Environmental Assessment

Benjamin Banneker Park Connection

March 2016







THE WHARF



NOTE TO REVIEWERS AND RESPONDENTS

Comments on this EA may be submitted electronically at the NPS Planning, Environment and Public Comment (PEPC) website (http://parkplanning.nps.gov/BannekerConnection) or you may mail written comments by May 1, 2016 to the address listed below.

Before including personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Attn: Banneker EA Comments Office of the Superintendent National Mall and Memorial Parks 900 Ohio Drive, SW Washington, DC 20024



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ACRONYMS AND ABBREVIATIONS

ABA Architectural Barriers Act

ABAAS Architectural Barriers Act Accessibility Standard

APE Area of Potential Effect
Banneker Park Benjamin Banneker Park
BMP Best Management Practice
CFR Code of Federal Regulations
DC Inventory DC Inventory of Historic Places

DC SHPO District of Columbia State Historic Preservation Office

DDOT District Department of Transportation

DOEE District Department of Energy and Environment

DOI Department of the Interior EA Environmental Assessment

EPA Environmental Protection Agency

FEMA Federal Emergency Management Agency NAMA National Mall and Memorial Parks

National Register National Register of Historic Places
NCPC National Capital Planning Commission
NEPA National Environmental Policy Act of 1969

NHPA National Historic Preservation Act

NPS National Park Service

PEPC Planning, Environment and Public Comment

PUD Planned Unit Development USACE US Army Corps of Engineers This page intentionally left blank

PURPOSE AND NEED

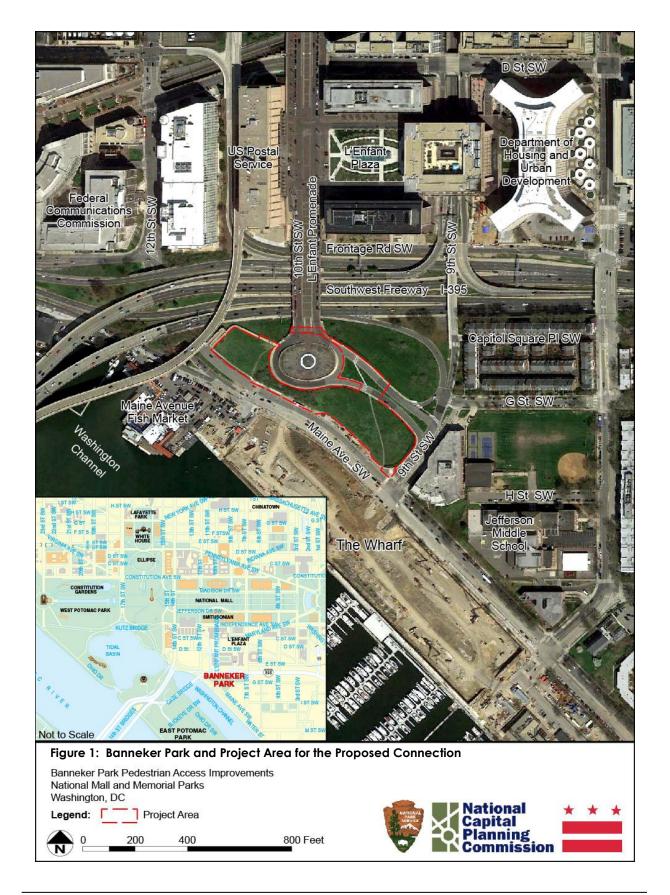
The National Park Service (NPS), in cooperation with the National Capital Planning Commission (NCPC), and in collaboration with the District of Columbia (the District) and Hoffman-Madison Waterfront, is proposing to construct a temporary connection at Benjamin Banneker Park (Banneker Park) (see **Figure 1**) that includes a stairway and Architectural Barriers Act Accessibility Standard (ABAAS)-compliant ramp to provide universal accessibility between Tenth Street, SW, and Maine Avenue, SW, along the southwest waterfront. This project is considered temporary because anticipated redevelopment along Tenth Street, SW, as envisioned in the SW Ecodistrict Plan, may necessitate a permanent connection at this location in the future. Also, Banneker Park is listed as a "prime" site in the Memorials and Museums Master Plan (NCPC 2011) and could therefore be the site for a future museum or commemorative work.

This Environmental Assessment (EA) describes three alternatives for the proposed connection, including two action alternatives and the no-action alternative, and analyzes the environmental consequences of implementing the alternatives. This document has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA); regulations of the Council on Environmental Quality (40 CFR 1500-1508); NPS Director's Order #12: Conservation Planning, Environmental Impact Analysis, and Decision-Making; the NPS NEPA Handbook (NPS 2015); and NCPC's Environmental and Historic Preservation Policies and Procedures (NCPC 2004).

PURPOSE OF AND NEED FOR THE ACTION

The purpose of the project is to provide a safe, functional, and aesthetically pleasing temporary connection to improve connectivity and access between Tenth Street, SW, and the southwest waterfront.

This project is needed because currently there is limited pedestrian and bicycle access between the waterfront, Tenth Street, SW (also known as the L'Enfant Promenade), the National Mall, and surrounding areas. Improved pedestrian and bicycle access between the National Mall and the waterfront has been envisioned since the development of the National Mall Plan in 2010. This plan, prepared by NPS, recognized that improved connections are needed for pedestrian and bicyclists between the National Mall, surrounding city and transportation networks, and the waterfront (NPS 2010). More recently, in 2013, NCPC accepted the SW Ecodistrict Plan in an effort to create a sustainable and more livable urban environment within southwest DC (NCPC 2013. As part of the SW Ecodistrict planning process, the SW Ecodistrict Task Force, led by NCPC, developed design concepts for the Tenth Street, SW and Interim Banneker Connection (NCPC 2015). Improved pedestrian and bicycle access as described in the SW Ecodistrict Plan, the Programmatic Design Concept Summary for the Tenth Street, SW and Interim Banneker Connection, and the National Mall Plan, affirms the need for a connection between the waterfront and the National Mall at Banneker Park.



BANNEKER PARK

Banneker Park is under the jurisdiction of the NPS/National Mall and Memorial Parks (NAMA) and is located in southwest Washington, DC. The park is bound by Maine Avenue, SW, to the south, the Southwest Freeway (I-395) to the north and west, and Ninth Street, SW, to the east. Banneker Park comprises the southern terminus of Tenth Street, SW, approximately one-half mile south of the National Mall (Photo 1). The overlook at Banneker Park includes an approximately 200-foot wide elliptical plaza that contains a granite water fountain surrounded by asphalt block paths, granite pavers, London plane trees, and provides benches, trash receptacles, and interpretive signage (Photo 2). From the overlook, visitors are afforded views primarily of the Washington Channel and East Potomac Park (Photo 3). The rest of Banneker Park is comprised of grass fields that slope steeply down to Maine Avenue, SW. Approximately 10 of the original 726 dogwood trees planted on the lawns are still surviving, limited to the northeast section of the park. The southern slope of the park consists of an approximately 250foot riprap embankment. Bush honeysuckle, staghorn sumac and other vegetation have established along the embankment (Photo 4). The roadways and sidewalks within the limits of Banneker Park are owned by the District and maintained by the District Department of Transportation (DDOT). All remaining facilities including the overlook and lawn are property of the NPS.



Photo 1: View of Banneker Park from Tenth Street, SW



Photo 2: View of the central plaza and associated features at Banneker Park



Photo 3: View towards the southwest from the overlook at Banneker Park



Photo 4: View of the western slope of Banneker Park from Case Memorial Bridge

Traffic circulation is provided by roadways in and around the park. Tenth Street, SW, provides one-way vehicle access around the overlook, and access is also provided to motorists from Ninth Street, SW, and via Exit 4 off of I-395 (Photo 5). Japanese yew, an evergreen shrub, is planted along portions of the roadways. On the west side of the overlook, a pedestrian/bicycle ramp connects to the sidewalk on the Francis Case Memorial Bridge, which provides access across the Washington Channel (Photo 6). An approximately 4 feet wide paved pathway connects the sidewalks along Tenth Street, SW, to the Maine Avenue and Ninth Street, SW, intersection across the eastern hillslope of Banneker Park (**Photo 7**). This path is not ABAAS-compliant. Additionally, heavy pedestrian traffic has created a social trail on the western hillslope of Banneker Park from the overlook to the sidewalk along Maine Avenue, SW (**Photo 8**). The social trail has been created by pedestrians looking for a direct route from Tenth Street, SW, to the Fish Market and other areas along the waterfront. The sidewalk along Maine Avenue, SW, is 4 feet wide and is impeded by utility poles. A pedestrian crosswalk has been constructed on Maine Avenue as part of the initial phase of the Wharf development that includes a signalized intersection near the Fish Market along Maine Avenue, SW. The limits of the project area for the proposed temporary connection are provided in **Figure 1**.



Photo 5: Southern view of the overlook, traffic circle, and the intersection with Ninth Street, SW from the L'Enfant Promenade



Photo 6: View of the Case Memorial Bridge pedestrian/bicycle ramp that connects to Banneker Park on the west side of the overlook



Photo 7: View of the existing paved path on the eastern hillslope of Banneker Park that connects Tenth Street, SW with Maine Avenue and Ninth Street, SW



Photo 8: View of the social trail created by pedestrians along the western hillslope of Banneker Park

PLANNING ISSUES AND CONCERNS IDENTIFIED DURING SCOPING

The NPS, participating agencies and stakeholders, and members of the public identified specific issues and concerns during scoping. Some of these issues and concerns were considered by the NPS, but were ultimately dismissed from detailed analysis because they were determined not central to the proposal or of critical importance. Other issues and concerns were retained for detailed analysis and are included in the impact topics that are discussed in the "Affected Environment and Environmental Consequences" section of the EA.

Planning Issues and Concerns Retained for Detailed Analysis

The proposed project would modify contributing elements and add new elements to Banneker Park, a National Register-eligible historic property. Banneker Park has been determined eligible for listing in the National Register of Historic Places (National Register) and is significant because the park was designed by Dan Kiley, an influential American landscape architect. Implementation of the proposed project would add new elements into the Dan Kiley-designed landscape, require modifications to existing elements that contribute to the significance of the park, and would also add new features into the viewshed of historic properties in the vicinity. Therefore, the projects' potential impacts to historic properties and the cultural landscape is analyzed in detail under *Historic Structures and Districts, including Cultural Landscapes* within the "Affected Environment and Environmental Consequences" section of this EA.

