



**MONTGOMERY COUNTY DEPARTMENT OF PARKS**  
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

**MCPB**

Item: #5

Date: 6/27/2013

June 20, 2013

**MEMORANDUM**

**TO:** Montgomery County Planning Board  
*John Maslak, Deputy Director of Operations*

**VIA:** Mary R. Bradford, Director of Parks  
Michael F. Riley, Deputy Director of Parks  
Mitra Pedoeem, Chief, Park Development Division *Mit*

**FROM:** Marian Elsasser, Project Manager, Park Development Division (301-495-3597) *MSE*  
Patricia McManus, Section Supervisor, Park Development Division *pm*

**SUBJECT:** Facility Plan for North Branch Hiker-Biker Trail

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**STAFF RECOMMENDATION:** APPROVE the Recommended Facility Plan, including the cost estimate, with the following conditions:

- 1) Obtain approval of the Preliminary Forest Conservation Plan. The Preliminary Forest Conservation Plan is currently under review and will be presented to the Planning Board by Planning staff in Fall 2013.
- 2) Obtain approval of the Water Quality Plan to be presented to the Montgomery County Planning Board with the Preliminary Forest Conservation Plan.

Note: The facility plan is presented at this time, in order to meet the schedule for inclusion of this project in the FY15-20 Department of Parks Capital Improvements Program.

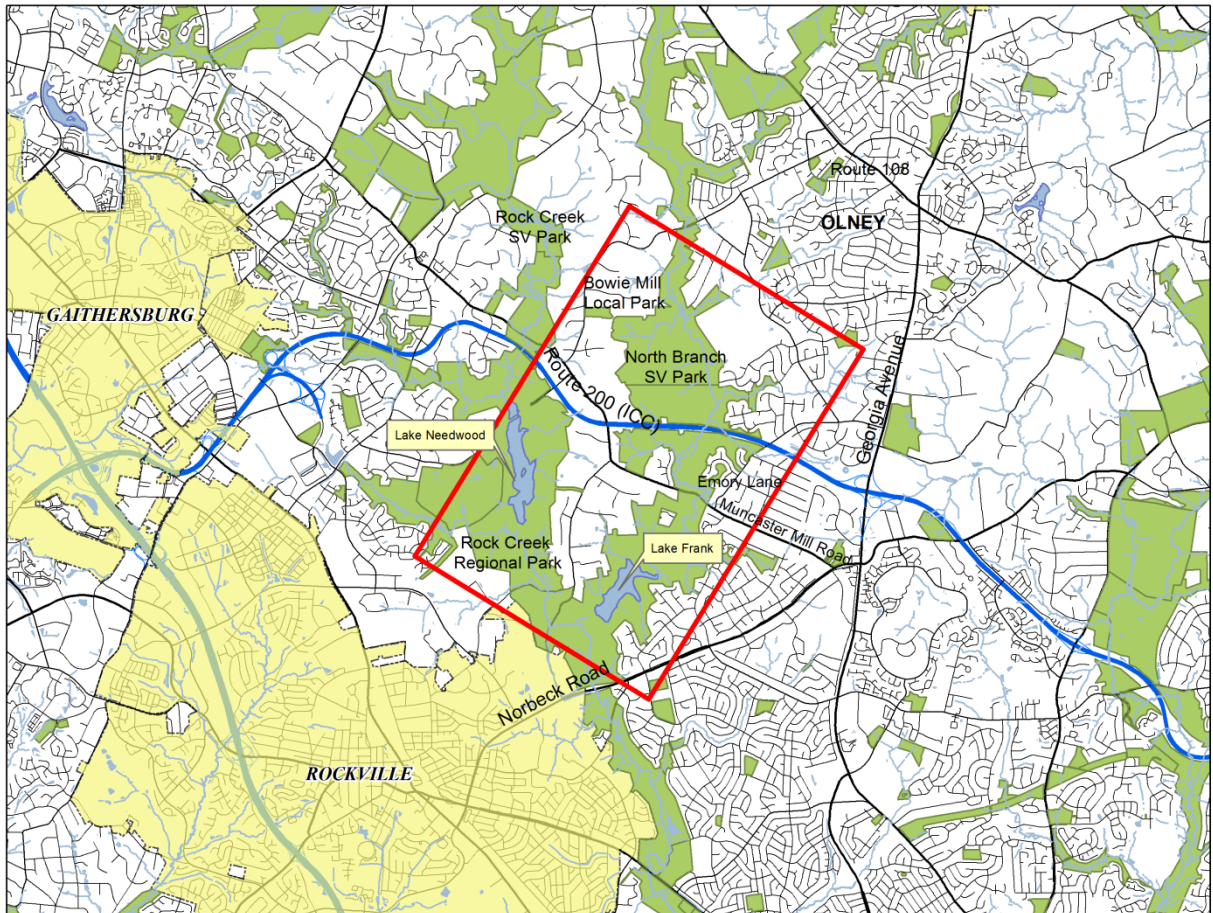
**PROJECT DESCRIPTION**

**Introduction**

The North Branch Trail is located within both the Rock Creek Regional Park and the North Branch Stream Valley Park Unit 4 and is approximately 2.2 miles in length, including connector trails. This trail is one segment of a continuous regional park trail system that would extend from the District of Columbia northward to Olney. The hiker-biker trail system through Lake Frank and the North Branch of Rock Creek has been recommended in multiple master plans for many years, including the 1978 Master Plan of Bikeways, the 2005 Olney Master Plan, the 2004 Upper Rock Creek Area Master Plan, the 2008 Countywide Park Trails Plan, the 2000 Rock Creek Regional Park Master Plan and the 2008 Upper Rock Creek Trail Corridor Plan.

The south end of the proposed trail will connect to the existing Lakeside Trail located on the east side of Lake Frank within Rock Creek Regional Park and will include the removal of an existing road and parking lots. The trail will continue north to connect with Muncaster Mill Road and cross at the Emory Lane intersection. The trail will then utilize the Emory Lane Bikeway and the Inter-County Connector (ICC) Bikeway (MD 200) to the ICC bridge over the North Branch of Rock Creek. Just west of the ICC bridge, the proposed trail will go under the ICC bridge and connect to a future hard surface trail which will be constructed by the developer of the Preserve at Rock Creek and will be dedicated with parkland to the Department of Parks. The developer-built trail will terminate at Bowie Mill Local Park and is part of the approved site plan for the development.

Vicinity Map and Study Area



## Project Funding

The facility planning study was funded with \$360,000 from the Fiscal Year 2011 Capital Improvements Program (CIP) in the Hard Surface Trail Design and Construction Project. Facility planning represents thirty percent complete construction documents, including a proposed design, cost estimate and determination of regulatory feasibility. A consulting team led by Greenman-Pedersen, Inc. was hired in June 2011 to prepare the facility plan. This team is currently under contract for a second phase of work for final design and construction documents (for an additional fee of \$125,375). This work would be initiated if the project is approved by the Planning Board. The consulting contract was set up in two phases to be able to continue with final design, in order to expedite the project and the eventual removal of the

parking lot and road paving on the east side of Lake Frank. This was a major concern of the Manor Lake Civic Association in 2010 when the mandatory referral for the Lake Frank Trail Connector was approved in 2010 (and was subsequently constructed by the Maryland State Highway Administration as an ICC stewardship project.) If approved by the Planning Board, the North Branch Trail project would be proposed for construction in the Fiscal Year 2015-2020 Capital Improvements Program (CIP), and the schedule for construction would be determined during review of the CIP.

### **Facility Planning Process**

The facility planning process includes the following sequence of work:

1. Collect data, prepare site survey, and perform geotechnical investigations.
2. Analyze existing site conditions.
3. Prepare and obtain approval of Natural Resources Inventory/Forest Stand Delineation Summary Map.
4. Develop trail alignment.
5. Meet with the community to discuss trail alignment and connections.
6. Finalize the trail alignment.
7. Prepare water quality plan and obtain approval from the Department of Permitting Services and the Montgomery County Planning Board.
8. Prepare preliminary forest conservation plan submission.
9. Coordinate any outstanding issues with stakeholder groups and regulatory agencies.
10. Prepare facility plan report, cost estimate, and operating budget estimates.
11. Present facility plan recommendations and costs to the Montgomery County Planning Board for approval.
12. If approved, submit project in FY15-20 Capital Improvements Program for approval by the Montgomery County Council to fund construction.

### **MASTER PLAN RECOMMENDATIONS**

The proposed trail is consistent with planning document recommendations that have been in place for many years, and the project will implement specific recommendations for the trail alignment from recent plans. Approved and adopted master plans envision a continuous regional hiker-biker trail from the Rock Creek Trail to Olney, aligned along the east side of Lake Frank and northwards to Olney through the North Branch stream valley. These master plans also recommend a loop bikeway connection along Muncaster Mill Road and the ICC that will connect the Rock Creek Trail Corridor at Lake Needwood with the North Branch (Lake Frank) Trail Corridor. Plan recommendations for this project fall within three master planning areas: Upper Rock Creek, Olney, and Aspen Hill. The most applicable recommendations for this project from approved master plans are cited below.

#### **Countywide Bikeways Functional Master Plan, Approved and Adopted March 2005**

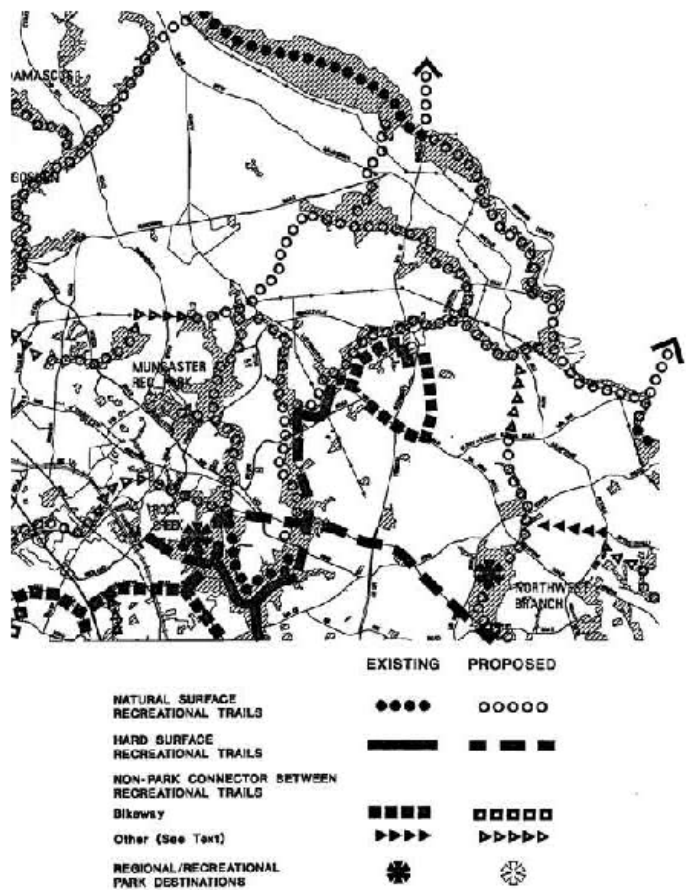
The Countywide Bikeways Functional Master Plan references the Countywide Park Trails Plan on page 27 as the guiding document for trails within the park system. On pages 39 and 54, the recommendations include Route BL-35 for future bike lanes on Muncaster Mill Road, as well as Route SP-32 for a shared use path on Emory Lane. These routes would be completed as part of future roadway improvements. The plan also references Route SP-40, which is the ICC bike

path. The Muncaster Mill and ICC routes would create a loop trail connection between the hard surface trails at Lake Needwood and Lake Frank, and the Emory Lane path provides part of the bike trail connection from Lake Frank northward to the ICC bikeway and Olney to avoid environmentally sensitive areas of the North Branch.

**Countywide Park Trails Plan, Amended September 2008**

The Countywide Park Trails Plan includes the following plan objective on page 31 for the Rock Creek Trail Corridor: *“Expand the trail system in Rock Creek Regional Park northward to Olney and the Patuxent River.”* The plan makes the following additional recommendation: *“Recommend a hard surface trail connection from Rock Creek Regional Park to Olney. Figure 11 on page 32 illustrates the hard surface trail corridor through the North Branch connecting to the existing hard surface trails on the east side of Lake Frank.”*

Figure 11 - Corridor 5: Rock Creek Corridor



**Olney Master Plan, Approved and Adopted April 2005**

The Olney Master Plan includes recommendations for the hard surface hiker-biker trail in the North Branch stream valley, which will connect to the hiker-biker trail in Rock Creek Regional Park at Lake Frank. The following recommendations for park trails are included on page 123 of the master plan:

1. Ensure connection of North Branch trail to the ICC.
2. Minimize impacts to the sensitive biodiversity areas in the North Branch of Rock Creek by routing the proposed hard surface trail in that area at the narrowest point to the proposed bike path along Emory Lane.
3. Provide safe crossing of Muncaster Mill Road (traffic light preferred) from the Emory Lane bike path to a bike path on the south side of Muncaster Mill Road for access to Rock Creek Regional Park.

**Upper Rock Creek Area Master Plan, Approved and Adopted April 2004**

The Upper Rock Creek Area Master Plan includes the following recommendations on page 86 addressing connectivity to the hiker-biker trails in the Rock Creek Trail Corridor:

*“Muncaster Mill Road and Emory Lane: the Rock Creek Trail Corridor identified in the Countywide Park Trails Plan traverses both the Upper Rock Creek and the*

*Olney Planning Areas. The Olney Master Plan will recommend a Class I bikeway along Emory Road near its intersection with Muncaster Mill Road. This bikeway should accommodate users of the North Branch trail corridors. If it cannot, land at the intersection may need to be acquired for a park trail in this area.”*

*“When new development occurs in the Planning Area, a major concern should be how residents will access parkland without using their automobiles. This can be accomplished by providing sidewalks, bike paths or trails from new subdivisions to parks. This is especially important in the Rock Creek Planning Area because of the extensive amount of parkland in the area and the many opportunities to enjoy trails in both Rock Creek and the North Branch. Providing connections to these park systems will be a major concern in the review of private development.”*

### **Rock Creek Regional Park Master Plan, Approved October 2000**

The Rock Creek Regional Park Master Plan includes the following recommendations for bikeways on pages 26 and 27 that describe the proposed trail east of Lake Frank and the loop connection to the Rock Creek Trail at Lake Needwood:

*“Rock Creek North Loop – Rock Creek Park from Lake Needwood north to Md. 108, then south to Lake Norbeck (Class I). .... Extend the Rock Creek trail up the east side of Lake Frank, along existing pavement and unpaved trail corridors, to the Muncaster Mill Road crossing and up the North Branch stream valley.”*

*“Muncaster Mill Road – between Redland Road and Maryland Rte. 28 (Class I). ..... It will also provide a critical northern connection from Lake Needwood to Lake Frank on the north side which is essential to forming a continuous loop in the regional park trail system....”*

Recommendations for trails and greenways are outlined on pages 80 and 81 as follows:

*“The Master Plan recommends a general expansion of the hard surface recreational trail system. The major components of this expansion include: ....The east side of Lake Frank with a possible connector over to the Meadowside Nature Center. .... Creation of a loop from Lake Needwood to Lake Frank via the proposed Muncaster Mill Road and Needwood Road bikeway connectors to the north; and a recreational trail connector south of the two lakes; which in turn will connect to over 14 miles of existing Rock Creek trail heading southward; and creation of a trail extension above Lake Frank to Muncaster Mill Road and beyond.”*

Figure III-10 on page 79 illustrates the proposed hard surface trail on the east side of Lake Frank along the alignment of the existing parking lots and along the alignment of the existing natural surface trail north of the parking lots. It also shows a separate natural surface trail on the east side of Lake Frank and two pedestrian entrances to the park from the neighborhoods east of Lake Frank. Existing trails are shown in thin solid lines and proposed trails are shown in dashed lines. Hard surface trails are shown in blue and natural surface trails are shown in red.

