



MONTGOMERY COUNTY DEPARTMENT OF PARK AND PLANNING

THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION

9500 Brunett Avenue
Silver Spring, Maryland 20901

MCPB
Item: **6**
Date: 4/24/03

April 17, 2003

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Lester L. Straw, Superintendent of Parks
Michael F. Riley, Acting Chief, Park Development Division *MFR*
Douglas Alexander, Design and Project Management Supervisor *DA*

FROM: Linda Komes, Project Manager *LK*

SUBJECT: Facility Plan for Renovation of an Existing Trail in Black Hill Regional Park

I. STAFF RECOMMENDATION

- 1) Approve facility plan for the renovation of an existing Hard Surface trail in Black Hill Regional Park including the trail alignment and cost estimate;
- 2) Determine schedule for design and construction during review of the FY05-10 Capital Improvement Program (CIP).

II. PROJECT DESCRIPTION

A. INTRODUCTION

Black Hill Regional Park is located in the northwest part of Montgomery County between I-270, Clopper Road and West Old Baltimore Road. The park consists of 1,338 acres including and surrounding the 505-acre Little Seneca Lake, which is owned and operated as an emergency water reservoir by the Washington Suburban Sanitary Commission (WSSC). It is estimated that approximately 425,000 people visit the park each year.

The existing six to seven foot-wide asphalt trail is approximately 2-3/8 miles long and follows the eastern shore of Little Seneca Lake from Wisteria Drive north to Spinning Wheel Drive. For much of its length the trail closely follows the alignment of a WSSC sanitary sewer line. The trail is a well-used and cherished recreational amenity and provides the vital pedestrian connection between the surrounding neighborhoods of Waters Landing and Black Hill Regional Park.

Developers originally built the trail on what was then private property, beginning in the early 1980's and continuing as the adjacent residential communities were constructed. The land and trail were subsequently acquired by the M-NCPPC as part of the 1,338-acre Black Hill Regional Park.

The developer-built trail was constructed using little or no base and with a substandard asphalt layer. As a result, almost from the time of its acquisition, the trail has experienced pavement failure and presents ongoing maintenance problems for the Park Manager and maintenance staff. The trail was also built well before the Americans with Disabilities Act (ADA) Guidelines were developed, is too narrow to safely accommodate the growing number of users, and contains several areas of steep slopes. A wooden bridge also needs to be replaced. Since the time the Black Hill trail was constructed, developers are now required to obtain a park permit before beginning construction on M-NCPPC owned land and must follow the Commission's construction details and specifications.

On February 8, 2002 a Specific Project Requirement (SPR) notice was issued for the subject project. After evaluating the submitted proposals, an Official Notice to Proceed was issued to Phoenix Engineering, Inc. on June 26, 2002.

B. FACILITY PLAN PROCESS

During the facility planning process environmental and community impacts were analyzed, a preferred trail alignment with areas for construction access and staging was identified, and detailed projected construction costs were developed. The goal was to meet ADA Guidelines for Accessibility and widen the trail to eight feet, while minimizing environmental impacts. Except in three especially steep areas the trail will remain in its existing alignment. The facility plan proposes demolition and reconstruction of the existing trail, and replacement of the failing wooden bridge. The creation of the facility plan included the following steps:

1. Data Collection,
2. Inventory and evaluation of existing conditions,
3. Preparation of Natural Resources Inventory,
4. Development of Trail Design Criteria,
5. Identification of areas which (1) fail to meet ADA guidelines, and (2) with potential environmental impacts,
6. Completion of additional site specific survey work, including topographical and tree surveys and Geotechnical analysis of existing conditions,
7. Preparation of a conceptual trail renovation plan with recommendations for areas to be realigned,
8. Public Review. A community meeting was held on January 21, 2003.
9. Stormwater management concept approval from the Montgomery County Department of Permitting Services (DPS),
10. Preparation of preliminary design and engineering drawings (30%) and a detailed cost estimate,
11. Presentation to Plan Review Committee.

C. COMMUNITY OUTREACH

On January 21, 2003, a Community Meeting was held at the Upcounty Regional Services Center. The meeting was well attended and staff received valuable input from the community during the meeting and subsequent conversations and correspondence. The Black Hill Trail is a much-loved community amenity and the community was generally very supportive of the proposed trail renovation. A common concern was protection of the existing mature trees.