Construction of the temporary connection would increase impervious surface area. Construction of the pedestrian connection would remove vegetation, increase impervious surface area, and reduce the stormwater infiltration capacity of the site. Also, due to the area of ground disturbance required to construct the connection, stormwater management would need to be implemented in accordance with Section 438 of the Energy Independence and Security Act of 2007 and the District's 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control (DOEE 2013a). Therefore, concerns related to the project's potential to impact water quality are analyzed in detail under *Water Quality* within the "Affected Environment and Environmental Consequences" section of this EA.

Existing pedestrian facilities at Banneker Park are not ABAAS-compliant. During project scoping, the NPS identified that existing pedestrian facilities at Banneker Park are not accessible for persons with disabilities. The paved pathway along the eastern hillslope of Banneker Park was not original to the Kiley design and is not ABAAS-compliant. In addition, ABAAS-compliant curb ramps have not been installed at pedestrian crosswalks. According to the Architectural Barriers Act (ABA), access for physically handicapped persons is required in all facilities designed, built, altered or leased with federal funds. The project's potential impacts related to providing ABA-accessibility at Banneker Park have been analyzed in detail under *Visitor Use and Experience* within the "Affected Environment and Environmental Consequences" section of this EA.

Banneker Park is not bicycle-friendly and does not provide adequate connectivity to local bicycle trails. During project scoping, several public comments received by the NPS stated that Banneker Park does not provide bicycle-friendly access between the waterfront, Tenth Street, SW, the National Mall, or to local bicycle trails in the area, including the Anacostia Riverwalk Trail. The project's potential impacts related to providing improved bicycle accessibility at Banneker Park have been analyzed in detail under *Visitor Use and Experience* within the "Affected Environment and Environmental Consequences" section of this EA.

Planning Issues and Concerns Dismissed from Detailed Analysis

Construction of a temporary connection would disturb vegetation. During the early stages of the planning process, the NPS determined that turf grass on the hillslopes of Banneker Park would be temporarily disturbed or permanently removed to construct the proposed connection. Other potentially impacted vegetation include, bush honeysuckle and staghorn sumac that have established within the riprap embankment along the southern hillslope, and a short section of Japanese yew bushes along the southeast boundary of the park near the Maine Avenue and Ninth Street, SW, intersection. However, concerns regarding the removal of vegetation have been dismissed from further study in this EA because turf grasses are common and easy to reestablish, and also because honeysuckle is an invasive species and none of the vegetation that currently exists along the southern hillslope was part of Kiley's original design. Concerns related to the removal of Japanese yew, which are original to the Kiley design of Banneker Park, are addressed under *Historic Structures and Districts, including Cultural Landscapes* within the "Affected Environment and Environmental Consequences" section of this EA.

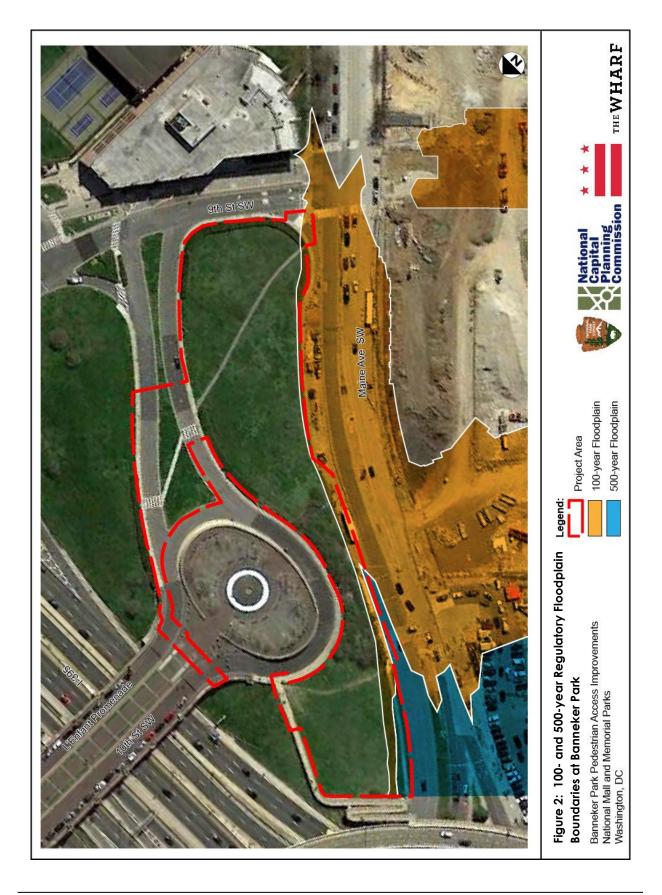
Ground disturbance during construction may uncover archeological resources.

Banneker Park was constructed during the 1960s from fill material transported to the site during construction of the Southwest Freeway (I-395). Therefore, it is anticipated that soil disturbances at the ground surface that would be necessary to construct the project would not be deep enough to impact potential archeological resources within intact soil horizons. As such, concerns related to archeological resources have been dismissed from further study in this EA.

Potential for the project to impact lands held in trust by the Secretary of the Interior for the benefit of Indians. Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by Department of Interior (DOI) agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes. There are no Indian trust resources in the vicinity of Banneker Park and no lands are held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, concerns related to Indian trust resources have been dismissed from further study in this EA.

The project would add impervious surface area within the floodplain of the Potomac River. In 2015, the Federal Emergency Management Agency (FEMA) approved revisions to the boundaries of the 100- and 500-year regulatory floodplain in the vicinity of Banneker Park. The map revisions, requested by the Wharf, take into account the future development of the waterfront and its effects on flood elevations locally. The revised floodplain boundaries are provided on Figure 2. Under the alternatives described in Chapter 2, construction of the proposed connection would result in approximately 2,500 square feet of temporary disturbances within the 100-year regulatory floodplain, and approximately 8,500 square feet of temporary disturbances within the 500-year regulatory floodplain of the Potomac River. Furthermore, the proposed connection require the widening of existing sidewalks along Maine Avenue, SW, to provide adequate space for pedestrian circulation. The sidewalk widening would result in an increase in impervious surface area of 900 square feet over the existing condition within the 500-year regulatory floodplain. No new structures are proposed within the 100-year regulatory floodplain.

Floodplain impacts would be unavoidable because there is no other suitable location for the proposed connection in the area. However, due to the small scale of the proposed improvements related to the overall area of the floodplain, and the minimal disturbances within the floodplain that would be required, no perceptible adverse impacts to the floodplain's ability to store, convey, or infiltrate floodwaters would be anticipated. Additionally, because this area is subjected to low velocity floodwaters, and because the structures would generally be resilient to the effects of flooding, this issue has been dismissed from further study in this EA.



Potential for the project to disproportionally impact minority or low-income populations. Executive Order 12898, *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. The DOI implements this executive order by requiring its bureaus to explicitly discuss environmental justice in their environmental documents (Department of the Interior 1995).

According to the Environmental Protection Agency (EPA), environmental justice is the

...fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies (EPA 2015).

The goal of 'fair treatment' is not to shift risks among populations, but to identify potentially disproportionately high and adverse effects and identify alternatives that may mitigate these impacts. Communities in the vicinity of Banneker Park contain both minority and low-income populations; however, concerns related to environmental justice have been dismissed from further study in this EA because:

- The planning team actively solicited public participation as part of the planning process and gave equal consideration to all input from persons regardless of age, race, income status, or other socioeconomic or demographic factors.
- Implementation of the proposed alternative would not result in any identifiable adverse human health effects. Therefore, there would be no direct or indirect adverse effects on any minority or low-income population.
- The impacts associated with implementation of the proposed alternative would not disproportionately affect any minority or low-income population or community.
- Implementation of the proposed alternative would not result in any identified effects that would be specific to any minority or low-income community.

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ALTERNATIVES

This EA analyzes a no-action alternative and two action alternatives for the proposed pedestrian connection at Banneker Park. The elements of these alternatives are described in detail in this section. Impacts associated with the actions proposed under each alternative are outlined in the "Affected Environment and Environmental Consequences" section of this EA. In addition, several concepts were dismissed from further consideration, which are described in this chapter under "Alternatives Dismissed from Further Consideration."

ALTERNATIVE A: NO-ACTION

Under Alternative A, some minor modifications to pedestrian facilities at the Maine Avenue and Ninth Street, SW, intersection would be conducted as part of roadway improvements associated with the Wharf development. Otherwise, pedestrians and bicyclists would continue to use existing pathways at Banneker Park in their existing condition. The existing 4-foot wide paved pathway across the eastern hillslope of the park would remain in place. Also, pedestrians would continue to use the social trail on the western hillslope of the park to access Maine Avenue, SW, from Tenth Street, SW. Bicyclists accessing the pedestrian/bicycle ramp to Case Memorial Bridge from surrounding areas would continue to have to hop up onto the existing curb from the traffic circle. Similarly, bicyclists entering Banneker Park from the Case Memorial Bridge pedestrian/bicycle ramp would be required to hop down off of the existing sidewalk and into the driving lane of the traffic circle to access Tenth Street, SW, or the existing paved pathway to the Maine Avenue and Ninth Street, SW, intersection.

Pedestrian facilities at Banneker Park would remain noncompliant with ABA-accessibility standards. Curbs would remain in place at pedestrian crossings surrounding the park's central plaza. The NPS would consider minimal improvements, such as installing curb ramps at existing pedestrian crosswalks to improve bicycle accessibility, but no other improvements would be completed. In the future, a permanent connection would be constructed for pedestrians and bicyclists at Banneker Park as a part of the proposed Tenth Street, SW, improvements presented in the SW Ecodistrict Plan, or as part of a larger site design if a museum or commemorative work is constructed, as identified in the Memorials and Museums Master Plan.

Park landscaping and lighting would remain unchanged under Alternative A. The NPS would continue to maintain slopes of the park as turfgrass areas, and other vegetated areas would be maintained in the current condition. Lighting at the park, which is limited to the central plaza and surrounding roadways, would also be maintained in its existing condition.

ALTERNATIVE B (NPS AND NCPC PREFERRED ALTERNATIVE)

Under Alternative B, a temporary stairway would be constructed on the west side of Banneker Park. The stairway would begin at a proposed transition area where the path to the Case Memorial Bridge pedestrian/bicycle ramp connects to the west side of the overlook. The transition area would be an approximate width of 16 feet, and the existing opening in the retaining wall would be widened from approximately 8 feet to between 16 and 20 feet. The stairway would continue down the western hillslope of the park and would terminate along Maine Avenue, SW, at the Maine Avenue, SW, intersection near the Fish Market. The stairway would be constructed of concrete and would be a minimum 15 feet wide. A bike trough would be incorporated into the stairway design to make access easier for bicyclists who prefer to walk their bikes up or down the stairs. In addition, a curb/bicycle ramp would be installed along the existing sidewalk at the opening in the overlook retaining wall to provide enhanced bicycle accessibility between the Case Memorial Bridge pedestrian/bicycle ramp, Ninth Street, SW, and Tenth Street, SW.

