



Executive Director's Recommendation

Commission Meeting: January 5, 2017

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| PROJECT Rock Creek Park Multi-Use Trail Rehabilitation and Pedestrian Bridge Rock Creek Park From M Street to Broad Branch Road and Arkansas Avenue, NW Washington, DC | NCPC FILE NUMBER 7320 |
| SUBMITTED BY United States Department of the Interior National Park Service | NCPC MAP FILE NUMBER 00.00(78.00)44475 |
| REVIEW AUTHORITY Federal Projects in the District per 40 U.S.C. § 8722(b)(1) and (d) | APPLICANT'S REQUEST Approval of preliminary and final site development plans |
| | PROPOSED ACTION Approve with comments |
| | ACTION ITEM TYPE Consent Calendar |

PROJECT SUMMARY

The National Park Service (NPS), on behalf of the District of Columbia Department of Transportation (DDOT), has submitted preliminary and final site development plans for the Rock Creek Park Multi-Use Trail Rehabilitation and Pedestrian Bridge. The project is located in the northwest quadrant of Washington, DC, bounded by Broad Branch Road to the north and M Street to the south. The linear site is centered on the north-south trail along Rock Creek Park and the area of disturbance is 9.8 acres of parkland. The project includes the rehabilitation of a 3.7-mile segment of the Rock Creek Park multi-use trail from Broad Branch Road to P Street, NW; a 4,300-foot (0.8 mile) segment of the Piney Branch Parkway trail from Beach Drive to Arkansas Avenue, NW; a new 1,247-foot (0.2 mile) paved trail segment from Broad Branch Road to Pierce Mill (referred to as the Pierce Mill Trail Spur); a 1,929-foot (0.4 mile) segment of the Rose Park trail from P Street, NW to M Street, NW; and a 363-foot ramp connecting the Rose Park trail to P Street, NW. The final plans include 2.4 miles of pavement rehabilitation and trail widening; 1.2 miles of new trail connections; and a new 113-foot long pedestrian bridge over Rock Creek, located immediately to the south of the Beach Drive Tunnel, adjacent to the west side of the existing bridge.

The purpose of the project is to improve the overall condition and connectivity of the deteriorating Rock Creek Park multi-use trail system in order to enhance visitor use and experience within Rock Creek Park. The project would result in improved visitor safety and protection of park resources; enhanced access to the Rock Creek Park multi-use trail system from other pedestrian and bicycle facilities, as well as the surrounding neighborhoods; and more effective drainage and erosion control, thereby reducing trail maintenance.

The project is necessary to improve bicycle and pedestrian safety, comfort, and accessibility compliant with the Americans with Disabilities Act (ADA) along the Rock Creek Park Trail (RCPT). The typical proposed trail section includes the following elements to encourage bicyclists and joggers to collectively enjoy the RCPT:

- Resurfacing and trail widening where feasible, to a ten-foot wide shared use path. Paved trails widths will be limited to eight-foot wide where needed.
- Adding two-foot wide graded shoulders that will be clear of obstructions on either side of the paved shared use path for joggers.
- Providing six to eight-foot sidewalk connections to improve the overall connectivity to the RCPT beyond the park.
- Paving existing social trails currently used by pedestrians to prevent soil compaction, vegetation damage, and soil erosion.

The proposed pedestrian bridge will provide safe passage for trail users across Rock Creek. Currently, two-way trail traffic, bicyclists and pedestrians, must use the three-foot sidewalk along the west side of the existing Beach Drive bridge to cross Rock Creek. The new pedestrian bridge will provide a separate, ten-foot clear width for trail users. The proposed bridge type is a single span, concrete double-T section, supported by two abutments. The proposed materials would match the existing facade of the tunnel portal and roadway bridge abutments. Natural stone will be set in a random ashlar pattern with a rough face and moderate amount of relief to cover the proposed pedestrian abutments. The railing will consist of a simple post and cable design to maintain a light and transparent appearance. The design includes a dark-colored palette in keeping with the character of the RCPT's rustic quality.

As part of the proposed site improvements, the proposal entails modifications to the trail alignments and road crossings; traffic control; directional and interpretive signage; lighting; landscape improvements; tree protection; utility replacements; and bank stabilization. Lastly, the project incorporates sustainable stormwater management strategies with the goal to comply with federal stormwater requirements under *Section 438 of the Energy Independence and Security Act (EISA) of 2007*, and local regulations contained in the *District Department of Energy and Environment (DOEE) Stormwater Management Guidebook of 2013*.

KEY INFORMATION

- Rock Creek Park was established on September 27, 1890 as one of the first national parks. It was set aside for the people of the United States as a unique area of natural beauty and to preserve significant natural, historic and archeological resources pursuant to Pub. L. 51-297, 26 Statute 482. It is listed in the National Register of Historic Places and the District of Columbia Inventory of Historic Sites.
- Rock Creek Park extends from the Maryland state line south to the Beach Drive tunnel near the National Zoo. The Rock Creek and Potomac Parkway begins at the southern end of the tunnel and extends to the Potomac River. Rock Creek Park Trail extends from Wise Road, NW to Military Road, NW, then from Broad Branch Road south to the Lincoln Memorial Circle.
- Rock Creek Park is a 2,896-acre park under the jurisdiction of the National Park Service (NPS), However, implementation of the project would be administered by the District Department of Transportation (DDOT) and funded by the Federal Highway Administration (FHWA).

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- The project does not involve any transfer of ownership or change of jurisdiction of the trail or the land within the project area. Ownership of the trail and land within the project area will remain with the current owners. The majority of the proposed improvements are located on NPS land, with some improvements located within District of Columbia right-of-way, and within the National Zoological Park property.
 - The US Commission of Fine Arts (CFA) reviewed and approved the final design at its meeting on November 17, 2016, with the condition that two design issues be resolved in consultation with staff. The first outstanding design issue that requires further study is the treatment of the proposed retaining wall at the south end of the Beach Drive tunnel portal. CFA recommended that the design team develop a solution with the least possible impact on the character and topography of the existing condition. The second design issue is the transition from the typical wooden park railing, proposed for the southeastern approach ramp of the bridge, to the cable railing proposed for the bridge span itself. CFA encouraged that the applicant further design the railing details with the same attention given to the connection of the arching bridge beam to the masonry abutment.
 - The Old Georgetown Board (OGB) reviewed the Rose Park Trail segment on December 1st, 2016 and approved the project with recommendations.
 - The DC State Historic Preservation Office (SHPO) reviewed the undertaking and determined that the project would have no adverse effect on historic properties on December 9, 2016. The SHPO noted that they regretted that the proposed pedestrian bridge would not be positioned much further from the existing automobile bridge or constructed much closer to it.
 - The new pedestrian bridge spanning Rock Creek, located at the south end of the Beach Drive tunnel near the National Zoo, adjacent the west side of the existing Beach Drive bridge, is part of a larger project currently underway to resurface and widen the Rock Creek Park multi-use trail.
 - The Environmental Assessment (EA) preferred alternative included a new pedestrian bridge which would be equal in length and style as the existing vehicular bridge, and would be constructed within five feet of the current bridge abutment to allow for maintenance and future replacement of the vehicular bridge, if needed. The bridge materials would match the current concrete and stone aesthetics of the existing structure.
 - The applicant modified the EA preferred alternative based on recent consultation meetings with NCPC, CFA, and SHPO and to address existing site constraints. The four agency consultation meetings were held between March 30, 2016 and September 21, 2016 and focused on the pedestrian bridge design and alignment alternatives. Other topics discussed included the overall proposed trail improvements, lighting, stormwater management, signage, landscape and bank stabilization.
 - As part of the consultation meetings, the applicant and review agencies conducted a site visit on August 22, 2016 to better understand the proposed bridge alignment alternatives and the existing site constraints. The physical and environmental constraints include proximity to endangered hay's spring amphipod habitat, adjacent Smithsonian National Zoological Park property, existing 42 inch combined sanitary and storm sewer protection and tree impacts.

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- NPS considered various alignments and materials for the proposed pedestrian bridge. The new bridge will align closely with the tunnel walkway for functional purposes, while providing enough separation to allow the bridge to stand separately with its own character and not be designed to appear as an integral part of the existing roadway bridge.
 - In 2015, the Federal Highway Administration (FHWA), Eastern Federal Lands Highway Division (EFLHD) incorporated part of the scope of this project into its Beach Drive NW Reconstruction project, which began construction in September 2016. This submission is the final step toward implementation and construction of the remaining improvements
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RECOMMENDATION

Approves the preliminary and final site development plans for the Rock Creek Park Multi-Use Trail Rehabilitation and Pedestrian Bridge.

Finds that the preferred pedestrian bridge alignment originally included in the Environmental Assessment included a parallel alignment to the existing Beach Drive, NW structure. However, widening the existing roadway bridge was determined to be infeasible due to technical challenges with the existing Beach Drive structure conditions. Instead, the applicant has modified the pedestrian bridge alignment based on consultation meetings with NCPC, the District of Columbia State Historic Preservation Office and the U.S. Commission of Fine Arts while balancing physical and environmental constraints and tree protection, and staff is satisfied with this progress.

Notes that any substantial changes to the multi-use trail and pedestrian bridge design, including but not limited to changes in the alignment, stormwater management, and landscape plan are required to be submitted to the Commission for review in accordance with the National Capital Planning Act and NCPC's Submission Guidelines.

PROJECT REVIEW TIMELINE

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| Previous actions | none |
| Remaining actions (anticipated) | – none |

PROJECT ANALYSIS

Executive Summary

The Rock Creek Park Multi-Use Trail Rehabilitation and Pedestrian Bridge will improve trail safety; and enhance access to the Rock Creek Park multi-use trail from surrounding communities as well as the larger bicycle and pedestrian network. The project seeks to preserve the integrity of Rock Creek Park and its resources; minimize ground disturbance from new trail construction; and

minimize the loss of trees and vegetation. In addition, the project will enhance opportunities for interpretation of historic trail alignments and park resources. The project will support the needs of diverse user groups who enjoy the trail, including bicyclists and pedestrians, and improve the visitor experience. Lastly, the site improvements included in the RCPT rehabilitation effort will separate trail users from vehicular traffic in a more effective manner; improve sight distance at approaches and curves, and provide a more effective drainage and erosion control, thus reducing trail maintenance. The proposed pedestrian bridge design is consistent with the language of other pedestrian bridges along the trail. The proposed landscape and low impact development strategies will improve the aesthetics of the park while helping the environment.

Overall, the project is consistent with the Federal Elements of the Comprehensive Plan for the National Capital. In particular, the project meets the goals and objectives of the Urban Design; Transportation; Federal Environment; Historic Preservation; Visitors and Commemoration; and Parks and Open Space Elements. Therefore, staff recommends that the Commission **approve the preliminary and final site development plans for the Rock Creek Park Multi-Use Trail Rehabilitation and Pedestrian Bridge.**

Analysis

The project aligns with basic goals of the comprehensive plan. Specifically, the Urban Design Element contains policies that encourage the federal government to recognize the contribution of Rock Creek Park in reinforcing the natural setting and character of the nation's capital and improve the transition between the edges of this large, natural park and the surrounding neighborhoods to be sensitive to the natural setting. Furthermore, the Parks and Open Space Element states that the federal government should ensure that Rock Creek Park continues to serve as an important natural resource, recreational and cultural area, and maintain and improve trail quality for a variety of users.

Proposed Pedestrian Bridge

The proposed pedestrian bridge site is characterized by hilly, forested terrain to the north and east. A sparsely wooded floodplain lies to the south and west. Beyond the floodplain, the terrain rises abruptly into the city. Rock Creek is broad and shallow, flowing through the site in a southeasterly direction. The forest stands in the area are composed of a mixed of tulip poplar, red maple, sycamore, white oak, box elder, beech, ash, and locust. The site is bound by park roadway, trail, bridge, and tunnel infrastructure to the south and east sides of the site. The Duke Ellington Bridge overshadows the site from the south, rising above Rock Creek to the elevation of the city above, carrying Calvert Street NW traffic over the park.

