



Metropolitan Washington
Council of Governments



Metropolitan Branch Trail Upgrade

Preliminary Design Report
May 2023



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I. Introduction

This project was completed to develop preliminary (30%) design for upgrades to the City of Takoma Park's maintained section of the Metropolitan Branch Trail (MBT). The preliminary design was funded through the Metropolitan Washington Council of Governments (MWCOG) Transportation / Land-Use Connections (TLC) Grant Program and the design was completed in consultation with staff from the City, Maryland National Capital Park & Planning Commission (M-NCPPC), Montgomery College, Montgomery County Department of Transportation (MCDOT), Montgomery County Transit Ride-On Bus, Washington Metropolitan Area Transit Administration (WMATA), and local community stakeholders.

When complete, the MBT will be an 8.5-mile multi-use trail that spans from Union Station in the District of Columbia to Maryland's Silver Spring transit hub. This project focuses on improvements to the City's maintained 0.45 mile segment of the trail that runs adjacent the west side of Takoma Avenue and Fenton Street from the DC line to 250 feet south of the intersection of Fenton Street at New York Avenue. The City's segment of the MBT runs adjacent to the existing WMATA Metro Red Line. Figure 1 shows a map with the project limits identified in yellow.

The objective of the project is to upgrade the City's 0.45-mile segment of the Metropolitan Branch Trail to meet current trail guidelines and standards, including improving safety, comfort and connectivity for the pedestrians and cyclists that use the trail. Opportunities to implement stormwater best management practices were also considered with the design.

This report presents the existing conditions, activities undertaken in developing the 30% design and considerations for the next phase of design.

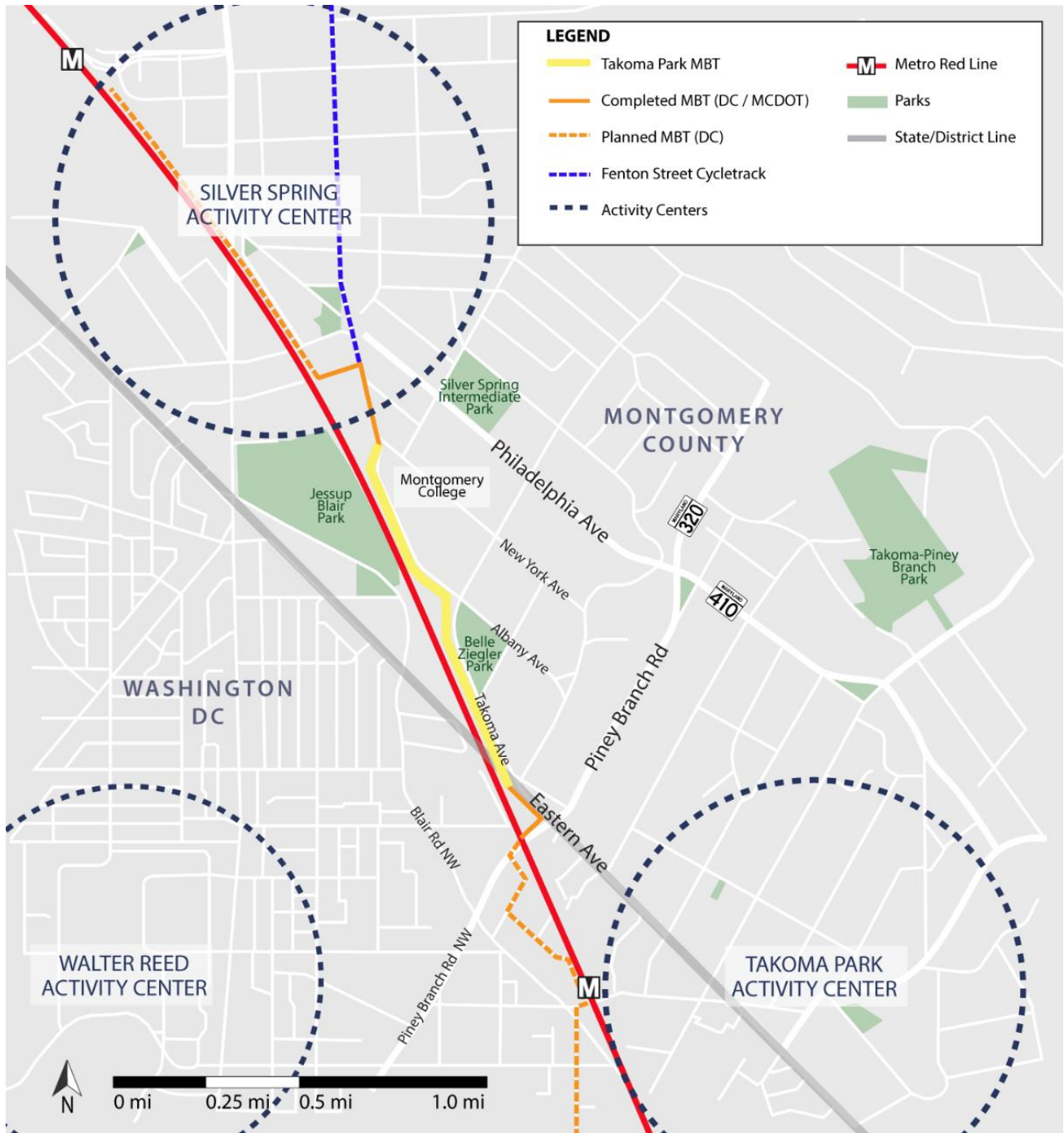


Figure 1 – Site Map: Takoma Park's Metropolitan Branch Trail

II. Existing Conditions

Trail

The City's maintained section of the MBT is an existing asphalt trail that begins at the DC line approximately 100 feet north of the Takoma Avenue and Baltimore Avenue intersection. The City's section of the MBT ties into District DOT's northern limit of the MBT that is made of a pervious flexible material. The trail continues along the western side of Takoma Avenue and adjacent to WMATA's Metro Red Line tracks. As Takoma Avenue approaches the intersection with Albany Avenue, the trail diverges from the roadway and continues to run adjacent to the WMATA tracks through a green space area owned by the City as shown in Figure 2. After approximately 350 feet the trail meets Fenton Street and continues to the terminus of the project at approximately 250 feet south of New York Avenue, where it connects to an existing concrete shared use path that begins at the Montgomery County maintained portion of the MBT. Much of the existing asphalt trail is deteriorated and damaged from pavement heaving caused by tree roots and erosion. The trail lacks adequate width and clearances per the latest trail and sidepath design criteria and standards. It also lacks pedestrian level lighting and safe road crossings to the adjacent side streets, to Bell Ziegler Park and to Montgomery College facilities.

Existing concrete sidewalk runs along the eastern side of Takoma Avenue / Fenton Street within the project limits. There are three (3) intersections within the project limits: 1) Takoma Avenue & Baltimore Avenue (DC Line); 2) Takoma Avenue & Buffalo Avenue; and 3) Takoma Avenue & Albany Avenue. None of these intersections have a crosswalk or pedestrian ramps across Takoma Avenue to connect the existing Metropolitan Branch Trail on the west side to the sidewalk on the east side. There is one existing mid-block crosswalk along Takoma Avenue approximately 110 feet south of the Buffalo Avenue intersection.

From the DC line to the green space west of the intersection of Takoma Avenue and Albany Avenue the existing trail width is typically 8 feet with a 3-foot-wide buffer measured from the back of curb. An existing fence that separates the City's MBT from the WMATA Metro Red Line tracks is approximately 14 feet from the western edge of the trail through this segment. There is 375 feet of wood railing between the trail and Takoma Avenue that starts 75 feet south of Buffalo Avenue and terminates 300 feet north of Buffalo Avenue. From the wood railing the trail continues along Takoma Avenue for 200 feet and then begins to diverge from the roadway through the green space area shown in Figure 2. The trail transitions from 8 feet wide to 10 feet wide and maintains the 10 feet width for approximately 400 feet through the green space area. The trail then runs parallel to Fenton Street extending to the project terminus. The typical trail section for this segment is 10 feet wide asphalt trail with a 5-foot-wide buffer from the back of curb. The fence offset that separates the western edge of the trail from the WMATA Metro Red Line tracks varies 6 feet to 10 feet.

Site Survey

A field run topographic survey was completed by the project team in December 2022. The survey includes curb and gutter, sidewalks, asphalt trail, fences, utility surface features, drainage structures, street lighting, street trees, tree / forest stand lines and signs. A deed mosaic was prepared to establish the existing right of way, except for the WMATA Red Line right of way, which was developed from

available GIS mapping. WMATA was contacted to request right of way plats and to initiate a project contact person for coordination during subsequent design stages. The existing conditions plan is included in Appendix A.

Utilities

A utility composite was developed based on available record information provided by utility companies and surface features identified during the field run survey. All line styles are Depicted According to Record (DATR) and in accordance with MDOT SHA CADD standards. The utility composite was developed with Quality Level (QL) C/D information. The utility composite is referenced on the existing conditions plan (Appendix A) and the 30% design plans (Appendix C).



Figure 2 - Aerial View of Trail and Intersection of Takoma Avenue at Albany Avenue

Natural Resources

A desktop investigation of mapped resources included review of: The United States Geologic Survey (USGS) Geographic Information Systems (GIS) Quadrangle Mapping; The United States Department of Agriculture; Natural Resource Conservation Service (USDA-NRCS) Web Soil Survey (WSS) for Montgomery County, Maryland; National Wetlands Inventory (NWI) GIS data; Maryland Department of Natural Resources (MDNR) Wetlands and Waters GIS data; Montgomery County Planning Department's MCATLAS map viewer; Federal Emergency Management Agency (FEMA) 100-year floodplain GIS data; and the Chesapeake Bay Critical Area GIS data. The NWI and DNR GIS mapping did not identify any wetlands or waters within the project corridor. FEMA GIS data for Montgomery County indicates that there is no 100-year floodplain within the project study area. The MD-DNR Aquatic Resources Pre-Screening Tool indicated that there are no aquatic resources of concern within the project study area. MCATLAS map viewer did not identify any forests or forest conservation easement areas within the project limits. There are street trees along the trail corridor that will require tree condition inventory during subsequent stages of design. Environmental permitting agency correspondence was not initiated as part of this scope of work and should be conducted during the next phase of design to confirm that there are no listed rare threatened and endangered species (RTE) concerns.

Cultural Resources

A review of the MEDUSA Online system indicated that the project limits fall within the National Register of Historic Places Takoma Park Historic District (M:37-3); however, there appear to be no archeological sites and no previous archeological surveys within the trail corridor. The historic district is a residential community founded in the early 1880's which retains the original relationship of suburban structures to each other and to the town as a whole. Coordination with the Maryland Historical Trust (MHT) to review the project and offer comment shall be initiated after preliminary design.

III. Stakeholder and Community Outreach

Throughout development of the 30% design, City staff and the consultant team conducted meetings with agency stakeholders and the community to obtain feedback. Agendas and minutes from agency stakeholder and community outreach meetings are included in Appendix B. The following meetings were conducted:

Kickoff Meeting - September 26, 2022:

The City hosted a virtual meeting with the Metropolitan Washington Council of Governments and the consultant design team to review the project scope, goals and schedule.

Field Meeting with Stakeholders - October 25, 2022:

A field meeting was conducted on-site with City planning, public works and maintenance staff, staff from Montgomery College and the consultant design team to discuss the preliminary design objectives, approach and next steps.

WMATA JDAC Project Introduction – November 21, 2022:

As required by WMATA’s Office of Joint Development and Adjacent Construction (JDAC) to initiate a project design review, a Project Introduction Memorandum was prepared to establish a WMATA contact person to facilitate design reviews. The Project Introduction Memorandum is included in Appendix B.

WMATA JDAC 30% Design Review – May 22, 2023:

The design team participated in a call with WMATA JDAC to discuss comments on the 30% design plans. Written comments were provided by WMATA on May 22, 2023 and are included in Appendix E.

Note: WMATA’s comments should be evaluated during the next phase of design.

The WMATA contact person established for this project is:

Mary Oxendine, PMP
Office of Joint Development & Adjacent Construction (JDAC)
Washington Metropolitan Area Transit Authority
4100 Garden City Drive, 803-20B
Hyattsville, MD 20785
Moxendine@wmata.com

Public Informational Field Walk – December 10, 2022:

City planning staff held a field walk and ride with community members to collect input for the proposed improvements. Comments were collected and considered in preparing the draft 30% design. Point-by-point responses to community feedback from this meeting are included in Appendix B.

Draft 30% Design – February 21, 2023:

Draft 30% plans were submitted to the City of Takoma Park on February 21, 2023. The draft plans were then distributed to other agency stakeholders, including Montgomery County Department of Transportation (MCDOT), Montgomery County Ride On, Maryland-National Capital Park and Planning Commission (M-NCPPC) and Washington Metropolitan Area Transit Authority (WMATA) for review and comment. Agency comments received, including responses from the design team are included in Appendix E.

Virtual Public Meeting - March 2, 2023:

A virtual public meeting was held to present the draft 30% design to the community for comment. Comments received from the virtual public meeting are included in Appendix E.

IV. Design Criteria

Design guidelines, standards and planning documents that were consulted for the preliminary design of the Metropolitan Branch Trail (MBT) Upgrades include Montgomery County Bicycle Master Plan, NACTO Urban Bikeway Design Guide, NACTO Urban Street Design Guide, MDOT SHA Bicycle Policy & Design Guidelines, MDOT SHA Accessibility Policy & Guidelines for Pedestrian Facilities along State Highways, MDOT Bus Stop Design Guide, Maryland Manual on Uniform Traffic Control Devices (MdMUTCD), FHWA Public Right-of-Way Accessibility Guidelines (PROWAG), AASHTO Guide for the Development of Bicycle

Facilities (2012, 4th Edition), the AASHTO Green Book (2018, 7th Edition), WMATA JDAC's Adjacent Construction Project Manual (September 15, 2015, Revision 5a), CSX Public Project Information for Construction and Improvement Projects that May Involve the Railroad (August 2020), and the City of Takoma Park Streetscape Manual (2021).

Trail

The City's section of the MBT trail is designated as a part of the "Breezeway Network" in the Montgomery County Bicycle Master Plan. Per the Master Plan the Breezeway Network facilities should have separation between bicycling and walking. The Master plan recommends for a trail or sidepath to have a minimum 11-foot wide bikeway and a separate sidewalk for pedestrians that is a minimum 5-foot wide. The Montgomery County Master Plan also states the Breezeway Network should have a fixed continuous separation from traffic such as curb or barrier. The Breezeway Network also requires that the pavement surface is constructed to meet the requirements of public road design, including use of high-quality surface materials construction and maintenance practices that maximize surface smoothness and pavement life, minimizing potential for pavement cracking and buckling.

The AASHTO Guide for the Development of Bicycle Facilities and MDOT SHA Bicycle Policy & Design Guidelines states that for two-way shared use paths a minimum 10-foot paved width should be provided. At a minimum, 2 foot graded shoulders with a maximum of 1V:6H slope should be provided for clearance from lateral obstructions such as bushes, trees, post mounted signs, and traffic control devices. In locations where there is a higher percentage of pedestrians and high user volumes a minimum 11-foot paved width should be provided. This is the minimum width needed to enable a bicyclist to pass another user going the same direction, at the same time a path user is approaching from the opposite direction.

The AASHTO Guide for the Development of Bicycle Facilities states that when a recovery area (i.e., distance between the edge of path pavement and the top of slope) is less than 5 feet, physical barriers or rails are recommended in the following situations (Figure 3):

- Slopes 1V:3H or steeper, with a drop of 6 feet or greater
- Slopes 1V:2H or steeper, with a drop of 4 feet or greater
- Slopes 1V:1H or steeper, with a drop of 1 foot or greater

Per AASHTO the minimum offset from the edge of trail to bikeway barrier is 1 foot.

The Takoma Streetscape Manual states that flexi-pave surface material should be installed throughout the City in areas adjacent to trees to provide oxygen and water to tree roots while providing a flexible yet ADA-compliant surface.

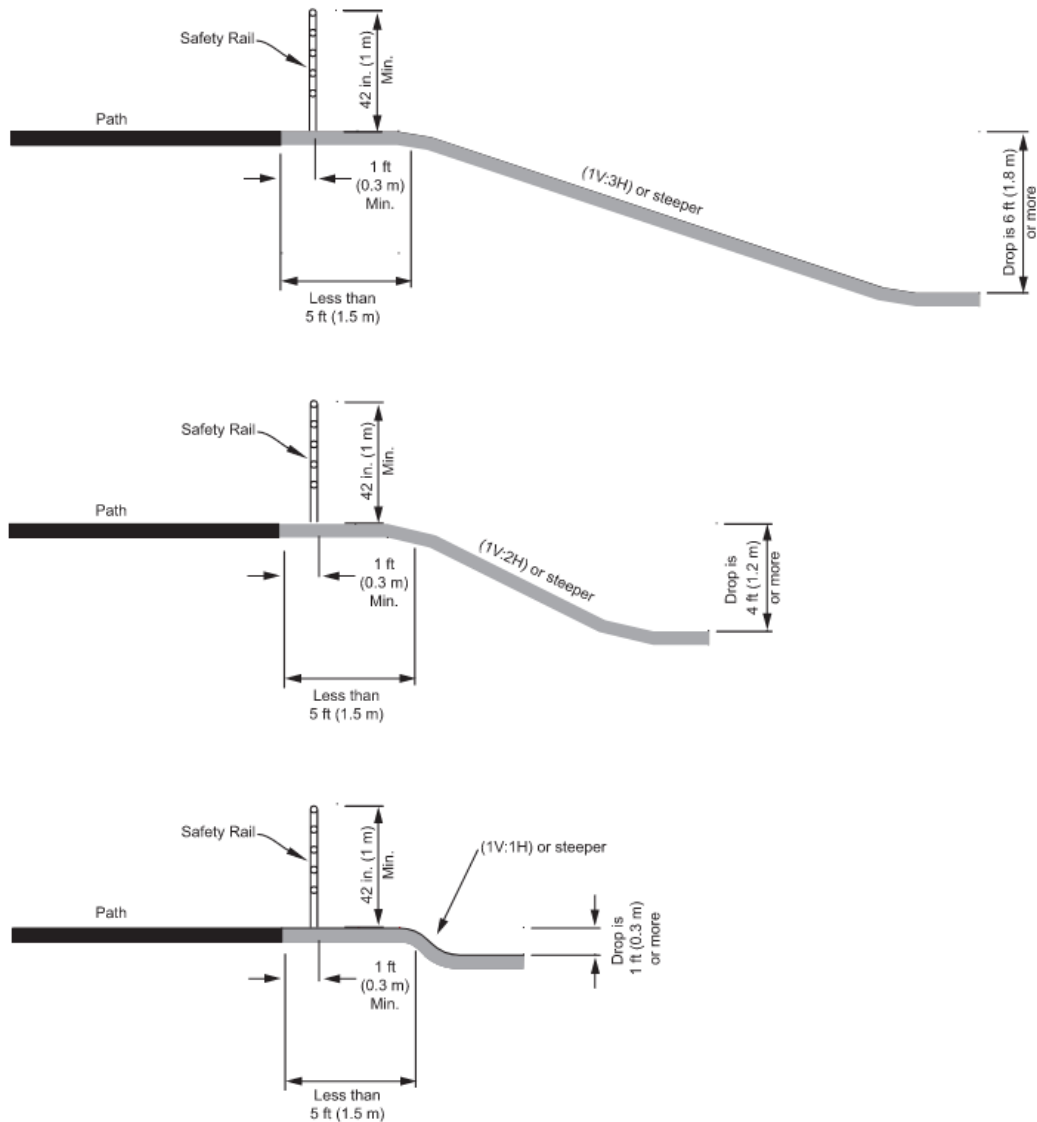


Figure 3 - Bikeway Barrier Between Path and Adjacent Slope (AASHTO)

ADA Compliance

Per MDOT SHA Accessibility Policy & Guidelines for Pedestrian Facilities along State Highways, pedestrian ramps shall be perpendicular to the curb, ramp running slopes shall be 12:1 maximum, cross slopes on ramps shall be 2% maximum, and the minimum width shall be 48 inches for perpendicular ramps and 60 inches for parallel and combination ramps. Per the MDOT Bus Stop Design Guide bus stops require an accessible boarding area. Boarding area must include at a minimum a firm, stable surface that is at least 5 feet parallel to the curb and 8 feet perpendicular to the curb and is clear of any obstacles. The slope of the boarding area parallel to the roadway must be the same as the slope of the

roadway itself, allowing a ramp to be deployed from the transit vehicle flush to the boarding area. The slope of the boarding area perpendicular to the roadway must be no steeper than 48:1 (approx. 2%).

Traffic Calming, Raised Crosswalk

The Takoma Park Streetscape Manual provides design guidance for raised crosswalks as a traffic calming treatment. Raised crosswalks are a variation of the Montgomery County standard speed hump with an additional flat center section ranging in length from 4' to 10', including crosswalk pavement markings.

Lighting

The Montgomery County Bicycle Master Plan calls for facilities on the Breezeway Network to have corridor-long pedestrian-scale lighting. Lighting will provide continuous illumination along the travel way and at wayside areas. The AASHTO Guide for the Development of Bicycle Facilities states that where nighttime use is permitted, pathway lighting is recommended. Pedestrian-scale lighting is preferred to tall, highway-style lamps. Pedestrian-scale lighting is characterized by shorter light poles, lower levels of illumination (except at crossings), closer spacing to avoid dark zones, and higher quality lighting. The Takoma Streetscape Manual provides options for lighting luminaires that may be used for trail lighting.

V. Description of Proposed Improvements

Trail Design

Draft 30% Design:

The draft 30% design provided a continuous 10-foot-wide trail with the objective to alleviate trail heaving and pavement cracking caused by tree roots while maintaining buffers between the road and the trail to minimize impacts to mature trees and to provide opportunities for trail lighting. As an approach to alleviate trail heaving and pavement cracking caused by tree roots, the draft 30% design raised the trail profile approximately 3 inches and replaced the standard asphalt section with porous flexible pavement, similar to the material that was used for District DOT's section of the MBT. Some pros and cons of using flexible porous paving (Figure 4) versus traditional impervious asphalt pavement (Figure 5) are listed below:

Porous Flexible Pavement

- Pros
 - Allows water to get to adjacent tree roots
 - Allows flexibility of surface without cracking/heaving from adjacent tree roots
 - Sustainable option that allows for groundwater recharge
 - Requires less excavation than traditional asphalt when used as tree protection measure
- Cons
 - Allows existing Maple trees that line the existing trail roadside buffer to get larger
However, removal of the Maple trees and replacement with street tree species that do not grow as large may be considered.
 - Durability concerns with potential for rutting, if not installed properly

Traditional Asphalt Pavement

- Pros
 - Firmer and smoother riding surface for bicyclists
 - Provides long-term durability, provided that adjacent trees / roots are maintained
- Cons
 - Impervious surface contributes to stormwater runoff
 - Potential to crack and heave from adjacent trees / roots
 - Requires more excavation than porous flexible pavement

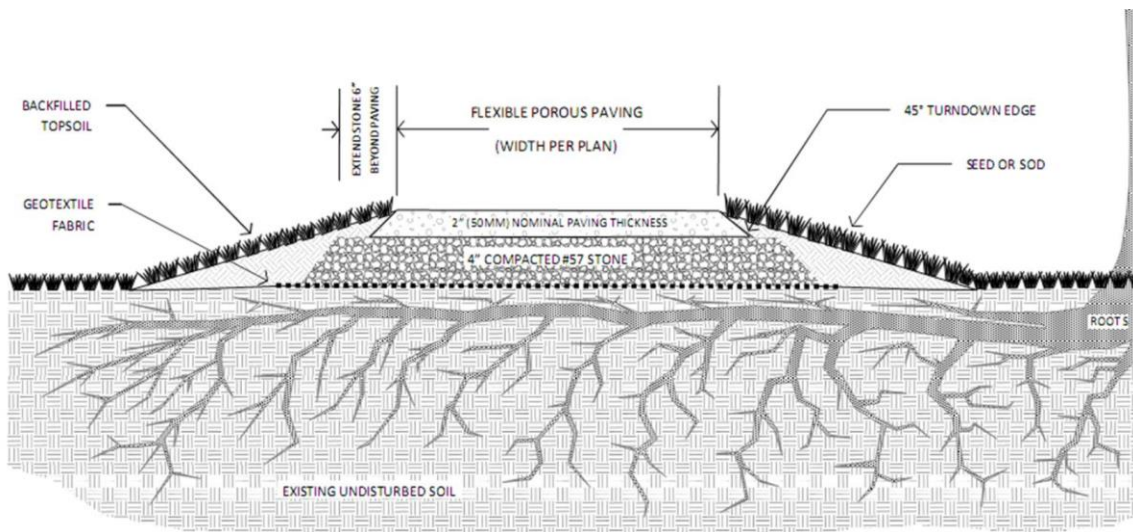
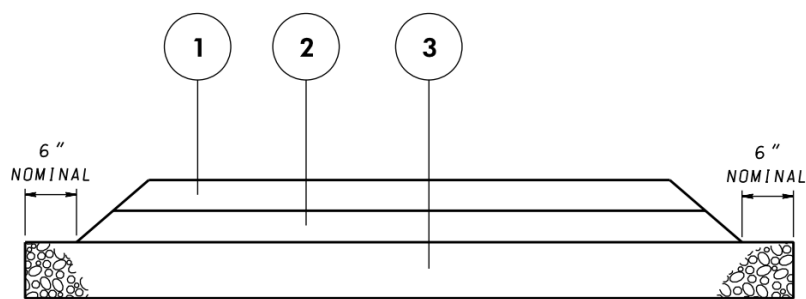


Figure 4 - Porous Flexible Pavement Section (Flexipave, Perky pave or Equivalent)



- ① 1.5" SUPERPAVE ASPHALT MIX 9.5mm FOR SURFACE, PG64S-22, LEVEL 2
- ② 2.5" SUPERPAVE ASPHALT MIX 19.0mm FOR BASE, PG64S-22, LEVEL 2
- ③ 4" GRADED AGGREGATE BASE

Figure 5 - Traditional Asphalt Pavement Section for Shared Use Path (MDSHA 580.08)

Final 30% Design:

The City of Takoma Park and M-NCPPC requested that the draft 30% design be revised to include traditional asphalt pavement, to remove the large Maple trees causing trail pavement cracking and heaving, and to reduce the buffer space between the roadway and the trail to achieve an 11 feet wide trail (typical). It was requested that bikeway barrier is used to replace the existing wooden fence that separates the trail from the curbed-section roadway between Sta. 54+75 and Sta. 58+50. The City and M-NCPPC also requested that bikeway barrier is provided where recommended by AASHTO guidelines.