In addition, ABAAS-compliant paths would be constructed on the east side of the park to provide access for pedestrians, including persons with disabilities, and also for bicyclists, to the Maine Avenue, SW, intersection near the Fish Market, as well as the Maine Avenue and Ninth Street, SW, intersection. New sidewalks and pedestrian crosswalks, including curb ramps and striping, would be installed to provide access to the ABAAS-compliant paths at the Tenth Street, SW, intersection with Ninth Street, SW, where one path would continue down the eastern hillslope, terminating at the Maine Avenue and Ninth Street, SW, intersection. The second path would continue down the hillslope in a western direction, terminating along Maine Avenue, SW, at the intersection near the Fish Market. Furthermore, a new pedestrian crosswalk with curb ramps and striping would be constructed across the Tenth Street, SW, vehicle access ramp from Ninth Street, SW.

The proposed ABAAS-compliant paths would have a 2 percent maximum cross slope and 5 percent maximum longitudinal slope. The paths would include evenly spaced landings, so as not to require handrails. The paths would be a minimum width of 10 feet, and would be constructed using a light-colored asphalt material consistent with NPS standards. Along Maine Avenue, SW, the existing sidewalk, within the project's scope, would be widened from its existing 6-foot total width to a varying width of 12 to 20 feet in order to provide adequate pedestrian circulation, and accommodate landscaping, street furniture, lights, and signage. The widened sidewalk would accommodate an ABAAS-compliant pedestrian through zone, sufficient transition area where the stairway, paths, and sidewalk connect, and additional space that would be allocated to light posts and street trees. To accommodate these features, a concrete retaining wall would be constructed along the southern hillslope of Banneker Park. The retaining wall would replace a portion of the existing riprap embankment and vegetation, and would range from 42 inches up to 10 feet at its highest point. The retaining wall would be designed in coordination with the DC State Historic Preservation Office (SHPO) to be complimentary in form but distinct from the original Kiley design of Banneker Park.

Proposed improvements or modifications within the park to the overlook, retaining walls, and vegetated hillslopes would be conducted within NPS property under Alternative B. Improvements or modifications to sidewalks and pedestrian crosswalks along Tenth Street and Maine Avenue, SW, would occur within DDOT rights-of-way. Though not part of this project, DDOT plans to explore opportunities to enhance accessibility and safety for pedestrians and bicyclists on Tenth Street, SW, and around the traffic circle at Banneker Park, by incorporating a bicycle lane on the existing roadway, and/or by widening the existing sidewalk around the south and west sides of the traffic circle from 6 feet to as much as 10 feet.

Landscaping would also be included in the design of the project that may include reintroducing a limited section of the original grid pattern of trees originally intended by Kiley in the design of the park and installing street trees within the sidewalk area along Maine Avenue, SW. The NPS would select plant material, such as redbud (*Cercis canadensis*), to be sympathetic to Kiley's design of Banneker Park and that are hardier than the dogwoods that were originally planted at the site. The landscape plan would also include the removal of an approximately 40-foot section of Japanese yew at the Maine Avenue and Ninth Street, SW, intersection to accommodate the new ABAAS-compliant path. New, smaller Japanese yew would be planted along the edge of the south exit road from Tenth Street, SW, to Ninth Street, SW. The new Japanese yew would be maintained as a low hedge of 2 to 3 feet maximum height, and would serve to encourage the use of the formal pathways within the park, as well as to define the edge of the landscape improvements.

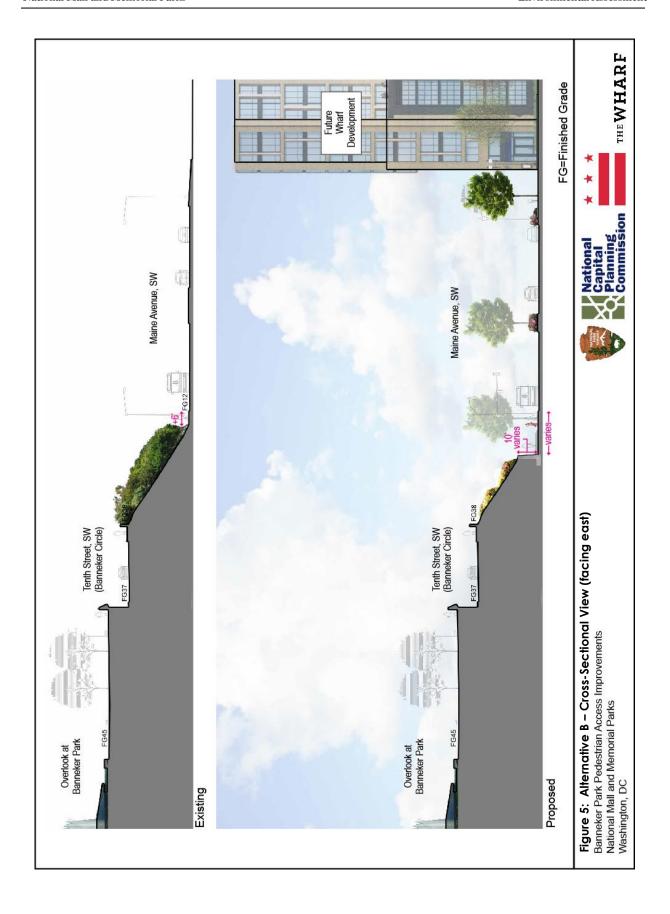
Additionally, lighting features that meet current national electric codes, or other NPS preferred lighting standards, would be installed along the new stairway and paths. Wayfinding signage would be installed at the site to direct pedestrians and bicyclists on Maine Avenue, SW to Tenth Street, SW, the National Mall, and East Potomac Park via the Case Memorial Bridge. Wayfinding signage would also be provided to direct pedestrians and bicyclists from the National Mall and Tenth Street, SW, to East Potomac Park, the waterfront, and the Anacostia Riverwalk Trail.

The proposed project would add approximately 12,750 square feet of impervious surface to the park under Alternative B. The NPS would implement stormwater management into the design of the connection, as required by the 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control and the stormwater requirements for federal projects that are outlined in Section 438 of the 2007 Energy Independence and Security Act. The NPS is proposing the use of bioretention, including rain gardens and bioswales for stormwater management, which would be coordinated with the District Department of Energy and Environment (DOEE), to ensure that this technique is appropriate for collecting and treating stormwater at the site. In addition, the NPS would consider strategies and partnerships for long-term maintenance of stormwater retention facilities.

Figures 3, 4, and 5 provide a conceptual layout of the temporary stairway, ABAAS-compliant pathways for pedestrians and bicyclists, the proposed limits of work, and other design elements, such as landscaping and stormwater management proposed under Alternative B.







ALTERNATIVE C

Under Alternative C, a temporary stairway would be constructed on the east side of Banneker Park. The stairway would be constructed of concrete and would be approximately 12 feet wide. A bike trough would be incorporated into the stairway design to make access easier for bicyclists who prefer to walk their bikes up or down the stairs. In addition, an ABAAS-compliant path would be constructed adjacent to the stairway for use by pedestrians, including persons with disabilities, and also by bicyclists. The stairway and path would begin to the east of the overlook at the Tenth Street, SW, exit ramp onto Ninth Street, SW. The stairway and path would continue down the eastern hillslope, terminating along Maine Avenue, SW, at the Maine Avenue, SW, intersection near the Fish Market. In order to provide ABA-accessibility to the stairway and path, new sidewalks would be installed on the east side of the overlook, and curb ramps and striping would be installed along Tenth Street, SW, and at existing crosswalks. In addition, a curb ramp would be installed along the existing sidewalk at the opening in the overlook retaining wall to provide enhanced bicycle accessibility between the Case Memorial Bridge pedestrian/bicycle ramp, Ninth Street, SW, and Tenth Street, SW. A new pedestrian crosswalk with curb ramps and striping would also be constructed across the Tenth Street, SW, access ramp from Ninth Street, SW.

The proposed ABAAS-compliant path would have a 2 percent maximum cross slope and 5 percent maximum longitudinal slope. The path would include evenly spaced landings, so as not to require handrails. The path would be a width of 10 feet, and would be constructed using a light-colored asphalt material consistent with NPS standards. Along Maine Avenue, SW, the existing sidewalk, within the project's scope, would be widened from its existing 6-foot total width to a varying width of 12 to 35 feet in order to provide adequate pedestrian circulation, and accommodate landscaping, street furniture, lights, and signage. The widened sidewalk would accommodate an ABAAS-compliant pedestrian through zone, sufficient transition area where the stairway, path, and sidewalk connect, and additional space allocated to light posts and street trees. To accommodate these features, a concrete retaining wall would be constructed along the southern hillslope of Banneker Park. The retaining wall would replace a portion of the existing riprap embankment and vegetation, and would range from 42 inches up to 16 feet at its highest point. The retaining wall would be designed in coordination with the DC SHPO to be complimentary in form but distinct from the original Kiley design of Banneker Park.

Proposed improvements or modifications within the park to the overlook, retaining walls, and vegetated hillslopes would be conducted within NPS property under Alternative C. Improvements or modifications to sidewalks and pedestrian crosswalks along Tenth Street and Maine Avenue, SW, would occur within DDOT rights-of-way. Though not part of this project, DDOT plans to explore opportunities to enhance accessibility and safety for pedestrians and bicyclists on Tenth Street, SW, and around the traffic circle at Banneker Park, by incorporating a bicycle lane on the existing roadway, and/or by widening the existing sidewalk around the south and west sides of the traffic circle from 6 feet to as much as 10 feet.

Landscaping would also be included in the design of the project that may include reintroducing a limited section of the original grid pattern of trees originally intended by Kiley in the design of the park and installing street trees within the sidewalk area along Maine Avenue, SW. The NPS would select plant material, such as redbud, to be sympathetic to Kiley's design of Banneker Park and that are hardier than the dogwoods that were originally planted at the site.