Beach Drive NW crosses Rock Creek on an existing two-lane bridge and passes through an 800-ft long tunnel before continuing to the north. The existing roadway bridge was constructed in 1966. This bridge is not currently on the National Register of Historic Places but is eligible for consideration. At this time, there are no plans to reconstruct the existing roadway bridge. However, the bridge and tunnel are currently undergoing rehabilitation improvements which began construction in September 2016. The Rock Creek Park Multi-Use Trail passes through the site but is constricted by narrow walkways along the existing roadway bridge and tunnel. The National

Zoo's property is located to the northwest. An existing trail through the zoo property provides passage for the multi-use trail and is a welcome alternative to the narrow tunnel walkway.

The applicant studied existing footbridges within the project area, which were constructed in the 1930's, to inform the materials and character of the proposed pedestrian bridge. The existing bridges are cast-in-place concrete with slightly arched profiles and post and rail fall protection. Stonework is typically a random ashlar pattern with a rough exposed face using quarried stone materials such as granite, schist, and gneiss. Additional footbridges constructed of timber are located at Klinge Ford and Peirce Mill. As a result, the proposed pedestrian bridge includes a dark-colored palette in keeping with the context of Rock Creek Park's rustic quality. The proposed natural stone would match existing facades of the tunnel portal, roadway bridge abutments, set in a random ashlar pattern with a rough face inspired by the existing bridge precedents within Rock Creek Park. The concrete finish color of the new pedestrian bridge will be a sand color matching the concrete color of the existing roadway bridge. The color will not only match the existing, but will also be an organic tone that does not distract from the natural setting. The bridge deck and adjacent trail to the south will include a contiguous asphalt overlay.

After safety, the main goal of the pedestrian and bicycle railing is to blend in with the park setting. Therefore, the design intent of the rail is to be simple and to not draw attention away from the surrounding natural environment. As a result, the barrier will be a 54-inch high rail; the railing will be constructed of posts and steel cables and will have a light appearance limiting obstruction of the viewshed. The pedestrian and bicycle railings will meet the American Association of State Highway and Transportation Officials (AASHTO) Pedestrian Rail standards.

During the development of the Environmental Assessment, the applicant considered various alignment, bridge type, and material alternatives. Due to technical challenges with the existing bridge design and condition, widening the existing roadway bridge was not feasible. The design team developed additional alignment and bridge type alternatives to the immediate west of the roadway bridge. Initially, the EA/FONSI preferred alternative was developed to match the alignment, hydraulic opening, and style of the existing roadway structure. However, based on recent consultation meetings with NPS, DDOT, NCPC, CFA, and SHPO, and to respond to existing site constraints, the design team modified the preferred alternative. As a result, the revised alignment is set on a tangent with a southwesterly bearing, angling from the roadway bridge and tunnel at approximately 12 degrees. The new bridge will align closely with the tunnel walkway for functional purposes. However, the proposed alignment will provide enough separation to allow the bridge design to express its own character. The proposed bridge alignment provides a semi-direct route for pedestrians and bicycles. The final design proposes additional landscape features south of the bridge to discourage trail users from continuing to use the narrow sidewalk across the Beach Drive NW bridge as a shortcut.

Physical and Environmental Constraints

The pedestrian bridge alignment takes into account physical and environmental constraints including proximity to endangered hay's spring amphipod habitat, adjacent Smithsonian National Zoological Park property, existing 42" combined sanitary and storm sewer protection and tree impacts.

- According to the US Fish and Wildlife Service, the Hay's spring amphipod, a federally endangered species, occurs in the vicinity of the proposed project within the boundaries of the Smithsonian's National Zoo. The Hay's spring amphipod is a small, aquatic crustacean that resembles a very tiny shrimp. The US Fish and Wildlife Service recommended against alignments located further up-stream due to the potential for construction related impacts i.e. tree clearing and an increase in unauthorized entry into the habitat area. Similarly, the Federal Environment Element recommends federal agencies to ensure that rivers, and streams near the site provide adequate undisturbed habitat for species movement.
- An existing 42" combined sewer runs parallel to Rock Creek along the northeast bank. According to DC Water design manual, structural footings and piles must maintain a minimum 5-ft clearance from existing sewers.
- The National Zoo, located to the north of the proposed pedestrian bridge site, includes an important trail link through the zoo property. However, due to zoo regulations, the trail must be closed after 7 pm. Trail users must use the tunnel walkway for passage once zoo trail access is closed. Rock Creek Park and the trail are closed between dusk and dawn. As part of the project, the location of the "Zoo Loop" Fence and Gate will be adjusted and/or replaced.
- Approximately a total of fifteen trees, mostly boxelder and ash, would be impacted by a fill embankment footprint leading to the south pedestrian bridge abutment. However, the proposed alignment preserves two mature sycamore trees located near roadway bridge abutment. These trees help to provide separation between the roadway and trail.

Therefore, staff recommends that the Commission **find that the preferred pedestrian bridge alignment originally included in the Environmental Assessment included a parallel alignment to the existing Beach Drive, NW structure. However, widening the existing roadway bridge was determined to be infeasible due to technical challenges with the existing Beach Drive structure conditions and maintenance concerns. Instead, the applicant has modified the pedestrian bridge alignment based on consultation meetings with NCPC, the District of Columbia State Historic Preservation Office and the U.S. Commission of Fine Arts while balancing physical and environmental constraints, and tree protection, and staff is satisfied with this progress.**

Floodplain and Bridge Hydraulics

The proposed pedestrian bridge over Rock Creek will be located slightly upstream from the existing Beach Drive bridge. The bridge will be located within Zone AE, a Special Flood Hazard Area (SFHA) of Rock Creek. The current FEMA 100-year flood elevation at the existing Beach Drive bridge is approximately elevation 47.5, which would overtop Beach Drive by approximately 7 feet. Flood elevations higher than about 38-ft will overtop the roadway west of the existing roadway bridge. The previous modeling of the pedestrian bridge located immediately adjacent to the existing Beach Drive bridge resulted in an increase in the 100-year flood elevation of 0.1'. The floodplain elevation increase ranging from 0.1' to 0.0' extended upstream from the bridge for approximately 2.0 miles. The currently proposed location of the pedestrian bridge, located further upstream will cause additional impacts which will likely increase the 100-year flood elevation by slightly more than 0.1'. Due to variances to the floodplain and base flood elevations caused by the

proposed bridge, DOEE and FEMA review and approval will be necessary prior to issuance of a building permit by DCRA.

Landscape and Tree Protection Plan

In addition to preserving two mature sycamore trees, the landscape plan includes new trees, shrubs and groundcovers. The plan includes approximately 37 new trees, including eastern redbud, flowering dogwood, American holly, magnolia, American sycamore, white oak and southern red oak.

Proposed Portal Wall Extension at the south end of the Beach Drive Tunnel

The project includes a proposed portal wall extension to improve sight distance between trail users by reducing the existing grade, but will create a broad, flat surface. In order to preserve the woodland character of the site, boulders and plantings, include Christmas Fern, Creeping St. Johnswort, Flowering Dogwood, American Hornbeam, and Southern Red Oak, are proposed to frame the appearance of the portal wall. Recognizing the contribution of Rock Creek Park in reinforcing the natural setting and character of the nation's capital, the Urban Design Element encourages agencies to improve the transition between the edges of Rock Creek Park and the neighborhoods that abut the park to be sensitive to the natural setting. NCPC understands how the proposed portal wall extension improves sight lines between trail users due to existing poor visibility from the Zoo Loop Trail toward Beach Drive NW. However, NCPC staff concurs with CFA recommendation that the design team develop a solution with the least possible impact on the character and topography of the existing condition.

Pedestrian and Bicycle Safety

The existing condition at the trail intersection between the zoo loop, tunnel walk-way, and bridge sidewalk is hazardous due to high trail user volumes, poor visibility, and tight space constraints. When the proposed pedestrian bridge is completed, trail users will continue to converge in a three-way intersection. However, the project will provide safety measures and sight line improvements at this junction.

Proposed Stream Bank Stabilization Details

In order stabilize the eroding stream bank along Rock Creek adjacent to the proposed pedestrian bridge, the design includes vegetated geogrids. The proposed vegetated geogrid is a combination of angular stone and soil fabric lifts which are designed to protect the trail/stream bank, prevent erosion, and provide a natural look to integrate into the existing landscape.

The angular stone mimics a natural process already occurring in Rock Creek where bedrock outcrops protect the toe of stream banks. The constructed stone toe is composed of a low wall of boulders with footers, partially buried into the streambed. Soil fabric lifts are installed on top of the angular stone to create the vegetated geogrid. Soil fabric lifts are a series of short soil terraces wrapped in biodegradable erosion control fabric. The use of terraces instead of a flat slope prevents slumping during the plant establishment period and allows the stream bank to stabilize more rapidly. The lifts are planted with fast-growing shrubs. For ease of installation and integrity of the soil lift matting, Live Stakes (dormant cuttings) or Tubelings (live stakes that have been partially grown) are used in lieu of container grown shrubs.

The policies included in the Federal Environment Element encourage restoration of stream banks that have been negatively impacted by runoff, and preservation and protection of stream valley parks and small urban forest areas in their natural conditions.

Fence Details

The final plans include a 42 inch post-and-rail timber fence along trail segments with steep, adjacent slopes to improve safety. The timber fence will be designed for compatibility with bicycle and pedestrian use, lumber for the fence will be treated but will not be painted. Rails will be located on the trail side and the top rail will be aligned with the bicycle handlebar height.

Additional Improvements: Rose Park Trail

In conjunction with the overall trail resurfacing and widening, the project also includes improvements to the Pierce Mill Trail Spur and the Rose Park Trail. The Pierce Mill Trail Spur improvements entail resurfacing the existing unpaved social trail from south of the Broad Branch/Grove 2 North parking area to the Pierce Mill parking area to a standard eight-foot width. The Rose Park trail, located along the eastern boundary of the Old Georgetown neighborhood, from P Street, NW to M Street, NW, will be resurfaced along its current alignment to a six-foot width.

The existing Rose Park trail is 1/3 mile (1,950 feet) long. It is situated along a ridge, paralleling the west side of Rock Creek and Potomac Parkway. A large strip of property located to the immediate west of the trail was transferred from Rock Creek Park (US Reservation 360) to the District of Columbia for recreational purposes in 1972, however, the trail itself and the grassy areas to the north and south remain NPS land. The District of Columbia parcels are administered by the District Department of Parks and Recreation. There are two playgrounds, a recreational center, basketball courts, tennis courts, and a baseball field. There is medium scale, decorative pedestrian lighting along the trail adjacent to the playgrounds. Black, decorative, metal picket fencing separates the trail from the playgrounds as well. A deteriorated chain-link fence separates the trail from the ridge slope. Existing tree cover along the trail includes a grove at the south end composed of red oak, red maple, redbud, ginkgo, elm, sugar maple, and black locust trees. A significant 44" elm tree is located at the approximate mid-point of the trail, providing shade to the adjacent playground. Additional trees located along the trail include walnut, cherry, white oak, pin oak, and red maple. The proposed improvements along Rose Park Trail include:

- Trail widening: The existing 4-foot to 5-foot wide trail will be reconstructed to a consistent 6-ft width. The proposed pavement section will be porous asphalt. Flexi-pave will be proposed for the segment of pavement within the critical root zone of the 44" Elm tree.
- Fencing: A new safety fence will be constructed along the length of the Rose Park Trail immediately adjacent to the ridge to provide protection from a steep embankment to the east. Two options are currently proposed. Option 1 (preferred) is a black vinyl-coated chain-link fence. Option 2 is a timber post & rail fence with wire mesh or chain-link fencing.
- Signing & Marking: Based on input from the community, the applicant considered rumble strips and caution signs to enhance safety between pedestrians and bicycles. NPS proposes

using pavement markings to discourage bicyclists from riding too fast adjacent to the playgrounds.