The revised 30% design (Appendix C) is generally consistent with the Montgomery County Bicycle Master Plan and meets AASHTO guidelines. The design provides an 11-foot wide trail with a 3-foot wide minimum buffer separated by a continuous barrier (curb) between the eastern side of the trail and the road. The western side of the trail has a variable width shoulder. The trail slope is 2% maximum towards the roadway and the slope of the shoulders are 6:1 maximum throughout the project limits. A 500 feet long segment of the trail was reduced to 10 feet wide from approximately station 63+25 to 68+20 to avoid impacts to an existing retaining wall owned by CSX / WMATA along the western edge of the trail. As requested by the City and M-NCPPC, bikeway barrier is proposed to replace the existing wooden fence between Sta. 54+75 and Sta. 58+50. However, it should be noted that the proposed 3-foot minimum separation with 6:1 maximum slope between the edge of the trail and the back of vertical curb, as well as the low-speed context of Takoma Avenue is adequate to meet AASHTO Guidelines without bikeway barrier. As recommended by AASHTO, bikeway barrier is also proposed on the western side of the trail to protect trail users from the drop off area from approximately station 65+40 to 67+00.

Traffic Calming, Intersection Safety:

The existing mid-block crossing of Takoma Avenue located approximately 110 feet south of Buffalo Avenue is proposed to be relocated to the north leg of the Buffalo Avenue at Takoma Avenue intersection to create a safer crossing and a more direct route to Belle Ziegler Park. A raised crosswalk is proposed for this crossing. The intersection is also proposed to be converted to an all-way stop controlled intersection with appropriate signage and pavement markings. The eastern leg of the intersection is also modified to shorten the crossing of Buffalo Avenue for pedestrians.

Bus Stops:

There are two bus stops at the existing mid-block crossing of Takoma Avenue, south of Buffalo Avenue. With the relocation of the mid-block crossing to the Buffalo Avenue intersection it is also proposed to relocate the bus stops to the intersection. The northbound bus stop is proposed to be relocated approximately 20 feet to the intersection. The southbound bus stop is proposed to be relocated approximately 150 feet to the intersection.

Lighting:

Continuous trail lighting is proposed at approximately 60 feet spacing (typical) and at the relocated crosswalk at the intersection of Buffalo Avenue and Takoma Avenue. Lighting poles, luminaires and fixtures will be confirmed during the next phase of design but are anticipated to be consistent with recommendations provided in the City's Streetscape Manual (2021).

Stormwater Management and Drainage

Stormwater management (SWM) for the proposed design is in accordance with the *Maryland Stormwater Design Manual (Revised May 2009)* and *Takoma Park City Code, Section 16.04*. Per the guidelines in the Maryland SWM design manual, for “redevelopment” areas the goal is 50% removal of existing impervious. All POIs classify as redevelopment, therefore, 50% of existing pavement within the LOD that is not removed is required to be treated at a PE of 1.0 inch for water quality purposes. New impervious area is to be treated at the appropriate composite PE, based on soil type.

POI 1 is located at an existing inlet along northbound Takoma Avenue, approximately 50 feet north of Buffalo Avenue. The work proposed in this POI involves reconstruction and widening of the Met Branch Trail along with the addition of new ADA compliant sidewalk.

POI 2 is located at an existing inlet along southbound Fenton Street just before the intersection with Takoma Avenue. The work proposed in this POI involves reconstruction and widening of the trail.

POI 3 is located at an existing ditch west of Albany Avenue and the trail. The work proposed in this POI involves reconstruction and widening of the trail.

POI 4 is located at an existing inlet along northbound Fenton Street just after the parking entrance to Montgomery College. The work proposed in this POI involves reconstruction and widening of the trail.

The stormwater requirements for these POIs are summarized below in Table 1. See Appendix F for detailed calculations.

Table 1 - Stormwater Management Requirements

POI	ESDv POI (CF)	ESDv Redevelopment (CF)
1	807	483
2	90	69
3	69	138
4	138	172
TOTAL	-	862

Due to site constraints, the only suitable space for SWM facilities is the open space adjacent to the intersection of Takoma Avenue and Fenton St. As such, no SWM facilities are proposed for POIs 3 and 4 and a waiver for water quantity under 16.04.080 will be required for those POIs. A micro-bioretenion facility is proposed in POI 1 to provide 1235 CF of ESDv meeting the POI requirements. An 80 foot long, 2 foot bottom width swale is proposed in POI 2 to provide 477 CF of ESDv, meeting the POI requirements.

While POIs 1 and 2 are both treating more than required, there is still an overall project deficit of 254 CF ESDv which will require a water quality waiver for the project under 16.04.080.

It is worth noting that POIs 1 and 2 contain primarily B soils and would likely be good candidates for pervious pavement. POIs 3 and 4 contain primarily D soils and would need further infiltration tests to determine the viability of pervious pavement. If the shared use path is constructed with pervious pavement, it would result in all SWM requirements to be met for all POIs.

The only proposed drainage upgrades are two (2) open-back inlets for the SWM facilities and overall drainage patterns are expected to remain unchanged between existing and proposed conditions.

VI. Right of Way (ROW) Requirements

Based on available GIS right of way (ROW) along the CSX Rail and WMATA Red Line, a 250-foot long section of the existing trail is within the shared CSX and WMATA ROW from approximately station 66+40 to 70+00. Impacts to CSX and WMATA property will need to be confirmed during the next phase of design, when CSX and WMATA provide available right of way plats. It is possible that the existing trail is within the City's right of way or within an existing easement secured from CSX / WMATA that is not identified from the available GIS data used to prepare the 30% design.

VII. Natural Resources Impacts

Approximately fifty-four (54) street trees will be removed to accommodate the proposed trail widening, bikeway barrier, and proposed SWM facilities. A detailed tree condition inventory and impact analysis will be performed during subsequent design phases. Environmental permitting agency correspondence was not initiated as part of this scope of work and should be conducted during the next phase of design to confirm that there are no listed rare threatened and endangered species (RTE) concerns.

VIII. Utility Impacts

There are no anticipated utility impacts with the proposed improvements, based on the utility composite (QL-C/D) prepared for this project. However, a utility designation (QL-B) is recommended prior to the next design phase.

IX. WMATA JDAC Review

A WMATA JDAC project contact was established for this project. WMATA JDAC was provided the 30% design plans for review and comment. Formal comments were provided (Appendix E). Concurrent with the next design phase, the design team shall re-establish contact with the WMATA JDAC reviewer. Additional guidance on WMATA's design requirements, design review procedures and submittal requirements are provided in WMATA JDAC's Adjacent Construction Project Manual.

X. CSX Railroad Review

As identified in the CSX Public Project Information for Construction and Improvement Projects that May Involve the Railroad (August 2020), existing CSX property rights and the formal engineering review process shall be confirmed as a first task of the next design phase. Additional property deeds research along the railroad alignment for references to existing CSX easements and coordination with CSX Real Estate to obtain Property Valuation ("Val maps") for the site, which will illustrate CSX's property lines and rights of way along the railroad tracks, should also be performed.

XI. Construction Cost

The estimated construction cost for the trail upgrades is \$1.35 million. This includes a 30% contingency. See Appendix D for the detailed cost estimate, including a list of assumptions and exclusions.

XII. Considerations for the Next Phase of Design

As the City pursues future phases of design, the following items should be reviewed to ensure coordination of next steps to further evaluate and detail the recommended improvements, and to enhance the City's Metropolitan Branch Trail Upgrades.

- Perform tree condition survey and assess tree impacts
- Coordinate design reviews with CSX Railroad, Request Val Maps to confirm railroad right of way
- Coordinate design reviews with WMATA
- Assess warrants for all way stop control at the Takoma Avenue and Buffalo Avenue intersection
- Discuss with Ride-On the potential to remove bus stops with low ridership
- Coordinate with Maryland Historical Trust
- Coordinate with Natural Resources Agencies
- Prepare SWM Concept Package, secure City Approval
- Submit Mandatory Referral Application to M-NCPPC
- Perform a utility designation (QL-B/A). Assess utility impacts and coordinate with utility owners
- Subsurface Geotechnical Investigation, including soil borings to confirm viability of SWM practices

APPENDIX A

Existing Conditions Plans

MARYLAND COORDINATE SYSTEM
 NAD 83/2011
 NAVD 88

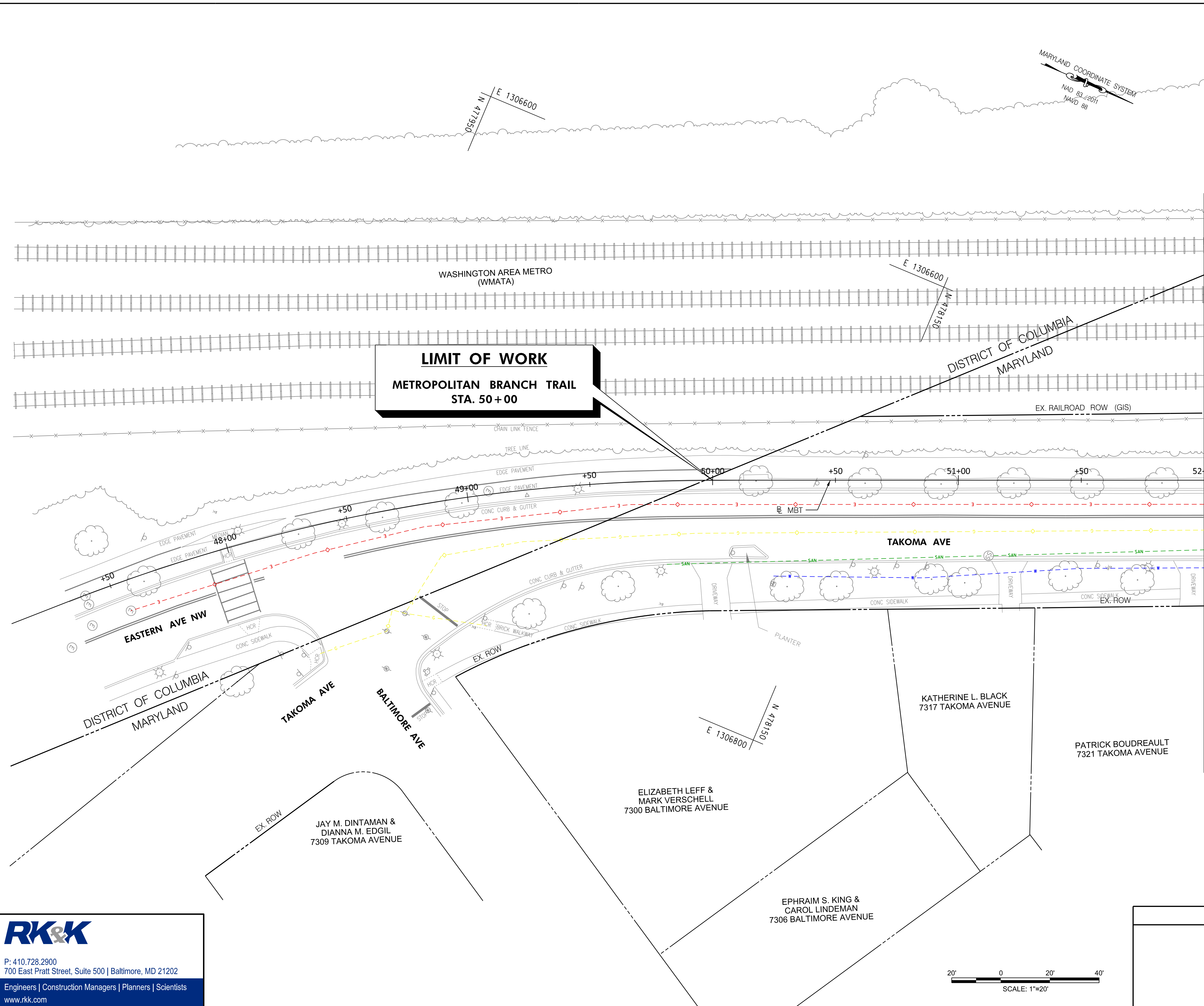
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LIMIT OF WORK
METROPOLITAN BRANCH TRAIL
STA. 50+00

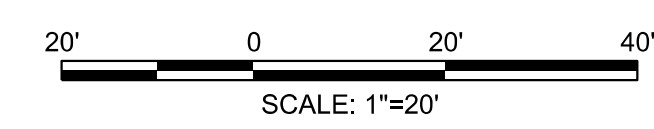
MATCH LINE STA. 52+00 — SEE SHEET EX-02



CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

EXISTING CONDITIONS PLAN

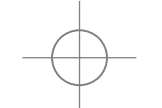
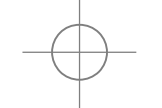
SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY		
DRAWN BY	MEG	LOGMILE			
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	EX - 01	OF	06	SHEET NO.	01 OF 06



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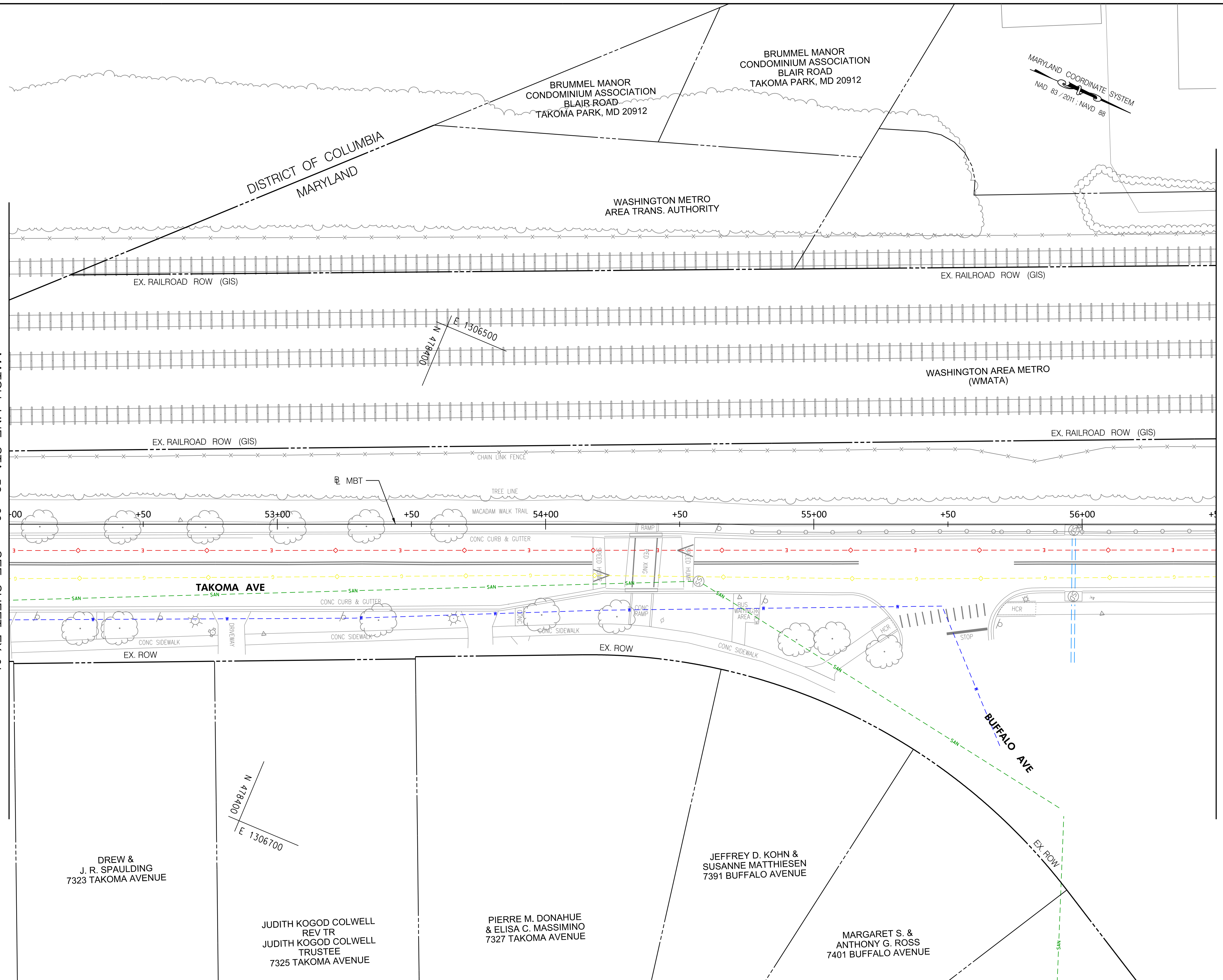


MATCH LINE STA. 52+00 — SEE SHEET EX-01

MATCH LINE STA. 56+50 — SEE SHEET EX-03

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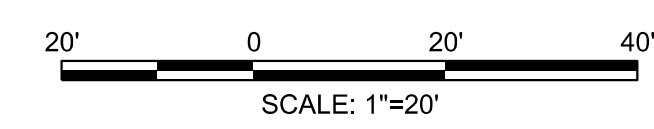
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CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

EXISTING CONDITIONS PLAN

SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY		
DRAWN BY	MEG	LOGMILE			
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	EX - 02	OF	06	SHEET NO.	02 OF 06



PLOTTED: 5/9/2023
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N 478/50
E 1306250

MARYLAND COORDINATE SYSTEM
NAD 83 / 2011 : NAVD 88

WASHINGTON
AREA METRO (WMATA)

EX. RAILROAD ROW (GIS)

EX. RAILROAD ROW (GIS)

WASHINGTON
AREA METRO (WMATA)

EX. RAILROAD ROW (GIS)

EX. RAILROAD ROW (GIS)

WOOD FENCE

CHAIN LINK FENCE

MBT

TREE LINE

ADAM WALK TRAIL

CONC CURB & GUTTER

TAKOMA AVE

CONC CURB & GUTTER

CONC SIDEWALK

PARKING METERS

EX. ROW

CITY OF TAKOMA PARK

BELLE ZIEGLER PARK

MATCH LINE STA. 56+50 — SEE SHEET EX-02

MATCH LINE STA. 61+00 — SEE SHEET EX-04

N 478/50
E 1306500



CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

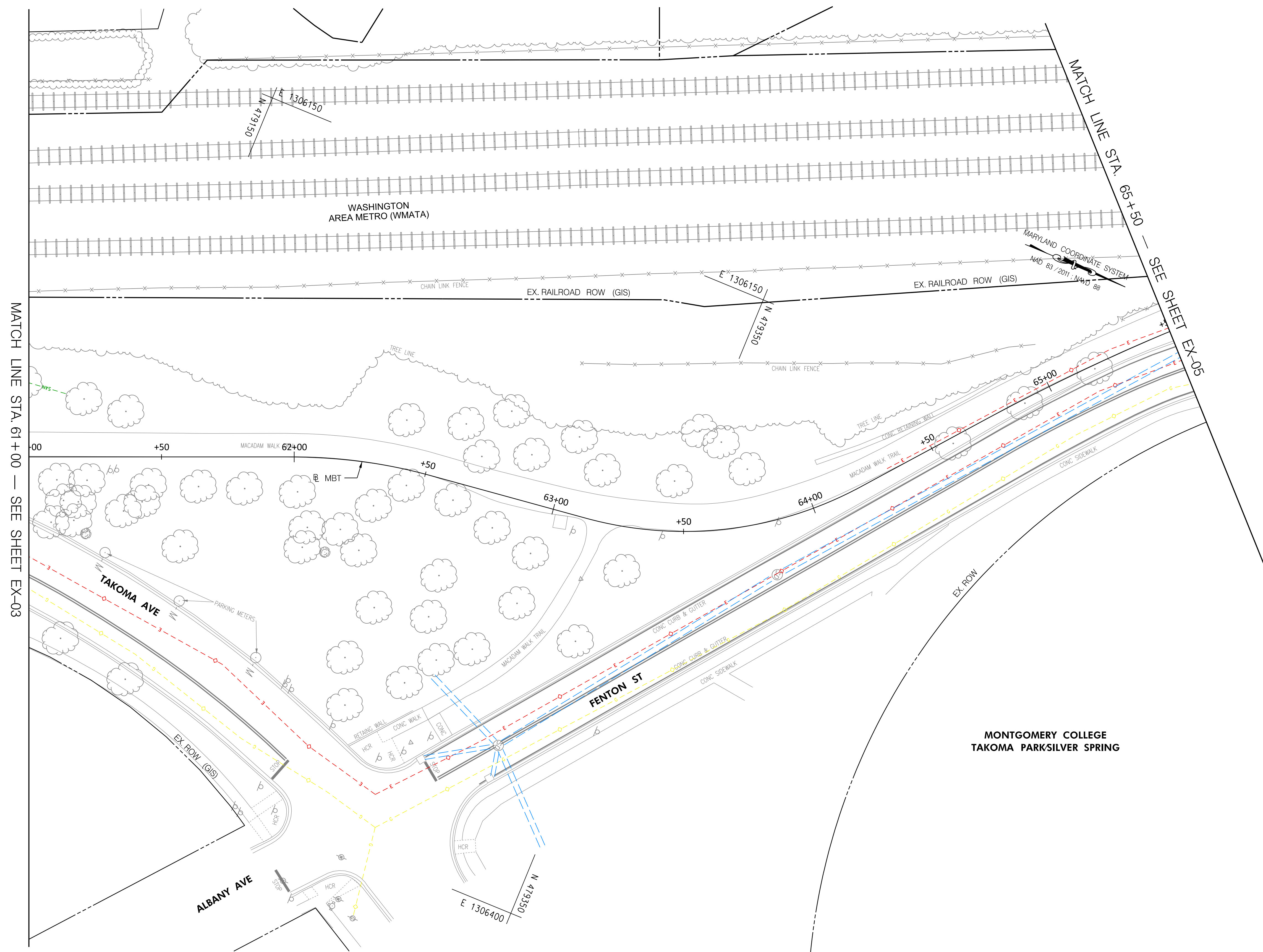
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DESIGNED BY	AMA	COUNTY	MONTGOMERY	LOGMILE	
DRAWN BY	MEG				
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F.A.P. NO.	T.B.D.				
DRAWING NO.	EX - 03	OF	06	SHEET NO.	03 OF 06