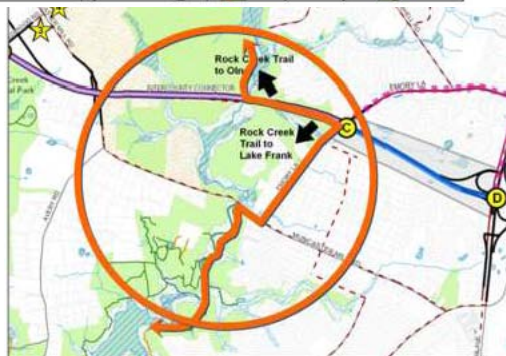
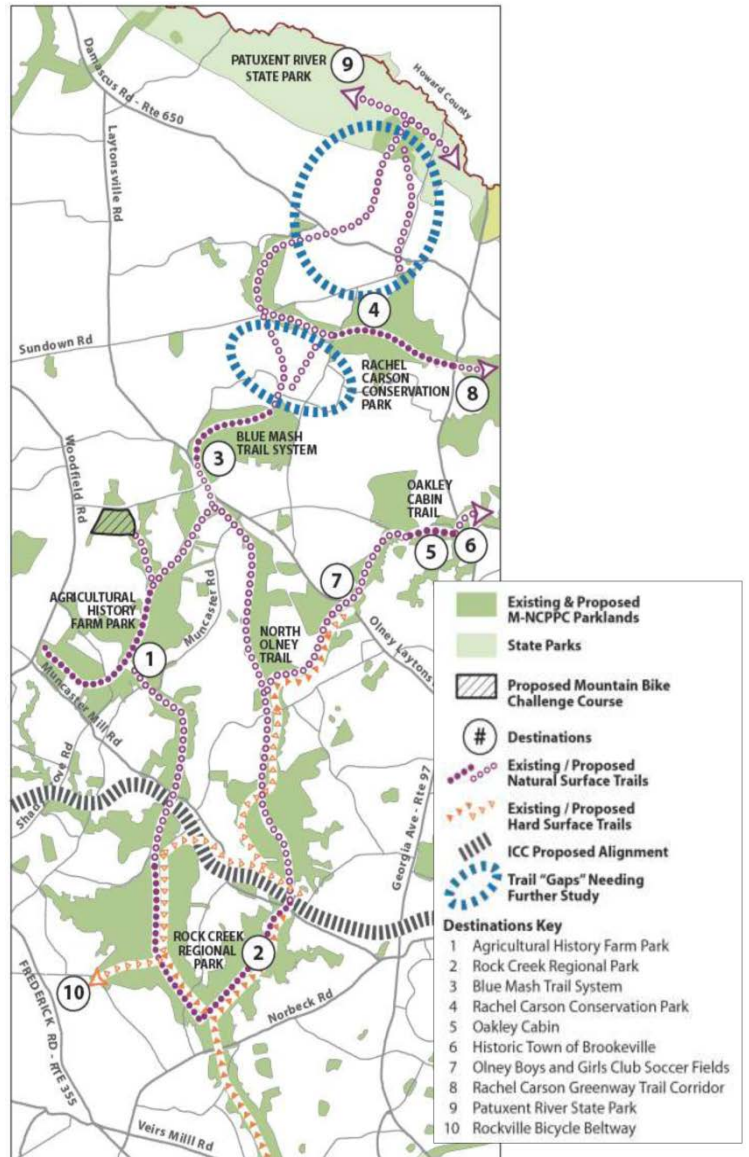
## Upper Rock Creek Trail Corridor Plan, Approved September 2008

The alignment for this trail is identified in the Upper Rock Creek Trail Corridor Plan. On page 3 the stated plan objective for the corridor is to “expand the trail system in Rock Creek Regional Park northward to Olney and the Patuxent River.” Overall plan concepts are identified, including the following starting on page 11:

*“Recommends a hard surface trail connection from Rock Creek Regional Park to Olney. This connection, shown in Figure 7, has been part of the Olney Master plan since 1980 and was reconfirmed in the Countywide Park Trails Plan.”*

The trail connection to the ICC bikeway is described on page 19:

*“Assure the alignment and design of the InterCounty Connector (ICC) is supportive of the trail plan. .... The ICC will have a bike path along the northern part of the right of way as it crosses two portions of the park. The challenge is providing access to and from this bike path to Rock Creek Regional Park. Along the North Branch of Rock Creek, shown in Figure 15, the bike path along the ICC will provide an alternative to locating a hard surface trail in a sensitive biodiversity area. A combination of bike paths along the ICC, along Emory Lane and along a small section of Muncaster Road will provide a continuous trail network for those seeking a hard surface trail.”*



## EXISTING SITE CONDITIONS

The southern terminus of the proposed trail within Rock Creek Regional Park would begin at an existing parking lot on the east side of Lake Frank. An existing road travels next to the lake and ties the two parking lots together. There is an existing perpendicular access road connection to Trailway Drive and the surrounding neighborhood. The road and parking lots have been closed for public access since the 1980's and are designated as part of the Lakeside Trail system. An existing natural surface trail continues north of the parking lots through wooded areas along a sewer line access roadway. This trail continues to follow the east side of Lake Frank and the North Branch, crossing two small streams and terminating at Muncaster Mill Road. In some areas, mature forest exists on both sides of the existing trail, which is located on a level benched area along steep wooded slopes. In other areas, the existing trail is located next to the North Branch within the stream floodplain. There is also a natural surface trail that follows the west side of the North Branch and connects to the trail system at Meadowside Nature Center.



*Existing Parking Lot*



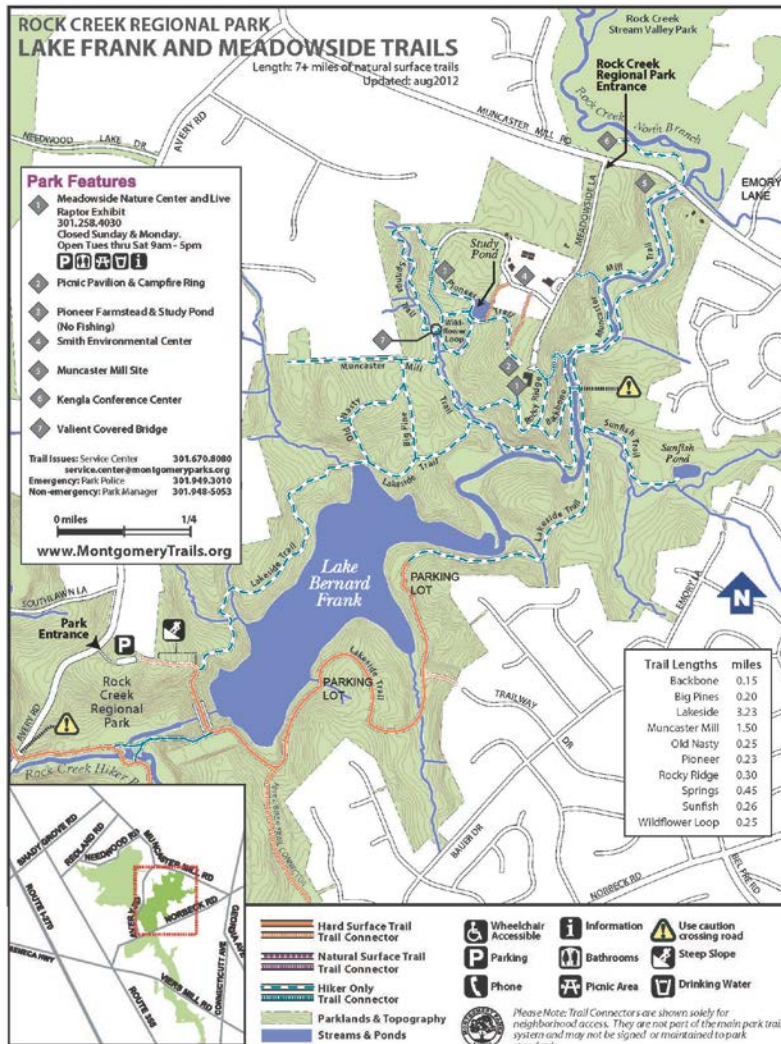
*Existing Road*



*Existing Natural Surface Trail*



*Stream Crossing Near North Branch*



*Existing Lake Frank Trail System*

Hydrological features of the park include Lake Bernard Frank and the North Branch of the Rock Creek. The North Branch stream valley north of Muncaster Mill Road is part of the Rock Creek Special Protection Area (SPA) and is also identified as a best natural area in the park system. This area includes forested areas, wetlands and includes habitat for several rare threatened and endangered plant species. The alignment of the Inter-County Connector (ICC) runs through this area, and has disturbed a corridor of land around it.

There is an existing separated bikeway on the south side of Muncaster Mill Road that begins at Meadowside Lane and extends west towards Avery Road and the ICC. A gap is located between Meadowside Lane and Emory Lane. In this location, steep slopes occur on the south side of Muncaster Mill Road, and there is a high roadway bridge over the North Branch. The roadway bridge is too narrow to accommodate a shoulder for safe pedestrian passage. The remnants of the historic Muncaster Mill are also located within this area of the park, south of Muncaster Mill Road and west of the North Branch, while the special protection area is located on the north side of the road, constraining development on park property on both sides of the road. The Department of Parks recently purchased a former house site near Emory Lane with



an entrance from Muncaster Mill Road. This open cleared site offers potential for use as a new trailhead and parking area.

Master plans recommend that the trail alignment avoid the SPA, travel a short distance on Muncaster Mill Road, and continue north along Emory Lane to the ICC bikeway. The traffic speed is high along Muncaster Mill Road and there is no traffic light at Emory Lane, which will make this a difficult pedestrian crossing. There is an existing off-road bike path on the east side of Emory Lane, north of Holly Ridge Road and connecting to the ICC bikeway. There is a gap in the trail from Holly Ridge Road south to Muncaster Mill Road. The Montgomery County Department of Transportation (DOT) plans to build this remaining section of bikeway. Because Muncaster Mill Road is a state highway, the Maryland State Highway Administration (MSHA) would need to approve improvements to road intersections and trails along any portion of Muncaster Mill Road.

The study area north of the ICC is also within the special protection area and the park best natural area. This section of the park had been previously farmed and is characterized by open grass and scrub habitats rather than mature forest. There are some large specimen trees and wetlands in this area that should be avoided.

## **PROGRAM OF REQUIREMENTS**

The following program of requirements was developed for the trail based on input received by the community, regulatory agencies, and staff:

- A trailhead with parking on Muncaster Mill Road;
- A ten foot wide asphalt trail aligned to minimize environmental impacts;
- Boardwalks and bridges to span sensitive areas;
- Vehicular access for maintenance and security patrols;
- Pedestrian and bike connections to Trailway Drive, the Smith Environmental Center and Meadowside Nature Center;
- Park and trail signage, including kiosks;
- Seating, bicycle racks, trash receptacles, and drinking fountain;
- Naturalized, attractive meadow and reforestation plantings;
- Stormwater management facilities as required;
- Trail design in compliance with M-NCPPC park design guidelines and standards, and other applicable design guidelines and standards for hiker-biker trails;
- Trail design in compliance with Crime Prevention Through Environmental Design (CPTED) guidelines; and
- Trail design in compliance with accessibility guidelines.

Other program elements to be coordinated with the Montgomery County Department of Transportation (DOT) and the Maryland State Highway Administration (SHA) includes a safe road crossing of Muncaster Mill Road, and completion of the Emory Lane bikeway from Muncaster Mill Road to Holly Ridge Road. This work needs to be done simultaneously in order to provide safe passage from the terminus of each project. DOT is planning to include the Emory Lane bikeway into the County's FY 15-20 CIP to coordinate the timing with the park project.

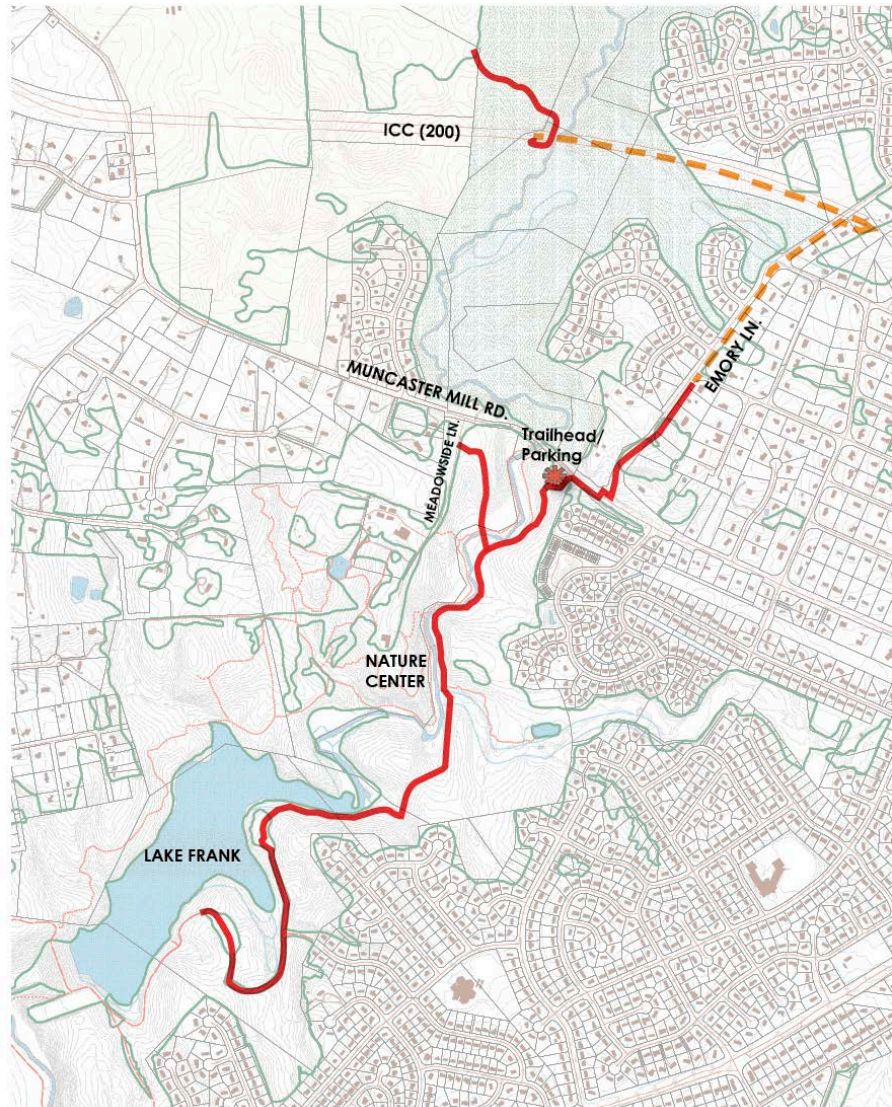
## FACILITY PLAN STUDY

### General Trail Alignment

Early in the design process, it became clear that the most feasible trail alignment from the southern parking lot at Lake Frank to Muncaster Mill Road would follow the existing network of paved roads, natural surface trails, and a Washington Suburban Sanitary Commission (WSSC) access roadway. There are few alternatives within this stretch due to adjacent steep slope conditions and the presence of mature forest and the stream.

Since the trail will connect to the Emory Lane Bikeway east of the park, the recommended main trail alignment is shown on the east side of the North Branch, in order not to require an additional bridge to cross the North Branch. In addition, there are several historic mill sites and a series of pedestrian-only nature trails associated with Meadowside Nature Center on the west side of the North Branch that would be disrupted by the presence of a paved hiker-biker trail.

The main trail deviates from the WSSC access road alignment near Muncaster Mill Road, where it heads east through an area of the park that is forested to connect to the former house site, where trailhead parking and amenities are proposed. This part of the



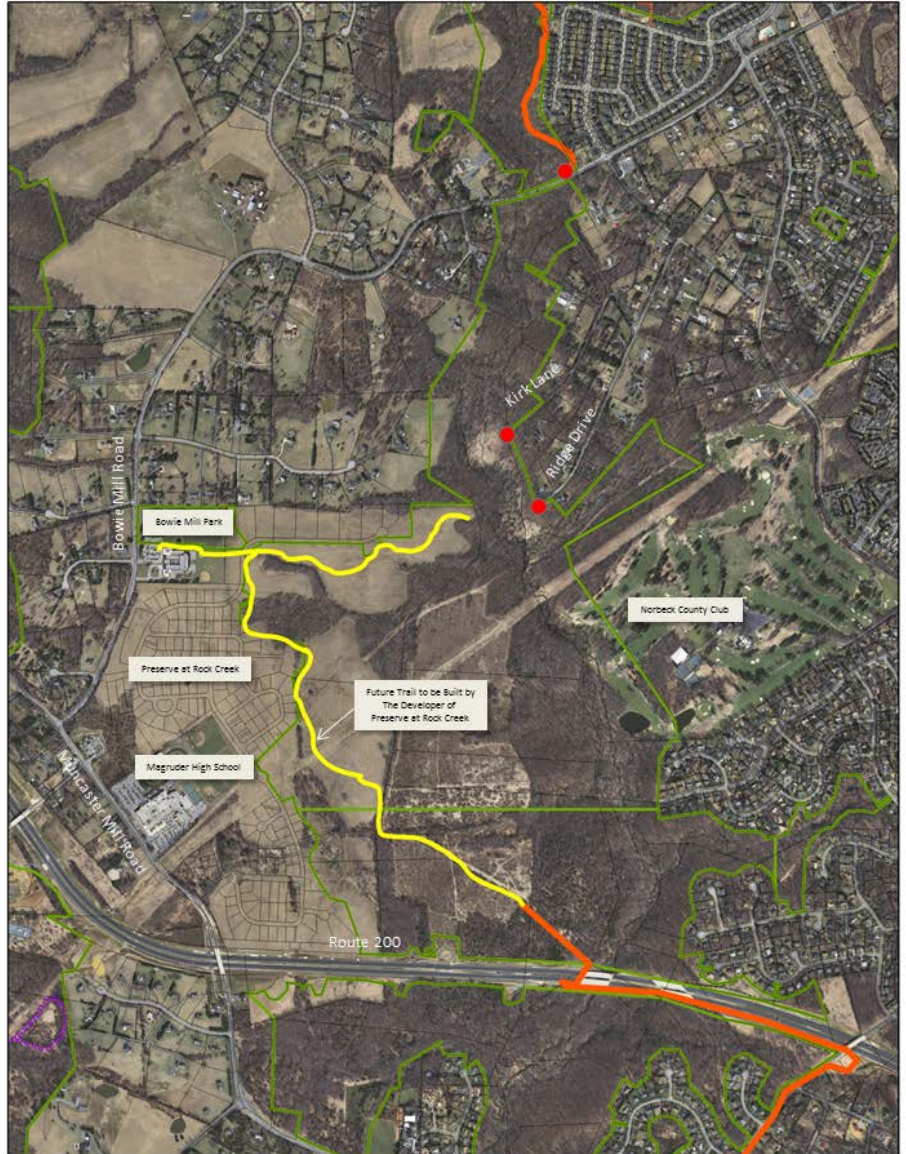
alignment is the only section of the trail that goes directly through the forest and will require some clearing. If the trail continued on the WSSC access road, it would require having the trail along Muncaster Mill Road to connect to the parking lot. As proposed, people accessing the trail at the parking lot would not have any exposure to roads as they travel to the south.

A short segment of trail is proposed along the south side of Muncaster Mill Road within the road right-of-way to connect the trailhead parking to the Emory Lane intersection. Traffic studies concluded that the traffic at this intersection does not meet the criteria to warrant a traffic signal,

however the Maryland State Highway Administration (SHA) has not completely ruled out a signal if a better alternative is not found. Staff has been working closely with the SHA on a concept to cross safely by modify the road and crossing. The bikeway on the east side of Emory Lane will be completed by the Montgomery County Department of Transportation.