- Lighting: The Friends of Rose Park community group has requested that lighting be considered for the entire length of the path. Currently, the middle segment of the trail, adjacent to the two playgrounds has medium scale, decorative pedestrian lighting, spaced at 75-ft intervals. Proposed lighting would match the same type, size, and style of the existing lighting.
- Landscape plantings: Tree plantings are proposed along the trail to mitigate for tree removals elsewhere within the Rock Creek Park Multi-Use Trail project area. Proposed species include American Elm, Kentucky Coffeetree, Scarlet Oak, Fringe tree, and White Oak. A total of 32 new trees are proposed along the trail. Trees would be planted approximately 10-ft from the trail.

NCPC staff understands that safety concerns have been raised regarding the Rose Park Trail improvements. In particular, the neighbors have expressed concern that the smooth and widened trail conditions will encourage bicyclists to ride at a higher speed, posing a conflict with pedestrians using the adjacent playgrounds and recreational fields. In order to mitigate this concern, the community has requested that the applicant consider adding rumble strips along the trail. DDOT has indicated it will evaluate some additional measures to address these concerns, in consultation with NPS.

In general, minor design modifications would not require further review. However, staff recommends that the Commission **note that any substantial changes to the multi-use trail and pedestrian bridge design, including but not limited to changes in the alignment, stormwater management, and landscape plan are required to be submitted to the Commission for review in accordance with the National Capital Planning Act and NCPC's Submission Guidelines.**

CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE

Comprehensive Plan for the National Capital

As noted above, the proposed project is not inconsistent with the Comprehensive Plan for the National Capital.

National Historic Preservation Act

NCPC and NPS each have an independent responsibility to comply with the National Historic Preservation Act (NHPA); NCPC's responsibility stems from its review and approval authority over the project. NCPC designated NPS as lead agency to fulfill its obligation for Section 106 consultation. NPS completed consultation with the District of Columbia State Historic Preservation Officer (DC SHPO) and NCPC has been an active participant in the project's Section 106 process and has participated in consultation meetings with CFA and the SHPO to avoid and minimize potential adverse effects on historic properties. The Rock Creek Historic District was listed on the National Register of Historic Places (NRHP) on October 23, 1991 and the District of

Columbia Inventory of Historic Sites on November 8, 1964. Contributing elements include building and structures, roadway, trail network, stone walls and bridges. Rock Creek was nominated under the following areas of significance: community planning and development, engineering, landscape architecture and recreation.

On December 9, 2016 the SHPO determined that the Rock Creek Park Zoo Tunnel Pedestrian Bridge would not result in adverse effect on historic properties. The SHPO noted that they regretted that the proposed pedestrian bridge would not be positioned much further from the existing automobile bridge or constructed much closer to it. In their view, either option would have been preferable. However, the SHPO will not object to the NPS determination that the project will have “no adverse effect” on historic properties.

On April 7, 2015 the SHPO determined that the Rock Creek Park Multi-Use Trail and Beach Drive Rehabilitation would not result in adverse effect on historic properties. At the time, the SHPO noted that the proposed work was related to two previously reviewed projects: 1.) Reconstruction and Rehabilitation of Beach Drive, NW and 2.) Rehabilitation of the Rock Creek Park Multi-Use Trail (10-518). The SHPO also acknowledged that in general, the additional and revised work was required to more thoroughly address ADA, safety, and stormwater management concerns. The work would consist of minor trail realignments, improving intersections, lowering grades, introducing bioswales and redesigning trail headwalls/railings in keeping with the Secretary's Standards (i.e. in kind). The SHPO expressed that none of this work was likely to adversely affect historic properties. With regard to archaeology, the SHPO noted that the project is in keeping with the September 2011 Assessment of Effects for the Rock Creek Park Multi-Use Trail for which the SHPO made a finding of No Adverse Effect based upon the NPS ensuring that survey will occur where ground disturbing activities are proposed in areas that have not previously been surveyed. Therefore, the SHPO has determined that this additional and revised work will have “no adverse effect” on historic properties provided that NPS conducts a Phase I archaeological survey in consultation with the DC SHPO, in accordance with the District's archaeology guidelines for work plan, reporting, curation, and sharing of digital data. Treatment of significant resources will be determined in consultation with the SHPO.

National Environmental Policy Act

NCPC and NPS each have an independent responsibility to comply with the National Environmental Policy Act (NEPA); NCPC's responsibility stems from its approval authority over the project. In accordance with the Council on Environmental Quality's rules for implementing NEPA, and the Commission's Environmental and Historic Preservation Policies and Procedures, NPS in conjunction with the Federal Highway Administration (FHWA), and DDOT, prepared an Environmental Assessment (EA) for the project. NCPC served as a cooperating agency on the EA.

The EA analyzed a “No Action Alternative” along with two “Action Alternatives” for the Rock Creek Park Multi-Use Trail Rehabilitation. In addition to the action alternatives, the EA analyzed two options for the visitor-made social trail from Broad Branch Road to Peirce Mill, and three options for the Rose Park trail. Under Alternative 2, the Rock Creek Park multi-use trail would be

resurfaced at its current width, which varies throughout the trail. Under Alternative 3, the Rock Creek Park multi-use trail would be resurfaced and widened to a minimum of six feet, up to a maximum of 10 feet, depending on physical and environmental constraints. The EA identified the preferred alternative as the “Build Alternative 3: Trail Resurfacing and Widening.” In addition, Peirce Mill Trail Spur Option B: Eight-Foot Paved Trail Spur, and Rose Park Trail Option B: Six-Foot Resurfaced Trail, were the selected options that would be implemented in conjunction with the selected alternative for the Rock Creek Multi-Use Trail Rehabilitation Project. Moreover, the preferred alternative also included a new pedestrian bridge crossing over Rock Creek, located at the south end of the Beach Drive tunnel.

Topics analyzed in the EA included: soils, water quality, vegetation, wildlife, historic structures and district, cultural landscapes, archeology, visitor use and experience, human health and safety, park operations and management, and traffic and transportation. The FHWA issued a Finding of No Significant Impact (FONSI) on June 11, 2014. Subsequently, NPS issued a FONSI on April 29, 2015. NCPC staff reviewed the EA and FONSI and determined that the information and analysis provided meets the standards for an adequate EA as set forth in NCPC’s Environmental and Historic Preservation Policies and Procedures. NCPC issued a FONSI on December 23, 2016.

CONSULTATION

Coordinating Committee

The Coordinating Committee reviewed the proposal at its December 14, 2016 meeting. Without objection, the Committee forwarded the proposed final site and building plans to the Commission with the statement that the proposal has been coordinated with all participating agencies. The participating agencies were: NCPC; the District of Columbia Office of Planning; the State Historic Preservation Officer; the District of Columbia Department of Transportation, the General Services Administration; the National Park Service and the Washington Metropolitan Area Transit Authority.

U.S. Commission of Fine Arts

On November 17, 2016, the US Commission of Fine Arts (CFA) reviewed and approved the final plans for a new pedestrian bridge over Rock Creek, within the Rock Creek and Potomac Parkway near the south portal of the Beach Drive tunnel. CFA reiterated its support for the proposal and approved the submission with the condition that two design issues be resolved in consultation with the staff. CFA acknowledged the project goal of improving visibility at the intersection of the multiuse paths at the south end of the tunnel, but they did not support the proposed solution of constructing an extension of the existing stone portal wall. They recommended that a single, low, rustic retaining wall be constructed to define the edge of the path in a widened arc and to accommodate some of the grade transition, perhaps in combination with a series of salvaged natural stone boulders to stabilize the grade farther up the hill. They also suggested that the use of visual or tactile warnings on the paths themselves could reduce the need for extensive earthworks.

The second condition identified by CFA for resolution is the transition from the typical wooden park railing, proposed for the southeastern approach ramp of the bridge, to the cable railing proposed for the bridge span itself. They encouraged designing this detail with the same attention given to the connection of the arching bridge beam to the masonry abutment. CFA recommended That the applicant consults with staff for the resolution of the design of the two areas identified above.

At its meeting on October 20, 2016, the CFA approved the concept design. With its comments, CFA emphasized the importance of maintaining the woodland character of the Rock Creek valley and encouraged a varied and less formal landscape that includes trees. Accordingly, they recommended selecting native plant species instead of cultivars; softening the rigid, highway like treatment of the stabilized embankment with more substantial vegetation; and developing an alternative design for the stepped planters at the tunnel portal that is more modest in scale and less formally planted. For the bridge, they recommended the use of a cable rail to maintain a light and transparent appearance, and they suggested keeping the lighting on the bridge as subtle as possible.

Department of Energy and Environment (DOEE)

According to the submission package submitted by the applicant, the project goal is to comply with local stormwater management regulations. The project will provide the following stormwater “Best Management Practices” (BMP) where suitable: porous asphalt, bio-retention facilities; bio-swales; impervious surface disconnection; tree protection; and tree planting.

Energy Independence and Security Act of 2007 (EISA) Section 438

The submission materials state that the project will comply with federal stormwater regulations to the maximum extent technically feasible.

ONLINE REFERENCE

The following supporting documents for this project are available online:

- Submission Package
- Environmental Assessment - Finding of No Significant Impact (FONSI)

Prepared by Vivian Lee
12/29/2016

POWERPOINT (ATTACHED)

NCPC File #:7320

Rock Creek Park Multi-Use Trail Rehabilitation and Pedestrian Bridge

From M Street to Broad Branch Road and Arkansas Avenue, NW
Washington, DC

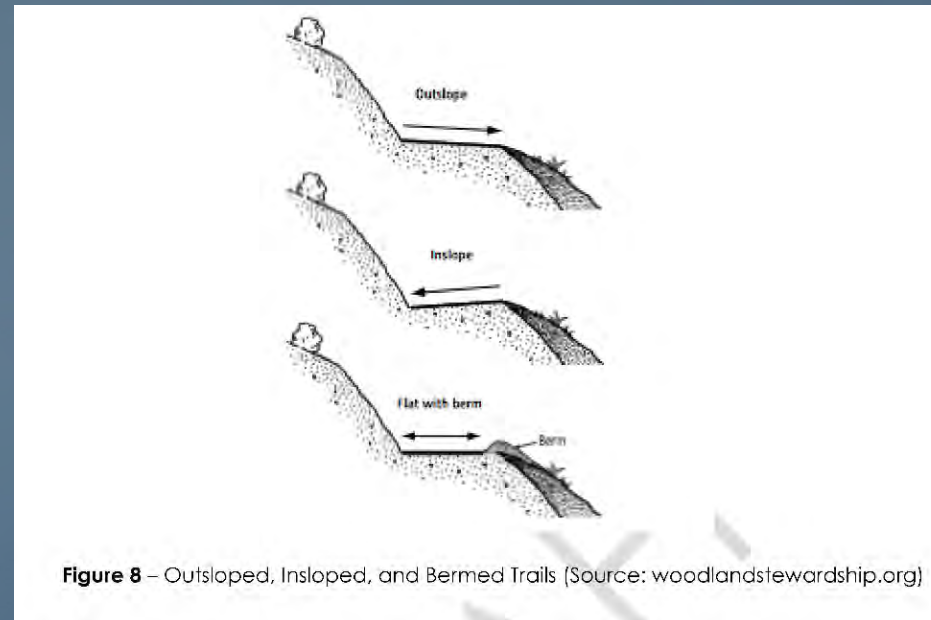
National Park Service

Preliminary and Final



Table 1 – Proposed Trail Improvements Summary

| Segment | Limits | Improvement Type | Clear Width | Length |
|---------------------------------|--|--|-------------|------------------------|
| Rose Park Spur | From M Street NW to P Street NW | Widened/rehabilitated asphalt sidewalk | 6-ft | 1,929-ft (0.4 mile) |
| P Street NW ramp | From P Street NW to Rock Creek & Potomac Parkway | New asphalt sidewalk along both sides of the ramp | 6-ft | 803-ft |
| Rock Creek Park Multi-Use Trail | From P Street NW to Shoreham Drive NW | Widened/rehabilitated asphalt shared use path | 10-ft | 4,002-ft (0.92 mile) |
| | From Klingle Ford Bridge to Bluffs Footbridge | Widened/rehabilitated asphalt shared use path | 8- to 10-ft | 1,635-ft (0.31 mile) |
| | From Grove 1 Footbridge (Jusserand Memorial) to Peirce Mill | Widened/rehabilitated asphalt shared use path | 10-ft | 665-ft (0.13 mile) |
| | From Peirce Mill to Broad Branch Road NW | New asphalt shared use path | 8-ft | 1,247-foot (0.2 mile) |
| | Through National Zoological Park property, "Zoo loop" | Widened/rehabilitated asphalt shared use path | 8-ft | 2,555-ft (0.48 mile) |
| Harvard Street NW connection | From Harvard Street NW to Beach Drive NW | New asphalt sidewalk | 6-ft | 200-ft |
| Piney Branch Trail Spur | Along Piney Branch Parkway from Beach Drive NW to Arkansas Avenue NW | New/widened/rehabilitated asphalt sidewalk and shared use path | 6- to 8-ft | 4,859-foot (0.92 mile) |
| Peirce Mill Trail Spur | from Peirce Mill to Grove 2 Picnic Area parking lot | Widened/rehabilitated asphalt shared use path | 10-ft | 910-ft (0.17 mile) |





"The dominant consideration, never to be subordinated to any other purpose in dealing with Rock Creek Park, is the permanent preservation of its wonderful natural beauty, and the making of that beauty accessible to people without spoiling the scenery in the process."