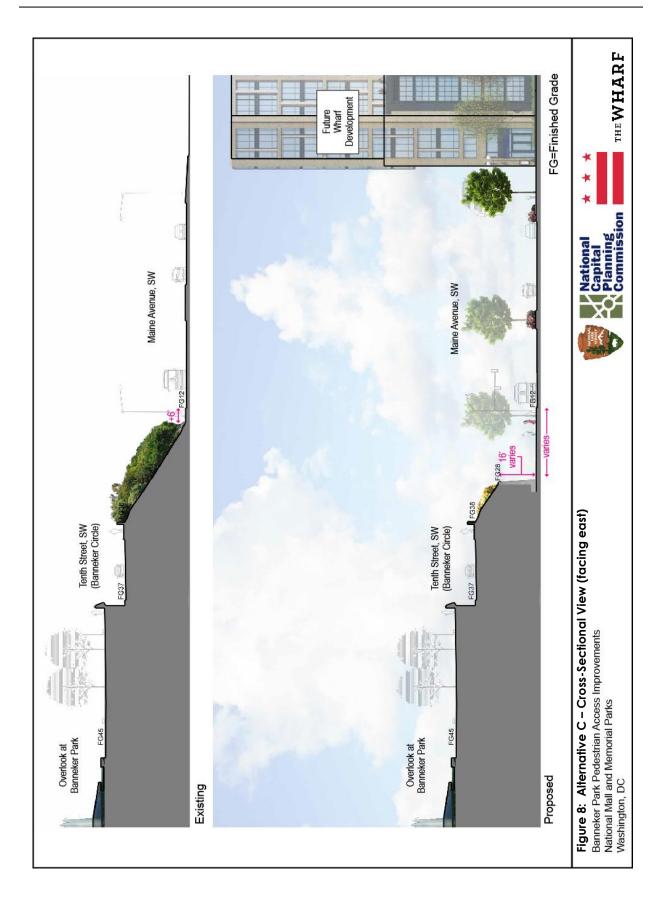
Additionally, lighting features would be installed along the new stairway and path. Lighting features that meet current national electric codes, or other NPS preferred lighting standards, would be installed along the new stairway and path, as well as along the new sidewalks on Maine Avenue, SW. Furthermore, the NPS would attempt to reestablish turf grass along the social trail on the west side of the overlook, and the existing paved path on the east side would also be removed. Wayfinding signage would be installed at the site to direct pedestrians and bicyclists on Maine Avenue, SW to Tenth Street, SW, the National Mall, and East Potomac Park via the Case Memorial Bridge. Wayfinding signage would also be provided to direct pedestrians and bicyclists from the National Mall and Tenth Street, SW, to East Potomac Park, the waterfront, and the Anacostia Riverwalk Trail.

The proposed project would add approximately 8,250 square feet of impervious surface to the park under Alternative C. The NPS would implement stormwater management into the design of the connection, as required by the 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control and the stormwater requirements for federal projects that are outlined in Section 438 of the 2007 Energy Independence and Security Act. The NPS is proposing the use of bioretention, including rain gardens and bioswales for stormwater management, which would be coordinated with DOEE, to ensure that this technique is appropriate for collecting and treating stormwater on site. In addition, the NPS would consider strategies and partnerships for long-term maintenance of stormwater retention facilities.

Figures 6, 7, and 8 provide a conceptual layout of the temporary stairway, ABAAS-compliant pathways for pedestrians and bicyclists, the proposed limits of work, and other design elements such as landscaping and stormwater management proposed under Alternative C.







ALTERNATIVES DISMISSED FROM FURTHER CONSIDERATION

The NPS considered a wide range of alternatives for the location and layout of the proposed connection at Banneker Park that were ultimately dismissed from further consideration.

<u>Planned Unit Development (PUD) Design</u>

One alternative considered but dismissed included the design approved by the Zoning Commission as part of the Stage One Planned Unit Development (PUD) for the Southwest Waterfront redevelopment project, which consists of an angular stairway on the west side of the overlook (**Figure 9**). During the scoping process, this alternative was dismissed from further consideration by the agencies on the basis that the concept introduced an angular stairway into the curvilinear design of Banneker Park, which would not be sympathetic to the original Kiley design and would likely result in adverse effects to the historic property.

Stairway and Path on Western Hillslope

Another concept considered during planning was to include an ABAAS-compliant pedestrian path on the west side of Banneker Park, between the proposed stairway and the Case Memorial Bridge pedestrian/bicycle ramp, in lieu of an ABA-accessible path to the east (**Figure 10**). However, because of the steepness of the western hillslope of Banneker Park, several switchbacks and substantial cut and fill earthworks would be required. Also, sections of the path between the switchbacks would need to be over 400 feet long to meet the required 5 percent grade. This concept was dismissed from further consideration due to the substantial construction that would be required to make the path ABA-accessible.

Stairway and Ramp with Switchbacks

An additional concept evaluated during the planning process included a design for the pedestrian connection that included a stairway and ABAAS-compliant ramp on the west side of Banneker Park. Due to the steepness of the western hillslope of Banneker Park, switchbacks with resting platforms would be needed for the stairway and ramp gradually elevate the user up to the overlook (**Figure 11**). Also, a large section of the retaining wall along the traffic circle would have to be removed to provide access to the stairway and ramp from the existing sidewalk. Due to the multiple switchbacks needed for ABAAS-compliance and the removal of the overlook wall, which contributes to the historical significance of Banneker Park, this concept was dismissed from further consideration during the planning process.

Office of Disability Rights Concept

Other alternative modifications were investigated as part of the planning process. A modified design of Alternative B was proposed, wherein a single path on the east side of Banneker Park would curve back towards the west in a manner sympathetic to Kiley's design, but would terminate mid-block on Maine Avenue, SW, between Ninth Street, SW, and the Maine Avenue, SW, intersection near the Fish Market (**Figure 12**). This modification was dismissed from further consideration because terminating the path mid-block would require that persons with disabilities travel a farther distance to access crosswalks, would promote jaywalking, and would

likely result in the establishment of social trails on the eastern hillslope of the park by pedestrians trying to reach the Maine Avenue and Ninth Street, SW, intersection.

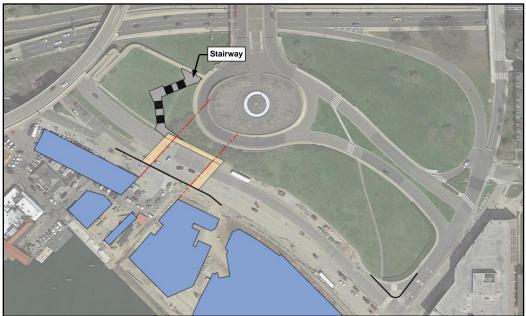


Figure 9: Dismissed Alternative: Approved PUD Design

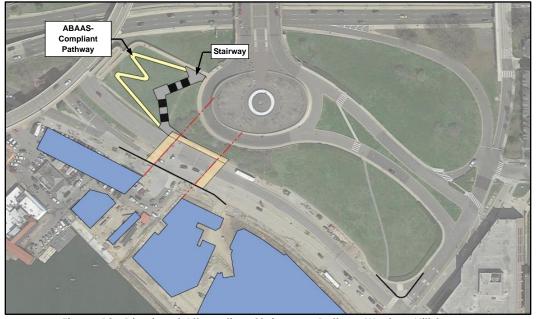


Figure 10: Dismissed Alternative: Stairway & Path on Western Hillslope

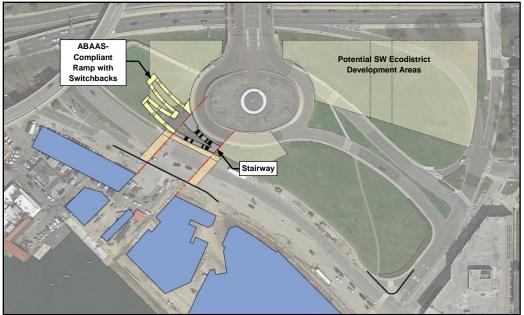


Figure 11: Dismissed Alternative: Stairway & Ramp with Switchbacks



Figure 12: Dismissed Alternative: Office of Disability Rights Concept

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This section includes descriptions of the affected environment, which is intended to document the existing conditions of Banneker Park and surrounding area. These descriptions serve as a baseline for understanding the resources that could be impacted by implementation of the proposed project. This section also includes an analysis of the environmental consequences or "impacts" of two action alternatives and the no-action alternative, and immediately follows the affected environment descriptions for each resource topic. The resource topics presented in this section correspond to the planning issues and concerns described in the "Purpose and Need" section of this EA.

In accordance with the Council on Environmental Quality regulations, the environmental consequences analysis includes the direct, indirect, and cumulative impacts (40 CFR 1502.16). The intensity of the impacts is assessed in the context of the park's purpose and significance, and any resource-specific context that may be applicable (40 CFR 1508.27). Where appropriate, mitigating measures for adverse impacts are described and their effect on the severity of the impact is noted. The methods used to assess impacts vary depending on the resource being considered, but are generally based on a review of pertinent literature and park studies, information provided by on-site experts and other agencies, professional judgment, and park staff knowledge and insight.

As required by the Council on Environmental Quality regulations on implementing NEPA, a summary of the environmental consequences for each alternative is provided in **Table 2**, which can be found at the end of this section.

Cumulative Impacts Methodology — This EA also considers cumulative impacts, namely "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts have been addressed in this EA by resource, and are considered for the no-action alternative and the action alternatives. Because some of these actions are in the early planning stages, the evaluation of the cumulative impact is based on a general description of the projects. The projects considered in the cumulative impact analysis are as follows:

The Wharf

Hoffman-Madison Waterfront is currently constructing a mixed-use development along the southwest waterfront in Washington, DC, from the Maine Avenue Fish Market to Fort McNair. The Wharf development will include 15 buildings connected by 10 acres of public space. The Wharf will provide residential opportunities, hotels, a concert hall, retail space, and a conference center. As part of the Wharf development, DDOT-approved roadway improvements are being conducted on Maine Avenue, SW, including the installation of an intersection near the Maine Avenue Fish Market and modifications at the Ninth Street, SW, intersection. Resources

impacted by the Wharf development include historic structures and districts, water quality, and visitor use and experience.

Tenth Street, SW, Improvements

The NCPC accepted the SW Ecodistrict Plan in 2013 in an effort to create a sustainable and more livable urban environment within southwest DC. The Plan focuses on a 15-block federal precinct within the District just south of the National Mall, and includes near- and long-term improvements to revitalize Tenth Street, SW. Resources impacted by the Tenth Street, SW, improvements include historic structures and districts, water quality, and visitor use and experience.