The final trail segment between the ICC and the developer-built trail in the Preserve at Rock Creek Trail is located within the Rock Creek Special Protection Area. Three alignments were studied to bring the trail from the ICC down to the stream valley. Two looked at bringing the trail away from the highway but would require impact to a high quality forested wetland. The preferred alternative utilizes the filled, previously cleared space directly adjacent to the roadway and minimizes impacts to trees and wetlands. The trail will terminate at Bowie Mill Park on Bowie Mill Road and will connect to the park at the east end of the development. The alignment from the end of this trail further north is being studied as part of the Countywide Park Trails Plan Amendment.

To the south, the trail will connect to the Rock Creek Trail and the active area of Rock Creek Regional Park near Lake Needwood. It also continues further south to the District of Columbia line and Georgetown.



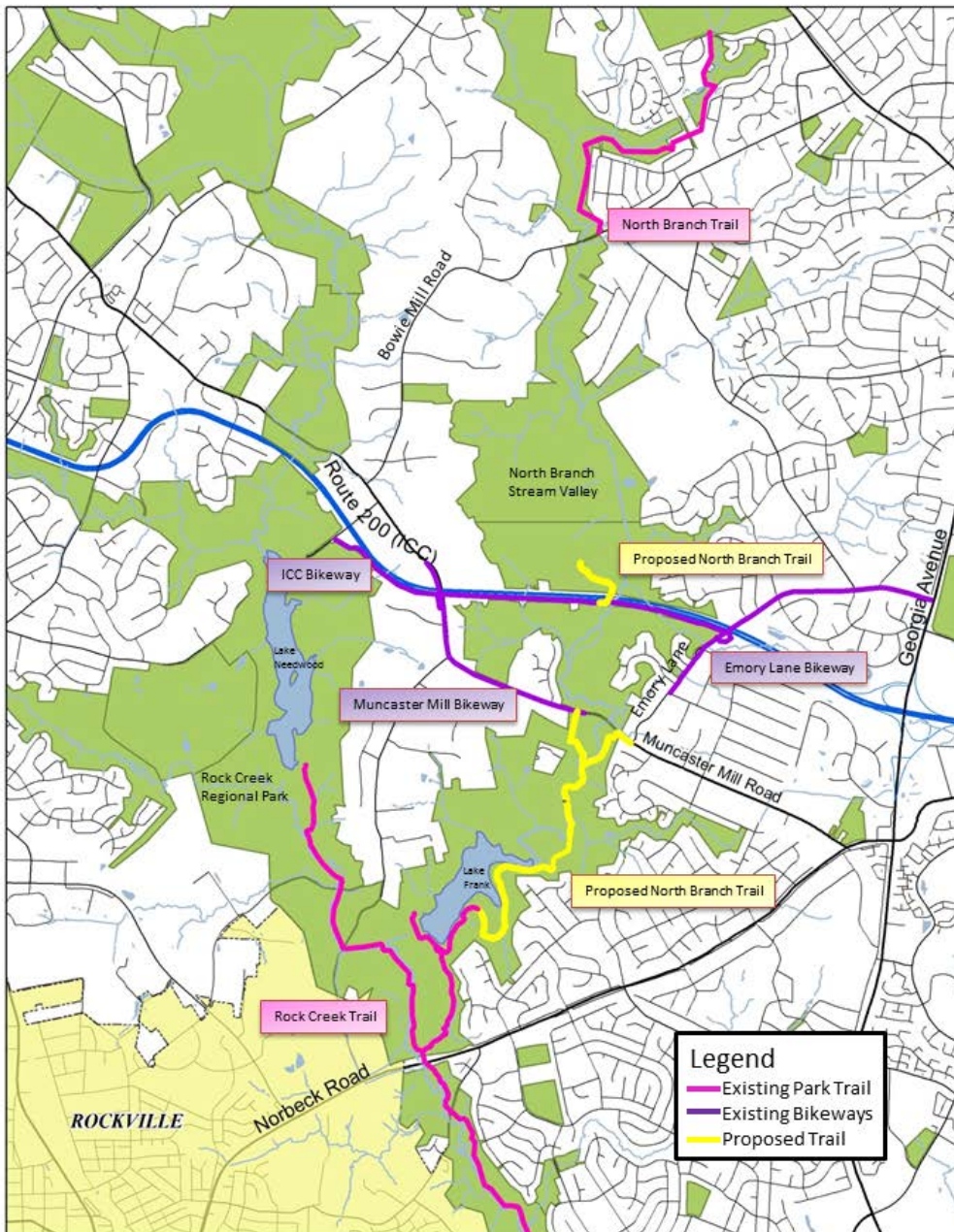
*Preserve at Rock Creek Trail and Connection Points*

### **North Branch Trail Connections**

Two trail connections are recommended. The first connection proposes installation of a new pedestrian bridge over the North Branch to provide access to natural surface trails that lead to Meadowside Nature Center. This would provide a hiking-only access point to fairly steep trails that lead to the nature center. Bike racks would be provided near the main trail with signage instructing people to dismount and park their bikes before crossing the bridge.

The second proposed connection is for an additional bridge crossing the North Branch at approximately the halfway point on Meadowside Lane between the nature center and Muncaster Mill Road. This connection would provide an accessible, paved trail that would travel along the low volume Meadowside Lane to the nature center and the Smith Environmental Center. Trail users would stay on the roadway to access the Meadowside Nature Center and the Smith Center. Meadowside Lane would also connect to the Muncaster Mill Road bikeway that leads west from Meadowside Lane to Avery Road and connects to the ICC bikeway. This connector will provide access to the ICC bikeway until the Emory Lane bikeway is completed. Once the Emory Lane bikeway is completed, it will provide the loop trail recommended in the Countywide Bikeways Functional Master Plan and will also provide an important western connection to the future Needwood Road bikeway.

Trail and Bikeway Connections



## Community Outreach

### September 19, 2011

A public meeting was held with the community on September 19, 2011 to present an overview of the scope of the project, existing site features and conditions, the proposed alignment, and the two alternatives for trail connections. Approximately 20-25 people attended the meeting.

The alternative trail connection that proposed installing a new pedestrian bridge over the North Branch to provide access to natural surface trails that lead to Meadowside Nature Center was supported by the community with a suggestion that the bridge be narrow in width to only accommodate pedestrians. The second connection that provided an accessible, paved trail that would travel along Meadowside Lane to the nature center and would also provide access to the Smith Environmental Center and the Muncaster Mill Road bikeway was also supported by most attendees.

A summary of additional key community comments is outlined below. A complete record of the meeting minutes is included in the appendices of the facility plan report.

<b>Community Comments</b>	<b>Staff Response</b>
The safety of the trail crossing at Muncaster Mill Road was identified as a concern.	Alternatives for providing a traffic light or pedestrian refuge will be studied by DOT. The trail will be set back from the road, and traffic calming measures may be provided to slow down traffic in this area.
Will the parking lots along Lake Frank remain.	The removal of the parking lots was part of the prior approval for the Lake Frank trail connector, and will be removed as part of this project.
There was a suggestion to consider different types of natural habitat to be created when the parking lots are removed, both meadow and forest areas.	Meadow and forested areas will be provided.
Will a fishing pier be provided at Lake Frank. It would be well used but is not desired by nearby residents as it would increase parking in the neighborhood.	A fishing pier is not proposed as part of this project.
Trail amenities such as benches, picnic tables, and a drinking fountain with a dog dish and water bottle spout should be provided.	These amenities will be provided at trailhead locations.
Will a natural surface trail be provided parallel to the Lake Frank hard surface trail, as recommended in the Rock Creek Park master plan.	Building two trails within the same corridor has not been a common practice in the Department of Parks in recent years, as it results in unnecessary environmental impact. Staff agreed to study this if the community felt there was a compelling need to provide a second trail.
The segment of trail north of the Lake Frank parking lots includes a lot of blind curves and has steep areas that could be slick when wet.	The intent for the new trail would be to widen the existing trail, straighten it, and clear lower-growing shrubby vegetation immediately adjacent to the trail to increase sight distances for user safety. Staff will

	address steep areas in the design of the trail and will build the trail with a cross slope to shed water from the trail.
There was a suggestion to provide a vehicular turn-around and parking for cyclists and fishermen who park at the end of Trailway Drive to further remove parking from homes at the end of the street.	This area of the park is wooded and would result in additional impact to trees, and there is available space along the street to park. A new trailhead with parking will be provided off Muncaster Mill Road.
There was a concern expressed that the new trail will cut off access for beavers to Lake Frank.	The new trail should not adversely affect beavers since there is already an existing trail in this location. Beavers tend to be nocturnal, so there is usually not a lot of contact or conflict with users.

### April 9, 2013

Following the public meeting, a community member recommended an additional connector from the terminus of the developer-built trail at the Preserve at Rock Creek to Olney by way of either Kirk Lane or Ridge Road. Staff evaluated this connector, which would include a bridge and development of trail on steep slopes, but thought it could be feasible if the community desired the connection. This connection was presented to the Greater Olney Civic Association (GOCA) on April 9, 2013. Notices of the meeting were sent to homeowners on Kirk Lane and Ridge Road. Many of the homeowners on Kirk Lane and Ridge Road were opposed to the connection. The final position of GOCA on this connection was not to pursue it with this project. The GOCA Board took the following position on the issue:

*GOCA supports the original master plan alignment for the North Branch Trail between the Preserve at Rock Creek Trail and Bowie Mill Road. There was a proposal to cross the stream further south and connect directly to either Kirk Lane or Ridge Road. GOCA does not support this proposed route for several reasons. First, there is no cost savings due to the steep topography of the stream area which will require a large bridge. The extensive wetlands in the area will also require much of the trail to be elevated. In addition, GOCA feels the trail route should stay off of area roads which do not have a shoulder or sidewalk making it unsafe for users.*

### **Additional Coordination and Regulatory Approvals**

#### Montgomery County Department of Transportation (MC-DOT), Division of Highway Services

M-NCPPC staff met with MC-DOT to discuss some of the missing links in the trail network. To achieve the master plan vision, MC-DOT will need to complete the Emory Lane Bikeway to Muncaster Mill Road. Presently, the bike path along Emory Lane ends approximately 200 feet short of Muncaster Mill Road. MC-DOT plans to include the construction of the trail in the FY 15-20 CIP. Improvements to the intersection and the segment along Muncaster Mill Road will be built in coordination with the completion of the bikeway.

#### Maryland State Highway Administration (SHA) District 3

M-NCPPC staff and their consultant have been coordinating with the District 3 offices of SHA to improve pedestrian and bicycle crossing at the intersection of Muncaster Mill Road and Emory Lane. Currently, a marked cross walk is not present. The trail will need to utilize the shoulder along Muncaster Mill Road to connect the trail at the new parking lot to the crossing of

Muncaster Mill Road. It has been proposed that the intersection improvements be built as a cost sharing project between DOT, SHA, and the M-NCPPC. M-NCPPC staff has included the cost of the intersection improvements in the park project, in the event that the cost sharing does not take place.

#### Montgomery County Department of Permitting Services (DPS)

The water quality plan for the trail was submitted to the Montgomery County Department of Permitting Services (DPS) in March 2013. At the time of this writing, the plan is under review. The water quality plan along with the preliminary forest conservation plan will be taken to the Planning Board at a later date. The recommendation for approval of the facility plan is conditioned upon approval of the water quality plan by the Department of Permitting Services and the Planning Board.

#### M-NCPPC Department of Planning

A Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) was approved for the park in May of 2013. A preliminary forest conservation plan was submitted in May 2013. The preliminary forest conservation plan is under review. The approval of the facility plan is conditional on the approval of the preliminary forest conservation plan.

#### Maryland Transportation Authority (MTA)

Parks staff met with the Maryland Transportation Authority (MTA) on August 17, 2011 to discuss the connection to the ICC bike path on the west side of ICC Bridge No. 20, and the construction of the trail adjacent to and under the ICC. MTA representatives indicated that they do not oppose the trail construction within their right-of-way, but noted that a MOU between the two agencies will be required. Their concerns to be addressed during final design include wildlife access, construction access, and utility conflicts. A gate or other means of preventing wildlife access onto the roadway at the trail connection will be required.

### **Recommended Plan**

The recommended facility plan incorporates design refinements made in response to community, staff and agency comments. The total length of proposed trail and connectors is approximately 2.2 miles. The trail section will consist of a 10 foot wide asphalt section with two-foot wide grass shoulders on each side. In environmentally sensitive areas, boardwalks supported by helical piles are proposed. The use of manufactured concrete boards is being considered in response to recent public comments that wood boardwalks on trails are slippery when wet, and the concrete also has an increased life span over wood. Pre-engineered steel or fiberglass bridges with supports outside of the stream banks will be utilized for the stream crossings. These bridges are typically 12 feet clear width with a 10,000 lb. loading capacity to accommodate maintenance and park police vehicles. The exception will be the pedestrian only bridge which will be five feet wide.

Since the majority of the trail is located within mature forest, techniques will be utilized to protect the natural resources, including aligning the trail in previously cleared areas, building the trail above grade instead of cutting into tree root zones, and designing the trail to sheet flow to the forest buffer to reduce the need for constructed stormwater management facilities which would require forest clearing. If sheet flow cannot be obtained, stormwater management facilities will be added in areas where there is adequate space. These techniques were developed and used successfully for construction of the Black Hill Regional Park Trail.



*Black Hill Trail*



The trail will also be constructed to meet the Americans with Disabilities Act Draft Final Accessibility Guidelines for Outdoor Developed Areas, (dated October 19, 2009) from the Regulatory Negotiation Committee on Accessibility Guidelines for Outdoor Developed Areas, and any subsequent updated accessibility guidelines for trails.

The recommended plan includes the following elements:

- Approximately 11,000 linear feet of ten-foot wide asphalt trail on parkland aligned and constructed to minimize tree impacts;
- Approximately 550 linear feet of ten-foot wide asphalt trail on Muncaster Mill Road to connect the trailhead and Emory Lane;
- Road crossing improvements at Emory Lane;
- Approximately 850 linear feet of boardwalks with concrete decking to span sensitive areas or to obtain the appropriate trail grade ;
- Approximately 230 linear feet of concrete block retaining walls along the trail where there is a steep cross slope;
- Approximately 2,400 linear feet of 42" high fencing along the trail where steep downhill slopes occur adjacent to the trail
- Two hiker-biker bridges, 12 feet clear width with a 10,000 lb. loading capacity to accommodate maintenance and emergency vehicles and one pedestrian bridge 5 feet wide;
- Asphalt trailhead parking area for 20 cars;
- Trailhead amenities, including bicycle racks, trash receptacles, seating, drinking fountain and kiosk;
- Directional, informational and interpretive signage;
- Hard surface trail connections to Trailway Drive and Meadowside Lane (includes access to Smith Environmental Center, Meadowside Nature Center, and westbound Muncaster Mill Bikeway);
- Natural surface trail connection to trails near Meadowside Nature Center;
- Low impact stormwater management facilities and techniques; and
- Naturalized, attractive plantings of native species.





## COSTS

### Construction Costs

A summary of construction costs is outlined in the table below.

Item	Subtotal
Site Preparation and Demolition	\$460,000
Earthwork	\$175,000
Drainage, Stormwater Management & Erosion Control	\$250,000
Structures (Boardwalks, Bridges, Walls)	\$1,050,000
Paving	\$500,000
Site Furnishings, Signage & Fencing	\$240,000
Landscape & Tree Protection	\$300,000
Emory Lane & Muncaster Mill Crossing	\$200,000
<b>Construction Subtotal</b>	<b>\$3,175,000</b>
Construction Contingency (30% of Construction Subtotal)	\$952,500
Construction Management & Inspections (5% of Construction Total)	\$158,750
<b>TOTAL PROJECT COST</b>	<b>\$4,286,250</b>

### **Operating Budget Impact**

The operating budget impact was not completed at the time of this report and will be presented to the Montgomery County Planning Board at the presentation of the CIP during the Fall of 2013.

### **CONCLUSION**

Staff recommends approval of the Facility Plan and associated cost estimate. This trail is a critical segment of a continuous regional park trail system that would extend from the District of Columbia northward through Rock Creek to Olney. This hiker-biker trail has been recommended in master plans for many years, and will enhance the recreational value of Rock Creek Regional Park and Lake Frank for the residents of Montgomery County.

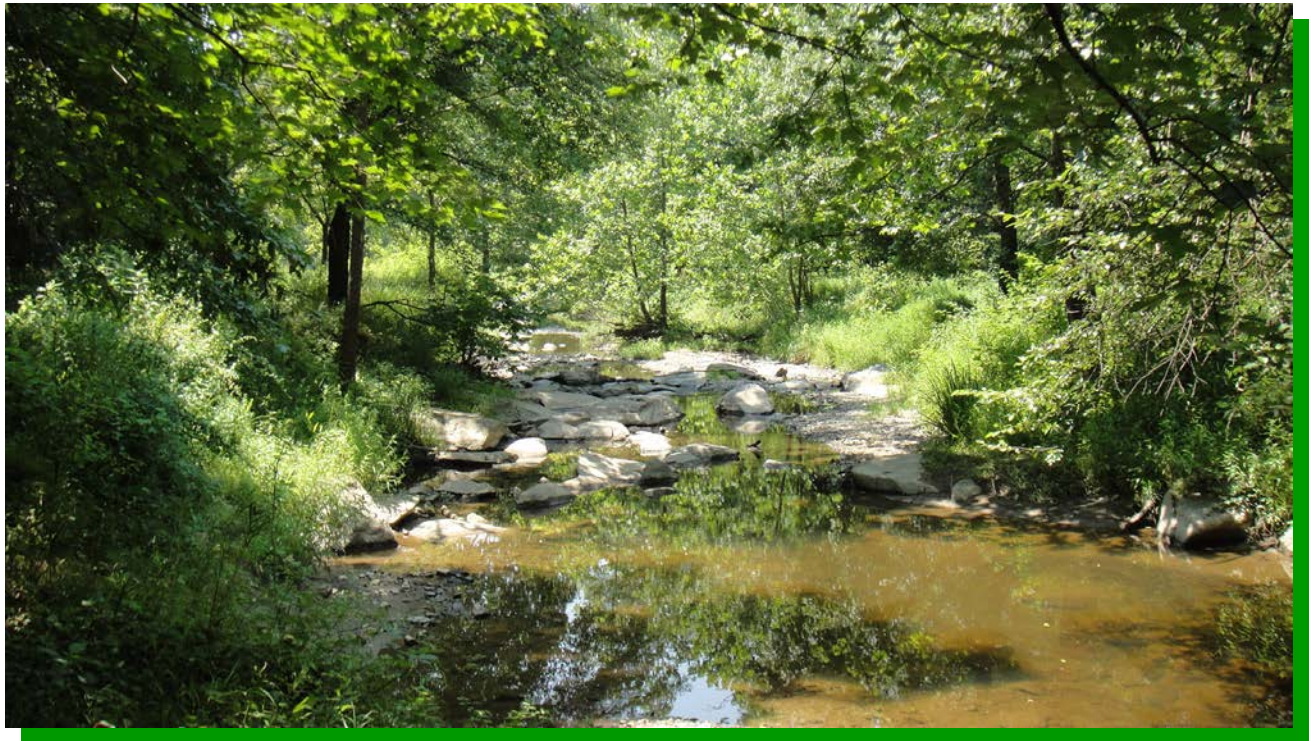
### **Attachments**

Facility Plan Report

# **NORTH BRANCH TRAIL**

## **Facility Plan Report**

June 11, 2013



Prepared for:  
**Maryland-National Capital  
Park and Planning Commission**



## **North Branch Trail** Facility Plan Report

**Prepared for:**

Maryland-National Capital Park and Planning Commission  
Department of Park and Planning  
Montgomery County  
9500 Brunett Avenue  
Silver Spring, Maryland 20901

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Greenman-Pedersen, Inc.

