

# MR #2023006 – LIFE SCIENCE CENTER LOOP TRAIL MANDATORY REFERRAL AND WATER QUALITY PLAN

## Description

This is a Mandatory Referral and Water Quality Plan for the Montgomery County Department of Transportation proposal to construct a sidepath along the west side of Omega Drive and Medical Center Drive between the City of Gaithersburg and Great Seneca Highway. The proposed project aims to design a significant portion of the Life Sciences Center Loop Trail master-planned as part of the *Great Seneca Science Corridor Master Plan (2010)*.

NO. MR2023006

MCPB

2425 Reddie Drive

Item No. 7

Floor 14

1/18/2024

Wheaton, MD 20902

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#### LOCATION

Medical Center Drive/Omega Drive between the City of Gaithersburg and Great Seneca Highway

#### MASTER PLAN

2021 Great Seneca Science Corridor Master Plan Amendment

#### APPLICANT

Montgomery County Department of Transportation

#### ACCEPTANCE DATE

October 24, 2023

#### REVIEW BASIS

Md. Land Use Article, Section 20-301, et seq.

## Summary

- Montgomery County Department of Transportation project to construct a sidepath and associated improvements along the west side of Medical Center Drive and Omega Drive between the City of Gaithersburg and Great Seneca Highway.
- The proposed project is partially within the Piney Branch Special Protection Area and requires the approval of a Preliminary/Final Water Quality Plan under Section 19-62 of the Montgomery County Code, a separate action as part of this Planning Board item.
- Forest Conservation Exemption #42023109E was confirmed on October 2, 2023 as a State, County, or municipal highway construction activity per Section 22A-5(e).
- Staff recommends approval of the Mandatory Referral with comments. Staff recommends approval of the Preliminary/Final Water Quality Plan with conditions.

- The Planning Board review of a Mandatory Referral is advisory. Planning

Board review of the Water Quality Plan is regulatory and binding.

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## SECTION 1 – RECOMMENDATIONS

Staff recommends the transmittal of this Mandatory Referral to Montgomery County Department of Transportation with the following comments, as expanded later in this document:

1. Ensure the sidepath crosses driveways at sidewalk-level at the following Stations:
  - a. 104+75
  - b. 113+00
  - c. 132+50
  - d. 134+50
  - e. 136+50
  - f. 139+00
  - g. 142+50
  - h. 147+50
  - i. 204+50
2. Tighten curb radii at all intersections and driveways in line with the Complete Streets Design Guide (CSDG) default radii (15 feet). Where wider turning radii may be helpful for larger vehicles or emergency operations, consider the use of mountable curbs or relocating the receiving leg stop bar to allow for encroachment.
3. Provide directional curb ramps that are aligned with high-visibility marked crosswalks at all street and driveway crossings, including at Stations:
  - a. 101+00 (NE corner of Great Seneca Highway)
  - b. 107+00 (NE corner of Broschart Road)
  - c. 108+00 (SE corner of Broschart Road)
  - d. 116+50 (NW corner of Medical Center Way)
  - e. 117+50 (NE corner of Medical Center Way)
  - f. 128+50 (SW corner of Medical Center Way)
  - g. 129+50 (NW corner of Medical Center Way)
  - h. 134+25 (SW corner of driveway)
  - i. 136+50 (SW corner of driveway)
  - j. 151+00 (SW corner of National Cancer Institute)
  - k. 158+00 (SW corner of Key West Avenue)
  - l. 159+50 (NW corner of Key West Avenue)
4. Construct new 12-foot-wide pedestrian median refuges at the following Stations:
  - a. 107+50\* (Broschart Road)
  - b. 200+00 (Key West Avenue)
  - c. 204+50 (Driveway north of Key West Avenue)
5. Ensure all intersections comply with Montgomery Planning’s Protected Intersection Checklist to the extent applicable.
6. Ensure the project’s Great Seneca Highway terminus appropriately transitions to the segment of the LSC Loop Trail currently under construction as part of the Elms at PSTA project.
7. Coordinate with City of Gaithersburg and Montgomery County Public Schools on appropriate transitions between the proposed sidepath and the Crown High School project.
8. Relocate transformers at 109+00 to continue the 11-foot-wide street buffer.

9. Widen street buffer at Station 134+00 to eleven feet to better align the adjacent driveway crossing.
10. Consider extending the sidepath from 206+75 to 207+00.

Staff recommends approval of the Preliminary/Final Water Quality Plan with the following conditions:

1. The impervious surfaces are limited to the areas shown on the Preliminary/Final Water Quality Plan. Impervious surfaces should be limited to no more than what is shown on the plan.
2. The graphic showing the impervious surface changes must be included in the Preliminary/Final Water Quality Plan submitted for certification and signature.
3. A final Tree Save Plan must be submitted and approved by Planning staff prior to clearing, grading, or demolition for each phase of construction.
4. Applicant shall provide tree protection measures and mitigation for priority trees removed according to the approved Tree Save Plan and at the direction of the Forest Conservation Inspector.

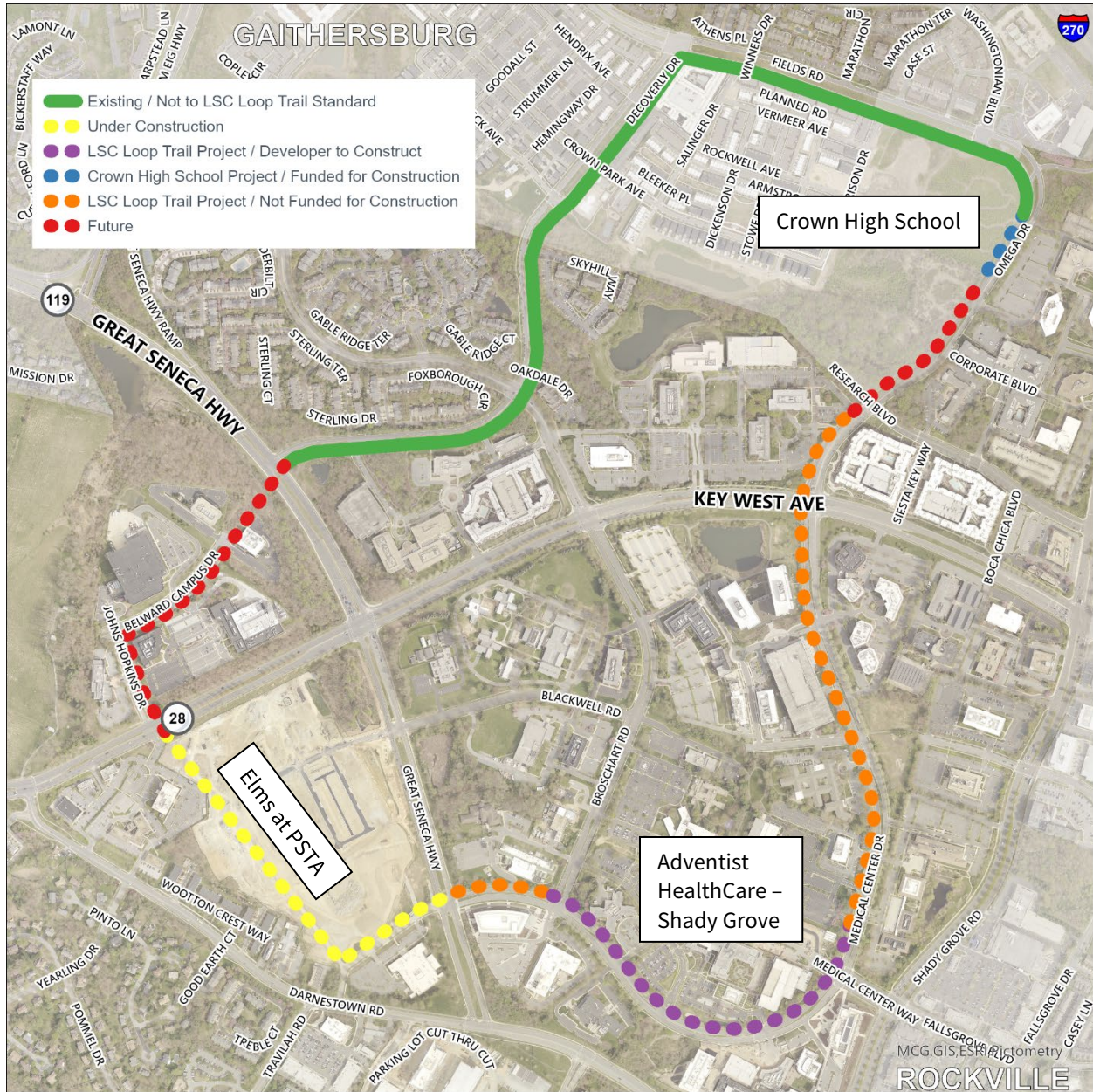
## SECTION 2 – PROJECT DESCRIPTION

### Project Description

The Montgomery County Department of Transportation (MCDOT) is designing a sidepath along the west side of Medical Center Drive and Omega Drive between Great Seneca Highway and Research Boulevard in the Life Sciences Center of the active *Great Seneca Plan: Connecting Life and Science* area, shown as the dashed orange and purple lines in Figure 1.

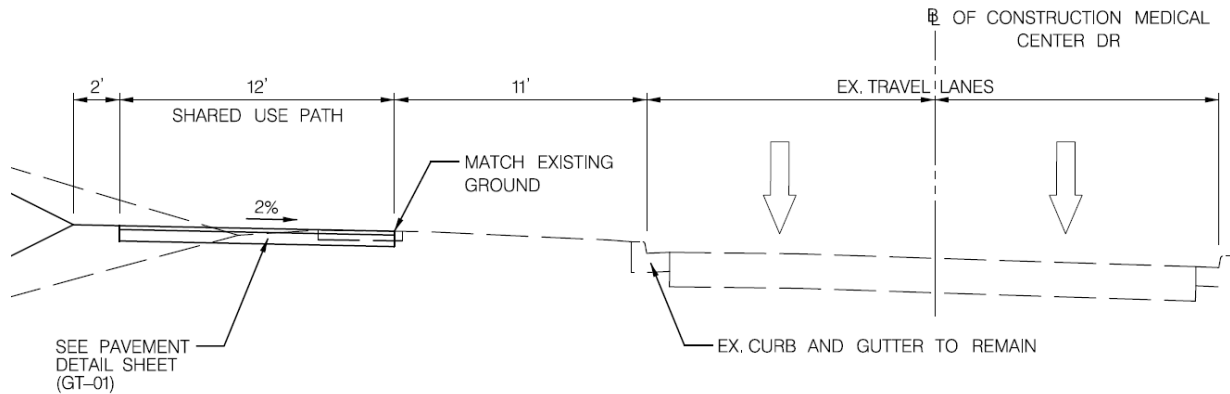


Figure 1: Project Area Map



The proposed 1.25-mile-long asphalt sidepath is typically 12 feet wide with a landscaped buffer of eleven feet separating it from the adjacent roadway (Figure 2).

