08			
	R1-6A(2) (42"X36")	DOUBLE SQUARE TUBULAR	10.5
	R1-6A(2) (42"X36")		10.5
	R1-6A(3) (30"X30")	SINGLE SQUARE TUBULAR	6.25
	W11-2 (36"X36")	SINGLE SQUARE TUBULAR	9
	W16-9 (24"X12")		2
	R2-1 (18"X12")	SINGLE SQUARE TUBULAR	1.5
	S2-1 (36"X36")	SINGLE SQUARE TUBULAR	9
	W6-2R (18"X12")		1.5
	S2-1 (36"X36")		9
	W6-2L (18"X12")		1.5
	R1-1 (24"X24")	SINGLE SQUARE TUBULAR	4
	D-3 (VAR"X12")		4
	D-3 (VAR"X12")		4
	S2-1 (36"X36")	SINGLE SQUARE TUBULAR	9
TOTAL			594

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

SN-09
SIGNING & MARKING QUANTITIES
DALE DRIVE
SHARED USE PATH

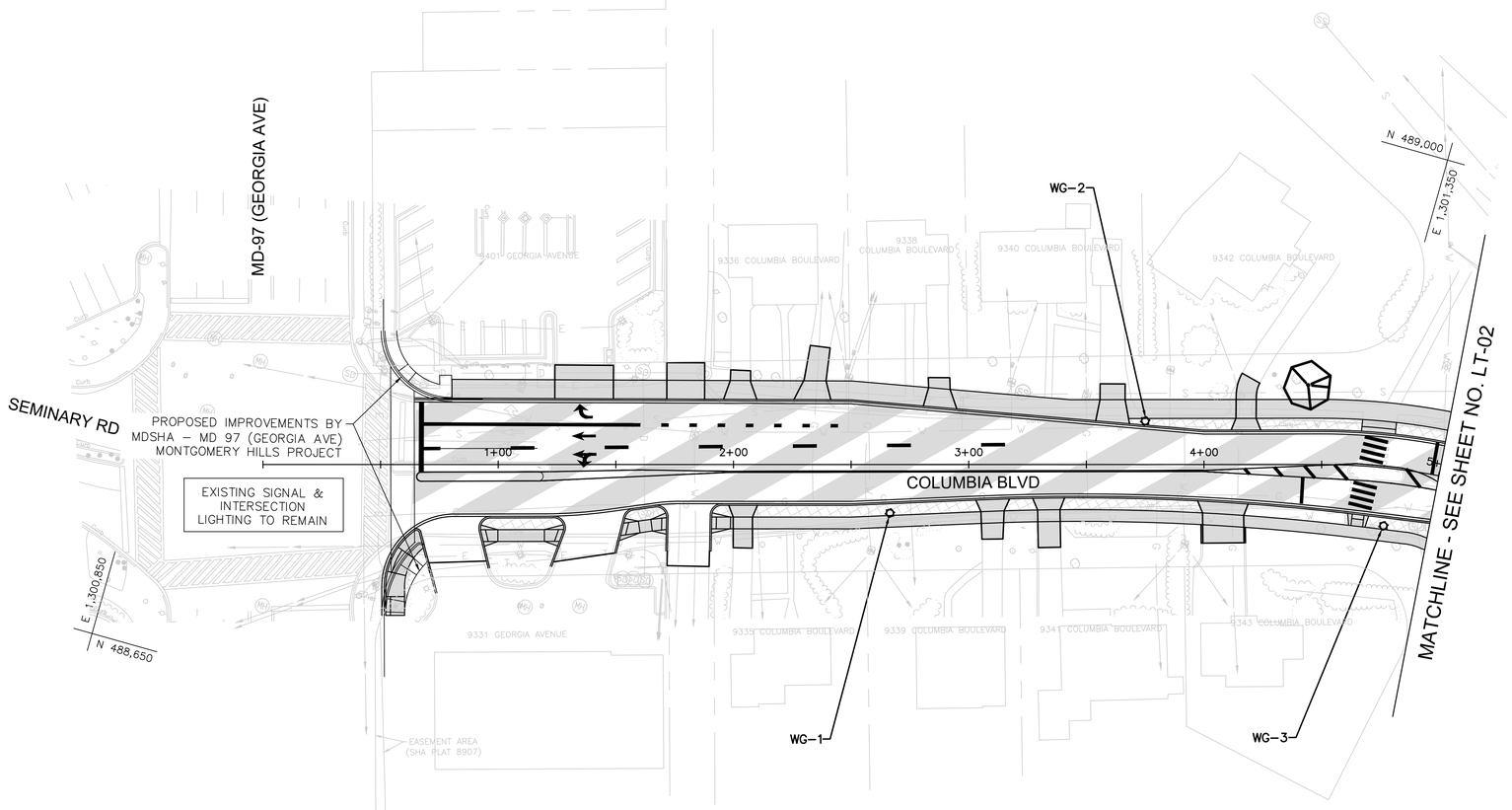
DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 63 of 180

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG–1	2+66.50	20.67' RT	488791.28	1301162.54	COLUMBIA BLVD	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG–2	3+75	18.50' LT	488858.42	1301256.34	COLUMBIA BLVD	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG–3	4+79	24.61' RT	488843.00	1301365.93	COLUMBIA BLVD	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT–01
LIGHTING PLAN
DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

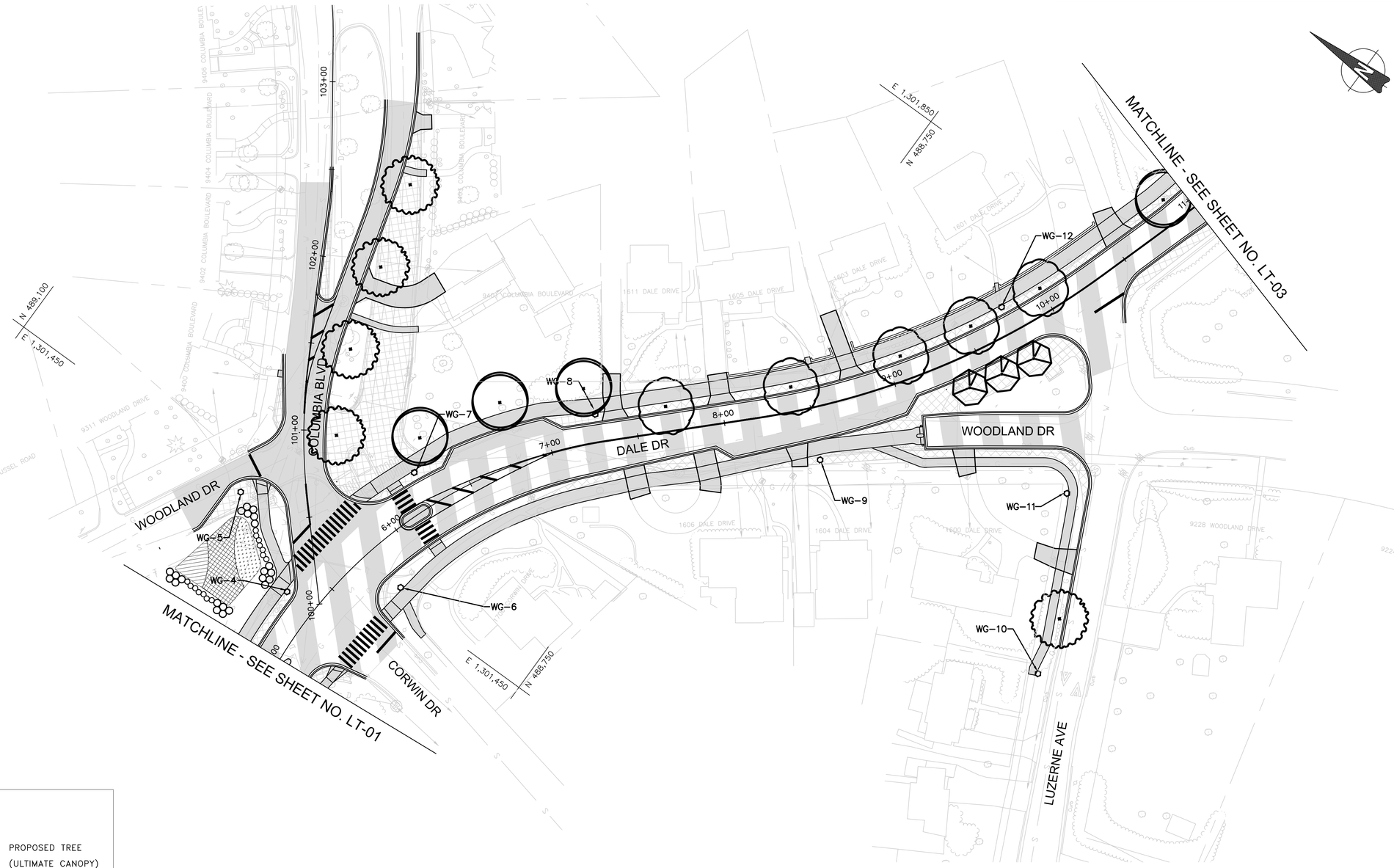
SHEET 64 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT–01 PLOTTED: Thursday, November 04, 2021 – 5:12pm USER: MStraughan

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG-4	5+33	18.67' LT	488889.29	1301416.29	COLUMBIA BLVD	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-5	5+55	76.00' LT	488944.24	1301446.75	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-6	5+80	27.00' RT	488838.27	1301456.39	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-7	6+26	21.33' LT	488889.29	1301416.29	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-8	7+28	17.77' LT	488807.82	1301603.11	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-9	8+50	30.00' RT	488696.36	1301664.40	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-10	9+27	184.00' LT	488514.87	1301630.95	LUZERNE AVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-11	9+60	96.00' LT	488562.07	1301723.98	LUZERNE AVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-12	9+75	15.67' LT	488654.97	1301788.12	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT-02
LIGHTING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

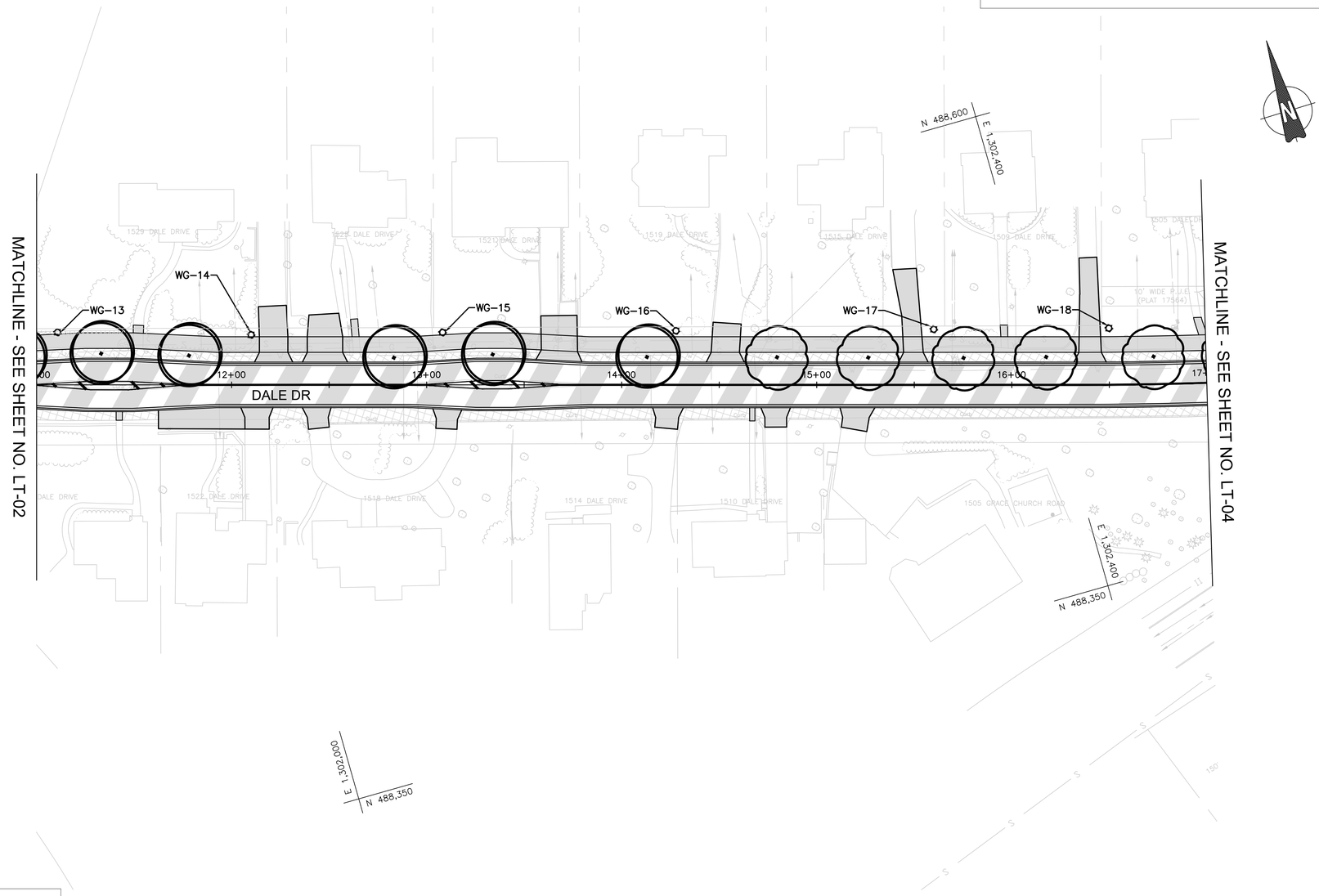
CIP No. : 502109 SHEET 65 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT-02 PLOTTED: Thursday, November 04, 2021 – 5:12pm USER: MStraughan

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG-13	11+11	26.50' LT	488621.98	1301916.85	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-14	12+10	25.67' LT	488594.05	1302012.07	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-15	13+08	27.00' LT	488568.47	1302106.84	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-16	14+28	27.75' LT	488536.44	1302222.16	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-17	15+60	28.50' LT	488500.98	1302349.48	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-18	16+50	29.00' LT	488476.95	1302435.98	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT-03
LIGHTING PLAN

DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

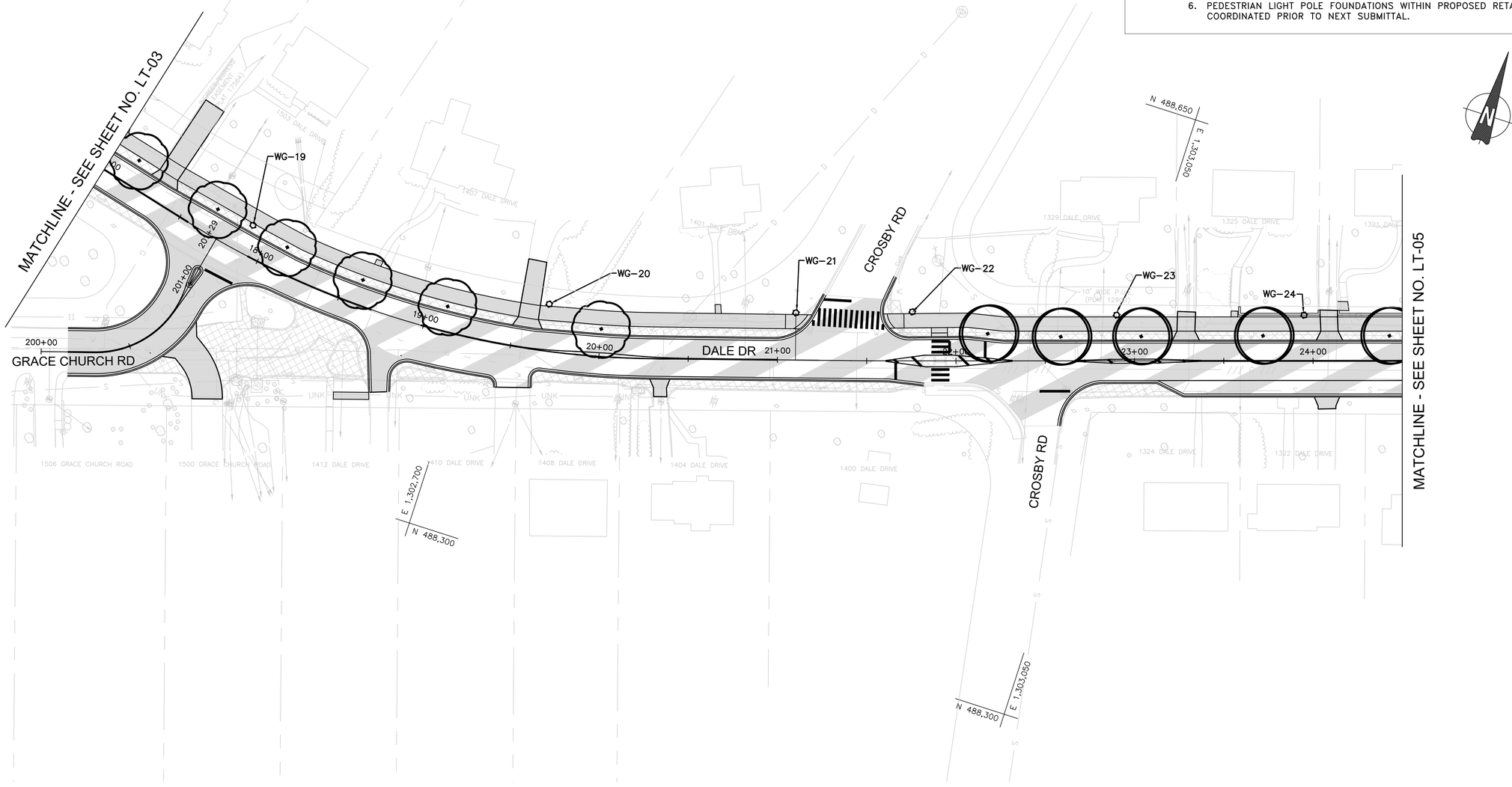
CIP No. : 502109 SHEET 66 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT-03 PLOTTED: Thursday, November 04, 2021 - 5:13pm USER: MStraughan

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG-19	17+88	16.75' LT	488432.11	1302565.57	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-20	19+70	26.25' LT	488440.82	1302737.05	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-21	21+10	26.50' LT	488478.52	1302870.03	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-22	21+75	27.50' LT	488498.99	1302931.97	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-23	22+80	25.67' LT	488532.29	1303041.44	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-24	23+95	25.67' LT	488564.45	1303141.39	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT-04
LIGHTING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

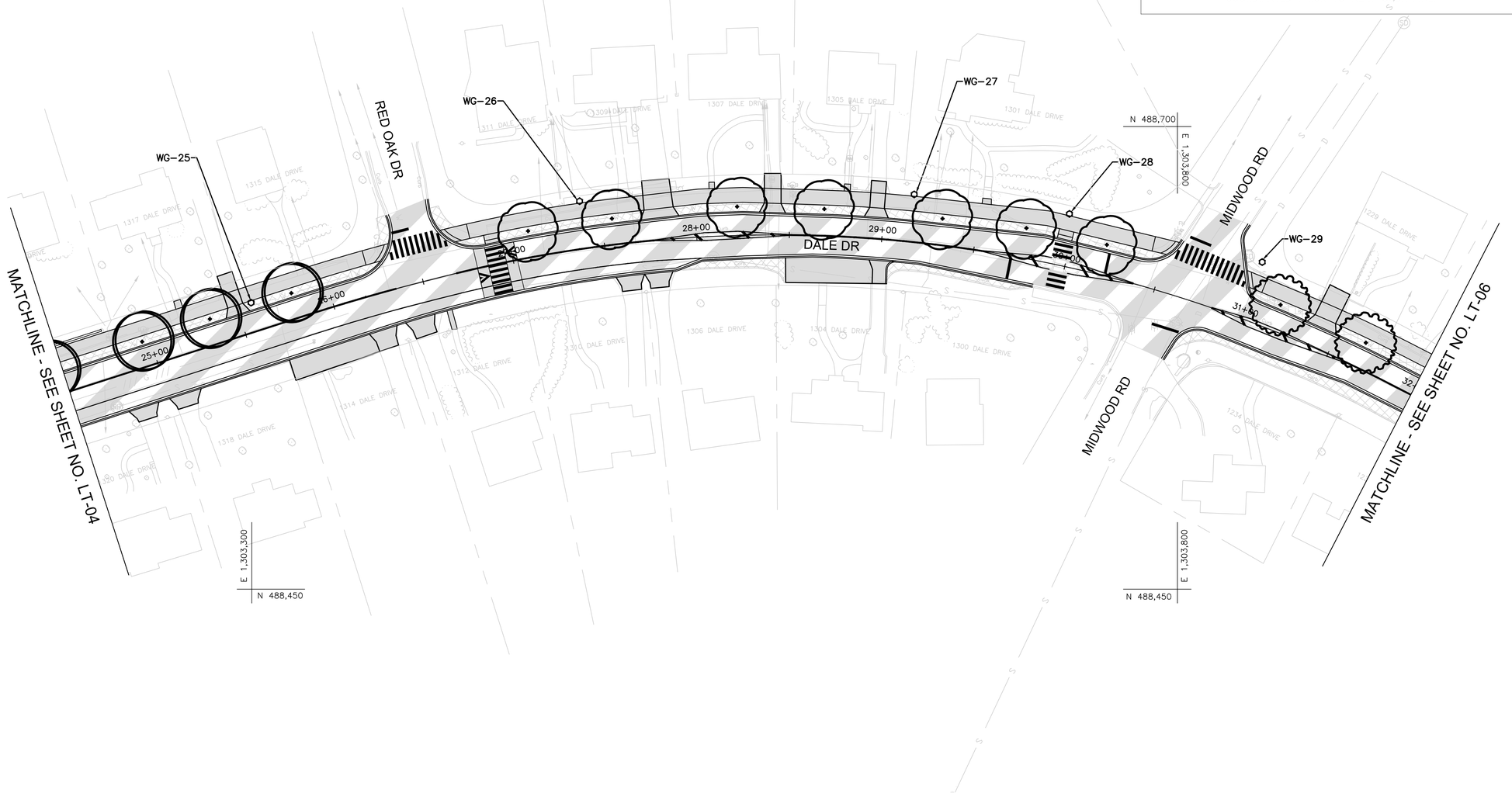
CIP No.: 502109 SHEET 67 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT-04 PLOTTED: Thursday, November 04, 2021 - 5:13pm USER: MStraughan

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG–25	25+58	15.67' LT	488604.86	1303299.62	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG–26	27+40	25.67' LT	488659.65	1303477.08	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG–27	29+15	25.67' LT	488663.34	1303657.80	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG–28	29+97	28.33' LT	488652.80	1303741.66	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG–29	31+00	32.50' LT	488626.78	1303845.79	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT–05
LIGHTING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

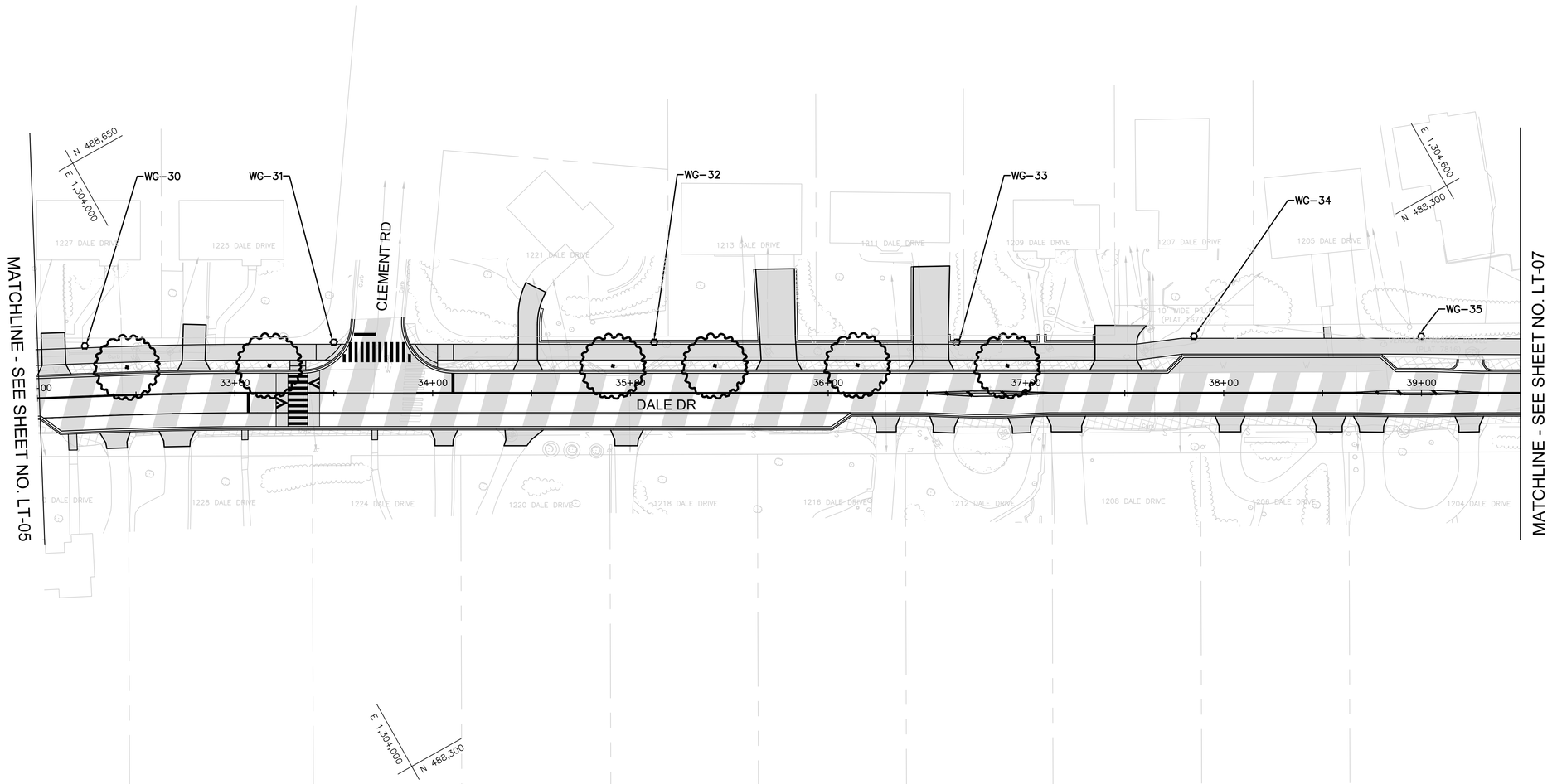
CIP No. : 502109 SHEET 68 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT–05 PLOTTED: Thursday, November 04, 2021 – 5:13pm USER: MStraughan

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG-30	32+25	25.67' LT	488566.47	1303960.05	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-31	33+50	25.67' LT	488506.41	1304070.71	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-32	35+12	25.67' LT	488427.07	1304211.96	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-33	36+65	25.67' LT	488352.14	1304345.36	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-34	37+85	28.67' LT	488295.99	1304451.46	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-35	39+00	28.67' LT	488239.72	1304551.63	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT-06
LIGHTING PLAN
DALE DRIVE
SHARED USE PATH

0 30' 60'
SCALE: 1"=30'
DATE: NOVEMBER 2021

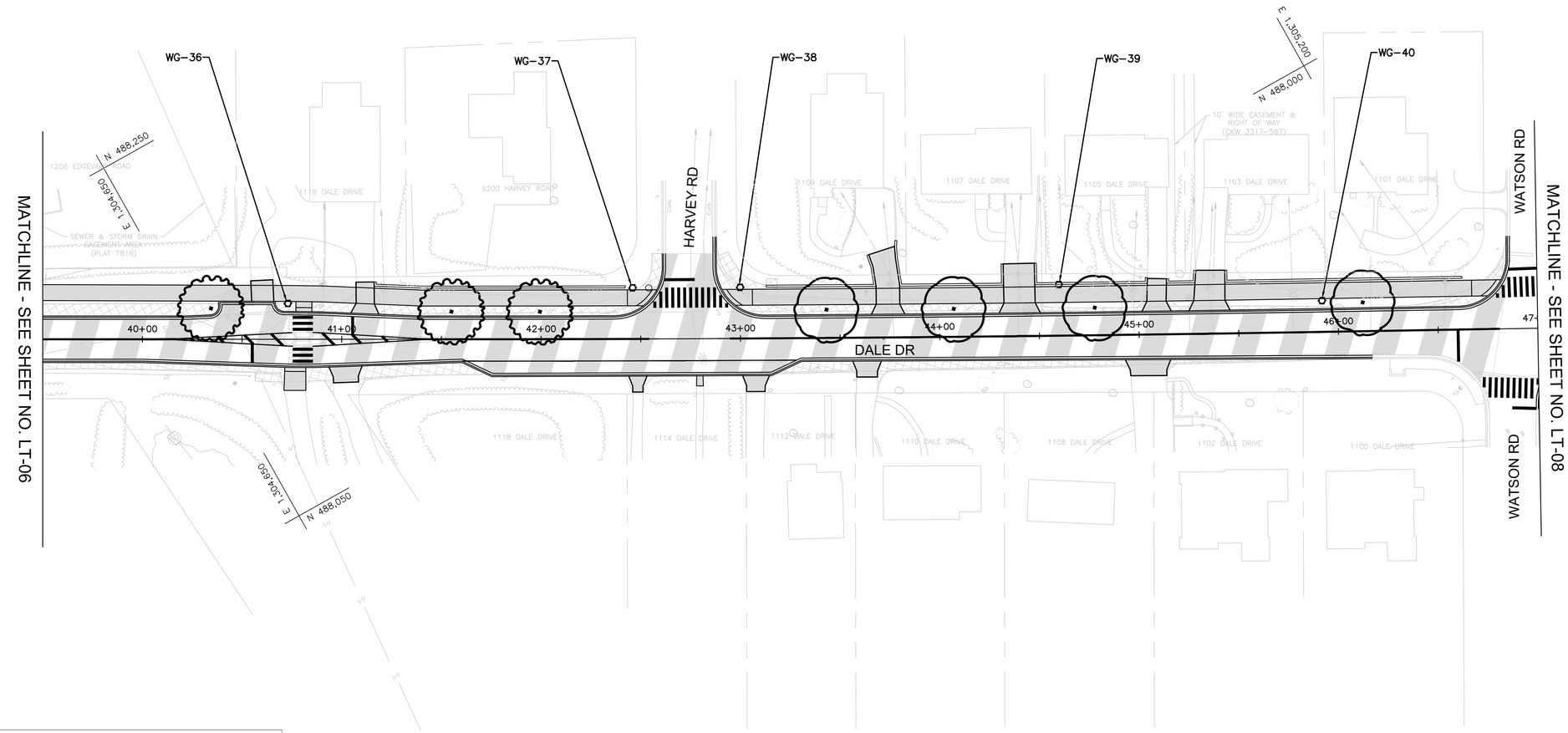
CIP No. : 502109
SHEET 69 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT-06 PLOTTED: Thursday, November 04, 2021 - 5:13pm USER: MStraughan