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# Facility Plan

## I. Project Description

### A. Introduction

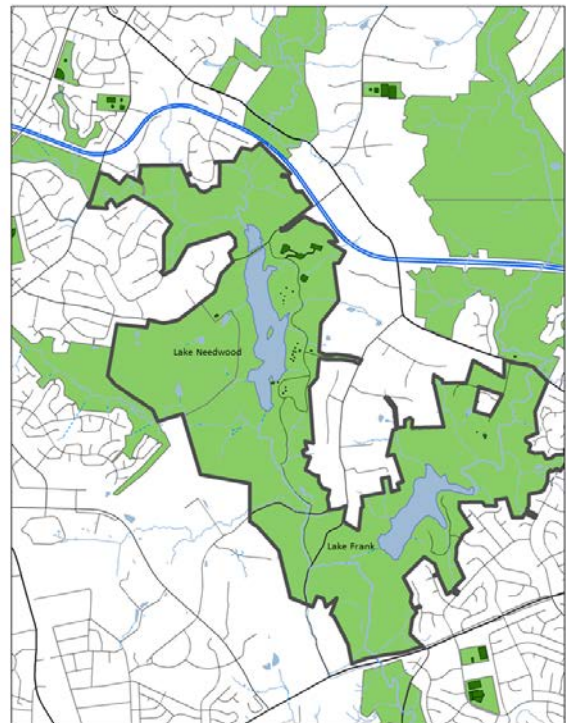
The North Branch Trail will be located within both the Rock Creek Regional Park and the North Branch Stream Valley Park Unit 4 and is 2.02 miles in length. This trail is one segment of a continuous regional park trail system that would extend from the District of Columbia northward to Olney. The hiker-biker trail system through Lake Frank and the North Branch of Rock Creek has been recommended in multiple master plans for many years, including the 1978 Master Plan of Bikeways, the 2005 Olney Master Plan, the 1985 and 2004 Upper Rock Creek Area Master Plan, the 1998 and 2008 Countywide Park Trails Plan, the 2000 Rock Creek Regional Park Master Plan and the 2008 Upper Rock Creek Trail Corridor Plan.

The south end of the trail will connect to the Lakeside trail located on the east side of Lake Frank within Rock Creek Regional Park and will include the removal of road pavement and parking lots. The trail will continue north to connect with Muncaster Mill Road and cross at the Emory Lane intersection. The trail will then utilize the Emory Lane Bikeway and the Inter County Connector (ICC) Bikeway (MD 200) to connect to a future trail that is being built by the developer of the Preserve at Rock Creek within the development. This trail is part of the approved site plan for the development.

### B. Site Location

The southern end of the trail is located within the Rock Creek Regional Park (Figure 1). The park is split into two sections. The first is located along Rock Creek and Lake Needwood. The second section is along North Branch and Lake Frank. The Lake Needwood area is where most of the active recreational facilities are located. The Lake Frank area is less developed with natural surface trails, the Meadowside Nature Center and the Smith Center.

The northern end of the trail is located within the North Branch Stream Valley Park Unit 4. Most of the park is within the Special Protection Area (SPA) for the Rock Creek. It is also a best natural area. Presently, only natural surface trails are located in this area.



*Figure 1 - Rock Creek Regional Park*

### **C. Facility Planning Process**

The facility planning process includes the following sequence of work:

1. Collect data, prepare site survey, and perform geotechnical investigations.
2. Analyze existing site conditions.
3. Prepare and obtain approval of Natural Resources Inventory/Forest Stand Delineation Summary Map.
4. Develop trail alignment.
5. Meet with the community to discuss trail alignment and connections.
6. Finalize the trail alignment.
7. Prepare water quality plan and obtain approval from the Department of Permitting Services and the Montgomery County Planning Board.
8. Prepare preliminary forest conservation plan submission.
9. Coordinate any outstanding issues with stakeholder groups and regulatory agencies.
10. Prepare facility plan report, cost estimate, and operating budget estimates.
11. Present facility plan recommendations and costs to the Montgomery County Planning Board for approval.

## **II. Program of Requirements**

The following program of requirements was developed for the trail based on input received by the community, regulatory agencies, and staff:

1. A trailhead with parking off of Muncaster Mill Road;
2. A ten foot wide asphalt trail aligned to minimize environmental impacts;
3. Boardwalks, retaining walls and bridges to protect sensitive areas;
4. Vehicular access for maintenance and security patrols;
5. Pedestrian and bike connections to Trailway Drive, the Smith Environmental Center and the Meadowside Nature Center;
6. Safe road crossing of Muncaster Mill Road to the future Emory Lane bike path;
7. Park and trail signage, including kiosks;
8. Seating, bicycle racks, trash receptacles, and drinking fountain;
9. Naturalized, attractive plantings and reforestation areas as required;
10. Stormwater management facilities as required;
11. Trail design in compliance with M-NCPPC park design guidelines and standards, as well as other applicable guidelines and standards;
12. Trail design in compliance with Crime Prevention Through Environmental Design (CPTED) guidelines; and
13. Trail design to meet accessibility guidelines.

### III. The Facility Plan

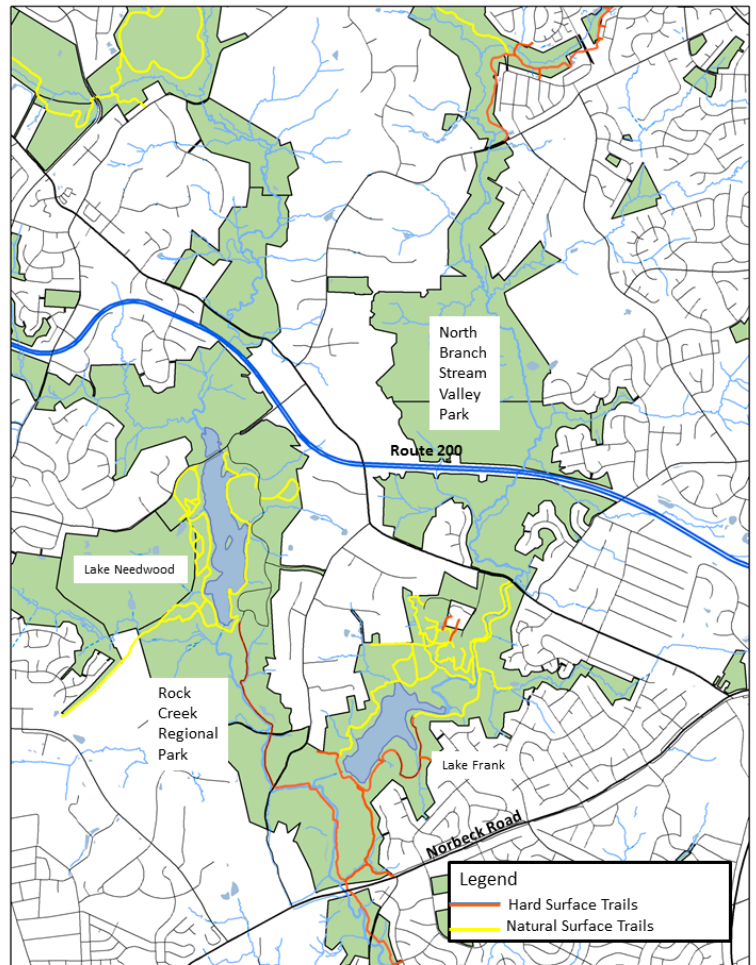
#### A. Existing Conditions

##### 1. Surrounding Land Uses

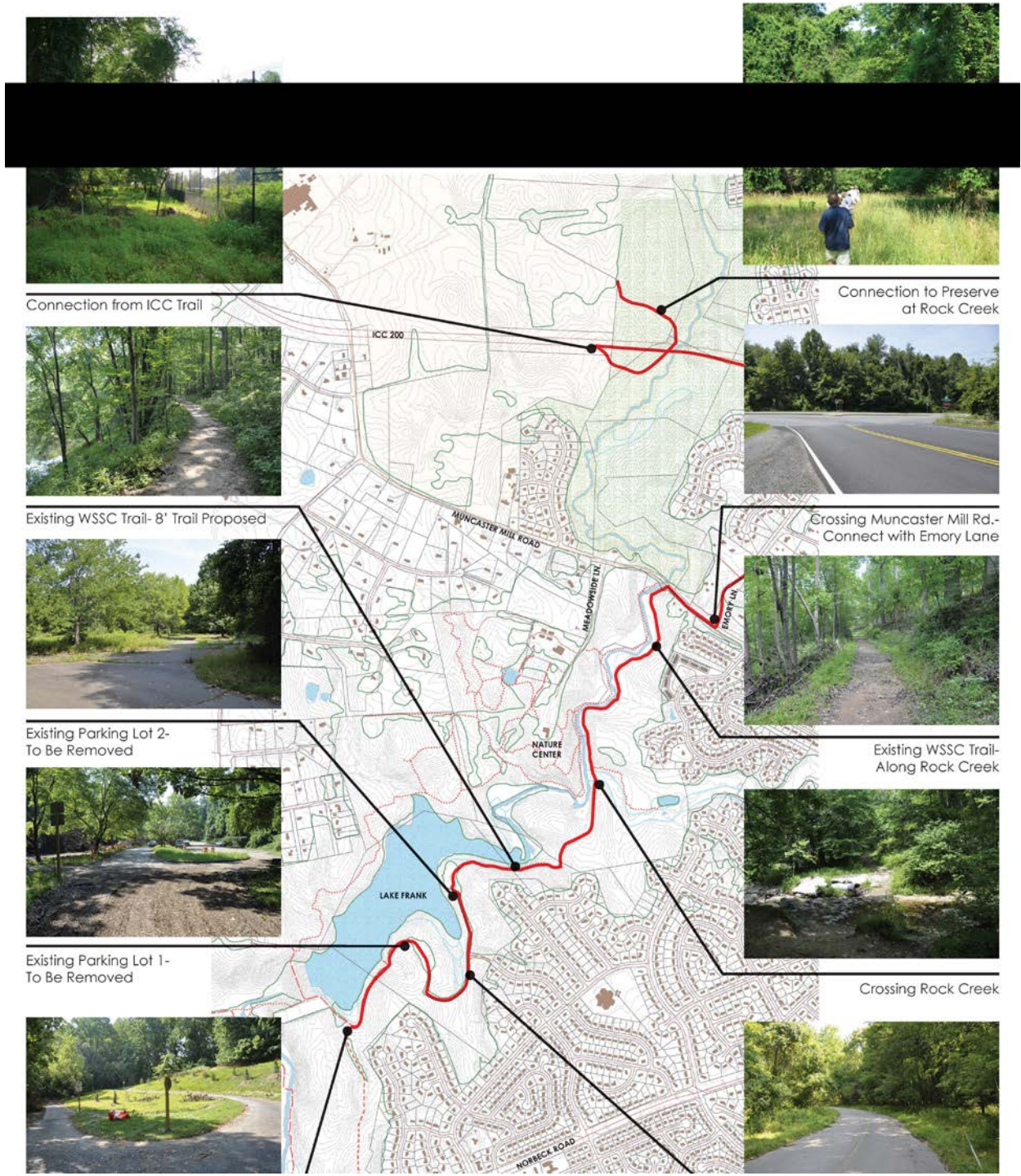
Most of the area surrounding Rock Creek Regional Park and North Branch Stream Valley Unit #2 contains single family residential homes. Zoning of R 200 and RE 2 dominate. There is some planned development in the area. The largest is the Preserve at Rock Creek which is presently under construction. It is located to the west of the North Branch Stream Valley. The Preserve will contain an important link in the continuation of the North Branch Trail to Olney.

##### 2. Existing Trails

Numerous existing paved and natural surface trails exist within the park, including hard surface trails (Rock Creek and Lakeside trail), WSSC access road, people's choice trails, and natural surface trails. A large number of pedestrian only natural surface trails are located around Meadowside Nature Center. Some of the existing trails are connected to bike trails outside the park in the south, west and north as well as smaller connections to adjacent residential areas around the park.



**Figure 3** - North Branch Trail project site, existing conditions.



### 3. Project Site Conditions

**Forested Habitats** – The southern portion of the trail, from the southern parking lot to Muncaster Mill Road, runs through a section of Rock Creek Regional Park that is entirely wooded. Some areas along the trail have sufficient density of trees and diversity of understory layers to also be considered “forests” under the Forest Conservation Act. Tulip poplar (*Liriodendron tulipifera*) is the dominant canopy tree throughout the southern section of the trail. Various species such as red oak (*Quercus rubra*), hickories (*Carya* spp.), and American sycamores (*Platanus occidentalis*) were also common dominants in certain forest stands depending on landscape position and aspect. The northern portion of the project, from the ICC to the Preserve at Rock Creek runs through an area that was disturbed by the recent construction of the ICC and an area within the Rock Creek Special Protection Area (SPA) that had been previously farmed. While there are some large specimen trees in this area, large portions of this section of the project run through open grass or scrub habitats instead of mature forest.

Throughout the project corridor, a total of 420 significant and specimen tree candidates were identified. Of these, 167 significant tree candidates and 103 specimen tree candidates were identified within specific forest stand boundaries. There also are 15 trees greater than or equal to 75% of the County champion DBH as found in the 2011 Register of Champion Trees, Montgomery County, Maryland listing. The Preliminary FCP has been submitted and is currently under review. To mitigate for the removal of 16 specimen trees the final forest conservation plans will include planting of 49 trees 3” caliper. A total of 582 inches of DBH are being removed and replaced at a 25 percent amount. Therefore, an equivalent of 146 inches of tree caliper needs to be replanted. Although at this time there appears to be no regulatory reforestation requirement, the project includes tree planting in appropriate open areas along the trail.

**Wetlands and Waters of the United States** – There are a total of eight wetlands within the project study area; none of these were identified on the National Wetland Inventory Maps. They range in setting from along the shores of Lake Bernard Frank, along the banks of Rock Creek North Branch, within floodplains, up to palustrine pockets in upland areas. Six of the eight wetlands are forested, two are dominated by emergent vegetation. Most of the wetlands run parallel to the trail and will not be impacted during its construction. Minor impacts to one wetland near the connection with the ICC cannot be avoided

There are a total of six streams within the project study area. Rock Creek North Branch is the largest of these. The approximate average depth and width are 1 foot and 15 feet respectively. Much of the stream channel banks are well vegetated. The substrate of the stream channel generally consists of cobble and gravel with some large boulders. The remaining streams range in size from 3-12 inches deep and 3-15 feet wide. Most of the stream banks are moderately incised but well vegetated. The substrate of the streambeds generally consists of sand or gravel with some cobble and boulders. All of these streams will be crossed at least once, usually by replacing or keeping in place an existing culvert, though two new pedestrian bridges are proposed over Rock Creek North Branch and a boardwalk will be used cross one of the larger tributaries.

## B. Design Considerations

### 1. Design Standards

The proposed trail section will consist of a 10 foot wide asphalt section with 2 foot grass shoulders. (See Figure 4) In environmentally sensitive areas, boardwalk supported by helical piles is proposed. Wooden boardwalks have had an issue with being slippery especially when wet. It is proposed for the first time, to explore the use of manufactured concrete boards instead of the traditional wood. This will decrease slipperiness and should extend the life of the boardwalk. Pre-engineered steel or fiberglass bridges with supports outside of the stream banks will be utilized for stream crossing.



**Figure 4** – Typical Cross Section of 10' wide trail, including 2' shoulders on each side.

The trail will be designed in accordance with the M-NCPPC Trail Implementation Guide, Manual on Uniform Traffic Control Devices for Streets and Highways, Part 9 Traffic Controls for Bicycle Facilities, and the American Association of State Highway and Transportation Officials (AASHTO) “Guide for the Development of Bicycle Facilities”.

### 2. Environmental design

The majority of the trail is located within mature forest. A number of techniques will be utilized to protect the natural resources. A natural surface trail exists along most of the trail length. Part of this trail is also utilized by the Washington Suburban Sanitary Commission (WSSC) to access their facilities. Since an already cleared corridor exists, most of the trail is located along the

existing trail. In addition, a trail construction methodology previously developed for the Black Hill Trail will be utilized. These techniques include building the trail on the existing grade instead of cutting into the ground as traditionally done. This decreases the amount of tree roots that need to be cut. Boardwalks and retaining walls are also used to limit tree disturbance, especially on forested steep slopes. Also, the amount of stormwater facilities has been decreased by designing the trail so it sheet flows to the forest buffer. Otherwise, forest would need to be cleared to provide other types of facilities. Where cleared areas exist, micro-bioretenment is proposed.