Figure 2: Typical Sidepath Cross Section



While no Capital Improvement Program funding is currently allocated to construct this project, MCDOT intends to complete 100% design, and work to advance construction through the regulatory process, grants, and other funding sources. MCDOT estimates the project will cost about \$5,000,000 to construct without the purchase of right-of-way.

Corridor-long engineering drawings and associated cross-sections are found in Attachment A.

## Background

The proposed project is 1.25 miles of the four-mile Life Sciences Center Loop Trail. The LSC Loop was a recommendation of the 2010 *Great Seneca Science Corridor Master Plan* (GSSC Plan).

Following adoption of that plan, Montgomery Planning won a MWCOG Transportation-Land Use Connections grant to develop design guidelines for the LSC Loop Trail. Those design guidelines were published in 2015.<sup>1</sup>

As described in the GSSC Plan, the LSC Loop Trail will:

- Create a primary recreational feature that connects the districts, destinations, and open spaces throughout the area.
- Provide connections to area amenities, including retail destinations, the proposed high school, and the natural path system through the stream buffer areas.
- Integrate regulated green spaces such as wetlands, streams, and forest conservation easements to provide passive recreational experiences.
- Create extensions (from the main loop) that connect surrounding neighborhoods with the LSC, providing residents of these communities access to transit stations, activities, amenities, and open spaces in the LSC Districts.

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<sup>1</sup> [montgomeryplanning.org/community/lsc\\_loop/documents/LSCLoopTrailDesignGuidelinesDRAFT071015.pdf](http://montgomeryplanning.org/community/lsc_loop/documents/LSCLoopTrailDesignGuidelinesDRAFT071015.pdf)

As shown in Figure 1, the LSC Loop Trail is in various stages of development. The subsequent sections discuss how each component of the trail is advancing.

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#### LSC LOOP TRAIL PROJECT – DEVELOPER TO CONSTRUCT

Within the Mandatory Referral project area, a portion of the LSC Loop Trail (shown as a purple dash in Figure 1) must be constructed by Adventist HealthCare Shady Grove Medical Center’s along their frontage as part of their patient tower project. Resolution 21-118 for the Adventist HealthCare Shady Grove Medical Center Site Plan Amendment (Attachment B) of November 15, 2021 identifies the relevant condition of approval. The condition states:

*Prior to the final Use and Occupancy permit for the Patient Tower, the Applicant must submit a site plan amendment regarding the LSC Loop Trail along the Property’s Medical Center Drive frontage, the exact location, design and construction of which must comply with requirements set forth by the Montgomery County Department of Transportation, Division of Traffic Engineering and Operations.*

The Montgomery County Department of Transportation letter accompanying the Site Plan Amendment (Attachment C) states:

*Prior to issuance of the final Use and Occupancy Certificate for the patient tower, the Applicant must construct the 12-foot LSC Loop along Medical Center Drive.*

The required site plan amendment has not yet been filed with Montgomery Planning, but the affected portion of the LSC Loop Trail is from Broschart Road to just past Medical Center Way. The rest of the Mandatory Referral project area is shown as dashed orange in Figure 1.

Beyond the section of the LSC Loop Trail under design as part of this Mandatory Referral, other sections are in various stages of development.

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#### EXISTING / NOT TO LSC LOOP TRAIL STANDARD

The Decoverly Drive portion of the LSC Loop Trail between Great Seneca Highway and Fields Road is constructed as a sidepath (Figure 3). This segment is partially in the City of Gaithersburg. This segment is eight feet wide, narrower than the LSC Loop Trail Design Guidelines ten foot minimum, and it does not include the envisioned sidepath-adjacent amenity spaces.



Figure 3: Decoverly Drive Sidepath



The Fields Road portion of the LSC Loop Trail between Decoverly Drive and Omega Drive is complete (Figure 4). This segment is entirely within the City of Gaithersburg. This segment is eight feet wide, narrower than the LSC Loop Trail Design Guidelines ten foot minimum, and it does not include the envisioned sidepath-adjacent amenity spaces.

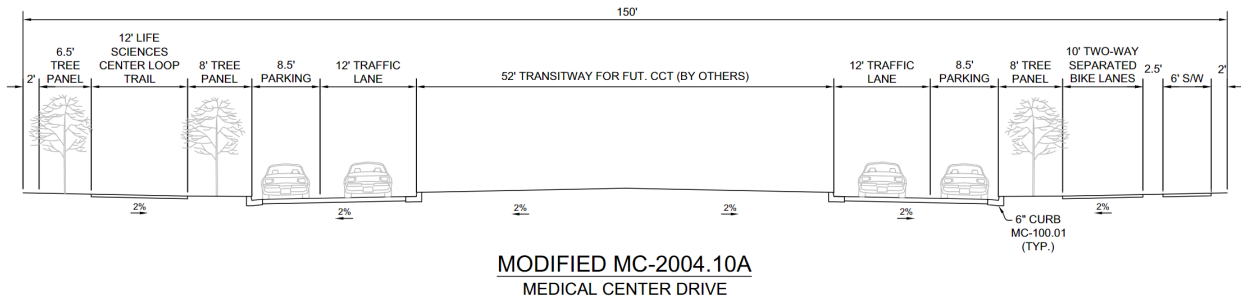
Figure 4: Fields Road Sidepath



## UNDER CONSTRUCTION

One significant portion of the sidepath is currently under construction as part of the Elms at PSTA project at the site of the former Public Safety Training Academy. That segment between Great Seneca Highway and Key West Avenue is being built with the typical section illustrated in Figure 5.

Figure 5: Elms at PSTA LSC Loop Trail Cross Section



## CROWN HIGH SCHOOL PROJECT / FUNDED FOR CONSTRUCTION

As part of the Crown High School project in the City of Gaithersburg, a portion of the LSC Loop Trail will be constructed along the school frontage.

## FUTURE

Beyond those segments discussed above, there are two remaining gaps in the LSC Loop Trail. One is a short gap between the Crown High School frontage and the eastern extent of this Mandatory Referral project. The other is between Key West Avenue and Great Seneca Highway along Belward Campus Drive. Both are shown as red dashed lines in Figure 1.

## Surrounding Neighborhood

The LSC Loop Trail snakes through Montgomery County's Life Sciences Center along Medical Center Drive and Omega Drive. This area has significant institutional and research and development uses, including the Universities at Shady Grove and the Adventist Healthcare Shady Grove Medical Center. There are also over 3,500 dwelling units and almost 215,000 square feet of retail space in the area. Part of the study area is in the Piney Branch Special Protection Area.

Currently, Medical Center Drive/Omega Drive is a median divided roadway with four through-lanes, frequent left turn lanes and a posted speed limit of 30 miles per hour (Figure 6). The road is classified as a Downtown Boulevard in the Master Plan of Highways and Transitways. Sidewalks along the corridor are five feet wide or less, but have a wide landscape buffer separating them from the roadway. The typical Pedestrian Level of Comfort score for pathways along the corridor is Somewhat Comfortable (PLOC 2), while signalized intersection crossings usually score Undesirable (PLOC 4) and driveway crossings score Uncomfortable (PLOC 3). Particularly challenging crossings include the



intersection of Medical Center Drive and Great Seneca Highway and the intersection of Medical Center Drive and Key West Avenue.

Figure 6: Cross-Section of Medical Center Drive



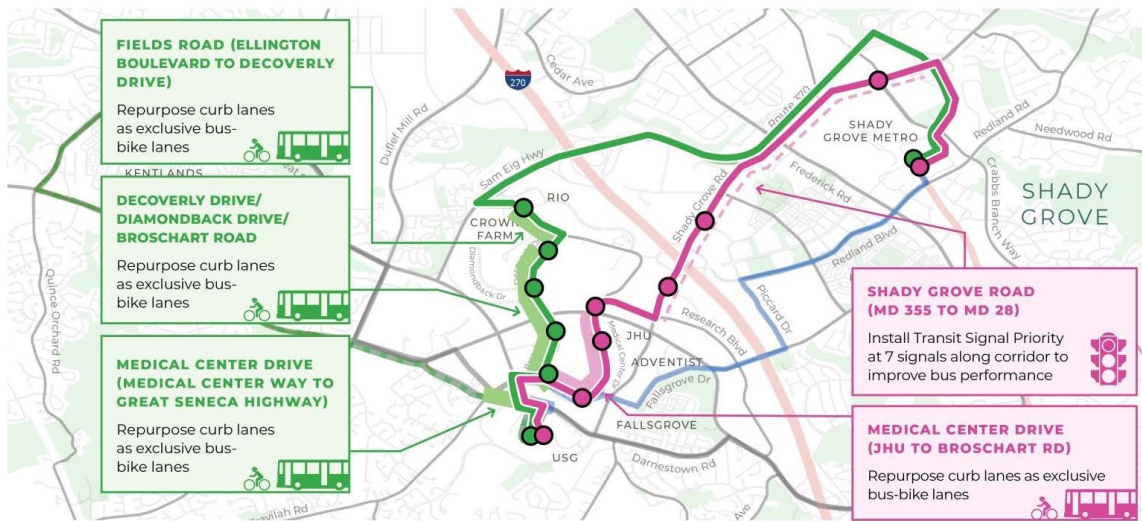
There are not many protected crossing locations<sup>2</sup> along Medical Center Drive. The *Great Seneca Plan: Connecting Life and Science* existing conditions document identified the average protected crossing spacing along Medical Center Drive as 3,000', far greater than the 400' maximum protected crossing spacing for a Downtown Boulevard recommended in the CSDG. There are signalized intersections at Great Seneca Highway and Key West Avenue, and a stop-controlled crossing at Medical Center Way.