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG-36	40+73	18.00' LT	488145.63	1304697.32	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-37	42+46	25.67' LT	488067.78	1304851.91	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-38	43+00	25.67' LT	488041.57	1304899.06	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-39	44+60	25.67' LT	487964.52	1305039.11	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-40	45+92	15.67' LT	487892.83	1305150.26	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT-07
LIGHTING PLAN

DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

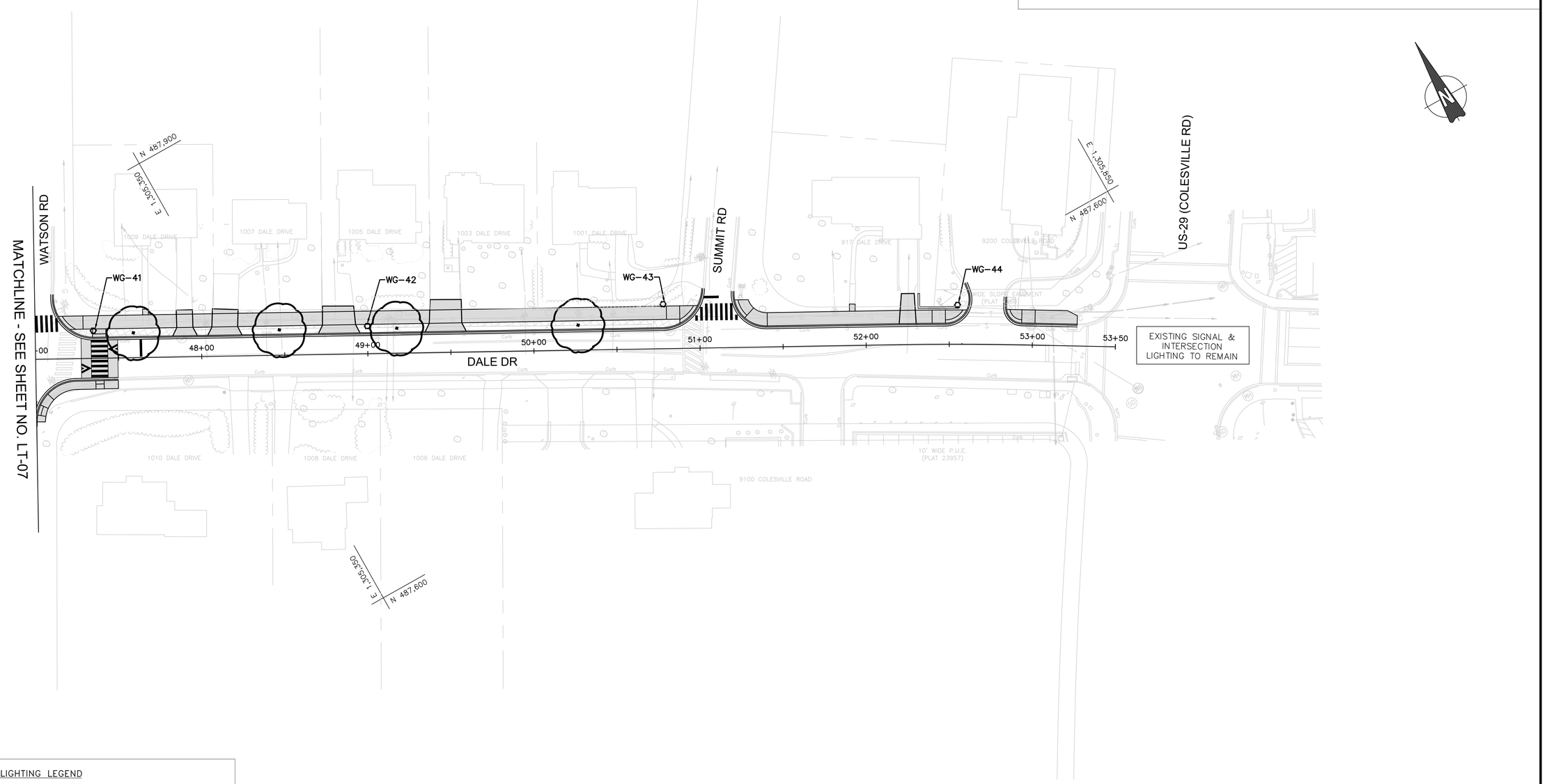
CIP No. : 502109 SHEET 70 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT-07 PLOTTED: Thursday, November 04, 2021 - 5:13pm USER: MStraughan

POLE #	STATION	OFFSET	NORTHING	EASTING	STREET NAME	WATTAGE	LAMP TYPE	LUMINAIRE STYLE	POLE STYLE
WG-41	47+35	16.67' LT	487825.79	1305276.58	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-42	49+00	16.67' LT	487747.43	1305421.79	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-43	50+75	27.00' LT	487671.77	1305583.40	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM
WG-44	52+55	23.67' LT	487584.54	1305737.73	DALE DRIVE	70	LED	PROPOSED WASHINGTON GLOBE	12" CAST ALUMINUM

LIGHTING NOTES:

1. EXISTING LEASE LIGHTING AND PENDANT POST STREET LIGHT POLES TO REMAIN.
2. PROPOSED LIGHT POLES TO BE CABLED AND POWERED BY PEPCO.
3. ALL PROPOSED LIGHTING SHALL INCORPORATE LED LUMINAIRES.
4. FOUNDATION OF DECORATIVE LAMP POST SHALL BE 4.5' IN HEIGHT AND 2' IN DIAMETER PER SPECIFICATIONS FOR STREETLIGHT HARDWARE.
5. SEE LANDSCAPING PLANS FOR EXISTING TREES TO BE REMOVED.
6. PEDESTRIAN LIGHT POLE FOUNDATIONS WITHIN PROPOSED RETAINING WALLS TO BE COORDINATED PRIOR TO NEXT SUBMITTAL.



LIGHTING LEGEND

- PROPOSED LED WASHINGTON GLOBE PEDESTRIAN LIGHT POLE
- EXISTING LIGHT & POLE TO REMAIN
- PROPOSED LED LIGHT ON POWER POLE
- EXISTING LIGHT ON POWER POLE TO REMAIN
- XXX POLE NUMBER
- PROPOSED TREE (ULTIMATE CANOPY)
- PROPOSED TREE (ULTIMATE CANOPY)
- EXISTING TREE

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT-08
LIGHTING PLAN
DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 71 of 180

FILE NAME: C:\Users\straughan\AppData\Local\Temp\AcPublish_16548\pLT_Dale.dwg LAYOUT NAME: LT-08 PLOTTED: Thursday, November 04, 2021 - 5:14pm USER: MStraughan

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC AND PARKING SERVICES

JUNE 2016

WASHINGTON GLOBE DECORATIVE LED STYLE LUMINAIRE
SEMI CUT-OFF HARD TOP

1) PURPOSE
The purpose of these specifications is to provide minimum requirements for the design, manufacture, finishing and delivery of the Washington Globe (hard top) LED luminaire. The Washington Globe is intended to be mounted on decorative pole as specified, along roadways throughout Montgomery County. Any manufacturer, distributor or vendor who submits bid shall agree with these specifications

2) DESCRIPTION
The luminaire shall be an outdoor decorative post top fixture, cylindrical in shape with an overall height between 42.5 +/- 2.0 inches and a overall width between 16.5 +/- 0.5 inches for the globe (see attached drawing). All exterior and structural parts shall consist of aluminum alloy or cast iron. Exterior castings shall be cast in one piece having a smooth surface finish and free of mold lines. A separate cover for a ballast drawer/tray is permitted if the ballast drawer cover is secured to the luminaire body with captive fasteners. All components shall fit together snugly and shall be fitted with continuous neoprene gaskets so as to weather proof joints between metal interfaces. Visible metal surfaces shall have raised decorations integrally molded in the base piece. All metal parts shall be corrosion resistant. The luminaire shall come ready for quick an easy field assembly or fully assembled:

Each luminaire shall include the following components:
1) LED Optical Assembly (Type III distribution)
2) 120 volt LED Driver
3) Button type photocell installed on the metal body of the luminaire or ballast tray cover;
4) All necessary hardware and fasteners to assemble and secure on post tenon.

3) DESIGN CRITERIA
3.1) AASHTO Standards
The luminaire shall meet the requirements of the American Association of State Highway and Transportation Officials (AASHTO), Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals" latest edition.

3.2) Wind Load
All components of the luminaire shall be designed to resist (at yield strength of the materials without permanent deflection or destruction), test loads equivalent to the calculated loads developed by the velocity pressure of at least an 80 MPH wind. A minimum safety factor of 1.82 on the yield strength shall be maintained.

4) GLOBE
The globe should be supplied as two pieces, chemically matching material as a unit and permanently sealed together with a chemical bonding process. The globe bottom shall be alabaster rippled and made of UV stabilized acrylic. The globe roof shall be of a spun aluminum design. The roof and bottom globe sections are secured in a slip-fit, 1/2" overlap design and providing a mechanical lock and enabling easy future replacement of either the roof or bottom globe section if required. The roof finish shall be polyester thermoset powdercoat. The globe shall be of a traditional "Washington Globe" (acorn) shape designed to achieve the photometric performance specified by Illumination Engineering Society (IES). The bottom surface of the globe shall interface closely with the metal body of the fixture so as to provide a weather, dust, and insect proof interface. The globe or its mounting ring shall be fastened with three or more recessed set screws to the body of the fixture.

5) DRIVER and SURGE PROTECTOR
The driver shall be mounted to facilitate easy removal for maintenance operations. The driver shall be equipped with a 10KV Surge Protection and suppression system. All electrical connections shall be polarized and of plug-in design. The driver shall be wired to receive 120 volt AC current. The driver shall reliably start and operate the lamp in ambient temperatures down to minus 30 degrees. The terminal block shall be capable of accepting up to a #6 AWG wire.

6) LED Color Temperature (CCT) and Rendering Index (CRI)
The Correlated Color Temperature (CCT) shall be a nominal Kelvin Temperature of 3500K ±200K with a minimum Color Rendering Index (CRI) of 70.

7) PHOTOCELL
The photocell shall be a twist-lock type or equal, mounted on the metal body of the luminaire or the cover of the ballast tray drawer.

8) METAL BODY
The body shall be cast in one piece and shall have raised surface decorations. The body shall taper smoothly between the slip fitter to the base of the globe. The body shall be constructed with weep holes or channels to prevent rainwater from collecting at the top of the body.

9) SLIP FITTER
The slip fitter shall have a nominal inside diameter of 3.375 inches +/- 0.25 and shall be secured to the lamp post tenon with three of four evenly spaced set screws. The slip fitter shall accommodate a tenon 3.0 inches long.

10) FINIAL
The finial shall be made of cast aluminum, and securely fastened to the top of the globe.

11) FINISH
The exterior surface of the finial and luminaire body shall be factory finished with a dark green electrostatically applied polyester powder coat. The color shall be "Federal Green", federal color 595a, #14036.



MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS SECTION

JUNE 2016

STREETLIGHT POST NUMBERING TAGS

1) PURPOSE

The purpose of these specifications is to prescribe the minimum requirements for the design, manufacture, fabrication, finishing and delivery of streetlight post numbering tags. Any manufacturer, distributor or vendor who submits a bid shall agree to comply with these specifications and attached drawings.

2) DESIGN CRITERIA

The streetlight post numbering tags are to be made of aluminum and finished with a similar color coating as that of the streetlight pole it is to be rigidly attached to. This streetlight post numbering tag is intended for use on all streetlight post maintained by Montgomery County.

Each pole numbering tag shall comply to the following:
a) Be 2" wide and 12" long
b) Be a color similar to the streetlight pole
c) Have 5 numbers of an opposite color placed vertically
d) All White/Silver surfaces shall be made of retroreflective sheeting
e) All colored surfaces shall be nonreflective

3) MATERIALS

a) TAG

The streetlight post numbering tags shall be 12 inches X 2 inches, fabricated from clear anodized 1/16 inch thick aluminum. The edges shall be smooth and corners rounded and the tag shall fit the streetlight pole shaft.

b) REFLECTIVE AREAS

The streetlight post numbering tag reflective area shall conform to D4956, Type III retroreflective sheeting.

c) NONRELECTIVE AREAS The streetlight post numbering tags nonrelective areas shall be as follows:

a. Numbers on white/silver reflective post tag

b. Backing on all other streetlight post tags

4) MOUNTING HEIGHT

The streetlight post numbering tag should be mounted at a height approximately 10 foot from the surrounding elevation of the ground, unless otherwise approved and directed by the Engineer.

5) MOUNTING ORIENTATION

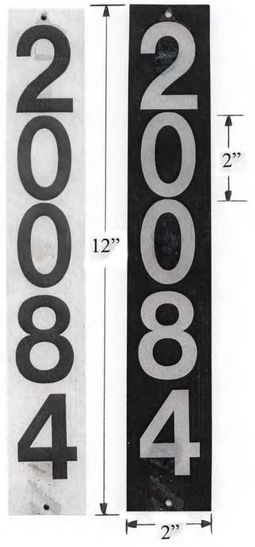
The streetlight post numbering tag shall be oriented and rigidly mounted at a 30 to 45 degree angle, so that approaching traffic can readily observe the tags numbers.

6) MOUNTING HARDHARE

The streetlight post numbering tag shall be secured to the shaft of the streetlight by a means of two (2) 1/8 inch diameter,18-8 stainless steel tamper-proof screw.

7) NUMBERS

The streetlight post numbering tag numbers shall be a minimum of 2 inch high with a minimum of a ¼ inch stroke width.



DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: MDS Drawn by: MDS Checked by: JMC

LT-09
LIGHTING DETAILS

DALE DRIVE
SHARED USE PATH

DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 72 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pLT-Details_Dale.dwg LAYOUT NAME: LT-09 PLOTTED: Thursday, November 04, 2021 - 9:48am USER: MStraughan

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS

JUNE 2016

DECORATIVE (RESIDENTIAL) LAMP POST
FOR USE ON STREETS CLASSIFIED PRIMARY OR LOWER

1) PURPOSE

The purpose of these specifications is to prescribe the minimum requirements for the design, manufacture, fabrication, finishing and delivery of residential, decorative, cast, streetlight poles. These decorative streetlight poles are intended for use along roadways in Montgomery County. Any manufacturer, distributor or vendor who submits a bid shall agree to comply with these specifications and the attached drawings.

Each pole shall include the following:

a) Access plate with attachment hardware;
b) Anchor Bolts, nuts, and washers (as specified);
c) Typical footer design specifications including but not limited to, base template, anchor dimensions, reinforcement and footer details;
d) One (1) pint of touch-up paint, Federal Green, federal color # 595B, # 14036.

2) DESIGN CRITERIA

2.1 AASHTO Standards

The residential, decorative, cast, streetlight post shall meet the requirements of the American Association of State Highway and Transportation Officials (AASHTO) Standard, "Specification for Structural supports for Highway Signs, Luminaires and Traffic Signals," latest edition.

2.2 Wind Load

The residential, decorative, cast, streetlight post shall be deigned to resist (at yield strength of the material without permanent deflection or destruction), test loads equivalent to the calculated wind loads developed by the velocity pressures of a 80 MPH wind with a 30% gust factor. A minimum safety factor of 1.82 on the yield strength shall be maintained.

SPECIFICATIONS FOR STREETLIGHT HARDWARE

2.3 Effective Projected Area (EPA)

The residential, decorative, cast, streetlight post shall have a EPA allowable for the following assumptions:

a) Streetlight luminaire shall be assumed to be rectangular in shape with triangular shapes at the top and bottom, minimum length plus width of sixty-five (65) inches, when viewed from the side.

b) The streetlight luminaire shall have a nominal mounting height of 12 feet above the base.

c) One or two (24" x 36") maximum traffic signs may be mounted with the sign's bottom edge 7 feet above the base.

3) MATERIALS

3.1 Iron Casting

The lamp post shall be integrally cast as one piece and shall be cast iron per ASTM A-48--72, Class 30. The sections are to be indicated below. The castings are to be true to pattern, with 16 flutes separated by 16 flat facets. There shall be no visible signs of separation between the cope and drag sections of the mold. All ornamental components shall be cast iron.

3.2 Aluminum Casting

The lamp post may be cast in one piece, as described above, of aluminum alloy of the same details as described above and minimum wall thickness as described below. The alloy used in the casting shall have a minimum yield strength of 30,000 PSI and shall be heat treated as required to provide that yield strength.

3.3 Split Casting

The lamp post may be a multiple piece castings that are factory-assembled into one piece may be considered, provided that there are no gaps between any pieces of the assembly that would allow water seepage or rust. Prior written approval required for the method.

4) PEDESTAL

The pedestal shall be 17 inches +/- 0.25 inch in diameter with a height of 17 1/4 inches +/- 1.0 inch.

SPECIFICATIONS FOR STREETLIGHT HARDWARE

5) BOLT CIRCLE

The nominal bolt circle of the lamp post shall be 12.5 inch in diameter and consist of four (4) equally spaced slots to accommodate 5/8 inch diameter anchor bolts

6) SHAFT

The shaft shall taper uniformly from six (6) inches outside diameter at the bottom to a minimum of four (4) inches outside diameter at the top. The shaft section shall consist of sixteen (16) equally spaced flutes. The outer portion of each flute shall have a flat face, 3/8 +/- 1/16 inches in width. The flutes shall remain constant from the top to the bottom of the tapered shaft

7) HEIGHT

The height of the post, less tenon, shall be 12 feet 0 inches. The weight of the cast iron post with complete door assembly, shall be 460 lbs. +/- 5%. All castings shall be painted with a shop coat of iron oxide primer.

8) TENON

The top of the post shall be equipped with a luminaire mounting tenon integrally cast as a part of the post casting. The tenon shall measure 3.25 +/- 0.25 inches outside diameter and be 2.5 inches long.

9) GROUNDING LUG

The post shall be drilled and tapped for a 1/4 inch - # 20 grounding screw, inside the lamp post and opposite the access door,

10) HANDHOLE

The post shall have an handhole/access door with minimum opening 6 +/- 0.5 inches high and shall be a minimum of 3 ½ +/- 1.0 inch wide at the top and 7.5 inches +/- 1.0 inches wide at the bottom secured with stainless steel machine screw shall be provided in the base of the lamp post. The handhole is at 90 degrees clockwise with respect to the luminaire arm when viewed from above the pole.

SPECIFICATIONS FOR STREETLIGHT HARDWARE

11) BOTTOM ACCESS HOLE

The pedestal shall have a clear opening at grade a minimum of nine (9) inches in diameter. The base of the lamp post shall have an inside diameter sufficient to accommodate two four inch diameter schedule 40 PVC conduits at the bottom of the post, side by side, for streetlight wiring in accordance with utility company requirements.

12) TOLERANCES

Dimensions may be subject to a tolerance of plus or minus 10%, provided that the appearance and proportions are reasonably identical to the post shown on the attached drawing, in the sole judgement of the County. The 10% tolerance shall not apply to the height of the post nor to the diameter of the tenon, for which no tolerance will be allowed other than normal manufacturing tolerances.

13) ANCHOR BOLTS

Each post shall be furnished with four (4) anchor bolts, each 5/8 inches diameter x 24 inch long, plus a 3" "L" at the bottom. Each bolt shall be supplied with one (1) nut and one (1) washer. Bolts, nuts, and washers shall be fully hot dipped galvanized in accordance with ASTM A153.

14) FINISH

15.1 Cast Aluminum

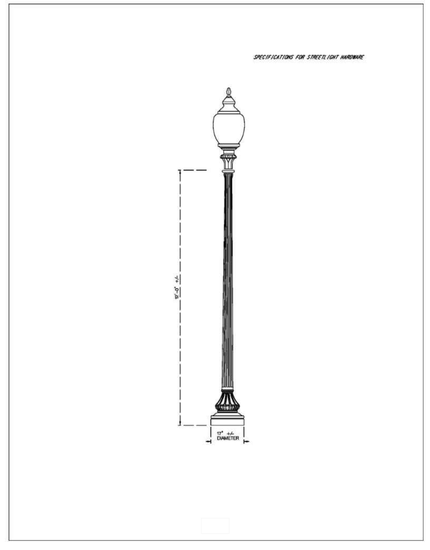
The cast aluminum poles, access doors, and hardware shall be finished with a dark green electrostatically-applied thermoset polyester powder coat, color "Federal Green" or approved equal, as per the attached finish specification "ICS-2". One pint can of Federal Green touch-up enamel or approved equal, shall be supplied.

15.2 Cast Iron

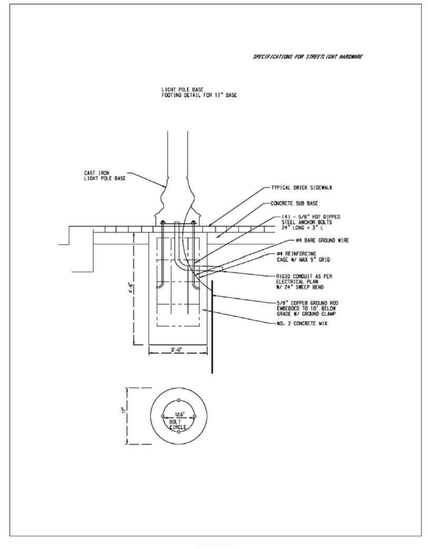
The cast iron poles and all components shall be supplied with one coat of oil-based red lead primer paint. Two (2) coats of enamel "Federal Green", federal color 595B, # 14036 shall be applied to each pole in the field.

16) POLE INFORMATION
The lamp post shall be either the Antique Capitol Series, C12/17-CI/PP, the Washington #12 Standard modified to 12 foot 0 inches in height, less tenon, or approved equal.

SPECIFICATIONS FOR STREETLIGHT HARDWARE



SPECIFICATIONS FOR STREETLIGHT HARDWARE



DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

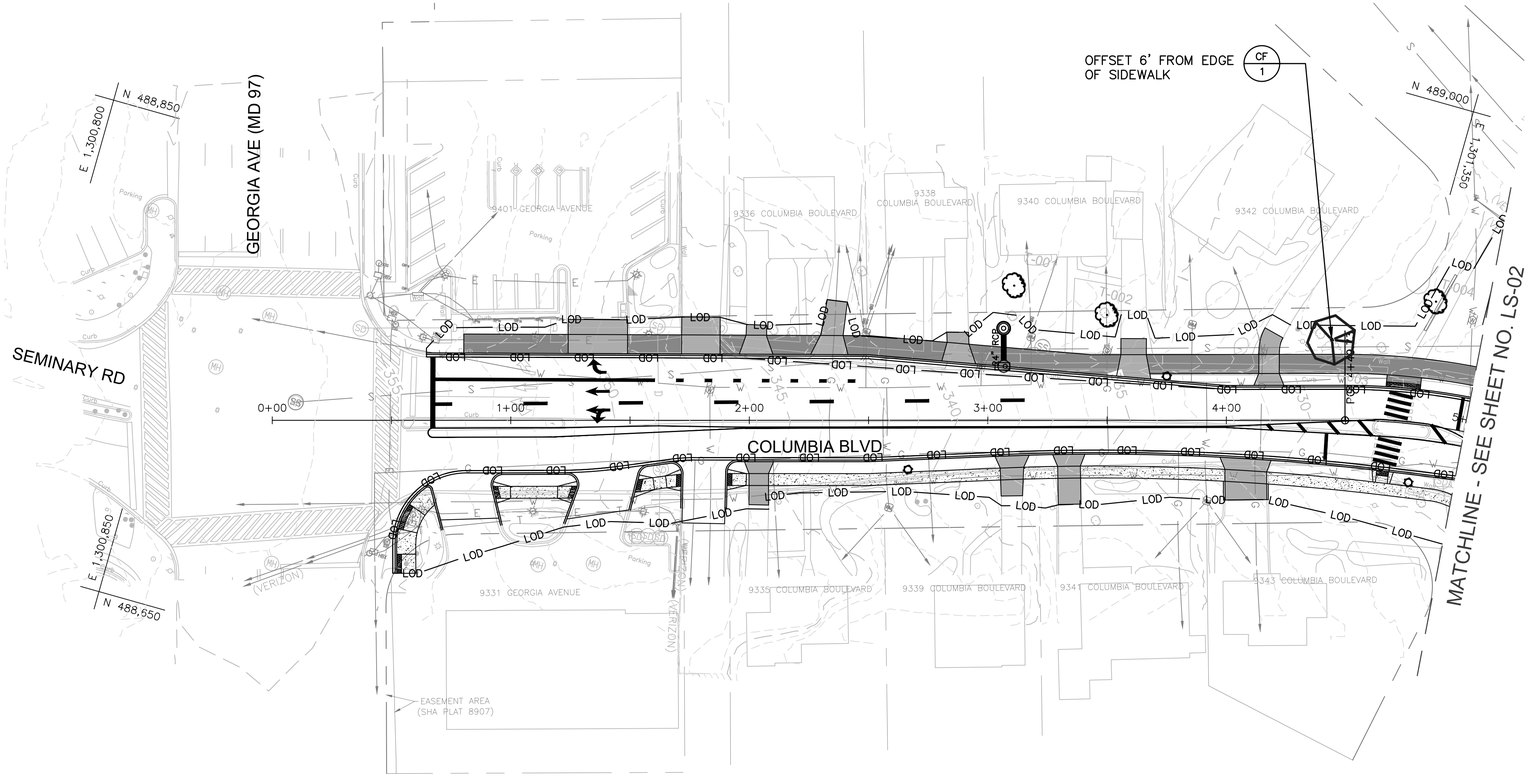
Designed by: MDS Drawn by: MDS Checked by: JMC

LT-10
LIGHTING DETAILS

DALE DRIVE
SHARED USE PATH

DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 73 of 180



NOTES:

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

LEGEND

LOD	LIMIT OF DISTURBANCE
	LIMIT OF GRADING
	TREE PROTECTION FENCE
	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE
	EXISTING SPECIMEN TREE (24" OR MORE DBH)
	PROPOSED LIGHTPOLE

LANDSCAPE PLANT SCHEDULE THIS SHEET

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
CF	1	CORNUS FLORIDA 'CHEROKEE PRINCESS'	'CHEROKEE PRINCESS' FLOWERING DOGWOOD	2.0" CAL.	B&B	AS SHOWN

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NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-01
LANDSCAPE PLAN

DALE DRIVE
SHARED USE PATH

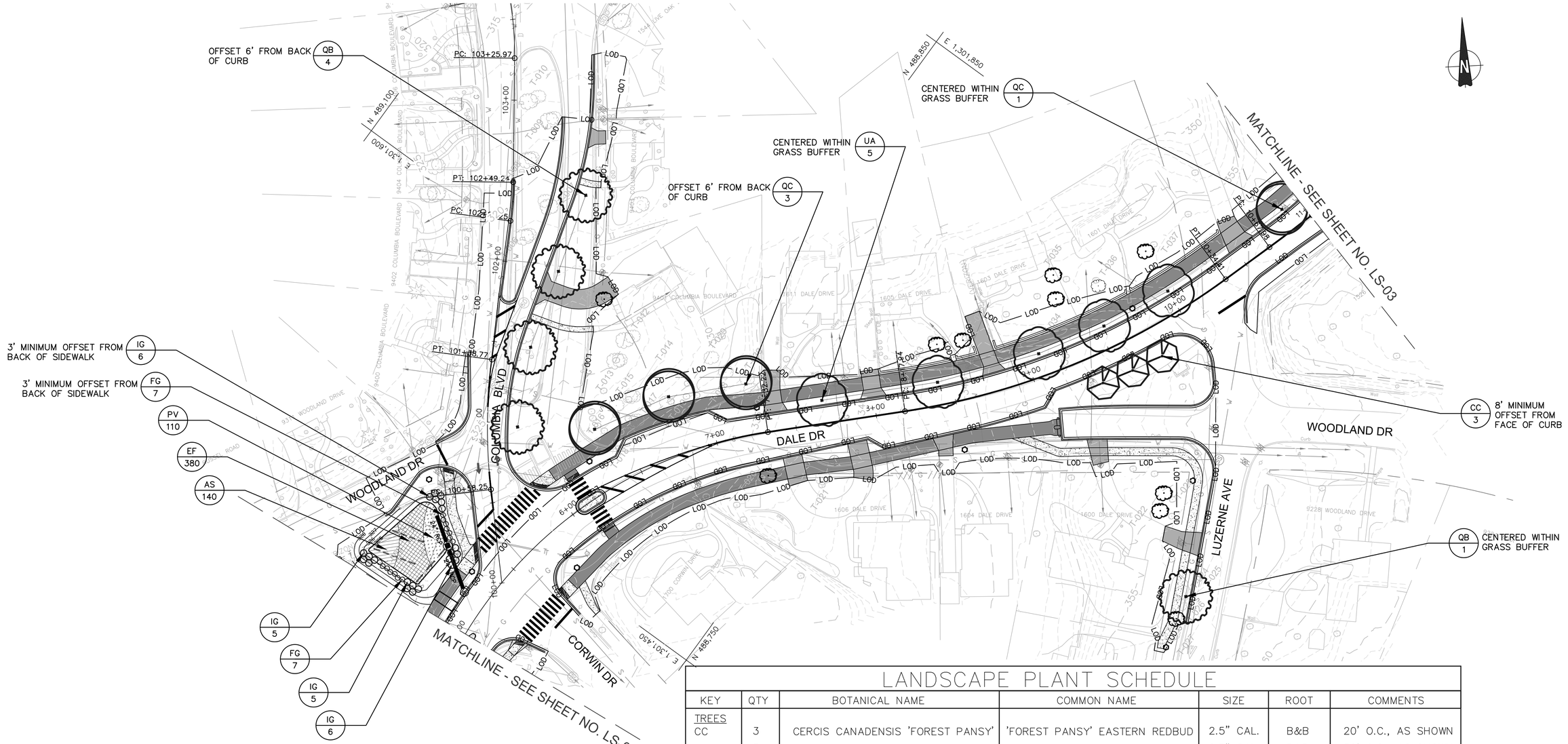
0 30' 60'
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No.: 502109

SHEET 74 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\plLS_Dale.dwg LAYOUT NAME: LS-01 PLOTTED: Friday, November 05, 2021 - 11:42am USER: AHavener



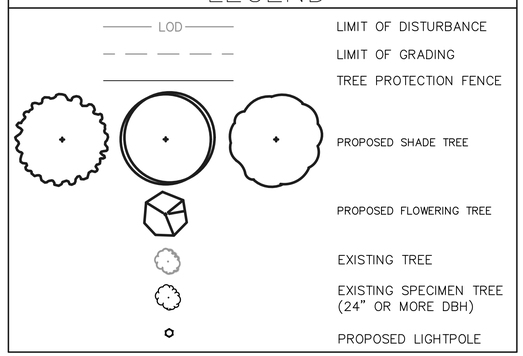
LANDSCAPE PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
CC	3	CERCIS CANADENSIS 'FOREST PANSY'	'FOREST PANSY' EASTERN REDBUD	2.5" CAL.	B&B	20' O.C., AS SHOWN
QB	3	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
QC	4	QUERCUS COCCINEA	SCARLET OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
UA	5	ULMUS AMERICANA 'JEFFERSON'	'JEFFERSON' AMERICAN ELM	2.5" CAL.	B&B	50' O.C., AS SHOWN
SHRUBS						
AS	140	ASCLEPIAS SYRIACA	COMMON MILKWEED	#SP4	CONT.	18" O.C.
EF	380	EUPATORIUM FISTULOSUM	JOE PYE WEED	#SP4	CONT.	18" O.C.
FG	14	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	18" HGT.	CONT.	3' O.C.
IG	22	ILEX GLABRA 'SHAMROCK'	'SHAMROCK' INKBERRY HOLLY	18" HGT.	CONT.	4' O.C.
PV	110	PANICUM VIRGATUM 'PRAIRIE SKY'	'PRAIRIE SKY' SWITCHGRASS	#1 CONT.	CONT.	24" O.C.