-Frederick Law Olmsted

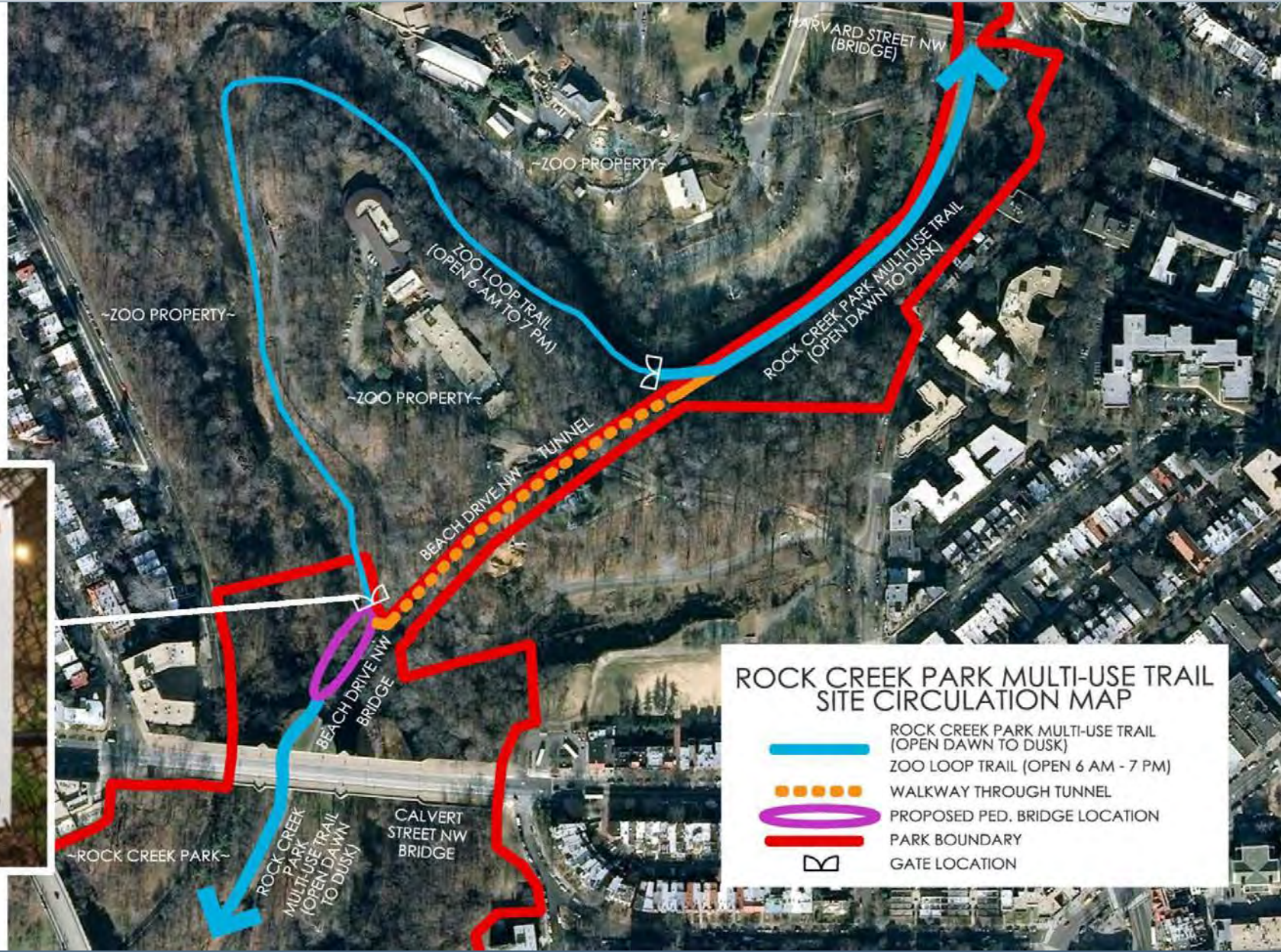
ROCK CREEK PARK
A report by OLMSTED BROTHERS
December 1918
FOREWORD

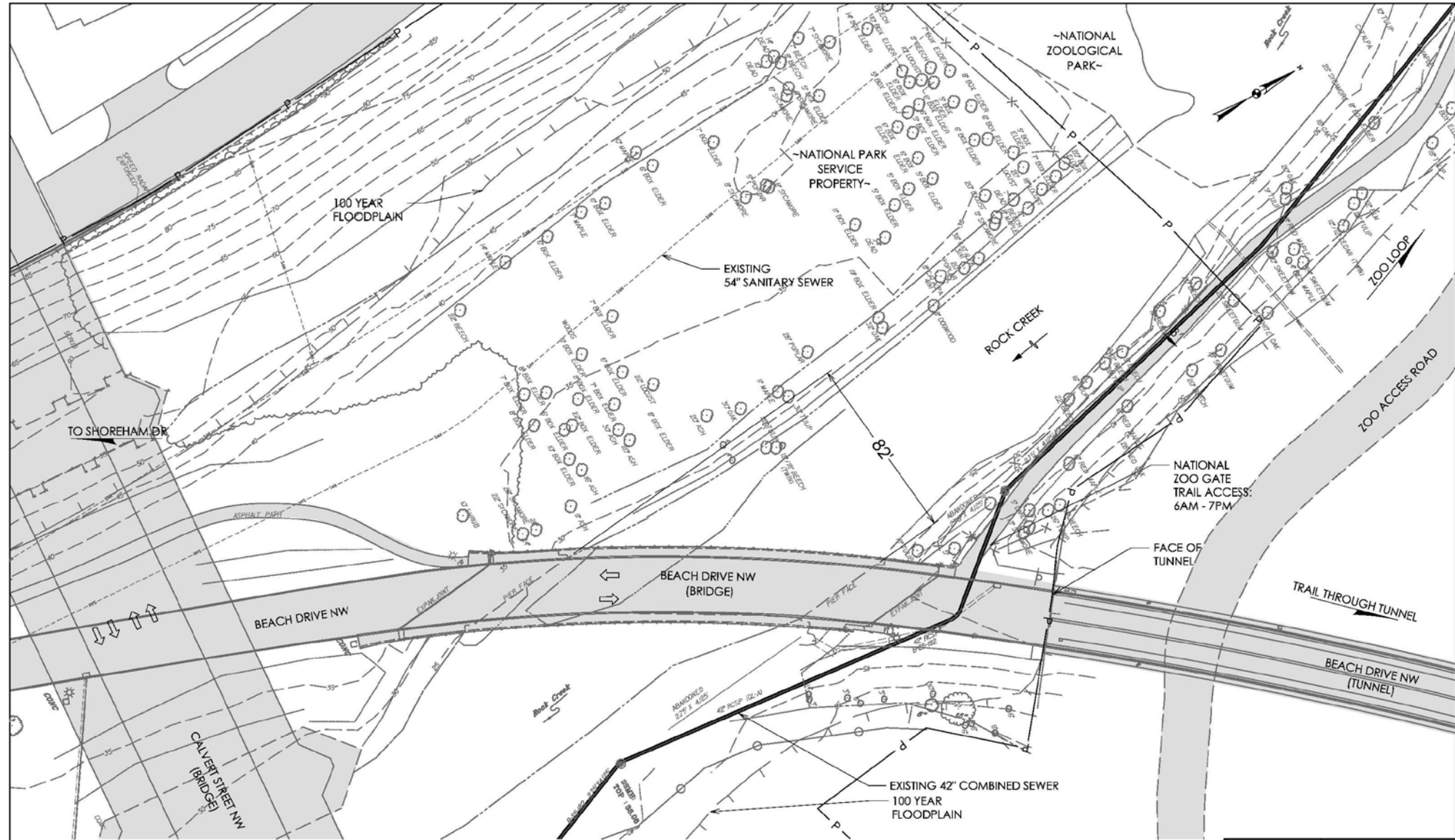
Footbridges in the Park

There are a number of existing footbridges within the project area that were constructed in the 1930's. These bridges are cast-in-place concrete with cambered profiles and post & rail fall protection. Stonework is typically a random ashlar pattern with a rough exposed face using quarried stone materials such as granite, schist, and gneiss. Additional footbridges constructed of timber are located at Klinge Ford and Peirce Mill.



The National Zoo property is located to the north of the proposed pedestrian bridge site. There is an important trail link through the property. However, due to zoo regulations, the trail must be closed after 7 pm. Trail users must use the tunnel walkway for passage once zoo trail access is closed. Rock Creek Park and the trail are closed between dusk and dawn.