### 3. Accessibility

A major consideration for trail design is selecting an alignment in compliance with the Americans Disabilities Act (ADA). The trail will be constructed to meet the ADA Final Accessibility Guidelines for Outdoor Developed Areas. The trail is designed to accommodate all abilities and skill levels by incorporating the following features into the trail design:

- Maximum Grade of 8.3% for Maximum Distance of 200 feet
- Maximum Grade of 5% for any distance
- ADA Compatible ramps at all roadway crossings, including detectable warning surfaces and parking lot accommodations including signage and striping.

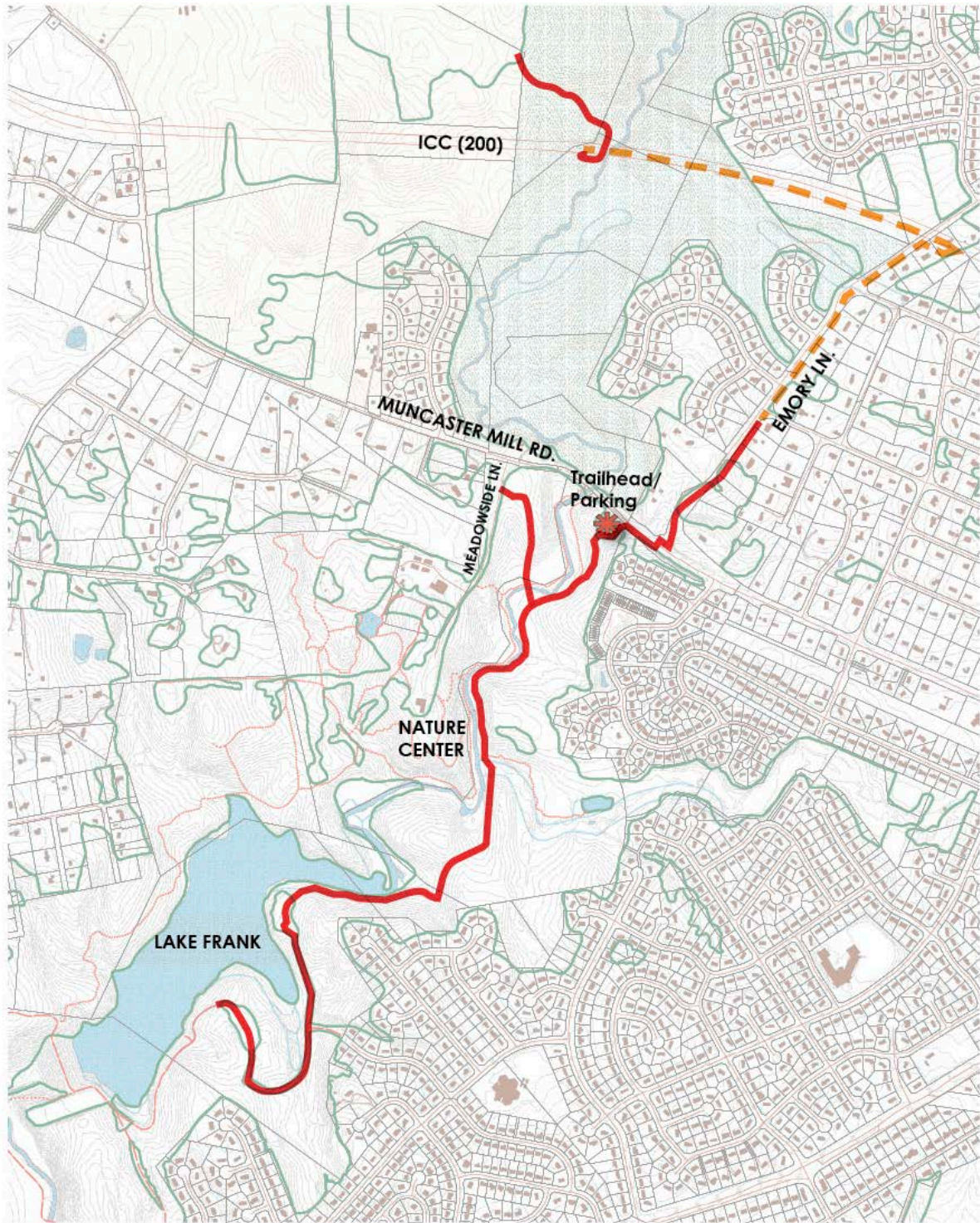
### 4. Trail Amenities

Along the trail corridor signage will be used for directions, information, and interpretation which will be developed in the final design stage. The historic Muncaster Mill will be highlighted in the sign plan. Kiosks will also be located along the trail and will contain an overall trail map. Benches will also be provided along the trail. A drinking fountain and bicycle racks will be located at the trailhead near Muncaster Mill Road. This is also the location of a proposed 20 space parking lot.

## **C. Proposed Trail Layout**

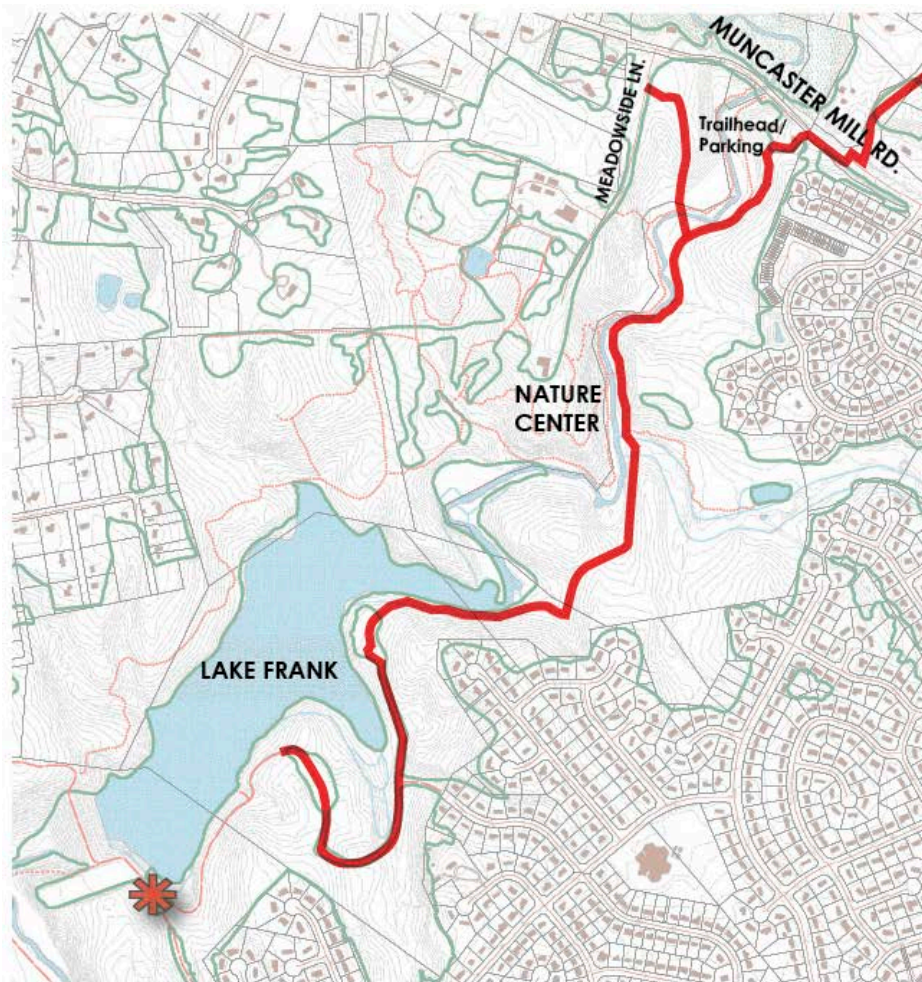
### 1. Trail Alignment

Evaluating and mapping the site's existing conditions and minimizing the natural resource impacts led to the development of the proposed trail alignment. The alignment utilizes previously disturbed areas, including the existing WSSC access road and a heavily traveled path on the east side of the Rock Creek, the ICC fill slopes, and an old farm road, as well as the opportunity to minimize an existing road width and removing two large parking lot areas. The Southern Section of the North Branch Trail starts at the Rock Creek Trail Connection near Lake Frank and terminates at Muncaster Mill Road. The Northern alignment of the North Branch Trail begins at the crossing at Muncaster Mill Road to continue along the east side of Emory Lane on the Emory Lane bikeway, then connects to an existing ICC bikeway to terminate at the start of the future trail being built as part of the Preserve at Rock Creek Development. The connection of the Southern and Northern sections will require a road crossing at Muncaster Mill Road. Figure 5 shows the overall proposed alignment and facility plan. Following that is a step by step photo documentation of the existing condition along the proposed alignment.

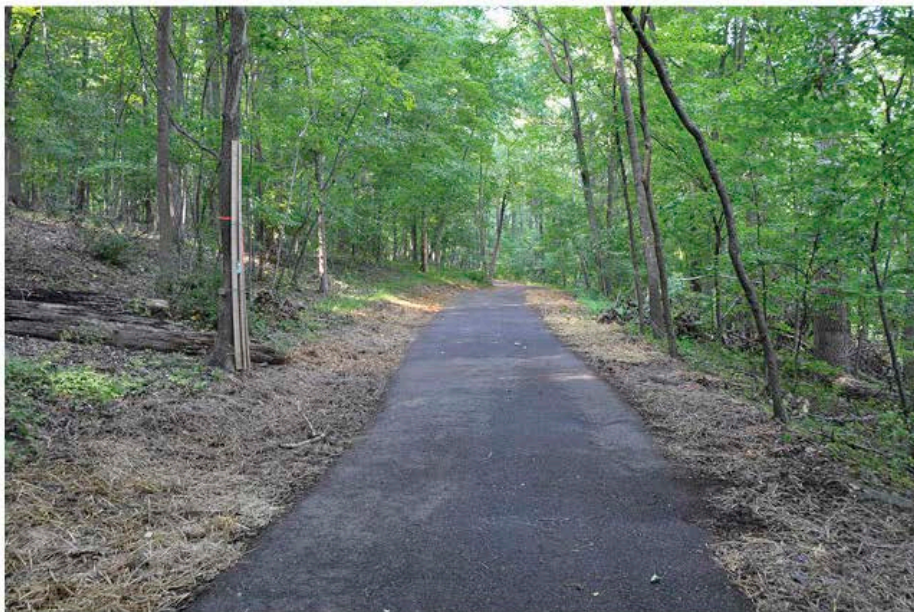
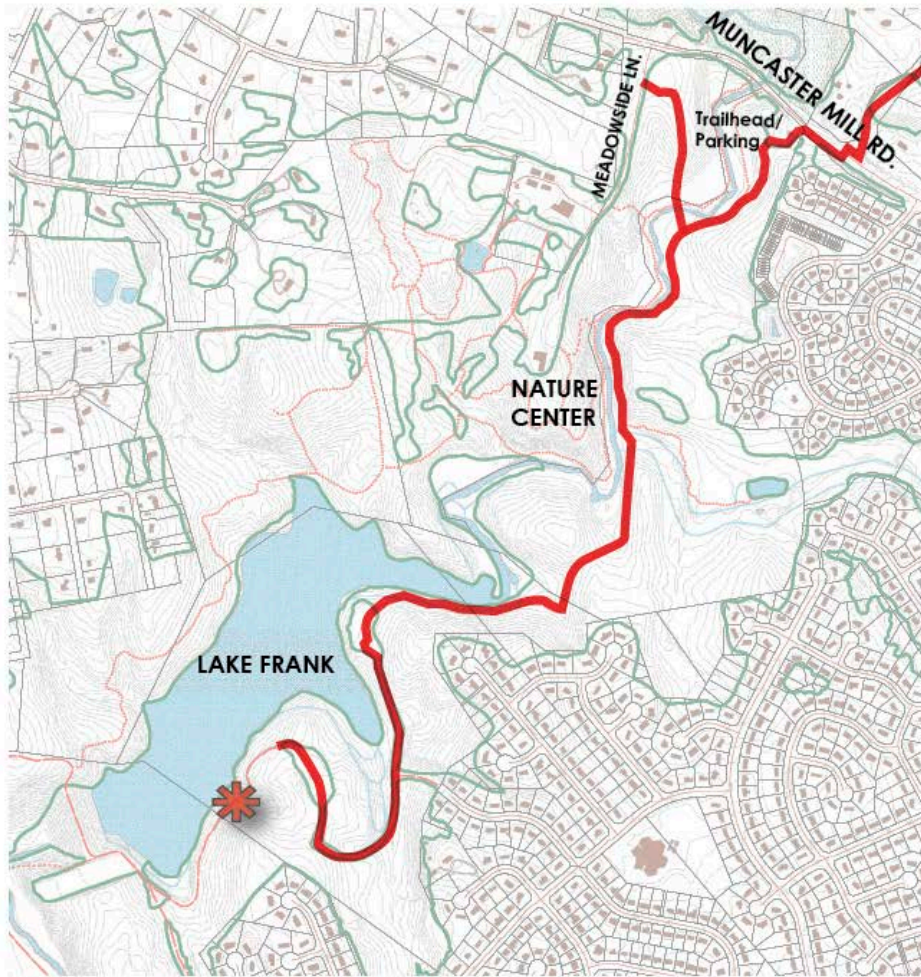


**Figure 5** – Overall GIS map showing the proposed trail alignment, beginning at the parking lot and ending at the Preserve at Rock Creek





**Figure 6** – (Above) GIS map highlighting location on the trail.  
(Below) This portion will utilize the existing asphalt trail.



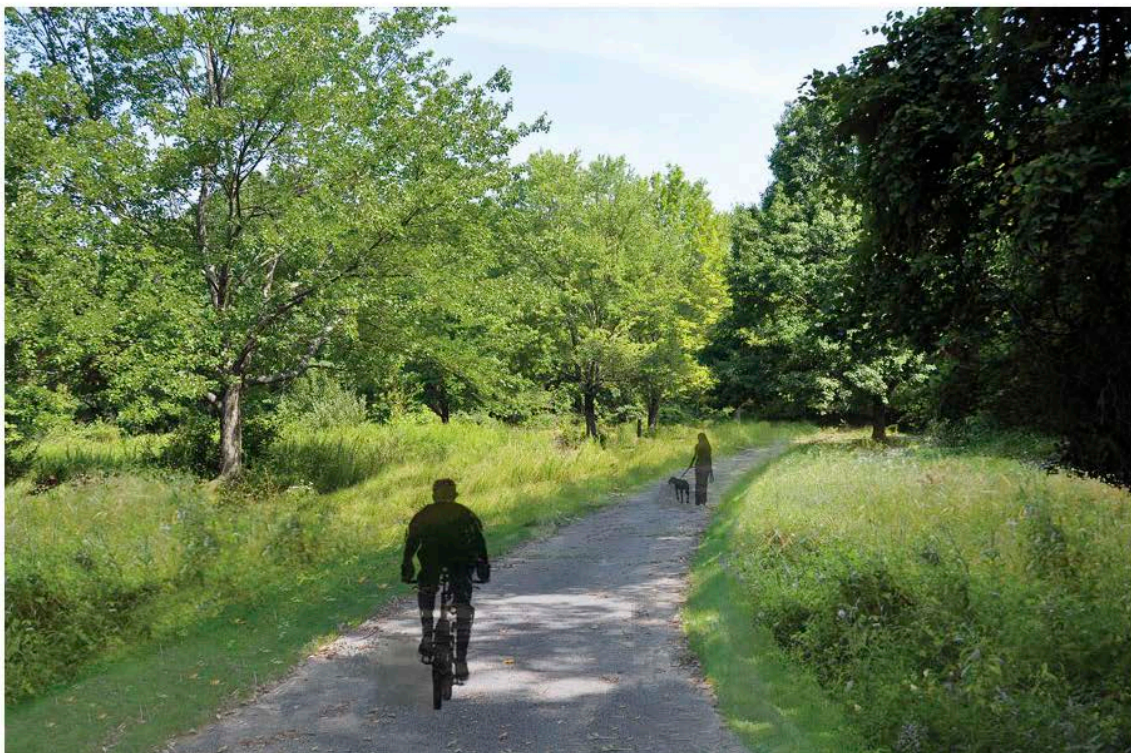
**Figure 7 –** This portion will utilize the existing asphalt trail.