NOTES:

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

LEGEND



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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

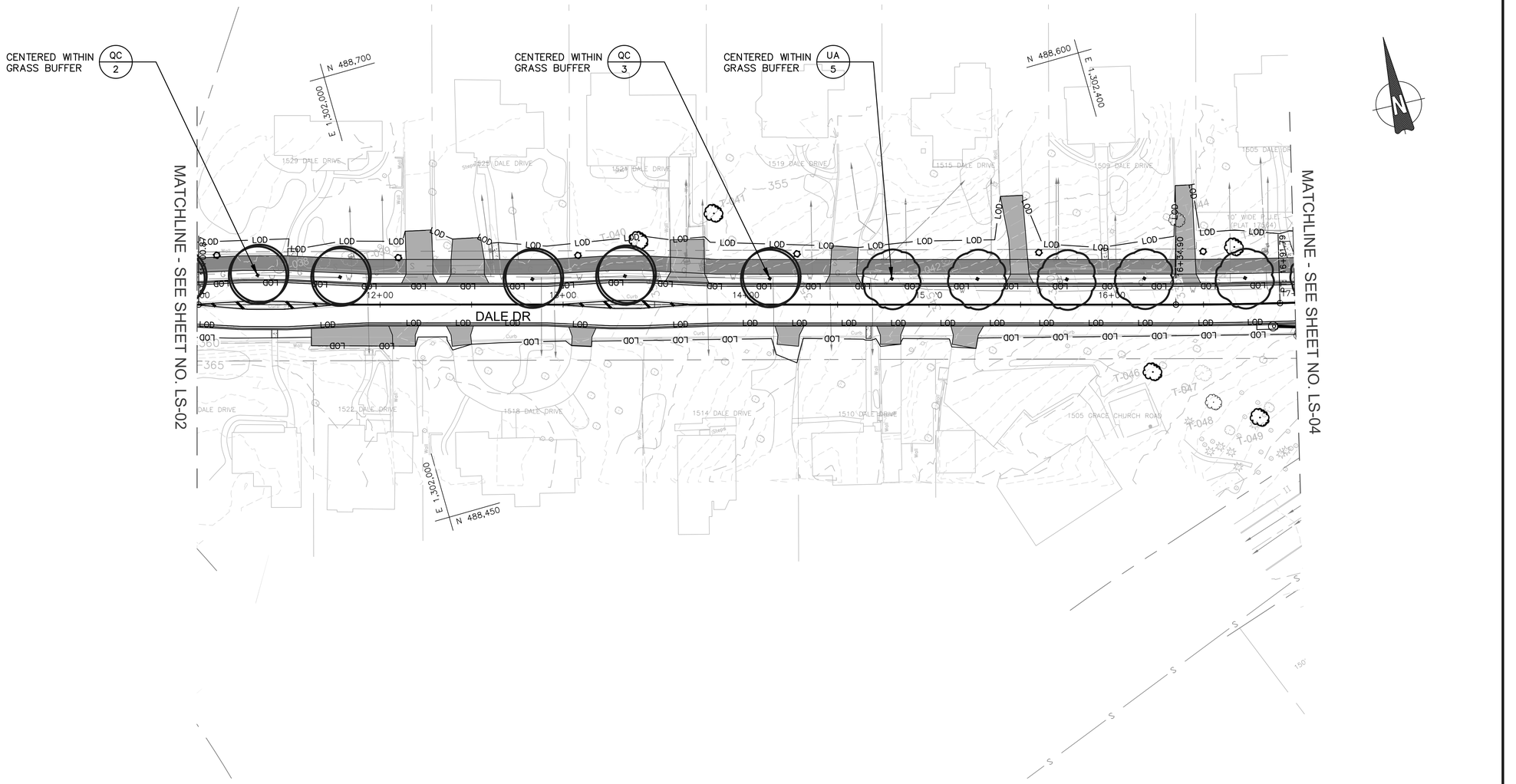
LS-02
LANDSCAPE PLAN

DALE DRIVE SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 75 of 180



NOTES:

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

LEGEND

LOD	LIMIT OF DISTURBANCE
	LIMIT OF GRADING
	TREE PROTECTION FENCE
	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE
	EXISTING SPECIMEN TREE (24" OR MORE DBH)
	PROPOSED LIGHTPOLE

LANDSCAPE PLANT SCHEDULE THIS SHEET

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
QC	5	QUERCUS COCCINEA	SCARLET OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
UA	5	ULMUS AMERICANA 'JEFFERSON'	'JEFFERSON' AMERICAN ELM	2.5" CAL.	B&B	50' O.C., AS SHOWN

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-03
LANDSCAPE PLAN

DALE DRIVE SHARED USE PATH

0 30' 60'

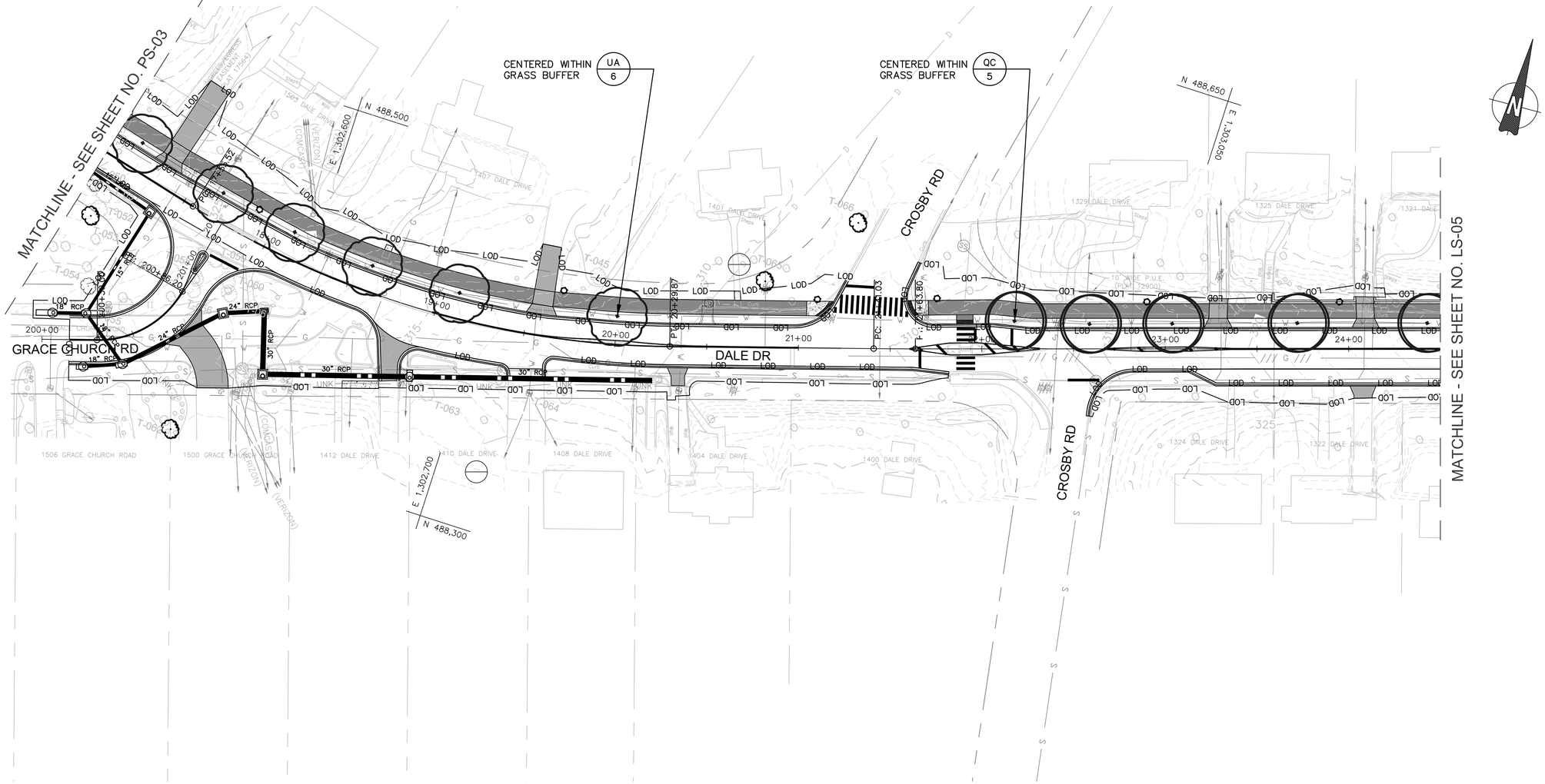
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No.: 502109

SHEET 76 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-03 PLOTTED: Friday, November 05, 2021 - 11:42am USER: AHavener



NOTES:

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

LEGEND

LOD	LIMIT OF DISTURBANCE
	LIMIT OF GRADING
	TREE PROTECTION FENCE
	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE
	EXISTING SPECIMEN TREE (24" OR MORE DBH)
	PROPOSED LIGHTPOLE

LANDSCAPE PLANT SCHEDULE THIS SHEET

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
QC	5	QUERCUS COCCINEA	SCARLET OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
UA	6	ULMUS AMERICANA 'JEFFERSON'	'JEFFERSON' AMERICAN ELM	2.5" CAL.	B&B	50' O.C., AS SHOWN

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-04
LANDSCAPE PLAN

DALE DRIVE SHARED USE PATH

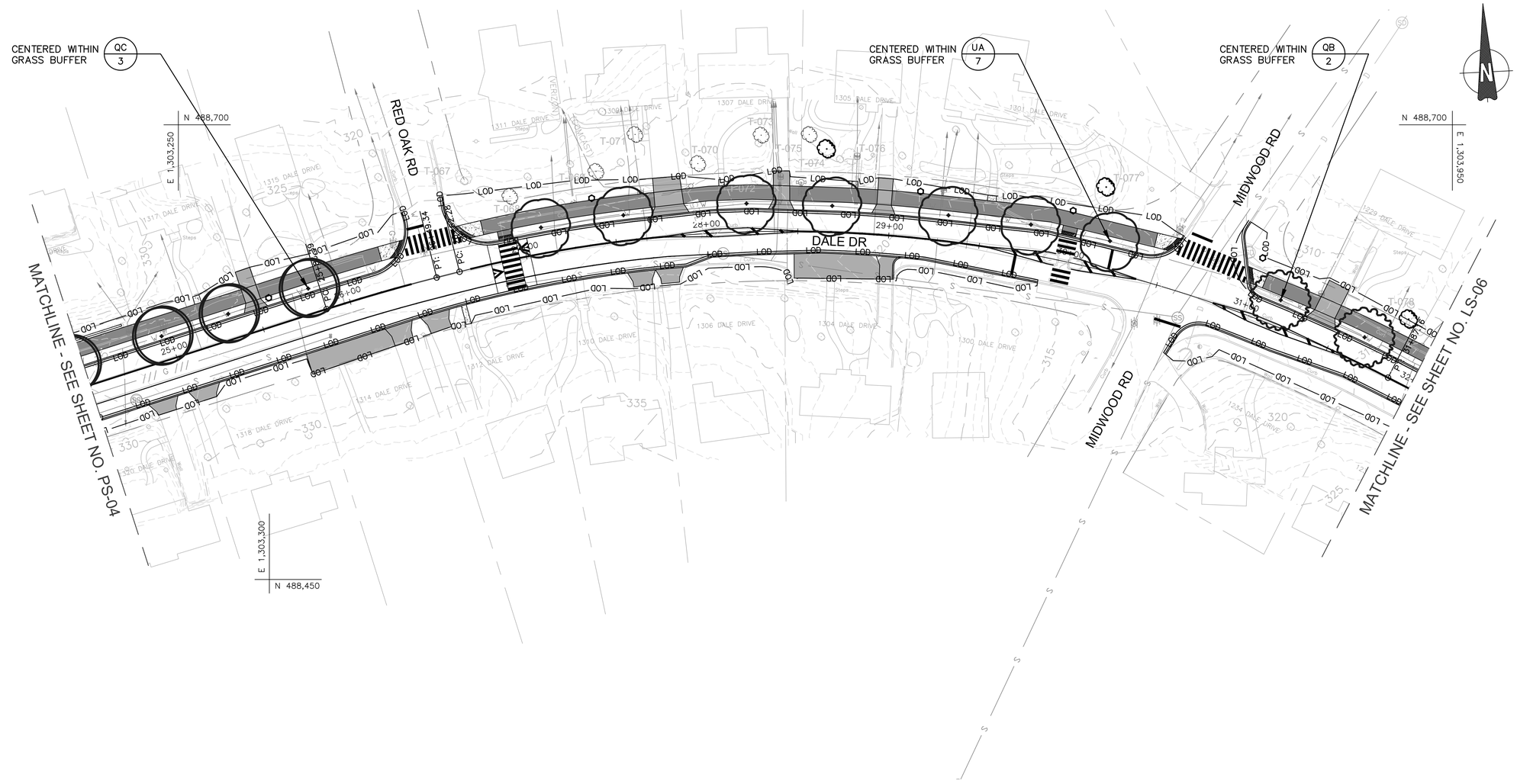
0 30' 60'

SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 77 of 180



NOTES:

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

LEGEND

LOD	LIMIT OF DISTURBANCE
	LIMIT OF GRADING
	TREE PROTECTION FENCE
	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE
	EXISTING SPECIMEN TREE (24" OR MORE DBH)
	PROPOSED LIGHTPOLE

LANDSCAPE PLANT SCHEDULE THIS SHEET

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
QB	2	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
QC	3	QUERCUS COCCINEA	SCARLET OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
UA	7	ULMUS AMERICANA 'JEFFERSON'	'JEFFERSON' AMERICAN ELM	2.5" CAL.	B&B	50' O.C., AS SHOWN

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-05
LANDSCAPE PLAN

DALE DRIVE SHARED USE PATH

0 30' 60'

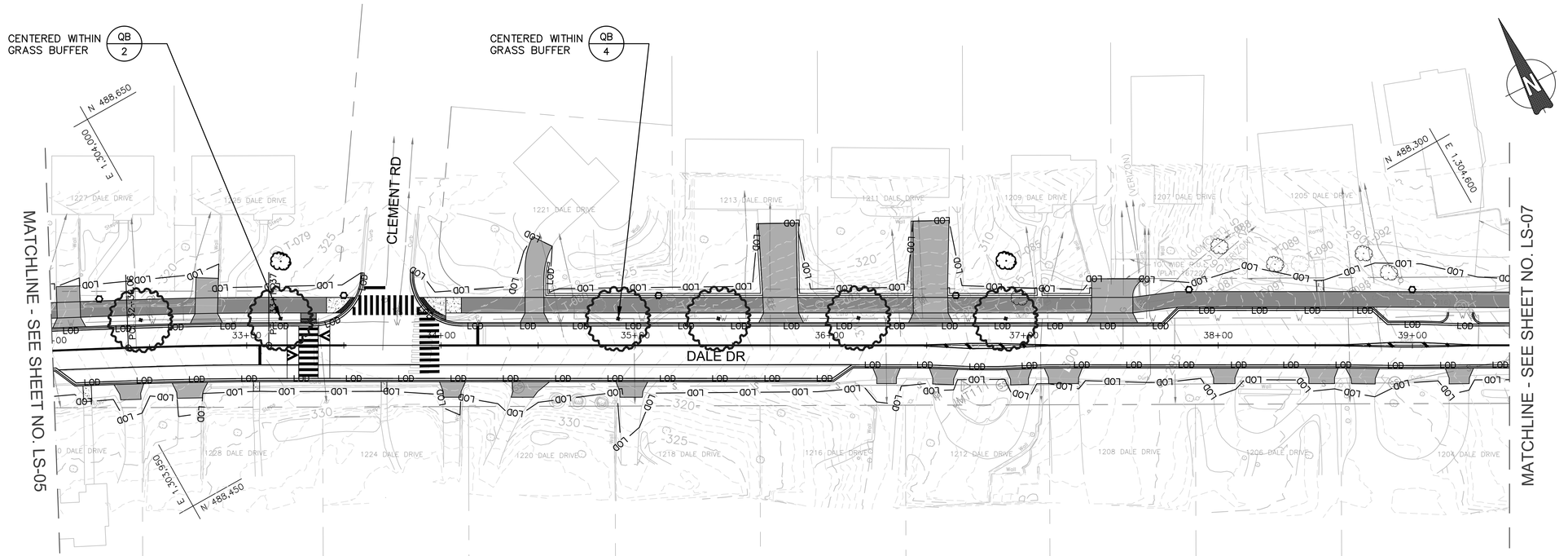
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 78 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-05 PLOTTED: Friday, November 05, 2021 - 11:43am USER: AHavener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CENTERED WITHIN GRASS BUFFER
QB 4
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E 1,303,950
N 488,300
E 1,304,600
CLEMENT RD
DALE DR
MATCHLINE - SEE SHEET NO. LS-05
MATCHLINE - SEE SHEET NO. LS-07
1227 DALE DRIVE
1225 DALE DRIVE
1221 DALE DRIVE
1213 DALE DRIVE
1211 DALE DRIVE
1209 DALE DRIVE
1207 DALE DRIVE
1205 DALE DRIVE
1228 DALE DRIVE
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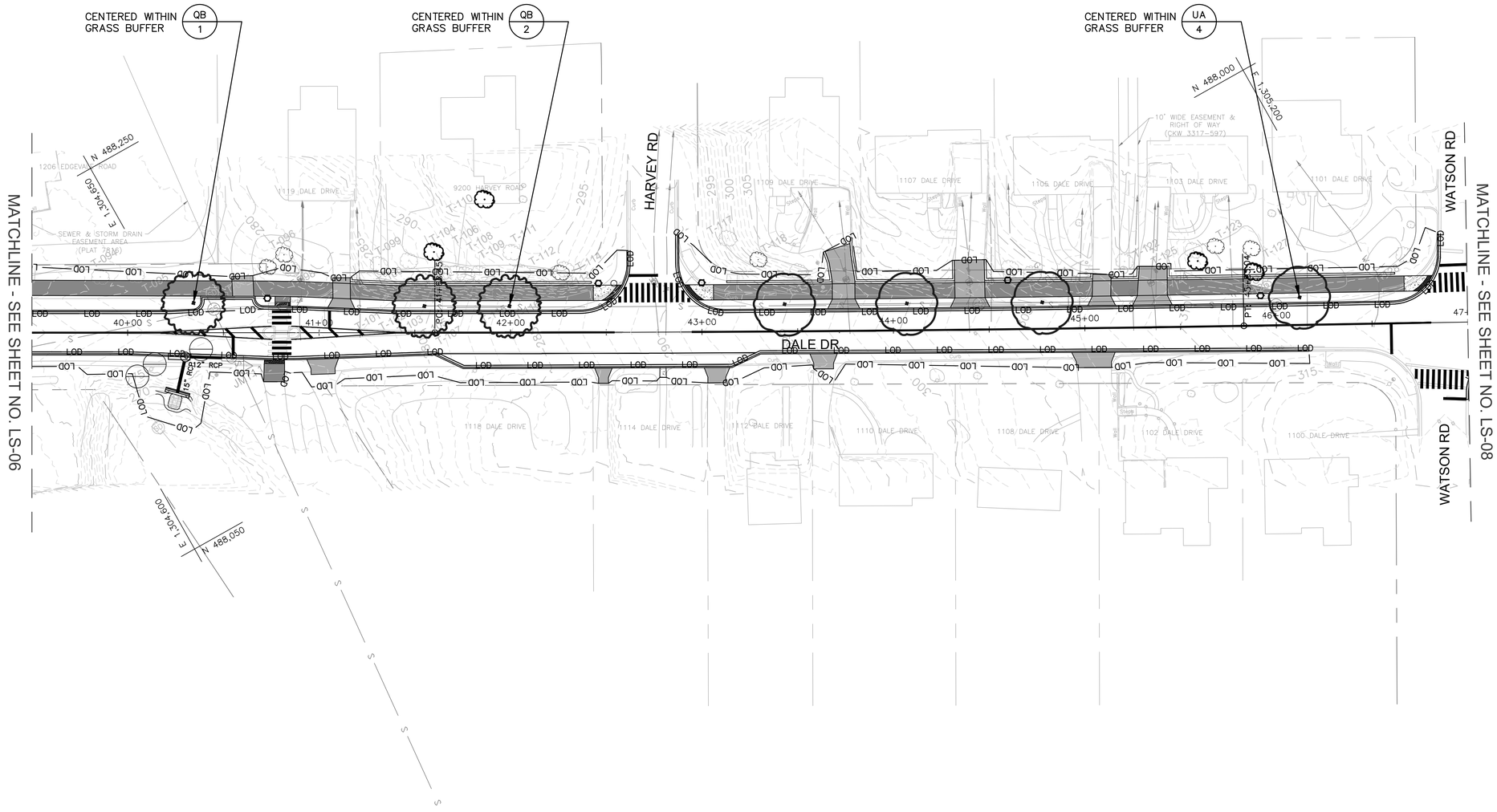


NOTES:

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

LEGEND

LOD	LIMIT OF DISTURBANCE
	LIMIT OF GRADING
	TREE PROTECTION FENCE
	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE
	EXISTING SPECIMEN TREE (24" OR MORE DBH)
	PROPOSED LIGHTPOLE

LANDSCAPE PLANT SCHEDULE THIS SHEET

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
QB	3	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
UA	4	ULMUS AMERICANA 'JEFFERSON'	'JEFFERSON' AMERICAN ELM	2.5" CAL.	B&B	50' O.C., AS SHOWN

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-07
LANDSCAPE PLAN

DALE DRIVE SHARED USE PATH

0 30' 60'

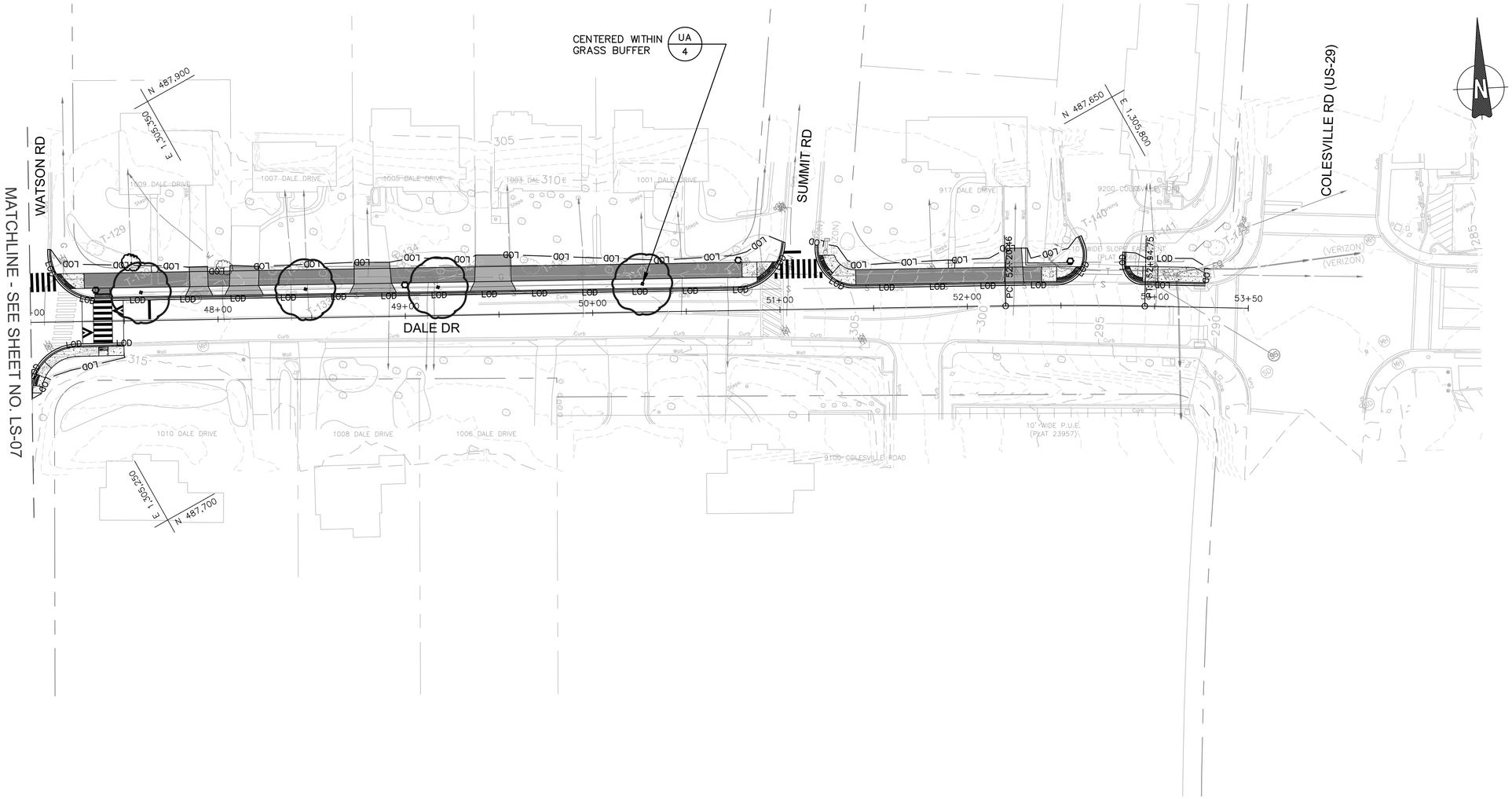
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 80 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-07 PLOTTED: Friday, November 05, 2021 - 11:43am USER: AHavener



NOTES:

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

LEGEND

LOD	LIMIT OF DISTURBANCE
	LIMIT OF GRADING
	TREE PROTECTION FENCE
	PROPOSED SHADE TREE
	PROPOSED FLOWERING TREE
	EXISTING TREE
	EXISTING SPECIMEN TREE (24" OR MORE DBH)
	PROPOSED LIGHTPOLE

LANDSCAPE PLANT SCHEDULE THIS SHEET

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
UA	4	ULMUS AMERICANA 'JEFFERSON'	'JEFFERSON' AMERICAN ELM	2.5" CAL.	B&B	50' O.C., AS SHOWN

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-08
LANDSCAPE PLAN

DALE DRIVE
SHARED USE PATH

0 30' 60'

SCALE: 1"=30' DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 81 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-08 PLOTTED: Friday, November 05, 2021 - 11:43am USER: AHavener

TREE PRESERVATION NOTES

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

INSPECTIONS NOTES

1. ALL FIELD INSPECTIONS MUST BE REQUESTED BY THE APPLICANT. INSPECTIONS MUST BE CONDUCTED AS FOLLOWS:
   a. AFTER THE LIMITS OF DISTURBANCE HAVE BEEN STAKED AND FLAGGED, BUT BEFORE ANY CLEARING OR GRADING BEGINS
   b. AFTER NECESSARY STRESS REDUCTION MEASURES HAVE BEEN COMPLETED AND PROTECTION MEASURES HAVE BEEN INSTALLED, BUT BEFORE ANY CLEARING AND GRADING BEGIN
   c. AFTER COMPLETION OF ALL CONSTRUCTION ACTIVITIES, BUT BEFORE REMOVAL OF TREE PROTECTION FENCING, TO DETERMINE THE LEVEL OF COMPLIANCE WITH THE PROVISION OF THE FOREST CONSERVATION.