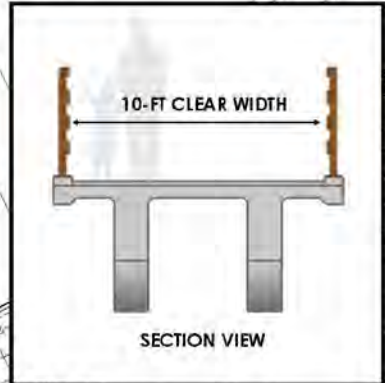
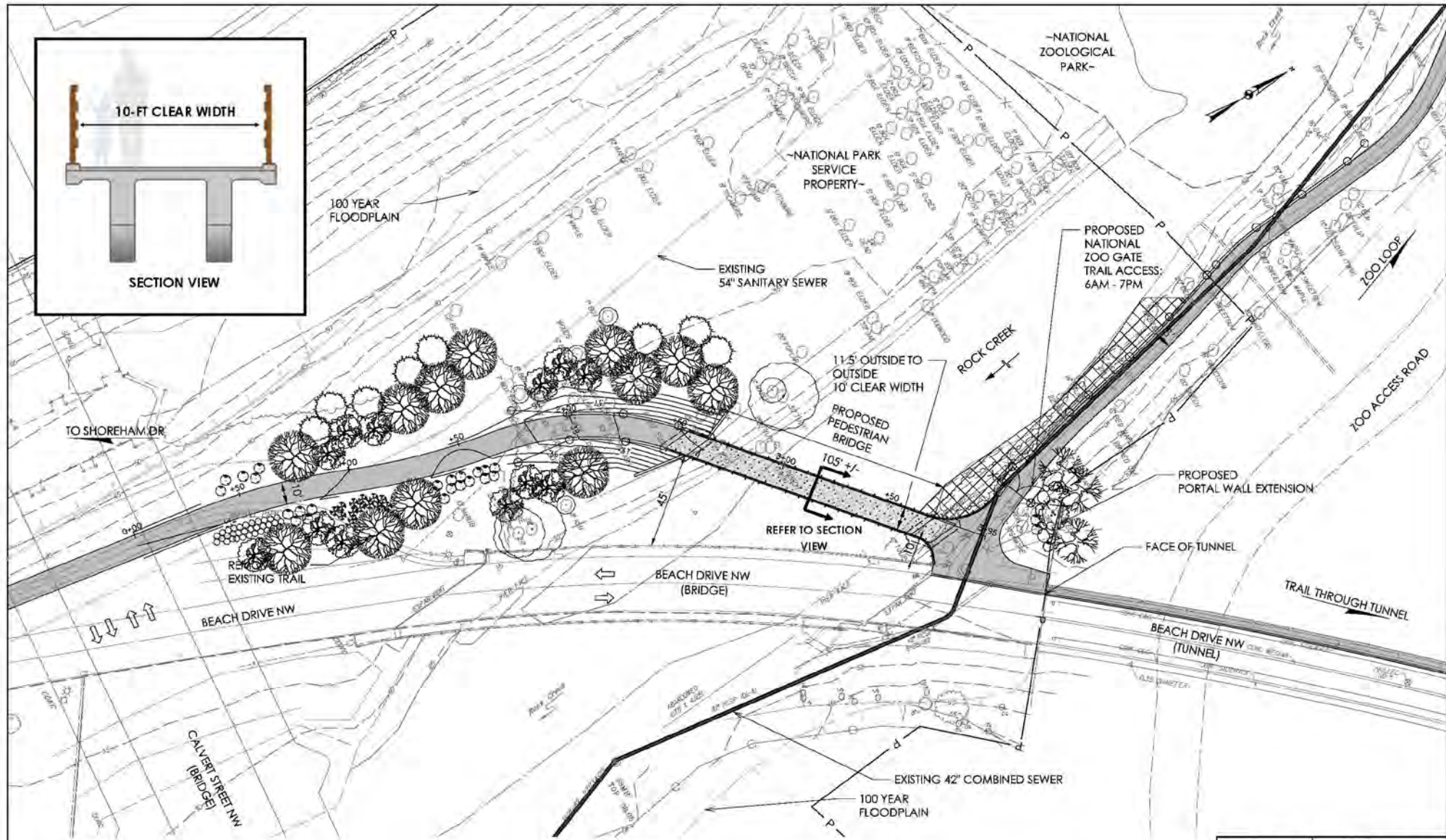




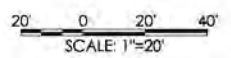
- LEGEND**
- P - NPS PARK BOUNDARY
 - EXISTING 42" COMBINED SEWER
 - ▭ EXISTING PAVEMENT



| | |
|--------------------|-----------------|
| DATE: 10-2016 | SCALE: 1" = 20' |
| EXISTING SITE PLAN | |



- LEGEND**
- P — NPS PARK BOUNDARY
 - EXISTING 42" COMBINED SEWER
 - EXISTING PAVEMENT
 - ▨ PROPOSED ASPHALT TRAIL
 - ▩ PROPOSED PEDESTRIAN BRIDGE
 - ▨ PROPOSED STREAM BANK STABILIZATION
 - PROPOSED WOOD POST & RAIL FENCE



DATE: 10-2016 SCALE: 1" = 20'