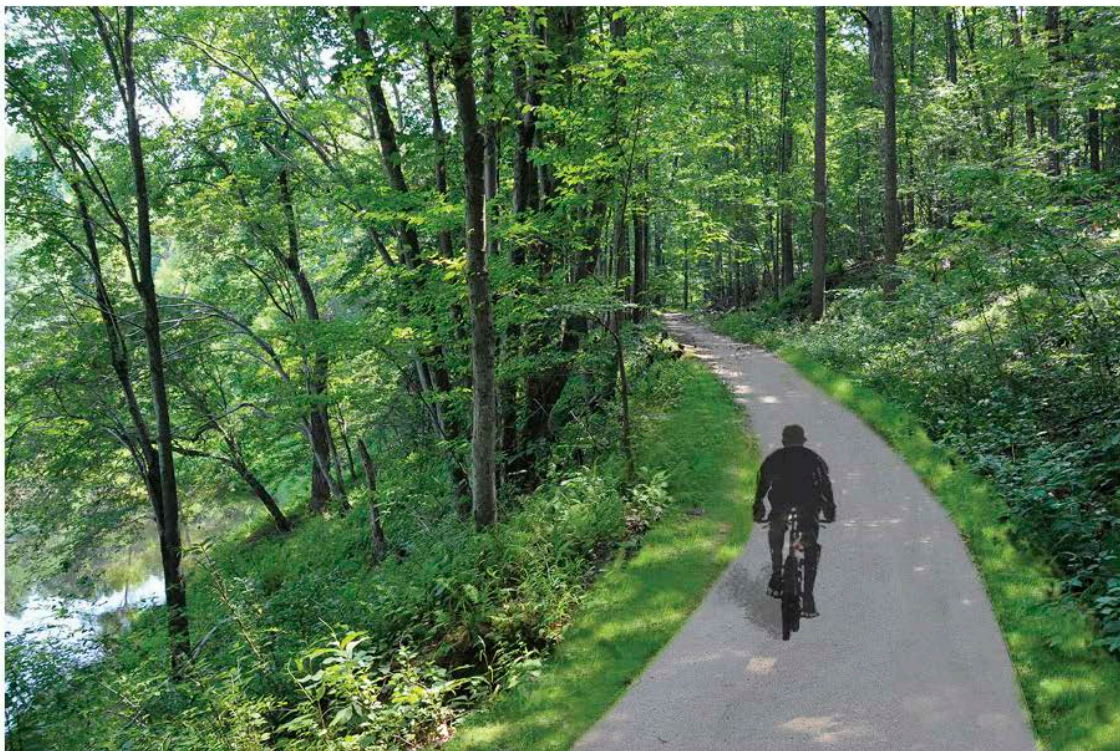
**Figure 8** – Parking lots will be restored after construction as shown in the rendering of the trail through the parking lot.



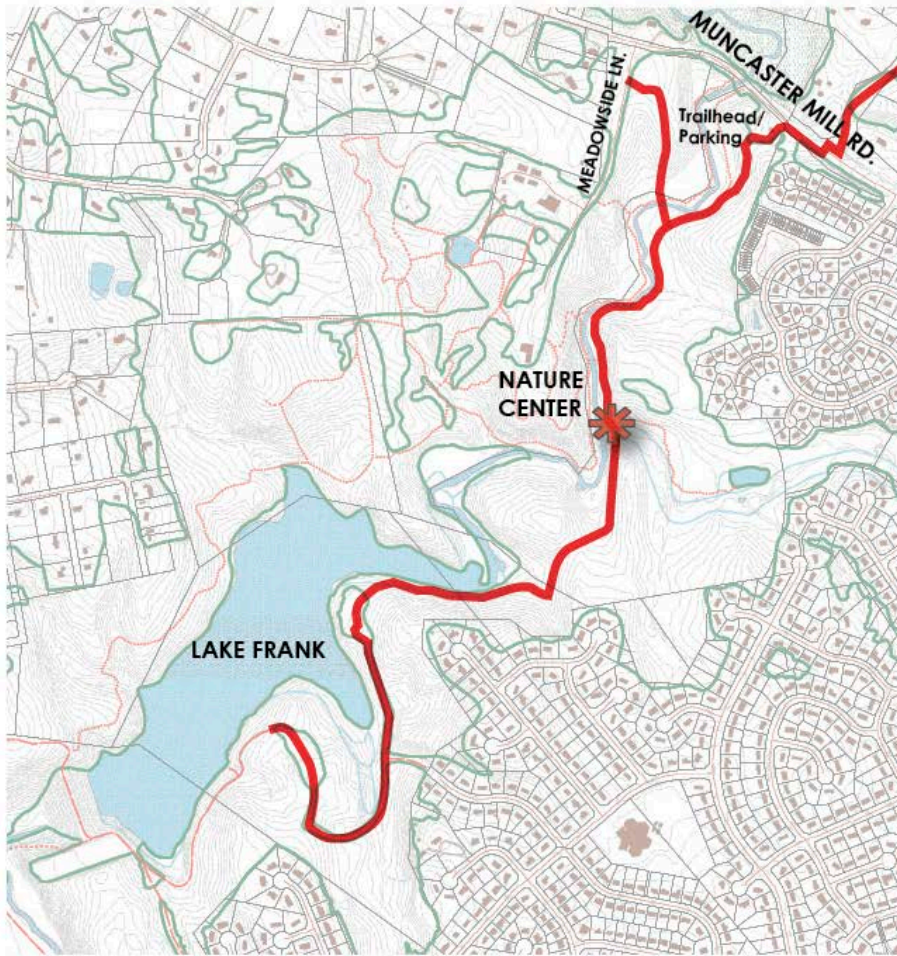
**Figure 10** – Trail will use existing road. The road will be decreased to 10' and the area restored.



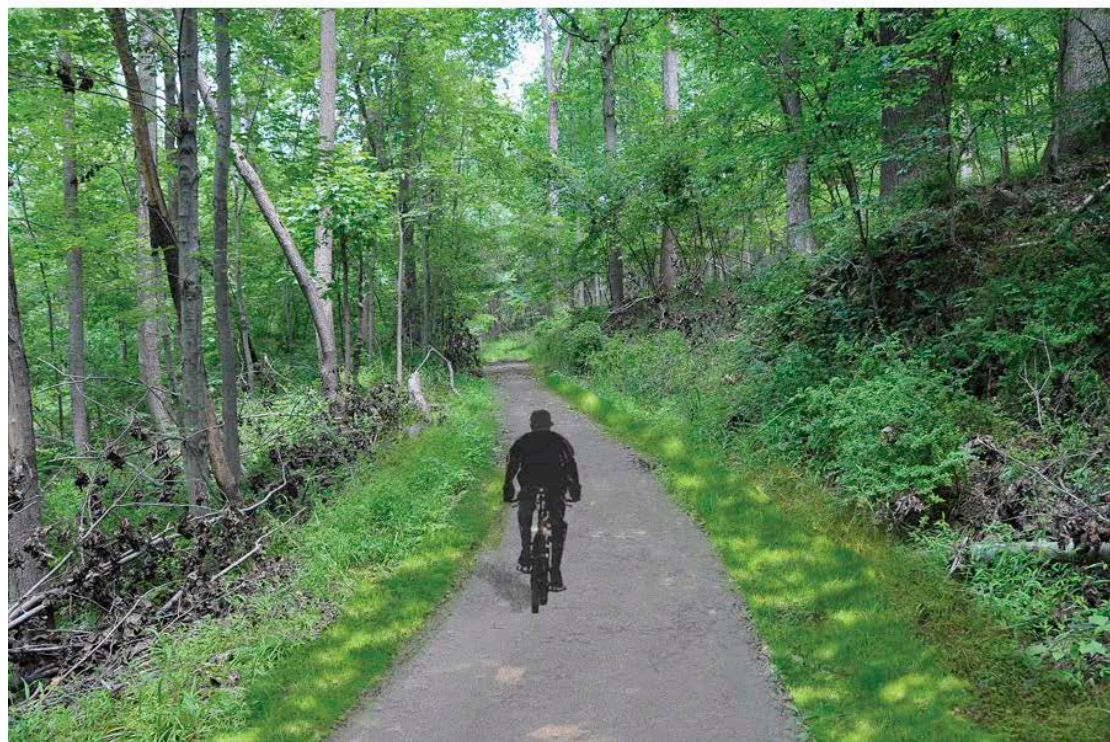
**Figure 11** – Trail through the second parking lot.



**Figure 12** – Trail will utilize an existing shelf above Lake Frank. Steep slopes are found on both sides of the trail.

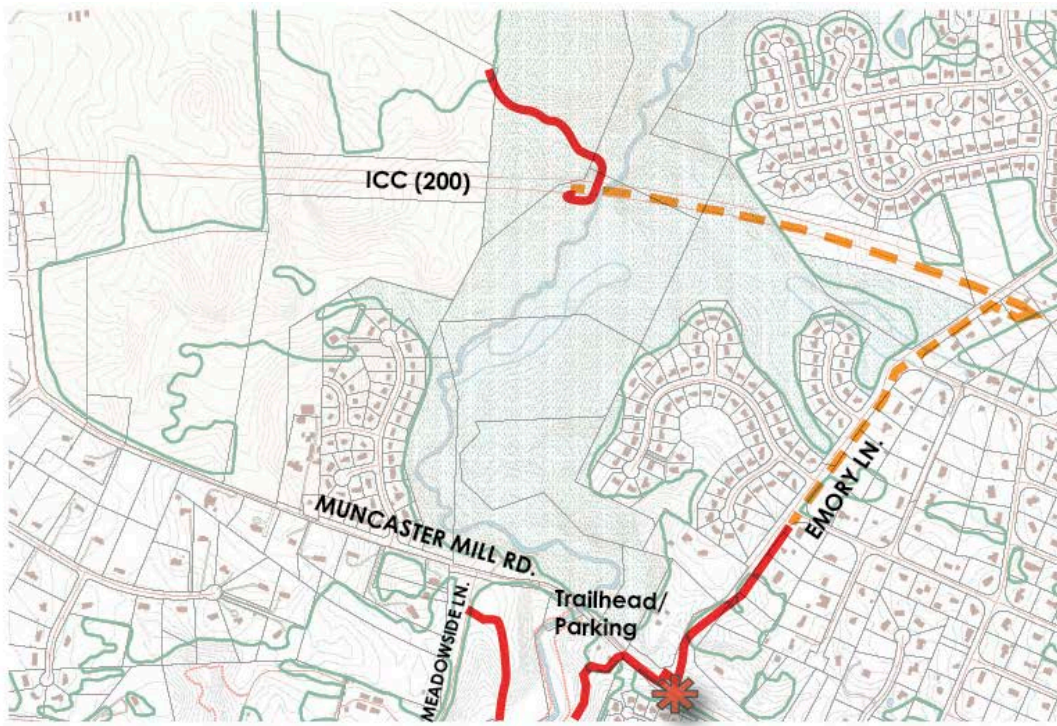


**Figure 13** – Stream crossing of a tributary to the North Branch. Concrete and pipes will be removed and replaced with either a bridge or boardwalk.

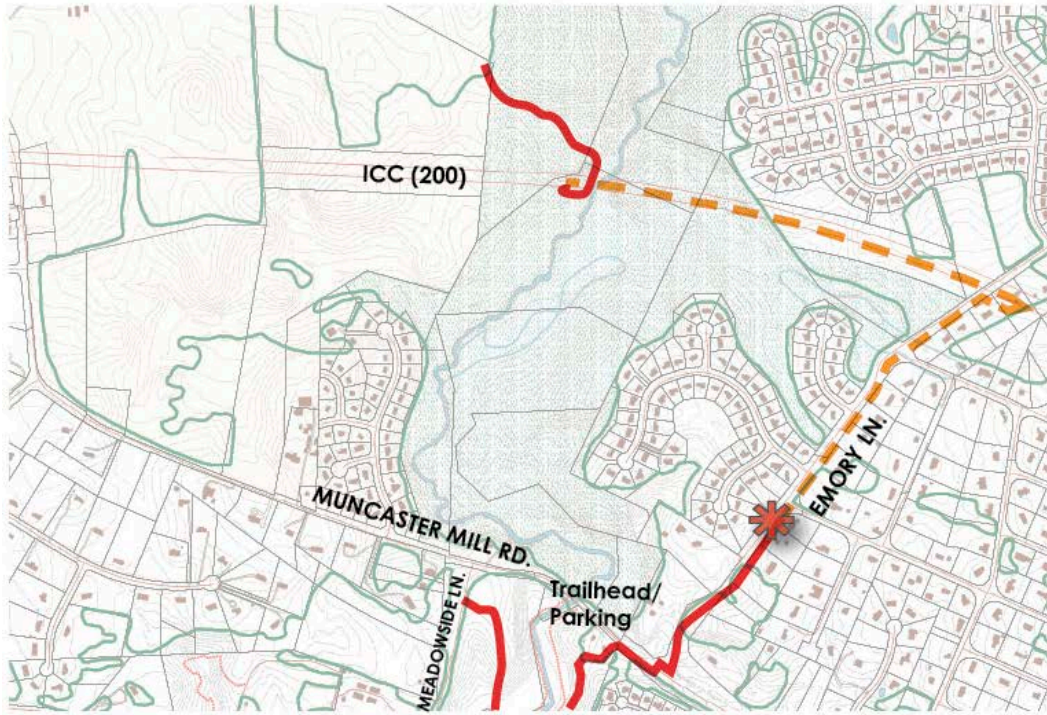


**Figure 14** – Trail will use WSSC access road that runs next to the North Branch.

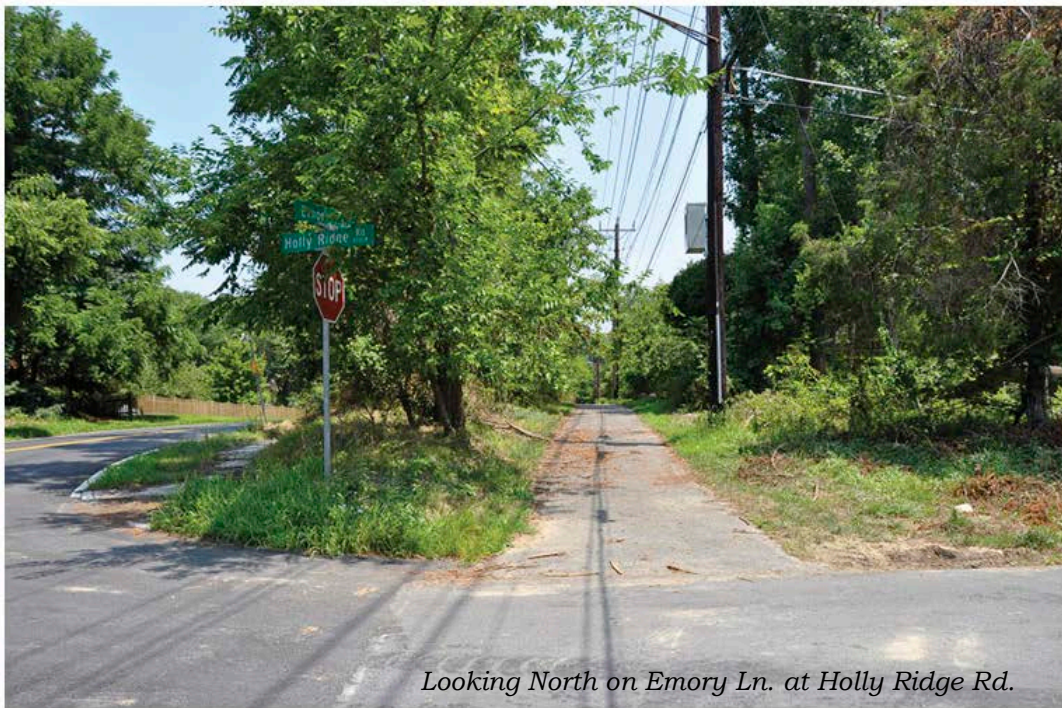
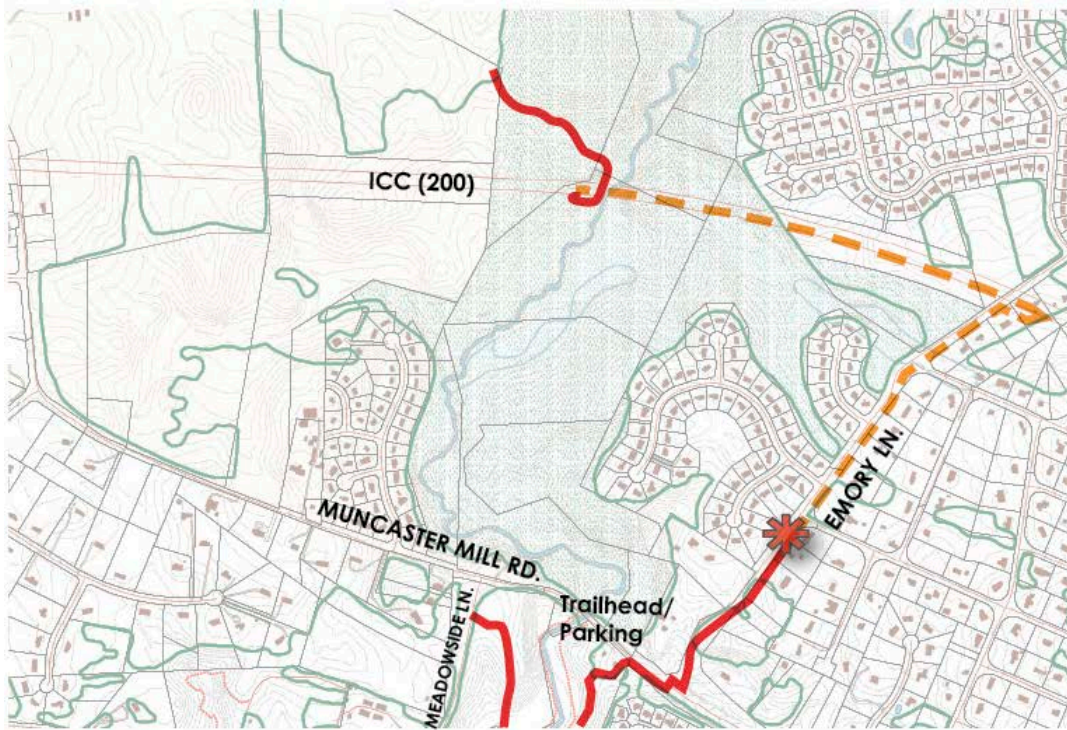




**Figure 15** – Picture showing existing Muncaster Mill Road and Emory Lane Intersection. See Figure 25 for proposed trail crossing plan improvements.