Restoration of the Municipal Fish Market Lunch Room/Oyster Shucking Shed

Hoffman-Madison Waterfront plans to restore the former Municipal Fish Market Lunch Room and Oyster Shucking Shed located along the waterfront on Maine Avenue, SW. In November 2015, the Lunch Room and Oyster Shucking Shed were designated as a historic landmark in the DC Inventory of Historic Places (DC Inventory) and nominated for the National Register. The Lunch Room and Shed are the last remnants of a larger Municipal Fish Market complex. Restoration will include repairing or replacing the slat roof; restoring the historic walls and windows; and removing noncontributing walls. Resources impacted by restoration efforts include historic structures and districts, and visitor use and experience (DCOP 2015).

An assessment of the potential significance of the impacts according to context and intensity is provided for each impact topic in the "Conclusion" section under each alternative. Resource-specific context is presented in the "About the Analysis" section under each impact topic and applies across all alternatives. Intensity of the impacts is presented in the "Conclusion" section using relevant factors that address the severity of the impact.

HISTORIC STRUCTURES AND DISTRICTS, INCLUDING CULTURAL LANDSCAPES

Affected Environment

This section describes the historic structures and districts, including cultural landscapes, present at the site and in the surrounding area. This information is derived from the National Register, the DC Inventory, a Cultural Landscape Inventory developed for Banneker Park (NPS 2013), determinations of eligibility, historic structures reports, historic photographs, maps, and other documentation, and site reconnaissance and observation.

Section 106 of the NHPA requires that federal agencies consider the effects of their actions on properties listed, or eligible for listing, in the National Register. Compliance with Section 106 of the NHPA has been conducted concurrently with the NEPA process for this project. After initiating the Section 106 compliance process, the NPS, in consultation with the DC SHPO, identified any historic properties within the project's APE. As defined by 36 CFR 800.16(d), the APE represents "the geographic area within which an undertaking may directly or indirectly

cause alterations in the character or use of historic properties, if any such properties exist." For the purposes of this project, the APE was defined by sightlines to and from Banneker Park. The APE includes seven eligible or listed resources in the National Register and/or the DC Inventory, including Banneker Park, Department of Housing and Urban Development, East/West Potomac Parks Historic District, Washington Marina, Jefferson Middle School, Lunch Room/Oyster Shucking Shed, and L'Enfant Promenade (Tenth Street, SW). Each of these properties is described in the text below and there locations are provided on **Figure 13**.

Benjamin Banneker Park

Date: 1967-1969 Architect: Dan Kiley

Designation: Determined Eligible for Listing in the National Register and DC Inventory in 2012

Benjamin Banneker Park, originally known as the Tenth Street Overlook, is located within the National Mall and Memorial Parks at the southern terminus of L'Enfant Plaza, connecting the National Mall to the southwest waterfront. The area was initially part of the National Capital Planning Commission's 1950 Comprehensive Plan for the District of Columbia, which addressed the blight of Southwest, DC. The southwest had developed as a free African-American community prior to the Civil War, and continued to grow after the Civil War; however, the area lacked the infrastructure and funding to create safe and livable housing. NCPC's plan outlined two, later expanded to three, areas to be redeveloped. In 1953, the redevelopment of Area C, in which Banneker Park falls, was award to New York developers Webb & Knapp, whose in-house architects at the time were I.M. Pei and Harry Weese. Area C had four key elements, including the Tenth Street promenade that terminated at Maine Avenue, SW, in a loosely designed, semicircular pool surrounded by restaurants, shopping, and other commercial interests (DC SHPO 2012b). While Pei and Weese fully designed the Tenth Street Mall, now known as Tenth Street, SW, or L'Enfant Promenade, the actual design of Banneker Park was executed by renowned landscape architect Dan Kiley.

In 2012, Banneker Park was determined eligible for listing in both the DC Inventory and the NRHP for its association with Dan Kiley as one of his best and most intact landscape designs. Contributing elements of the park include the walls of the park, topography, fountain, paths, benches, lighting, trash receptacles, riprap embankment, London plane trees, Japanese yews, and the remaining dogwoods. The viewsheds from the central plaza, looking north toward the L'Enfant Promenade, and southwest, south, and southeast towards the Washington Channel and Potomac River, are also contributing elements.



... continued from page 27

Designed and constructed as the Tenth Street Overlook between 1967 and 1969, Banneker Park was built on top of fill moved from the construction of the Southwest Freeway. The sloping lawns were planted with 726 dogwoods laid out in a specified grid; however, only approximately ten dogwoods remain today. The dogwoods were in turn surrounded by Japanese yews. The sloping lawns rose to the 200-foot-wide, central plaza that was designed to offer views of the Washington Channel and the Potomac River beyond. The plaza incorporates a large, elliptical fountain ringed by London planetrees, paths, lighting, benches, trash receptacles, and contemporary interpretative signage. Tenth Street, SW, circles the central plaza and cuts to the east to connect Tenth Street, SW to Ninth Street, SW. The Tenth Street Overlook was renamed Benjamin Banneker Park in 1971 by the NPS, though the area has no specific connection to Banneker himself, who was largely self-taught and a former slave who made important contributions to astronomy, agriculture, surveying, and racial equality (NPS 2013).

In 2012, Banneker Park was determined eligible for listing in both the DC Inventory and the National Register for its design by Dan Kiley. Contributing elements of the park include the walls of the park, topography, fountain, paths, benches, lighting, trash receptacles, London planetrees, Japanese yews, and the remaining dogwoods. The viewsheds from the central plaza, looking up Tenth Street, SW, and southwest, south, and southeast towards the Washington Channel and Potomac River are also contributing elements. The contemporary riprap wall and honeysuckle planted to the south of the park, the road and sidewalks, and interpretative signage are all considered noncontributing elements to the park (NPS 2013).

East and West Potomac Parks Historic District

Date: 1882-1916

Designation: Listed in the DC Inventory (November 8, 1964) and National Register (November 30, 1973; revised November 11, 2001)

Created by the United States Army Corps of Engineers (USACE), East and West Potomac Parks comprise a large portion of the monumental core of Washington, DC. The parks are located on the Potomac River, stretching from Constitution Avenue, NW to Hains Point. The parks were created as part of the McMillan Commission Plan, one of the nation's greatest contributions from the City Beautiful Movement. The parks were part of a reclamation project executed by the USACE to improve the navigation and sanitation of the Potomac River and Potomac Flats. Dredge from the river was molded to form both parks, surrounding the newly formed Tidal Basin, completing the monumental core of the Nation's Capital. The project took approximately 30 years to complete, ending with the construction of Ohio Drive in 1916, which follows the perimeter of the park. Once completed, over 730 acres of new land were opened for public recreational use. The parks today include baseball fields, soccer fields, tennis courts, a golf course, and NPS office buildings, as well as the Thomas Jefferson Memorial, Franklin Delano Roosevelt Memorial, and the Martin Luther King, Jr., Memorial. Both parks comprise a historic district that is significant for its relation to the monumental core of the city. The historic district is listed in both the DC Inventory and the National Register (NPS 2001).

Department of Housing and Urban Development

Date: 1965-1968

Architect: Marcel Breuer

Designation: Listed in the DC Inventory (June 28, 2008) and National Register (August 28,

2008)

The Department of Housing and Urban Development, also known as the Robert C. Weaver Federal Building, is located at 451 Seventh Street, SW. Designed by world-renowned Hungarian architect Marcel Breuer, the building was the first structure to be designed and constructed under the Guiding Principles for Federal Architecture. Written in 1962 by Senator Daniel Patrick Moynihan, the Guiding Principles emphasized the importance and influence of federal government architecture. Breuer was also the first to use precast and cast-in-place concrete as the structural and finish material of a government building. The 10-story, sweeping, curvilinear X-shaped building was executed in the Expressionist style. The plaza along Seventh Street, SW, was executed by landscape architect Martha Schwartz in 1990 (DC SHPO 2009).

In 1999, the building was renamed for Robert C. Weaver, the Secretary of Housing and Urban Development under Lyndon Johnson's administration between 1966 and 1968, and the first African-American Cabinet member. The building is listed in both the DC Inventory and National Register and is significant for its innovative Expressionist design by Marcel Breuer, and his use of precast and cast-in-place concrete for both structure and finish (NPS 2008).

Lunch Room and Oyster Shucking Shed

Date: 1916-1918

Architect: Snowden Ashford

Designation: Listed in the DC Inventory (November 19, 2015); Determined eligible for National

Register

Constructed as part of the larger Municipal Fish Market complex in southwest DC, the Lunch Room and Oyster Shucking Shed are the last two remaining buildings. Located at the convergence of the Potomac and Anacostia Rivers, Washington, DC, has long been the center of fish trade in the region. Since the early 19th century, the operations have been located along the southwest waterfront. During the Civil War, the wharves were commandeered by the military and then returned to their original owners after. Towards the end of the 19th century, the area was severely rundown, lacking infrastructure and stability. The government took possession of the southwest waterfront again in the US Supreme Court Potomac Flats case due to the blight of the area. With control of the area after the formation of the Washington Channel and construction of the East and West Potomac Parks, the city began construction of a large Municipal Fish Market. Designed by Municipal Architect Snowden Ashford, the Municipal Fish Market was constructed between 1916 and 1918. The complex was composed of seven separate buildings, of which the Lunch Room and Oyster Shucking Shed are the only two remaining. The buildings have been severely altered over time, but were listed in the DC Inventory on November 19, 2015 for their association with the original Municipal Fish Market, and were forwarded to the National Register (DC SHPO 2012a).

Washington Marina

Date: 1938

Architect: Part of the Works Progress Administration

Designation: Determined Eligible for Listing in the National Register and DC Inventory in 2012

The Washington Marina, located at 1300 Maine Avenue, SW, was designed and constructed as part of a larger Works Progress Administration project. Over the course of 8 years, the Works Progress Administration and the USACE improved the Washington Channel, created by the East and West Potomac Parks. The project included the construction of multiple yacht basins, small boat anchorages, and six new wharves (DC SHPO 2009). The Washington Marina building was the first to be constructed in 1938 adjacent to Yacht Basin No. 1, at the northern end of the Washington Channel. The building was originally used as a yacht sales office; currently, it houses the offices of the marina. The building was determined eligible for listing in the National Register and DC Inventory in 2012 for its association with the Works Progress Administration and its relationship with DC's waterfront (DC SHPO 2012a).

Jefferson Middle School

Date: 1939-1940

Architect: Nathan C. Wyeth

Designation: Determined Eligible for Listing in the National Register and DC Inventory in 2012

Constructed between 1939 and 1940, Jefferson Middle School was designed by then Municipal Architect Nathan C. Wyeth. The school replaced another Jefferson School located at Sixth and D Streets, SW, that had been designed by Adolf Cluss in 1872. The new school was constructed at G and Seventh Streets, SW. Wyeth, who was classically trained at the Ecole des Beaux Arts in Paris, France, used his skill to elegantly design Jefferson Middle School with excellent proportion, massing, and siting in the Colonial Revival style. The school was determined eligible for listing in both the National Register and the DC Inventory in 2012, and is identified in the National Register Multiple Property Listing for DC Public Schools (DC SHPO 2012a).