The Great Seneca Transit Network's Pink and Lime Lines, which connect between the Trville Transit Center and the Shady Grove Metro Red Line Station, will travel along portions of Medical Center Drive. Dedicated bus lanes are planned for Medical Center Drive between Broschart Road and the National Cancer Institute, one block south of Key West Avenue, by converting two traffic lanes to transit lanes (Figure 7).

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<sup>2</sup> As defined in Chapter 49 of the Montgomery County Code, a protected crossing is a location with "specific traffic control devices that improve safety and comfort of pedestrians and bicyclists crossing streets by reducing or eliminating conflicts, as well as increasing stopping and yielding for pedestrians and bicyclists, using measures such as traffic signals (full signals with pedestrian signals), pedestrian hybrid (HAWK) beacons, all-way stop control, or grade-separated crossings."

Figure 7: Great Seneca Transit Network Alignment



## SECTION 4 – MANDATORY REFERRAL AUTHORITY AND PROCESS

Mandatory Referral review is guided by the Montgomery Planning Mandatory Referral Review Uniform Standards (December 2022), and the authority granted through the Maryland Land Use Article, Section 20-301, et.seq. As set forth in Sections 20-301 and 20-302, the Montgomery County Planning Board has jurisdiction over mandatory referral projects presented by the federal government, State of Maryland, Montgomery County government, Montgomery County Board of Education, and public utilities, among others, for:

- (1) acquiring or selling land;
- (2) locating, constructing or authorizing a road, park, public way or ground, public building or structure, or public utility; or
- (3) changing the use of or widening, narrowing, extending, relocating, vacating or abandoning any of the previously mentioned facilities.

The Planning Board must review such projects and transmit comments on the proposed location, character, grade and extent of the activity to the project applicant.

As described in the Uniform Standards, the Planning Board considers all relevant land use and planning aspects of the proposal including, but not limited to, the following:

- (1) whether the proposal is consistent with the County’s General Plan, functional plans, the approved and adopted area master plan or sector plan and any associated design guidelines, and any other public plans, guidance documents, or programs for the area;
- (2) whether the proposal is consistent with the intent and the requirements of the zone in which it is located;

- (3) whether the nature of the proposed site and development, including but not limited to its size, shape, scale, height, arrangement, design of structure(s), massing, setback(s), site layout, and location(s) of parking is compatible with the surrounding neighborhood and properties;
- (4) whether the locations of buildings and structures, open spaces, landscaping, recreation facilities, and pedestrian and vehicular circulation systems are adequate, safe, and efficient;
- (5) whether the proposal has an approved NRI/FSD and a preliminary SWM Concept Plan, and meets the requirements of the Forest Conservation law (Chapters 19 and 22A of the Montgomery County Code);
- (6) whether a Preliminary or a Final Water Quality Plan has been reviewed by the Planning Board if the project is located in a Special Protection Area. In addition, for a Water Quality Plan on public property, the Board must determine if the plan meets any additional applicable standards for Special Protection Areas;
- (7) whether or not the site would be needed for park use if the proposal is for disposition of a surplus public school or other publicly-owned property; and
- (8) whether alternatives or mitigation measures have been considered for the project if the proposal is inconsistent with the General Plan or other plans and policies for the area, or has discernible negative impacts on the surrounding neighborhood, the transportation network, the environment, historic resources (including burial sites), or other resources.

## SECTION 5 – MANDATORY REFERRAL ANALYSIS AND FINDINGS

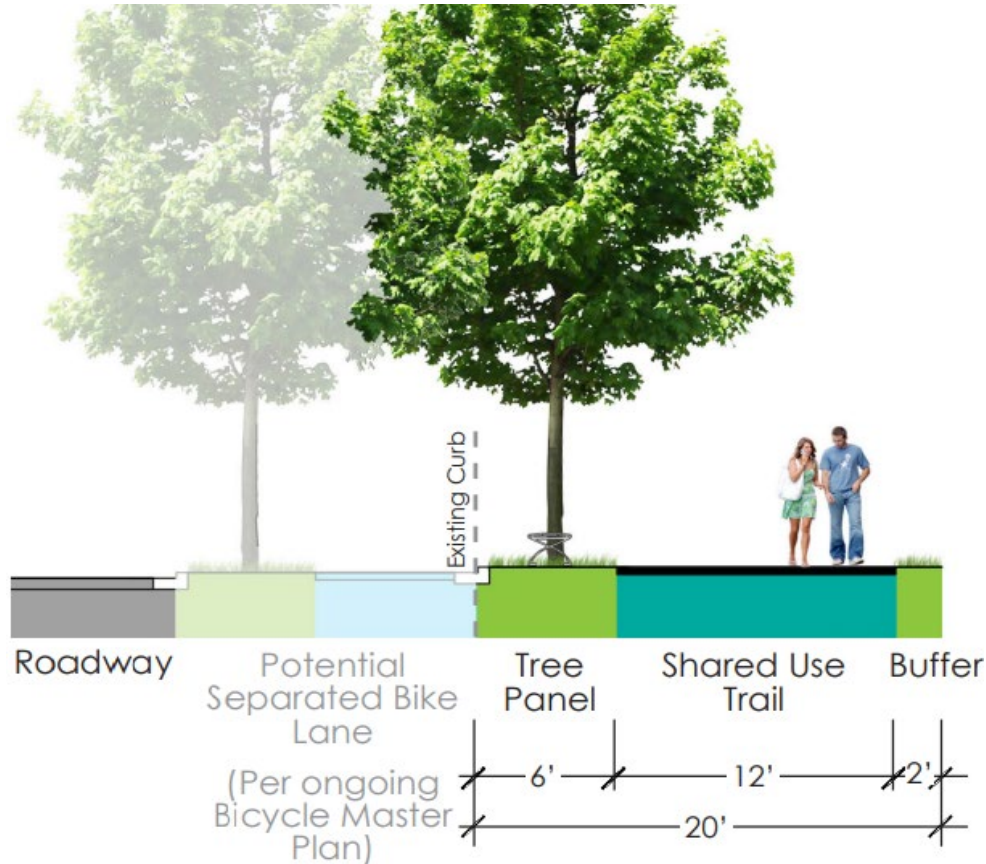
### Master Plan Consistency

#### BICYCLE MASTER PLAN

The 2018 *Bicycle Master Plan* recommends two-way separated bike lanes along the western side of Medical Center Drive and Omega Drive. The *Bicycle Master Plan* was under development during the creation of the LSC Loop Trail Design Guidelines document. In the guidelines document, potential separated bike lanes were sketched into the loop's cross-section within the existing curbs (Figure 8).



Figure 8: Typical Cross-Section of LSC Loop Trail from Design Guidelines



Separated bike lanes were planned in the *Bicycle Master Plan* instead of a sidepath (like the LSC Loop Trail) in this area because the master plan vision is for the Life Sciences Center to be a Downtown. Downtowns have more pedestrian and bicycle activity than other, less dense or active places, so dedicated pedestrian and bicycle spaces should be provided to allow sufficient separation between those modes so that both can move safely through the area with minimal conflicts.

The proposed LSC Loop Trail bikeway does not construct the master-planned separated bike lanes, but does not preclude their construction. However, the Great Seneca Transit Network’s dedicated bus lanes use the space along Medical Center Drive where the separated bike lanes would likely have gone, so the separated bike lanes are not likely to be constructed.

#### GREAT SENECA SCIENCE CORRIDOR MASTER PLAN

The 2010 *Great Seneca Science Corridor Master Plan* recommended the development of the LSC Loop Trail. The sidepath was identified as essential for knitting together the five districts of the Life Sciences Center area. Funding of the LSC Loop Trail is one of the Stage 2 development triggers in the 2010 plan and its most recent 2021 update. This means that funding the sidepath is one necessary component to allowing an additional 1.9 million square feet of commercial development and 2,000 new dwelling units to be constructed within the master plan area.

The proposed LSC Loop Trail bikeway is integral to the success of the 2010 plan, the 2021 plan amendment, and ongoing planning efforts in this area.

## Transportation Comments

**Recommendation: Ensure the sidepath crosses driveways at sidewalk-level at the following Stations:**

- |    |        |    |        |    |        |
|----|--------|----|--------|----|--------|
| a. | 104+75 | d. | 134+50 | g. | 142+50 |
| b. | 113+00 | e. | 136+50 | h. | 147+50 |
| c. | 132+50 | f. | 139+00 | i. | 204+50 |

Vehicles entering the right-of-way are required to yield to all cross traffic, including bicycles and pedestrians. Driveway design should clearly communicate this hierarchy to drivers, bicycle riders, and pedestrians. When sidewalks, sidepaths, and bikeways cross driveways, the grade, slope, and material of these facilities must be maintained at sidewalk level (Figure 9). However, the LSC Loop Trail project has several locations where the sidepath intersects the street at street-level like that in Figure 10.