STANDARD TREE CANOPY NOTES

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

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

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-09
LANDSCAPE NOTES

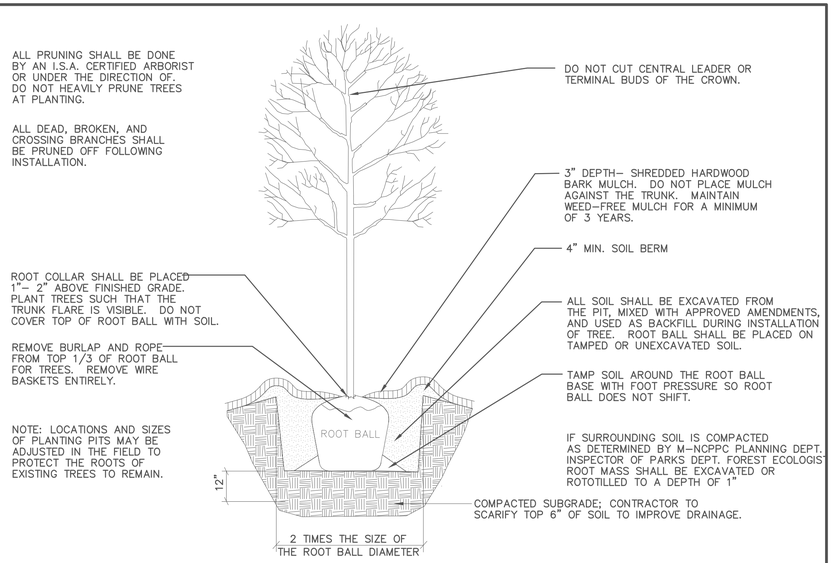
DALE DRIVE
SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No.: 502109

SHEET 82 of 180

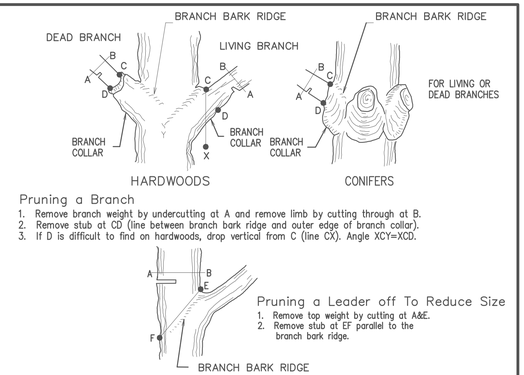


TREE PLANTING DETAIL

NOT TO SCALE

LANDSCAPE PLANT SCHEDULE TOTAL

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
TREES						
CC	3	CERCIS CANADENSIS 'FOREST PANSY'	'FOREST PANSY' EASTERN REDBUD	2.5" CAL.	B&B	20' O.C., AS SHOWN
CF	1	CORNUS FLORIDA 'CHEROKEE PRINCESS'	'CHEROKEE PRINCESS' FLOWERING DOGWOOD	2.0" CAL.	B&B	AS SHOWN
QB	16	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
QC	17	QUERCUS COCCINEA	SCARLET OAK	2.5" CAL.	B&B	50' O.C., AS SHOWN
UA	31	ULMUS AMERICANA 'JEFFERSON'	'JEFFERSON' AMERICAN ELM	2.5" CAL.	B&B	50' O.C., AS SHOWN
SHRUBS						
AS	140	ASCLEPIAS SYRIACA	COMMON MILKWEED	#SP4	CONT.	18" O.C.
EF	380	EUPATORIUM FISTULOSUM	JOE PYE WEED	#SP4	CONT.	18" O.C.
FG	14	FOTHERGILLA GARDENII	DWARF FOTHERGILLA	18" HGT.	CONT.	3' O.C.
IG	22	ILEX GLABRA 'SHAMROCK'	'SHAMROCK' INKBERRY HOLLY	18" HGT.	CONT.	4' O.C.
PV	110	PANICUM VIRGATUM 'PRAIRIE SKY'	'PRAIRIE SKY' SWITCHGRASS	#1 CONT.	CONT.	24" O.C.



Pruning a Branch

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

Pruning a Leader off To Reduce Size

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

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

The following specifications shall apply:

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

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

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

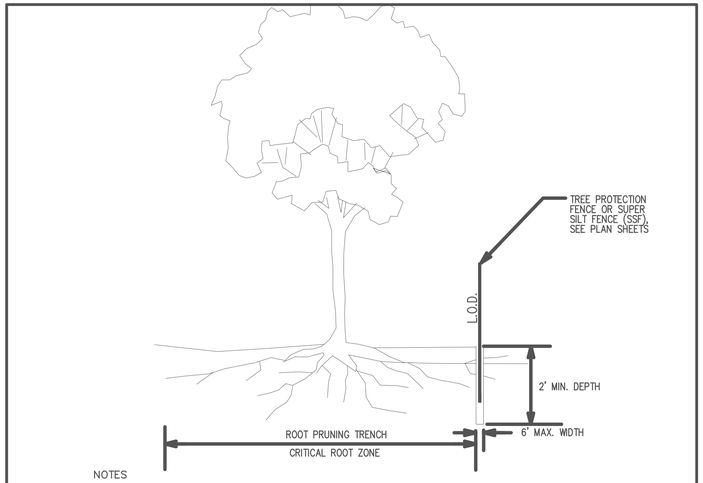
d. On trees known to be diseased, tools are to be disinfected with methyl alcohol at 70% (denatured wood alcohol diluted appropriately with water) or Chlorox solution after each cut and between trees where there is known to be a danger of transmitting the disease on tools.

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

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

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

CROWN PRUNING



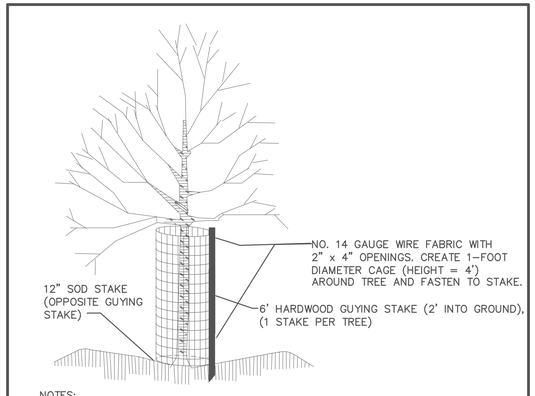
NOTES

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

SOURCE: CITY OF GAITHERSBURG, MARYLAND: CITY TREE MANUAL

ROOT PRUNING PRIOR TO CONSTRUCTION

(IF NEEDED)



NOTES:

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

TREE DEER PROTECTION

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: SJR Drawn by: SJR Checked by: JJR

LS-10
LANDSCAPE DETAILS

DALE DRIVE
SHARED USE PATH

0 30' 60'

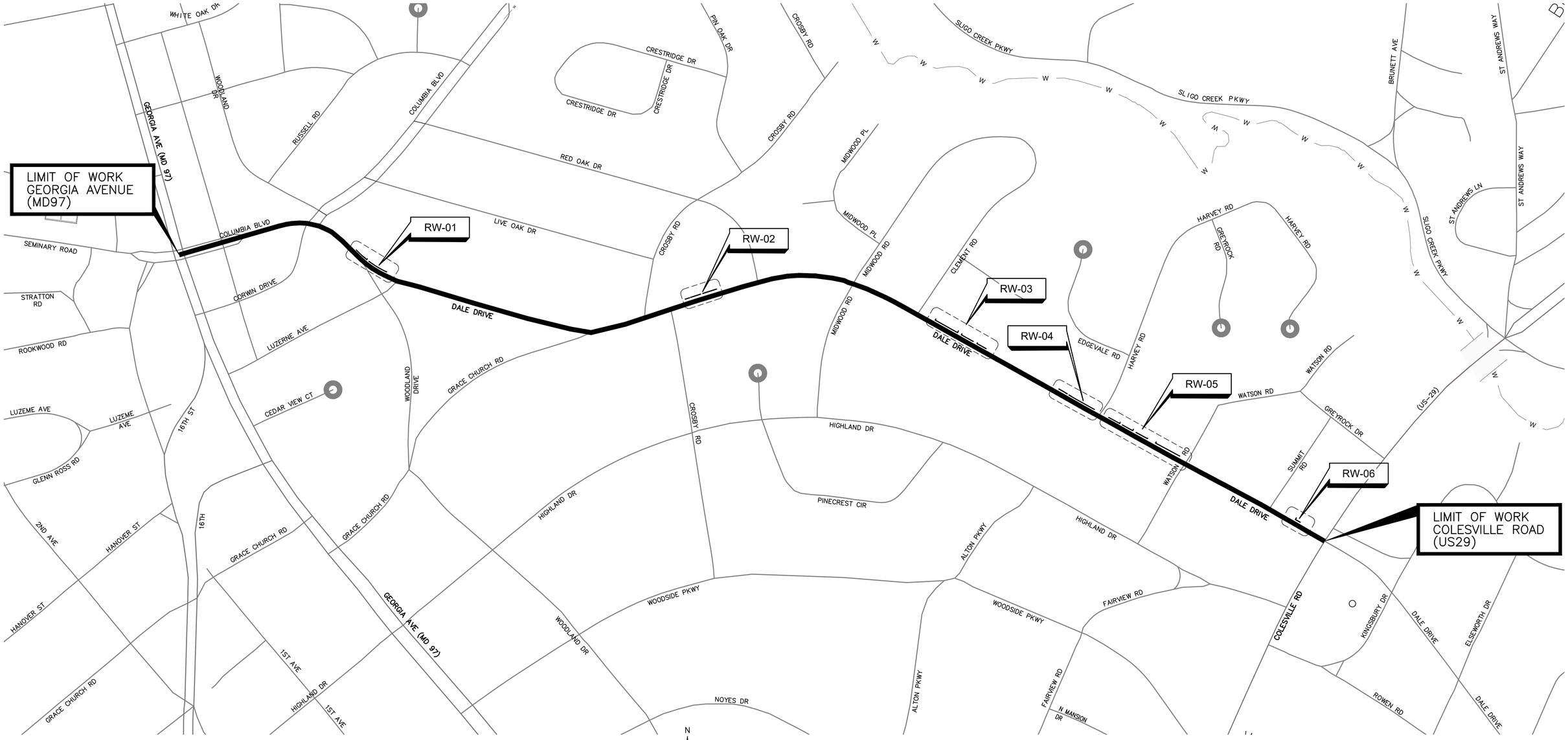
SCALE: 1"=30'

DATE: NOVEMBER 2021

CIP No.: 502109

SHEET 83 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\pLS_Dale.dwg LAYOUT NAME: LS-10 PLOTTED: Friday, November 05, 2021 - 11:44am USER: AHavener



STRUCTURES LOCATION PLAN
SCALE: 1" = 200'-0"

STRUCTURES LOCATION PLAN		
STRUCTURE NO.	ID NO.	DESCRIPTION
RW-01	X-XXXXXXX	RETAINING WALL STA. 8+05.45 TO STA. 9+76.45
RW-02	X-XXXXXXX	RETAINING WALL STA. 23+34.17 TO STA. 24+76.41
RW-03	X-XXXXXXX	RETAINING WALL STA. 34+53.96 TO STA. 37+06.94
RW-04	X-XXXXXXX	RETAINING WALL STA. 40+65.51 TO STA. 42+42.30
RW-05	X-XXXXXXX	RETAINING WALL STA. 43+12.94 TO STA. 46+62.30
RW-06	X-XXXXXXX	RETAINING WALL STA. 52+31.48 TO STA. 52+55.62

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

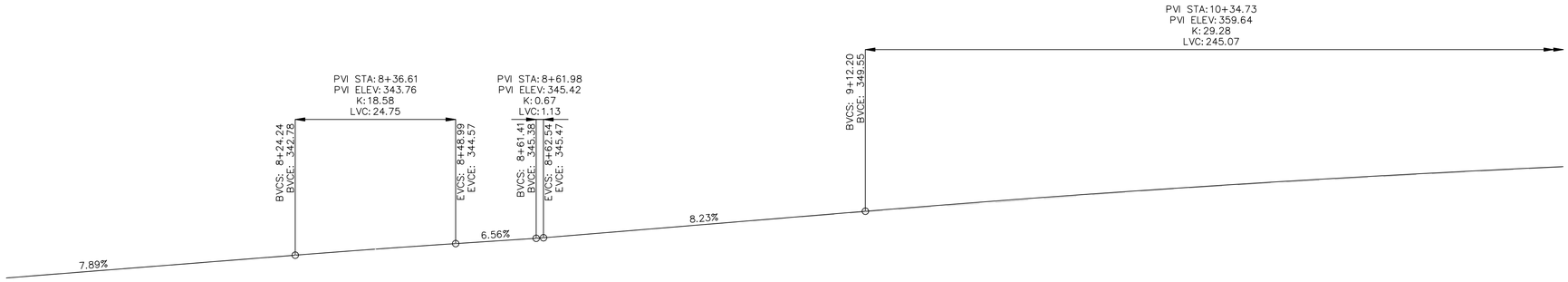
Designed by: WY Drawn by: TNB Checked by: GGN

SLP-01
STRUCTURAL LOCATION PLAN
DALE DRIVE
SHARED USE PATH

0 200' 400'
SCALE: 1"=200' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 84 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestrig\CADD\Structures\pSLP_01.dwg LAYOUT NAME: SLP-01 PLOTTED: Wednesday, November 03, 2021 - 3:42pm USER: Boteju



VERTICAL PROFILE - RW-01

SCALE: N.T.S.

HORIZONTAL ALIGNMENT DATA - DALE DRIVE

P.C. STA. 8+17.95 TO P.T. STA. 10+34.41
S 58° 27' 01.73" E

P.C. STA. 10+34.41 TO P.T. STA. 10+67.98
S 72° 13' 52.58" E

GENERAL NOTES:

SPECIFICATIONS:	MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, 2010.
	CONCRETE DESIGN: f'c = 3.0 KSI.
	REINFORCING STEEL DESIGN: fy = 60.0 KSI.
CONCRETE:	ALL STRUCTURE CONCRETE SHALL BE MIX. No. 3 (3500 PSI) EXCEPT AS NOTED BELOW UNDER REINFORCING STEEL.
REINFORCING STEEL:	REINFORCING STEEL SHALL CONFORM TO A615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.
	IF THE FRONT FACE OF A RETAINING WALL IS LESS THAN 10 FEET FROM THE EDGE OF PAVED SURFACES, EPOXY COATED REINFORCEMENT SHALL BE USED IN THE FRONT FACE OF THE STEM AND MIX. No. 6 (4500 PSI) CONCRETE SHALL BE USED FOR THE STEM.
	ONLY GRADE 60 CAN BE USED.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

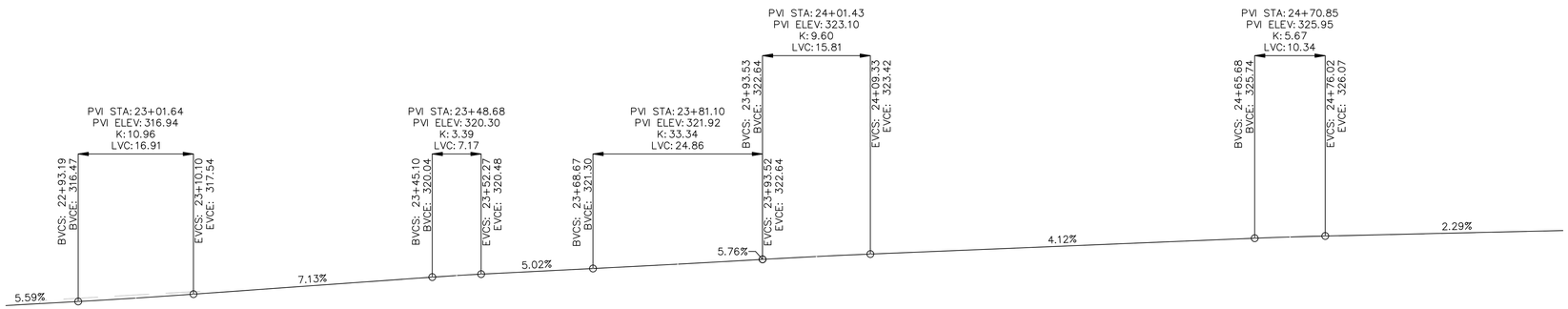
Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-0.1
GENERAL STRUCTURE INFORMATION
DALE DRIVE
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 85 of 180



VERTICAL PROFILE - RW-02

SCALE: N.T.S.

HORIZONTAL ALIGNMENT DATA - DALE DRIVE

P.T. STA. 21+63.80 TO P.T. STA. 25+86.39
N 72° 09' 51.25" E

GENERAL NOTES:

SPECIFICATIONS: MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, 2010.

CONCRETE DESIGN: f'c = 3.0 KSI.

REINFORCING STEEL DESIGN: fy = 60.0 KSI.

CONCRETE: ALL STRUCTURE CONCRETE SHALL BE MIX. No. 3 (3500 PSI) EXCEPT AS NOTED BELOW UNDER REINFORCING STEEL.

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ONLY GRADE 60 CAN BE USED.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

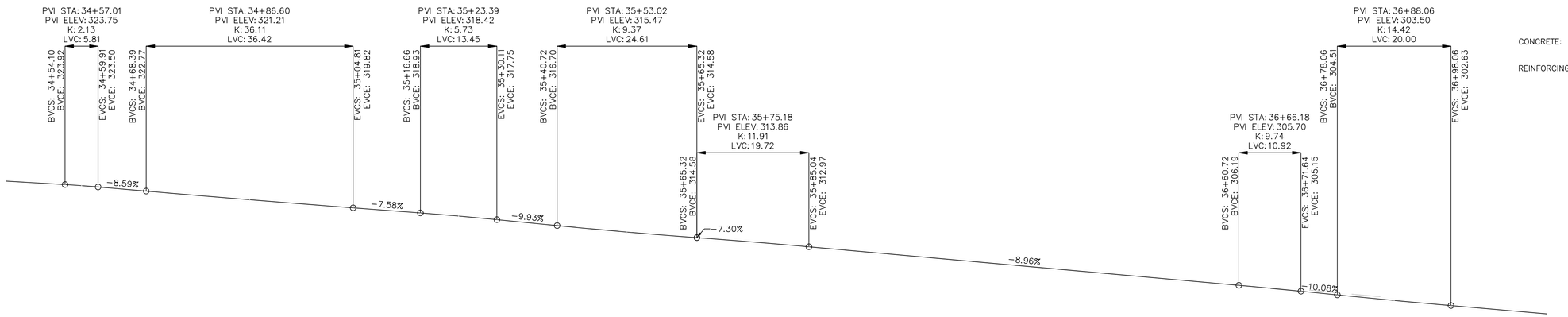
Designed by: WY Drawn by: TNB Checked by: GGN

S-0.2
GENERAL STRUCTURE INFORMATION
DALE DRIVE
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 86 of 180

FILE NAME: G:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_00.dwg LAYOUT NAME: S-0.2 PLOTTED: Thursday, November 04, 2021 - 4:05pm USER: Boteju



VERTICAL PROFILE - RW-03

SCALE: N.T.S.

HORIZONTAL ALIGNMENT DATA - DALE DRIVE

P.T. STA. 33+11.37 TO P.T. STA. 41+60.45
S 60° 40' 38.03" E

GENERAL NOTES:

SPECIFICATIONS: MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, 2010.

CONCRETE DESIGN: f'c = 3.0 KSI.

REINFORCING STEEL DESIGN: fy = 60.0 KSI.

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ONLY GRADE 60 CAN BE USED.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-0.3
GENERAL STRUCTURE INFORMATION
DALE DRIVE
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 87 of 180

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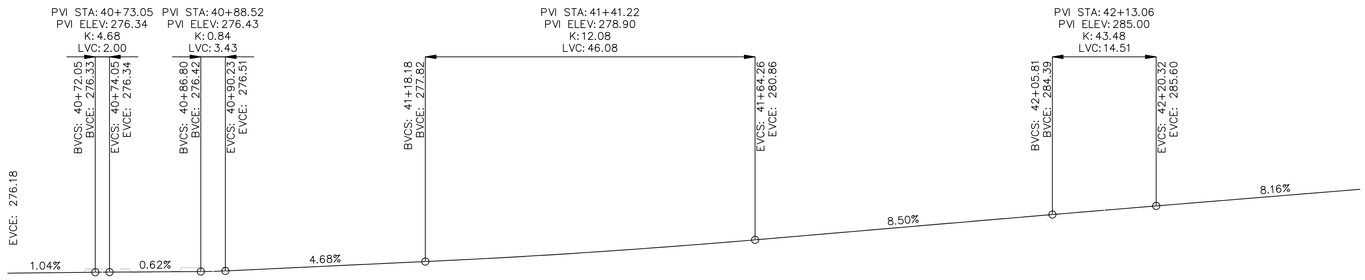

VERTICAL PROFILE - RW-04

SCALE: N.T.S.

HORIZONTAL ALIGNMENT DATA - DALE DRIVE

P.T. STA. 33+11.37 TO P.T. STA. 41+60.45
S 60° 40' 38.03" E

P.C. STA. 41+60.45 TO P.T. STA. 45+83.04
S 61° 09' 41.36" E

GENERAL NOTES:

SPECIFICATIONS: MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, 2010.

CONCRETE DESIGN: f'c = 3.0 KSI.

REINFORCING STEEL DESIGN: fy = 60.0 KSI.

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

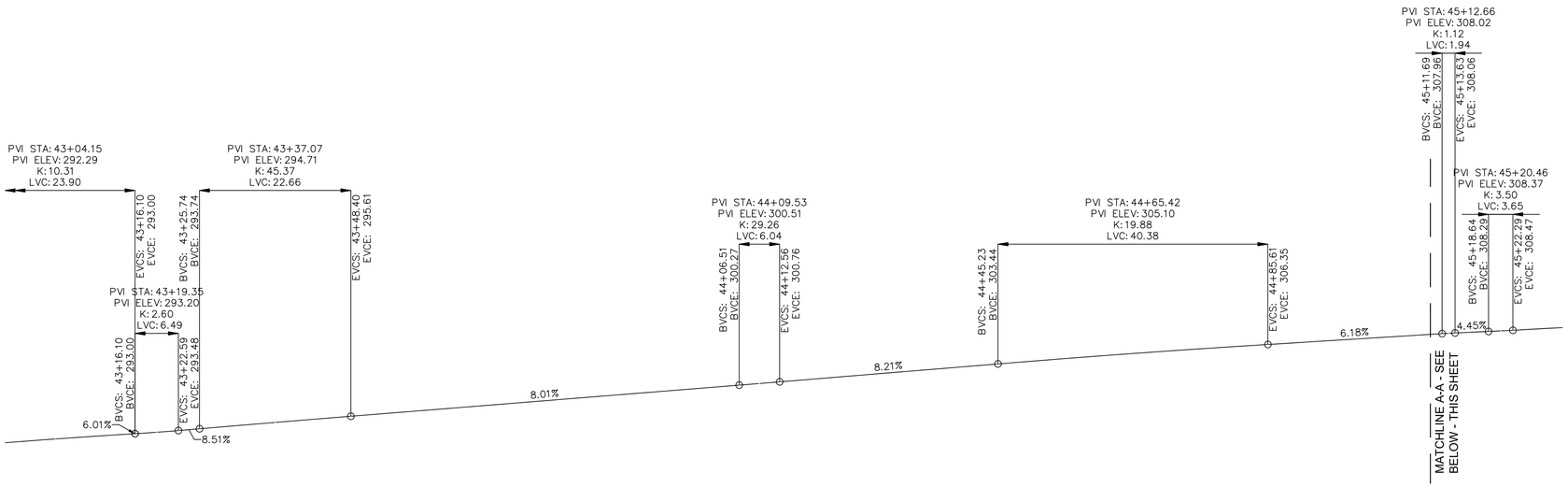
Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-0.4
GENERAL STRUCTURE INFORMATION
DALE DRIVE
SHARED USE PATH

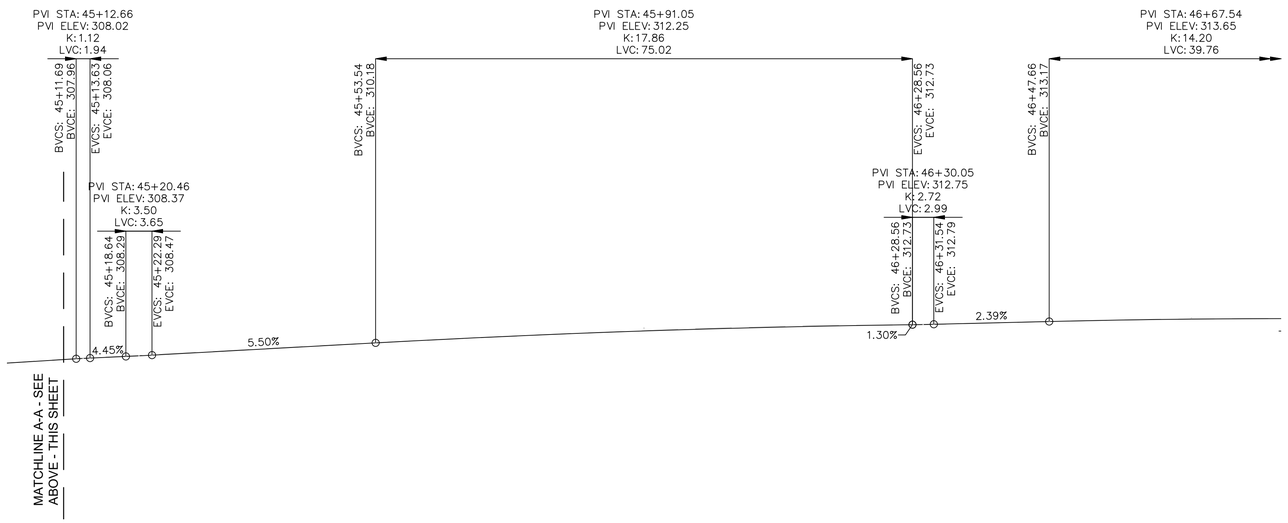
SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 88 of 180



VERTICAL PROFILE - RW-05.1

SCALE: N.T.S.



VERTICAL PROFILE - RW-05.2

SCALE: N.T.S.

HORIZONTAL ALIGNMENT DATA - DALE DRIVE

P.C. STA. 41+60.45 TO P.T. STA. 45+83.04
S 61° 09' 41.36" E

P.T. STA. 45+83.04 TO P.T. STA. 52+20.46
S 61° 38' 44.69" E

GENERAL NOTES:

SPECIFICATIONS: MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, 2010.

CONCRETE DESIGN: f'c = 3.0 KSI.

REINFORCING STEEL DESIGN: fy = 60.0 KSI.

CONCRETE: ALL STRUCTURE CONCRETE SHALL BE MIX. No. 3 (3500 PSI) EXCEPT AS NOTED BELOW UNDER REINFORCING STEEL.

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ONLY GRADE 60 CAN BE USED.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

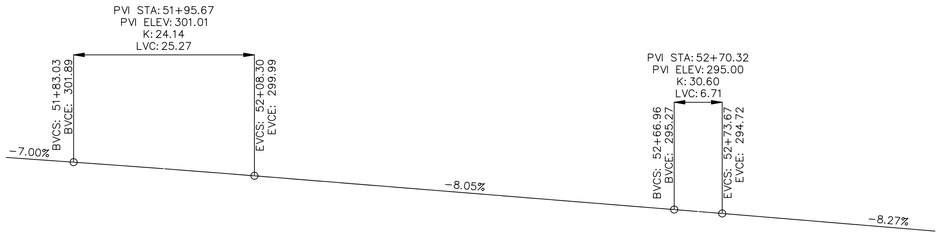
Designed by: WY Drawn by: TNB Checked by: GGN

S-0.5
GENERAL STRUCTURE INFORMATION
DALE DRIVE
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 89 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_00.dwg LAYOUT NAME: S-0.5 PLOTTED: Thursday, November 04, 2021 - 4:05pm USER: Boteju



VERTICAL PROFILE - RW-06

SCALE: N.T.S.