L'Enfant Promenade (Tenth Street, SW)

Date: 1965-1968 Architect: I.M. Pei

Designation: Determined Eligible for Listing in the DC Inventory and National Register in 2014

Originally referred to as the Tenth Street Mall, L'Enfant Promenade (Tenth Street, SW) is located within the National Mall and Memorial Parks between the National Mall and the southwest waterfront. The area was part of NCPC's 1950 Comprehensive Plan for the District of Columbia, which addressed the blight of Southwest, DC. The southwest had developed as a free African-American community prior to the Civil War, and continued to grow after the Civil War; however, the area lacked the infrastructure and funding to create safe and livable housing. NCPC's plan outlined two, later expanded to three, areas to be redeveloped. In 1953, the redevelopment of Area C was award to New York developers Webb & Knapp, whose in house architects at the time were I.M. Pei and Harry Weese. Their vision for Area C had four key

elements: the Tenth Street Mall, the Plaza, the waterfront, and the residential neighborhood (DC SHPO 2012a).

Pei and Weese collaborated on the large promenade that was designed to connect the National Mall to the waterfront. First imagined as a cultural mall, the promenade developed into a large plaza with government buildings flanking either side with strips of landscaping. Wide sidewalks run adjacent to the four-lane roadway with a wide, central divider. L'Enfant Promenade was determined eligible for listing in both the National Register and the DC Inventory in 2014 for its association with the National Mall and the southwest waterfront, and its design executed by Pei and Weese (DC SHPO 2011).

About the Analysis

Potential impacts to DC Inventory and National Register-listed or eligible resources were analyzed in consideration of regulations implementing Section 106 of the NHPA and guidelines stated within the *Secretary of Interior's Standards for the Treatment of Historic Properties* (NPS 1995). The analysis of the potential impacts of the project on historic structures focused on whether the proposed undertaking would "...alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association" (36 CFR 800.5(a)(1)).

Cultural landscapes consist of "a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values (NPS 1992)." Potential impacts, direct or indirect, to the cultural landscape, were analyzed in consideration of regulations implementing Section 106 of the NHPA and guidelines stated within The Secretary of the Interior's *Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (NPS 1992).

An Assessment of Effects Report has been prepared for the project that will be submitted to the DC SHPO for review and approval. The report documents the assessment of the three project alternatives on historic resources, including Banneker Park and the other historic properties that are located within the APE. As required by 36 CFR 800.11(e), the Assessment of Effects Report provides the following:

- a description of the Undertaking;
- a description of the project and each alternative;
- a description of the APE and identification of historic properties;
- an assessment of effects on historic properties from each alternative; and
- copies and summaries of views provided by consulting parties and the public.

Impacts of Alternative A: No-Action

Under Alternative A, there would be no alterations to existing pedestrian or bicycle facilities at Banneker Park. Pedestrians would continue to use the social trail from the overlook to Maine Avenue, SW, near the Fish Market; subsequently, minor erosion of the western hillslope of the park would continue. Other than the impacts associated with the degradation of the western hillslope from the use of the social trail, there would be no new impacts to Banneker Park or the other historic resources or cultural landscapes within the APE.

Cumulative Impacts. Other past, present, and reasonably foreseeable future actions, including the proposed Tenth Street, SW, improvements as outlined in the SW Ecodistrict Plan, and the Wharf development along the southwest waterfront, would result in adverse impacts to historic resources. There would be impacts associated with improvements along Tenth Street, SW, as the corridor is National Register-eligible and proposed improvements would result in modifications to contributing elements. Additionally, many of the buildings proposed for construction as part of the Wharf development would impact viewsheds from Banneker Park when looking to the south and southeast, and are likely to also impact views from other historic properties in the vicinity. Conversely, the restoration of the National Register-eligible Lunch Room and Oyster Shucking Shed, part of the former Municipal Fish Market complex, would result in beneficial impacts to historic resources. Under Alternative A, there would be a noticeable adverse impact associated with continued degradation of the park's western hillslope from erosion. When the adverse incremental impact of Alternative A is combined with the adverse and beneficial impacts of other projects, an overall adverse cumulative impact would result; however, consultation with the DC SHPO would occur under each of these projects to ensure that impacts to historic resources are minimized to the greatest extent practicable.

Conclusion. Under Alternative A, there would be no new impacts to historic resources or cultural landscapes. There would be no adverse effects on the East and West Potomac Parks Historic District, Department of Housing and Urban Development, Lunch Room and Oyster Shucking Shed, Washington Marina, Jefferson Middle School, and L'Enfant Promenade (Tenth Street, SW). At Banneker Park, the continued use of social trails by pedestrians would result in noticeable adverse impacts from erosion, and the condition of the hillslope could worsen over time, but these impacts are not likely to be significant because the establishment of social trails and the severity of erosion occurring on the site is minimal. Alternative A would contribute an adverse incremental impact to the overall adverse cumulative impacts of other projects.

Impacts of Alternative B (NPS and NCPC Preferred Alternative)

Under Alternative B, construction of the temporary connection would add new elements within the landscape and require modifications of original landscape elements of Banneker Park designed by Dan Kiley. To accommodate the transition to the stairway from the west side of the overlook under Alternative B, the existing opening in the outer retaining wall that leads to the Case Memorial Bridge pedestrian/bicycle ramp would be widened from 8 feet to between 16 and 20 feet. Minor grading would be required to prepare the site, and to ensure that appropriate

slopes are achieved when constructing the ABAAS-compliant pathways, which would disturb the turf grass established on the lawn and result in slight alterations to the slope of the lawn. In addition, construction of the ABAAS-compliant pathway leading down to the Maine Avenue and Ninth Street, SW, intersection would require the removal of an approximately 40-foot section of Japanese yew along the southeast boundary of the park. Construction of the stairway, ABAAS-compliant pathways, sidewalks and transition area along Maine Avenue, SW, would also require cutting approximately 12 feet into the existing riprap embankment at its deepest point along the southern hillslope of the park and installing a retaining wall approximately 10 feet at its highest point. Replacement of a portion of the riprap embankment with a retaining wall would be readily apparent, but would have a minimal impact on the park overall due to its current state of disrepair. Additionally, the installation of curb ramps to provide complete ABA-accessibility from Tenth Street, SW, to the pathways leading down the eastern hillslope of the park to Maine Avenue, SW, would require the removal of small portions of the existing sidewalks.

There would be no changes to other contributing elements of the park such as the fountain, various features of the central plaza, or contributing landscape plantings. The construction of the stairway under Alternative B would also result in the removal of the social trail along the western hillslope, which would reduce the potential for erosion.

The presence of the new stairway and pathways within the park's landscape would be visible to varying extents from surrounding historic resources including the L'Enfant Promenade (Tenth Street, SW), the Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market complex, the Washington Marina, and the Jefferson Middle School. Only the northeast hillslope of Banneker Park is visible from the Department of Housing and Urban Development, no work or changes would occur in that area, and future buildings proposed as part of the Wharf development will block the majority of views from East Potomac Park.

Cumulative Impacts. Other past, present, and reasonably foreseeable future actions, including the proposed Tenth Street improvements as outlined in the SW Ecodistrict Plan, and the Wharf development along the southwest waterfront, would result in adverse impacts to historic resources. There would be impacts associated with improvements along Tenth Street, SW, as the corridor is National Register-eligible and proposed improvements would result in modifications to contributing elements. Additionally, many of the buildings proposed for construction as part of the Wharf development would impact viewsheds from Banneker Park when looking to the south and southeast, and are likely to also impact views from other historic properties in the vicinity. Views from the overlook at Banneker Park that would be impacted by the future Wharf development are views that contribute to the historic integrity of the park. Conversely, the restoration of the National Register-eligible Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market would result in beneficial impacts to historic resources. Under Alternative B, there would be a detectable adverse impact associated with the addition of new elements into the landscape and modification of the original Dan Kiley design of the park. When the adverse incremental impact of Alternative B is combined with the adverse and beneficial impacts of other projects, an overall adverse cumulative impact would result;

however, consultation with the DC SHPO would occur under each of these projects to ensure that impacts to historic resources are minimized to the greatest extent practicable.

Conclusion. Under Alternative B, views to Banneker Park would be impacted from the L'Enfant Promenade (Tenth Street, SW), the Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market, the Washington Marina, and Jefferson Middle School. Even though new elements would be added into the viewshed of these historic properties, the proposed connection would not block views or diminish the integrity of viewsheds to and from Banneker Park. Views to Banneker Park from the East and West Potomac Parks Historic District and the Department of Housing and Urban Development would not be affected under Alternative B. The addition of new elements within the vicinity and viewshed of historic properties surrounding Banneker Park would result in a noticeable adverse impact; however, impacts would not likely be significant, and would likely result in a no adverse effects determination under Section 106 of the NHPA, because the project would not diminish the integrity of character-defining features or viewsheds, or the overall integrity of historic resources in the vicinity of Banneker Park.

Alterations to features of Banneker Park, including widening of the opening in the outer retaining wall of the central plaza, removal of Japanese yew shrubs, and replacement of a portion of the existing riprap embankment with a new retaining wall would be noticeable. These alterations would result in an adverse impact to Banneker Park; however, impacts would not likely be significant, and would likely result in a no adverse effects determination under Section 106 of the NHPA, because the project would not diminish the integrity of character-defining features, or the overall integrity of the historic resource. The new structures would not be incompatible, out of scale, in great contrast, or out of character with the surrounding area and the aesthetics or character of adjacent structures and area. To minimize the impacts of Alternative B, and to benefit the park, the NPS would reintroduce a limited section of the grid pattern of trees originally intended by Kiley into the design of the connection. Also, the new stairway would provide a small additional benefit, by removing the social trail on the western hillslope of the park, reducing the potential for erosion. Turf grass would be reestablished in disturbed areas following construction to minimize erosion of the lawn and hillslopes, and the Japanese yew removed to accommodate the end of the ABAAS-compliant pathway at the Maine Avenue and Ninth Street, SW, intersection would be replaced by installing new, smaller Japanese vew along the edge of the south exit road from Tenth Street, SW, to Ninth Street, SW. The new Japanese yew would be maintained as a low hedge of 2 to 3 feet maximum height to define the edge of the landscape improvements and control pedestrian traffic. The NPS would conduct ongoing consultation with the DC SHPO to ensure that designs, construction materials, landscaping, etc., are compatible, to the extent possible, with the original Dan Kiley design of Banneker Park. When the adverse incremental impact of Alternative B is combined with the adverse and beneficial impacts of other projects, an overall adverse cumulative impact would result.