Figure 9: Example Raised Sidewalk and Separated Bike Lane

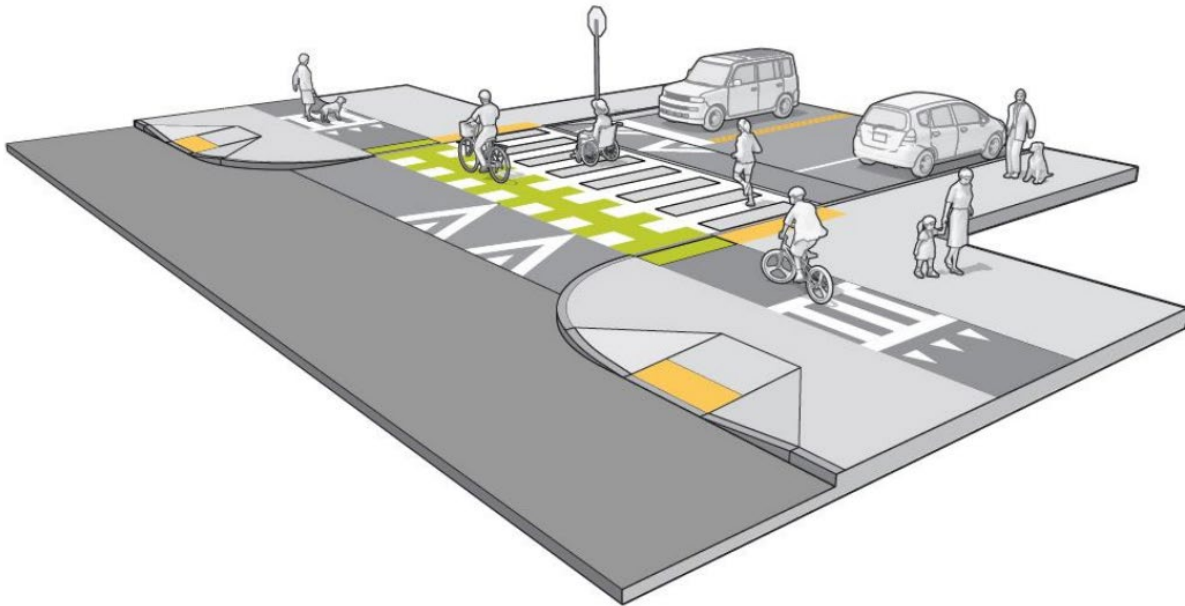
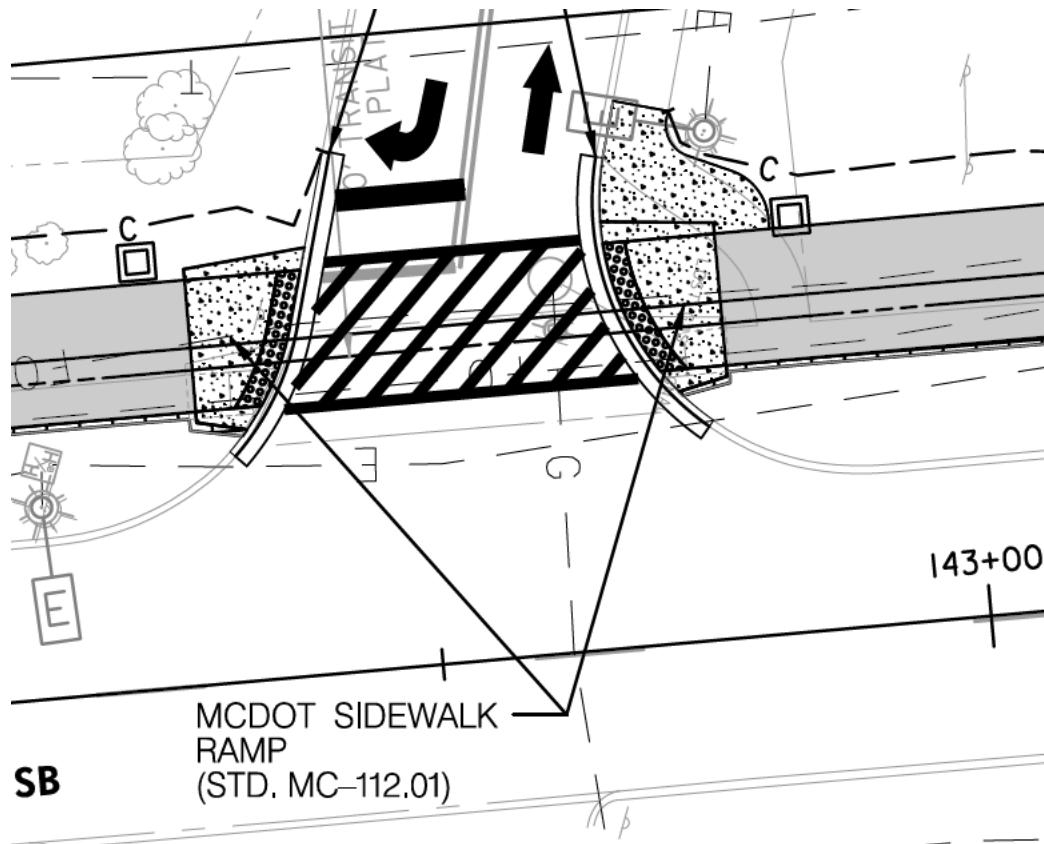


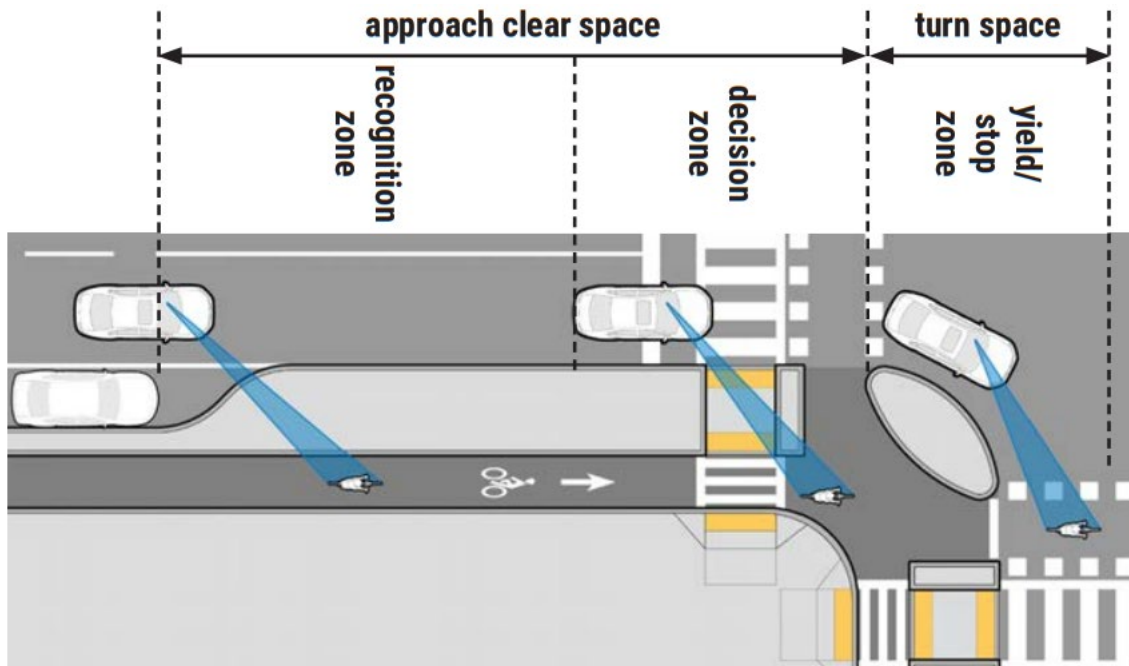
Figure 10: Example LSC Loop Trail Driveway Crossing



**Recommendation: Tighten curb radii at all intersections and driveways in line with the Complete Streets Design Guide (CSDG) default radii (15 feet). Where wider turning radii may be helpful for larger vehicles or emergency operations, consider the use of mountable curbs or relocating the receiving leg stop bar to allow for encroachment.**

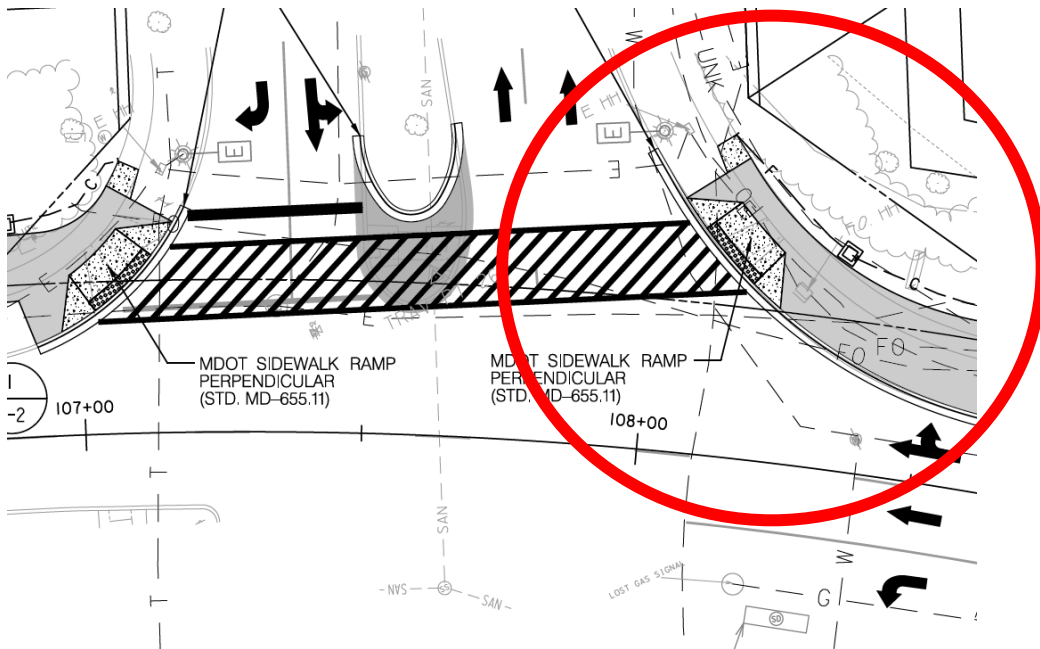
Providing tighter turning radii is essential to reducing the turning speed of motor vehicles, improving visibility between motorists, pedestrians, and bicyclists, and reducing the likelihood and severity of collisions between roadway users. Figure 11 illustrates how tighter turning radii improve visibility by allowing motorists to cross bikeways, sidewalks, and sidepaths at a perpendicular angle so potential conflicts can be seen through the front windshield, not over a shoulder.