HORIZONTAL ALIGNMENT DATA - DALE DRIVE

P.C. STA. 52+20.46 TO P.T. STA. 52+94.75
S 60° 34' 53.97" E

GENERAL NOTES:

SPECIFICATIONS:

MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, 2010.

CONCRETE DESIGN: f'c = 3.0 KSI.

REINFORCING STEEL DESIGN: fy = 60.0 KSI.

CONCRETE:

ALL STRUCTURE CONCRETE SHALL BE MIX. No. 3 (3500 PSI) EXCEPT AS NOTED BELOW UNDER REINFORCING STEEL.

REINFORCING STEEL:

REINFORCING STEEL SHALL CONFORM TO A615, GRADE 60. ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

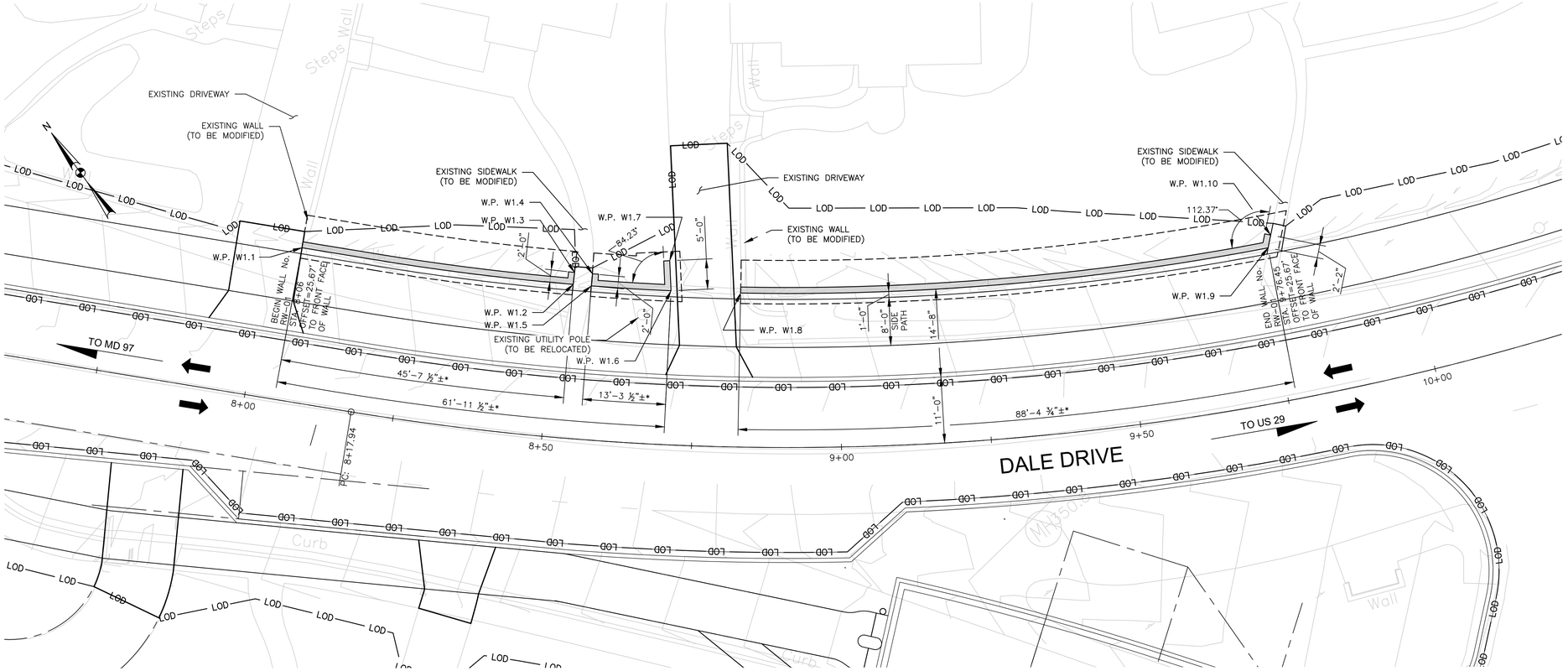
S-0.6
GENERAL STRUCTURE INFORMATION

DALE DRIVE
SHARED USE PATH

SCALE: NOT TO SCALE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 90 of 180

FILE NAME: G:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_00.dwg LAYOUT NAME: S-0.6 PLOTTED: Thursday, November 04, 2021 - 4:05pm USER: Boteju

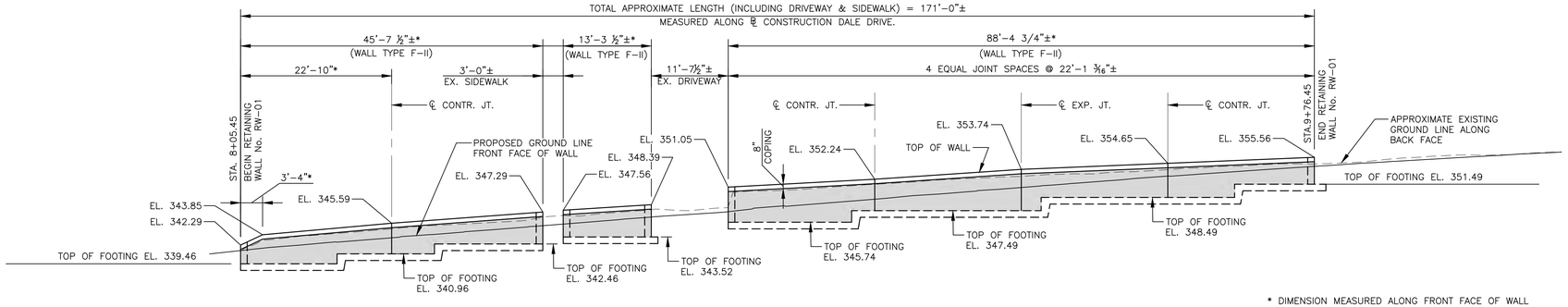


GENERAL PLAN - RW-01

SCALE: 1" = 10'-0"

NOTE TO REVIEWER:

CURRENTLY THE FOUNDATION IS SHOWN OUTSIDE OF THE LOD IN SEVERAL LOCATIONS. WHEN THE GEOTECHNICAL REPORT IS FINALIZED, THE FOUNDATION WILL BE REVISED AND THE LOD WILL BE ADJUSTED AS NECESSARY.



* DIMENSION MEASURED ALONG FRONT FACE OF WALL

NOTES:

1. FOR THE LOCATION OF THE WALL, PLEASE SEE THE STRUCTURE LOCATION PLAN, DRAWING SLP-01.
2. FOR WALL TYPE F-II, SEE MDOT SHA STANDARD RW-107 – TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE).
3. CONSTRUCTION JOINTS IN THE FOUNDATION SHALL BE LOCATED 6" AWAY FROM EXPANSION JOINTS IN THE WALL.
4. ELEVATIONS ARE SHOWN AT THE FRONT FACE OF WALL.
5. ARCHITECTURAL TREATMENT ON FACE OF WALL TO BE DETERMINED.
6. ALL ANGLES ARE 90°-00'-00" UNLESS OTHERWISE NOTED.

ELEVATION - RW-01

SCALE: 1" = 10'-0"

COORDINATE TABLE			
WORKING POINT	NORTHING	EASTING	OFFSET
W.P W1.1	488,758.10	1,301,663.41	25.67(L)
W.P W1.2	488,726.59	1,301,696.37	25.67(L)
W.P W1.3	488,728.07	1,301,697.72	27.67(L)
W.P W1.4	488,726.12	1,301,700.00	27.67(L)
W.P W1.5	488,724.61	1,301,698.67	25.67(L)
W.P W1.6	488,716.14	1,301,708.94	25.67(L)
W.P W1.7	488,720.33	1,301,711.71	30.67(L)
W.P W1.8	488,709.02	1,301,718.09	25.67(L)
W.P W1.9	488,663.42	1,301,793.63	25.67(L)
W.P W1.10	488,664.89	1,301,795.23	27.67(L)

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-01
GENERAL PLAN AND ELEVATION
DALE DRIVE
SHARED USE PATH

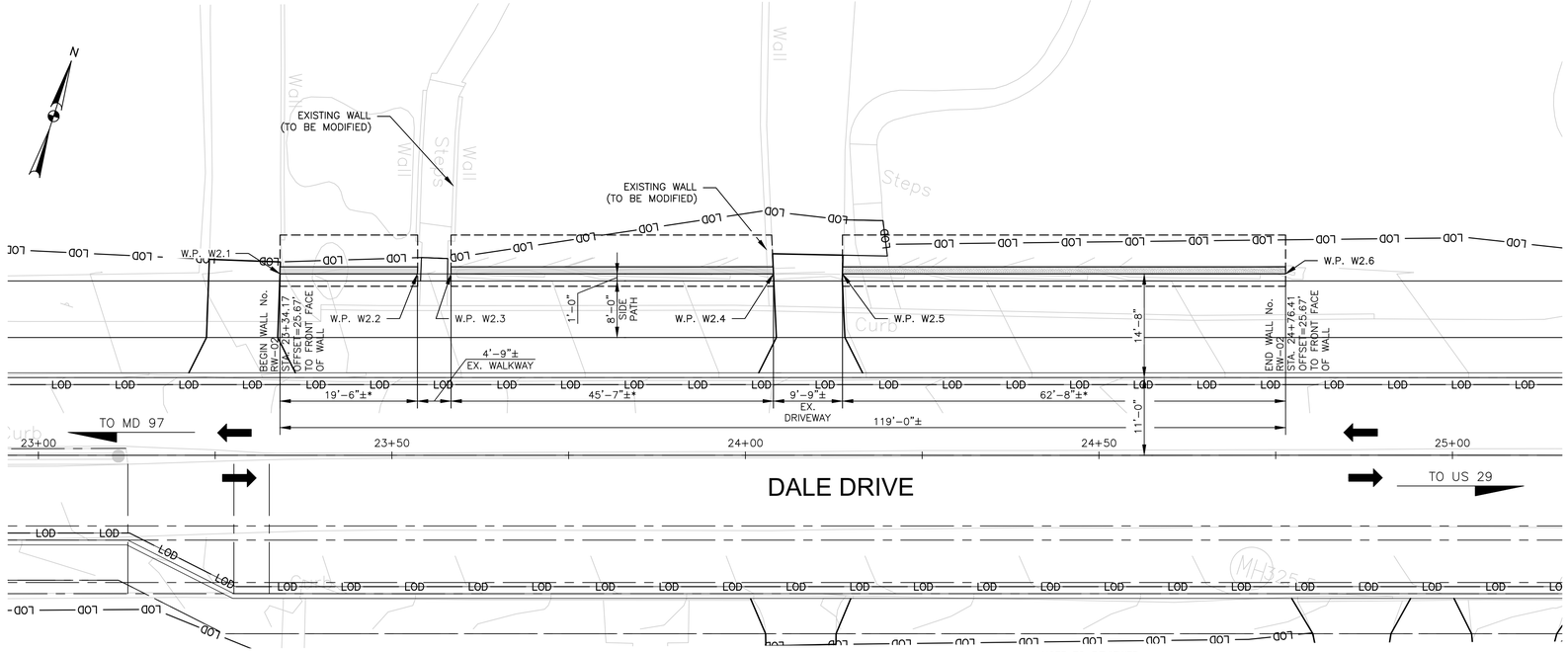
0 10' 20'
SCALE: 1"=10'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 91 of 180

FILE NAME: G:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_01.dwg LAYOUT NAME: S-01 PLOTTED: Thursday, November 04, 2021 – 11:59am USER: Boteju

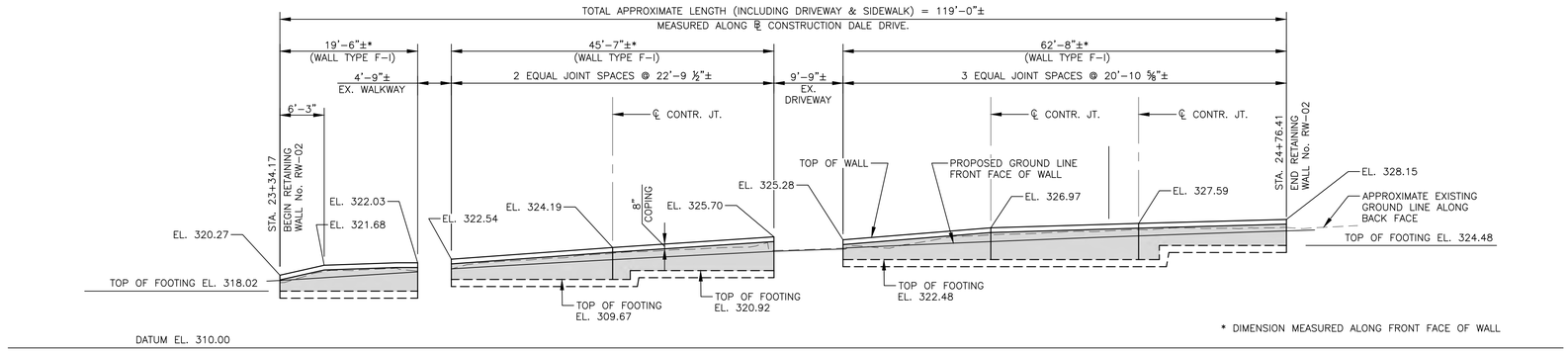


GENERAL PLAN - RW-02

SCALE: 1" = 10'-0"

NOTE TO REVIEWER:

CURRENTLY THE FOUNDATION IS SHOWN OUTSIDE OF THE LOD IN SEVERAL LOCATIONS. WHEN THE GEOTECHNICAL REPORT IS FINALIZED, THE FOUNDATION WILL BE REVISED AND THE LOD WILL BE ADJUSTED AS NECESSARY.



* DIMENSION MEASURED ALONG FRONT FACE OF WALL

NOTES:

1. FOR THE LOCATION OF THE WALL, PLEASE SEE THE STRUCTURE LOCATION PLAN, DRAWING SLP-01.
2. FOR WALL TYPES F-I, SEE MDOT SHA STANDARD RW-107 – TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE).
3. CONSTRUCTION JOINTS IN THE FOUNDATION SHALL BE LOCATED 6" AWAY FROM EXPANSION JOINTS IN THE WALL.
4. ELEVATIONS ARE SHOWN AT THE FRONT FACE OF WALL.
5. ARCHITECTURAL TREATMENT ON FACE OF WALL TO BE DETERMINED.
6. ALL ANGLES ARE 90°-00'-00" UNLESS OTHERWISE NOTED.

COORDINATE TABLE			
WORKING POINT	NORTHING	EASTING	OFFSET
W.P W2.1	488,545.82	1,303,083.48	25.67(L)
W.P W2.2	488,551.78	1,303,101.98	25.67(L)
W.P W2.3	488,553.23	1,303,106.51	25.67(L)
W.P W2.4	488,567.22	1,303,150.00	25.67(L)
W.P W2.5	488,570.19	1,303,159.22	25.67(L)
W.P W2.6	488,589.39	1,303,218.88	25.67(L)

ELEVATION - RW-02

SCALE: 1" = 10'-0"

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

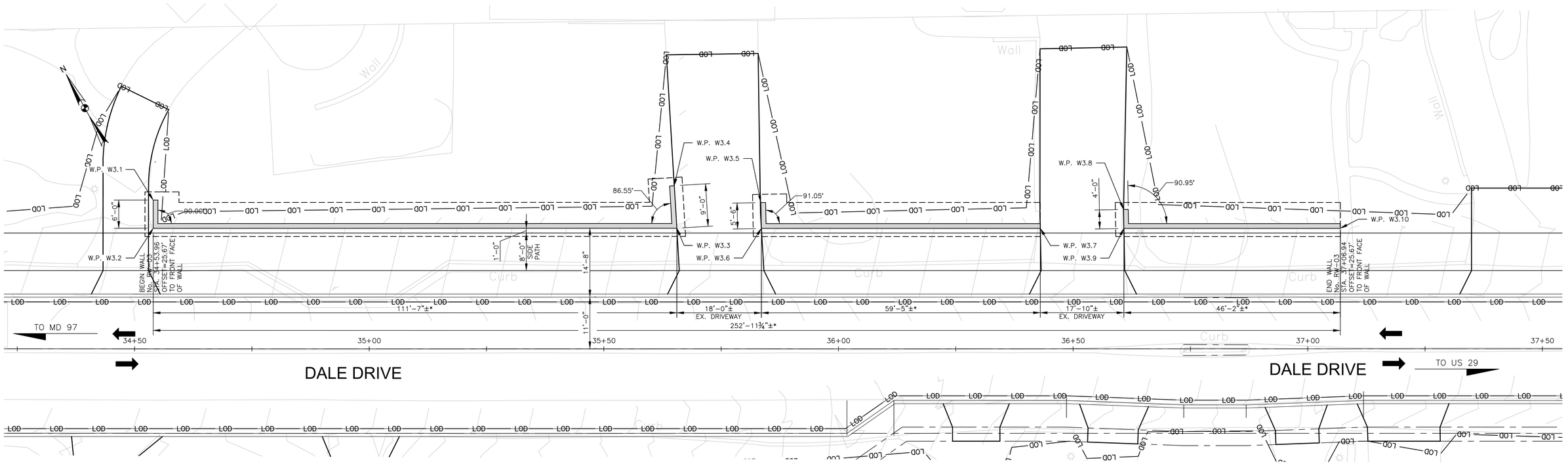
Designed by: WY Drawn by: TNB Checked by: GGN

S-02
GENERAL PLAN AND ELEVATION
DALE DRIVE
SHARED USE PATH

0 10' 20'

SCALE: 1"=10' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 92 of 180

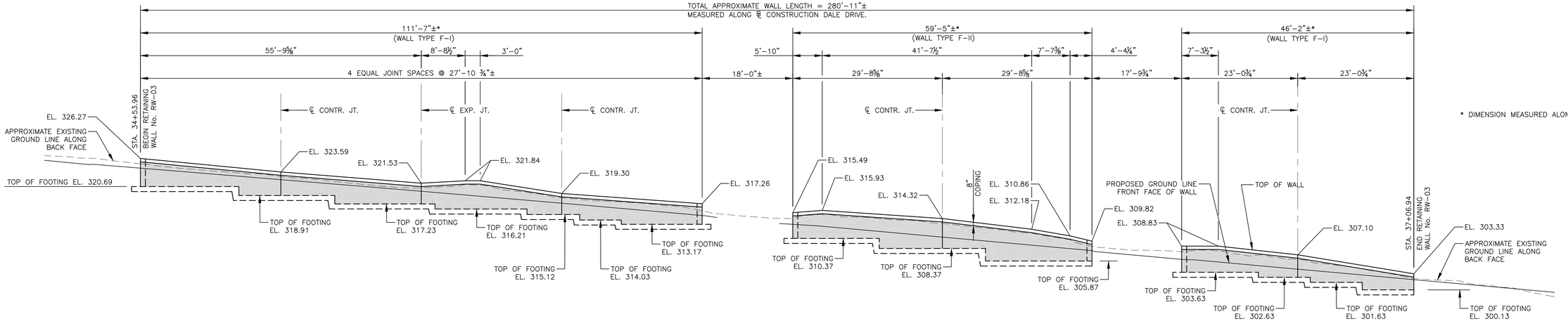


GENERAL PLAN - RW-03

SCALE: 1" = 10'-0"

NOTE TO REVIEWER:

CURRENTLY THE FOUNDATION IS SHOWN OUTSIDE OF THE LOD IN SEVERAL LOCATIONS. WHEN THE GEOTECHNICAL REPORT IS FINALIZED, THE FOUNDATION WILL BE REVISED AND THE LOD WILL BE ADJUSTED AS NECESSARY.



DATUM EL. 290.00

ELEVATION - RW-03

SCALE: 1" = 10'-0"

COORDINATE TABLE			
WORKING POINT	NORTHING	EASTING	OFFSET
W.P W3.1	488,460.73	1,304,164.30	31.67(L)
W.P W3.2	488,455.49	1,304,161.37	25.67(L)
W.P W3.3	488,400.86	1,304,258.68	25.67(L)
W.P W3.4	488,409.01	1,304,262.63	34.74(L)
W.P W3.5	488,396.84	1,304,276.97	31.15(L)
W.P W3.6	488,392.02	1,304,274.37	25.67(L)
W.P W3.7	488,362.91	1,304,326.19	25.67(L)
W.P W3.8	488,357.71	1,304,343.62	29.67(L)
W.P W3.9	488,354.19	1,304,341.72	25.67(L)
W.P W3.10	488,331.60	1,304,381.93	25.67(L)

NOTES:

1. FOR THE LOCATION OF THE WALL, PLEASE SEE THE STRUCTURE LOCATION PLAN, DRAWING SLP-01.
2. FOR WALL TYPES F-I AND F-II, SEE MDOT SHA STANDARD RW-107 – TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE).
3. CONSTRUCTION JOINTS IN THE FOUNDATION SHALL BE LOCATED 6" AWAY FROM EXPANSION JOINTS IN THE WALL.
4. ELEVATIONS ARE SHOWN AT THE FRONT FACE OF WALL.
5. ARCHITECTURAL TREATMENT ON FACE OF WALL TO BE DETERMINED.
6. ALL ANGLES ARE 90°-00'-00" UNLESS OTHERWISE NOTED.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-03
GENERAL PLAN AND ELEVATION
DALE DRIVE
SHARED USE PATH

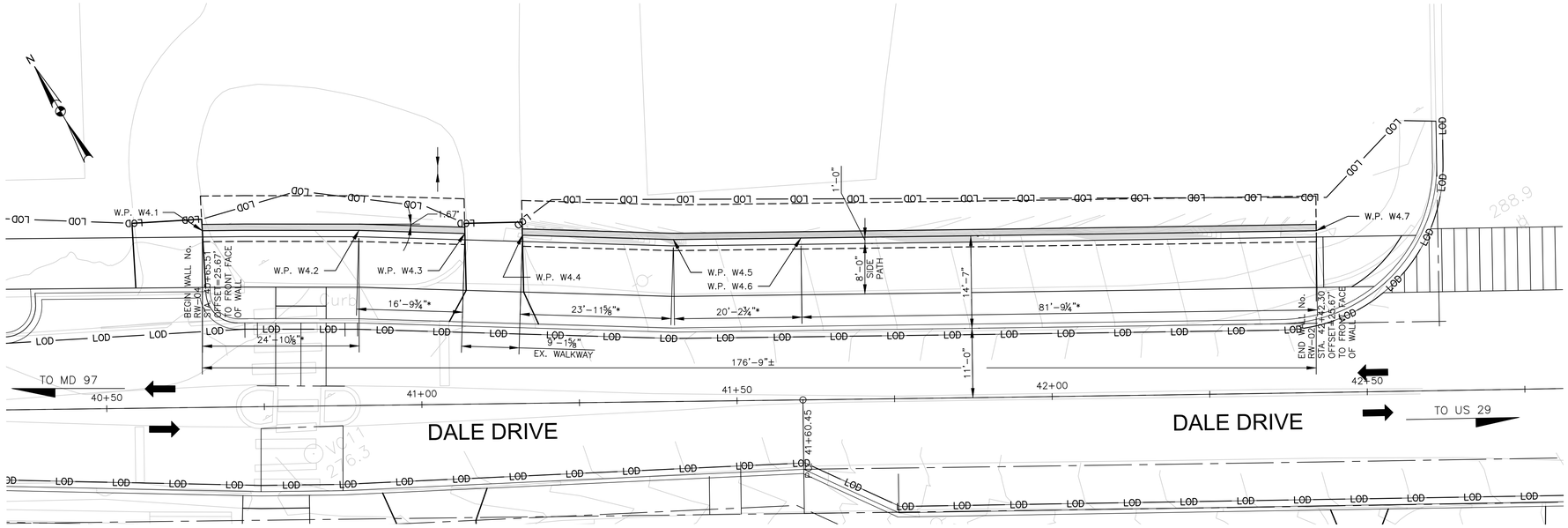
0 10' 20'
SCALE: 1"=10'

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 93 of 180

FILE NAME: G:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_01.dwg LAYOUT NAME: S-03 PLOTTED: Thursday, November 04, 2021 – 11:59am USER: Boteju

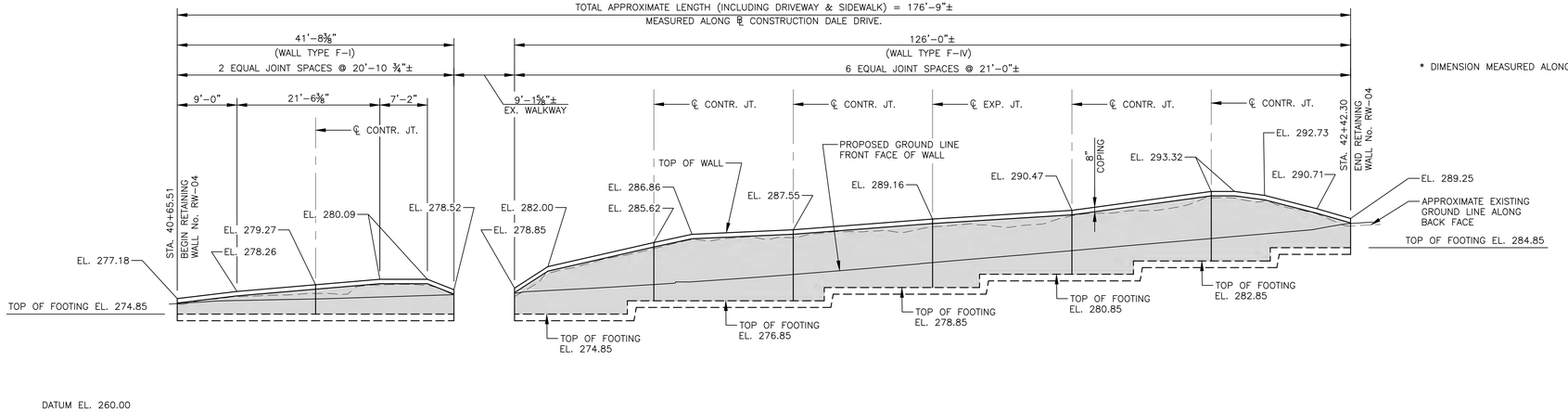


GENERAL PLAN - RW-04

SCALE: 1" = 10'-0"

NOTE TO REVIEWER:

CURRENTLY THE FOUNDATION IS SHOWN OUTSIDE OF THE LOD IN SEVERAL LOCATIONS. WHEN THE GEOTECHNICAL REPORT IS FINALIZED, THE FOUNDATION WILL BE REVISED AND THE LOD WILL BE ADJUSTED AS NECESSARY.



ELEVATION - RW-04

SCALE: 1" = 10'-0"

* DIMENSION MEASURED ALONG FRONT FACE OF WALL

NOTES:

1. FOR THE LOCATION OF THE WALL, PLEASE SEE THE STRUCTURE LOCATION PLAN, DRAWING SLP-01.
2. FOR WALL TYPES F-I AND F-IV, SEE MDOT SHA STANDARD RW-107 – TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE).
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4. ELEVATIONS ARE SHOWN AT THE FRONT FACE OF WALL.
5. ARCHITECTURAL TREATMENT ON FACE OF WALL TO BE DETERMINED.
6. ALL ANGLES ARE 90°-00'-00" UNLESS OTHERWISE NOTED.