Impacts of Alternative C

Under Alternative C, construction of the stairway and ABAAS-compliant pathway would add new elements within the landscape, and require modifications of original landscape elements of Banneker Park designed by Dan Kiley. Minor grading would be required under Alternative C to prepare the site, and to ensure that appropriate slopes are achieved when constructing the ABAAS-compliant pathway, which would disturb the turf grass established on the lawn and result in slight alterations to the slope. Construction of the stairway, ABAAS-compliant pathway, sidewalks and transition area along Maine Avenue, SW, would also require cutting approximately 30 feet into the riprap embankment at its deepest point along the southern hillslope of the park and installing a retaining wall approximately 16 feet at its highest point. Replacement of a portion of the riprap embankment with a retaining wall would be readily apparent, but would have a minimal impact on the park overall due to its current state of disrepair. Additionally, the installation of curb ramps to provide complete ABA-accessibility from Tenth Street, SW, to the pathways leading down the eastern hillslope of the park to Maine Avenue, SW, would require the removal of small portions of the existing sidewalks.

There would be no changes to other contributing elements of the park such as the fountain, various features of the central plaza, or contributing landscape plantings. Turf grass would be reestablished on the social trail along the western hillslope in an attempt to discourage its use and reduce the potential for erosion. Alternative C would also include the removal of the existing paved pathway on the eastern hillslope, which is not an original or contributing element of the park.

The presence of the new stairway and pathway within the park's landscape would be visible to varying extents from surrounding historic resources including the L'Enfant Promenade (Tenth Street, SW), the Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market complex, the Washington Marina, and the Jefferson Middle School. Only the northeast hillslope of Banneker Park is visible from the Department of Housing and Urban Development, and no work or changes would occur in that area, and future buildings proposed as part of the Wharf development will block the majority of views from East Potomac Park.

Cumulative Impacts. Other past, present, and reasonably foreseeable future actions, including the proposed Tenth Street improvements as outlined in the SW Ecodistrict Plan, and the Wharf development along the southwest waterfront, would result in adverse impacts to historic resources. There would be impacts associated with improvements along Tenth Street, SW, as the corridor is National Register-eligible and proposed improvements would result in modifications to contributing elements. Additionally, many of the buildings proposed for construction as part of the Wharf development would impact viewsheds from Banneker Park when looking to the south and southeast, and are likely to also impact views from other historic properties in the vicinity. Views from the overlook at Banneker Park that would be impacted by the future Wharf development are views that contribute to the historic integrity of the park. Conversely, the restoration of the National Register-eligible Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market would result in beneficial impacts to historic

resources. Under Alternative C, there would be a detectable adverse impact associated with the addition of new elements into the landscape, and modification of the original Dan Kiley design of the park. When the adverse incremental impact of Alternative C is combined with the adverse and beneficial impacts of other projects, an overall adverse cumulative impact would result; however, consultation with the DC SHPO would occur under each of these projects to ensure that impacts to historic resources are minimized to the greatest extent practicable.

Conclusion. Under Alternative C, views to Banneker Park would be impacted from the L'Enfant Promenade (Tenth Street, SW), the Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market, the Washington Marina, and Jefferson Middle School. Even though new elements would be added into the viewshed of these historic properties, the proposed connection would not block views or diminish the integrity of viewsheds to or from Banneker Park. Views to Banneker Park from the East and West Potomac Parks Historic District and the Department of Housing and Urban Development would not be affected under Alternative C. The addition of new elements within the vicinity and viewshed of historic properties surrounding Banneker Park would result in a noticeable adverse impact; however, impacts would not likely be significant, and would likely result in a no adverse effects determination under Section 106 of the NHPA, because the project would not diminish the integrity of character-defining features, viewsheds, or the overall integrity of historic resources in the vicinity of Banneker Park.

Alterations to features of Banneker Park, including replacement of a portion of the existing riprap embankment with a new retaining wall would be noticeable. Also, even though the curvature of the stairway and pathway under Alternative C would be sensitive to the form of the overlook, the parallel stairway and pathway on the eastern hillslope of Banneker Park is redundant and is not a sensitive design solution. These alterations to Banneker Park under Alternative C would result in an adverse impact that would not likely be significant, but would diminish the overall integrity of Banneker Park, and would likely result in an adverse effects determination under Section 106 of the NHPA. The adverse impacts that would result from the implementation of Alternative C would not be easily mitigated or refined because the design responds to the existing site constraints and the need to meet ABAAS requirements. To minimize the impacts of Alternative C, and to benefit the park, the NPS would reintroduce a limited section of the grid pattern of trees originally intended by Kiley into the design of the connection. Also, turf grass would be reestablished in disturbed areas following construction to minimize erosion of the lawn and hillslopes. When the adverse incremental impact of Alternative C is combined with the adverse and beneficial impacts of other projects, an overall adverse cumulative impact would result.

WATER QUALITY

Affected Environment

Banneker Park is located in the Washington Channel subwatershed of the Potomac River. The Washington Channel was constructed by the USACE in the late Ninth century and is managed by floodgates. The channel is approximately two miles long and empties into the Anacostia River. After a short run past Hains Point at the south end of East Potomac Park, flow from the channel reaches the Potomac River. The District defines designated uses for these waterbodies, as required by the US EPA, in efforts to attain water quality standards. Designated uses for the Washington Channel, Anacostia River, and Potomac River are listed in **Table 1**.

Most of the designated uses listed in **Table 1** are not currently supported due to impairments. For example, the Washington Channel is impaired by pesticides, pathogens, polychlorinated biphenyls (PCBs), toxic organics (PAHs), and pH (EPA 2012). Because of these impairments, the Washington Channel is unsuitable for designated use classes A and D. To improve the existing water quality and support designated uses listed in **Table 1**, Total Maximum Daily Loads (TMDLs) are established. In congruence with its EPA-approved TMDL program, the District regulates stormwater discharges to its waterbodies.

Table 1: Designated Uses of District Waterbodies downstream from Banneker Park				
Designated Use Class	Description	Washington Channel	Anacostia River	Potomac River
A	Primary contact recreation		✓	✓
В	Secondary contact recreation and aesthetic enjoyment	√	√	√
С	Protection and propagation of fish, shellfish and wildlife	√	✓	✓
D	Protection of human health related to consumption of fish and shellfish	√	✓	√
Е	Navigation	√	√	√

On July 19, 2013, the District Department of Environment released its 2013 Rule on Stormwater Management and Soil Erosion and Sediment Control. In general, the 2013 Rule requires Best Management Practices (BMPs) when the combined footprint of land-disturbing activities under a project disturbs 5,000 square feet or greater of land area (DOEE 2013a). BMP size and selection is determined by a number of factors at the project site, including the amount of impervious cover, the amount of natural cover, and peak discharge rates of storm events. Guidance for project planners and designers to comply with the District's stormwater regulations is provided in the *District of Columbia Stormwater Management Guidebook* (DOEE 2013b). Additional District stormwater regulation pertains to Banneker Park as a result of the Anacostia Waterfront Environmental Standards Amendment Act of 2012. According to the Act, sites within the Anacostia Waterfront Development Zone are regulated to a higher

standard than other sites in the District. Specifically, BMPs in the Anacostia Waterfront Development Zone are designed to accommodate heavier rain events (85th percentile rainfall event or 1.0-inch storm as opposed to 80th percentile rainfall event or 0.8-inch storm as required by the 2013 Rule) (DOEE 2013b).

Federal stormwater regulation also applies to Banneker Park as a result of Section 438 of the Energy Independence and Security Act. For development and redevelopment projects, Section 438 requires federal agencies to implement stormwater management practices. The overall objective is to maintain the hydrologic processes of sites using green infrastructure and low impact development approaches. Federal projects exceeding 5,000 square feet are regulated under Section 438, which requires that stormwater management be included in the design of the project to control 95th percentile rainfall events; i.e. rainfall events whose precipitation total is greater than or equal to 95 percent of all 24-hour storms on an annual basis (EPA 2009).

About the Analysis

Section 4.6.3 of NPS *Management Policies* (NPS 2006) states that the NPS will "take all necessary actions to maintain or restore the quality of surface waters and ground waters within the parks consistent with the Clean Water Act and all other applicable federal, state, and local laws and regulations." In order to examine potential impacts to water quality, existing conditions of nearby waterbodies were considered. Potential impacts to water quality were evaluated based on the added impervious surface area proposed under each action alternative.

Impacts of Alternative A: No-Action

Under Alternative A, existing pedestrian facilities between Tenth Street, SW, and the southwest waterfront would remain the same. Given the current layout of the park, impervious surfaces constitute approximately 2,800 square feet of the project area as depicted in Figure 1. Impervious surfaces are primarily artificial structures, such as roads, buildings, parking lots, and sidewalks that are made of impenetrable material and do not allow stormwater to infiltrate. Because the temporary connection would not be constructed, impervious surfaces within the project area at Banneker Park would not increase and the ability of the site to infiltrate stormwater would not be affected.

Minor erosion of the park's western hillslope may occur over time from the continued use of the social trail that leads down to Maine Avenue, SW. Erosion of soils from the pathway may result in the transport of sediments into local storm drains or receiving waterbodies; however, noticeable impacts to water quality are not anticipated due to the small scale of erosion that may be occurring.

Cumulative Impacts. There would be no impacts to water quality; therefore, Alternative A would not contribute to cumulative impacts of other projects in the region.

Conclusion. Under Alternative A, impervious surfaces within the project area would remain the same, and the ability of the site to infiltrate stormwater would not be affected. Minor erosion of the park's western hillslope from the continued use of the social trail would not result in noticeable impacts to water quality. Alternative A would not contribute to cumulative impacts of other projects in the region.

Impacts of Alternative B (NPS and NCPC Preferred Alternative)

Under Alternative B, the area of disturbance required to construct the temporary connection at Banneker Park would total up to approximately 100,000 square feet (2.3 acres). Disturbances would consist of grading and excavation that would result in approximately 50,000 square feet (50 percent of the total area) of impacts to vegetation. The removal of the 4-foot-wide paved pathway across the eastern hillslope of the park, and its connection to northbound Tenth Street, SW, would reduce impervious surface area; however, the total area of impervious surfaces within the project area would increase from approximately 2,800 square feet to 12,750 square feet under Alternative B. This increase in impervious surface area would cause an increase in the amount of stormwater runoff attributed to the park due to the slight reduction in the ability of the site to infiltrate stormwater. In addition, construction of the west side stairway under Alternative B would replace the social trail. Therefore, any erosion currently occurring from exposed soils along the social trail would no longer occur under Alternative B.