RK&K
P: 410.728.2900
700 East Pratt Street, Suite 500 | Baltimore, MD 21202
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BY: aguilan -



MATCH LINE STA. 61+00 — SEE SHEET EX-03

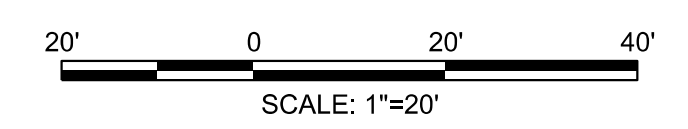
MATCH LINE STA. 65+50 — SEE SHEET EX-05

**MONTGOMERY COLLEGE
TAKOMA PARK/SILVER SPRING**

CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

EXISTING CONDITIONS PLAN

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DESIGNED BY	AMA	COUNTY	MONTGOMERY	LOGMILE	
DRAWN BY	MEG				
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	EX - 04	OF	06	SHEET NO.	04 OF 06



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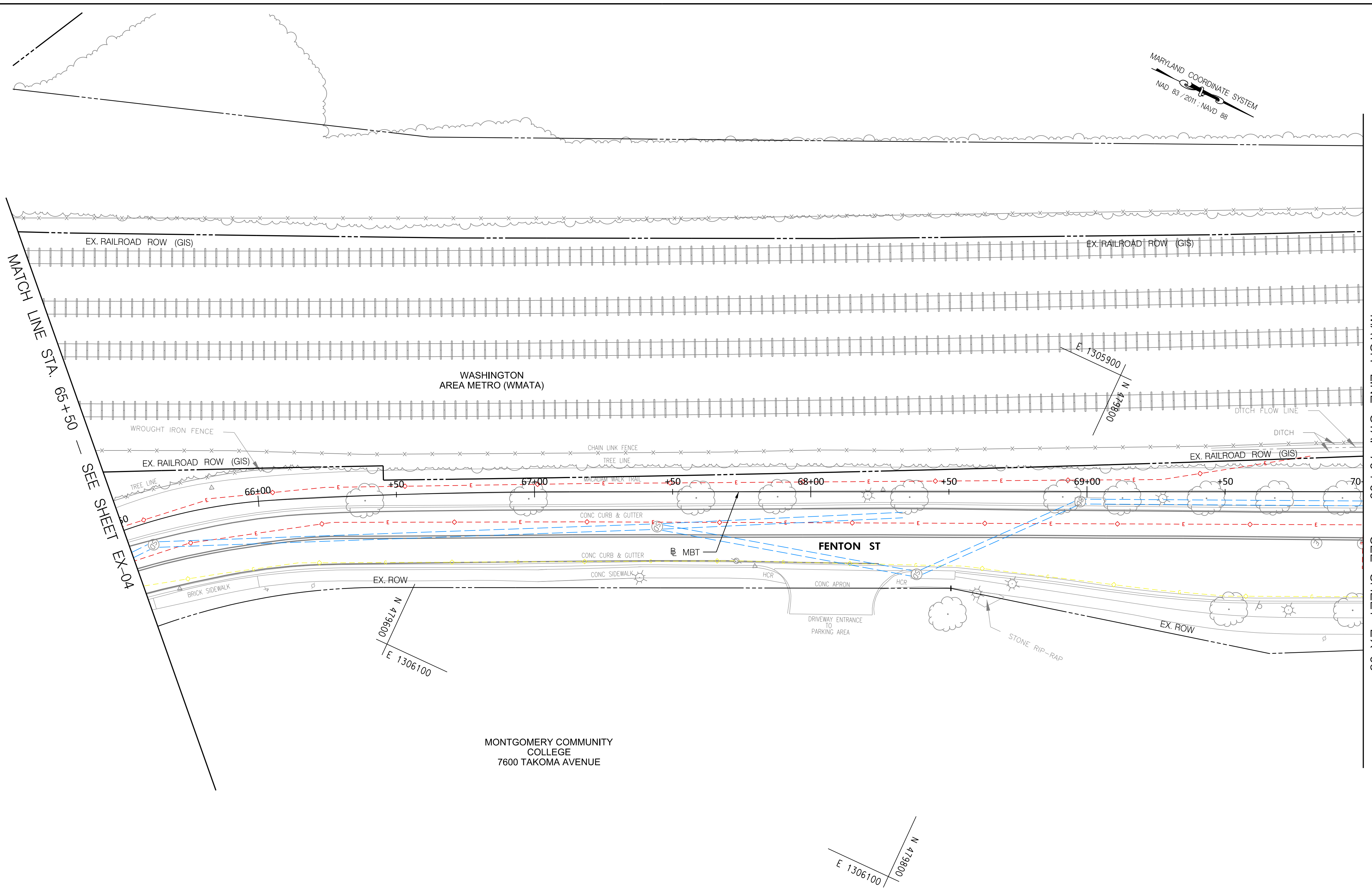
BY: aguilera -

PLOTTED: 5/9/2023
FILE: \\ad.rkk.com\fileshare\Projects\2021\21270_OGTL\Task 4.1 - Takoma Park MBT\CADD\Plan\pHD-PEX004_MBT.dgn

MARYLAND COORDINATE SYSTEM
 NAD 83 / 2011 - NAVD 88

MATCH LINE STA. 65+50 — SEE SHEET EX-04

MATCH LINE STA. 70+00 — SEE SHEET EX-06



MONTGOMERY COMMUNITY COLLEGE
 7600 TAKOMA AVENUE

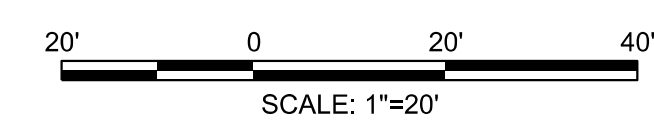
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CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

EXISTING CONDITIONS PLAN

SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY	LOGMILE	
DRAWN BY	MEG				
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	EX - 05	OF	06	SHEET NO.	05 OF 06

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BY: aguilera -

WASHINGTON METRO
 AREA TRANSIT AUTHORITY
 JESSUP BLAIR DRIVE
 TAKOMA PARK, MD 20912

WASHINGTON AREA METRO
 (WMATA)

WASHINGTON
 AREA METRO (WMATA)

MARYLAND COORDINATE SYSTEM
 NAD 83 / 2011 - NAVD 88

MONTGOMERY COMMUNITY
 COLLEGE
 7676 FENTON STREET
 SILVER SPRING, MD 20910

MONTGOMERY COMMUNITY
 COLLEGE
 7600 TAKOMA AVENUE

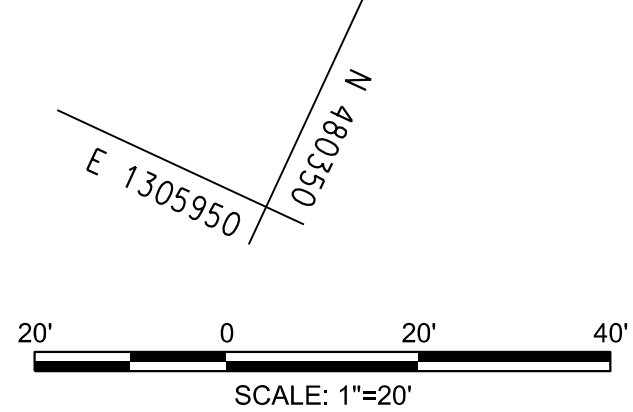
MONTGOMERY COMMUNITY
 COLLEGE
 NEW YORK AVENUE
 SILVER SPRING, MD 20912

LIMIT OF WORK
METROPOLITAN BRANCH TRAIL
STA. 73+28

CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

EXISTING CONDITIONS PLAN

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F.A.P. NO.	T.B.D.				
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MATCH LINE STA. 70+00 — SEE SHEET EX-05

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APPENDIX B
Stakeholder Meeting Summaries

MWCOG TLC Program FY2023
Contract No. 21-093
DESIGN KICK-OFF MEETING
AGENDA

Project: City of Takoma Park, 2 Projects:
Metropolitan Branch Trail Upgrade
New Ave Bikeway – District Connector (Section D)
Preliminary (30%) Design

Date & Time: Monday, September 26, 2022 - 11:00 AM
Virtual Teams Meeting

Attendees:

NAME	AGENCY	PROJECT ROLE	EMAIL
Alex Freedman	City of Takoma Park, Planning & Community Development Division	Project Manager	alexanderf@takomaparkmd.gov
Erin Morrow	MWCOG	Project Liaison	emorrow@mwkog.org
Rick Adams	RK&K	Project Director	radams@rkk.com
Rob Gillespie	RK&K	Project Manager	rgillespie@rkk.com

1. Introductions

2. Overview of TLC Program Roles

- a. MWCOG
 - i. TLC Project Expectations
- b. City of Takoma Park
- c. Stakeholders – contacts
 - i. **MBT Upgrade**
 - WMATA, Montgomery College, neighborhood associations
 - ii. **New Ave Section D**
 - neighborhood associations, MDOT SHA
- d. Consultants – RK&K with CDDI as DBE subconsultant

3. Project Area, Objectives

- a. **MBT Upgrade**
 - i. City maintained section of MBT, 0.45 miles
 - Trail runs adjacent Takoma Ave / Fenton St from DC Line to Silver Spring
 - Improve safety per current design standards and best practices
 - alignment, width, clearances, lighting, intersection treatments sustainable paving
 - minimize impacts to local neighborhoods / property, environmental resources, utilities



b. **New Ave Section D**

- i. City's southern-most section of the New Ave Bikeway
- Intersection of MD 650 / Poplar Ave thru low-volume neighborhood streets connecting to Kansas Lane (bike lanes) at DC line
 - Provide a safe, low-stress enjoyable bikeway connection
 - minimize impacts to local neighborhoods / property, environmental resources, utilities

4. Deliverables

- a. [MBT Upgrade - Existing Conditions Memo](#)
- b. [New Ave Section D - Route Selection Memo](#)
- c. Preliminary Plans (30%)
- d. Cost Estimates
- e. Design Reports
- f. Presentation

5. Schedule

Work must be completed by June 30, 2023.

Work Plan and Schedule			
Task	Week	Status	Completion Date
1. Call / Kickoff with City & MWCOG	0	Complete	9/26/2022
2. Review Background Information, WMATA Records	2		10/12/2022
3. Submit Miss Utility Design Ticket, Request Records	2		10/12/2022
4. Field Walk w/ City: Route Selection (New Ave Sec D)	3		10/21/2022
5. Field Walk w/ City & other Stakeholders (MBT)	5		11/2/2022
6. Submit Route Selection Memo (New Ave Sec D)	5		11/4/2022
7. Perform Surveys, Prepare Utility Files & Base Maps	11		12/16/2022
8. Submit Existing Conditions Memo w/ Recommendations (MBT)	12		12/21/2022
9. Submit Preliminary (30%) Designs	18		2/1/2023
10. Receive City/Agency Stakeholder Comments	22		3/1/2023
11. Draft Concept Design Report	25		3/22/2023
12. Final Concept Design Report, Plans & Estimates	28		4/12/2023
13. Final Presentation	TBD		TBD

6. Next Steps

- Request record plans from utility owners and WMATA (MBT)
- Schedule Field walks
 - Select Preferred Route for New Ave Section D
 - Discuss objectives / requirements with WMATA, Montgomery College for MBT
- Schedule Topographic and Boundary surveys

Attachment: Vicinity Maps



Takoma Park Metropolitan Branch Trail Upgrade



New Ave Bikeway–District Connector (Section D)



Date: October 25, 2022

To: Attendees

From: Rob Gillespie, RK&K
Andrew Aguilar, RK&K

Subject: **Metropolitan Branch Trail Upgrade**
Preliminary (30%) Design
MWCOG TLC Program
Contract No. 21-093

RE: Field Meeting with Stakeholders

Attendees:

<u>Name</u>	<u>Organization</u>	<u>Email</u>
Erin Morrow	MWCOG-TLC	emorrow@mwkog.org
Alex Freedman	City of Takoma Park, Planning (PM)	alexanderf@takomaparkmd.gov
David Eubanks	City of Takoma Park, Planning	davide@takomaparkmd.gov
Joshua Cato	City of Takoma Park, Planning	joshuac@takomaparkmd.gov
Daryl Braithwaite	City of Takoma Park, Public Works	daryl@takomaparkmd.gov
Ian Chamberlain	City of Takoma Park, Public Works	ianc@takomaparkmd.gov
Marty Frye	City of Takoma Park, Public Works	martyf@takomaparkmd.gov
Nina Esposito Faraone	City of Takoma Park, Public Works	ninae@takomaparkmd.gov
Anna Mische John	City of Takoma Park, Public Works	annamj@takomaparkmd.gov
Ali Fadl	Montgomery College, Facilities	ali.fadl@montgomerycollege.edu
Rob Gillespie	RK&K	rgillespie@rkk.com
Andrew Aguilar	RK&K	aaguilar@rkk.com

A field meeting was held with the above attendees to discuss the preliminary design approach for the City's Metropolitan Branch Trail Upgrade improvements on October 25, 2022. An agenda was distributed to attendees with a map of the project limits (attached).

Below are key elements discussed during the meeting:

- The meeting began with introductions.
- The City and RK&K thanked MWCOG-TLC for their support in providing grant funding the preliminary design phase of the project.
- Project Stakeholders were identified as follows:
 - City of Takoma Park and the community
 - Metropolitan Washington Council of Governments (MWCOG)
 - Montgomery College
 - WMATA
 - Montgomery County Ride-On
 - WMATA was contacted about the project and assignment of a project point of contact is pending

- Montgomery County Ride-On was contacted about the project and project points of contact were provided subsequent the field meeting. Ride-On contact person is Wayne Miller, MCDOT – Division of Transit Services.
- **Project Limits** of the City maintained section of the MBT (0.45 miles) were identified as follows:
 - Trail runs adjacent the west side of Takoma Avenue / Fenton Street from the DC Line to Silver Spring
 - Ian Chamberlain and Alex Freedman noted that the northern limit of the City's section of the MBT ends approximately 275 feet south of the New York Avenue / Fenton Street intersection. Survey mapping should confirm these limits.
 - Rob Gillespie suggested that the City extend the limits of the trail upgrades to the start of the existing concrete path, just south of the bike share station that is maintained by MCDOT.
 - The City agreed that for preliminary design we can end the limits of the MBT at the existing concrete pathway.
- **Project Objectives** were discussed.
 - Upgrade design trail to improve safety per current design standards and best practices.
 - Limit impacts to trees and utilities.
 - Keep impacts on the trail side of the existing chain link fence that delineates the WMATA Red Line tracks
- **Trail Upgrades** were discussed in detail, including:
 - Alignment and Profile
 - Horizontal alignment will match existing.
 - One consideration is to raise the trail profile, where feasible, to limit impacts to tree roots.
 - City recommended to raise the trail profile no more than 4" above existing trail grade.
 - It was also discussed to consider replacing existing 6" curb with 8" curb to accommodate the raised profile.
 - It was noted by the City's Arborist that Red Maples are more conducive to heaving of adjacent trail / sidewalk paving.
 - Width
 - Trail width will be upgraded to 10' typical (8' minimum). There is a segment of trail from Takoma Ave to Buffalo Ave where the trail was measured to be 7' wide.
 - The design team will evaluate widening the trail to the west to achieve a 10' wide trail with header curb to avoid / minimize grading requirements adjacent to trees and WMATA property.
 - Clearances
 - Trail clearances will be in accordance with MDOT SHA and AASHTO guidelines, which require a minimum of 2' clear buffers. If there are deviations from the 2' minimum clearances, it will be documented on the design plans.
 - The existing wood railing along the west side of Takoma Avenue that runs along the tangent roadway section from just south of Buffalo Ave north for approximately 400 feet was discussed.
 - The wood railing was installed in response to community concerns about the safety of children using the trail adjacent to Takoma Ave.
 - The wood railing requires routine replacement / maintenance by the City.
 - The following options were discussed for consideration:
 - Eliminate wood fence and maximize the buffer space between the back of curb and the edge of the upgraded trail, where feasible. Note: The existing 2' (minimum) buffer from back of

- curb to edge of trail meets MDOT SHA and AASHTO guidelines without the need for railing.
 - Consider a more sustainable material for the railing to reduce maintenance requirements for the City; e.g. composite / vinyl.
- Intersections
 - Improved signing & markings at crosswalks
 - ADA compliant upgrades to pedestrian ramps
 - Takoma Ave at Buffalo Ave:
 - Evaluate extending curb returns at Buffalo Ave to tighten up the intersection.
 - Consider a 3-way stop-sign controlled intersection
 - Remove mid-block crosswalk that is approx. 115' south of Buffalo Ave
 - Install new crossing of Takoma Ave at the north leg of Takoma Ave / Buffalo Ave intersection
 - Shift both Ride-On stops north to the (south side) of the Takoma Ave / Buffalo Ave intersection
 - Perform tree branch pruning to accommodate relocated northbound bus stop
 - Install speed hump and eliminate metal covers over the gutter flow line, where current raised mid-block crosswalk is located
 - Install speed hump north of relocated Takoma Ave crossing.
- Ride-On bus stops
 - ADA compliant upgrades to bus facilities
 - Coordinate with Ride-On about the requirements to relocate bus stops.
- Lighting
 - Provide continuous trail lighting.
 - Confirm WMATA requirements for illuminance levels on Red Line tracks.
 - It was noted that pedestrian / trail-oriented lighting has minimal overthrow beyond the limits of the trail.
 - Confirm lighting fixture / luminaires desired by the City.
 - City wants to reference the pedestrian level LED lighting fixture / luminaires used for both the Ethan Allen Gateway and Flower Avenue Green Street projects (Munich / Eurotique style) in lieu of the 'Washington Globe Style' fixtures currently shown for DCDOT and MCDOT maintained portions of the MBT.
 - Provide lighting at intersections and crosswalks.
- WMATA Red Line
 - Maintain existing fence line / retaining walls and avoid impacts to WMATA property.
 - Coordinate with WMATA on design to establish a project point of contact. We understand that any work within 50' of WMATA ROW needs to be coordinated with them.
- Sustainable trail paving
 - Consider porous rubber sidewalk material such as PerkyPave or Flexipave.
 - District DOT's portion of the MBT to the south used a porous rubber sidewalk material.
 - With consideration given to minimize tree impacts, the City of Takoma wants to provide the shallowest trail paving section possible.
 - A combination of raising the trail profile and installation of porous rubber sidewalk may provide a sustainable long-term solution to achieve the City's goal to minimize tree / root zone impacts.
 - Reinforced concrete sidewalk was also discussed as a material option. However, there are concerns with concrete as it is not porous and the concrete slabs are still subject to heaving at the joints caused by tree root growth.



- Drainage / SWM
 - The trail upgrade improvements will maintain existing drainage patterns and the trail section will drain towards the roadway.
 - Potential SWM facility locations identified in the field were on the western side of the trail between Buffalo Ave and Takoma Ave, and at the corner of Buffalo Ave and Takoma Ave in front of Belle Ziegler Park.

ACTION ITEMS, NEXT STEPS

RK&K

- Complete Surveys, Utility Records Collection
- Prepare Existing Conditions Memo (after surveys and utility records collection are complete)
- Discuss design approach with MCDOT / Ride-On
- Discuss design approach with WMATA and establish a project point of contact

City of Takoma Park

- Schedule initial informational meeting with the Public

Attachments:
10/25/2022 Meeting Agenda

**MWCOG TLC Program FY2023
Contract No. 21-093
FIELD WALK with STAKEHOLDERS
AGENDA**

Project: **Metropolitan Branch Trail Upgrade**
Preliminary (30%) Design

Date & Time: Tuesday, October 25, 2022 - 11:30 AM
Project Site

1. Introductions

2. Stakeholders

City of Takoma Park –
Metropolitan Washington Council of Governments –
Montgomery College –
WMATA –
Montgomery County Ride-On –

3. Project Limits

- a. City maintained section of MBT (0.45 miles)
- b. Trail runs adjacent Takoma Ave / Fenton St from DC Line to Silver Spring

4. Objectives

- a. Improve trail safety per current design standards and best practices
- b. minimize impacts to local neighborhoods / property, environmental resources, utilities

5. Trail Upgrades Discussion

- a. alignment – *follow existing trail line & grade (typical)*
- b. width – *10' (typical), 8' min.*
- c. clearances – *2' buffers min. [evaluate opportunities to reduce roadway width]*
- d. intersections – *improved signing & markings, ADA compliant facilities (ped ramps, DWS, etc.)*
- e. Ride-On bus stops – *ADA compliant facilities*
- f. lighting – *trail, intersections, bus stops: luminaire / fixture preferences?*
- g. WMATA Red Line – *maintain existing fence line*
- h. sustainable paving – *porous flexible paving (perkEpave, Flexipave, etc.)*
- i. Drainage / SWM – *identify concerns and SWM treatment requirements*

6. Next Steps

- a. Complete Surveys, Utility Records Collection
- b. Prepare Existing Conditions Memo
- c. Develop Preliminary (30%) Plans

Attachments: (1) MBT Overview Map, (2) Aerial Map







New York Ave

Fenton St

Takoma Ave

Albany Ave

Buffalo Ave

Takoma Ave
WMATA Tracks

Baltimore Ave

Takoma Ave

Eastern Ave

Piney Branch Rd

Metropolitan Branch Trail Upgrade Community Route Walk

December 10, 2022 @ 11:00pm

Attendees:

- Alex Freedman (Host, City of Takoma Park)
- David Balick (DDOT)
- Jim Hahn (Ward 2)
- Ashley Brookshier (Ward 3)
- Lori Bowes (Ward 5)
- Michael Caruso (Ward 2)

Feedback: *(RK&K's responses in blue text)*

1. Maintenance –
 - A big concern for cyclists now is that foliage along the trail gets overgrown and eats into available trail space
 - Uncollected leaves and un-shoveled snow also eat up roadway; particularly dangerous when it hides the steep drop-off of the edge of the road paving.
 - Would like to see a more concerted effort to manage invasive vines and shrubs along the trail

Response: Maintenance concerns are noted and will be considered / addressed by City of Takoma Park.