One citizen asked why the trail was being widened to eight feet. Staff explained that Montgomery County Park and Planning standards (which are based on ASHTO and ADA guidelines) are being followed. In general, the recommended standard for trail width is ten feet, reduced to a minimum of eight feet where constrained, for environmental or other reasons. Questions were also raised about the on-going tree damage caused by the resident beaver population. Staff explained that damaged trees will not be replaced, nor will the beavers be moved. Another concerned neighbor asked how unauthorized vehicular access to the trail would be prevented. Staff replied that removable bollards are used at many facilities and could be employed at this one as well. Written correspondence from the community is attached in Attachment B.

D. INTEREST GROUP AND AGENCY INPUT

On March 19, 2003, the Upcounty Regional Recreation Advisory Board (URRAB) was briefed on the trail projects within Black Hill Regional Park. Several members of URRAB were also present at the January 21, 2003 Community Meeting.

On Monday, March 10, 2003, Tim Prigg of Phoenix Engineering met with Joanne Wiley of the Relocations Unit of WSSC, showed her the drawings and explained the general nature of the proposed improvements to the trail. Tim explained that several manholes that lie within the path would need to be reset. She indicated that WSSC would review the drawings at 65% to 80% completion and noted that at this point she did not see any problems with what was being proposed.

On March 18, 2003, the facility plan was presented to the Plan Review Committee of M-NCPPC. The plan had been previously reviewed by many of the Committee members during the planning process and no new comments were received which required the plans to be revised. The plans will be presented again and approved by the Plan Review Committee prior to bidding for construction.

F. THE BLACK HILL REGIONAL PARK MASTER PLAN

The Black Hill Regional Park Master Plan was approved and adopted in May 2002. The Master Plan recognizes the significance of the subject trail and specifically recommends the rehabilitation, regrading and resurfacing of this portion of the trail system. The plan identifies the need to protect natural resources and to avoid, minimize, and mitigate, environmental impacts in the park. The Master Plan also recommends the addition of trail related amenities and identifies the need to periodically selectively prune understory vegetation to open up extended views of the lake.

In addition to the *The Black Hill Regional Park Master Plan*, *The Countywide Park Trails Plan*, *The Clarksburg Master Plan*, and *The Clarksburg Greenway Implementation Study*, all envision a hard-surface trail network that links the residents of Germantown and Clarksburg to Black

Hills Regional Park. The renovation of the existing hard-surface trail is part of this larger trail network which will both make the beauty of Black Hill Regional Park accessible to thousands of residents and make the amenities of Clarksburg available to those living in the vicinity of Black Hill Regional Park.

III. THE FACILITY PLAN

A. EXISTING CONDITIONS

The subject trail lies within a strip of parkland located along the eastern shore of Little Seneca Lake. The majority of the land around the trail is forested, providing a buffer to the lake from the adjacent residential properties to the east. Little Seneca Lake is owned by the WSSC and is used to help regulate the water level of the Potomac River and as an emergency water supply. Fishing and non-motorized boating are permitted; however, wading, swimming, and ice skating are not. Throughout its length, the trail closely follows the alignment of an existing WSSC sanitary sewer line and it is common to see manholes located very near the trail.

The six to seven foot-wide asphalt trail is primarily used by hikers, bicyclists, and for passive recreation. Horseback riding is not permitted. Public access to the trail is somewhat limited and is provided at four locations from within the Waters Landing community. Most of these access points are steep, well in excess of ADA guidelines for accessibility. Access also exists from the Crystal Rock connector and from the existing natural surface Black Hill Trail at the north end of the project.

The southern portion of the trail is generally more open in character. In some areas a turf-grass strip is all that separates the trail from adjacent yards and homes. A WSSC pumping station and small asphalt parking lot, surrounded by an eight-foot-tall chain link fence, is located in this portion of the trail.

Further north, the trail alignment meanders through mature, hardwood forests. In some places along this segment of the trail, views to the Lake and to the adjacent residential properties are limited. These curves in the trail create excitement and mystery for the trail user. Extended views of the lake are also more prevalent. Staff recommends that some minor pruning of the understory vegetation be conducted and several rest stops with benches be provided.