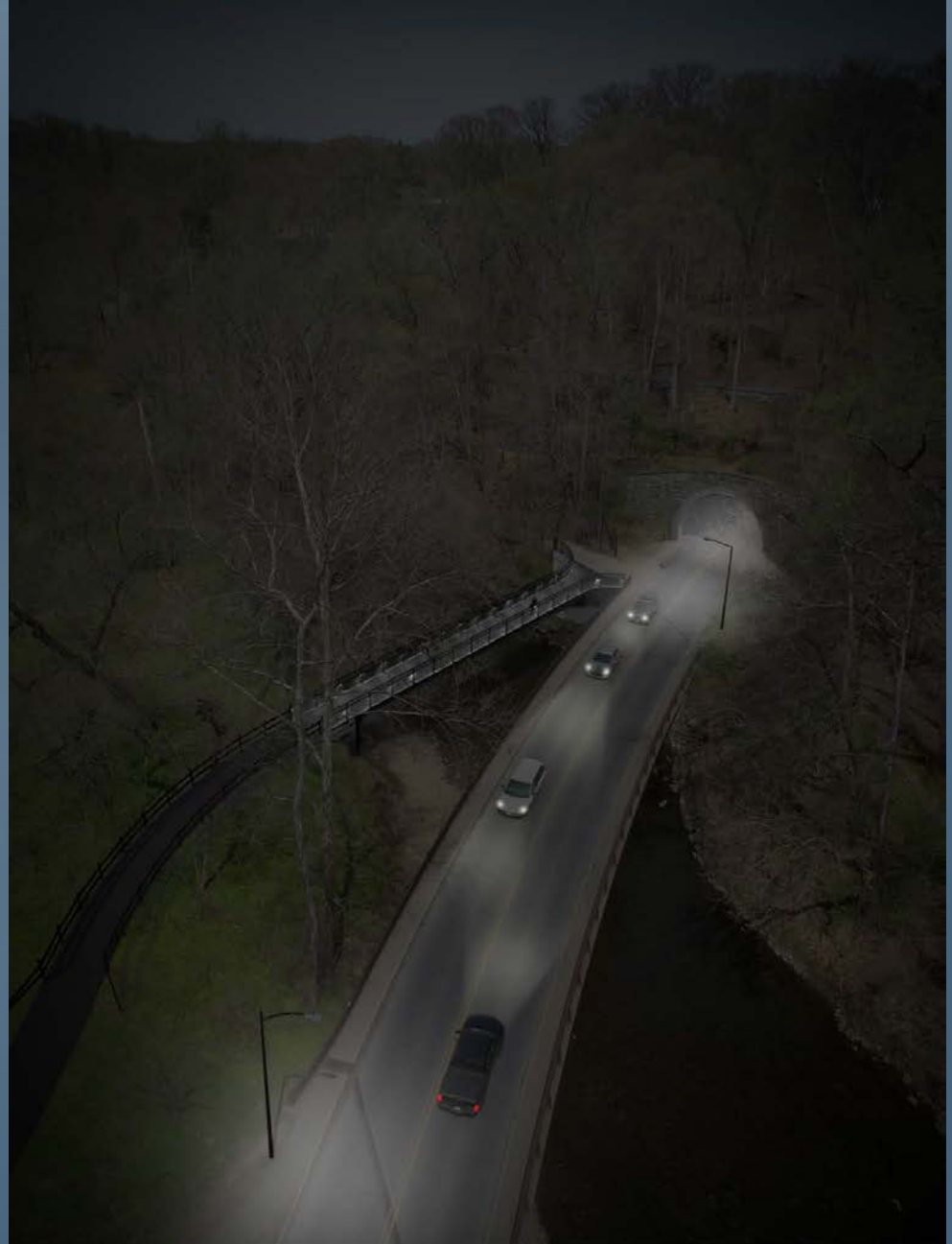
PROPOSED SITE PLAN
PEDESTRIAN BRIDGE
MODIFIED EA/FONSI ALTERNATIVE

Proposed Pedestrian Bridge Elevation View, Post & Cable



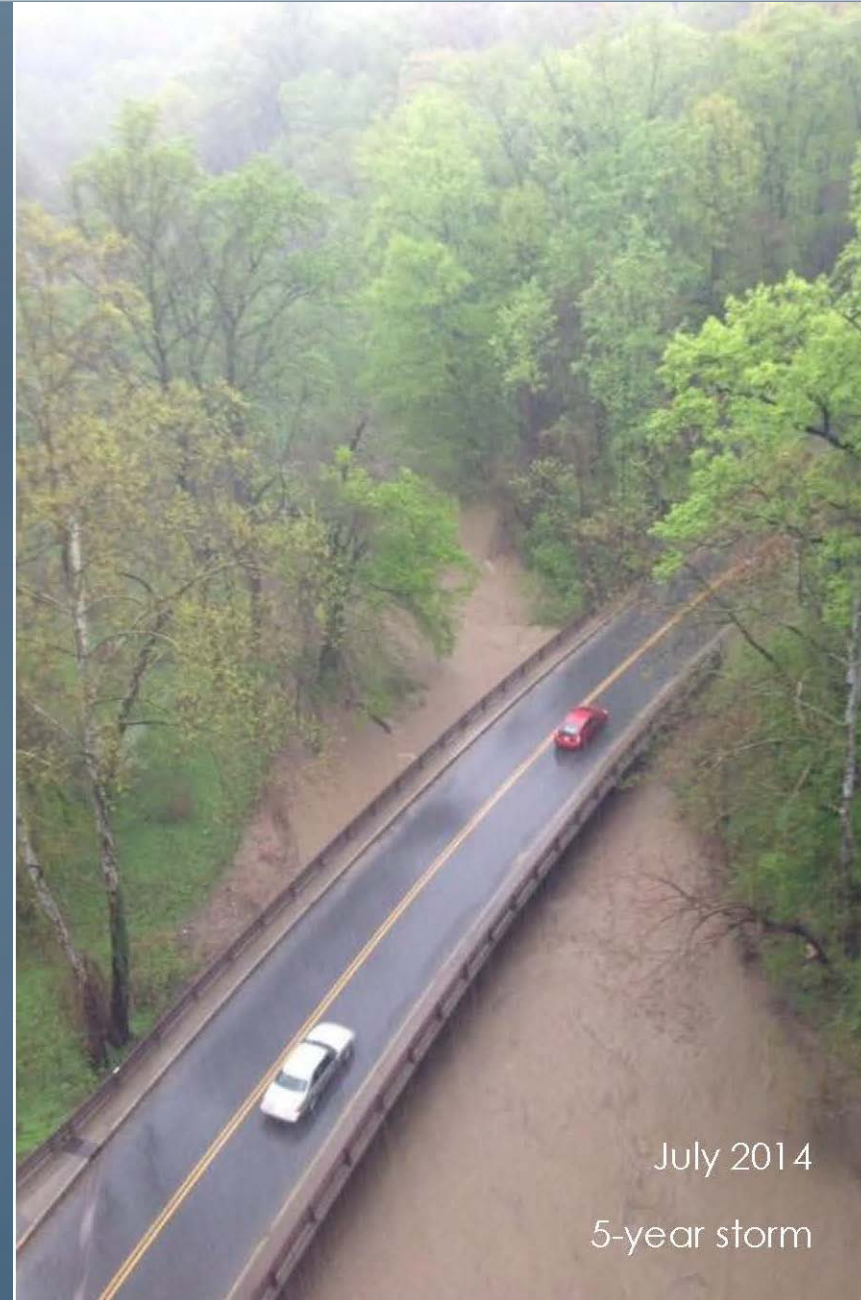


Proposed Pedestrian Bridge Aerial View from Duke Ellington Bridge



Proposed Pedestrian Bridge Abutment and Superstructure Detail View

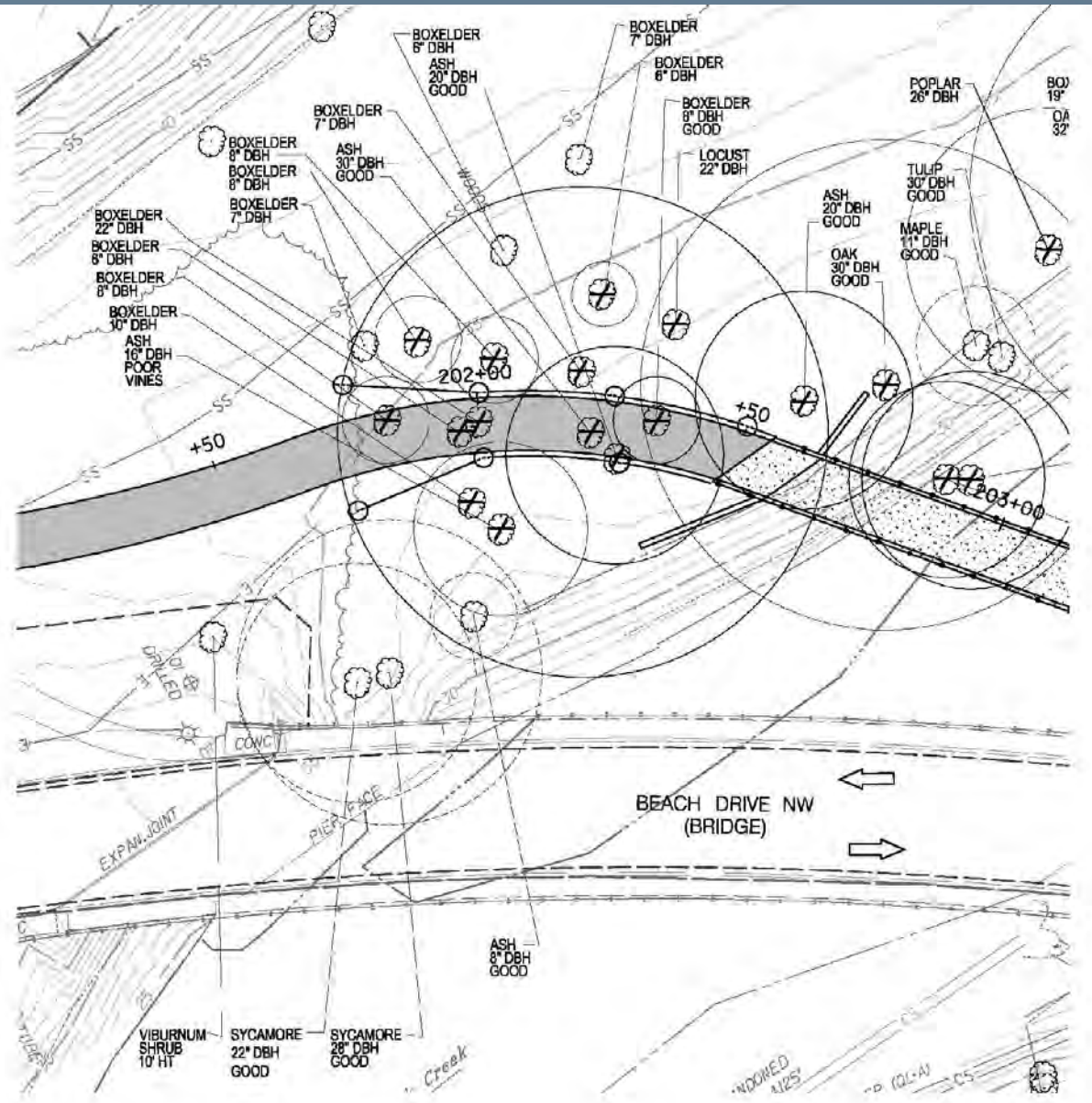




Tree Impacts

It is estimated that a total of fifteen trees, mostly boxelder and ash, would be impacted by a fill embankment footprint leading to the south pedestrian bridge abutment. The figure to the right depicts a plan view of surveyed tree locations, species, sizes, condition, and critical root zones. The 'x' symbols represent tree removals.

The proposed alignment preserves two mature sycamore trees located near roadway bridge abutment. These trees help to provide separation between the roadway and trail.



Endangered Species

According to the US Fish and Wildlife Service, the Hay's Spring amphipod (*Stygobromus hayi*), a federally endangered species, occurs in the vicinity of the proposed project within the boundaries of the Smithsonian's National Zoo. The US Fish and Wildlife Service recommended against alignments located further upstream due to the potential for construction related impacts i.e. tree clearing and an increase in unauthorized entry into the habitat area.



The Hay's spring amphipod is a small, aquatic crustacean that resembles a very tiny shrimp.

The landscape plan features a central path and a water feature. Various plants are indicated by callouts to photographs. The plants shown include:

- Platanus occidentalis* American Sycamore
- Magnolia virginiana* Sweetbay Magnolia
- Quercus alba* White Oak
- Quercus falcata* Southern Red Oak
- American Holly* *Ilex opaca*
- American Hornbeam* *Carpinus caroliniana*
- Flammula xiternidea* Witchhazel
- Flowering Dogwood* *Comus florida*
- Rhus aromatica* 'Low-gro' Fragrant Sumac
- Viburnum Triloba* 'Compactum' American Cranberrybush Viburnum
- Cercis Canadensis* Eastern Redbud
- Clethra anifolia* Summersweet Clethra
- Christmas Fern* *Polystichum acrostichoides*
- Creeping St. Johnswort* *Hypericum calycinum*

Additional elements include a north arrow and a horizontal scale bar at the bottom right.

DATE: 10-2016 SCALE: 1" = 20'

PLANT PHOTO EXHIBIT

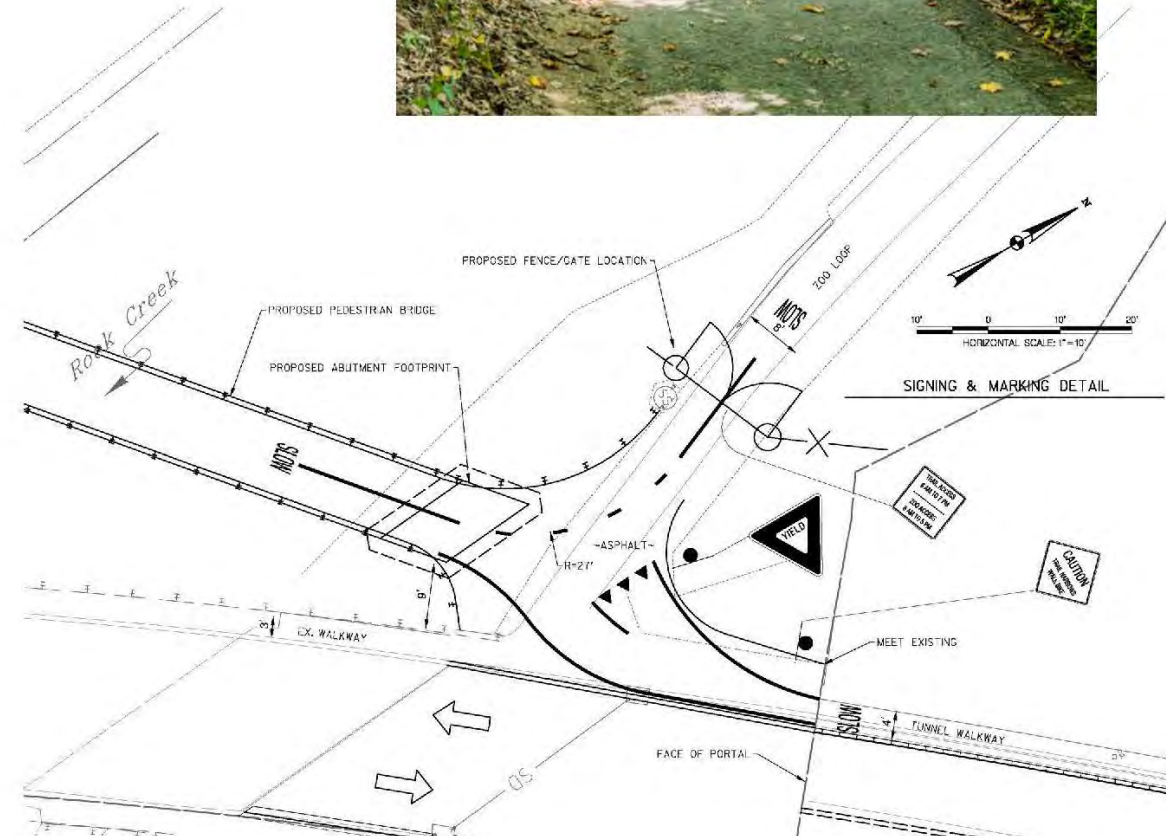
Proposed Portal Wall Extension – View from Beach Drive, NW



Pedestrian and Bicycle Safety

The existing condition at the trail junction between the zoo loop, tunnel walkway, and bridge sidewalk is hazardous due to high trail user volumes, poor visibility, and tight space constraints. When the proposed pedestrian bridge is completed, trail users will continue to converge in a three-way intersection. Special consideration has been given to providing safety measures and sight line improvements at this junction.

Poor visibility looking along Zoo Loop Trail toward Beach Drive NW, especially with foliage.



An existing 42" combined sewer runs parallel to Rock Creek along the northeast bank. According to DC Water design manual, structural footings and piles must maintain a minimum 5-ft clearance from existing sewers.

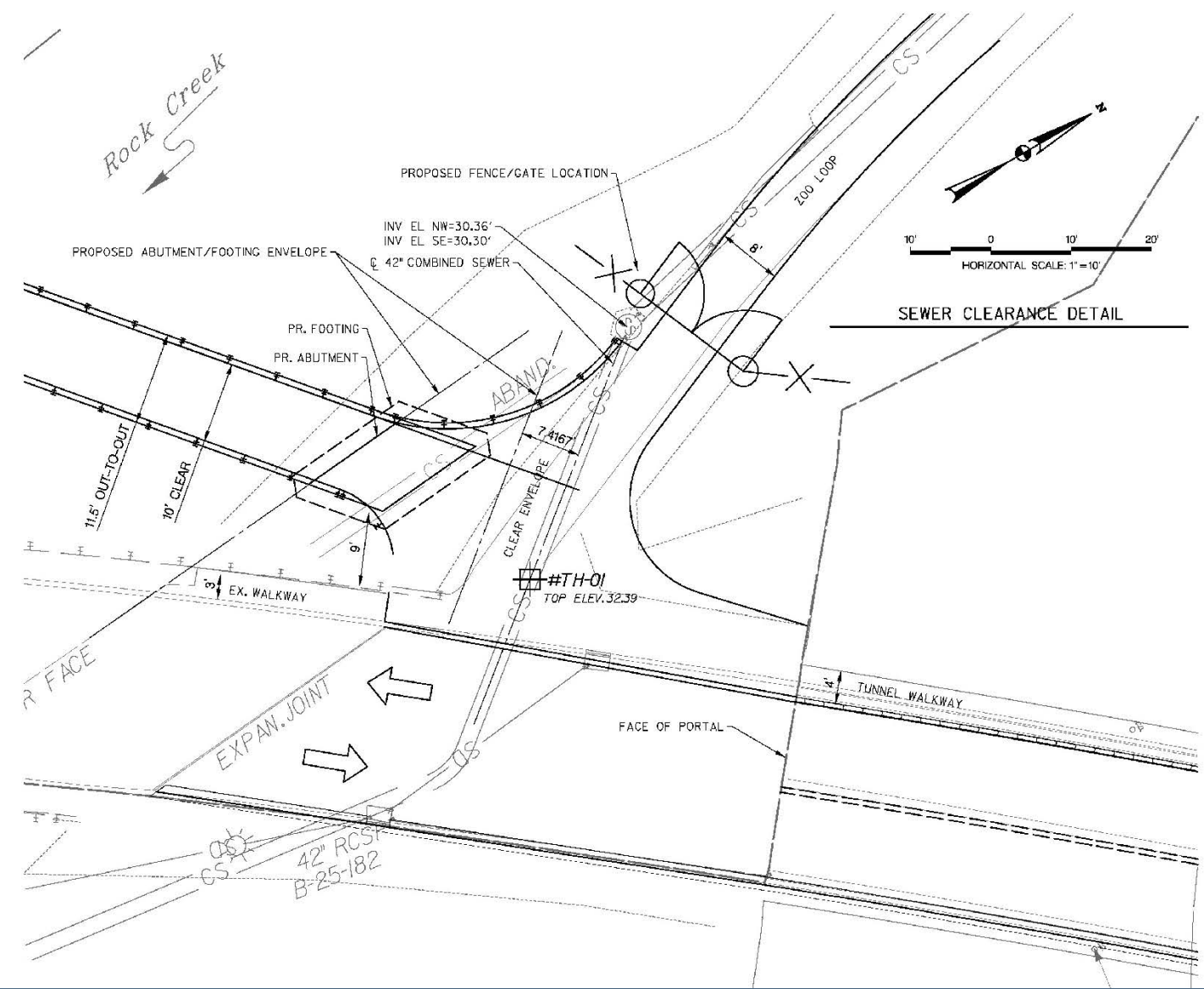
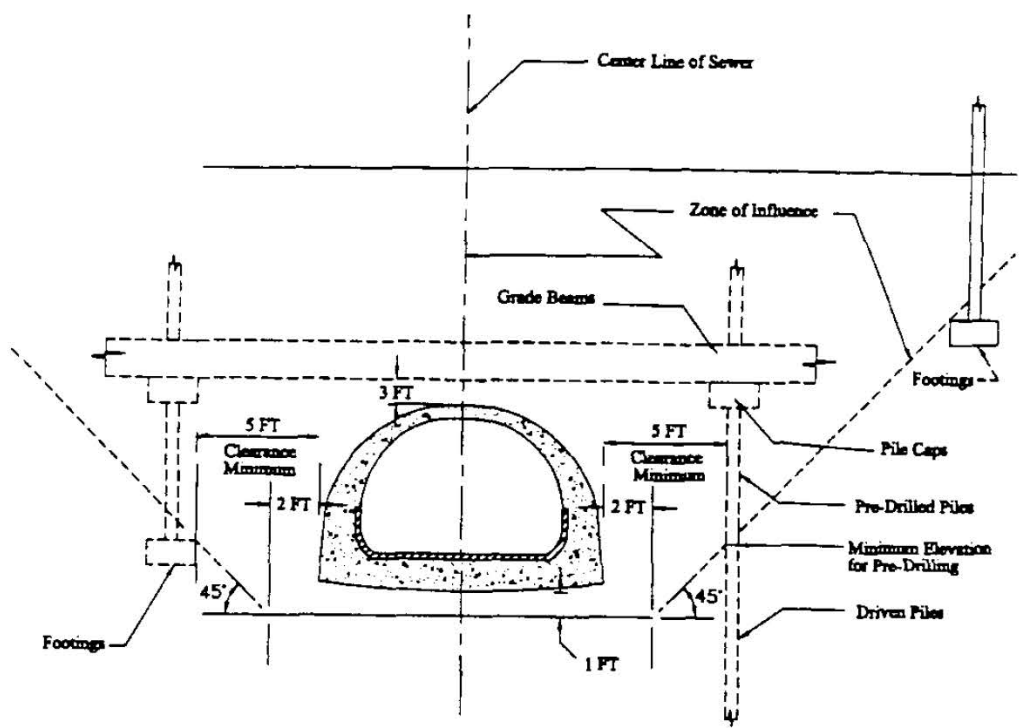