2. Want to see the trail be as wide as possible in all places – **The trail is as narrow as 8' for the southern segment. The goal of this trail will be to have a minimum 10' trail throughout the project limits.**
3. The trail currently feels dark – would like to see a lot more pedestrian-scale illumination – **Response: A conceptual trail lighting layout is included in the scope of work. Public comment will be taken into consideration to try to establish a balance between minimizing light pollution onto adjacent residential property, while providing adequate trail lighting so trail users feel safe.**
 - Some mixed reactions to what scale of lighting; some were interested in minimum light pollution impact for wildlife and homes, while others wanted enough that riders could see far enough ahead and along the sides of the road to feel safe from any lurkers.
4. Steep embankment along the curve by the College can feel perilous – not a lot of protection if someone loses control or veers wide to pass someone. – **Response: This issue was noticed during the 10-25-2022 field walk and will be reviewed more as the design progresses. Regrading and/or installation of a railing are potential solutions.**
 - Is it possible consider digging out some of the hillside to straighten the trail and move it further from the roadway in that section? – **Response: We will need to review the as-builts for this area but from initial review we do not anticipate this being a viable option. There is a retaining wall on the opposite side of the trail at this location so we will not be able to shift the trail further from the roadway. Lowering the profile could potentially be an option after reviewing the footing design of the existing retaining wall. Alternatively, this may be a location where we will install a physical barrier to protect bicyclists and pedestrians from the adjacent slope and roadway.**

5. Interest in protecting and adding as many trees as possible, but with deeper roots to avoid trail heaving and cracking – **Response: Potential solutions that will be investigated are raising the trail profile and using a flexible porous pavement over tree roots. This will alleviate the heaving the current trail is experiencing.**
6. Trail Surface Conditions:
 - Cracks in the trail are an ongoing challenge – are there ways to reduce the likelihood of cracks, or build in more regular maintenance? – **Response: The cracks are mainly caused by the adjacent tree roots. Raising the trail profile and using a flexible and porous surface will help reduce cracking.**
 - Can whatever paving surface is chosen be sure to offer good traction? Some pavements get slick when wet or icy – **Response: A slick or icy paving surface is likely due to poor drainage of the trail and/or poor installation practices during construction. Design of the trail upgrades will include revising the trail profile where feasible and reconstructing the trail with more sustainable, flexible and porous material that will alleviate standing water**
 - Would it be possible to have painted, reflective lines or markings to note the separate sides of the route? – **Response: A center pavement marking on the trail will be included. We will evaluate the possibility of providing reflective pavement markings for the center of the trail. This may depend on the material used for the trail, which may have limitations.**
7. Fence line between road and trail:
 - General support for a physical barrier between the trail and roadway, along Takoma Ave – **Response: We will evaluate the need for physical barrier between the trail and the roadway. Recommendations for barrier will include more sustainable / permanent materials to reduce the maintenance requirements and safety concerns associated with the existing wood fence / barrier.**
 - At the curve in the trail, going southbound, where Takoma Ave is straight ahead becomes really challenging at dusk/dark, because car headlight shine straight into oncoming bike riders' eyes. Can the fence be extended around the edge to offer some obstruction of the lights? – **Response: Extension of a physical barrier and associated impacts will be evaluated during preliminary design.**
8. General support for reconfiguring of the intersection at Takoma and Buffalo – not a lot of strong feelings about how – **Response: During the 10-25-2022 field walk it was discussed to move the adjacent mid-block crossing across Takoma Ave to the Buffalo intersection. We will also look at options to shorten the crosswalk across Buffalo.**
9. Interest in better crossing access to Belle Ziegler and Montgomery College (including idea for a mid-block crossing on Fenton) – **Response: During the 10-25-2022 field walk this was the main reason for the proposal to move the mid-block crossing to the Buffalo Avenue intersection to provide access to the southern entrance of Belle Ziegler Park. A review of pedestrian volumes is recommended to assess warrants for a mid-block crossing of Fenton Street between the existing crossings at Takoma Avenue and New York Avenue.**
10. The access to the pedestrian bridge over the train tracks feels inconvenient, based on how long the ramps are – could stairs be added [outside the scope of the project] – **Response: This work is outside the scope of this project.**

Date: November 21, 2022

To: **Joint Development & Adjacent Construction, WMATA**

From: Robert Gillespie, PE – RK&K
Andrew Aguilar, PE – RK&K

Cc: Alexander Freedman, Project Manager – City of Takoma Park

Subject: **Metropolitan Branch Trail Upgrade
DC Line to south of New York Avenue
Preliminary (30%) Design**

RE: Project Introduction

Project Description:

The Metropolitan Branch Trail (MBT) Upgrade project limits are along the City of Takoma Park's maintained section (0.45 miles) that runs adjacent to the west side of Takoma Avenue / Fenton Street and WMATA's Red Line from the DC Line to approximately 250 feet south of New York Avenue.

The goal of this project is to reconstruct the existing trail to current design standards and remediate current deficiencies. Figure 1 below shows a map of the project limits in yellow. The proposed trail improvements are within 50' of WMATA's property for most of the project limits. We do not anticipate impacts to WMATA right-of-way or facilities. There will be no impacts to the WMATA security fence or retaining walls adjacent to the WMATA Red Line tracks. Drainage from the trail will drain to the adjacent City maintained roadway (Takoma Avenue / Fenton Street). Excavation will be limited to install the new MBT trail pavement, remove impacted trees and tie-into existing grades design.

The project is currently funded for preliminary (30%) design only. Topographic surveys were completed in November and preliminary design has commenced. We will provide preliminary plans to WMATA when they are ready (anticipated February 2023).



Figure 1 - Map of Takoma Park MBT

Contact Address:

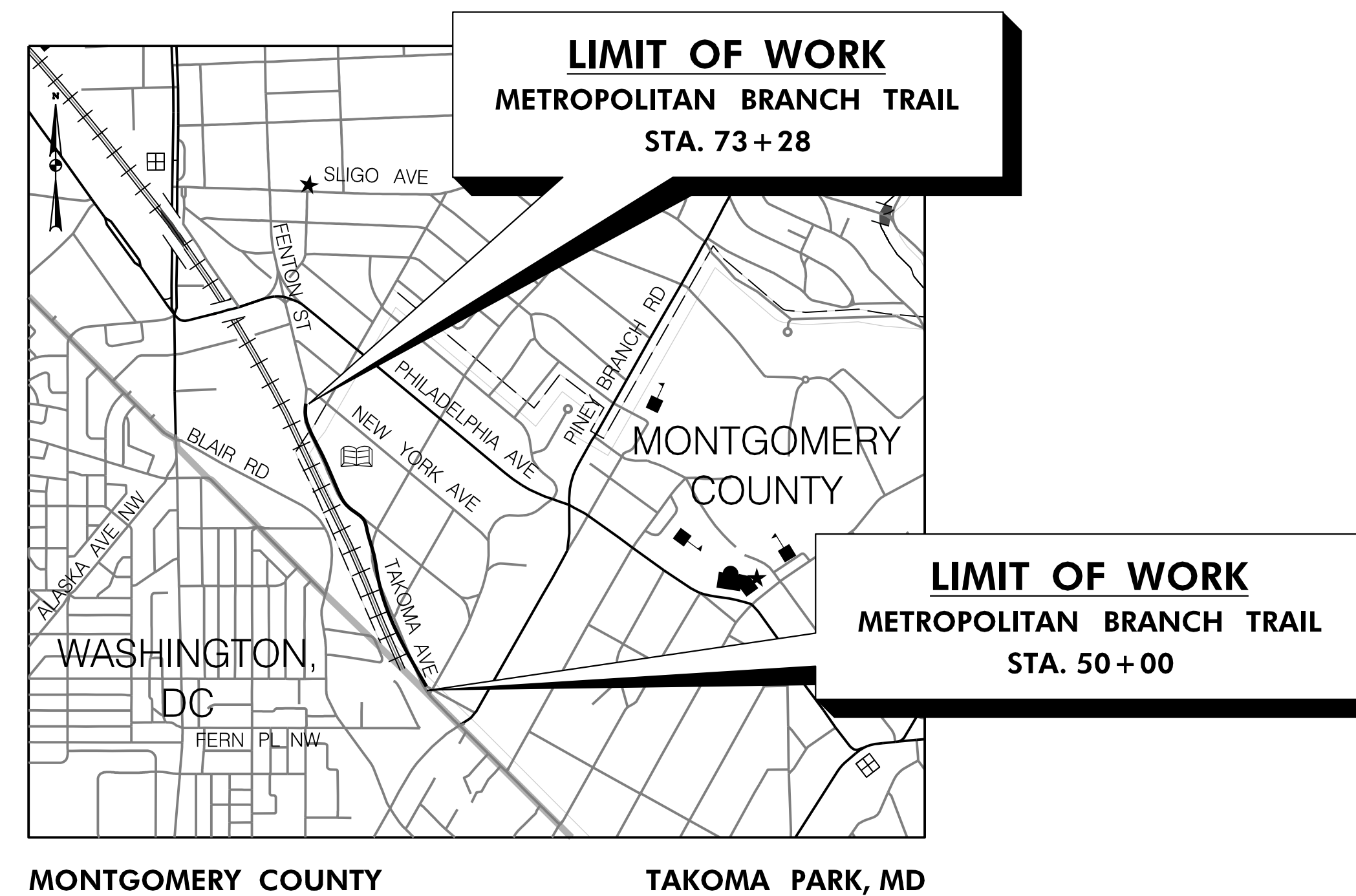
Robert Gillespie
Project Delivery Leader
RK&K
700 East Pratt Street, Suite 500
Baltimore, MD 21202
o. 410.462.9359
e. rgillespie@rkk.com

APPENDIX C
Preliminary Design Plans

THE CITY OF TAKOMA PARK AND THE METROPOLITAN WASHINGTON COUNCIL OF GOVERNMENTS (MWCOCG) METROPOLITAN BRANCH TRAIL UPGRADE D.C. LINE TO SOUTH OF NEW YORK AVENUE MWCOCG CONTRACT NO. 21-093

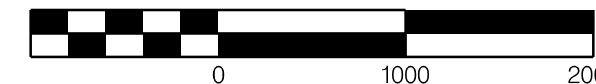
INDEX OF SHEETS

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LOCATION MAP

SCALE: 1" = 1000'



PROJECT LENGTH = 0.44 MILES

HORIZONTAL DATUM	NAD 83 /11
VERTICAL DATUM	NAVD 88

**30% DESIGN SUBMITTAL
MAY 2023
NOT FOR CONSTRUCTION**



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BY: agrubb - DRILL HOLES

ABBREVIATIONS

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

CONVENTIONAL SIGNS

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

GENERAL NOTES

- THIS PROJECT WAS DESIGNED IN ACCORDANCE WITH THE 2012 PUBLICATION OF AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) "GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES" AND THE 2015 MARYLAND STATE HIGHWAY ADMINISTRATION BICYCLE POLICY AND DESIGN GUIDELINES.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND STATE HIGHWAY ADMINISTRATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND BOOK OF STANDARDS FOR HIGHWAYS & INCIDENTAL STRUCTURES, AND THE MARYLAND MUTCD.
- LIMITED TOPOGRAPHIC AND PROPERTY SURVEYS WERE COMPLETED BY CDDI IN DECEMBER 2022. HORIZONTAL DATUM IS BASED ON NAD 83/2011 AND VERTICAL DATUM IS BASED ON NAVD 88.
- CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION.
- REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION SHALL BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
- THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN AND VEHICULAR ACCESS TO ALL PROPERTIES WITHIN THE PROJECT LIMITS AND SHALL COORDINATE WITH PROPERTY OWNERS TO MAINTAIN INGRESS/EGRESS DURING THE ENTRIE PERIOD OF CONSTRUCTION.
- RIGHT OF WAY AND EASEMENT LINES SHOWN ON THESE PLANS ARE FOR ASSISTANCE IN INTERPRETING THE PLANS.
- THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE FOR INFORMATION AND GUIDANCE ONLY. NO GUARANTEE IS MADE OF THE ACCURACY OF SAID LOCATIONS.
- THE DESIGN OF THIS PROJECT HAS INCORPORATED FACILITIES TO ACCOMMODATE PERSONS WITH DISABILITIES IN COMPLIANCE WITH STATE AND FEDERAL REQUIREMENTS.

CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

NOTES AND ABBREVIATIONS SHEET

SCALE	NTS	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY		
DRAWN BY	MEG	LOGMILE			
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	AB - 01	OF	01	SHEET NO.	02 OF 16

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LIMIT OF WORK
METROPOLITAN BRANCH TRAIL
STA. 50+00

LIMIT OF WORK
METROPOLITAN BRANCH TRAIL
STA. 73+28

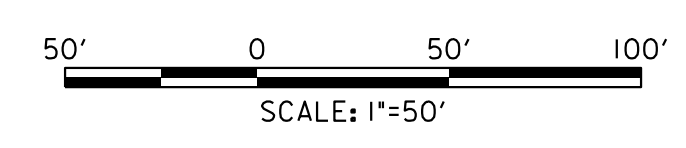
MATCH LINE — SEE THIS SHEET

MATCH LINE — SEE THIS SHEET

CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
MBT-1	PC	47+31.82	477,871.3803	1,306,856.0403	N44°09'36.1299"W
	PI	48+67.48	477,968.7056	1,306,761.5276	
	PT	50+00.00	478,093.7528	1,306,708.9149	N22°49'06.8152"W
MBT-2	PC	58+47.28	478,874.7252	1,306,380.3266	
	PI	59+10.24	478,932.7568	1,306,355.9102	
	PT	59+72.65	478,994.8048	1,306,345.2395	N9°45'28.9065"W
MBT-3	PC	60+5.33	479,036.8582	1,306,338.0073	
	PI	60+35.76	479,056.9943	1,306,334.5444	
	PT	60+56.02	479,075.8895	1,306,326.7708	N22°21'45.5473"W
MBT-4	PC	61+99.53	479,208.6035	1,306,272.1712	
	PI	62+25.82	479,232.9184	1,306,262.1679	
	PT	62+51.80	479,259.0145	1,306,258.9615	N7°00'16.6721"W
MBT-5	PC	63+12.69	479,319.4465	1,306,251.5364	
	PI	63+68.83	479,375.1711	1,306,244.6898	
	PT	64+19.48	479,410.7247	1,306,201.2382	N50°42'31.3718"W
MBT-6	PC	64+72.13	479,444.0699	1,306,160.4857	
	PI	65+03.31	479,467.6120	1,306,131.7139	
	PCC	65+46.43	479,493.7209	1,306,105.2495	N45°23'14.9714"W
MBT-7	PC	65+46.43	479,493.7209	1,306,105.2495	N45°23'14.9714"W
	PI	65+76.49	479,514.8294	1,306,083.8535	
	PCC	66+06.08	479,541.3454	1,306,069.7022	N28°05'18.3137"W
MBT-8	PC	66+59.44	479,588.4199	1,306,044.5790	
	PI	67+12.77	479,636.8302	1,306,022.1373	N24°52'15.9962"W
	PT	67+12.77	479,636.8302	1,306,022.1373	N24°52'15.9962"W
MBT-9	PC	72+08.45	480,086.5326	1,305,813.6680	
	PI	72+93.47	480,163.6733	1,305,777.9077	
	PT	73+74.54	480,248.3307	1,305,785.8208	
	POT	74+93.36	480,366.6298	1,305,796.8785	N5°20'24.1729"E

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
MBT-1	21°20'29.31" RT	7°57'27.89"	720.00'	135.66'	268.18'	12.67'
MBT-2	13°03'37.91" RT	10°25'02.69"	550.00'	62.96'	125.37'	3.59'
MBT-3	12°36'16.64" LT	30°58'14.49"	185.00'	20.43'	40.70'	1.12'
MBT-4	15°21'28.88" RT	29°22'56.82"	195.00'	26.29'	52.27'	1.76'
MBT-5	43°42'14.70" LT	40°55'32.00"	140.00'	56.14'	106.79'	10.84'
MBT-6	5°19'16.40" RT	7°09'43.10"	800.00'	37.18'	74.30'	0.86'
MBT-7	17°17'56.66" RT	28°59'55.80"	197.58'	30.06'	59.65'	2.27'
MBT-8	3°13'02.32" RT	3°00'56.04"	1900.00'	53.36'	106.69'	0.75'
MBT-9	30°12'40.17" RT	18°11'20.89"	315.00'	85.03'	166.09'	11.27'

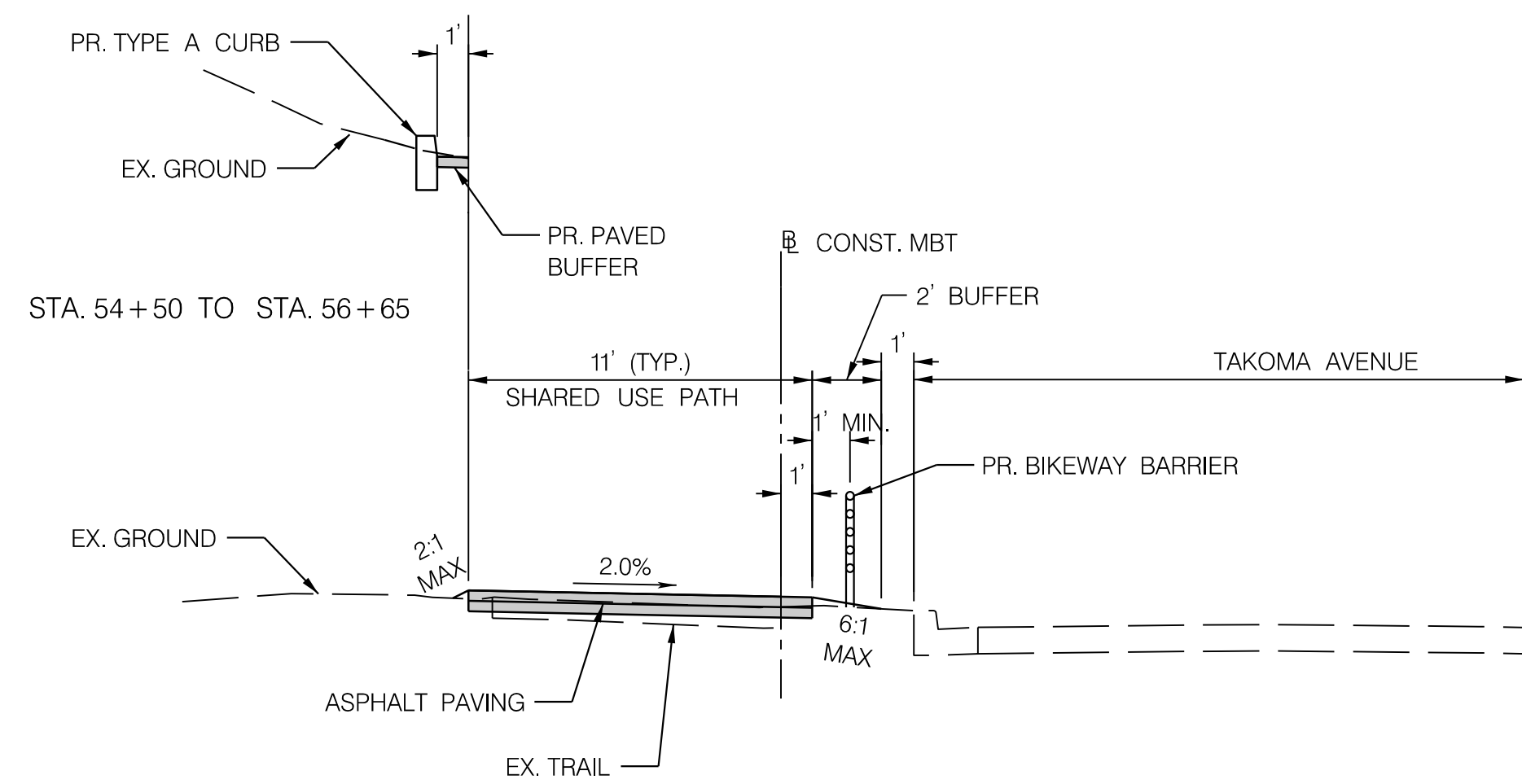
TRAVERSE POINTS				
DESCRIPTION	POINT NO.	NORTH	EAST	ELEVATION
TRV	MN 50	479,708.9511	1,306,018.3974	329.5230
TRV	MN 51	479,523.4994	1,306,113.3543	326.4660
TRV	P&C 52	479,290.6582	1,306,354.8606	321.1140
TRV	P&C 53	478,972.6674	1,306,381.6160	311.8970
TRV	MN 54	478,666.5712	1,306,504.1213	304.6610
TRV	MN 55	478,381.4901	1,306,632.2582	307.3820
TRV	P&C 56	478,026.5701	1,306,743.8878	305.8520
TRV	MN 57	478,336.4402	1,306,605.2362	307.6500
TRV	MN 58	478,646.0492	1,306,477.4557	305.0630
TRV	P&C 59	479,047.6560	1,306,324.5628	314.8480
TRV	MN 60	479,326.4661	1,306,273.4909	326.8180
TRV	MN 61	479,518.6091	1,306,075.3465	327.8060
TRV	MN 62	479,739.4170	1,305,973.7742	330.1750
TRV	MN 63	479,979.5758	1,305,861.9590	332.1380
RTK	RTK MN 2	479,979.8801	1,305,919.8469	332.0405
RTK	RTK MN 21	480,315.5616	1,305,780.4192	336.4890
TRV	METRO SURVEY CONTROL	478,539.7040	1,306,550.8530	305.8100



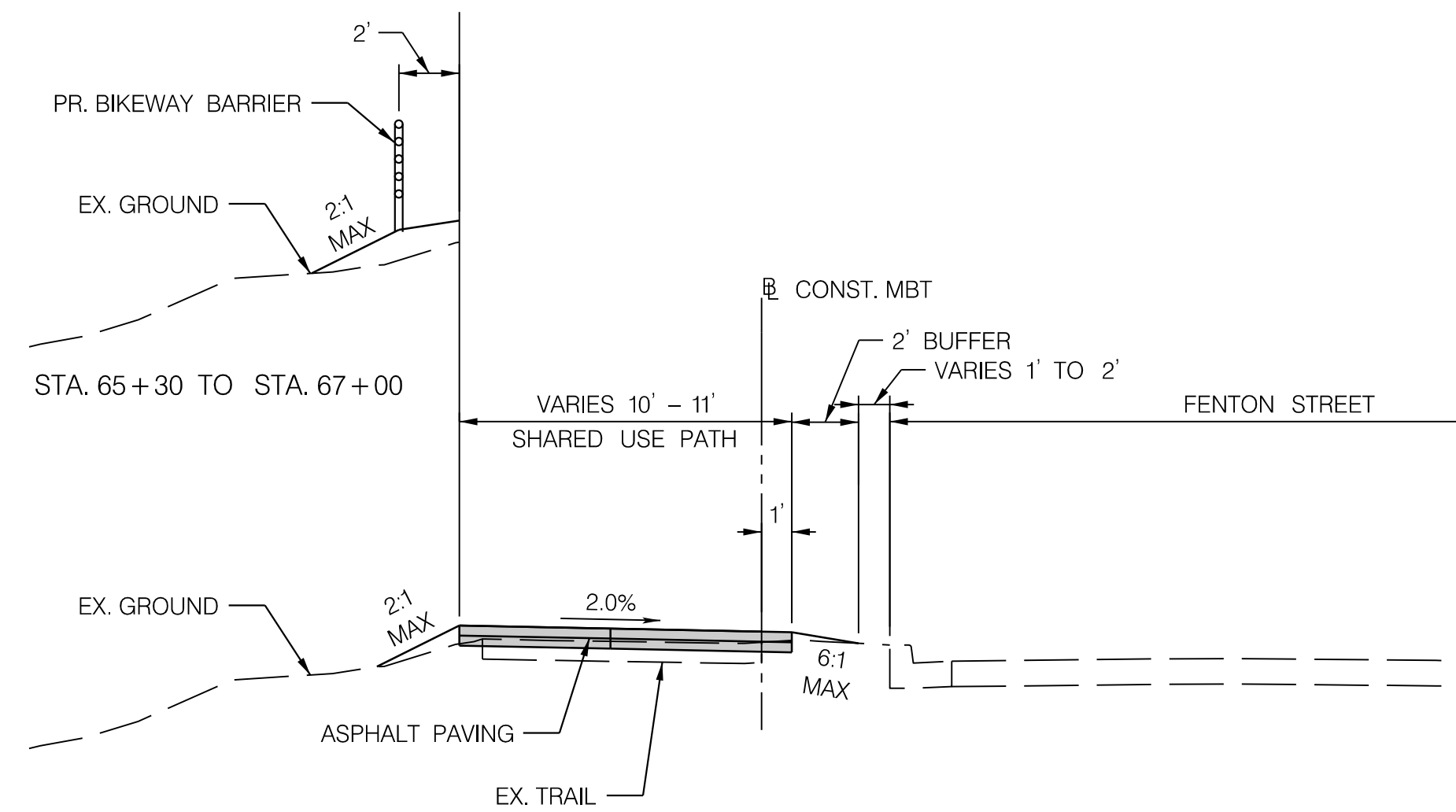
CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

GEOMETRY SHEET			
SCALE	1"=50'	DATE	MAY 2023
CONTRACT NO.	21-093-TLC		
DESIGNED BY	AMA	COUNTY	MONTGOMERY
DRAWN BY	MEG	LOGMILE	
CHECKED BY	RJG		
F.A.P. NO.	T.B.D.		
DRAWING NO.	GS-01	OF	01
SHEET NO.	03	OF	16