Figure 11: Tighter Curb Radii Visibility Illustration



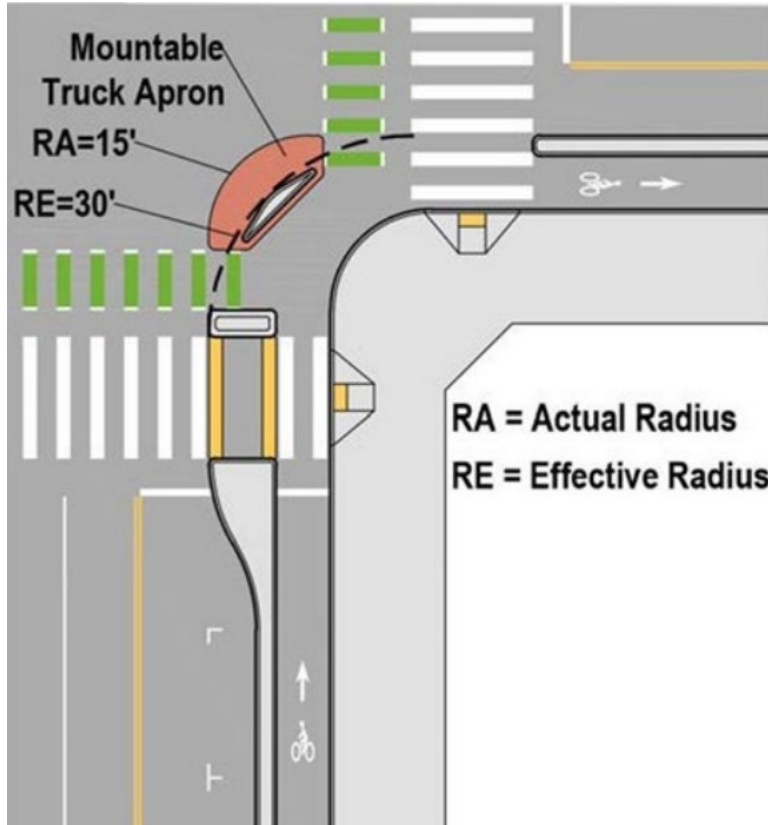
Additionally, the smaller the curb radius, the less roadway pedestrians have to cross, reducing their exposure to conflict. Figure 12 illustrates that the turning radius issue at the circled corner of the intersection with Broschart Road is excessive and should be tightened.

Figure 12: Medical Center Drive at Broschart Road



The CSDG default corner radius is 15 feet (Figure 13). The guide states that “designers should assume a maximum 10 miles per hour turning speed for passenger cars and a 5 mile per hour turning speed for all other vehicles.” As currently designed, the radii for street and driveway intersections throughout the corridor are too wide – allowing turns at higher speeds.

Figure 13: Mountable Truck Apron Curb Radius (Photo: ODOT)



An additional benefit of tighter turning radii is that it makes it easier to provide directional curb ramps to better guide pedestrians in the crosswalk through an intersection.

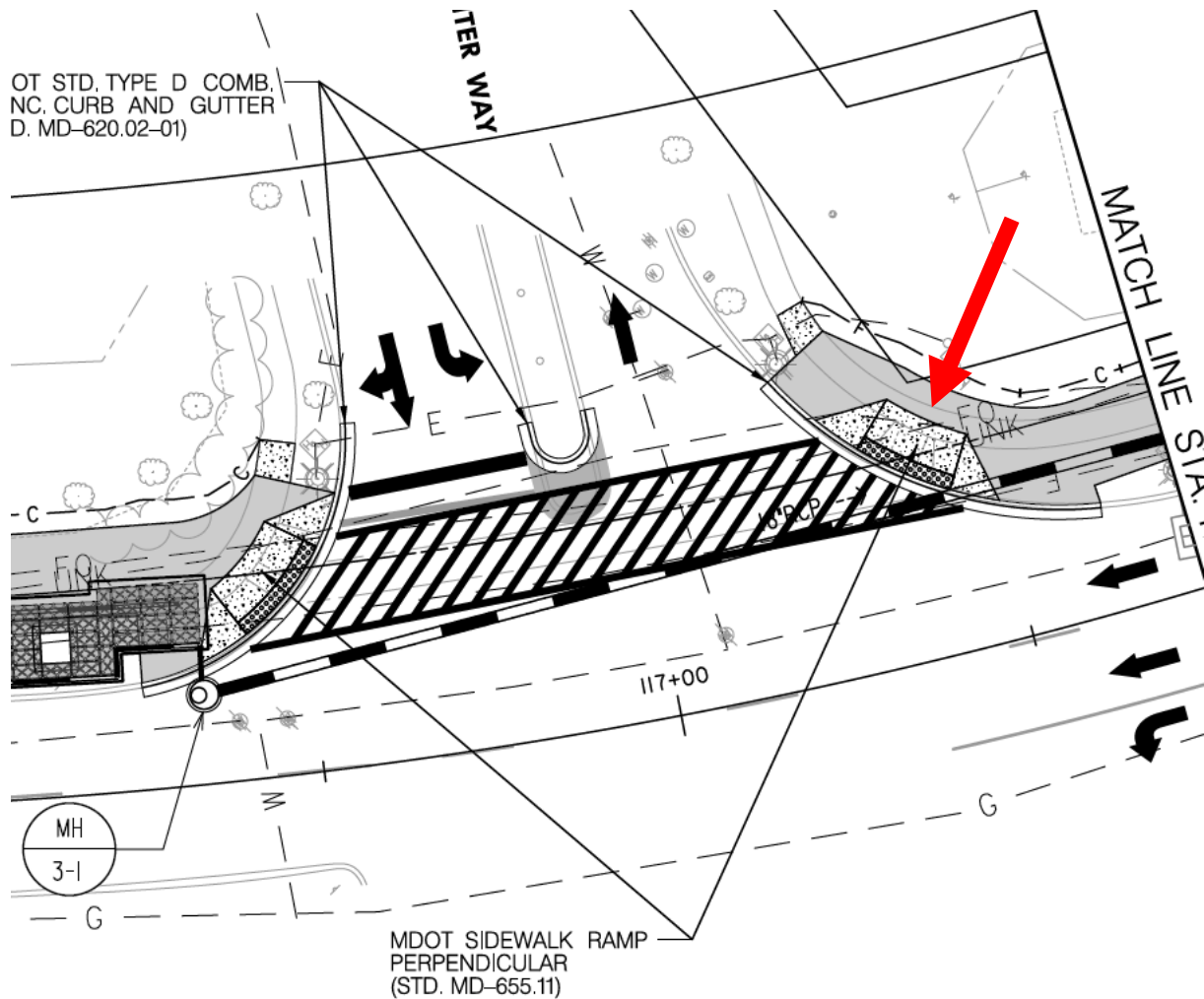
**Recommendation: Provide directional curb ramps that are aligned with high-visibility marked crosswalks at all street and driveway crossings, including at Stations:**

- |   |   |  |
|---|---|--|
| a. 101+00 (NE corner of Great Seneca Highway) | e. 117+50 (NE corner of Medical Center Way) | i. 136+50 (SW corner of driveway)                  |
| b. 107+00 (NE corner of Broschart Road)       | f. 128+50 (SW corner of Medical Center Way) | j. 151+00 (SW corner of National Cancer Institute) |
| c. 108+00 (SE corner of Broschart Road)       | g. 129+50 (NW corner of Medical Center Way) | k. 158+00 (SW corner of Key West Avenue)           |
| d. 116+50 (NW corner of Medical Center Way)   | h. 134+25 (SW corner of driveway)           | l. 159+50 (NW corner of Key West Avenue)           |



Directional curb ramps aligned with marked crosswalks are a best practice because they guide pedestrians along the shortest path across the street or driveway, reducing pedestrian exposure to traffic. When curb ramps are oriented toward the middle of an intersection (Figure 14), people with low or no vision and those using wheelchairs or other mobility devices can be directed to cross the street outside of the intended path of travel.

Figure 14: LSC Loop Trail Intersection with Mis-aligned Curb Ramps



**Recommendation: Construct new 12-foot-wide pedestrian median refuges at the following Stations:**

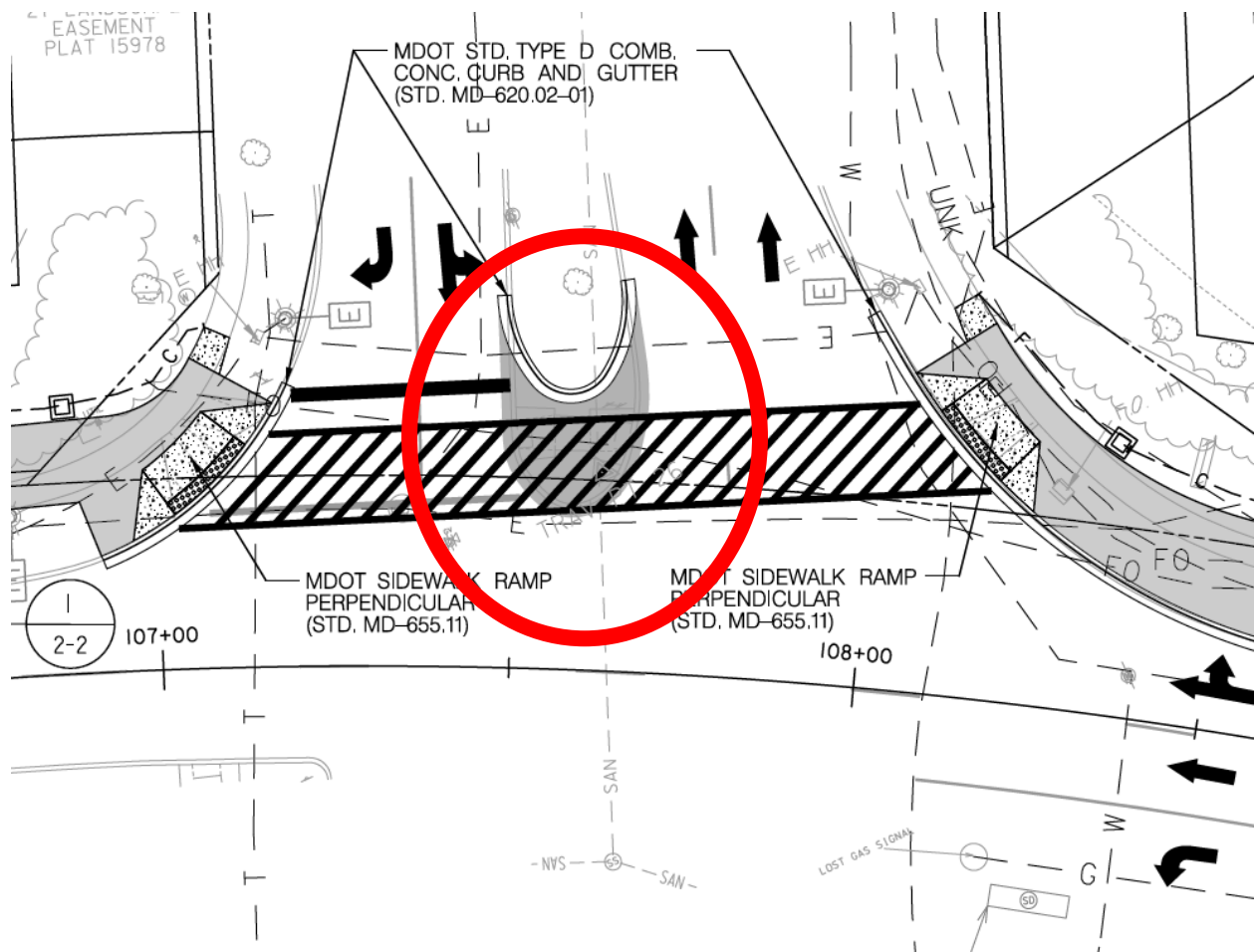
- a. 107+50\* (Broschart Road)
- b. 200+00 (Key West Avenue)
- c. 204+50 (Driveway north of Key West Avenue)

\*For the Station 107+50 location, it appears that the existing median refuge would be removed as part of this project.