Large portions of the trail throughout its alignment are failing and require ongoing maintenance to keep the trail safe for users. In some areas where the pavement is cracked, grass or weeds grow in the exposed soil. In other areas, the pavement at the trail edge has completely crumbled and is little more than gravel. Probably most dangerous are the areas where the base below the pavement has settled and significant depressions or "sinkholes" have developed. Borings taken along the trail alignment further support the visual analysis that the depth of the asphalt section and base material is inconsistent, and in many areas is inadequate for continued long-term service. Although the failing areas continue to be repaired, it is clear that there is a need for a long-term solution.

The condition of the existing wooden bridge is also poor. There is an obvious deflection in the bridge and as a precaution maintenance staff are not permitted to transport maintenance equipment across the bridge. A new ten foot-wide prefabricated steel bridge, with a single span of approximately 26 feet, is proposed for this location. New concrete abutments will be constructed on both sides of the stream, behind the existing structures to accept the bridge.

The existing trail width is also inadequate and needs to be widened to safely accommodate both the ever expanding number and variety of trail users. Generally the existing trail is 6-1/2 feet-wide. The proposed eight foot-wide section affords minimum space for bicyclists, wheelchairs, strollers, maintenance crews, and, emergency vehicles.

Because the trail is failing along the entire length, is overall too narrow to safely accommodate the current level of trail use, and includes areas with slopes so steep as to render the trail inaccessible to some users, a recommendation is made to completely demolish and reconstruct the existing trail and pedestrian bridge.

B. THE IMPROVED TRAIL

Staff identified three primary goals that formed the basis for the recommended improvements to the trail:

- Upgrade the trail and pavement section to meet M-NCPPC standards and provide a safe and maintainable surface.
- Improve the overall accessibility of the trail to persons with special needs.
- Minimize the disruption to existing environmental resources

After a thorough analysis of topographic information and several site visits, several areas of the existing trail were identified with slopes that exceed the maximum permitted gradient for accessible trails. Of particular concern is that areas of steep slopes are present at many of the access points to the trail. After identifying the non-complying trails segments, additional field-collected topography and tree surveys were undertaken in an effort to develop options for making the areas accessible with a minimal amount of disturbance to the adjacent wooded edge. This investigation concluded that the majority of the trail could be made accessible.

There is only one area along the entire 2-3/8 mile-long trail where it is not possible to meet the ADA guidelines without excessive grading and environmental disturbance. This area occurs along the main stem of the trail north of the wooden bridge and includes the trail access connector that leads to Waters Landing Drive. To make this area accessible, extensive grading and large retaining walls would be required in an extremely environmentally sensitive area adjacent to an existing cut-bank of the stream. To avoid this disturbance, it was decided that this area should remain as it currently exists. A recommendation is made to add a second bridge, for pedestrians only (no service vehicles), approximately 150-feet west of the existing bridge. The addition of this bridge would make the entire 2-3/8 long trail fully accessible. The existing steep section between the wooden bridge and Waters Landing Drive would remain in place as a point of access for non-handicapped individuals. Signage would be added in this area notifying trail users that that portion of the trail is not handicap accessible.

In all areas, except three, the trail will remain in its existing alignment with minor horizontal and vertical grading improvements. One of the areas proposed for a slight modification to the existing alignment occurs at one end of the trail near Wisteria Drive. In this area the trail descends from Wisteria Drive towards the lake for approximately 257 feet with a 9% slope and then curves sharply to the north. The proposal in this area is to create a series of landings along the slope and a trail node/resting stop at the bottom with a softened curve. Another area proposed to be slightly modified is near the WSSC pumping station. In this area the existing trail curves and ascends sharply to the south. The curve in this area will be broadened into an

area without trees and a low, less than three feet in height, retaining wall added. The area where it is necessary to modify the alignment the most is where the trail meets Wynnfield Drive south of the embankment. In this area the existing slope exceeds 18% and is considered hazardous. To decrease the slope, it is necessary to create a switchback. A detailed tree survey was performed in this area and a proposed alignment was staked in the field and evaluated in an effort to locate the new trail with the least amount of disturbance to the existing forest. A licensed arborist will be consulted during the ensuing design stage to ensure that damage to the trees in this area as well as along the entire alignment is minimized.