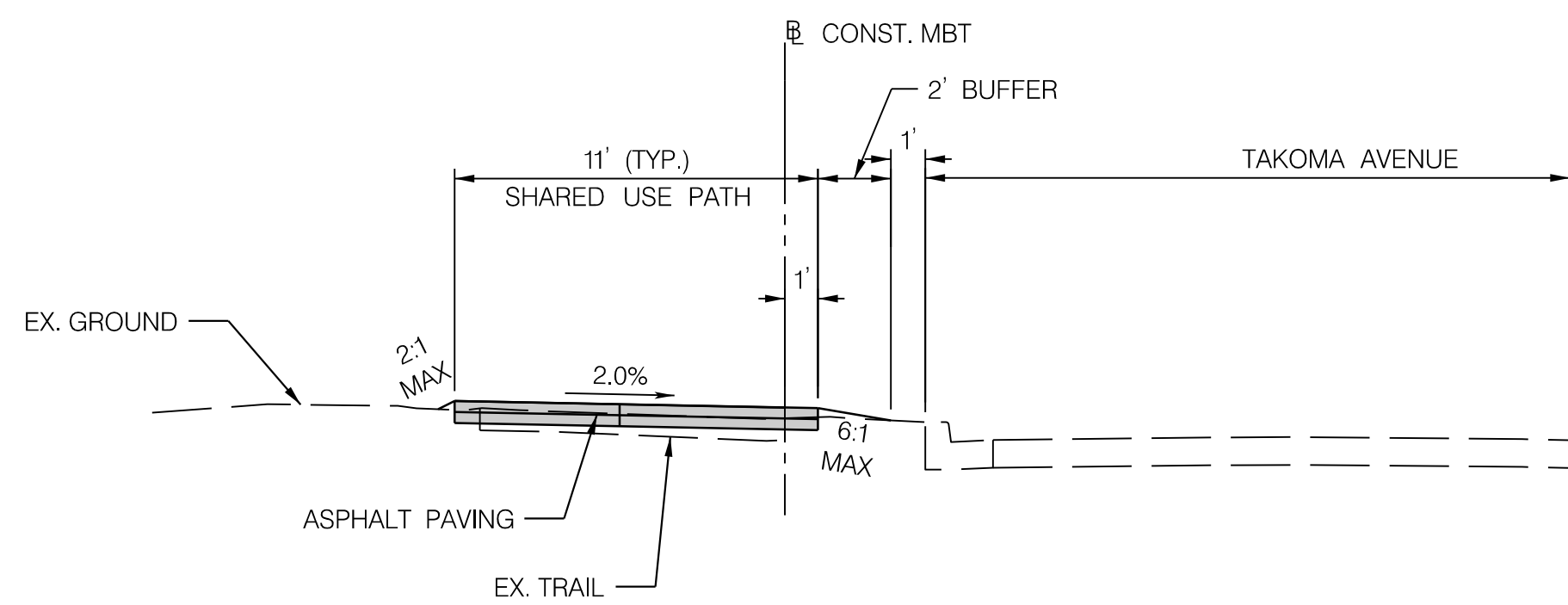
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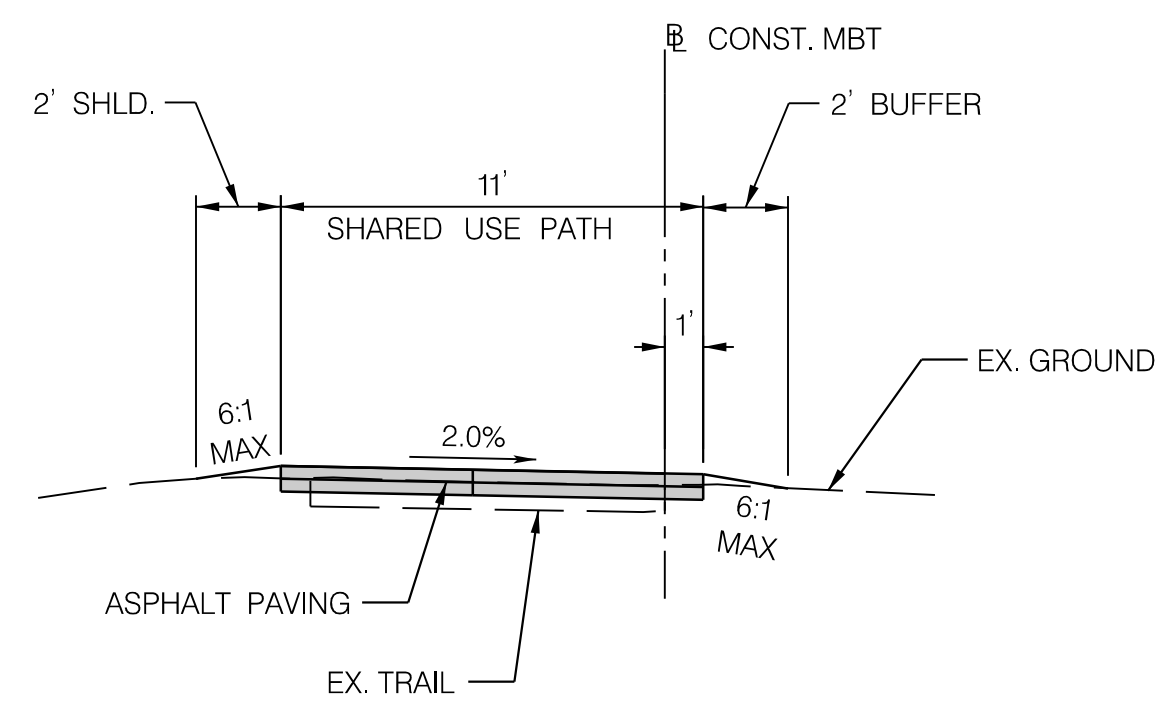
METROPOLITAN BRANCH TRAIL TYPICAL SECTION
STA. 54+50 TO STA. 58+50



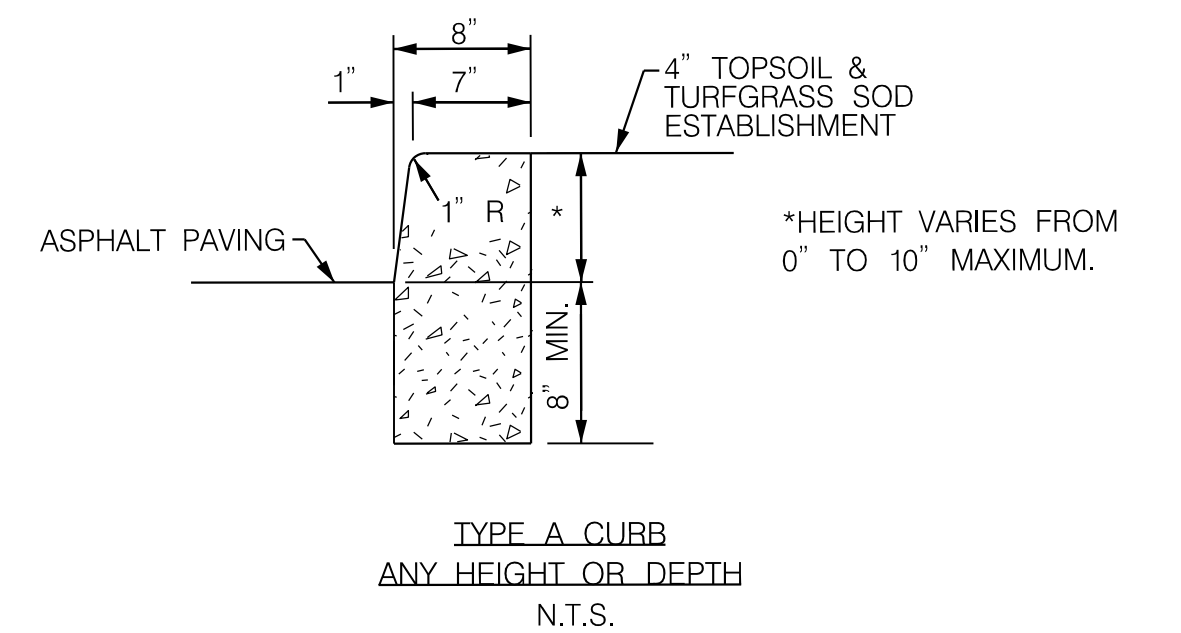
METROPOLITAN BRANCH TRAIL TYPICAL SECTION
STA. 64+20 TO STA. 73+28



METROPOLITAN BRANCH TRAIL TYPICAL SECTION
STA. 50+00 TO STA. 54+50
58+50 TO STA. 60+15



METROPOLITAN BRANCH TRAIL TYPICAL SECTION
STA. 60+15 TO STA. 64+20



NOTE:
1. SHARED USE PATH ASPHALT PAVING PER MDOT SHA STD. 580.08.



CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

TYPICAL SECTIONS

SCALE	1"=5'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY		
DRAWN BY	MEG	LOGMILE			
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	HT - 01	OF	01	SHEET NO.	04 OF 16



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MARYLAND COORDINATE SYSTEM
 NAD 83/2011
 NAVD 88

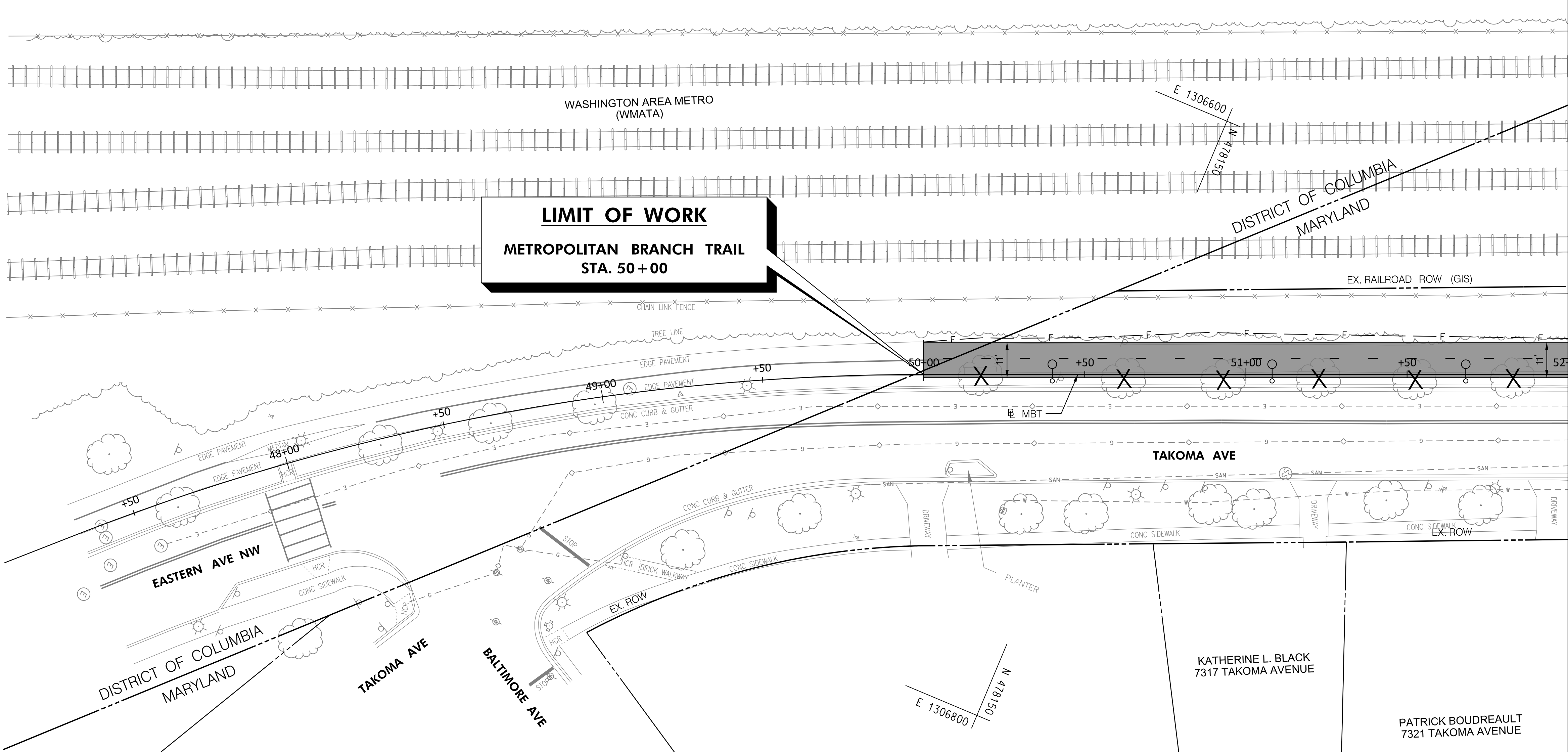
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E 1306600
 N 478150

E 1306800
 N 478150

LIMIT OF WORK
METROPOLITAN BRANCH TRAIL
STA. 50+00

MATCH LINE STA. 52+00 — SEE SHEET HD-02

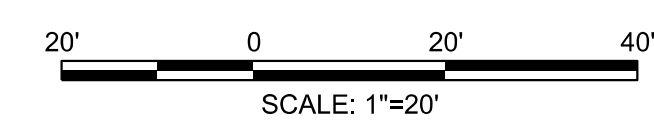


NOTE:
 1. TREE CONDITION ASSESSMENTS AND PRESERVATION MEASURES WILL BE EVALUATED FOR SUBSEQUENT STAGES OF DESIGN.

CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

LEGEND:

	PROPOSED ASPHALT SHARED USE PATH		PROPOSED DECORATIVE TRAIL LIGHTING 12' POLE HEIGHT
	PROPOSED CONCRETE SIDEWALK		
	PROPOSED FULL DEPTH PAVEMENT		
	PROPOSED CONCRETE DRIVEWAY		
	PAVEMENT REMOVAL		
	PROPOSED BIKEWAY BARRIER		
	TREE TO BE REMOVED		



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ROADWAY PLAN			
SCALE	1"=20'	DATE	MAY 2023
CONTRACT NO.	21-093-TLC		
DESIGNED BY	AMA	COUNTY	MONTGOMERY
DRAWN BY	MEG	LOGMILE	
CHECKED BY	RJG		
F.A.P. NO.	T.B.D.		
DRAWING NO.	HD - 01	OF	06
SHEET NO.	05	OF	16

PLOTTED: 6/9/2023
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BY: agrubb -



MATCH LINE STA. 52+00 — SEE SHEET HD-01

MATCH LINE STA. 56+50 — SEE SHEET HD-03

BRUMMEL MANOR CONDOMINIUM ASSOCIATION
BLAIR ROAD
TAKOMA PARK, MD 20912

BRUMMEL MANOR CONDOMINIUM ASSOCIATION
BLAIR ROAD
TAKOMA PARK, MD 20912

MARYLAND COORDINATE SYSTEM
NAD 83 / 2011 - NAVD 88

WASHINGTON METRO AREA TRANS. AUTHORITY

EX. RAILROAD ROW (GIS)

EX. RAILROAD ROW (GIS)

WASHINGTON AREA METRO (WMATA)

EX. RAILROAD ROW (GIS)

EX. RAILROAD ROW (GIS)

TAKOMA AVE

BUFFALO AVE

DREW & J. R. SPAULDING
7323 TAKOMA AVENUE

JUDITH KOGOD COLWELL REV TR
JUDITH KOGOD COLWELL TRUSTEE
7325 TAKOMA AVENUE

PIERRE M. DONAHUE & ELISA C. MASSIMINO
7327 TAKOMA AVENUE

JEFFREY D. KOHN & SUSANNE MATTHIESEN
7391 BUFFALO AVENUE

MARGARET S. & ANTHONY G. ROSS
7401 BUFFALO AVENUE

NOTES:

- REMOVE MID-BLOCK CROSSWALK, SPEED HUMP, AND PEDESTRIAN RAMPS. CONSTRUCT NEW PEDESTRIAN RAMPS AND CROSSWALK AT NORTH SIDE OF TAKOMA AVENUE AT BUFFALO AVENUE INTERSECTION.
- EVALUATE TRAFFIC WARRANTS FOR INSTALLATION OF STOP SIGNS ON TAKOMA AVENUE APPROACHES TO BUFFALO AVENUE INTERSECTION
- REPLACE WOODEN RAILING WITH BIKE COMPATIBLE BARRIER.
- RELOCATE SOUTHBOUND MONTGOMERY RIDE-ON BUS STOP TO STA. 56+00, LT. RELOCATE NORTHBOUND MONTGOMERY RIDE-ON BUS STOP TO STA. 55+00, RT.
- TREE CONDITION ASSESSMENTS AND PRESERVATION MEASURES WILL BE EVALUATED FOR SUBSEQUENT STAGES OF DESIGN.

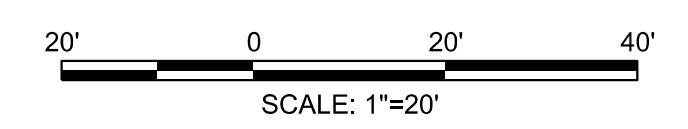
CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

ROADWAY PLAN

SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY	LOGMILE	
DRAWN BY	MEG				
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	HD - 02	OF	06	SHEET NO.	06 OF 16

LEGEND:

	PROPOSED ASPHALT SHARED USE PATH		PROPOSED DECORATIVE TRAIL LIGHTING 12' POLE HEIGHT
	PROPOSED CONCRETE SIDEWALK		
	PROPOSED FULL DEPTH PAVEMENT		
	PROPOSED CONCRETE DRIVEWAY		
	PAVEMENT REMOVAL		
	PROPOSED BIKEWAY BARRIER		
	TREE TO BE REMOVED		



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BY: agrubb -

N 478/50
E 1306250

MARYLAND COORDINATE SYSTEM
NAD 83 / 2011 ; NAVD 88

WASHINGTON
AREA METRO (WMATA)

EX. RAILROAD ROW (GIS)

EX. RAILROAD ROW (GIS)

WASHINGTON
AREA METRO (WMATA)

EX. RAILROAD ROW (GIS)

EX. RAILROAD ROW (GIS)

PR. TYPE A CURB
STA. 56+65

PR. BIKEWAY BARRIER (NOTE 1)

WOOD FENCE

CHAIN LINK FENCE

MBT

TREE LINE

REMOVE EX. WOODEN RAILING

TAKOMA AVE

CONC CURB & GUTTER

CONC CURB & GUTTER

CONC SIDEWALK

EX. ROW

CITY OF TAKOMA PARK

BELLE ZIEGLER PARK



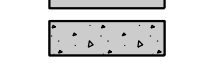
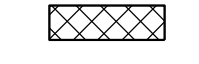
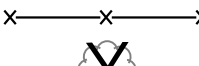



MATCH LINE STA. 56+50 — SEE SHEET HD-02

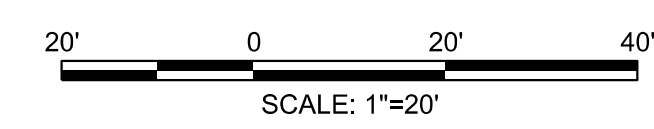
MATCH LINE STA. 61+00 — SEE SHEET HD-04

NOTES:

1. REPLACE WOODEN RAILING WITH BIKE COMPATIBLE BARRIER.
2. TREE CONDITION ASSESSMENTS AND PRESERVATION MEASURES WILL BE EVALUATED FOR SUBSEQUENT STAGES OF DESIGN.

LEGEND:

-  PROPOSED ASPHALT SHARED USE PATH
-  PROPOSED CONCRETE SIDEWALK
-  PROPOSED FULL DEPTH PAVEMENT
-  PROPOSED CONCRETE DRIVEWAY
-  PAVEMENT REMOVAL
-  PROPOSED BIKEWAY BARRIER
-  TREE TO BE REMOVED
-  PROPOSED DECORATIVE TRAIL LIGHTING 12' POLE HEIGHT



CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

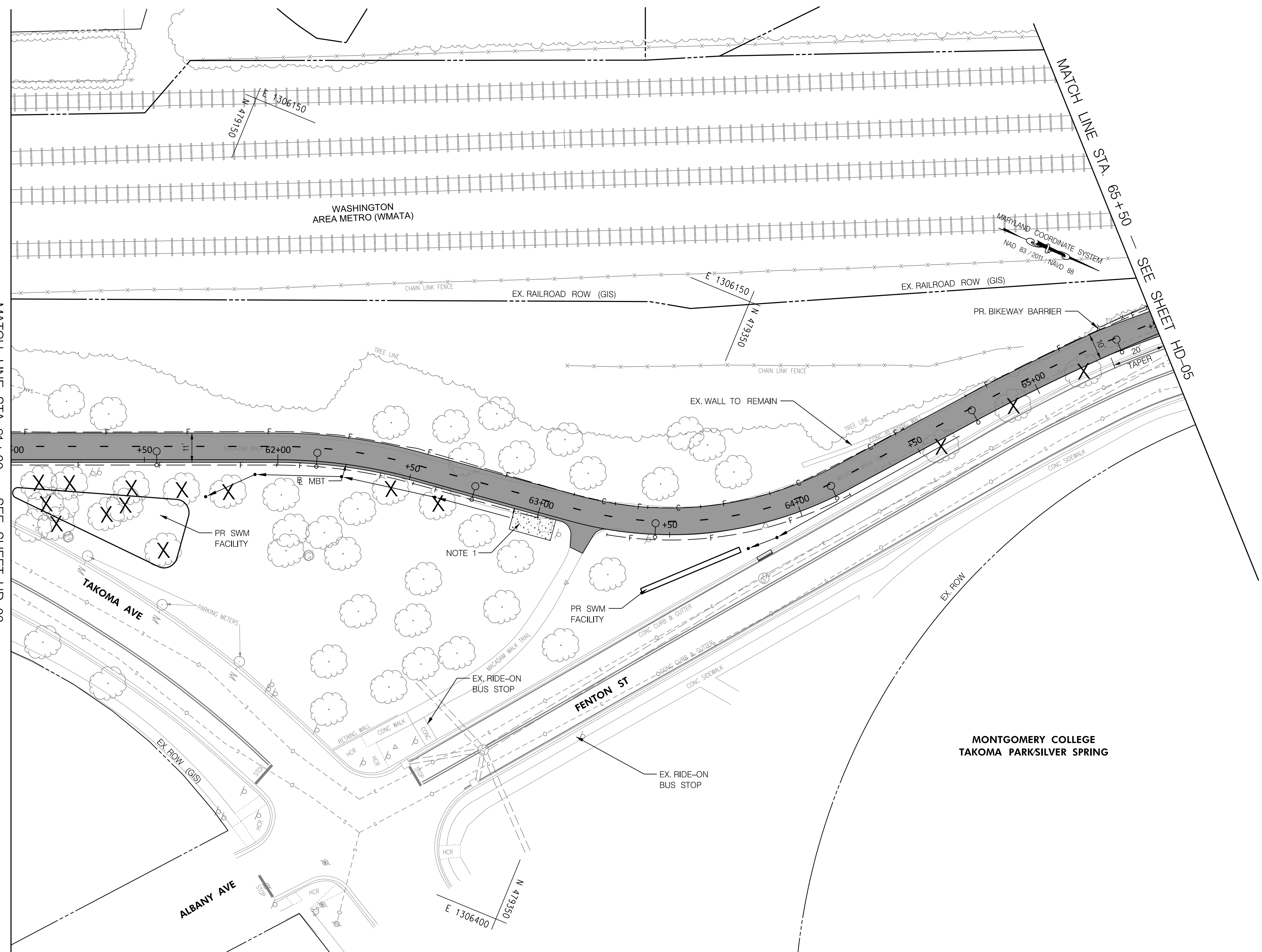
ROADWAY PLAN

SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY		
DRAWN BY	MEG	LOGMILE			
CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	HD-03	OF	06	SHEET NO.	07 OF 16

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MATCH LINE STA. 61+00 — SEE SHEET HD-03

MATCH LINE STA. 65+50 — SEE SHEET HD-05



- NOTES:
- RECONSTRUCT CONCRETE PAD TO 16' X 8', INSTALL BIKE RACKS, AND NEW TIRE PUMP STATION.