In all three of these locations where landscaped medians already exist, constructing a pedestrian refuge has three main benefits:

- 1) It reduces pedestrian exposure to traffic by minimizing the time pedestrians are actually in the roadway.
- 2) It provides a midway resting point for slower pedestrians.
- 3) It allows pedestrians to cross only one direction of travel at a time, particularly at uncontrolled or stop-controlled locations like at Broschart Road (107+50) and the Decoverly Development driveway (204+50), as shown in Figure 15.

Figure 15: Potential Pedestrian Refuge Location



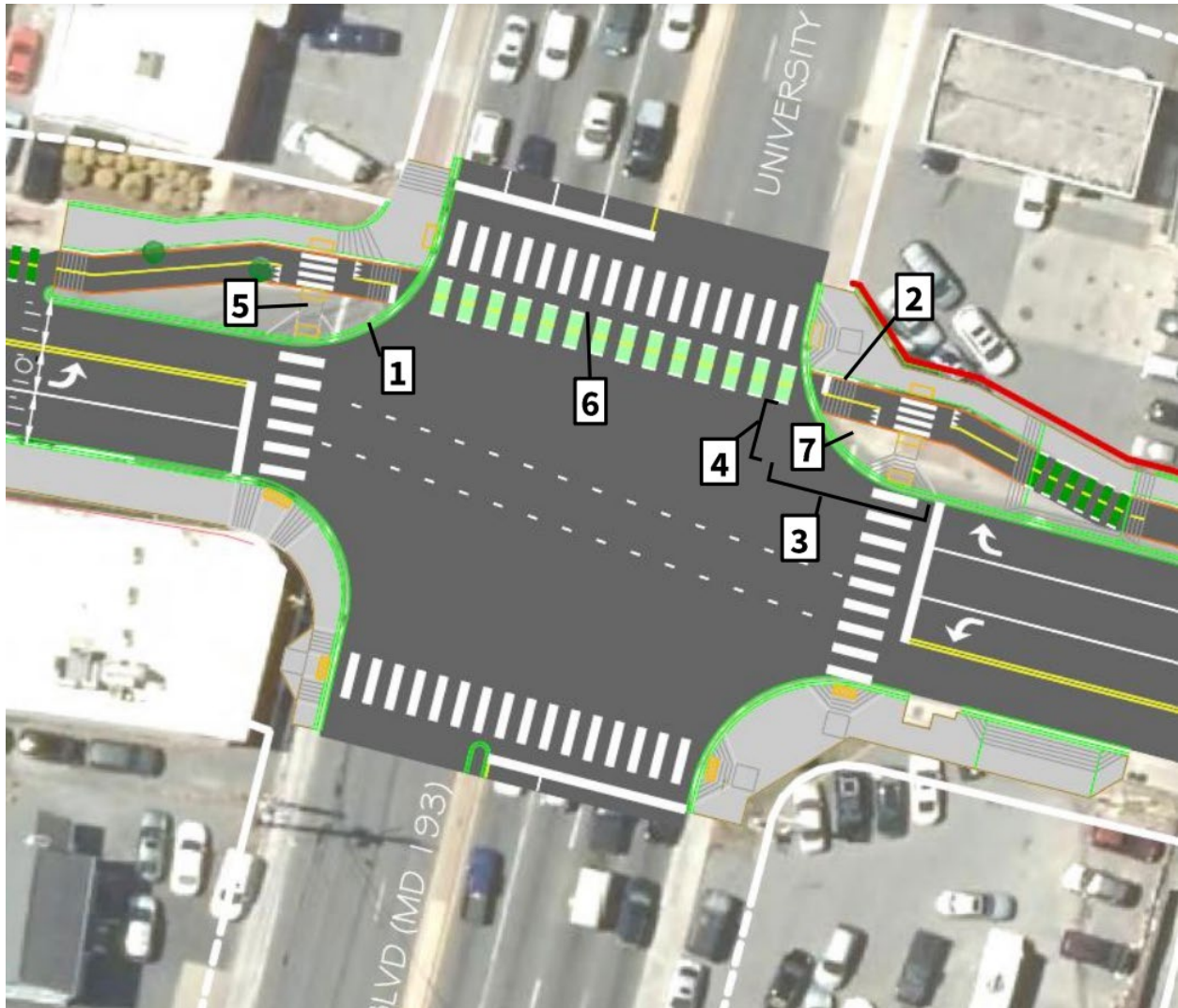
**Recommendation: Ensure all intersections comply with Montgomery Planning’s Protected Intersection Checklist to the extent applicable.**

It is a best practice when designing sidepaths and separated bike lanes to use protected intersection treatments at applicable intersections to ensure bicyclists and pedestrians using these facilities can safely cross. These treatments should be applied at intersections in the project area. High-quality

protected intersection design includes the following elements shown in Figure 16 and discussed in detail in Montgomery Planning's Protected Intersection Checklist, which was developed in collaboration with MCDOT (Attachment D):

- 1) A *Corner Island* to physically separate the bikeway up to the intersection crossing point where potential conflicts with turning motor vehicles can be more easily controlled.
- 2) *Bicycle Queuing Space* to provide a waiting area for stopped bicyclists that is fully within the view of motorists waiting at the stop bar.
- 3) The *Clear Distance* maintains the necessary sight lines between motorists, bicyclists, and pedestrians to stop (or yield) as appropriate.
- 4) The *Motorist Yield Zone* is the space for turning motorists to yield to bicyclists and pedestrians. Research shows safety benefits at locations where bicycle crossings are offset from the motorist travelway at a distance of between 6 feet and 16.5 feet. This offset:
  - a. improves a motorist's view of approaching bicyclists and pedestrians by reducing the need for motorists to scan behind them,
  - b. creates space for a motorist to yield to bicyclists and pedestrians without blocking traffic approaching from the rear (for right turns) or the side (for left turns across two-way streets), and
  - c. provides more time for all users to react to each other and negotiate the crossing.
- 5) A *Pedestrian Refuge* is a space within the street buffer where pedestrians can wait between the bikeway and general-purpose travel lanes. This is not necessary for protected intersections for sidepaths.
- 6) *Crossings and Markings* increase visibility of crossing bicyclists and pedestrians and clarify where pedestrians and bicyclists should cross the street.
- 7) *Signalization* is an approach to separate bicyclists/pedestrians and motor vehicles in time either by providing a bicycle-only signal (if appropriate) or allowing bicyclists to cross the street using the pedestrian signal. Providing bicyclists separate signal phases from motorists can reduce conflict between these modes.

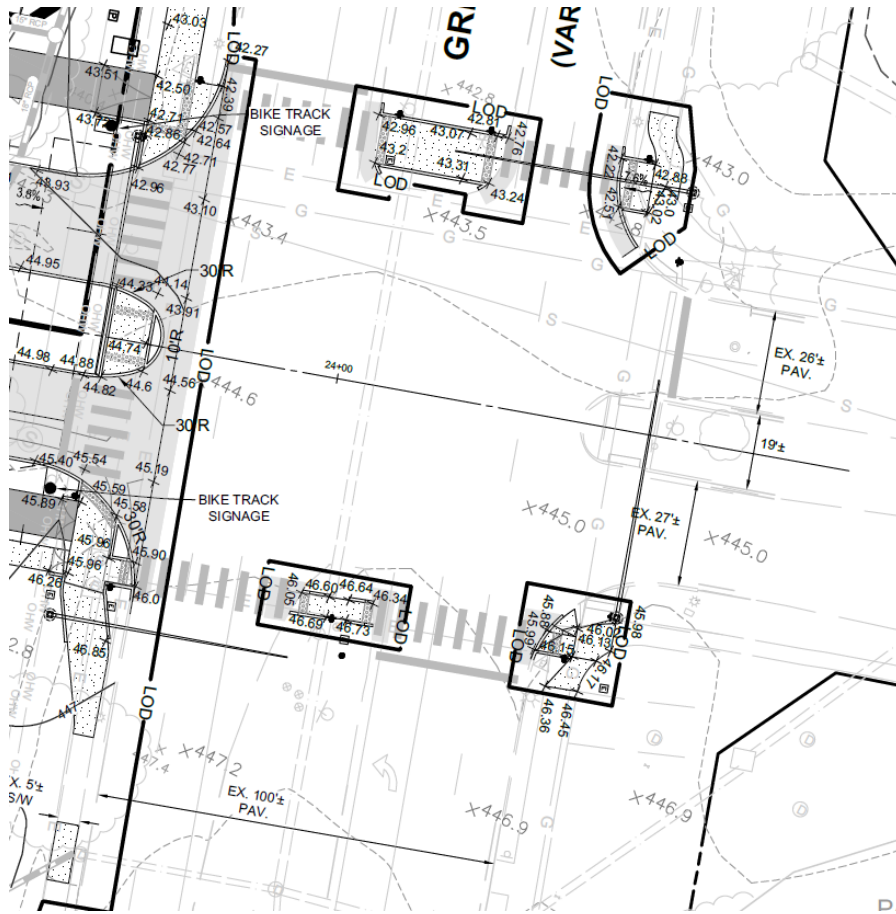
Figure 16: A proposed protected intersection included in the Amherst Avenue Separated Bike Lane project



**Recommendation: Ensure the project’s Great Seneca Highway terminus appropriately transitions to the segment of the LSC Loop Trail currently under construction as part of the Elms at PSTA project.**

The Elms at PSTA project is currently under construction, and as previously discussed, the LSC Loop Trail continues through that site west of Great Seneca Highway. The proposed project should ensure a smooth transition across Great Seneca Highway between the two segments. Based on a review of the Elms at PSTA Certified Site Plan (Attachment E)(Figure 17), there are currently discrepancies with ramp design and location that should be resolved as this plan moves toward 100% design.