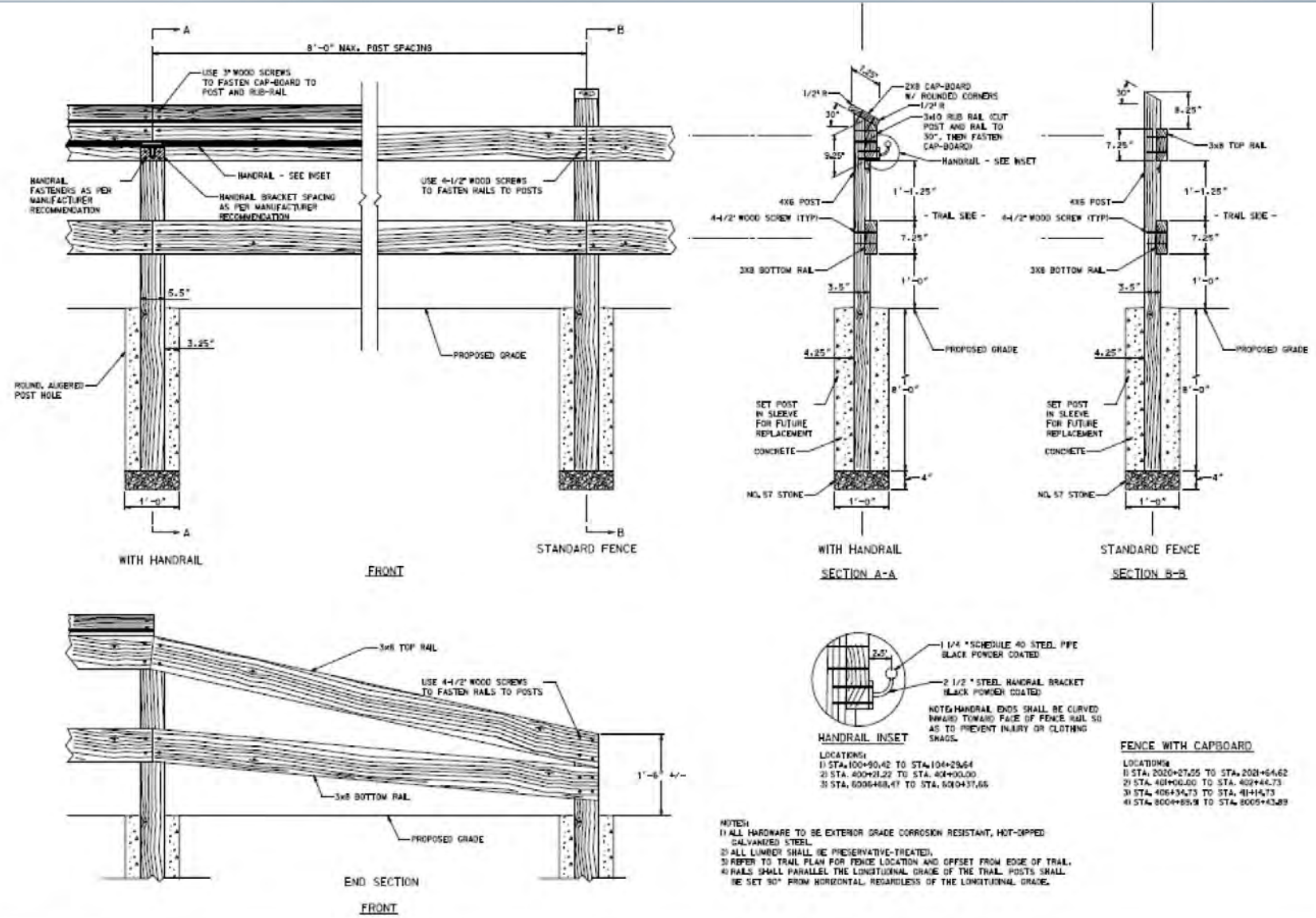
Figure from DC Water design manual depicting clearance requirements (above); Plan view detail depicting proximity of the proposed bridge to the existing 42" combined sewer (right).



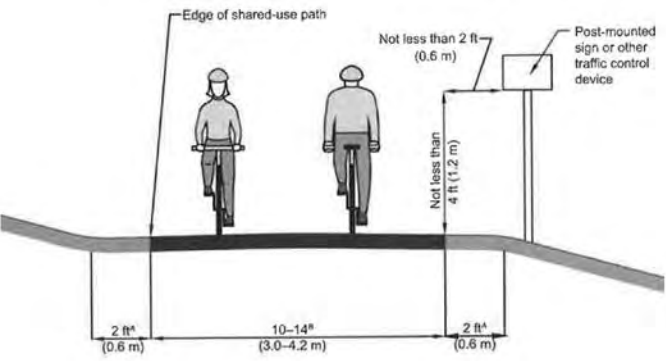
Typical Wooden Post & Rail fence located in Rock Creek Park (left); proposed fence design with variations (right)



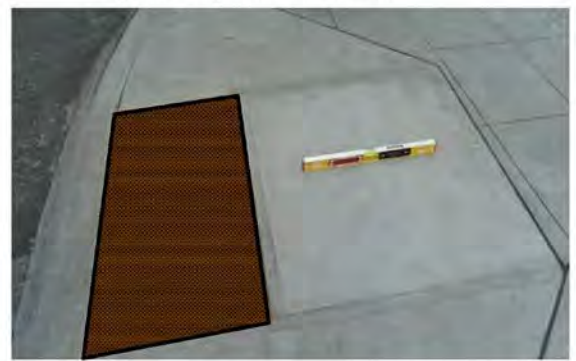
"Zoo Loop" Fence and Gate, locations to be adjusted and/or replaced



DETAIL A
42' POST-AND-RAIL WOODEN FENCE



Typical Proposed Trail Section



Typical Curb/ADA Ramp



Existing Timber Edge Support



Typical NPS Wayfinding Sign



Existing Timber Steel Backed Timber Barrier



Existing Concrete Curb and Gutter



Existing Cobrahead Lighting

Vegetated geogrids are proposed to stabilize the eroding stream bank of Rock Creek adjacent to the proposed pedestrian bridge. The proposed stabilization is a combination of angular stone and soil fabric lifts designed to protect the trail/stream bank, prevent erosion, and to look to integrate into the existing landscape.

The angular stone, or stone toe, mimics a natural process already occurring at Rock Creek where bedrock outcrops protect the toe of the stream bank. The constructed stone toe is composed of a low wall of boulders with faces buried into the streambed. Soil fabric lifts are installed on top of the stone toe to create the vegetated geogrid. Soil fabric lifts are a series of strips wrapped in biodegradable erosion control fabric. The use of terracing on a flat slope prevents slumping during the plant establishment period. The stream bank to stabilize more rapidly. The lifts are planted with shrubs. For ease of installation and integrity of the soil lift matting (dormant cuttings) or Tubelings (live stakes that have been particularly used in lieu of container grown shrubs.



The northeast bank of Rock Creek in vicinity of the pedestrian bridge is eroding during heavy storms and undermining the existing trail.

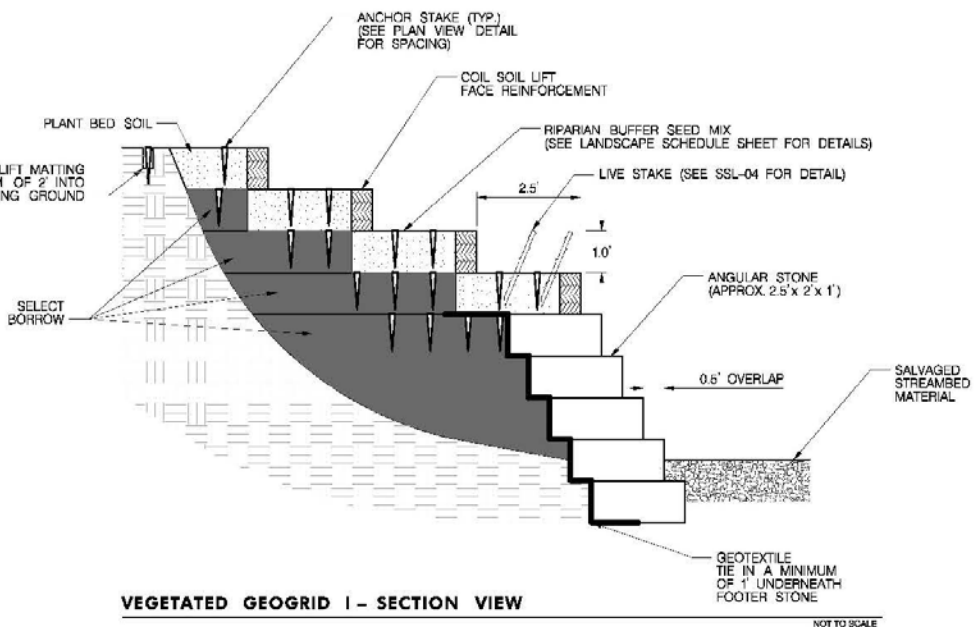


Example plantings for similar improvement showing one of growth (left) and 3 years of growth (right). Proposed species include southern arrowwood, elderberry, silky dogwood, and black willow tubelings/live stakes.