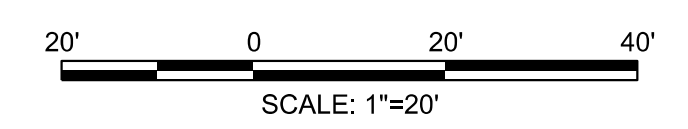
CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

ROADWAY PLAN

SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY		
DRAWN BY	MEG	LOGMILE			
CHECKED BY	R/JG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	HD - 04	OF	06	SHEET NO.	08 OF 16

LEGEND:

	PROPOSED ASPHALT SHARED USE PATH		PROPOSED DECORATIVE TRAIL LIGHTING 12' POLE HEIGHT
	PROPOSED CONCRETE SIDEWALK		
	PROPOSED FULL DEPTH PAVEMENT		
	PROPOSED CONCRETE DRIVEWAY		
	PAVEMENT REMOVAL		
	PROPOSED BIKEWAY BARRIER		
	TREE TO BE REMOVED		

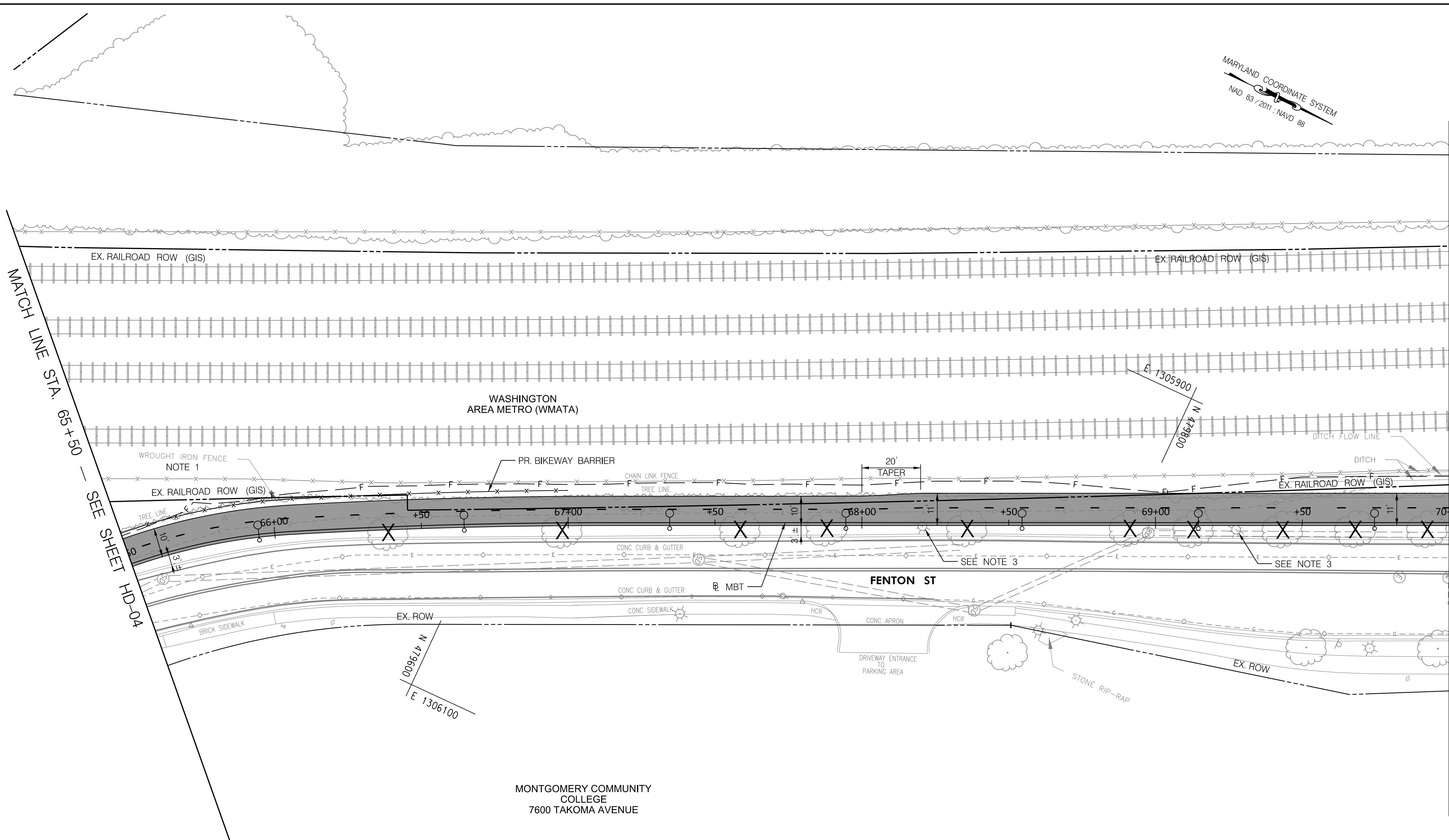


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MARYLAND COORDINATE SYSTEM
 NAD 83 / 2011 - NAVD 88

MATCH LINE STA. 65+50 — SEE SHEET HD-04

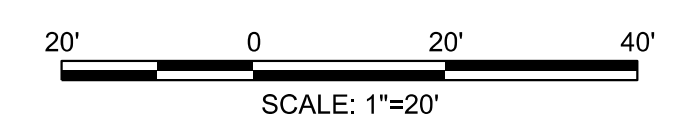
MATCH LINE STA. 70+00 — SEE SHEET HD-06



- NOTES:
1. REMOVE WROUGHT IRON FENCE. INSTALL BIKE COMPATIBLE BARRIER.
 2. TREE CONDITION ASSESSMENTS AND PRESERVATION MEASURES WILL BE EVALUATED FOR SUBSEQUENT STAGES OF DESIGN.
 3. REPLACE EXISTING LIGHT POLES WITH NEW ORNAMENTAL TRAIL LIGHTING.

LEGEND:

	PROPOSED ASPHALT SHARED USE PATH		PROPOSED DECORATIVE TRAIL LIGHTING 12' POLE HEIGHT
	PROPOSED CONCRETE SIDEWALK		
	PROPOSED FULL DEPTH PAVEMENT		
	PROPOSED CONCRETE DRIVEWAY		
	PAVEMENT REMOVAL		
	PROPOSED BIKEWAY BARRIER		
	TREE TO BE REMOVED		



CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

ROADWAY PLAN			
SCALE	1"=20'	DATE	MAY 2023
CONTRACT NO.	21-093-TLC		
DESIGNED BY	AMA	COUNTY	MONTGOMERY
DRAWN BY	MEG	LOGMILE	
CHECKED BY	RJG		
F.A.P. NO.	T.B.D.		
DRAWING NO.	HD - 05	OF	06
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PLOTTED: 6/9/2023
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WASHINGTON METRO
 AREA TRANSIT AUTHORITY
 JESSUP BLAIR DRIVE
 TAKOMA PARK, MD 20912

WASHINGTON AREA METRO
 (WMATA)

WASHINGTON
 AREA METRO (WMATA)

MONTGOMERY COMMUNITY
 COLLEGE
 7676 FENTON STREET
 SILVER SPRING, MD 20910

MONTGOMERY COMMUNITY
 COLLEGE
 7600 TAKOMA AVENUE

MONTGOMERY COMMUNITY
 COLLEGE
 NEW YORK AVENUE
 SILVER SPRING, MD 20912

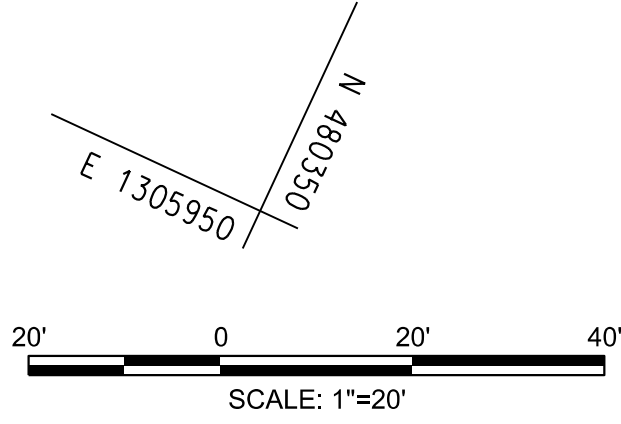
LIMIT OF WORK
METROPOLITAN BRANCH TRAIL
STA. 73+28

CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

- NOTES:
1. THE PROPOSED RAISING OF THE TRAIL PROFILE (TYPICAL) WILL HELP TO AVOID/MINIMIZE IMPACTS TO TREES. TREE CONDITION ASSESSMENTS AND ADDITIONAL PRESERVATION MEASURES WILL BE EVALUATED FOR SUBSEQUENT STAGES OF DESIGN.
 2. REPLACE EXISTING LIGHT POLES WITH NEW ORNAMENTAL TRAIL LIGHTING.

LEGEND:

	PROPOSED ASPHALT SHARED USE PATH		PROPOSED DECORATIVE TRAIL LIGHTING 12' POLE HEIGHT
	PROPOSED CONCRETE SIDEWALK		
	PROPOSED FULL DEPTH PAVEMENT		
	PROPOSED CONCRETE DRIVEWAY		
	PAVEMENT REMOVAL		
	PROPOSED BIKEWAY BARRIER		
	TREE TO BE REMOVED		



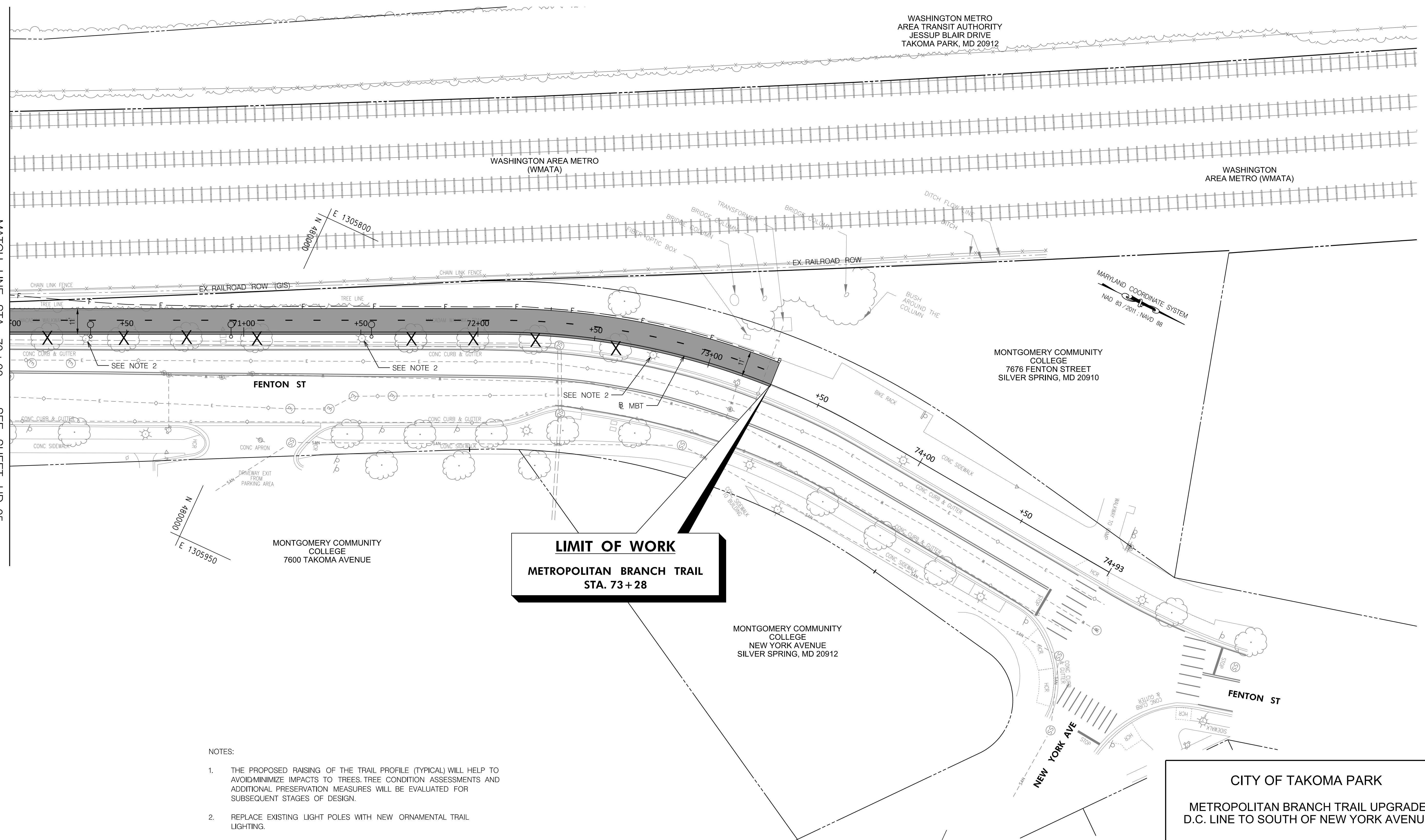
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SCALE	1"=20'	DATE	MAY 2023
CONTRACT NO.	21-093-TLC		
DESIGNED BY	AMA	COUNTY	MONTGOMERY
DRAWN BY	MEG	LOGMILE	
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F.A.P. NO.	T.B.D.		
DRAWING NO.	HD - 06	OF	06
SHEET NO.	10	OF	16

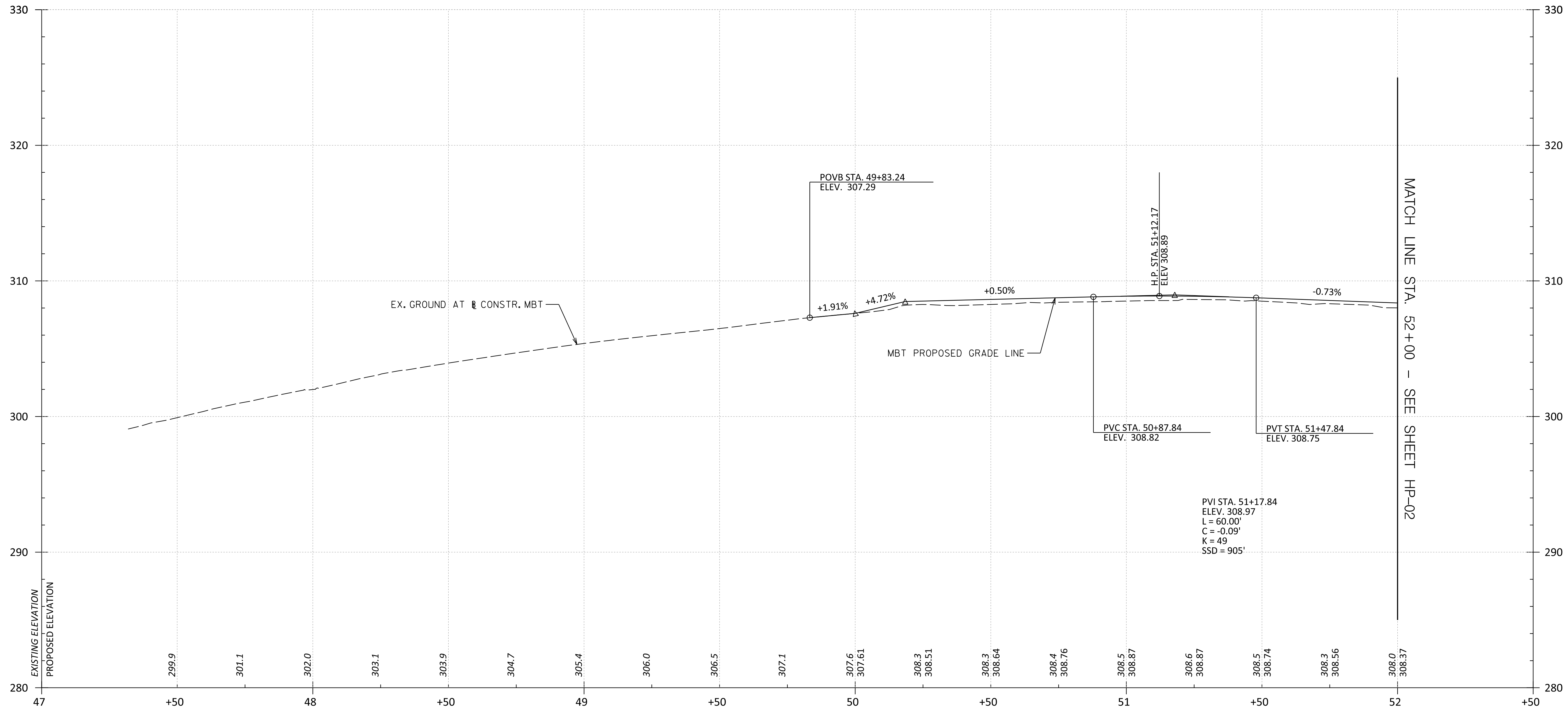
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MATCH LINE STA. 70+00 — SEE SHEET HD-05





PROFILE - METROPOLITAN BRANCH TRAIL

HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 4'

CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

PROFILE SHEET

SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
DESIGNED BY	AMA	COUNTY	MONTGOMERY		
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CHECKED BY	RJG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	HP - 01	OF	06	SHEET NO.	11 OF 16

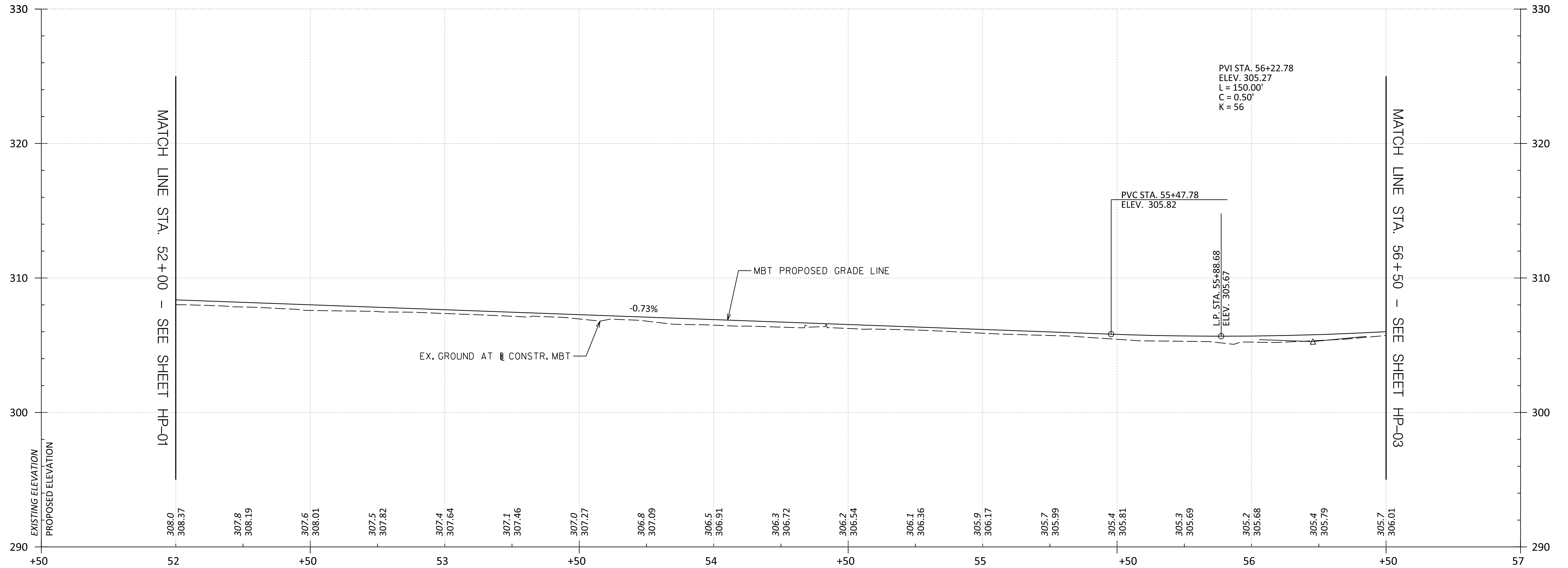


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PROFILE - METROPOLITAN BRANCH TRAIL

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 VERTICAL SCALE: 1" = 4'

CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

PROFILE SHEET

SCALE 1"=20' DATE MAY 2023 CONTRACT NO. 21-093-TLC

DESIGNED BY AMA COUNTY MONTGOMERY
 DRAWN BY MEG LOGMILE
 CHECKED BY R/JG
 F.A.P. NO. T.B.D.

DRAWING NO. HP - 02 OF 06 SHEET NO. 12 OF 16

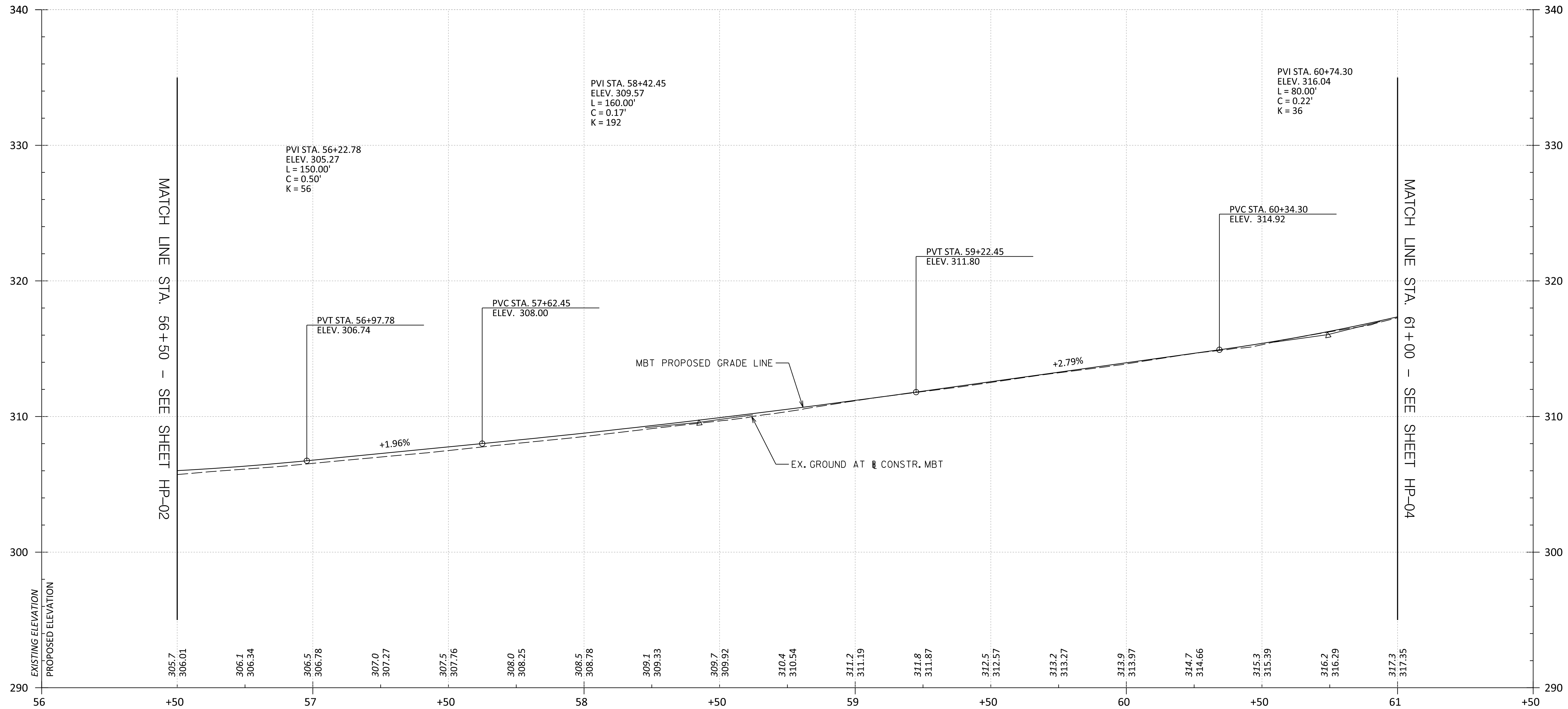


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PROFILE - METROPOLITAN BRANCH TRAIL

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 VERTICAL SCALE: 1" = 4'

CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

PROFILE SHEET

SCALE 1"=20' DATE MAY 2023 CONTRACT NO. 21-093-TLC

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DRAWING NO. HP - 03 OF 06 SHEET NO. 13 OF 16