Figure 17: Great Seneca Highway at Medical Center Drive from Elms at PSTA Certified Site Plan



**Recommendation: Coordinate with City of Gaithersburg and Montgomery County Public Schools on appropriate transitions between the proposed sidepath and the Crown High School project.**

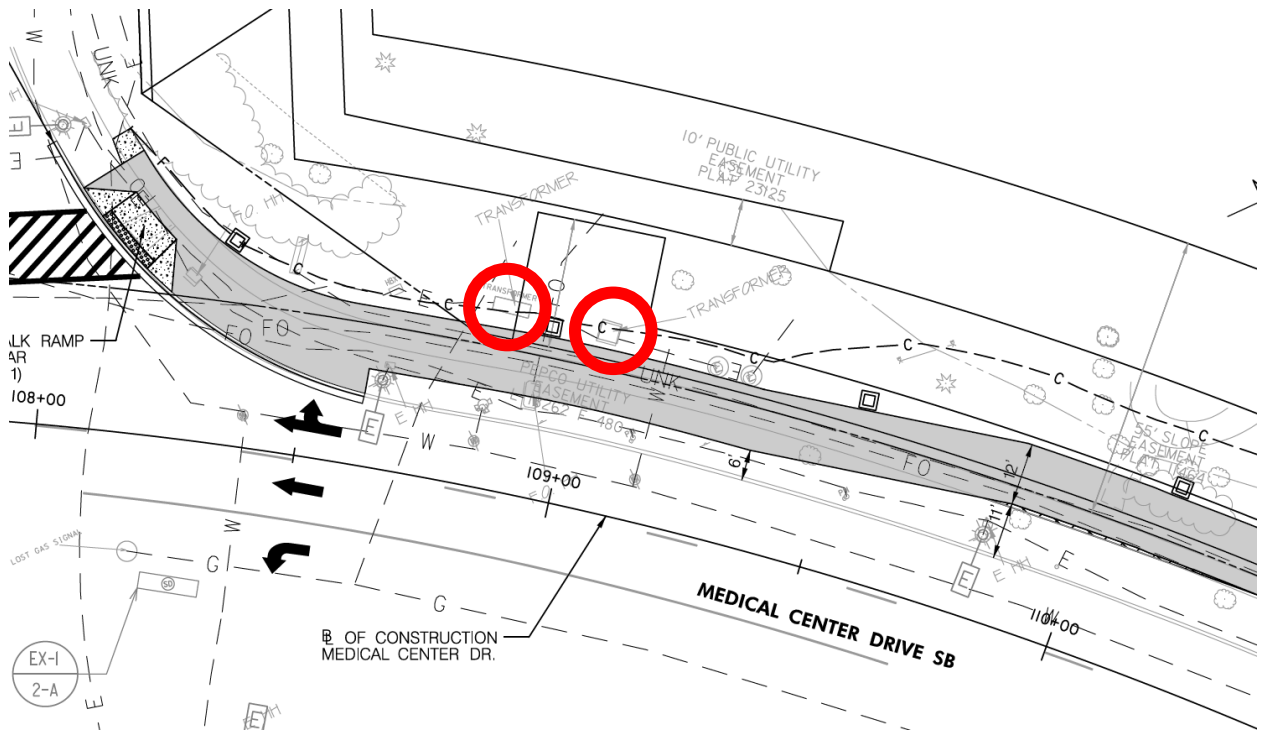
As discussed, one segment of the planned LSC Loop Trail is along the frontage of the future Crown High School in Gaithersburg. As design for both projects advances, the project teams should coordinate to ensure a connection can be feasibly made between both sidepaths.

**Recommendation: Relocate transformers at Station 109+00 to continue the 11-foot-wide street buffer.**

From Station 108+00 to Station 110+00, the buffer between the sidepath and the roadway narrows to 6 feet from 11 feet. The project team should consider working to relocate the transformers (highlighted in red in Figure 18) in that section to maintain a consistent 11-foot buffer. This change would also likely allow the sidepath to intersect with Broschart Avenue in a way that improves visibility for all road users by setting the path further away from Medical Center Drive traffic.



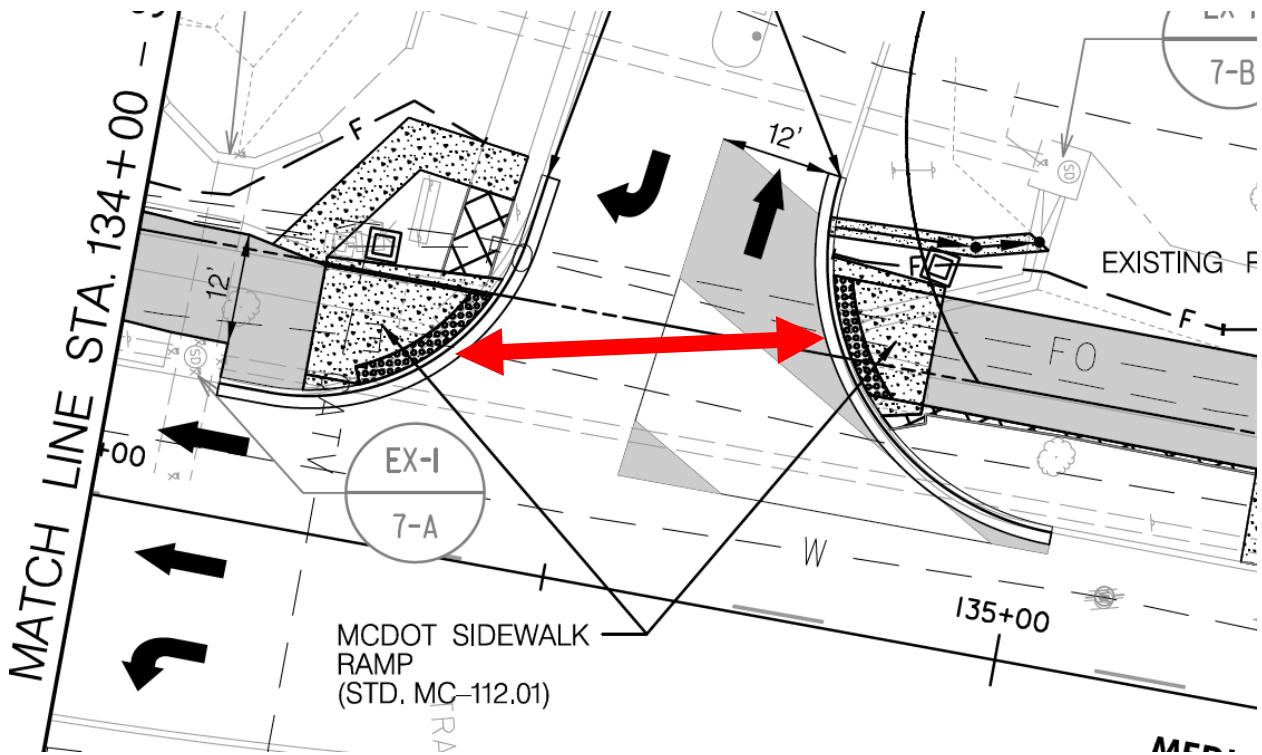
Figure 18: Six-Foot Buffer with Transformers Identified



**Recommendation: Widen street buffer at Station 134+00 to eleven feet to better align the adjacent driveway crossing.**

The project team should consider widening the street buffer to 11' to allow the path to travel directly across the commercial driveway, though this may be challenging given that there are stormwater facilities and utilities in this location. The current design (Figure 19) includes a jog across the driveway and an unintuitive and circuitous sidewalk connection.

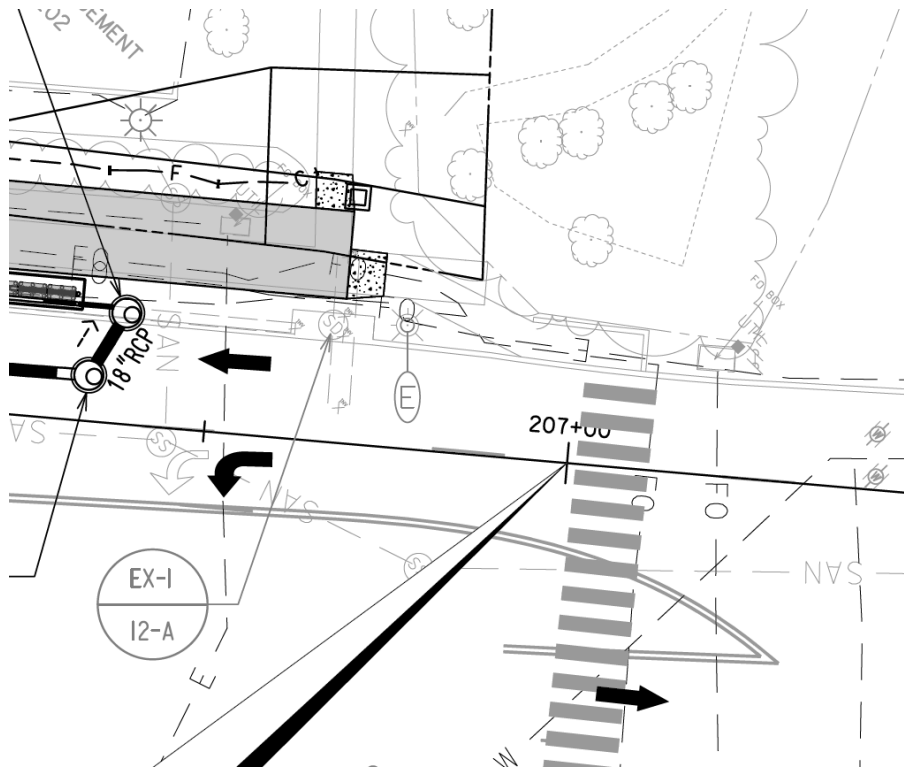
Figure 19: Misaligned Driveway Crossing



**Recommendation: Consider extending the sidepath from 206+75 to 207+00.**

As shown in Figure 20, the sidepath stops about 35 feet south of a marked crosswalk at Research Boulevard and transitions to an existing sidewalk. The sidepath should be extended to the marked crosswalk so the narrow sidewalk doesn't become a potentially dangerous pinch point for pedestrians and bicyclists using the LSC Loop Trail.