Example of materials installed at Georgetown Waterfront Park

Proposed Stream Bank Stabilization Details

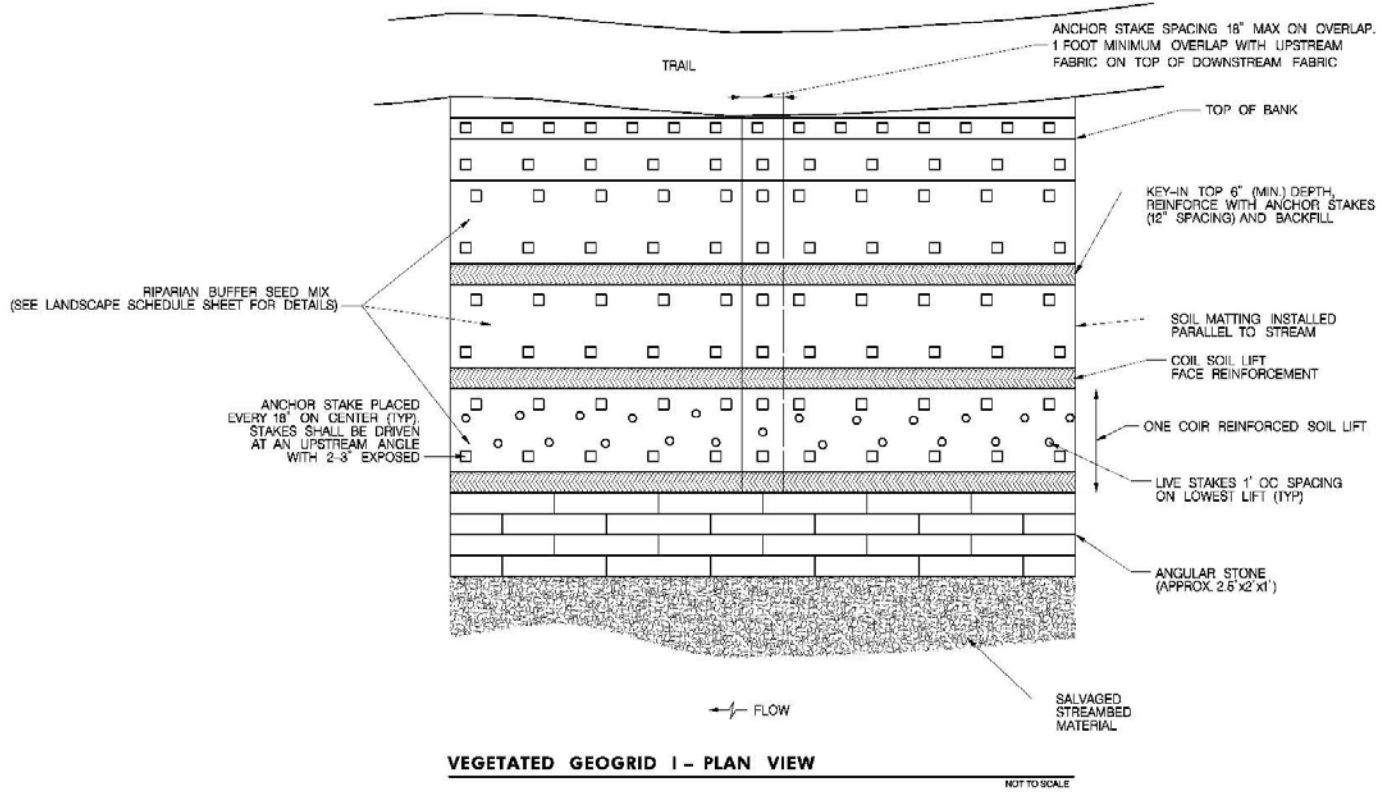


VEGETATED GEOGRID I - SECTION VIEW

NOT TO SCALE

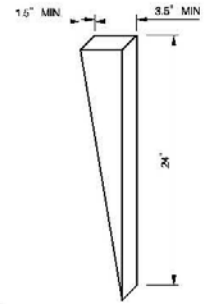
RIPIARIAN BUFFER SEED MIX (SEE LANDSCAPE SCHEDULE SHEET FOR DETAILS)

ANCHOR STAKE PLACED EVERY 18" ON CENTER (TYP). STAKES SHALL BE DRIVEN AT AN UPSTREAM ANGLE WITH 2-3" EXPOSED



VEGETATED GEOGRID I - PLAN VIEW

NOT TO SCALE



ANCHOR STAKE

NOT TO SCALE

NOTES:
1. ANCHOR STAKES SHALL BE TAPERED TWO FOOT LONG WOODEN STAKES CONSISTING OF STANDARD 2" X 4" WOODEN BOARDS CUT DIAGONALLY.





Looking north along
Rose Park Trail to-
ward P Street NW



Looking south
along Rose Park
Trail with Rock
Creek & Potomac
Parkway to the east



Looking north along
Rose Park Trail near
Dumbarton Street
NW

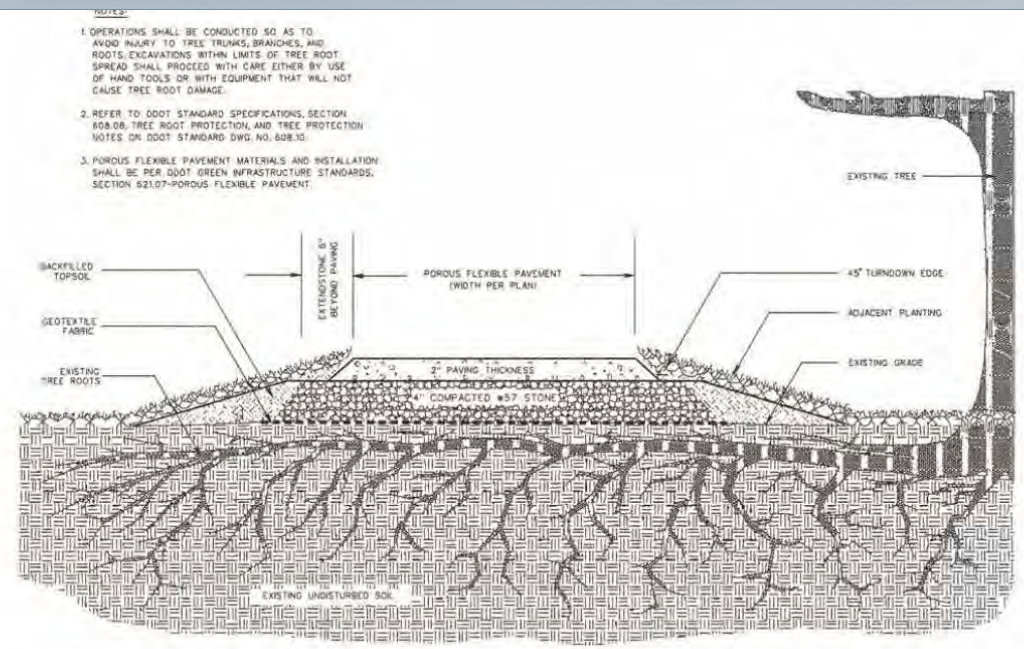


Looking south
along Rose Park
Trail toward M
Street NW

Trail widening: The existing 4-ft to 5-ft wide trail will be reconstructed to a consistent 6-ft width. The proposed pavement section is porous asphalt. Flexi-pave is proposed for the segment of pavement within the critical root zone of the 44" Elm tree.



Example of porous asphalt pavement



Flexi-pave is proposed within the critical root zone of the 44" Elm located near the mid-point of the trail.

Fencing: Safety fence is proposed for the length of trail immediately adjacent to the ridge. Two options are currently proposed. Option 1 (preferred) is a black vinyl-coated chainlink fence. Option 2 is a timber post & rail fence with wire mesh or chainlink fencing.

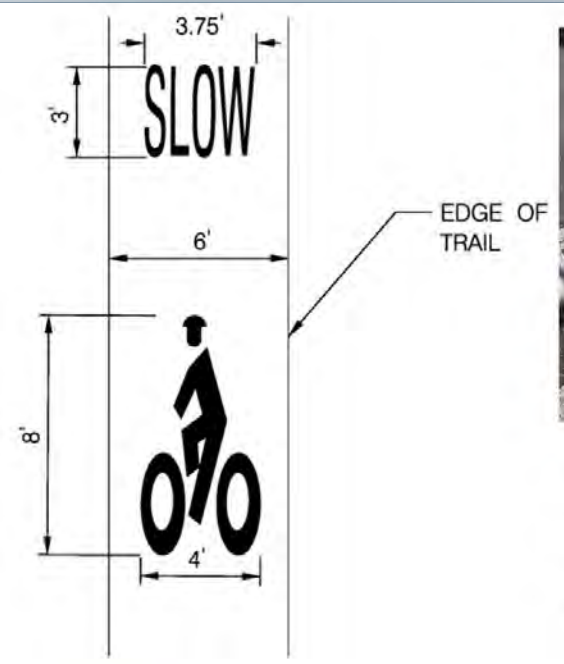


Option 1: Black vinyl-coated chainlink fence, 3-ft to 4-ft height



Option 2: Timber Post & Rail, chainlink combination

Signing & Marking: Based on input from the community, improvements such as rumble strips and caution signs were considered for enhancement of safety between pedestrians and bicycles. The National Park Service proposes only pavement markings be used to discourage bicyclists from riding too fast adjacent to the playgrounds.



Two variations of pavement marking stencils that could be used on Rose Park Trail to caution bicyclists riding near the playgrounds.

Lighting: The Friends of Rose Park community group has requested that lighting be considered for the entire length of the path. Currently, the middle segment of the trail, adjacent to the two playgrounds has medium scale, decorative pedestrian lighting, spaced at 75-ft intervals. Proposed lighting would match the same type, size, and style of the existing lighting.



The existing pedestrian lighting configuration in Rose Park is:

- Black contemporary pendant luminaires attached with Bishop's Crook arm and decorative scroll bracket;
- Mounted on black round tapered 12-ft poles;
- 75-ft +/- spacing

Note: Additional details such as light source, color temperature, distribution type, optics, wattage, photo control, etc. are not known at this time.

Landscape plantings: Tree plantings are proposed along the trail to mitigate for tree removals elsewhere within the Rock Creek Park Multi-Use Trail project area. Proposed species include American Elm, Stately Manor Kentucky Coffeetree, Scarlet Oak, Fringe tree, and White Oak. A total of 32 new trees are proposed along the trail. Trees would be planted approximately 10-ft from the trail.

Fringe Tree



American Elm



White Oak



Kentucky Coffeetree



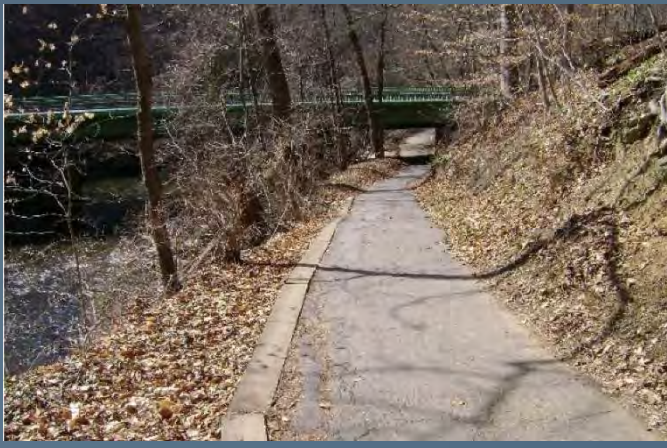
Scarlet Oak



Existing and proposed conditions north of the Saddle Club Footbridge.



Existing and Proposed Western Ridge Trail, north of Porter Street NW. This area is constrained by steep slopes.



Existing and Proposed Trail along Piney Branch Parkway NW.