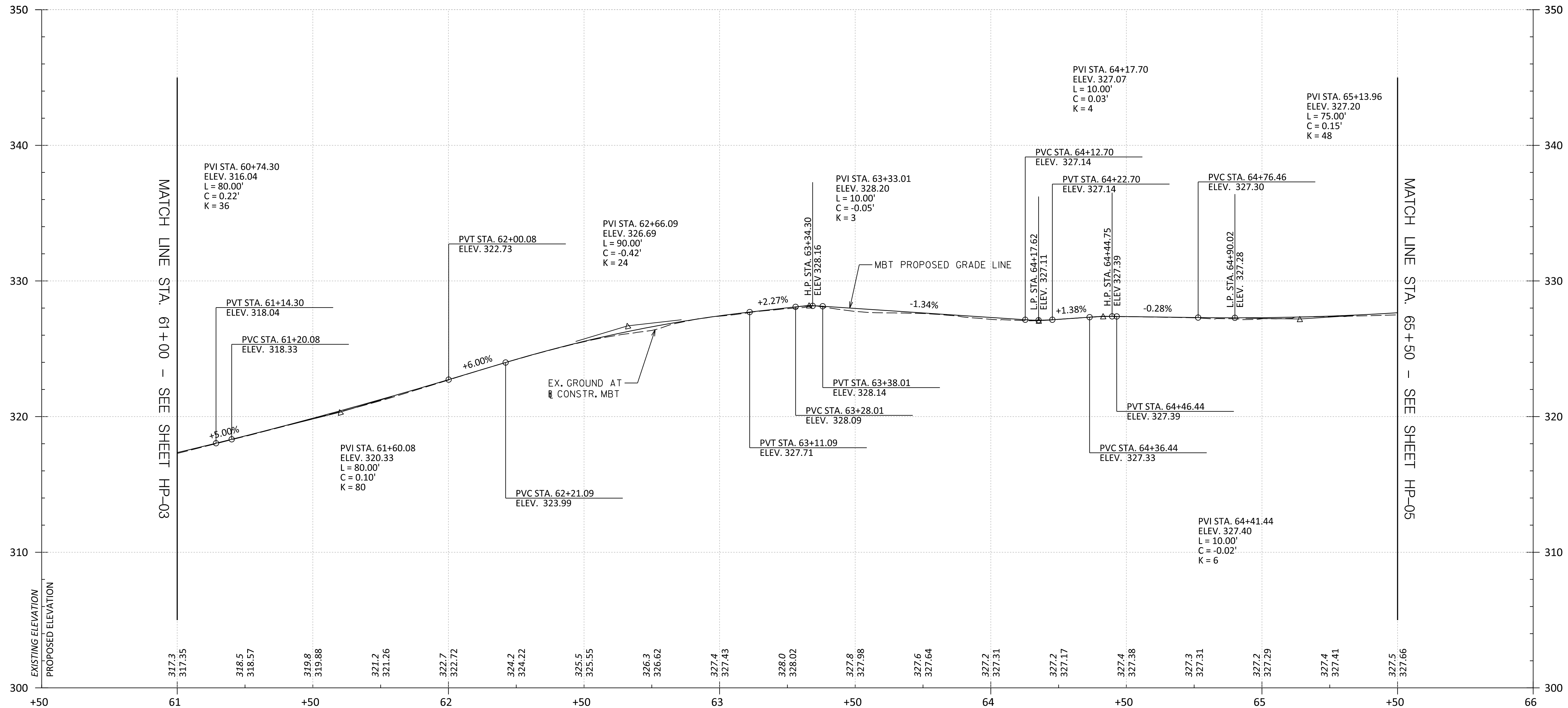


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PROFILE - METROPOLITAN BRANCH TRAIL

HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 4'

CITY OF TAKOMA PARK
METROPOLITAN BRANCH TRAIL UPGRADE
D.C. LINE TO SOUTH OF NEW YORK AVENUE

PROFILE SHEET

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DRAWN BY	MEG	LOGMILE			
CHECKED BY	R/JG				
F.A.P. NO.	T.B.D.				
DRAWING NO.	HP - 04	OF	06	SHEET NO.	14 OF 16

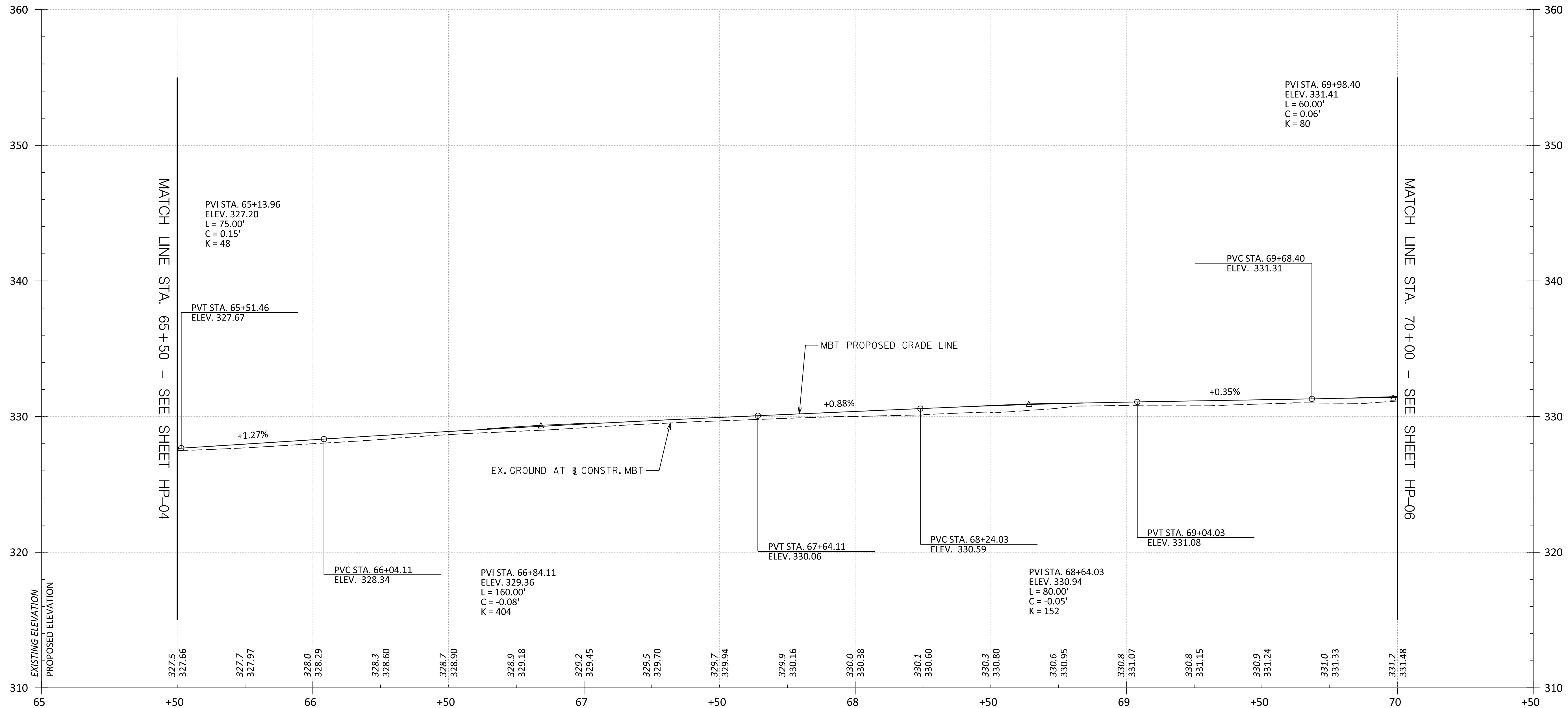


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PROFILE - METROPOLITAN BRANCH TRAIL

HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 4'

CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

PROFILE SHEET

SCALE 1"=20' DATE MAY 2023 CONTRACT NO. 21-093-TLC

DESIGNED BY AMA COUNTY MONTGOMERY
 DRAWN BY MEG LOGMILE
 CHECKED BY R/JG
 F.A.P. NO. T.B.D.

DRAWING NO. HP - 05 OF 06 SHEET NO. 15 OF 16

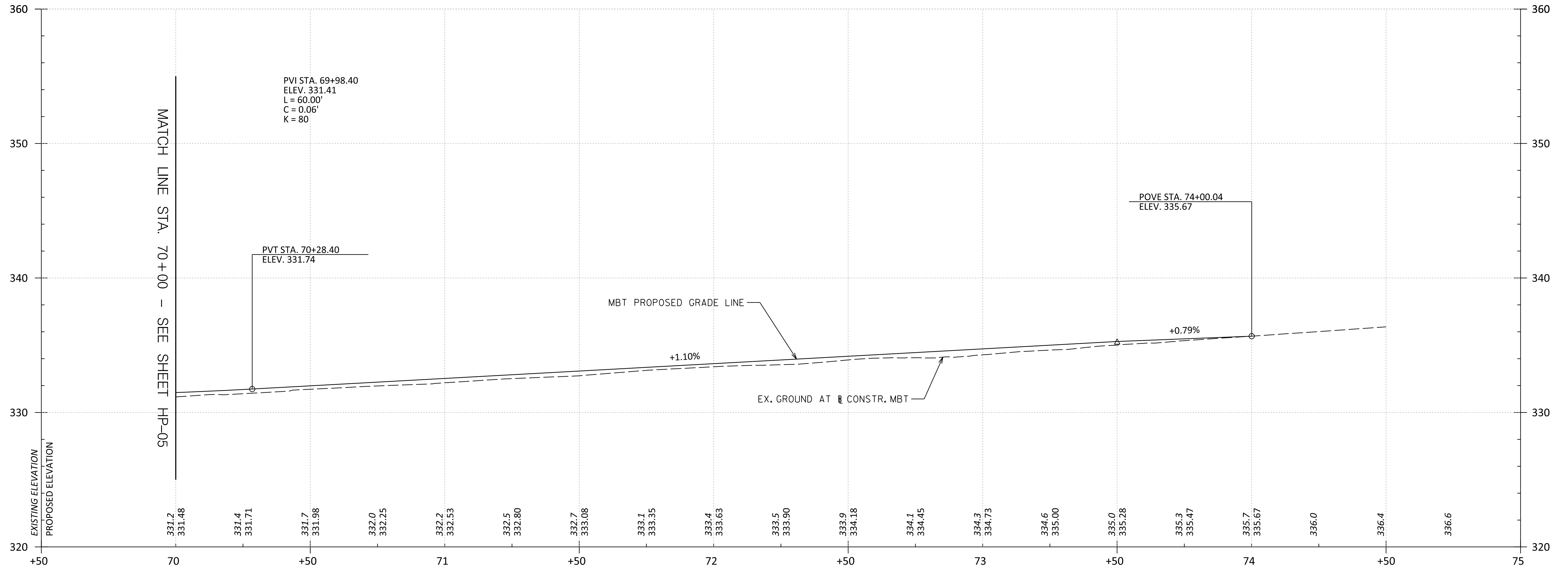


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PROFILE - METROPOLITAN BRANCH TRAIL

HORIZONTAL SCALE: 1" = 20'
 VERTICAL SCALE: 1" = 4'

CITY OF TAKOMA PARK
 METROPOLITAN BRANCH TRAIL UPGRADE
 D.C. LINE TO SOUTH OF NEW YORK AVENUE

PROFILE SHEET

SCALE	1"=20'	DATE	MAY 2023	CONTRACT NO.	21-093-TLC
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DRAWN BY	MEG	LOGMILE			
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F.A.P. NO.	T.B.D.				
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APPENDIX D
Preliminary Construction Estimate

PRELIMINARY ENGINEER'S ESTIMATE



DATE: May 2023

ITEM	MDOT SHA CCS	ITEM DESCRIPTION	QUANTITY	UNITS	UNIT PRICE	TOTAL ESTIMATE
101	110100	CLEARING AND GRUBBING	1	LS	\$6,000.00	\$6,000.00
102	110110	REMOVAL OF TREES	54	EA	\$1,400.00	\$75,600.00
103	130875	MOBILIZATION AND DEMOBILIZATION	1	LS	\$90,000.00	\$90,000.00
104	130840	CONSTRUCTION STAKEOUT	1	LS	\$22,000.00	\$22,000.00
105	120500	MAINTENANCE OF TRAFFIC	1	LS	\$50,000.00	\$50,000.00
106	120784	TEMPORARY ORANGE CONSTRUCTION FENCE	1,000	LF	\$3.50	\$3,500.00
107	-	TREE PROTECTION FENCING (CONTINGENT)	1,000	LF	\$6.00	\$6,000.00
SUBTOTAL CATEGORY 1						\$253,100.00
201	201030	CLASS 1 EXCAVATION	664	CY	\$75.00	\$49,819.44
202	201031	CLASS 1 -A EXCAVATION (CONTINGENT)	40	CY	\$90.00	\$3,600.00
203	202050	SELECT BORROW FOR CLASS 1-A EXCAVATION (CONTINGENT)	40	CY	\$70.00	\$2,800.00
204	202065	COMMON BORROW	348	CY	\$40.00	\$13,912.59
205	203030	TEST PIT EXCAVATION	30	CY	\$160.00	\$4,800.00
SUBTOTAL CATEGORY 2						\$74,932.04
301	302418	18 INCH REINFORCED CONCRETE PIPE, CLASS IV	16	LF	\$100.00	\$1,600.00
302	374100	5 FOOT COG/COS OPENING	2	EA	\$7,000.00	\$14,000.00
303	378175	STANDARD SINGLE OPENING TYPE K INLET OPEN END GRATE - MINIMUM DEPTH	1	EA	\$4,000.00	\$4,000.00
304	390620	NO. 7 AGGREGATE FOR STORMWATER MANAGEMENT FACILITIES	20	CY	\$110.00	\$2,200.00
305	390630	NO. 57 AGGREGATE FOR STORMWATER MANAGEMENT FACILITIES	70	CY	\$100.00	\$7,000.00
306	390650	COARSE SAND FOR STORMWATER MANAGEMENT FACILITIES	20	CY	\$130.00	\$2,600.00
307	390660	BIORETENTION SOIL MIX	90	CY	\$120.00	\$10,800.00
308	390665	STORMWATER MANAGEMENT FACILITY AS-BUILT CERTIFICATION	2	LS	\$5,000.00	\$10,000.00
SUBTOTAL CATEGORY 3						\$52,200.00
501	504500	SUPERPAVE ASPHALT MIX 9.5mm FOR SURFACE, PG 64S-22, LEVEL 2	231	TON	\$200.00	\$46,173.03
502	504560	SUPERPAVE ASPHALT MIX 19.0mm FOR BASE, PG 64S-22, LEVEL 2	392	TON	\$250.00	\$98,071.29
503	508012	FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH	20	SY	\$20.00	\$400.00
504	520111	4 INCH GRADED AGGREGATE BASE COURSE	2,913	SY	\$14.00	\$40,783.56
505	549603	5 INCH YELLOW PREFORMED THERMOPLASTIC PAVEMENT MARKINGS	579	LF	\$4.00	\$2,314.00
506	549417	16 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	176	LF	\$15.00	\$2,640.00
SUBTOTAL CATEGORY 5						\$190,381.88
601	634204	TYPE A CURB ANY HEIGHT OR DEPTH	215	LF	\$120.00	\$25,800.00
602	634301	STD. TYPE A COMBINATION CURB AND GUTTER, 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH	86	LF	\$38.00	\$3,268.00
603	655104	5 INCH CONCRETE SIDEWALK	1,175	SF	\$8.00	\$9,400.00
604	655120	DETECTABLE WARNING SURFACE FOR CURB RAMPS	92	SF	\$34.00	\$3,128.00
605	600000	BIKE RACK	3	EA	\$250.00	\$750.00
606	600001	BIKEWAY BARRIER	550	LF	\$200.00	\$110,000.00
SUBTOTAL CATEGORY 6						\$152,346.00
701	704345	PLACING FURNISHED TOPSOIL 4 INCH DEPTH	893	SY	\$6.00	\$5,358.67
702	705500	TURFGRASS ESTABLISHMENT	893	SY	\$6.00	\$5,358.67
703	715050	TREE ROOT PRUNING (CONTINGENT)	1,000	LF	\$26.00	\$26,000.00
SUBTOTAL CATEGORY 7						\$36,717.33
801	801130	SQUARE PERFORATED TUBULAR STEEL SIGN POSTS	2	EA	\$200.00	\$400.00
802	801135	SQUARE TUBULAR STEEL ANCHOR BASES	2	EA	\$200.00	\$400.00
803	801605	SHEET ALUMINUM SIGNS	18	SF	\$100.00	\$1,800.00
804	813023	RELOCATE EXISTING GROUND MOUNTED SIGNS	9	SF	\$50.00	\$450.00
805	800000	PEDESTRIAN LEVEL LIGHTING (SEE ASSUMPTIONS / EXCLUSIONS)	34	EA	\$8,000.00	\$272,000.00
SUBTOTAL CATEGORY 8						\$275,050.00
SUB-TOTAL (CAT. 1 THRU 8)						\$1,034,727.25
30% CONTINGENCY						\$310,418.18
TOTAL CONSTRUCTION COST						\$1,345,145.43

ASSUMPTIONS / EXCLUSIONS:

- Ornamental Trail Lighting (per each) cost assumes installed 12 foot aluminum pole, foundations, luminaires, conduits, and handboxes. We assume that PEPCO will operate and maintain lighting and PEPCO will install wiring, meters, etc.
- No utility impacts are anticipated with the proposed improvements but shall be reconfirmed during subsequent design phases.
- Fine milling and resurfacing may be required to implement new pavement markings.
- Montgomery Ride-On forces will remove and relocate bus stop signs as necessary.
- Right of Way Acquisitions are not anticipated and therefore costs are excluded.
- Root Zone Pruning and Tree Protection Measures are contingent items and will be used as directed by the City Arborist.
- If bikeway barrier is provided for the entire project length, this would increase the cost estimate by approximately \$300K

APPENDIX E
Preliminary Agency and Community
Comments, Responses

Project:	Takoma COGTLC Metropolitan Branch Trail		
Date:	April 2023		
Reviewer:	City of Takoma Park		
Comment ID	Sheet No. / Drawing No.	Comment	Response
1	HD-01	Public Works expressed concern that having these 'lights' so close to the road invites costly damage from when vehicles bump or collide with them. Would the design work such that they could be placed on the interior? Does that make sense? To me it seem that with the trees, it would be way less likely to happen and they add a note of physical protection to the trail?	It is recommended lighting remains in location shown to avoid unnecessary tree impacts on the opposite side of the trail. Proposed curb will provide protection from vehicles colliding with them.
2	HD-01	Although there is a lot of public feedback in support of porous pavement, PW staff and M-NCPPC staff we spoke with feel strongly that a more durable surface, like asphalt, will be easier and more cost-effective to maintain over time. Apparently it also better aligns with the County's standards for "Regional Breezeways", which this trail has been identified as.	Will use asphalt surface for shared use path.
3	HD-02	I think that WMATA/Ride On have already given some feedback, but is the pad placement here ADA compliant and deep/wide enough for a bench? Also, both of these stops have so little ridership that it might be work requesting to remove them as stops...	Revised size of pad to accommodate a bench. Removing these stops will be evaluated in subsequent design phases.
4	HD-02	If this remains a bus stop, then it would need the pad to extend to the curb.	Shifted bus stop and extended to back of curb.
5	HD-02	Can you please clarify in the notes whether the speed hump is planned to stay? It maybe seems unnecessary with the stop signs, but it's unclear what the plan is from the note.	Speed hump will be removed. Revised note to include this.
6	HD-04	Can you factor in an updated pad that aligns with the trail where the public fix-it station currently sits?	Added proposed reconstruction of concrete pad.

Project:	Takoma COGTLC Metropolitan Branch Trail		
Date:	April 2023		
Reviewer:	MCDOT / Ride On		
Comment ID	Sheet No. / Drawing No.	Comment	Response
1	HD-02	Northbound bus stop sign (not referenced on the drawings) at 55+00 will conflict with the Stop sign. Bus stop should be moved further back.	Bus stop has been shifted to avoid conflict of signs.
2	HD-02	Similar comment for the southbound stop at 56+00.	Bus stop has been shifted to avoid conflict of signs.
3	HD-04	NB stop on Fenton & Takoma Ave not called out. In particular, this bus stop is currently missing a sidewalk connector which needs to be included for ADA.	Added callout fo existing bus stop. Work at this intersection is outside the scope of this project but comment will be recorded for future design stages.
4	HD-04	SB stop on Fenton & Takoma not called out. Caution advised on bus stop vs stop sign visibility conflicts.	Added callout fo existing bus stop.
5	HD-02	At STA 55+80, there is a ramp in the trail that brings the entire trail down to street elevation. This is because there is insufficient room for a ramp on the roadway side of the trail. However, just south of Buffalo, the project will remove a raised crosswalk. My suggestion would be to construct the north leg crosswalk at Takoma & Buffalo as a raised crosswalk. This will eliminate the need to lower the entire trail at the ramp location and would also serve as a traffic calming feature. There are existing catchbasin inlets just north (uphill) from this location, so drainage should be workable, possibly with some modifications.	Reconstructed crosswalk to a raised crosswalk.
6	HD-04	Between STA 60+50 and the corner of Takoma Ave & Fenton Street, I recommend installing a standard sidewalk. This will provide a connection to the parallel parking spaces and will also provide a connection for trail users (pedestrians) who want to continue on Takoma Avenue. There appears to be a desire line behind the curb already.	This design recommendation will be evaluated subsequent design stages. Impacts for this improvement need to be fully analyzed.
7	HD-04	I also recommend the striping of four-quadrant crosswalks at the intersection of Fenton Street & Takoma Avenue, though I realize that may be out of scope.	This work is outside the scope for this project. Will record comment for future design stages.

Project:	Takoma COGTLC Metropolitan Branch Trail		
Date:	April 2023		
Reviewer:	MNCPPC		
Comment ID	Sheet No. / Drawing No.	Comment	Response
1	General	The porous flexible paving proposed for this bikeway is not the preferred choice for a regional bikeway/breezeway. Surface should "meet requirements of public road design, [with] surface materials and maintenance practices that maximize surface smoothness and pavement life, minimizing potential for pavement cracking and buckling" (Bicycle Master Plan, p 72). If providing a porous surface, porous asphalt would be consistent with the material used in the District's section of this trail, and a more acceptable choice. However, to maintain the permability of porous asphalt, annual maintainance and cleaning is needed. If that maintainance cannot be provided, then this negates the permability, and a regular asphalt surface material would be a better option. At a minimum, any surface should meet the guidance in the AASHTO Bicycle Facilities Guide (2012) on page 5-25.	Porous flexible paving was recommended (draft 30% design) to help preserve trees and to limit the potential for cracking and buckling of the trail pavement. To clarify, porous flexible paving (not porous asphalt) was used in the District's section of this trail. Continued use of a traditional asphalt pavement for the trail adjacent to established trees still has potential for cracking and buckling. Use of porous asphalt will also require more excavation to install, which may be a concern due to the proximity of adjacent established trees. As directed by the City of Takoma Park, the pavement section was changed from porous flexible paving to traditional asphalt.
2	General	Please coordinate with Matt Johnson at MCDOT about bikeway wayfinding and signage as this connects with other bicycle facilities in Montgomery County.	Coordination with Matt Johnson from MCDOT was initiated and comments from them were recieved and considered in our 30% design. Wayfinding signage will be detailed on the plans during the next design phase.
3	General	Since the constrained ROW does not allow for the 16' breezeway design required in the Bicycle Master Plan (with separate space for pedestrians) the path should be at least a 12' wide shared use path. This is consistent with the MBT sections constructed in Montgomery County. Per the comment below (about document "2023-02-21_MBT_Plans", page 6), in sections where there is a vertical barrier, there will need to be a 2' buffer between that barrier and the trail surface.	We have revised the width to 11'. This is the most we can widen while maintaining the minimum offset of 2' from the roadway. A 2' buffer between the barrier and trail is provided where space allowed. For areas where space is limited, a minimum 1' offset is used which is in agreement with the AASHTO bike guide.
4	General	Please meet AASHTO standards for horizontal and vertical clearance from the pathway to the extent possible (AASHTO Bicycle Facilities Guide (2012), page 5-5 to 5-6). The minimum horizontal clearance from poles is a 2' graded area with a maximum 1V:6H slope. Also please coordinate with MCDOT on lighting standards.	Horizontal and vertical clearances for the path will be reviewed and ensure the proposed path is in agreement with AASHTO guidance. We will coordinate with both the City of Takoma Park and MCDOT on lighting standard preferences.