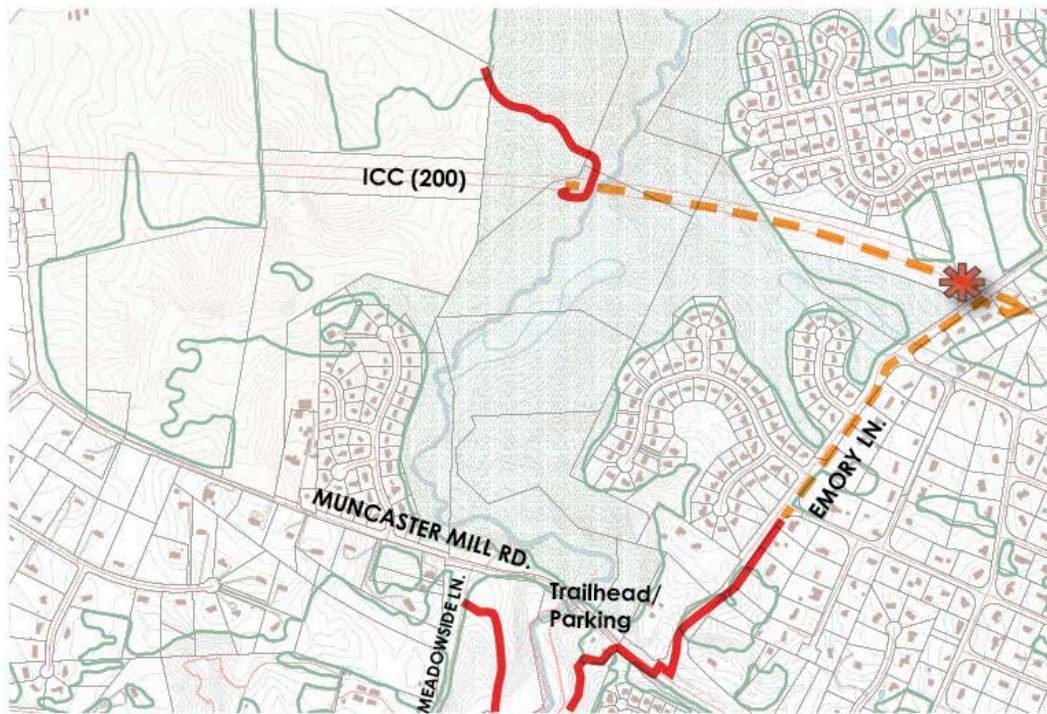


**Figure 16** – Location of missing portion of the Emory Lane bikeway which runs from Muncaster Mill Road to Holly Ridge Road.

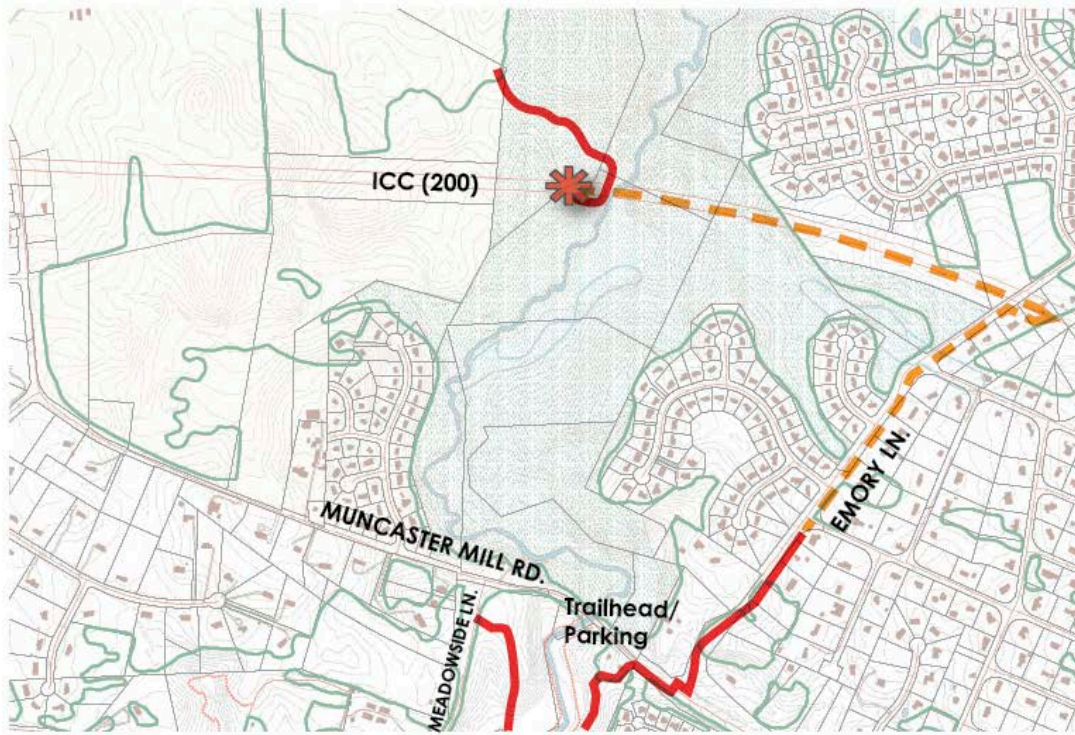


Looking North on Emory Ln. at Holly Ridge Rd.

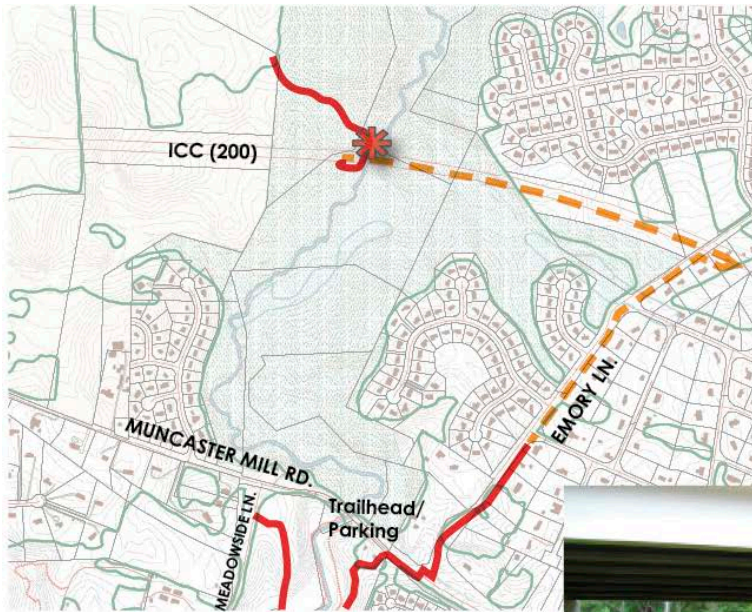
**Figure 17** – Existing Emory Lane bikeway.



**Figure 18** – Existing ICC trail connection.



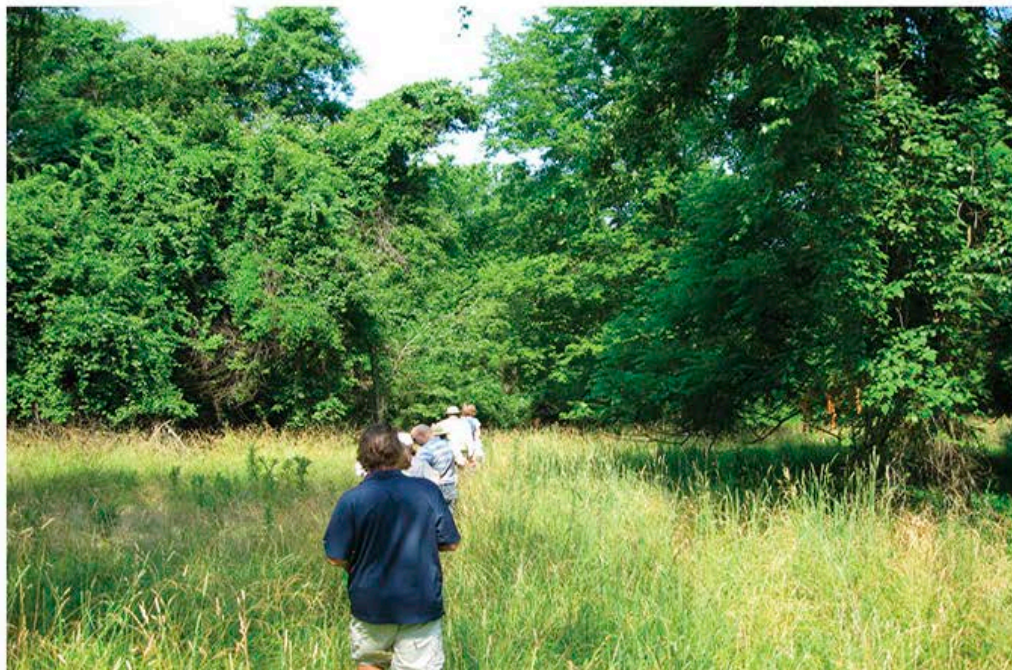
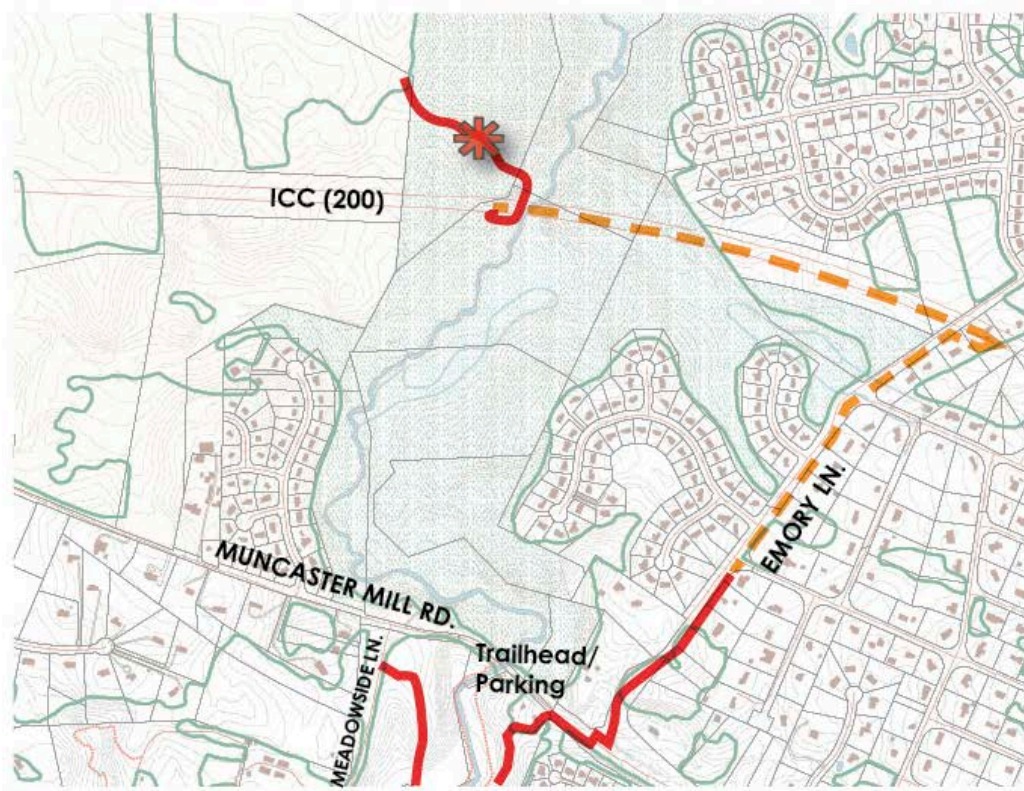
**Figure 19** – Location of ramp from ICC bikeway to connect to trail at the Preserve at Rock Creek. Area was previously disturbed in the construction of the highway.



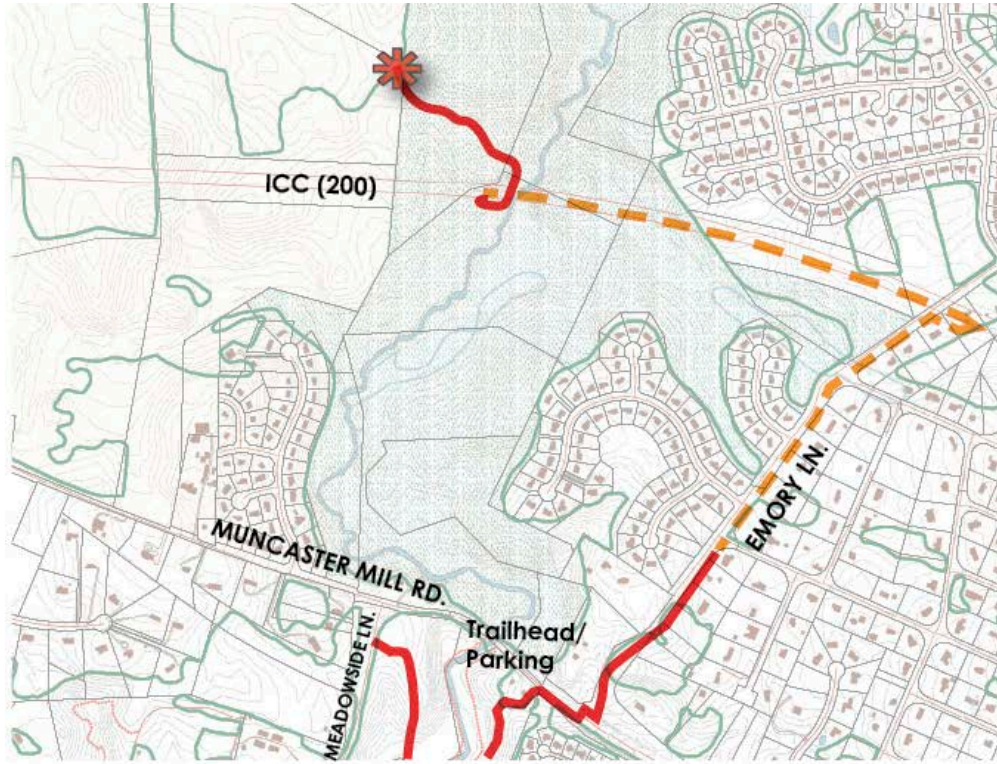
Existing Condition under ICC



**Figure 20** – Proposed connection under the ICC.



**Figure 21** –Connection thorough meadow to Preserve at Rock Creek. Area was previously farmed.

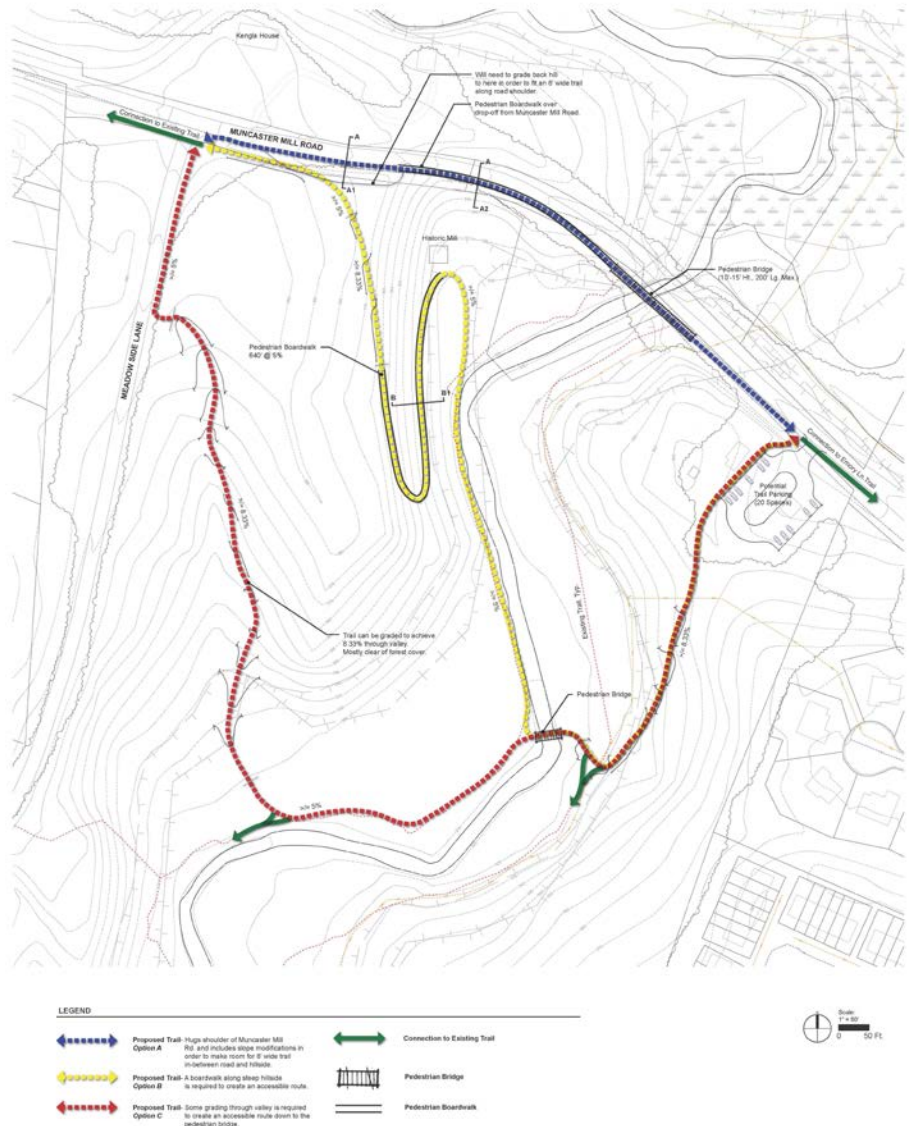


**Figure 22** – Connection to the future Preserve at Rock Creek Trail which will become the North Branch Trail after dedication to M-NCPPC.