COORDINATE TABLE			
WORKING POINT	NORTHING	EASTING	OFFSET
W.P W4.1	488,158.05	1,304,695.71	28.02(L)
W.P W4.2	488,145.65	1,304,717.24	27.75(L)
W.P W4.3	488,136.81	1,304,731.54	27.05(L)
W.P W4.4	488,132.01	1,304,739.31	26.67(L)
W.P W4.5	488,119.41	1,304,759.70	25.67(L)
W.P W4.6	488,109.50	1,304,777.33	25.67(L)
W.P W4.7	488,069.58	1,304,848.69	25.67(L)

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

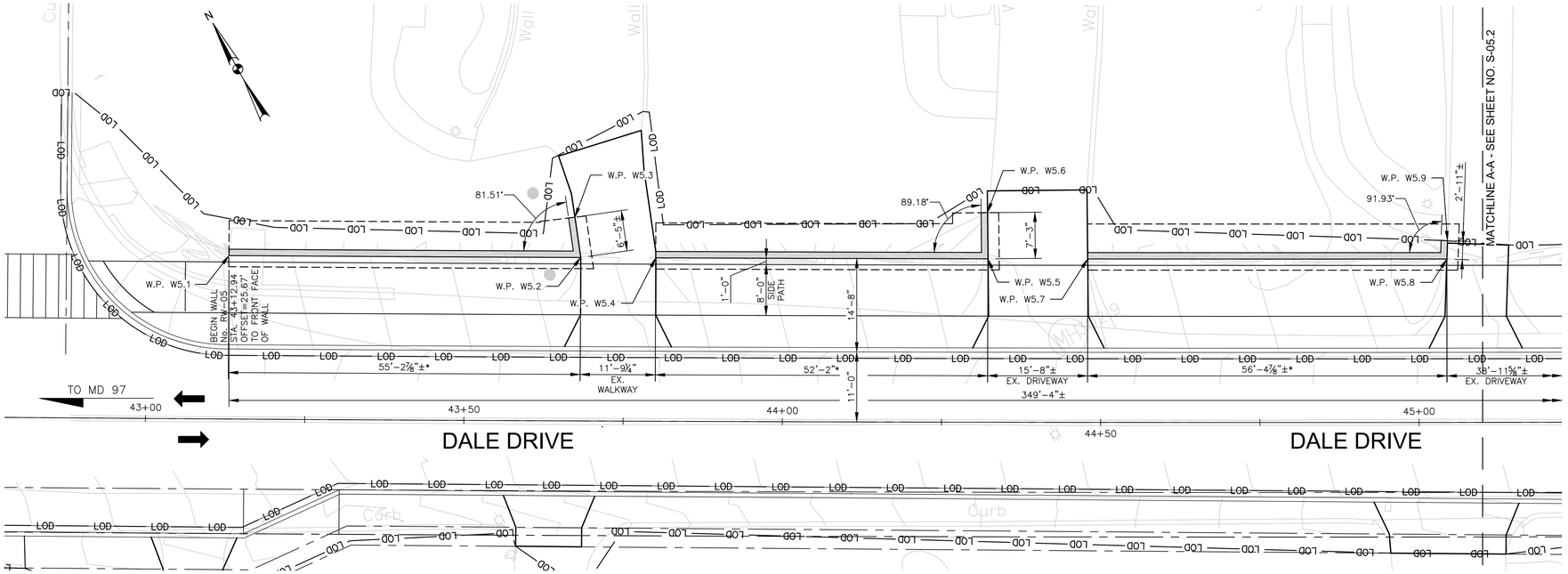
Designed by: WY Drawn by: TNB Checked by: GGN

S-04
GENERAL PLAN AND ELEVATION
DALE DRIVE SHARED USE PATH

0 10' 20'

SCALE: 1"=10' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 94 of 180



GENERAL PLAN - RW-05.1

SCALE: 1" = 10'-0"

NOTE TO REVIEWER:

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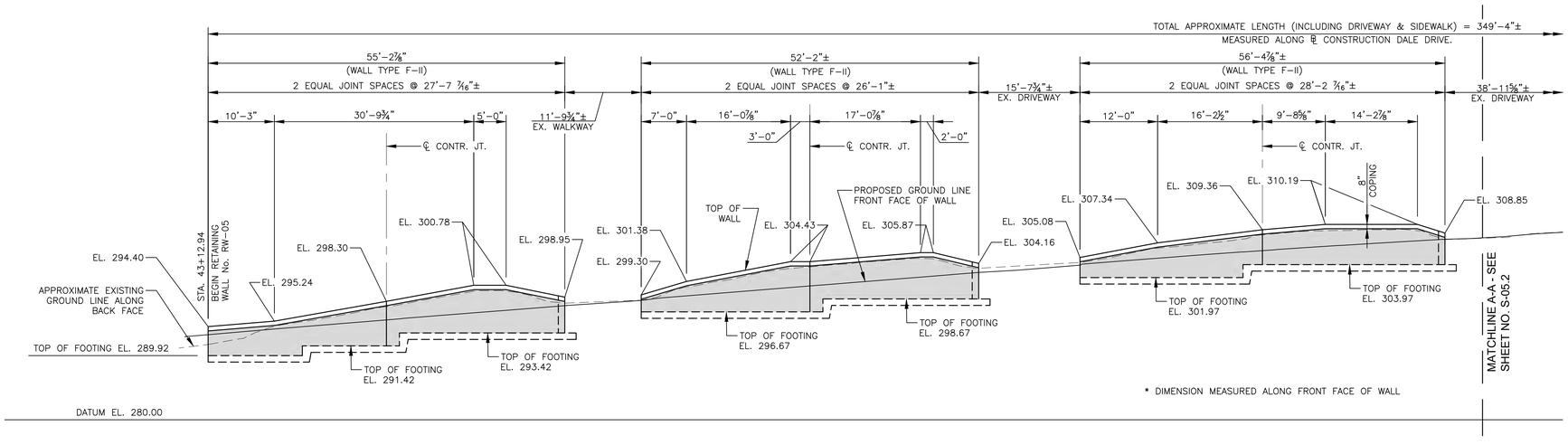


* DIMENSION MEASURED ALONG FRONT FACE OF WALL

ELEVATION - RW-05.1

SCALE: 1" = 10'-0"

NOTES:

1. FOR THE LOCATION OF THE WALL, PLEASE SEE THE STRUCTURE LOCATION PLAN, DRAWING SLP-01.
2. FOR WALL TYPE F-II, SEE MDOT SHA STANDARD RW-107 – TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE).
3. CONSTRUCTION JOINTS IN THE FOUNDATION SHALL BE LOCATED 6" AWAY FROM EXPANSION JOINTS IN THE WALL.
4. ELEVATIONS ARE SHOWN AT THE FRONT FACE OF WALL.
5. ARCHITECTURAL TREATMENT ON FACE OF WALL TO BE DETERMINED.
6. ALL ANGLES ARE 90°-00'-00" UNLESS OTHERWISE NOTED.

COORDINATE TABLE			
WORKING POINT	NORTHING	EASTING	OFFSET
W.P W5.1	488,035.31	1,304,910.37	25.67(L)
W.P W5.2	488,008.60	1,304,958.73	25.67(L)
W.P W5.3	488,014.60	1,304,960.95	31.99(L)
W.P W5.4	488,002.92	1,304,969.04	25.67(L)
W.P W5.5	487,977.83	1,305,014.78	25.67(L)
W.P W5.6	487,984.22	1,305,018.19	32.92(L)
W.P W5.7	487,970.30	1,305,028.52	25.67(L)
W.P W5.8	487,943.30	1,305,078.05	25.67(L)
W.P W5.9	487,945.79	1,305,079.51	28.55(L)

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

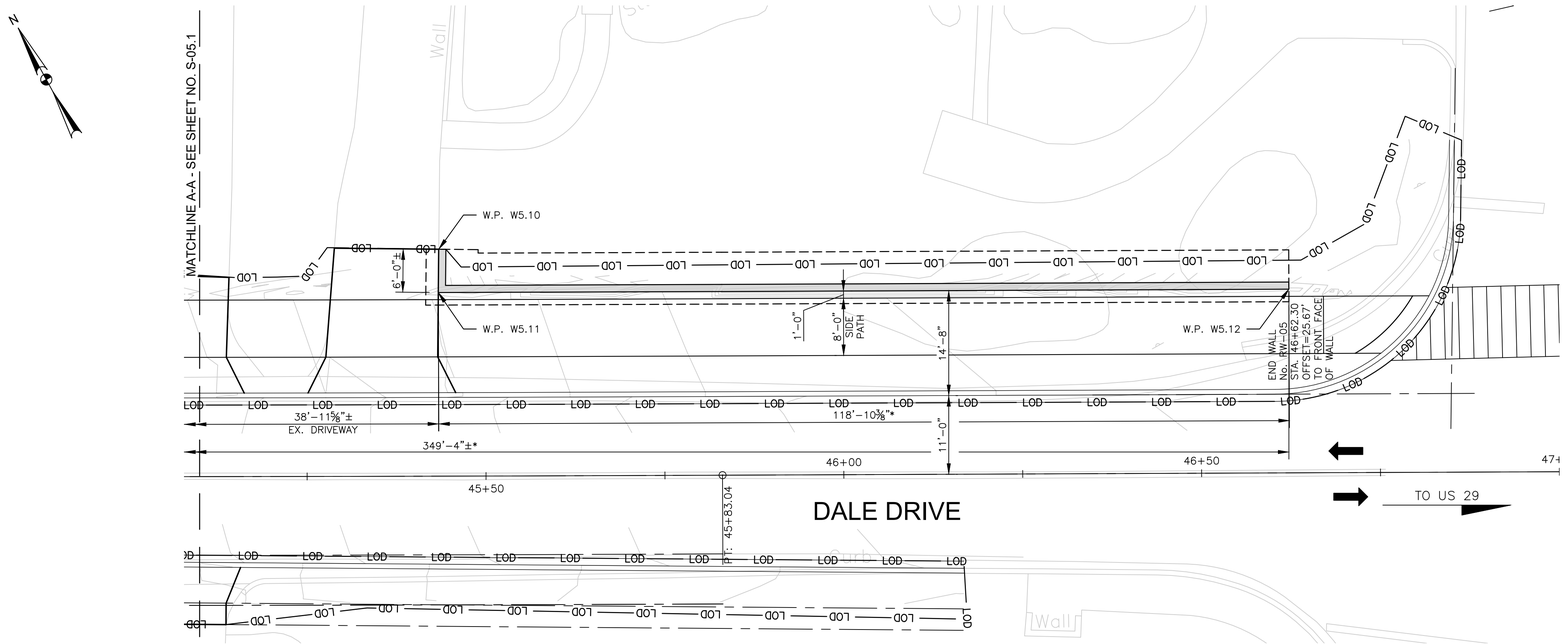
Designed by: WY Drawn by: TNB Checked by: GGN

S-05.1
GENERAL PLAN AND ELEVATION
DALE DRIVE
SHARED USE PATH

0 10' 20'

SCALE: 1"=10' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 95 of 180

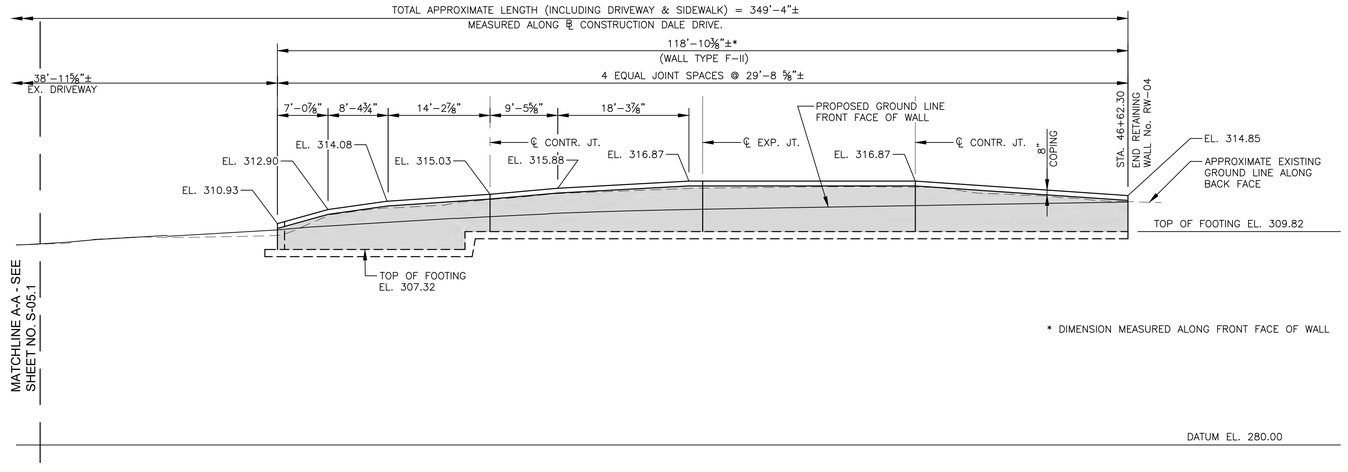


GENERAL PLAN - RW-05.2

SCALE: 1" = 10'-0"

NOTE TO REVIEWER:

CURRENTLY THE FOUNDATION IS SHOWN OUTSIDE OF THE LOD IN SEVERAL LOCATIONS. WHEN THE GEOTECHNICAL REPORT IS FINALIZED, THE FOUNDATION WILL BE REVISED AND THE LOD WILL BE ADJUSTED AS NECESSARY.



ELEVATION - RW-05.2

SCALE: 1" = 10'-0"

* DIMENSION MEASURED ALONG FRONT FACE OF WALL

NOTES:

1. FOR THE LOCATION OF THE WALL, PLEASE SEE THE STRUCTURE LOCATION PLAN, DRAWING SLP-01.
2. FOR WALL TYPE F-II, SEE MDOT SHA STANDARD RW-107 – TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE).
3. CONSTRUCTION JOINTS IN THE FOUNDATION SHALL BE LOCATED 6" AWAY FROM EXPANSION JOINTS IN THE WALL.
4. ELEVATIONS ARE SHOWN AT THE FRONT FACE OF WALL.
5. ARCHITECTURAL TREATMENT ON FACE OF WALL TO BE DETERMINED.
6. ALL ANGLES ARE 90°-00'-00" UNLESS OTHERWISE NOTED.

COORDINATE TABLE			
WORKING POINT	NORTHING	EASTING	OFFSET
W.P W5.10	487,930.00	1,305,115.25	31.72(L)
W.P W5.11	487,924.72	1,305,112.29	25.67(L)
W.P W5.12	487,868.24	1,305,216.88	25.67(L)

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

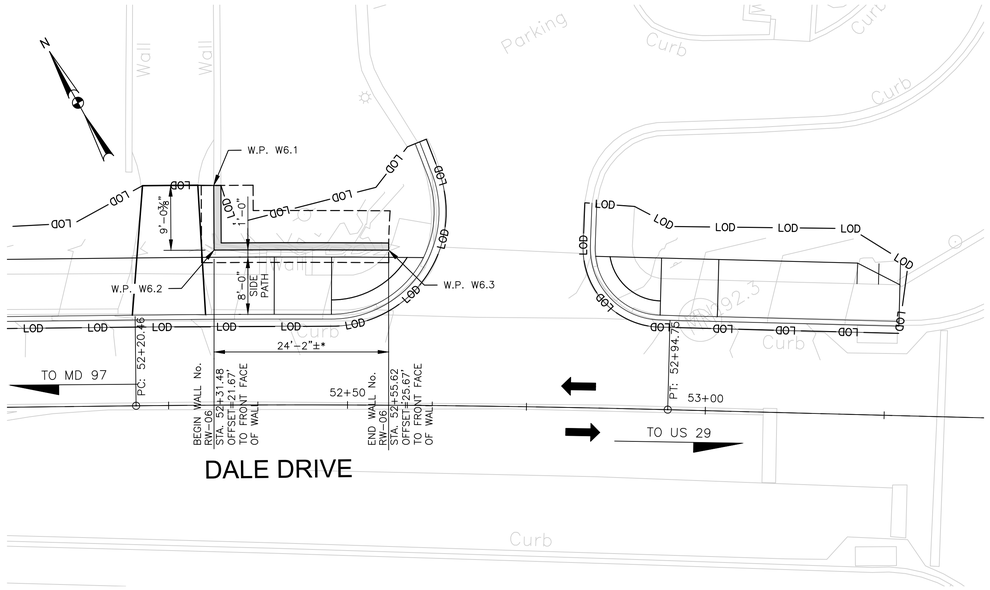
S-05.2
GENERAL PLAN AND ELEVATION
DALE DRIVE
SHARED USE PATH

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

DATE: NOVEMBER 2021

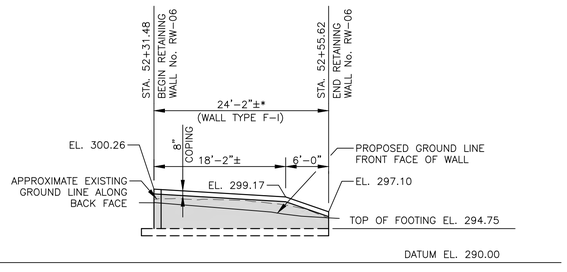
CIP No. : 502109 SHEET 96 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_01.dwg LAYOUT NAME: S-05.2 PLOTTED: Thursday, November 04, 2021 – 12:00pm USER: Boteju



GENERAL PLAN - RW-06

SCALE: 1" = 10'-0"



* DIMENSION MEASURED ALONG FRONT FACE OF WALL

ELEVATION - RW-06

SCALE: 1" = 10'-0"

COORDINATE TABLE			
WORKING POINT	NORTHING	EASTING	OFFSET
W.P W6.1	487,602.25	1,305,720.30	30.71(L)
W.P W6.2	487,594.32	1,305,715.96	21.67(L)
W.P W6.3	487,582.49	1,305,737.30	21.67(L)

NOTE TO REVIEWER:

CURRENTLY THE FOUNDATION IS SHOWN OUTSIDE OF THE LOD IN SEVERAL LOCATIONS. WHEN THE GEOTECHNICAL REPORT IS FINALIZED, THE FOUNDATION WILL BE REVISED AND THE LOD WILL BE ADJUSTED AS NECESSARY.

NOTES:

1. FOR THE LOCATION OF THE WALL, PLEASE SEE THE STRUCTURE LOCATION PLAN, DRAWING SLP-01.
2. FOR WALL TYPE F-I, SEE MDOT SHA STANDARD RW-107 – TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE).
3. CONSTRUCTION JOINTS IN THE FOUNDATION SHALL BE LOCATED 6" AWAY FROM EXPANSION JOINTS IN THE WALL.
4. ELEVATIONS ARE SHOWN AT THE FRONT FACE OF WALL.
5. ARCHITECTURAL TREATMENT ON FACE OF WALL TO BE DETERMINED.
6. ALL ANGLES ARE 90°-00'-00" UNLESS OTHERWISE NOTED.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-06
GENERAL PLAN AND ELEVATION
DALE DRIVE
SHARED USE PATH

0 10' 20'

SCALE: 1"=10' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 97 of 180

BORING NUMBER B-1

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 346.019 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488739.393 E 1301686.046
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
	345.69	4" Asphalt Brown, reddish brown, light brown, moist, loose to dense, silty SAND (SM) with mica and gravel.	SS 1	44	3-4-5 (9)
			SS 2	67	5-6-6 (12)
			SS 3	100	8-9-11 (20)
			SS 4	67	5-8-23 (31)
	336.02	DECOMPOSED ROCK Brown, light brown, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 5	75	12-29-50/4"
			SS 6	100	50
		Caved in @ 20'	SS 7	59	25-38-50/5"
			SS 8	100	50/3"
	317.27	Bottom of hole at 28.8 feet.	SS 9	100	50/3"

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/29/21

BORING NUMBER B-2

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 351.780 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488693.861 E 1301741.286
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
	351.28	6" Topsoil Brown, light brown, dark brown, moist, loose to medium dense, silty SAND (SM) with mica and gravel.	SS 1	33	2-3-3 (6)
			SS 2	67	4-5-7 (12)
			SS 3	67	10-10-11 (21)
			SS 4	6	10-9-10 (19)
			SS 5	67	10-11-14 (25)
			SS 6	67	9-9-12 (21)
	333.28	DECOMPOSED ROCK Light brown, dark brown, moist, dense to very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 7	78	26-32-41 (73)
		Caved in @ 22'6"	SS 8	89	20-22-24 (46)
			SS 9	89	27-35-43 (78)
	321.78	Bottom of hole at 30.0 feet.			

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/29/21

BORING NUMBER B-3

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 353.633 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488665.389 E 1301783.890
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
	353.13	6" Topsoil Brown, light brown, dark brown, gray, moist, loose to dense, silty SAND (SM) with mica and gravel.	SS 1	67	4-5-7 (12)
			SS 2	89	4-4-3 (7)
			SS 3	78	4-4-4 (8)
			SS 4	89	4-6-6 (12)
			SS 5	89	4-5-6 (11)
			SS 6	89	4-5-8 (13)
			SS 7	89	8-12-12 (24)
			SS 8	100	10-15-20 (35)
			SS 9	100	15-22-25 (47)
	323.63	Bottom of hole at 30.0 feet.			

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/29/21

BORING NUMBER B-4

PAGE 1 OF 1

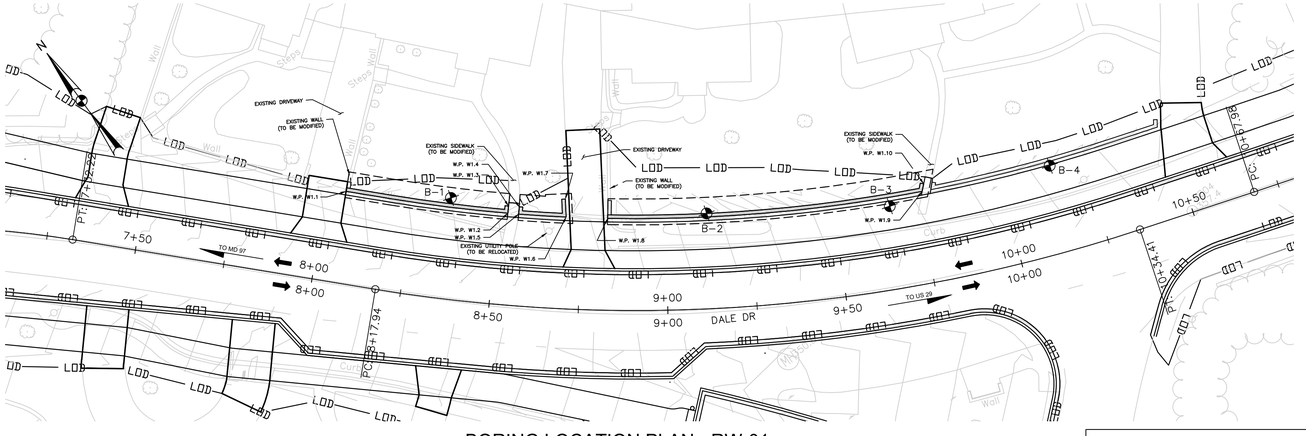
KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 356.225 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488648.262 E 1301826.689
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
	355.73	6" Topsoil Brown, light brown, orangish brown, gray, moist, loose to dense, silty SAND (SM) with mica and gravel.	SS 1	89	3-5-5 (10)
			SS 2	78	5-5-4 (9)
			SS 3	78	5-6-6 (12)
			SS 4	89	6-7-7 (14)
			SS 5	100	8-10-10 (20)
			SS 6	100	9-10-10 (20)
			SS 7	89	10-13-15 (28)
			SS 8	100	12-17-21 (38)
			SS 9	100	16-22-28 (50)
	326.23	Bottom of hole at 30.0 feet.			

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/29/21



BORING LOCATION PLAN - RW-01

SCALE: 1" = 20'-0"

NOTES:

1. TEST BORINGS WERE DRILLED IN AUGUST, 2021 BY KIM ENGINEERING, INC.
2. BLOWS = BLOWS ON SPLIT BARREL SAMPLER BY A 140 POUND WEIGHT AND DRIVE WEIGHT ASSEMBLY FREELY FALLING 30 INCHES.
3. CASING IS METHOD OF MAINTAINING AN OPEN BOREHOLE.
4. W.L. = WATER TABLE LEVEL. FIGURE IN PARENTHESIS INDICATES READING IN HOURS AFTER COMPLETION OF BORING. CAVE = BORING CAVED IN AT ELEVATION INDICATED AND WATER LEVEL COULD NOT BE DETERMINED.
5. TEST BORINGS WERE DRILLED IN ACCORDANCE WITH AASHTO T206 AND ASTM D 1586. ROCK CORING IN ACCORDANCE WITH AASHTO T225 AND ASTM D 2113.
6. SOILD HAS BEEN IDENTIFIED BY A GEOTECHNICAL INSPECTOR.
7. UNDISTURBED SOIL SAMPLES ATTEMPTED ARE DESIGNATED AS 'SHELBY'.
8. THE BORING LOG SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT; FOR MORE COMPLETE SOIL CHARACTERISTICS REFER TO THE WRITTEN DESCRIPTION AT THE RESPECTIVE ELEVATION.
9. THE FIELD BORING LOGS RECORD OBSERVATIONS OF THE DRILLING OPERATIONS. THE LOGS ARE AVAILABLE UPON REQUEST
10. B.O.F = BOTTOM OF FOOTING.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: CW Checked by: GGN

S-07
BORING AND DRIVE TESTS

DALE DRIVE SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 98 of 180

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

BORING NUMBER B-5

PAGE 1 OF 1

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/11/21 **COMPLETED** 8/11/21
GROUND ELEVATION 325.355 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488568.788 E 1303129.611
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐ 20 40 60 80
		325.11	3" Topsoil Brown, light brown, dark brown, moist, loose to medium dense, silty SAND (SM) with mica and gravel.	SS 1	78	2-3-3 (6)			
				SS 2	83	2-2-3 (5)			
5				SS 3	89	6-8-11 (19)			
				SS 4	83	7-9-13 (22)			
10				SS 5	89	8-11-13 (24)			
				SS 6	450	12-8-10 (18)			
15		306.86	Caved in @ 18' 2" DECOMPOSED ROCK Brown, dark brown, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 7	45	30-50/5"			>>
20				SS 8	100	50/5"			>>
25		296.44	Bottom of hole at 28.9 feet.	SS 9	100	50/5"			>>

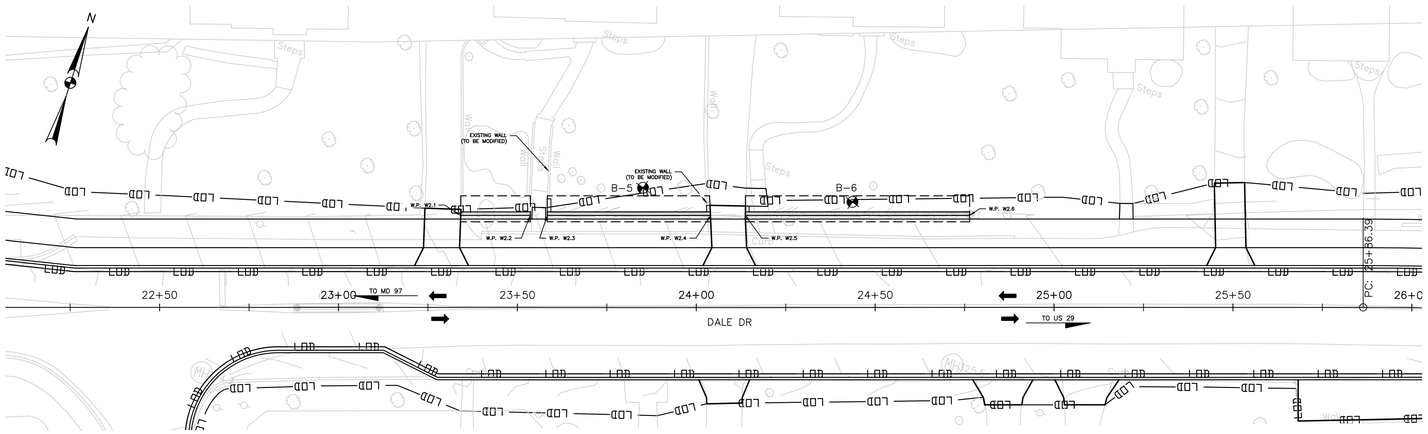
KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

BORING NUMBER B-6

PAGE 1 OF 1

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 326.987 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488582.947 E 1303186.564
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐ 20 40 60 80
		326.82	2" Topsoil Brown, dark brown, gray, moist, medium dense, silty SAND (SM) with mica and gravel.	SS 1	78	3-5-6 (11)			
				SS 2	83	5-5-7 (12)			
5				SS 3	89	4-6-6 (12)			
				SS 4	83	16-16-16 (32)			
10				SS 5	89	7-9-11 (20)			
				SS 6	89	11-18-22 (40)			
15		308.49	Caved in @ 18' 5" DECOMPOSED ROCK Brown, dark brown, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 7	100	50/5"			>>
20		302.66	Bottom of hole at 24.3 feet.	SS 8	80	25-50/4"			>>



BORING LOCATION PLAN – RW-02
SCALE: 1" = 20'-0"

NOTES:

1. TEST BORINGS WERE DRILLED IN AUGUST, 2021 BY KIM ENGINEERING, INC.
2. BLOWS = BLOWS ON SPLIT BARREL SAMPLER BY A 140 POUND WEIGHT AND DRIVE WEIGHT ASSEMBLY FREELY FALLING 30 INCHES.
3. CASING IS METHOD OF MAINTAINING AN OPEN BOREHOLE.
4. W.L. = WATER TABLE LEVEL. FIGURE IN PARENTHESIS INDICATES READING IN HOURS AFTER COMPLETION OF BORING. CAVE = BORING CAVED IN AT ELEVATION INDICATED AND WATER LEVEL COULD NOT BE DETERMINED.
5. TEST BORINGS WERE DRILLED IN ACCORDANCE WITH AASHTO T206 AND ASTM D 1586. ROCK CORING IN ACCORDANCE WITH AASHTO T225 AND ASTM D 2113.
6. SOILD HAS BEEN IDENTIFIED BY A GEOTECHNICAL INSPECTOR.
7. UNDISTURBED SOIL SAMPLES ATTEMPTED ARE DESIGNATED AS 'SHELBY'.
8. THE BORING LOG SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT; FOR MORE COMPLETE SOIL CHARACTERISTICS REFER TO THE WRITTEN DESCRIPTION AT THE RESPECTIVE ELEVATION.
9. THE FIELD BORING LOGS RECORD OBSERVATIONS OF THE DRILLING OPERATIONS. THE LOGS ARE AVAILABLE UPON REQUEST
10. B.O.F = BOTTOM OF FOOTING.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: CW Checked by: GGN

S-08
BORING AND DRIVE TESTS
DALE DRIVE
SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 99 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Boring & Drive Tests.dwg LAYOUT NAME: S-08 PLOTTED: Wednesday, November 03, 2021 - 4:21pm USER: Boteju