5	6	<p>Per AASHTO minimum standards, in areas where this bikeway cannot be separated from the roadway by at least a 5' buffer, a physical barrier or railing should be provided between the path and the roadway. That barrier should be a smooth surface, at least 42 in. tall, and not impede sight distances at intersections. Again, please meet AASHTO standards for pathway clearance from barriers (AASHTO Bicycle Facilities Guide (2012), page 5-5 to 5-6). The existing wooden barrier should be replaced to meet these standards. Please see the attached image (CompatibleBarrier1.jpg) for an example of a bike compatible barrier that meets these standards.</p>	<p>The AASHTO minimum standards that recommend a barrier if a 5' minimum buffer cannot be achieved are also referenced in the Small Town and Rural Design Guide and is for open-section roadways. Based on the low posted speed of the road, the adjacent grading (6:1 max) and 3' minimum separation of the trail from the edge of road by a vertical curb, a bikeway barrier is not required in this context. The wooden barrier along the tangent section was installed based on community concerns and therefore it will be replaced with a bikeway barrier, although the adjacent grading requirements and 3' buffer from the road with separation by a curbed section does not require it.</p>
6	6	<p>With the pedestrian/bicycle crossings at the intersection at Takoma Ave and Buffalo Ave, this should be a raised intersection. If that is not possible, then there should be raised crosswalks. It is likely there will be some non-conformance with the new stop signs from drivers going straight on Takoma Ave, and a raised intersection or crosswalk would slow vehicle traffic. It would also make the crossing easier for cyclists by eliminating the need to ramp down to street level. In addition, there should be a bump-out space on the trail at that crossing so that there is adequate space for people to wait to cross the road while still allowing room for passing cyclists. Please see the attached image (2023-02-21_MBT_Plans_Page_06_TakomaAve- BuffaloAveCrossingTreatment.jpg)</p>	<p>A raised intersection will change the drainage patterns at the intersection. We are also proposing to change the intersection to a stop controlled intersection. A raised crosswalk is proposed to cross Takoma Avenue at this location. Adding a by pass may cause significant impacts such as tree impacts or to the existing WMATA wall. Bump-out space will be considered in subsequent design phases, when tree inventory and impacts assessment is performed.</p>

7	8,9	<p>Northbound cyclists should be able to connect more directly to the southern end of the Montgomery College campus. Recommend two alternatives that could provide more direct access across Fenton St to the campus without cycling all the way up to New York Ave: (1) An addition of a trail extension that follows Takoma Ave all the way to Fenton St (so it meets up at the intersection of those two roads and the Macadam Trail). In addition, Macadam Trail should be widened, and the intersection crossing should be designed to provide safe crossing for cyclists and pedestrians. Please see the attached image (2023-02-21_MBT_Plans_Page_08_MontCollegeSouthernConnectionTrailExtension.jpg). (2) A crossing from the trail opposite the entrance to the Montgomery College parking lot shown on page 9. This would need to be a raised crossing and provide space for bicycle passing movements in addition to space for people waiting to cross the street. Please see the attached image (2023-02-21_MBT_Plans_Page_09_SouthMontCollegeCrossing.jpg)</p>	<p>Proposed alignment will be discussed with the City during the next design stage to determine if this route will be implemented into the MBT upgrades design. The proposed crosswalk is a mid block crossing and will require a review to determine if it is warranted.</p>
8	General	<p>For the Mandatory Referral process to proceed smoothly, the Applicant should pursue a Forest Conservation Exemption request (if applicable). Projects of this type usually pursue an exemption under 22A(5)(f) - a governmental project reviewed for forest conservation purposes by the State Department of Natural Resources under the Code of Maryland Regulations; or 22A(5)(e) - a State, County, or municipal highway construction activity that is subject to Section 5-103 of the Natural Resources Article of the Maryland Code, or Section 22A-9. All requirements of an exemption for a County or municipal highway construction activity are detailed in Section 22A-6(d) and Section 22A-9;</p>	<p>Comment is noted. The Mandatory Referral process will begin during subsequent design phases.</p>

9	9	Previous sheets note that tree impacts/conditions will be evaluated at a later stage, however trees on this page are proposed for removal at this time. Please clarify the reason for this inconsistency.	Notes have been revised. A tree condition assessment will be performed for the next phase of design for all trees. Tree removals shown on the final 30% plans (Appendix C) are street trees that will be impacted due to the design request by the City and M-NCPPC to widen the trail to 11 feet (minimum) and to use standard asphalt pavement for the trail. Also, the City arborist said the street trees on the east side of the trail are mostly Maples, which have a more aggressive shallow rooting habit that is more likely to create pavement heaving conflicts.
10	General	Although further details will be confirmed at a later stage, please provide as much expected environmental information in the proposal as possible (tree protection measures, tree removals, supplemental/replacement planting, swm, any master plan recommendations, etc).	Comment noted. Tree protection measures and removal details will be provided during subsequent design phases. Conceptual SWM is provided on the 30% plans.
11	General	Please let us know if you need a letter of support for your grant application. We would be happy to provide one.	Comment acknowledged. The City of Takoma Park appreciates the support.

252324 Metropolitan Branch Trail - Meeting Notes

Oxendine, Mary V. <MOxendine@wmata.com>

Mon 5/22/2023 1:03 PM

To: Robert Gillespie <rgillespie@rkk.com>

Cc: Bailey, Michael E. <MBailey@wmata.com>;com-inbound-252324--metropolitan-branch-trail-upgrad-taffheasvi@procoretech.com <com-inbound-252324--metropolitan-branch-trail-upgrad-taffheasvi@procoretech.com>

EXTERNAL EMAIL: Do not click links or open attachments unless you trust the 'Sender' and know the content is safe.

Good afternoon Robert,

It was nice speaking with you today. As promised, here are the notes from today's meeting.

1. Provide several cross sections (ZOI sketches) showing distances from CSX ROW fence to project in the closest scenarios.
2. Provide an equipment plan.
3. Construction fencing/barrier will be required. Identify the type of fencing/barrier to be used.
4. Provide documentation of CSX coordination.
5. Provide dust control measures.

Kind regards,

Mary Oxendine, PMP

Construction Engineer, Adjacent Construction



Washington Metropolitan Area Transit Authority

Office of Joint Development and Adjacent Construction (JDAC)

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8th Floor, 803-20B

Hyattsville, MD 20785

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[Visit the JDAC web page](#)

Project:	Takoma COGTLC Metropolitan Branch Trail			
Date:	March 2023			
Reviewer:	Public Comments			
Comment ID	Sheet No. / Drawing No.	What do you like most about the proposed initial design concept?	What would you change about the proposed initial design concept?	Additional Comments
1		The path has degraded, so pavement/surface improvement would be most welcome.	None. Looks good.	This seems like an easy win! Good job
2		It looks like it will improve rove the surface going by Montgomery College. It's quite dangerous at this time due to frost heaves.	Use materials less susceptible to frost.	I just moved to Silver Spring and love that I can get on the trail easily from my apartment.
3		raising the trail by three inches to correct and avoid tree root issues.	none	
4		Investment in trails rather than roads	NA	
5		It's great to think the bumpy path will be re-paved.	N/A	I love the MBT. In the warmer months I like to ride from Silver Spring south all the way to Yards Park.
6		ability to ride bike free of cars/motor vehicles	no comment	
7		The additional lighting and resurfacing.	I'm not sure if this is in the design but reinforcing the barrier between the trail and the metro lines to reduce noise pollution would be welcome.	
8		I'm a big supporter of this project, but the designs provided at the links above are totally unintelligible to the average person. Short of watching an hourlong video, how would I understand the changes being made? Bike lanes are a controversial topic and you are not making it easy for people to see the value of this project	Post the presentation powerpoint and a simple explainer so I can comment intelligently on this	
9		Thank you for repaving the existing trail, as it is currently unbikeable due to cracks and tree roots in the pavement. Many cyclists, including myself, then use the street instead. Repaving the trail would make it safer by encouraging cyclists to use the protected trail. Fewer cyclists on the street also would improve drive time for vehicles on that street. Lastly, all extensions of MBT are much appreciated! It would be great to connect Silver Spring/Tacoma Park to Union Station by protected bike trails or lanes.	None given the funding available. However, with more funding, improvements to, or establishment of, a longer portion of the trail would be ideal.	
10		Before the pavement got broken up, it was nice.	Make it all completely separate from the road.	Thank you!
11		Anything that restores a smooth path will be fantastic. It's so bumpy that I fear I'll get a flat and I regularly see bikers opting to use the road for that reason	It's hard for me to interpret the designs. So no comment.	Thank you so much for taking this project on! I have been wishing that it would happen and I am so grateful
12		its wider	even wider, attention to plantings to reduce encroachment or width reduction due to fallen leaves, natural debris. A commitment to maintenance	Recognizing this trail as more than a neighborhood amenity, but a regional connection to invite more people to use sustainable transportation to and from DTSS is essential for the success of this project. Commit!!!!
13		Refreshing the surface (as the trail has become quite bumpy with tree roots).	Not sure I understand the reasoning for eliminating the raised crosswalk near the Takoma/Buffalo intersection; we use it quite a bit.	

14		REPLACING THE WOODEN RAILING WITH BIKE COMPATIBLE BARRIER.	I would ensure the path was wide enough--designed to accommodate family bikes, which are wider than standard bikes, as well as walkers/runners. If we can not use this path to commute bike (not stopping all the time because of pedestrians using the path), it won't achieve the traffic and GHG benefits it could otherwise.	
15		Gets rid of the bulging cracks.	Really other than the cracks and encroaching vegetation, which is a maintenance issue, I'm fine with the trail as-is. So long as you don't narrow it, I'm sure the changes will be fine.	
16		Widening the trail to 10' is welcome. New crosswalks are welcome.	I am seriously concerned about the consequences of using porous pavement for upkeep and pavement quality. While there are many varieties of porous pavement, it seems that unless it has an excessively deep foundation, that even the sturdy varieties become riddled with holes, ruts, bumps, or completely wash out. The trail bed already has horrible issues with root heave. NPS just paved a large section of the Rock Creek Trail south of the Roosevelt Bridge with porous pavement and the brand new surface is incredibly bumpy, wavy, and extremely uncomfortable, even at slow speeds. Flex-pave is even worse because it crumbles with just modest foot traffic. Ice buildup of any kind makes plowing unadvisable because you risk tearing up the trail. Can we find other impervious surfaces to trade within the corridor instead of sacrificing this trail?	This trail also needs a plan for regular vegetation maintenance. Tree branches, soil, grass and other vegetation have eroded the usable trail corridor. Thanks for bringing this much-needed project forward!
17		The plans are too difficult to understand. I support a dedicated MBT for peds and bikers away from CARS.	Please make sure peds and bikes are away from CARS	hurry uo!
18		A wider, smoother trail, with easier access is exactly what we need.	Nothing that I can see.	This trail is a main connector for me to Takoma and other points south. I live in Silver Spring, just a few blocks away. I often avoid the trail now because it's so rutted and narrow.
19		Improvements that make the trail more comfortable and safe for pedestrians, runners, and cyclists is a good thing! It is difficult for an ordinary person - without expertise in this kind of planning - to be aware of the choices that we might weigh in on. I appreciate public outreach but please try to make it easier and more informative for ordinary folks.	Not sure. It is difficult for an ordinary person - without expertise in this kind of planning - to be aware of the choices that we might weigh in on. I appreciate public outreach but please try to make it easier and more informative for ordinary folks.	Thanks for your efforts to improve trails so that my family is more likely to travel by bike rather than car!
20		Safety	N/a	
21		Would fix parts of trail in poor condition	Make the trail wider to reduce conflict between bikes and pedestrians	
22		its usefulness	nothing	

23		Any resurfacing of very bumpy trail will help	Making it wide enough to easily allow bikes to pass walkers safely is key.	Budget for ongoing maintenance to keep trails clear or encroaching vegetation is needed. Using paving surface that will protect roots/minimize cracking due to roots key.
24		Can't really tell the difference unfortunately other than the notes about the potentially improved lighting.	Ensure the path is smooth and clear for both bikes and walkers/runners to share without potential injury risk	
25		N/A	N/A	On the asphalt trail across from Montgomery College, tree roots have heaved the asphalt and are marked with blue spray paint. I request that it be smoothed to take out the bumps.
26		It will remain present as a walking trail.	Make it more user friendly to understand/see the proposed changes.	
27		Redoing the path so it's smooth.	- Make it 12 feet wide - that's what the NACTO recommends for shared use trails like the MBT. Trees are nice, but safety is more important and once the MBT is fully completed from Silver Spring to Union Station it will be used much more. Plan for the trail of the future now! - Remove the stop sign on Takoma Ave for the relocated crosswalk on Takoma Ave. This is unnecessary as the old crosswalk is rarely used (so the new one will likely be seldom used) and crossing Takoma Ave is very easy because it is narrow and vehicles stop for the crosswalk.	
28		It is very difficult for a layperson to look at a set of construction plans and interpret them, and thus to be able to comment on the design. I don't think you are going to get the kind of feedback you need from this survey. But in general, any improvement to the much-degraded surface of the trail would be an improvement.	There need to be more opportunities to get onto the trail from the adjacent street. Those opportunities now are very few and limits the ability of bicyclists to access the trail. Essentially at every intersection there should be a bike connection to the trail. At the corner of Eastern and Fenton, for example (the sidewalk connection is inadequate). There should be occasional benches for people to rest. The trail should have a centerline. The brush along the trail on Fenton (between the trail and the rail line) needs to be removed, it encroaches onto the trail in the summer. Some trail etiquette signs would be helpful to remind bicyclists to call out when passing pedestrians.	As I mentioned before, asking folks to look at a set of design plans and comment on them is not a good way to get feedback. People need an illustrative drawing that shows the key features of the design. The only people who could adequately read these plans and comment are engineers.
29		Safer than current mbty	Build it faster. Do it now, now , now.	I attended meeting about MBT designs several years ago and the only action has been the dence blocking the path at the old rr station.

30		Fixing the uneven asphalt where it is a tripping hazard,	na	The planned improvements do not affect me, except for fixing the uneven places where roots heave (apparently) pushed up the asphalt and created a tripping hazard.
31		Wider lanes.	Not sure there was mention of how to avoid cracking like there currently is. I hope the trail will not be in such poor condition again in a few years.	
32		I'm hoping the porous flexible paving will be more resilient to buckling from tree roots (as well as better for the trees), since the current condition of the path makes it much harder to navigate with a stroller.	I can't really tell if it will address the current issue with narrowing path due to foliage overgrowth (or if that's just a question of needing more frequent maintenance)	I'm happy to hear the path is getting upgrades! Thanks for your work.
33		New Pavement and simplicity	Add lights	
34		Barrier from road, porous surface	Nothing	
35		Looks good	Not sure	
36		Low impact to neighborhood	Improve pedestrian safety and add sidewalks	Please add community meetings her neighborhood, and show Neighbor's conceptual drawings of what changes might look like Before settling on a design.
37		I'm glad that the trail will finally be fixed and will be a much more comfortable ride. I also like the proposed realignment of the crosswalk and stop sign, which will make it easier to access Belle Ziegeler park from the south side.	I am curious how you intend to keep the tree roots from pushing back into the trail again in a few years.	
38		I would take this redesign more often than I do now because of its current state of disrepair.	It looks like a good plan. I used to live in Silver Spring by Eastern and Georgia and used to take that spur (it should be a major one) almost daily to Takoma Park and points beyond.	So happy the connection from Catholic U area to Takoma and on to Silver Spring is much closer. And the proposed bike infrastructure on Poplar and 4th is my exact bike route to work in Chinatown. So that's excellent.
39		I can't understand the designs - have you considered offering a text or video explainer?	Same	
40		Not parallel to a road the entire time	Hard to say from the documents	
41		I like the new trail lighting, it will make me feel safer at night. Also, the all-way stop at Buffalo and Takoma Ave will be nice bc people will not speed by as much.	You should keep the sidewalk that is already here, people walking home from the metro may still use it.	The noise of the trains rushing by can be unbearable, especially for those with sensory needs. You need to keep the trees and foliage on the train track side so that there is some sort of sound barrier.
42		10 foot wide makes for more multiuse. Good to fix root heaves.	Permeable asphalt	
43		Wider trail	Nothing	
44		Nothing	Everything	None
45		The goal of creating cross- jurisdictional bike infrastructure is great.	A dedicated bike lane would be safer for all involved.	It seems unlikely this will change much about bike after or use
46		That plans are being made for a "bike lane"	Make it a real protected bike lane and not just sharrows on the street. Otherwise what is the point?	

47		pervious paving is great for local hydrology, the few street trees being removed are chinese elm (somewhat invasive, low ecological value)	I'm unclear on how much the trail is being widened based on the design plans? I would definitely prefer widening the trail towards the road and removing tree pits vs. widening into the woodland as was done further south.	
48		Resurfacing, it is badly needed! It is nearly impossible to bike on the trail, with all of the tree roots causing bumps every few feet in places. It's also dangerous for running, as it's very easy to trip.	Some plan to keep the foliage on the train-track-side of the trail to encroaching onto the trail and making 40% of trail unusable.	
49		Looks okay	Need a good connection to Takoma Metro station.	
50		The proposed crosswalk at Buffalo and Takoma Ave	More tree/shrub plantings. Bollard like lighting to replace larger overhead lighting	Macadam walk trail has an awkward crossing at Fenton/Albany, a curb ramp with access to all 3 adjacent sidewalks would help. I assume this may be out of the purview of the trail however.
51		I don't think like it.	I would avoid the zig zags in between the neighborhood. Brighter signage would be nice too. And more smooth paths for bikes.	The less the mbt goes through busy streets the better but at the same time id rather a busier street than the zig zagging in neighborhood because it would slow me down on a bike.
52		I like porous paving, and I like any separating of walkers/riders.	Too hard to tell on my phone.	I'd rather the focus be on adding more lanes. This particular section is pretty level and in decent shape.

APPENDIX F

Stormwater Management Calculations

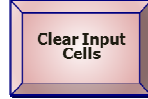
MDE Sediment & Stormwater Plan Review
for State & Federal Projects

SWM Calculator Condensed Format



Project Description: Takoma Park MBT
 County: Montgomery County
 PRD Tracking Number: _____

Job # _____
 Contract # _____
 Date: 4/5/2023
 Designed by: MYS
 Reviewed by: SBP



Determine Development Classification for the Reconstruction Activities:				STEP 1 Site / Drainage Area Data										STEP 2 Impervious Area Requiring Treatment (IART)			STEP 3 Required ESD Volume for Treating Redevelopment (ESDV _{RE-DEVL})	STEP 4 ESD Volume Reduction from Decreasing Impervious Area (ESDV _{REDUCEDAI}) (for Redevelopment Classification when ΔAI<0)				STEP 5 Required ESD Volume for treating New Development (ESDV _{NEW}) for POI				STEP 6 ESD Volume for the Shifted Impervious Area (ESDV _{SHIFT}) in/out of POI	STEP 7 Req'd ESDV from Loss of Existing SWM (ESDV _{LOSS})	STEP 8 Required ESD Volume for the POI (ESDV _{POI})	STEP 9 Required Recharge Volume (Re _v)																				
Report to ESD Summary Sheet				Col. D	Col. B Col. C Col. E Col. F						Col. G	Col. 1	Col. 2	Col. 3	Col. 4a	Col. 4b	Col. 5a	Col. 5b	Col. 6	Col. 7	Col. 8	Col. 10																											
POI	SWM Study Area	Existing Impervious Surface Area	Percent Existing Imperviousness	Development Classification for Re-construction	Existing Condition Drainage Area	Proposed Condition Drainage Area	Existing Imp. Area within LOD	Proposed Imp. Area within LOD	Area for which WQ is Not Req'd (i.e. 3.3.A Waiver)	Loss of Existing Water Quality (Area)	Loss of Existing ESD _v /WQ _v (Volume)	Loss of Existing Recharge (Volume)	Re-constructed Imp. Area Already Treated (Area)	Ex. Imp. Area outside of LOD Shifted in/out of POI	Will POI qualify for a Cp _v Waiver under Section 3.3.B of the Guide-	IART from Redevelopment: For Re-dev'l Classification, IART _{RE-DEVL} = 50% of (A _{EI} - A _{MI} - A _{RECI}) For New Dev'l Classification, IART _{RE-DEVL} = 0	IART from New Development: For Re-dev'l Classification, IART _{NEW} = ΔAI = A _{PI} - A _{EI} For New Dev'l Classification, IART _{NEW} = A _{PI} - A _{MI} -	Total IART: IART = IART _{RE-DEVL} + IART _{NEW} + A _{LI}	P _E	R _V	ESDV _{RE-DEVL}	Applied to Project		Applied to POI		ESDV _{NEW} for 3.3.B Waiver		ESDV _{NEW} for No Waiver or No Impervious Reduction (i.e. ΔAI >= 0)				P _E	R _V	ESDV _{SHIFT}	ESDV _{LOSS}	ESDV _{POI}	1-Year Management Requirement	Soil Specific Recharge Factor (S)				Recharge Volume (Re _v _{NEW}) for New Development	Loss of Existing Recharge Volume (Re _v _{LOSS})	Total Required Recharge Volume (Re _v)					
	A _s	A _{EXI}	%I = A _{EXI} /A _s		A _E	A _P	A _{EI}	A _{PI}	A _{MI}	A _{LI}	ESDV _{LOSS}	Re _v _{LOSS}	A _{RECI}	A _{SHIFT}	Cp _W	IART _{RE-DEVL}	IART _{NEW}	IART	in.	in.	ESDV _{RE-DEVL}	P _E	R _V	ESDV _{REDUCEDAI}	P _E	R _V	ESDV _{REDUCEDAI}	P _E	R _V	ESDV _{NEW}	P _E	R _V	ESDV _{NEW}	P _E	R _V	ESDV _{SHIFT}	ESDV _{LOSS}	ESDV _{POI}	1-Year Management Requirement	Soil Group				Recharge Volume (Re _v _{NEW}) for New Development	Loss of Existing Recharge Volume (Re _v _{LOSS})	Total Required Recharge Volume (Re _v)			
	acres	acres	%I = A _{EXI} /A _s		acres	acres	acres	acres	acres	acres	cubic feet	cubic feet	acres	acres		acres	acres	acres	in.	in.	cubic feet	in.	in.	cubic feet	in.	in.	cubic feet	in.	in.	cubic feet	in.	in.	cubic feet	in.	in.	cubic feet	cubic feet	ac.	ac.	ac.	ac.	in.	cubic feet	cubic feet	cubic feet				
1	0.36	0.27	75.0%	Re-dev'l	1.00	1.00	0.27	0.36	0.00	0.00	0.0	0.0	0.00	0.00		0.14	0.09	0.23	1.00	0.95	487	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	0.09		2.60	0.95	487	2.60	0.95	0	0	487	470	0.00	0.09	0.00	0.00	0.26	47	0	47
2	0.04	0.03	75.0%	Re-dev'l	1.00	1.00	0.03	0.04	0.00	0.00	0.0	0.0	0.00	0.00		0.02	0.01	0.03	1.00	0.95	69	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	0.01		2.60	0.95	69	2.60	0.95	0	0	69	470	0.00	0.01	0.00	0.00	0.26	0	0	0
3	0.09	0.08	88.9%	Re-dev'l	1.00	1.00	0.08	0.09	0.00	0.00	0.0	0.0	0.00	0.00		0.04	0.01	0.05	1.00	0.95	438	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	0.01	2.00	0.95	69	2.60	0.95	0	0	69	470	0.00	0.00	0.00	0.01	0.07	7	0	7	
4	0.12	0.10	83.3%	Re-dev'l	1.00	1.00	0.10	0.12	0.00	0.00	0.0	0.0	0.00	0.00		0.05	0.02	0.07	1.00	0.95	472	N/A	N/A	0	N/A	N/A	0	N/A	N/A	0	0.02	2.00	0.95	438	2.60	0.95	0	0	438	470	0.00	0.00	0.00	0.02	0.07	6	0	6	