Figure 20: Eastern Project Terminus



## Mandatory Referral Environment Analysis

### FOREST CONSERVATION

The Application meets the requirements of Chapter 22A of the Montgomery County Forest Conservation Law. The Application is exempt from submitting a forest conservation plan. A forest conservation exemption (No. 42023109E) was confirmed under the provisions of Section 22A-5(e) as “a State, County, or municipal highway construction activity that is subject to... Section 22A-9 (of the Forest Conservation Law.)” M-NCPPC Staff confirmed the exemption in a letter dated October 2, 2023. The exemption includes a required Tree Save Plan. Because the LSC Loop Trail plans under review are only at the 35% design stage, the Tree Save Plan is preliminary. MCDOT will submit a Final Tree Save Plan to Montgomery Planning staff for review and approval during the final (100%) design phase of the project. A final Tree Save Plan must be submitted and approved by Planning staff prior to clearing, grading, or demolition for each phase of construction.

While the project is exempt, the Applicant is still required under Section 22A-9 of the County Code to:

- a. Minimize forest cutting, clearing, and loss of specimen trees to the extent possible while balancing other design, construction, and environmental standards. The constructing

entity must make a reasonable effort to minimize the cutting and clearing of trees and other woody plants.

- b. If the forest to be cut or cleared for a County highway project equals or exceeds 20,000 square feet, the constructing entity must reforest a suitable area at the rate of one acre of reforestation for each acre of forest cleared.
- c. Mitigation for the loss of specimen or champion trees will be required. Mitigation amounts are based on the size and character of the tree.

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## ENVIRONMENTAL GUIDELINES

Natural Resources Inventory/Forest Stand Delineation (NRI/FSD No. 420221350) was approved by M-NCPPC Staff on February 7, 2022. The NRI/FSD reported that no 100-year floodplains, hydraulically-adjacent steep slopes, wetlands or wetland buffers are within the Limits of Disturbance (LOD) for this project. There are no records of Rare, Threatened, or Endangered species occurring within the LSC Loop Trail study area.

Portions of the LSC Loop Trail drain either to the Muddy Branch or to the Watts Branch watershed. All of the watersheds draining the LSC Loop Trail are classified as Maryland State Use Class I-P watersheds.

The LOD does impact approximately 3,372 square feet of stream buffer at the northernmost end of the project near Omega Drive. This area of stream buffer lies outside of the Piney Branch SPA, draining instead to the Muddy Branch watershed. Impacts to the stream buffer are unavoidable due to the master-planned alignment that runs along the west side of Omega Drive and the minimum design criteria necessary for the intended function of this facility as a shared-use trail. Stream valley buffer impacts have been minimized to the extent possible, and the project is in conformance with the Planning Department's *Environmental Guidelines*.

## Historic Preservation

No applicable comments.

## Parks Department

No applicable comments.

## SECTION 6 - SPA WATER QUALITY PLAN ANALYSIS AND FINDINGS

The Application meets the Water Quality Plan requirements of Chapter 19 of the Montgomery County Code for the Piney Branch Special Protection Area (SPA).



## REVIEW FOR CONFORMANCE TO THE SPECIAL PROTECTION AREA REQUIREMENTS

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A portion of this project is located within the headwaters of the Piney Branch watershed. The Piney Branch watershed is a sub-watershed of the Watts Branch. The Montgomery County Council designated the Piney Branch watershed a Special Protection Area (SPA) in 1995. Development projects within the Piney Branch SPA are required to obtain approval of a water quality plan under Article V of Chapter 19 of the Montgomery County Code. The requirements for preparing and submitting Preliminary and Final Water Quality Plans are detailed in that Article.

As part of the requirements of the Special Protection Area law, a SPA Water Quality Plan should be reviewed in conjunction with a Mandatory Referral. Under Section 19-65 of the law, the Montgomery County Department of Permitting Services (MCDPS) and the Planning Board have different responsibilities in the review of a Water Quality Plan. MCDPS has reviewed and conditionally approved the elements of the Water Quality Plan under its purview. The Planning Board's responsibility is to determine if requirements for environmental buffer protection, SPA forest conservation and planting, and minimization of impervious surfaces have been satisfied.

### **MCDPS Special Protection Area Review Elements**

In a letter dated December 28, 2022, MCDPS found that the elements of the SPA Preliminary/Final Water Quality Plan under its purview were acceptable (Attachment F).

#### Site Performance Goals

As part of the Preliminary/Final Water Quality Plan, the following performance goals were established for the project:

- 1) Minimize imperviousness
- 2) Minimize sediment
- 3) Minimize runoff increases

#### Stormwater Management

Stormwater management goals for the project will be met with a combination of Silva Cells and Jellyfish filter (pretreatment and membrane filtration system).

#### Sediment Control

An engineered sediment control plan must be submitted for this project prior to permitting.

#### BMP Monitoring

This project will be required to pay both a stream monitoring fee and a BMP monitoring fee.

### **Planning Board Special Protection Area Review Elements**

Staff recommends that the Planning Board approve the following elements of the SPA Water Quality Plan under its purview with the bolded conditions:

#### Forest Conservation

**Condition of Approval: A final Tree Save Plan must be submitted and approved by Planning staff prior to clearing, grading, or demolition for each phase of construction.**

**Condition of Approval: Applicant shall provide tree protection measures and mitigation for priority trees removed according to the approved Tree Save Plan and at the direction of the Forest Conservation Inspector.**

Forest Conservation Exemption No. 42023109E was confirmed by Staff on October 2, 2023. The exemption submission included a preliminary Tree Save Plan as required.

#### Environmental Buffer Protection

Section IV.A.1.b of the Planning Department’s *Environmental Guidelines* notes that “No buildings, structures, impervious surfaces, or activities requiring clearing or grading will be permitted in stream buffers, except for infrastructure uses, bikeways and trails found to be necessary, unavoidable, and minimized by the Planning Department and Department of Parks environmental staff working closely with the utility or lead agency.” Construction of the LSC Loop Trail is required by the approved and adopted *Great Seneca Science Corridor Master Plan (2010)* to provide non-motorized alternatives to travel within the Life Science Center and link the five LSC districts together. The general alignment of the trail and its design have been established by the GSSC Master Plan and the *LSC Loop Trail Design Guidelines (2015)*. Due to its status as a required element of the GSSC Master Plan, staff determined that construction of the LSC Loop Trail is necessary and unavoidable. Planning Department environmental staff have worked closely with MCDOT to design the trail in a way that minimizes impacts to the stream buffer and to the Piney Branch SPA. Staff recommends that the Planning Board find that the LSC Loop Trail plans submitted in this Mandatory Referral review are in conformance with the *Environmental Guidelines*.

#### Impervious Surfaces

**Condition of Approval: The impervious surfaces are limited to the areas shown on the Preliminary/Final Water Quality Plan. Impervious surfaces should be limited to no more than what is shown on the plan.**

**Condition of Approval: The graphic showing the impervious surface changes must be included in the Preliminary/Final Water Quality Plan submitted for certification and signature.**

The Piney Branch Special Protection Area (SPA) intersects briefly with the LSC Loop Trail alignment in a portion of the southern loop of the trail along Medical Center Drive. The LSC Loop Trail proposes to add approximately 0.26 acres of new impervious surface within the Piney Branch SPA.

The Piney Branch SPA does not include a specific impervious limit on land development projects. In SPAs without a cap on imperviousness, developments are required to demonstrate that imperviousness has been minimized. Montgomery County Executive Regulation 29-95, Regulations for Water Quality Review-Special Protection Areas, require that the Final Water Quality Plan must include a plan that describes how the proposed development minimizes impervious areas and, if applicable, meets any required imperviousness limits.

As noted earlier, construction of the LSC Loop Trail is required by the Great Seneca Science Corridor Master Plan, and its alignment through the Piney Branch SPA, as well as its design, have been established in the Master Plan and by the *LSC Loop Trail Design Guidelines*. Although the total impervious area of the trail within the Piney Branch SPA is approximately 0.40 acres, the trail will replace an existing impervious sidewalk area, so the actual new impervious area is limited to 0.26 acres (see Attachment G). Given that the Piney Branch SPA covers 2,369 acres, the total impervious area being added by this project is approximately .0001 percent of the total SPA area. Planning staff believes the Applicant has minimized to total amount of impervious surface while maintaining the public purpose.

While the Planning Department does not approve the stormwater management (SWM) plan for this project, staff notes that the SWM treatment will be provided through the use of Silva Cells and membrane filters. This approach should provide a high level of water quality treatment for runoff from the trail.

## SECTION 7 – COMMUNITY OUTREACH

After staff accepted the Mandatory Referral for review, Montgomery Planning notified local civic and homeowners' associations and other interested parties of this proposal. As of the date of this report, Planning staff have received no comments on this project from the public.

As part of the planning and design for this project, Planning staff held a workshop as part of the Bicycle Master Plan process on December 15, 2015, and MCDOT staff held a workshop on February 27, 2018.

## SECTION 8 – CONCLUSION

Staff recommends transmittal of comments to the Montgomery County Department of Transportation.

Staff recommends the Planning Board approve the Preliminary/Final Water Quality Plan with conditions specified above.

## SECTION 9 – ATTACHMENTS

Attachment A: Corridor Engineering Drawings

Attachment B: Resolution 21-118 for the Adventist HealthCare Shady Grove Medical Center Site Plan Amendment

Attachment C: MCDOT Site Plan Amendment Letter

Attachment D: Protected Intersection Checklist

Attachment E: Elms at PSTA Certified Site Plan

Attachment F: MCDPS SPA Approval Letter

Attachment G: SPA Impervious Plan Exhibit