Black Hill Trail Renovation
Safety Barriers and Project Update

M-NCPDC, Department of Parks, Montgomery County, MD
Community Meeting for the Selection of Safety Fencing
January 18, 2012

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Project Background & Construction Status

2010 - Detailed Design Completed
2011 - Construction Began

- Construction divided into phases in effort to complete segment between Spinning Wheel Drive and Neerwinder Street

**Phase 1**
- Paving completed Fall 2011
- Fence installation pending

**Phase 2**
- Neerwinder Street to Wisteria Drive construction began January 2012
- Completion expected in Fall 2012
Determining Need for Safety Barriers

- International Building Code Requires Barriers where there are vertical drops greater than 30” (i.e. bridges, retaining walls, boardwalks)
- American Association of State Highway and Transportation Officials (AASHTO) provides guidance for locating barriers for trails along slopes
- Ultimate fence locations must be determined once construction is complete due to variance in existing conditions
- Parks recognizes need to balance guidelines with natural setting

top: 1999 AASHTO Guidelines
bottom: February 2010 AASHTO Draft Update
Determining Need for Safety Barriers

“Depending on the height of the embankment and condition at the bottom, a physical barrier, such as dense shrubbery, railing, or fencing may be needed. **This is an area where engineering judgment must be applied, as it is necessary to compare the risk for an errant bicyclist that swerves off the path to the risk of the rail itself.** Where a recovery area (i.e., distance between the edge of the path pavement and the top of the slope) is less than 5 feet (1.5 m), physical barriers or rails are recommended in the following situations.”

Determining Need for Safety Barriers

Examples of Renovated Trail Requiring Fencing

- Locations where the concern for safety exceeds the desire to minimize fencing
Temporary Construction Materials

- Temporary silt fencing and trenchless super silt fencing
- Temporary pedestrian barrier
- Temporary tree protection
Black Hill Trail Renovation

- New Trail Alignment
- New Boardwalk
- Proposed Fencing

Existing Trail

0 540 1,080 Feet

Little Seneca Lake

Black Hill Regional Park
Selecting a Fence Product

- **Option 1**
  3-Rail Wood Board Fence

- **Option 2**
  Black Ornamental Steel Fence

- **Option 3**
  Black Chain-link Fencing

- **Option 4**
  Rustic 3-Rail Wood Fence
Fence Comparison Chart/On-Line Poll

<table>
<thead>
<tr>
<th>Option</th>
<th>Type</th>
<th>Capital Cost</th>
<th>Installation Difficulty</th>
<th>Maintenance Level</th>
<th>Life Cycle Replacement</th>
<th>Structural Integrity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3-Rail Wood Board Fence</td>
<td>low</td>
<td>middle-high</td>
<td>middle-high</td>
<td>15-20 yrs.</td>
<td>middle</td>
</tr>
<tr>
<td>2</td>
<td>Black Ornamental Steel Fence</td>
<td>high</td>
<td>low</td>
<td>low</td>
<td>20-30 yrs.</td>
<td>high</td>
</tr>
<tr>
<td>3</td>
<td>Black Chain Link Fence</td>
<td>low</td>
<td>low</td>
<td>low</td>
<td>20-30 yrs.</td>
<td>high</td>
</tr>
<tr>
<td>4</td>
<td>Rustic 3-Rail Wood Fence</td>
<td>low</td>
<td>middle-high</td>
<td>high</td>
<td>10-15 yrs.</td>
<td>low-middle</td>
</tr>
</tbody>
</table>

- Parks provided images of fence options and identified characteristics for comparison
- Parks created on-line poll to obtain preferences of residents and park users
January 12, 2012 Online Poll Results

Which one of the four (4) fence options do you prefer?

Option #4: Rustic 3-Rail Wood Fence
- 117 (55%)

Option #3: Black Chainlink Fencing
- 63 (29%)

Option #2: Black Ornamental Steel Fence
- 14 (7%)

Option #1: 3-Rail Wood Board Fence
- 20 (9%)
Selecting a Fence Product

Decision Factors

- Parks selected options that will suit purpose
- Public sentiment
DISCUSSION
AND
QUESTIONS