2. Alternate Trail Connection to Muncaster Mill Bikeway

It was determined that a connection to the bikeway along Muncaster Mill Road would be an important link in the trail and bikeway system. Three different options were studied:

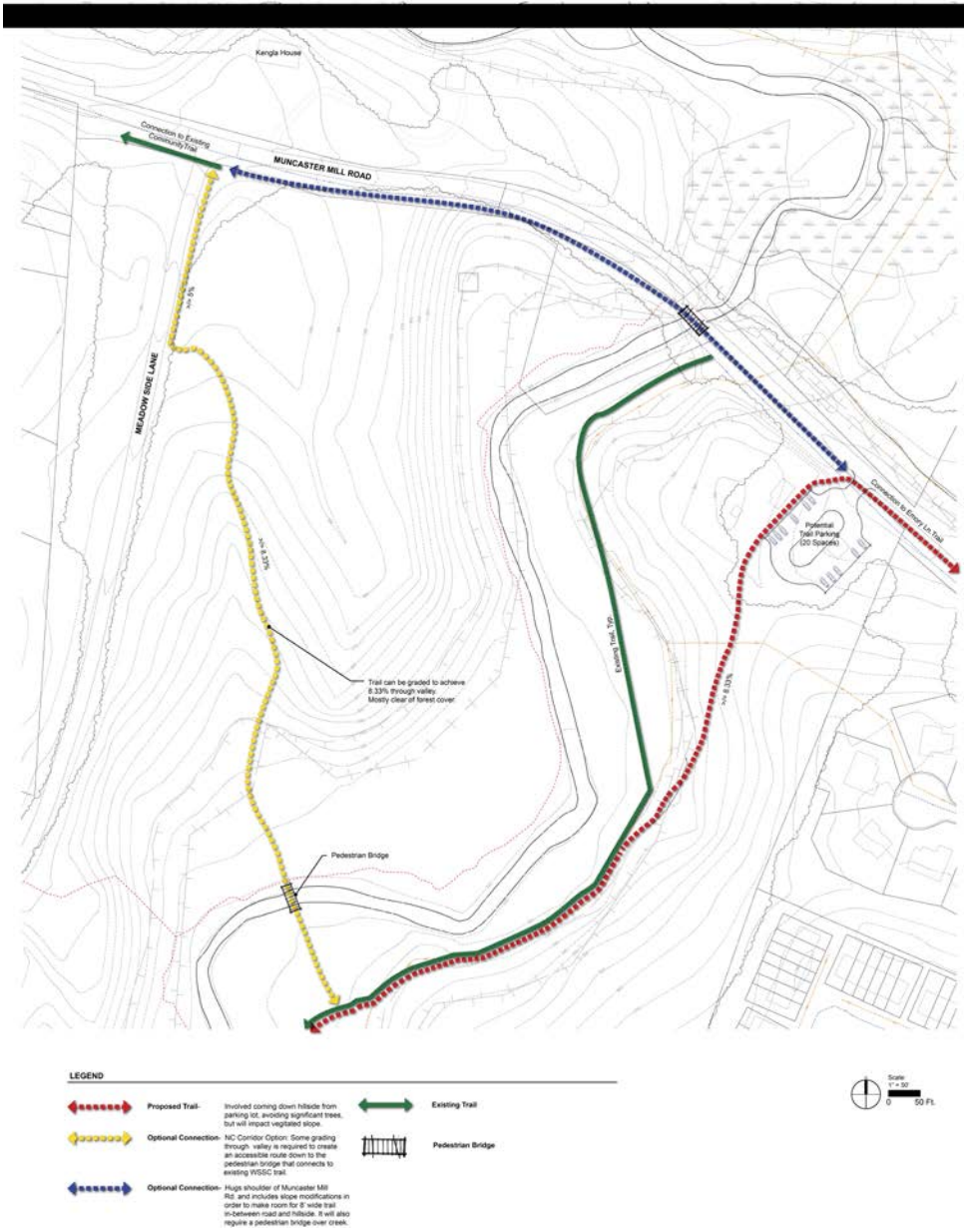


**Figure 23** – Map showing trail connections to the Muncaster Mill bikeway

**Option 1** – The connector trail (shown in yellow) will travel east along the hillside next to Muncaster Mill Road. From there, a switchback will be required that runs through the wooded hillside down to the stream valley. It will cross North Branch on a bridge and meet with the trail on the east side. This option would cut into the existing hillside and be an extremely costly option including 640 lf of meandering boardwalk construction and tree removal and impacts for most of the alignment. This alignment was rejected because it required too much impact to the natural

environment including disturbing a steep forested slope. In addition, the use of switchbacks on boardwalks does not provide a good user experience and presents safety issues.

**Option 2** – The connector trail (shown in red above) will connect to Meadowside Lane and travel south through an open meadow and drainage channel with minimal tree impacts. This area had been previous disturbed. After further refinement (shown in yellow below), this alignment was changed to cross North Branch further south thus decreasing the length of the trail. Trail users will use Meadowside Lane to connect to Muncaster Mill Road. In the future, a trail along Meadowside Lane may be warranted. Due to the low volume of traffic on the road, it was determined that it would not need to be built as part of this project.



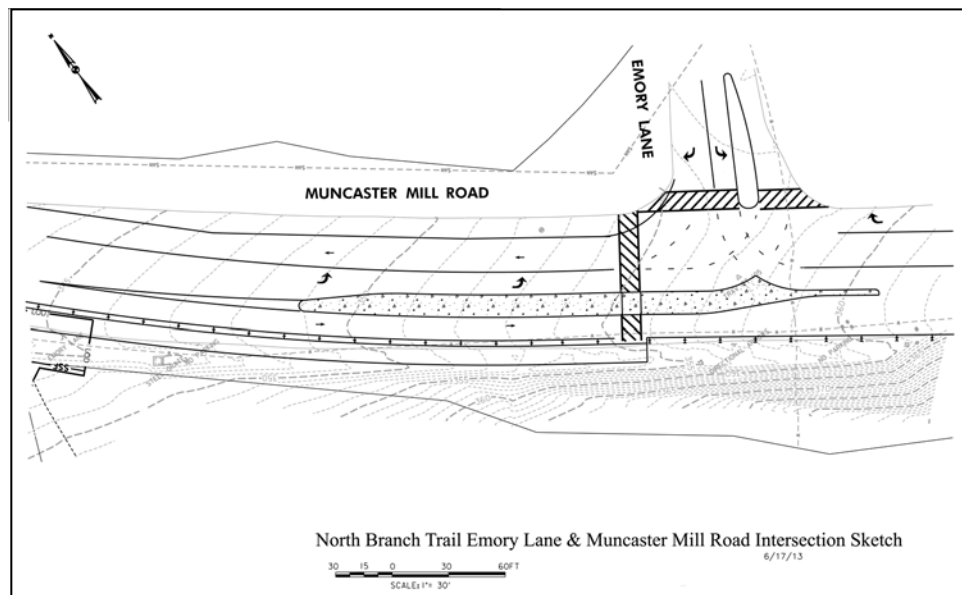
**Figure 24** – Map showing preferred trail alignment option south of Muncaster Mill Road from Meadowside Lane

**Option 3** - A connection along Muncaster Mill Road was also studied by the team, represented by the blue line on the map. This alignment would connect west to east along Muncaster Mill Road on the South side of the road. Near the intersection of Meadowside Lane and Muncaster Mill Road the trail would be located between a steep hillside and an area where the road narrows with little to no shoulder and high speed traffic. Constructing the trail would require cutting back the hillside and removing a number of trees. In addition, the trail would also require an extremely costly bridge that would need to span the entire stream valley. This is in part due to the historic Muncaster Mill which is located immediately adjacent to Muncaster Mill Road. The bridge would be located above the mill site to limit impacts to the site. This option would be within the state right-of-way. This option could be constructed in the future as a Montgomery County Department of Transportation (DOT) project.

Option 2 was chosen as the staff preferred connection. It was also the option that the majority of the public preferred. It has a balance of cost and decreased environmental impact. It also provides a way for bicyclist to access Meadowside Lane to reach the Nature and Smith Center.

### 3. Road Crossing

The alignment crosses one road, Muncaster Mill Road. This road is both owned and maintained by Maryland State Highway Administration (SHA). This crossing is the most significant safety issue along the trail.



**Figure 25** – Plan proposes to widen existing Florida T Median to create a channelized movements and crossing at intersection

Improvements will be necessary at this intersection to create a safe crossing for trail users to reach the Emory Lane portion of trail. The existing condition has a wide shoulder on the east bound side of the road. The facility planning team met with DOT and SHA to discuss the options for the crossing. This intersection does not have the vehicular or pedestrian traffic to warrant a signal. However, improvements proposed can provide a safe crossing for the trail users. Proposed is a

separated trail along the wide shoulder of Muncaster Mill Road, a refuge island 10' wide, and two landing areas at the west and east corners of Emory Lane. This intersection work would not be done until the rest of the Emory Lane bikeway is completed. The intersection improvements are included in the cost estimate. Discussions have occurred about cost sharing the intersection improvements between M-NCPPC, DOT, and SHA.

#### 4. Stormwater Management Concept

A stormwater management concept plan was submitted in March 20, 2013 and is currently under review. The entire trail discharges to Upper Rock Creek and a portion of the trail is within M-NCPPC and FEMA floodplains. The proposed construction of the trail is largely at-grade with some segments utilizing boardwalk and bridges. The stormwater management proposed for this project is designed to provide environmental site design (ESD) non-structural, and microscale practices where space is available, and to minimize impacts and disturbance in all other areas. In some areas along the trail, no ESD practices are provided in order to minimize disturbance to wooded areas.

The proposed SWM features will include the following:

*Non-rooftop disconnect:* This feature is commonly applied to smaller or narrower impervious areas such as the trails on this project. A permeable, vegetated area equal to the minimum flow path length must be provided down grade of the impervious cover. In addition, disconnections should be on gradual slopes of  $\leq 5$ .

This practice will be used:

- In areas where an existing asphalt parking lot is to be removed with a 10' wide strip of the existing road remaining to serve as the trail. Reforestation will be provided in the areas where the asphalt has been removed.
- In two areas along the trail where the conditions meet the required constraints.

*Sheet Flow to Conservation Areas:* This feature can be applied where there is a greater than 50' wide average buffer with an average contributing overland slope of 5% or less from the trail to any concentrated storm drain flow paths, such as North Branch. The buffer should consist of an existing natural forest covered in leaf litter, forest understory, and mature trees.

This practice will be used:

- Along much of the trail length where the trail is constructed at grade, in fill or over existing dirt WSSC access road using geo-grid fill material. This method minimizes disturbance of the dense woods along much of the trail length.

*Bioswale:* This feature is a channel that provides conveyance, water quality treatment and flow attenuation of stormwater runoff. Pollutant removal is provided through vegetative filtering, sedimentation, biological uptake, and infiltration into the underlying soil media. The bioswale is planted with species that will tolerate a variety of moisture conditions.

This practice will be used:

- In an area where the existing road will be removed and the construction of the proposed trail will be in cut with retaining walls to meet ADA compliance.
- In areas where the trail is in cut or fill to provide ADA compliant access.

*Raingarden:* This feature is a shallow, excavated landscaped area that temporarily holds runoff. Raingardens typically consist of an absorbent, planted soil bed, a mulch layer and planting materials. The captured runoff temporarily ponds and slowly filters into the soil over 24 to 48 hours. Pollutant removal is provided through vegetative filtering, sedimentation, biological uptake, and infiltration into the underlying soil media.

This practice will be used:

- In a few places where the topography is flat and is previously cleared.

*Boardwalk and Bridge Construction:* This feature will be utilized over streams and in areas that are consistently wet in order to minimize impacts to sensitive or frequently flooded areas. No SWM practices are required in where boardwalk and bridge construction is used.



**Figure 26** – Map showing trail head including 20 car parking lot.

## 5. Trail Head Parking and Site Amenities

A new parking lot with trail maps and bike racks will be proposed on an abandoned house site located off of Muncaster Mill Road. The parking lot will hold approximately 20 cars and will include ADA access to the proposed hiker/biker trail. A water fountain will be provided utilizing the existing waterline, signage will be proposed for information and orientation, and benches

## *North Branch Trail*

placed for a new gathering place for the trail. Proposed amenities are included in the final cost estimate. The locations will be determined at final design. The parking lot will provide an important start of the trail especially until the Emory Lane connector is provided.

### **D. Community Outreach**

The facility planning process for North Branch Hiker-Biker trail included a community meeting and follow-up comments and messages. The public meeting was held to gather community input. The meeting was held on September 19, 2011 at the Shady Grove Maintenance Yard. Staff introduced the project and described the facility planning process. The consultant team then presented existing site features and conditions through a photographic tour of the corridor and analysis of needs including connectors and parking lot.

A website was created to provide the community with updates on the project. The power point presented at the meeting was accessible from the website.

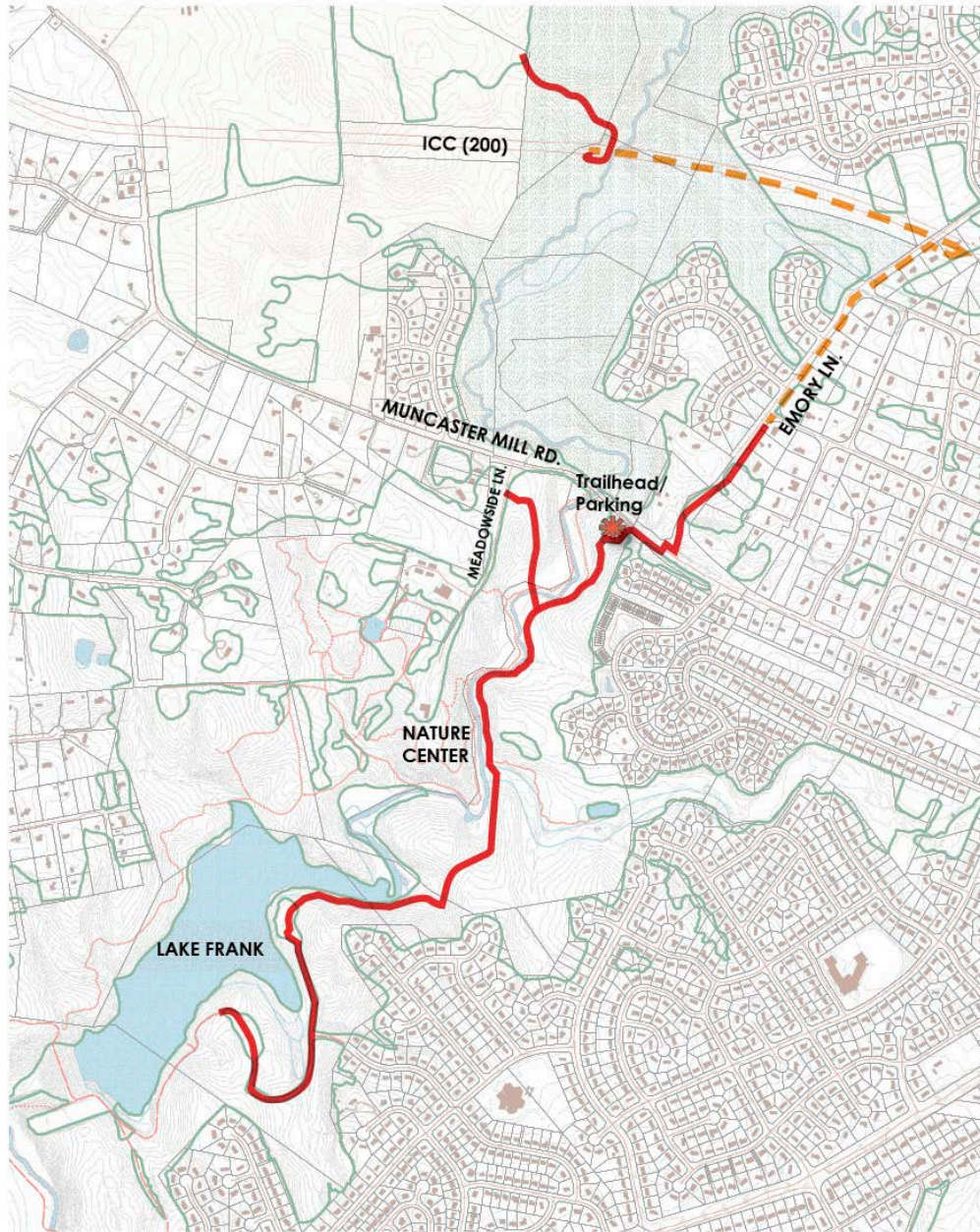
In addition at the request of the Greater Olney Civic Association (GOCA), staff presented the project at the April 9, 2013 monthly meeting at the Olney Community Room. The project was presented along with a citizen request for a connector to the terminus of the trail at the Preserve at Rock Creek Trail.

### **E. Recommendations**

The preceding map shows the preferred trail alignment. The selected alternative maintains the “people’s choice” trails currently being used throughout the corridor, and utilizes construction techniques to that will help preserve the natural resources. Generally, the alignment follows existing paved roads that will be reduced to 10 foot trail widths, providing the trail user with the opportunity to enjoy the adjacent forest, stream and wetland communities in the area. Additionally, Sit Plans to a 30% completion level are included at the end of this report and a copy of the plan is on file at MNCPPC.



**Figure 27** – Benches will be proposed along the trail.



**Figure 28** – GIS map showing entire proposed trail alignment.  
The red dashed line is an existing trail connection by others.

F. Cost Estimate Summary

<b>Item</b>	<b>Subtotal</b>
<b>Site Preparation and Demolition</b>	\$460,000
<b>Earthwork</b>	\$175,000
<b>Drainage, Stormwater Management &amp; Erosion Control</b>	\$250,000
<b>Structures (Boardwalks, Bridges, Walls)</b>	\$1,050,000
<b>Paving</b>	\$500,000
<b>Site Furnishings, Signage &amp; Fencing</b>	\$240,000
<b>Landscape &amp; Tree Protection</b>	\$300,000
<b>Emory Lane &amp; Muncaster Mill Crossing</b>	\$200,000
<b>Construction Subtotal</b>	<b>\$3,175,000</b>
<b>Construction Contingency (30% of Construction Subtotal)</b>	\$952,500
<b>Construction Management &amp; Inspections (5% of Construction Total)</b>	\$158,750
<b>TOTAL PROJECT COST</b>	<b>\$4,286,250</b>



## **IV. APPENDICES**

Attachment A  
30% SITE PLANS

Attachment B  
CORRESPONDENCE

Attachment C

NRI / FSD REPORT AND PLAN

APPENDIX D

DNR\_FS Response Letter/ DNR\_WH Response Letter/ USDI Response Letter

APPENDIX E

Community Meeting Minutes