BORING NUMBER B-7

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 322.160 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488442.005 E 1304182.583
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
	321.83	4" Topsoil Brown, dark brown, gray, moist, loose to dense, silty SAND (SM) with mica and gravel.	SS 1	78	2-2-3 (5)
			SS 2	78	4-4-5 (9)
5			SS 3	78	7-7-7 (14)
			SS 4	78	7-9-11 (20)
10			SS 5	89	9-13-18 (31)
	308.49	Bottom of hole at 13.7 feet.	SS 6	100	50/2"

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21

BORING NUMBER B-8

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/11/21 **COMPLETED** 8/11/21
GROUND ELEVATION 317.100 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488408.541 E 1304237.886
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
	316.60	6" Topsoil	SS 1	67	2-3-5 (8)
	314.60	FILL Brown, light brown, moist, loose, silty Sand with mica and concrete fragments. Brown, dark brown, gray, moist, medium dense to dense, silty SAND (SM) with mica and gravel.	SS 2	78	5-7-9 (16)
5			SS 3	89	7-11-15 (26)
			SS 4	89	10-14-19 (33)
10			SS 5	100	18-23-25 (48)
	303.60	DECOMPOSED ROCK Brown, dark brown, white, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 6	100	50/4"
15			SS 7	91	27-50/5"
20			SS 8	100	50/5"
25	288.35	Bottom of hole at 28.8 feet.	SS 9	100	50/3"

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21

BORING NUMBER B-9

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/24/21 **COMPLETED** 8/24/21
GROUND ELEVATION 310.400 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488369.045 E 1304310.481
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
		4" Asphalt, 5.5" Base			
	309.61	Brown, light brown, moist, medium dense, silty SAND (SM) with mica and gravel.	SS 1	61	5-7-12 (19)
			SS 2	78	8-10-11 (21)
5			SS 3	89	10-11-12 (23)
			SS 4	89	13-13-13 (26)
10		Caved in @ 10'11"	SS 5	78	9-9-9 (18)
	296.90	DECOMPOSED ROCK Brown, gray, white, moist, very dense, silty SAND (SM) with mica, gravel, and decomposed rock fragments.	SS 6	100	50/5"
15	293.32	Bottom of hole at 17.1 feet.	SS 7	50	50/1"

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21

BORING NUMBER B-10

PAGE 1 OF 1

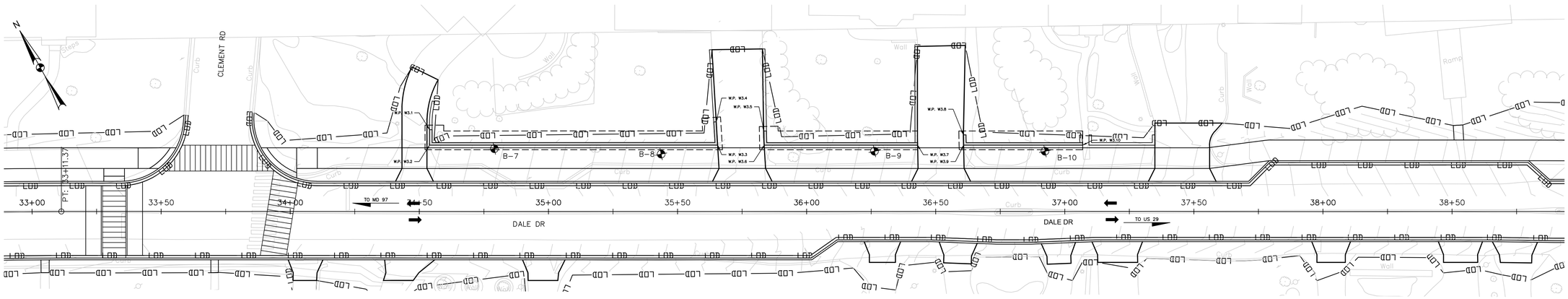
KIM ENGINEERING, INC.
Consulting Geotechnical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/11/21 **COMPLETED** 8/11/21
GROUND ELEVATION 304.108 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488336.693 E 1304368.067
AFTER DRILLING ---

DEPTH (ft)	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (ROD)	BLOW COUNTS (N VALUE)
	303.44	8" Topsoil FILL Brown, light brown, moist, very soft, sandy Silt.	SS 1	89	1-1-1 (2)
	301.61	Brown, dark brown, light brown, moist, medium dense to very dense, silty SAND (SM) with mica and gravel.	SS 2	89	12-39-50 (89)
5			SS 3	89	11-9-12 (21)
			SS 4	89	7-6-6 (12)
10		Caved in @ 11'6"	SS 5	89	6-7-9 (16)
	290.61	DECOMNPOSED ROCK Brown, dark brown, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 6	100	50/2"
15	286.56	Bottom of hole at 17.6 feet.	SS 7	100	50/1"

POCKET PEN. (tsf) | DRY UNIT WT. (pcf) | ▲ SPT N VALUE ▲ PL MC LL | ☐ FINES CONTENT (%) ☐ 20 40 60 80

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21



BORING LOCATION PLAN – RW-03
SCALE: 1" = 20'-0"

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: CW Checked by: GGN

S-09
BORING AND DRIVE TESTS
DALE DRIVE
SHARED USE PATH

0 20' 40'
SCALE: 1"=20'
DATE: NOVEMBER 2021

CIP No. : 502109
SHEET 100 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Boring & Drive Tests.dwg LAYOUT NAME: S-09 PLOTTED: Wednesday, November 03, 2021 – 4:21pm USER: Boteju

BORING NUMBER B-11

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/11/21 **COMPLETED** 8/11/21
GROUND ELEVATION 281.544 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488106.916 E 1304773.076
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐ 20 40 60 80
		281.29	3" Topsoil Brown, light brown, moist, loose to medium dense, silty SAND (SM) with mica and gravel.	SS 1	67	1-2-3 (5)			
				SS 2	83	5-6-7 (13)			
5				SS 3	78	8-6-6 (12)			
				SS 4	100	4-4-4 (8)			
10				SS 5	67	4-5-7 (12)			
		268.04	DECOMPOSED ROCK Brown, dark brown, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 6	91	30-50/5"			
15									
20			Caved in @ 19' 4"	SS 7	100	50/4"			
25				SS 8	100	18-30-38 (68)			
		252.79	Bottom of hole at 28.8 feet.	SS 9	67	50/3"			

GEOTECH BH PLOTS_DALE DRIVE PEDESTRIAN FACILITY.GPJ_GINT US.GDT_10/20/21

BORING NUMBER B-12

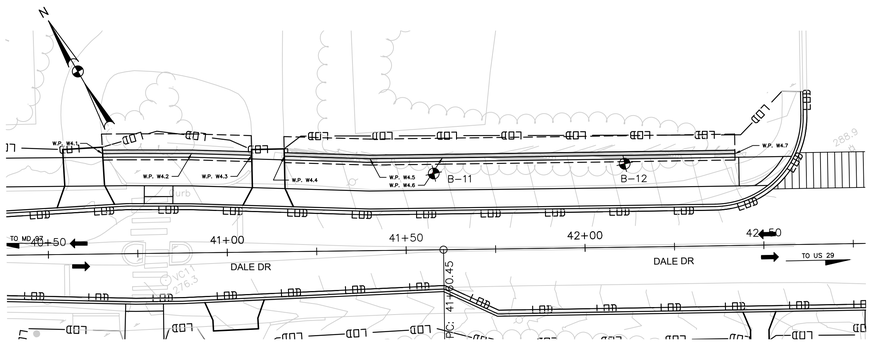
PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/11/21 **COMPLETED** 8/11/21
GROUND ELEVATION 288.181 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488082.557 E 1304820.632
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐ 20 40 60 80
		287.85	4" Topsoil Brown, light brown, gray, dark gray, moist, loose to medium dense, silty SAND (SM) with mica.	SS 1	56	2-2-3 (5)			
				SS 2	78	3-3-4 (7)			
5				SS 3	89	3-3-4 (7)			
				SS 4	89	3-5-6 (11)			
10				SS 5	100	7-7-8 (15)			
15			Caved in @ 14' 4"	SS 6	100	5-7-10 (17)			
				SS 7	100	8-11-14 (25)			
20		266.68	Bedrock	SS 8	100	50/1"			
		266.64	Bottom of hole at 21.5 feet.						

GEOTECH BH PLOTS_DALE DRIVE PEDESTRIAN FACILITY.GPJ_GINT US.GDT_10/20/21



BORING LOCATION PLAN – RW-04

SCALE: 1" = 20'-0"

NOTES:

1. TEST BORINGS WERE DRILLED IN AUGUST, 2021 BY KIM ENGINEERING, INC.
2. BLOWS = BLOWS ON SPLIT BARREL SAMPLER BY A 140 POUND WEIGHT AND DRIVE WEIGHT ASSEMBLY FREELY FALLING 30 INCHES.
3. CASING IS METHOD OF MAINTAINING AN OPEN BOREHOLE.
4. W.L. = WATER TABLE LEVEL. FIGURE IN PARENTHESIS INDICATES READING IN HOURS AFTER COMPLETION OF BORING. CAVE = BORING CAVED IN AT ELEVATION INDICATED AND WATER LEVEL COULD NOT BE DETERMINED.
5. TEST BORINGS WERE DRILLED IN ACCORDANCE WITH AASHTO T206 AND ASTM D 1586. ROCK CORING IN ACCORDANCE WITH AASHTO T225 AND ASTM D 2113.
6. SOILD HAS BEEN IDENTIFIED BY A GEOTECHNICAL INSPECTOR.
7. UNDISTURBED SOIL SAMPLES ATTEMPTED ARE DESIGNATED AS 'SHELBY'.
8. THE BORING LOG SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT; FOR MORE COMPLETE SOIL CHARACTERISTICS REFER TO THE WRITTEN DESCRIPTION AT THE RESPECTIVE ELEVATION.
9. THE FIELD BORING LOGS RECORD OBSERVATIONS OF THE DRILLING OPERATIONS. THE LOGS ARE AVAILABLE UPON REQUEST
10. B.O.F = BOTTOM OF FOOTING.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: CW Checked by: GGN

S-10
BORING AND DRIVE TESTS

DALE DRIVE
SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 101 of 180

BORING NUMBER B-13

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/11/21 **COMPLETED** 8/11/21
GROUND ELEVATION 297.461 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 488021.884 E 1304934.797
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL ☐ FINES CONTENT (%) ☐ 20 40 60 80
		297.04	5" Topsoil Brown, light brown, gray, moist, very loose to medium dense, silty SAND (SM) with mica and gravel.	SS 1	56	1-1-1 (2)			
				SS 2	78	4-4-5 (9)			
5				SS 3	83	3-4-5 (9)			
				SS 4	100	5-6-8 (14)			
10				SS 5	100	5-6-7 (13)			
				SS 6	89	8-11-10 (21)			
15		278.96	DECOMPOSED ROCK Brown, dark brown, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 7	100	10-24-50/3"			>>
20		273.71	Bottom of hole at 23.8 feet.	SS 8	67	50/3"			>>

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21

BORING NUMBER B-14

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/12/21 **COMPLETED** 8/12/21
GROUND ELEVATION 304.060 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 487984.454 E 1305002.598
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL ☐ FINES CONTENT (%) ☐ 20 40 60 80
		303.77	3.5" Topsoil Brown, light brown, moist, very loose to medium dense, silty SAND (SM) with mica and gravel.	SS 1	67	1-2-2 (4)			
				SS 2	56	6-7-8 (15)			
5				SS 3	67	8-7-7 (14)			
				SS 4	100	5-5-5 (10)			
10				SS 5	100	4-5-6 (11)			
		290.56	DECOMPOSED ROCK Dark brown, light brown, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments. Caved in @ 13' 11"	SS 6	100	50/5"			>>
15				SS 7	100	50/2"			>>
20		281.98	Bottom of hole at 22.1 feet.	SS 8	100	50/1"			>>

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21

BORING NUMBER B-15

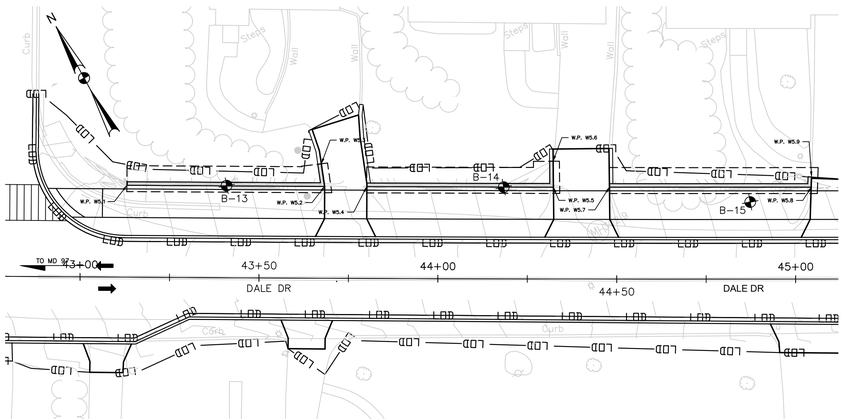
PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/12/21 **COMPLETED** 8/12/21
GROUND ELEVATION 308.213 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 487947.820 E 1305061.103
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL ☐ FINES CONTENT (%) ☐ 20 40 60 80
			6" Topsoil						
		307.71	Brown, moist, loose to medium dense, silty SAND (SM) with mica.	SS 1	44	1-3-4 (7)			
				SS 2	67	4-5-6 (11)			
5				SS 3	39	4-4-5 (9)			
		300.71	DECOMPOSED ROCK Brown, dark brown, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragmentS.	SS 4	100	40-50			
10				SS 5	100	50/2"			>>
				SS 6	100	50/1"			>>
15		293.21 293.17	Bedrock Bottom of hole at 15.0 feet.	SS 7	100	50/1"			>>

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21



BORING LOCATION PLAN – RW-05

SCALE: 1" = 20'-0"

NOTES:

1. TEST BORINGS WERE DRILLED IN AUGUST, 2021 BY KIM ENGINEERING, INC.
2. BLOWS = BLOWS ON SPLIT BARREL SAMPLER BY A 140 POUND WEIGHT AND DRIVE WEIGHT ASSEMBLY FREELY FALLING 30 INCHES.
3. CASING IS METHOD OF MAINTAINING AN OPEN BOREHOLE.
4. W.L. = WATER TABLE LEVEL. FIGURE IN PARENTHESIS INDICATES READING IN HOURS AFTER COMPLETION OF BORING. CAVE = BORING CAVED IN AT ELEVATION INDICATED AND WATER LEVEL COULD NOT BE DETERMINED.
5. TEST BORINGS WERE DRILLED IN ACCORDANCE WITH AASHTO T206 AND ASTM D 1586. ROCK CORING IN ACCORDANCE WITH AASHTO T225 AND ASTM D 2113.
6. SOILD HAS BEEN IDENTIFIED BY A GEOTECHNICAL INSPECTOR.
7. UNDISTURBED SOIL SAMPLES ATTEMPTED ARE DESIGNATED AS 'SHELBY'.
8. THE BORING LOG SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT; FOR MORE COMPLETE SOIL CHARACTERISTICS REFER TO THE WRITTEN DESCRIPTION AT THE RESPECTIVE ELEVATION.
9. THE FIELD BORING LOGS RECORD OBSERVATIONS OF THE DRILLING OPERATIONS. THE LOGS ARE AVAILABLE UPON REQUEST
10. B.O.F = BOTTOM OF FOOTING.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: CW Checked by: GGN

S-11
BORING AND DRIVE TESTS

DALE DRIVE
SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 102 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Boring & Drive Tests.dwg LAYOUT NAME: S-11 PLOTTED: Wednesday, November 03, 2021 – 4:56pm USER: Boteju

BORING NUMBER B-16

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/12/21 **COMPLETED** 8/12/21
GROUND ELEVATION 312.324 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 487908.414 E 1305132.162
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐
		312.07	3" Topsoil	SS 1	89	1-2-2 (4)			
			Brown, dark brown, light brown, gray, moist, very loose to medium dense, silty SAND (SM) with mica and gravel.	SS 2	100	4-4-4 (8)			
5				SS 3	78	4-5-6 (11)			
				SS 4	89	5-7-7 (14)			
10				SS 5	100	7-7-8 (15)			
				SS 6	89	6-8-8 (16)			
15									
				SS 7	100	11-16-20 (36)			
20									
				SS 8	100	6-8-13 (21)			
25									
				SS 9	100	8-11-17 (28)			
30		282.32	Bottom of hole at 30.0 feet.						

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/29/21

BORING NUMBER B-17

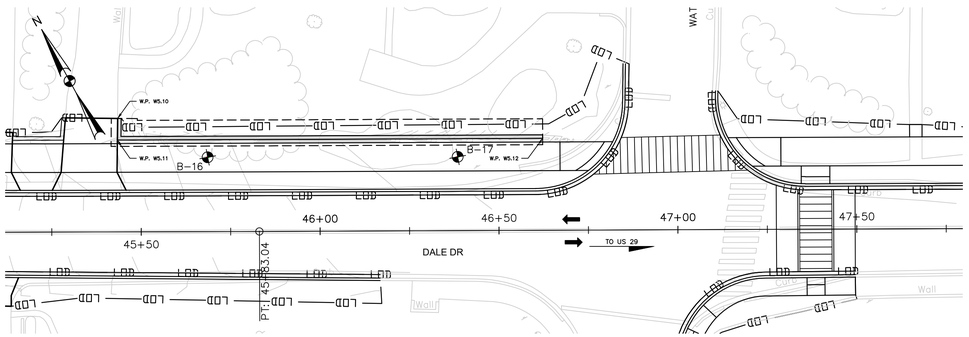
PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/11/21 **COMPLETED** 8/11/21
GROUND ELEVATION 313.903 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 487875.078 E 1305193.573
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐
		313.40	6" Topsoil	SS 1	78	1-1-2 (3)			
			Brown, light brown, dark brown, gray, moist, very loose to medium dense, silty SAND (SM) traces of mica.	SS 2	67	4-4-4 (8)			
5				SS 3	89	4-4-6 (10)			
				SS 4	89	5-6-8 (14)			
10				SS 5	100	6-8-9 (17)			
				SS 6	89	9-12-17 (29)			
15									
				SS 7	100	11-15-18 (33)			
20									
				SS 8	100	11-11-15 (26)			
25									
				SS 9	100	12-17-22 (39)			
30		283.90	Bottom of hole at 30.0 feet.						

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/29/21



BORING LOCATION PLAN – RW-05

SCALE: 1" = 20'-0"

NOTES:

1. TEST BORINGS WERE DRILLED IN AUGUST, 2021 BY KIM ENGINEERING, INC.
2. BLOWS = BLOWS ON SPLIT BARREL SAMPLER BY A 140 POUND WEIGHT AND DRIVE WEIGHT ASSEMBLY FREELY FALLING 30 INCHES.
3. CASING IS METHOD OF MAINTAINING AN OPEN BOREHOLE.
4. W.L. = WATER TABLE LEVEL. FIGURE IN PARENTHESIS INDICATES READING IN HOURS AFTER COMPLETION OF BORING. CAVE = BORING CAVED IN AT ELEVATION INDICATED AND WATER LEVEL COULD NOT BE DETERMINED.
5. TEST BORINGS WERE DRILLED IN ACCORDANCE WITH AASHTO T206 AND ASTM D 1586. ROCK CORING IN ACCORDANCE WITH AASHTO T225 AND ASTM D 2113.
6. SOILD HAS BEEN IDENTIFIED BY A GEOTECHNICAL INSPECTOR.
7. UNDISTURBED SOIL SAMPLES ATTEMPTED ARE DESIGNATED AS 'SHELBY'.
8. THE BORING LOG SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT; FOR MORE COMPLETE SOIL CHARACTERISTICS REFER TO THE WRITTEN DESCRIPTION AT THE RESPECTIVE ELEVATION.
9. THE FIELD BORING LOGS RECORD OBSERVATIONS OF THE DRILLING OPERATIONS. THE LOGS ARE AVAILABLE UPON REQUEST
10. B.O.F = BOTTOM OF FOOTING.

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: CW Checked by: GGN

S-12
BORING AND DRIVE TESTS
DALE DRIVE SHARED USE PATH

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

DATE: NOVEMBER 2021

CIP No. : 502109

SHEET 103 of 180

BORING NUMBER B-18

PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 304.400 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 487628.120 E 1305656.222
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN.	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐ 20 40 60 80
		304.15	3" Topsoil Brown, light brown, gray, moist, loose to very dense, silty SAND (SM) with mica and gravel.	SS 1	44	2-3-5 (8)			
				SS 2	67	4-6-13 (19)			
5				SS 3	67	11-13-14 (27)			
				SS 4	56	4-6-6 (12)			
10		294.40	DECOMPOSED ROCK Light brown, gray, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 5	73	18-50/5"			>>
				SS 6	55	40-50/5"			>>
15			Caved in @ 15' 5"						
		285.57	Bottom of hole at 18.3 feet.	SS 7	100	50/4"			>>

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21

BORING NUMBER B-19

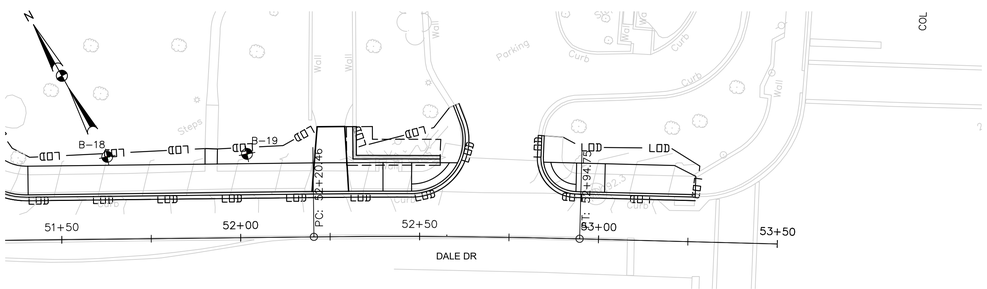
PAGE 1 OF 1

KIM ENGINEERING, INC.
Consulting Geotechinical Engineers
Baltimore, Maryland

CLIENT Johnson, Mirmiran & Thompson
PROJECT NAME Dale Drive Pedestrian Facility
PROJECT NUMBER G21003
PROJECT LOCATION Silver Spring, MD
DATE STARTED 8/9/21 **COMPLETED** 8/9/21
GROUND ELEVATION 301.434 ft **HOLE SIZE** 6"
DRILLING CONTRACTOR Kim Engineering Inc.
GROUND WATER LEVELS:
DRILLING METHOD H.S.A
AT TIME OF DRILLING ---
LOGGED BY SE **CHECKED BY** TL
AT END OF DRILLING ---
NOTES N 487609.901 E 1305690.789
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	ELEVATION	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	▲ SPT N VALUE ▲ PL MC LL / ☐ FINES CONTENT (%) ☐ 20 40 60 80
		301.10	4" Topsoil Brown, light brown, gray, moist, loose to very dense, silty SAND (SM) with mica and gravel.	SS 1	22	1-3-5 (8)			
				SS 2	56	3-3-4 (7)			
5				SS 3	56	8-12-14 (26)			
		293.93	DECOMPOSED ROCK Gray, brown, moist, very dense, silty SAND (SM) with mica and decomposed rock fragments.	SS 4	80	40-50/4"			>>
10				SS 5	100	50/3"			>>
			Caved in @ 12' 2"						
				SS 6	88	31-50/2"			>>
15		285.39	Bottom of hole at 16.0 feet.	SS 7	100	50/1"			>>

GEOTECH BH PLOTS DALE DRIVE PEDESTRIAN FACILITY.GPJ GINT US.GDT 10/20/21



BORING LOCATION PLAN – RW-06

SCALE: 1" = 20'-0"

NOTES:

1. TEST BORINGS WERE DRILLED IN AUGUST, 2021 BY KIM ENGINEERING, INC.
2. BLOWS = BLOWS ON SPLIT BARREL SAMPLER BY A 140 POUND WEIGHT AND DRIVE WEIGHT ASSEMBLY FREELY FALLING 30 INCHES.
3. CASING IS METHOD OF MAINTAINING AN OPEN BOREHOLE.
4. W.L. = WATER TABLE LEVEL. FIGURE IN PARENTHESIS INDICATES READING IN HOURS AFTER COMPLETION OF BORING. CAVE = BORING CAVED IN AT ELEVATION INDICATED AND WATER LEVEL COULD NOT BE DETERMINED.
5. TEST BORINGS WERE DRILLED IN ACCORDANCE WITH AASHTO T206 AND ASTM D 1586. ROCK CORING IN ACCORDANCE WITH AASHTO T225 AND ASTM D 2113.
6. SOILD HAS BEEN IDENTIFIED BY A GEOTECHNICAL INSPECTOR.
7. UNDISTURBED SOIL SAMPLES ATTEMPTED ARE DESIGNATED AS 'SHELBY'.
8. THE BORING LOG SOIL SYMBOLS REFLECT ONLY THE MAJOR SOIL CONSTITUENT; FOR MORE COMPLETE SOIL CHARACTERISTICS REFER TO THE WRITTEN DESCRIPTION AT THE RESPECTIVE ELEVATION.
9. THE FIELD BORING LOGS RECORD OBSERVATIONS OF THE DRILLING OPERATIONS. THE LOGS ARE AVAILABLE UPON REQUEST
10. B.O.F = BOTTOM OF FOOTING.

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: CW Checked by: GGN

S-13
BORING AND DRIVE TESTS

DALE DRIVE SHARED USE PATH

0 20' 40'

SCALE: 1"=20' DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 104 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Boring & Drive Tests.dwg LAYOUT NAME: S-13 PLOTTED: Wednesday, November 03, 2021 - 4:22pm USER: Boteju

GENERAL NOTES

Specifications: MDOT SHA Standard Specifications for Construction and Materials

AASHTO LRFD Bridge Design Specifications, 5th edition, 2010.

Concrete Design: LRFD, f'c= 3.0 ksi.

Reinforcing Steel Design: fy = 60.0 ksi.

Concrete: All structure concrete shall be Mix. No. 3 (3500 psi) except as noted below under reinforcing steel.

Reinforcing Steel: Reinforcing steel shall conform to A 615, Grade 60. All splices, not shown, shall be lapped as per Bar Lap Charts. Minimum cover for any bar shall be 2" unless otherwise noted, with the exception of bars at the bottom and sides of all footings which shall have 3" minimum cover.

If the front face of a retaining wall less than 10 feet from the edge of paved surfaces, epoxy coated reinforcement shall be used in the front face of the stem and Mix. No. 6 (4500 psi) concrete shall be used for the stem.

ONLY GRADE 60 CAN BE USED.

Design Parameters: Earth pressure calculated based on Coulomb Theory.

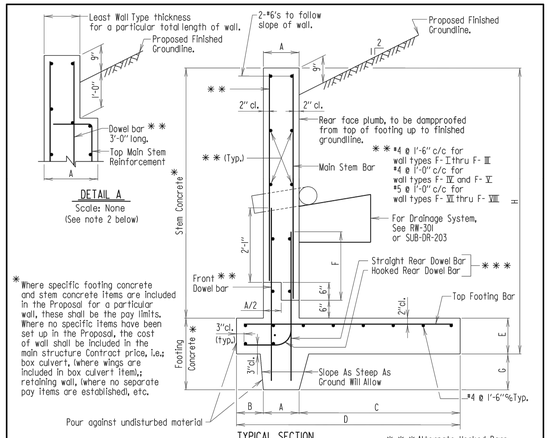
Angle of Internal Friction:
33 degrees for excellent soil
30 degrees for good and poor soils (and all walls on pile footings)

For Wall Types E and F, passive earth pressure from top of footing to bottom of shear key was utilized in the design. In these cases, the top of footing shall have a minimum of 30" cover.

Safe bearing pressures are factored resistances.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 03/21/2014	RETAINING WALL GENERAL NOTES
VERSION 1.0	DETAIL NO. RW-101 SHEET __ OF __

RETAINING WALLS

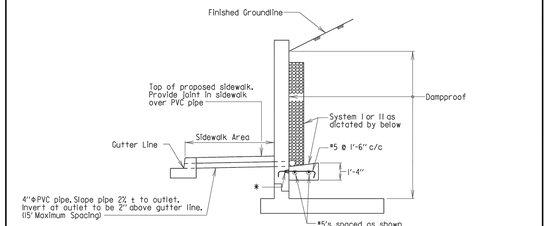


Wall Type	H	A	B	C	D	E	F	G	Straight Rear Dowel Bar	Hooked Rear Dowel Bar	Main Stem Bar	Top Foot. Bar
F-I	6'-0"	1'-0"	1'-9"	4'-6"	7'-3"	1'-0"	2'-2"	1'-0"	#5 @ 2'-0"c/c	#5 @ 2'-0"c/c	#5 @ 1'-0"c/c	#5 @ 6"c/c
F-II	8'-0"	1'-0"	1'-9"	4'-9"	7'-6"	1'-0"	2'-2"	1'-0"	#5 @ 2'-0"c/c	#5 @ 2'-0"c/c	#5 @ 1'-0"c/c	#5 @ 6"c/c
F-III	10'-0"	1'-0"	1'-9"	5'-6"	8'-3"	1'-0"	2'-7"	2'-0"	#6 @ 1'-0"c/c	#6 @ 1'-0"c/c	#6 @ 1'-0"c/c	#6 @ 6"c/c
F-IV	12'-0"	1'-3"	2'-0"	7'-3"	10'-6"	1'-6"	3'-6"	2'-0"	#7 @ 1'-0"c/c	#7 @ 1'-0"c/c	#7 @ 1'-0"c/c	#7 @ 6"c/c
F-V	14'-0"	1'-6"	3'-0"	7'-6"	12'-0"	1'-9"	3'-6"	3'-0"	#7 @ 1'-0"c/c	#7 @ 1'-0"c/c	#7 @ 1'-0"c/c	#7 @ 6"c/c
F-VI	16'-0"	1'-9"	4'-0"	8'-6"	14'-3"	2'-0"	4'-7"	3'-0"	#8 @ 1'-0"c/c	#8 @ 1'-0"c/c	#8 @ 1'-0"c/c	#8 @ 6"c/c
F-VII	18'-0"	2'-3"	5'-0"	10'-3"	17'-6"	2'-3"	5'-9"	3'-0"	#9 @ 1'-0"c/c	#9 @ 1'-0"c/c	#9 @ 1'-0"c/c	#9 @ 6"c/c
F-VIII	20'-0"	2'-9"	6'-3"	12'-0"	21'-0"	2'-6"	5'-9"	3'-0"	#9 @ 1'-0"c/c	#9 @ 1'-0"c/c	#9 @ 1'-0"c/c	#9 @ 6"c/c

Notes:
1. A "Poor Soil Condition" is that foundation material that can support a safe bearing pressure of 3 ksf and has an angle of friction of 30°.
2. If in the length of a wall the type of wall changes and provides for a different thickness of stem, then "Detail A" shall be used for all walls of greater than the least wall thickness.
3. Contractor has option of lapping main stem reinforcement with rear dowel reinforcement as shown; or by extending the rear dowel reinforcement with no splicing. However, no additional compensation to Contractor will be allowed for whichever alternative is selected.
4. These walls are valid if the sloping backfill levels off and traffic is present on the level area.