The trail will be widened to eight feet along the entire length of trail and will include a one-foot-wide shoulder on either side where possible. The new trail section will consist of three inches of bituminous concrete and four inches of compacted gravel (CR-6 or DGA) on firm and compacted subgrade. The existing wooden bridge will be replaced with a new 10-foot-wide, pre-fabricated steel bridge with a single span of 26 feet, and new concrete abutments. The second pedestrian bridge/boardwalk will be eight feet wide and is proposed to be constructed in place.

C. TRAIL CONSTRUCTION AND ENVIRONMENTAL PROTECTION

A Natural Resources Inventory/Forest Stand Delineation map (NRI/FSD) was approved by the Environmental Planning Division of M-NCPPC on December 31, 2002. The NRI/FSD identified specimen-sized trees, wetlands, stream buffers and steep slopes. In addition, all trees greater than six inches diameter at breast height (DBH) whose critical root zones could be impacted by the construction were identified in the field and located on the plans. A Preliminary Forest Conservation Plan was subsequently submitted and is pending approval. The tree clearing proposed by the Facility Plan is very minor and well below the threshold point at which reforestation is required. M-NCPPC has and continues to reforest the unforested areas around the lake. This proposal includes approximately \$29,000 for additional planting in the trail corridor.

On February 5, 2003, the Montgomery County Department of Permitting Services approved a stormwater management concept plan for the subject project.

The proposed renovations to the hard surface trail require a balance between the need to protect existing environmental resources and the need to provide a safe and enjoyable experience for people of various abilities. As discussed in the NRI/FSD, there are a number of valuable environmental resources in this area. The most obvious resource is Little Seneca Lake. Other important natural resources that require protection include the forest, significant and specimen trees, wetlands, steep slopes, and erodible soils. To minimize the potential impacts to these resources wherever possible, the proposed trail alignment follows the existing alignment, both horizontally and vertically. Approximately 80% (1.9 miles) of the new trail will cause only minor impacts on adjacent resources. In most cases, where adjustments to the vertical alignment of the trail is required to improve accessibility, excavation will be avoided reducing the impact to the critical root zones of trees adjacent to the trail. In places where excavation is not avoidable, a trenching machine will be used to cleanly prune tree roots to avoid unnecessary root damage between the excavation and the tree. Low walls are also recommended to reduce the impact of grading. The walls are proposed as dry-laid walls using natural materials or segmented concrete block walls. In all cases, the walls would be less than three feet in height.

Because of the linear nature of the project and the limited number of access points, demolition of the existing trail and construction of the improved trail will present some challenges. An

arborist/ecologist will be consulted during the next phase during which time a specific tree protection plan will be developed. The project arborist/ecologist will also be on hand during construction to evaluate changes in trail design during construction, as necessary. Special measures such as root pruning and the use of microrhizaes may be employed in addition to extensive tree protection fencing and diligent monitoring and inspection. Several possible areas for construction staging and vehicle turnaround have been identified on the facility plan. It is anticipated that the equipment used may be smaller than that used in road and larger path construction.

Portions of the trail will also be closed for a period of time. It is recommended that construction be coordinated so only one section of the trail is closed at a time. Temporary signage and barricades will be necessary to direct users.

The existing trail is already maintained by the M-NCPPC, and in fact because of its age and poor construction requires extensive regular maintenance. Any new disturbed areas will require monitoring, maintaining, and restoration of the native habitat along the trail. As previously discussed, although disturbance will be minimized, reforestation using native plant species will be provided in these areas.

IV. COST

The Consultant prepared a cost estimate for the design and construction of the renovation to the existing hard surface trail in Black Hill Regional Park. The estimated cost to complete the improvements is \$1,034,000. This amount includes \$90,000 (including staff chargebacks) for design, \$93,000 for Construction Management and Inspections, and \$851,000 for Site Improvements (including contingency). A more detailed summary is included in the Facility Plan Technical Report, Attachment C.

V. PROJECT FUNDING

Staff recommends that funds for design and construction be considered for inclusion in the FY05-10 Capital Improvement Program (CIP). A cost estimate for the design and construction is provided as part of the Facility Planning Report.

VI. ATTACHMENTS

Attachment A: Black Hill Regional Park Trails Plan
Attachment B: Community Correspondence
Attachment C: Facility Plan Technical Report (Consultant's Report)