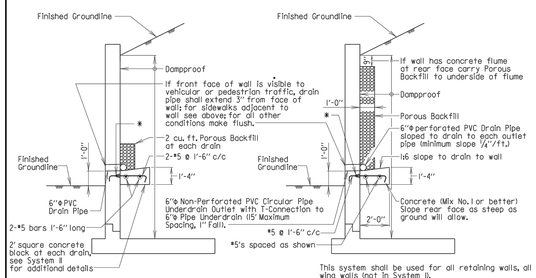
APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 12/04/2013	TYPE F RETAINING WALL SECTION (FOR POOR SOIL CONDITION AND SLOPING GROUNDLINE)
VERSION 1.0	DETAIL NO. RW-107 SHEET __ OF __

RETAINING WALLS



DRAIN AT SIDEWALK
Scale : None

* #5 Threaded Rebar Dowel Coupler at 1'-6" c/c.



This system shall be used for all box culvert wing walls and other wing walls that are both less than 30' long and less than 16' high (height of wall from bottom of footing to top of highest section). One drain shall be placed at 6' of wall for all walls less than 15' long. For walls between 15' and 30' long, two drains shall be placed, one at each third point.

SYSTEM I
Scale : None

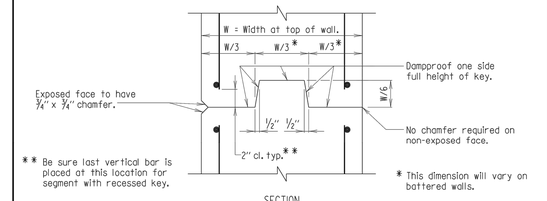
This system shall be used for all retaining walls, all wing walls (not in System I).

SYSTEM II
Scale : None

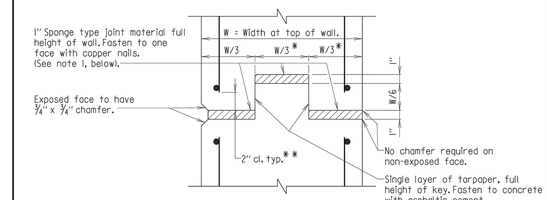
Note:
1. Exact elevation of drain to be determined by Engineer in field.
2. Porous backfill (refer to Section 4691.
3. Use this detail for bridges with wing walls that are not parallel to the highway. For bridges with wing walls parallel to the highway see Detail No. SUB-DR-203 sheet 5 of 5 for details.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 01/22/2001	RETAINING WALL AND WING WALL DRAINAGE SYSTEMS
VERSION 1.0	DETAIL NO. RW-301 SHEET __ OF __

RETAINING WALLS



SECTION
STEM CONTRACTION JOINT
Scale: 1 1/2" = 1'-0"

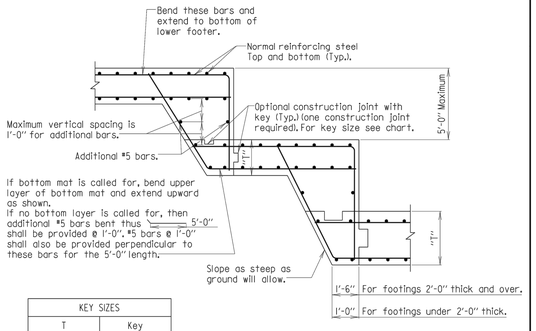


SECTION
STEM EXPANSION JOINT
Scale: 1 1/2" = 1'-0"

Notes:
1. Joint locations shall be as shown on contract drawing. If no locations are given concrete retaining walls shall have contraction joints a maximum of every 30'-0" and expansion joints, with 1" sponge type material (see 911.02), a maximum of every 90'-0"
2. Stop key 9" below top of wall.
3. Reinforcing steel shall not pass through contraction or expansion joint.
4. For battered walls, with stems greater than 12 feet height, key dimensions noted thus *, shall be based on wall thickness at mid height.
5. All keys are nominal size.
6. Only place contraction and expansion joints in stems (no joint in footer).

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 05/04/2006	CONCRETE RETAINING WALL CONTRACTION AND EXPANSION JOINTS
VERSION 1.0	DETAIL NO. RW-401 SHEET __ OF __

RETAINING WALLS



KEY SIZES	
T	Key
1'-0" to 1'-5"	2" x 4"
1'-6" to 1'-11"	3" x 6"
2'-0" to 2'-5"	4" x 8"
2'-6" to 3'-0"	5" x 10"

TYPICAL SECTION
Scale: 3/8" = 1'-0"

Notes:
1. All keys are nominal size.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 08/28/2002	STEPPED FOOTING DETAIL
VERSION 1.0	DETAIL NO. RW-402 SHEET __ OF __

RETAINING WALLS

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

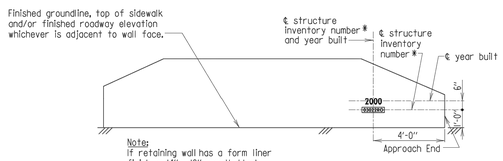
S-14
STANDARD STRUCTURAL DETAILS

DALE DRIVE
SHARED USE PATH

SCALE: NONE DATE: NOVEMBER 2021

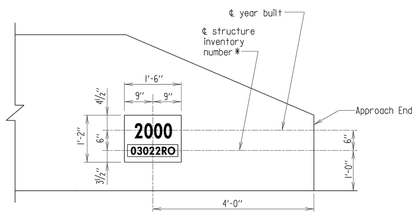
CIP No. : 502109 SHEET 105 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Standard Details.dwg LAYOUT NAME: S-14 PLOTTED: Wednesday, November 03, 2021 - 4:22pm USER: Boteju



Note:
If retaining wall has a form liner finish, a 14" x 18" smooth block shall be formed for placement of the numbers. See Detail A below for dimensions. See Plans for location of block.

RETAINING WALLS



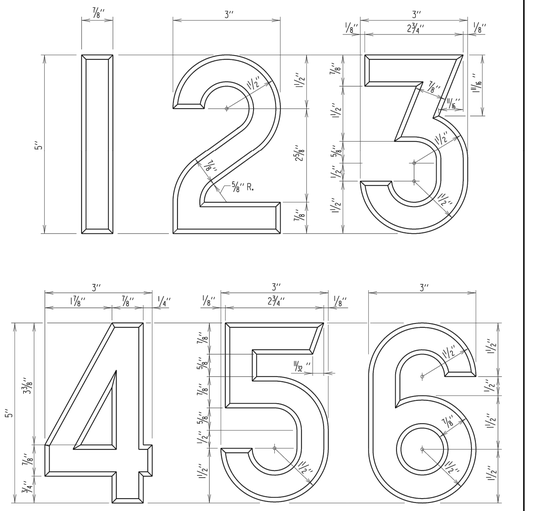
DETAIL A

Notes:
1. For existing structures, where a year built is shown on the structure and structure is to be rehabilitated, the marking should read 1942-2000 (old year first - new year).
2. For existing structures with no year built contact the Office of Structures for old year.
3. For Year Built Numerals refer to Detail No. SI-201.
4. For retaining walls that are not visible from the approach roadway, refer to Detail No. SI-102.

* Black numbers 3" high on a painted white background, 15" x 17".

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 10/17/2013	LOCATION OF YEAR BUILT MARKING AND STRUCTURE INVENTORY NUMBER ON RETAINING WALLS
VERSION: 1.0	DETAIL NO. SI-104 — SHEET __ OF __

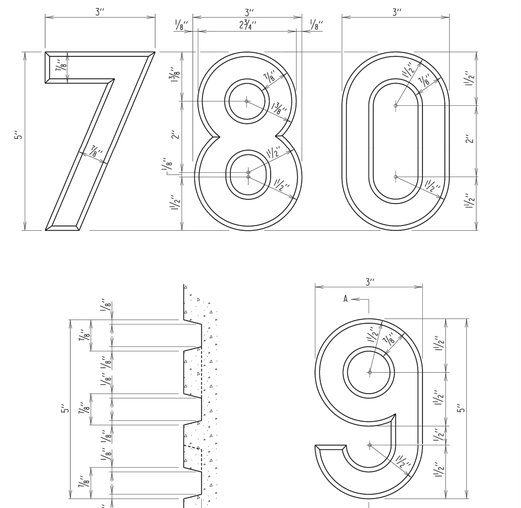
STRUCTURE INVENTORY



Note:
Year built numerals to be indented into concrete (unpainted) - as indicated on Detail Nos. SI-101, SI-103 and SI-104.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 11/15/2019	NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
VERSION: 1.01	DETAIL NO. SI-201 — SHEET 1 OF 2

STRUCTURE INVENTORY



SECTION A-A

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 11/15/2019	NUMERALS FOR YEAR BUILT MARKING ON STRUCTURES
VERSION: 1.01	DETAIL NO. SI-201 — SHEET 2 OF 2

STRUCTURE INVENTORY

BAR SIZE	LOCATION CATEGORY A CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	2'-5"	3'-1"	2'-5"	2'-10"	2'-5"	2'-10"	2'-5"	2'-10"
#5	3'-1"	4'-0"	3'-0"	3'-10"	3'-0"	3'-7"	3'-0"	3'-7"
#6	4'-5"	5'-9"	3'-7"	4'-8"	3'-7"	4'-8"	3'-7"	4'-8"
#7	6'-0"	7'-10"	4'-6"	5'-11"	4'-2"	5'-5"	4'-2"	5'-5"
#8	7'-10"	10'-3"	5'-11"	7'-8"	4'-9"	6'-2"	4'-9"	6'-2"
#9	10'-0"	13'-0"	7'-6"	9'-9"	6'-0"	7'-10"	5'-10"	7'-8"
#10	-	-	9'-6"	12'-5"	7'-7"	9'-11"	7'-2"	9'-5"
#11	-	-	11'-8"	15'-3"	9'-4"	12'-3"	8'-8"	11'-4"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

BAR SIZE	LOCATION CATEGORY B CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-9"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-7"	2'-4"	3'-5"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	5'-1"	2'-9"	4'-1"	2'-9"	4'-1"	2'-9"	4'-1"
#7	4'-8"	6'-11"	3'-6"	5'-3"	3'-2"	4'-9"	3'-2"	4'-9"
#8	6'-1"	9'-1"	4'-7"	6'-10"	3'-8"	5'-5"	3'-8"	5'-5"
#9	7'-8"	11'-6"	5'-9"	8'-8"	4'-8"	6'-11"	4'-6"	6'-9"
#10	-	-	7'-4"	10'-11"	5'-10"	8'-9"	5'-7"	8'-4"
#11	-	-	9'-0"	13'-6"	7'-2"	10'-9"	6'-8"	10'-0"

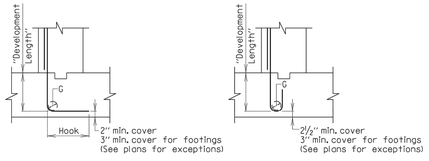
Location Category B - All bars not in Location Category A.

= Non-epoxy coated = Epoxy coated

Note:
1. When bar lap is not specified on the Plans, the above dimensions shall be used.
2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These bar laps only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These bar laps assume cover of 2". Greater lap lengths will be required for cover less than 2".
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-101. Class B splices are 1.3 times the development length.
6. Class A splices may be used when (a) the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (b) one-half or less of the total reinforcement is spliced within the required lap splice length. Class A splices are 1.0 times the development length.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 03/21/2017	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE
VERSION: 1.0	DETAIL NO. REBAR-BL-101 — SHEET 1 OF 1

REBAR - BAR LAP



STANDARD 90° HOOK STANDARD 180° HOOK

BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	8"	11"	9"
#5	10"	1'-2"	11"
#6	1'-0"	1'-5"	1'-2"
#7	1'-2"	1'-8"	1'-4"
#8	1'-4"	1'-10"	1'-6"
#9	1'-6"	2'-1"	1'-8"
#10	1'-8"	2'-4"	1'-11"
#11	1'-10"	2'-7"	2'-1"

Note:
For Hook Dimensions and Bends, see Detail No. REBAR-BB-102.

* LOCATION CATEGORY:

D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2½", and for 90° deg. hook, cover on bar extension beyond hook not less than 2".
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. If depth of member does not allow bar development length indicated in Categories A, B, and C, Detail No. REBAR-DL-101, then hook shall be added to all bars not conforming, as per D, E & F.

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 05/10/2011	DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING
VERSION: 1.0	DETAIL NO. REBAR-DL-201 — SHEET 1 OF 1

REBAR - DEVELOPMENT LENGTH

DRAFT
NOT FOR CONSTRUCTION

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-15
STANDARD STRUCTURAL DETAILS
DALE DRIVE
SHARED USE PATH

SCALE: NONE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 106 of 180

LOCATION CATEGORY A								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-5"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-1"	2'-4"	3'-0"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	4'-5"	2'-9"	3'-7"	2'-9"	3'-7"	2'-9"	3'-7"
#7	4'-8"	6'-1"	3'-6"	4'-7"	3'-2"	4'-2"	3'-2"	4'-2"
#8	6'-1"	7'-11"	4'-7"	5'-11"	3'-8"	4'-9"	3'-8"	4'-9"
#9	7'-8"	10'-0"	5'-9"	7'-6"	4'-8"	6'-0"	4'-6"	5'-11"
#10	-	-	7'-4"	9'-6"	5'-10"	7'-8"	5'-7"	7'-3"
#11	-	-	9'-0"	11'-9"	7'-2"	9'-5"	6'-8"	8'-8"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-5"	2'-1"	1'-5"	1'-8"	1'-5"	1'-8"	1'-5"	1'-8"
#5	1'-10"	2'-9"	1'-9"	2'-8"	1'-9"	2'-1"	1'-9"	2'-1"
#6	2'-8"	3'-11"	2'-1"	3'-2"	2'-1"	3'-2"	2'-1"	3'-2"
#7	3'-7"	5'-4"	2'-8"	4'-0"	2'-6"	3'-8"	2'-6"	3'-8"
#8	4'-8"	7'-0"	3'-6"	5'-3"	2'-10"	4'-2"	2'-10"	4'-2"
#9	5'-11"	8'-10"	4'-5"	6'-8"	3'-7"	5'-4"	3'-6"	5'-2"
#10	-	-	5'-8"	8'-5"	4'-6"	6'-9"	4'-3"	6'-5"
#11	-	-	6'-11"	10'-4"	5'-7"	8'-4"	5'-2"	7'-8"

Location Category B - All bars not in Location Category A.

= Non-epoxy coated = Epoxy coated

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These development lengths assume cover of 2". Greater development lengths will be required for cover less than 2".
5. The Excess Reinforcement Factor was assumed to be 1.0 when calculating these dimensions.
6. Atr was assumed to be 0 when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B, then hooks shall be added to all bars not conforming, as per D, E, and F per Det. No. REBAR-DL-201.

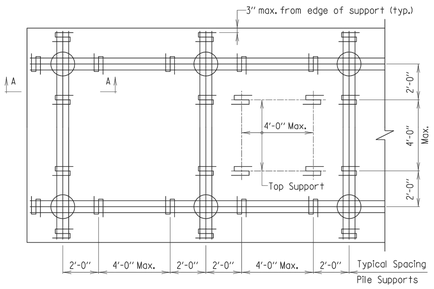
APPROVAL: [signature] DIRECTOR OFFICE OF STRUCTURES — DATE: 03/21/2017 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

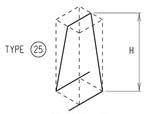
DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-101 — SHEET 1 OF 2

REBAR - DEVELOPMENT LENGTH



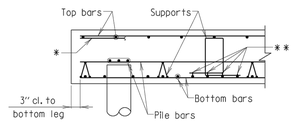
PLAN - PILES (SHOWING MAXIMUM SPACING OF BAR SUPPORTS)
Scale: 1/4" = 1'-0"



ISOMETRIC VIEW

SEE TYPICAL BAR SHEET FOR DIMENSIONS

SIZE	HEIGHT
#4	0'-7" ≤ H ≤ 1'-6"
#5	1'-6" ≤ H ≤ 3'-6"



** Tie each base leg at two intersections to bottom footing bars for stability.

SECTION A-A
Scale: None

* Top bar cannot be dropped to act as a support bar. If support bar is required, separate #5 bars are to be used.

DIMENSIONS AND QUANTITIES TO BE SUPPLIED BY CONTRACTOR

APPROVAL: [signature] DIRECTOR OFFICE OF STRUCTURES — DATE: 03/07/1994 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

REINFORCING BAR STANDARD FOOTING SUPPORT SYSTEM

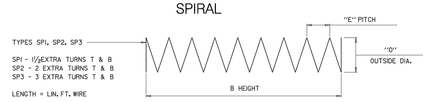
DETAIL NO. FND-PF-202 — SHEET 1 OF 1

FOUNDATION - PILES

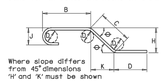
TYPICAL BAR BENDS

DETAILS AND NOTES

SPIRAL



Unless otherwise noted diameter D is the same for all bends and hooks on a bar



ENLARGED VIEW SHOWING BAR BENDING DETAILS

Notes:
1. All dimensions are out-to-out of bar or to tangent points for 135° and 180° hooks.
2. 'J' dimensions on 180° hooks to be shown only where necessary to restrict hook size. Otherwise standard hooks are to be used.
3. Where 'J' is not shown, "J" will be kept equal to or less than 'H' on truss bars. Where 'J' can exceed 'H' it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to fit within concrete.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL: [signature] DIRECTOR OFFICE OF STRUCTURES — DATE: 02/10/1994 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

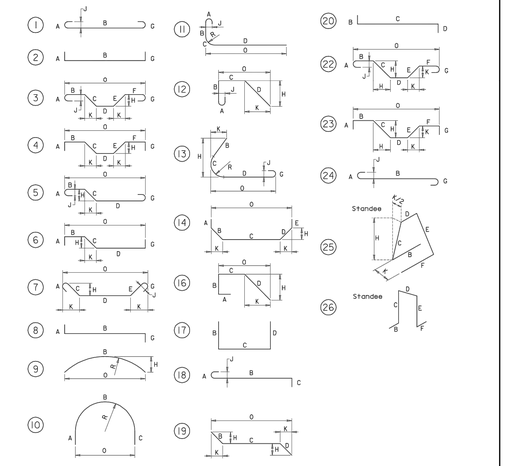
BAR BEND TYPES
GENERAL NOTES

DETAIL NO. REBAR-BB-101 — SHEET 1 OF 8

REBAR BAR BENDS

ACI TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL: [signature] DIRECTOR OFFICE OF STRUCTURES — DATE: 02/10/1994 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

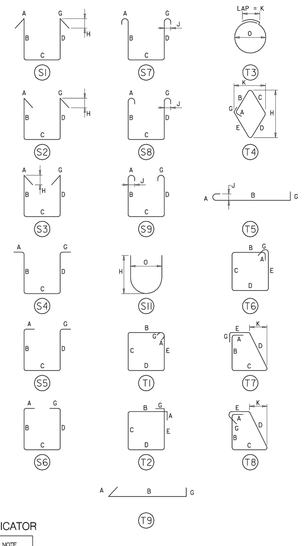
BAR BEND TYPES
ACI - STANDARD PIN BENDING

DETAIL NO. REBAR-BB-101 — SHEET 2 OF 8

REBAR BAR BENDS

ACI TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL: [signature] DIRECTOR OFFICE OF STRUCTURES — DATE: 02/10/1994 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
ACI - TIES A

DETAIL NO. REBAR-BB-101 — SHEET 3 OF 8

REBAR BAR BENDS

DRAFT
NOT FOR CONSTRUCTION

JMT

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-16
STANDARD STRUCTURAL DETAILS

DALE DRIVE
SHARED USE PATH

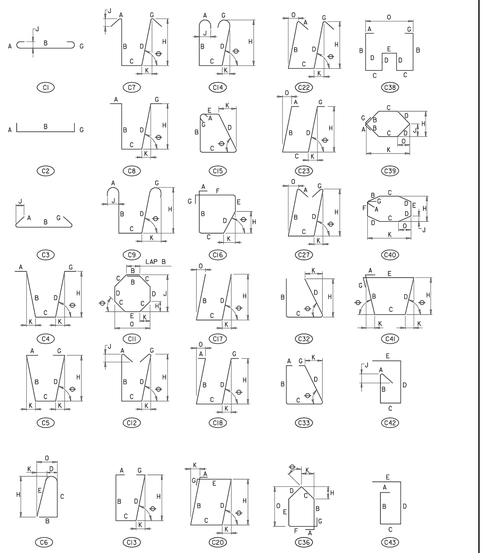
SCALE: NONE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 107 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Standard Details.dwg LAYOUT NAME: S-16 PLOTTED: Wednesday, November 03, 2021 - 4:22pm USER: Boteju

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

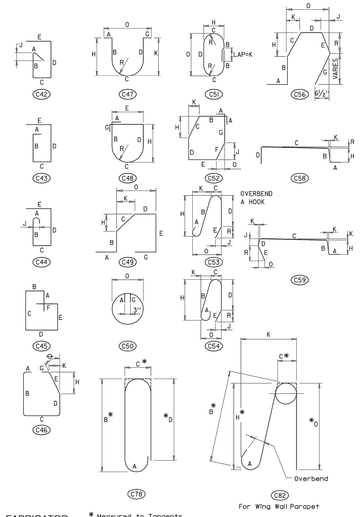
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 4 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



* Measured to Tangents of Curves.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

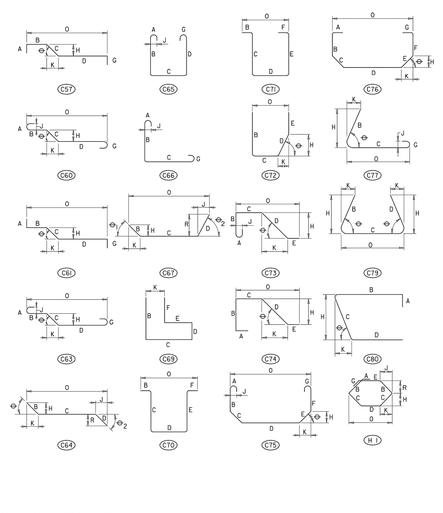
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 5 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

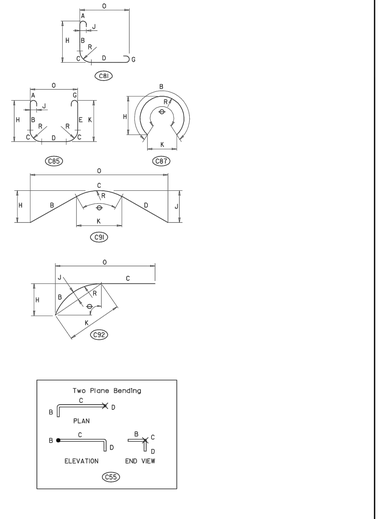
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - STANDARD PIN BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 6 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

RADIUS BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

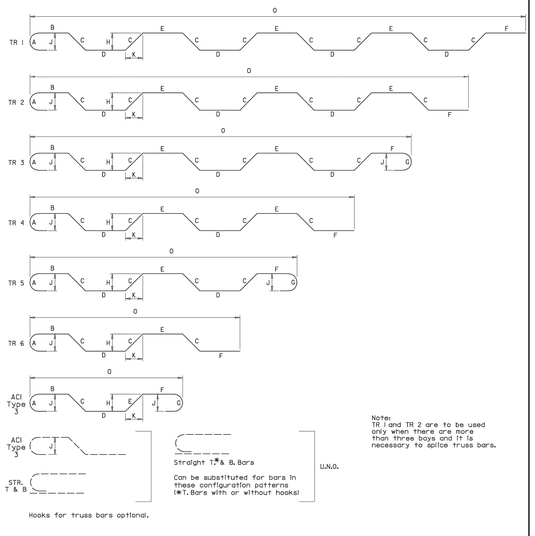
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - RADIUS BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 7 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TRUSS BAR CONFIGURATIONS



Note:
TR 1 and TR 2 are to be used only when there are more than three bays and it is necessary to splice truss bars.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES TRUSS BAR CONFIGURATIONS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 8 OF 8

REBAR BAR BENDS

DRAFT
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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-17
STANDARD STRUCTURAL DETAILS

DALE DRIVE
SHARED USE PATH

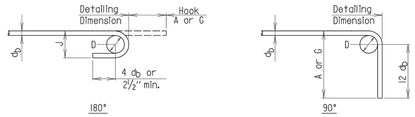
SCALE: NONE DATE: NOVEMBER 2021

CIP No. : 502109 SHEET 108 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Standard Details.dwg LAYOUT NAME: S-17 PLOTTED: Wednesday, November 03, 2021 - 4:22pm USER: Boteju

HOOKS
TABLE I
REFERENCES

1. ACI Types I thru 26
2. SHA Standard Pin Bending
3. SHA Radius Bending



RECOMMENDED END HOOKS, ALL GRADES				
BAR SIZE	Finished bend diameter	180 - deg hook		90 - deg hook
	D, in.	A or G in	J, in.	A or G in
#3	2¼	5	3	6
#4	3	6	4	8
#5	3¾	7	5	10
#6	4½	8	6	1-0
#7	5¼	10	7	1-2
#8	6	11	8	1-4
#9	9½	1-3	11¾	1-7
#10	10¾	1-5	1-1¼	1-10
#11	12	1-7	1-2¾	2-0
#14	18¼	2-3	1-9¾	2-7
#18	24	3-0	2-4½	3-5

APPROVAL
E.S. Fisher DIRECTOR OFFICE OF STRUCTURES
DATE: 11/17/1997
VERSION
1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

REINFORCING STEEL HOOK TABLES AND DIAGRAMS

DETAIL NO. REBAR-BB-102 SHEET 1 OF 2

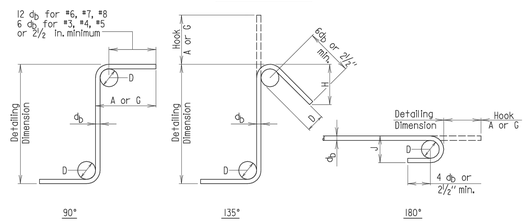
REBAR BAR BENDS

HOOKS
TABLE II
REFERENCES

1. ACI Types SI thru SII
2. ACI Types TI thru T8
3. SHA Ties and Stirrups

(Note: Tie and stirrup types supplied in sizes #3-#8)

STIRRUP AND TIE HOOKS



STIRRUP AND TIE HOOK DIMENSIONS, in.				
BAR SIZE	D, in.	90 - deg hook	135 - deg hook	
		A or G	A or G	H, approx
#3	1½	4	4	2½
#4	2	4½	4½	3
#5	2½	6	5½	3¾
#6	4½	1-0	7¾	4½
#7	5¼	1-2	9	5¼
#8	6	1-4	10¼	6

RECOMMENDED END HOOKS, ALL GRADES			
BAR SIZE	Finished bend diameter	180 - deg hook	
	D, in.	A or G in	J, in.
#3	2¼	5	3
#4	3	6	4
#5	3¾	7	5
#6	4½	8	6
#7	5¼	10	7
#8	6	11	8

APPROVAL
E.S. Fisher DIRECTOR OFFICE OF STRUCTURES
DATE: 11/17/1997
VERSION
1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

REINFORCING STEEL HOOK TABLES AND DIAGRAMS

DETAIL NO. REBAR-BB-102 SHEET 2 OF 2

REBAR BAR BENDS

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section Date

APPROVED

Chief, Division of Transportation Engineering Date

Designed by: WY Drawn by: TNB Checked by: GGN

S-18
STANDARD STRUCTURAL DETAILS

DALE DRIVE
SHARED USE PATH

SCALE: NONE DATE: NOVEMBER 2021

CIP No.: 502109 SHEET 109 of 180

FILE NAME: Q:\2018\1804565_001_Dale_Drive_Pedestria\CADD\Structures\pST_Standard Details.dwg LAYOUT NAME: S-18 PLOTTED: Wednesday, November 03, 2021 - 4:23pm USER: Boteju