Cumulative Impacts. Other past, present, and reasonably foreseeable future actions, such as the Wharf development along the southwest waterfront, requires large-scale land conversions. New buildings, transportation improvements, and other facilities proposed under the waterfront development are expected to increase impervious surfaces and runoff. Site designs include agency-approved stormwater BMPs to minimize impacts to waterbodies, but an adverse impact to water quality is likely to occur. Conversely, the proposed Tenth Street, SW, improvements as outlined in the SW Ecodistrict Plan, are likely to result in beneficial impacts to water quality, as plans are being developed to collect and treat stormwater from Tenth Street, SW, before entering receiving waterbodies. Alternative B would increase the area of impervious surfaces in southwest DC; however, the implementation of bioretention at Banneker Park, where no stormwater management is currently provided, would result in beneficial impacts as runoff is collected and treated onsite prior to entering receiving waterbodies. When the beneficial incremental impact of Alternative B is combined with the adverse and beneficial impacts of other projects, an overall beneficial cumulative impact would result.

Conclusion. The construction of a temporary connection at Banneker Park to improve access between the National Mall, Tenth Street, SW, and the southwest waterfront, would increase impervious surfaces at the site, resulting in the potential for increased stormwater runoff. Because the area of disturbance would exceed 5,000 square feet, stormwater BMPs would be required during construction and as part of the design of the temporary connection under Alternative B. During construction, stormwater BMPs would include the installation of silt fence and stabilized construction entrances to reduce the potential for sediment to be transported off

the site and into receiving waterbodies. No temporary impacts to water quality are anticipated if BMPs are implemented and properly maintained during construction.

Once construction was complete, turf grass would be reestablished in disturbed areas to prevent erosion. Bioretention, including rain gardens or bioswales, would be incorporated into the design of the connection to collect and treat stormwater onsite with the goal of 100 percent retention. If this is determined not feasible, stormwater management would be designed to control 1.2 inch rain events (i.e. a rain event with precipitation equaling 1.2 inches over a 24 hour period), or the maximum amount of retention that is practicable at the site. Stormwater management is not provided at Banneker Park in its current condition, therefore, incorporating bioretention facilities into the design of the proposed connection would result in beneficial impacts to water quality under Alternative B because runoff would be collected and treated onsite prior to entering receiving waterbodies. Alternative B would add a beneficial incremental impact to the cumulative impacts of other projects.

Impacts of Alternative C

Under Alternative C, the area of disturbance required to construct the temporary connection at Banneker Park would total up to approximately 60,000 square feet (1.4 acres). Disturbances would consist of grading and excavation that would result in approximately 30,000 square feet of impacts to vegetation (50 percent of the total area). The removal of the 4-foot-wide paved pathway across the eastern hillslope of the park, and its connection to northbound Tenth Street, SW, would reduce impervious surface area; however, the total area of impervious surfaces would increase from approximately 2,800 square feet to 8,250 square feet under Alternative C. The increase in impervious surface area would cause an increase in the amount of stormwater runoff attributed to the park due to the slight reduction in the ability of the site to infiltrate stormwater. In addition, Alternative C includes the reestablishment of turf grass along the social trail on the western hillslope of Banneker Park to reduce the potential for erosion of currently exposed soils and the transport of sediments into local storm drains or receiving water bodies.

Cumulative Impacts. Other past, present, and reasonably foreseeable future actions, such as the Wharf development along the southwest waterfront, requires large-scale land conversions. New buildings, transportation improvements, and other facilities proposed under the waterfront development are expected to increase impervious surfaces and runoff. Site designs include agency-approved stormwater BMPs to minimize impacts to waterbodies, but an adverse impact to water quality is likely to occur. Conversely, the proposed Tenth Street, SW, improvements as outlined in the SW Ecodistrict Plan, are likely to result in beneficial impacts to water quality, as plans are being developed to collect and treat stormwater from Tenth Street, SW, before entering receiving waterbodies. Alternative C would increase the area of impervious surfaces in southwest DC; however, the implementation of bioretention at Banneker Park, where no stormwater management is currently provided, would result in beneficial impacts as runoff is collected and treated onsite prior to entering receiving waterbodies. When the beneficial incremental impact of Alternative C is combined with the adverse and beneficial impacts of other projects, an overall beneficial cumulative impact would result.

Conclusion. The construction of a temporary connection at Banneker Park to improve access between Tenth Street, SW, and the southwest waterfront would increase impervious surfaces at the site, resulting in increased stormwater runoff. Because the area of disturbance would exceed 5,000 square feet, stormwater BMPs would be required during construction and as part of the design of the temporary connection under Alternative C. During construction, stormwater BMPs would include the installation of silt fence and stabilized construction entrances to reduce the potential for sediment to be transported off the site and into receiving waterbodies. No temporary impacts to water quality are anticipated if BMPs are implemented and properly maintained during construction.

Once construction was complete, turf grass would be reestablished in disturbed areas to prevent erosion. Bioretention, including rain gardens or bioswales, would be incorporated into the design of the connection to collect and treat stormwater onsite with the goal of 100 percent retention. If this is determined not feasible, stormwater management would be designed to control 1.2 inch rain events, or the maximum amount of retention that is practicable at the site. Stormwater management is not provided at Banneker Park in its current condition, therefore, incorporating bioretention facilities into the design of the proposed connection would result in beneficial impacts to water quality under Alternative C because runoff would be collected and treated onsite prior to entering receiving waterbodies. Alternative C would add a beneficial incremental impact to the cumulative impacts of other projects.

VISITOR USE AND EXPERIENCE

Affected Environment

Banneker Park provides a recreational and contemplative space for its visitors. Visitors to the park are likely to include workers from the various federal buildings to the north along Tenth Street, SW and residents of the District to the east. Benches in the park's central plaza are well suited for lunch breaks. The Fish Market directly southwest of Banneker Park along Maine Avenue, SW, is a popular destination that draws visitors to the area. Also, because of the park's location between the National Mall and the southwest waterfront, tourists of the District are invited to make stops at Banneker Park. From the central plaza, tourists enjoy scenic views of the Washington Channel, East Potomac Park, and the Northern Virginia skyline. The park's fountain, lighting, and landscape plantings add to the scenery. In addition, interpretive displays are posted to commemorate the life of Benjamin Banneker.

Visitor access to Banneker Park is provided by Ninth and Tenth Streets, SW, and by several pathways used by pedestrians and bicyclists. From the north, pedestrians and bicyclists use Tenth Street, SW, which crosses over I-395, connecting Banneker Park with the National Mall. From the west, a pedestrian/bicycle ramp connects Banneker Park with East Potomac Park via Case Memorial Bridge. Neighborhoods to the east are connected to the park by sidewalks along Maine Avenue and Ninth Street, SW. The sidewalks make up a short segment of the District's *River Farms to Urban Towers* Southwest Heritage Trail, a self-guided walking tour (Cultural

Tourism DC 2004). Additionally, a paved path along the eastern hillslope of Banneker Park provides access from the overlook to the Maine Avenue and Ninth Street, SW, intersection for pedestrians and bicyclists. This intersection is a point on the Anacostia Riverwalk Trail, a shared-use pathway connecting waterfront resources of the Anacostia River from the District to the state of Maryland. A social trail created by pedestrians within the grass of the western hillslope of the park runs from the overlook down to Maine Avenue, SW, near the Fish Market. None of the existing pathways within the park are ABAAS-compliant.

About the Analysis

In order to analyze the impacts of each alternative on visitor use and experience, accessibility to the park, between Tenth Street, SW, and the southwest waterfront, as well as other areas of interest in the vicinity, was evaluated. The analysis of potential impacts was performed using professional judgment and information provided by park staff.

Impacts of Alternative A: No-Action

Alternative A represents a continuation of existing accessibility provided at Banneker Park. Under Alternative A, accessibility between the National Mall, Tenth Street, SW, and the southwest waterfront, would be limited for persons with disabilities because ABAAS-compliant pathways, sidewalks, and curb ramps are not currently provided. Additionally, pedestrians would continue to use the social trail along the western hillslope of Banneker Park, and the existing non-ABAAS compliant paved pathway that connects Tenth Street, SW, with the Maine Avenue and Ninth Street, SW, intersection, to access Maine Avenue, SW, the Fish Market, and other areas of interest in the vicinity. Bicycle accessibility would also remain limited. The current park layout lacks direct connectivity with surrounding points of interest, such as the Anacostia Riverwalk Trail. Also, the lack of curb ramps makes bicycle access difficult along Tenth Street, SW, and at the Case Memorial Bridge pedestrian/bicycle ramp connection to Banneker Park. However, poor connectivity and the lack of bicycle-friendly features would not prevent bicyclists from visiting the park, or from using the park as a means to access the National Mall, southwest waterfront, the Anacostia Riverwalk Trail, and other areas of interest.

Cumulative Impacts. Other past, present, and reasonably foreseeable future projects, including the Wharf development, improvements to Tenth Street, SW, as outlined in the SW Ecodistrict Plan, and the restoration of the Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market are expected to revitalize the southwest waterfront area of the District. New attractions and enhanced infrastructure in the area would have considerable benefits to visitors to the National Mall, Tenth Street, SW, and Banneker Park; however, desire to access waterfront attractions would likely result in increases in pedestrian traffic on designated pedestrian routes, including through Banneker Park. Alternative A would contribute an adverse incremental impact, as accessibility between Tenth Street, SW, and the southwest waterfront would not be improved. Under the proposed Wharf development, DDOT-approved roadway improvements have been made including the installation of a new intersection with pedestrian crossings on Maine Avenue, SW, near the Fish Market. Since access to Banneker

Park would stay the same under Alternative A, the improved connectivity for pedestrians provided by the intersection would not be fully realized. However, impacts of Alternative A on visitor use and experience would be small and would not outweigh the benefits provided by redevelopment. As a result, there would still be an overall beneficial cumulative impact under Alternative A.

Conclusion. Under Alternative A, pathways, sidewalks, and curb ramps at Banneker Park would remain noncompliant with ABA-accessibility standards, resulting in limited accessibility for persons with disabilities. Pedestrians would continue to use existing noncompliant pathways within the park as a connection between the National Mall, Tenth Street, SW, and the southwest waterfront. Bicycle accessibility would also remain limited as curb ramps and direct connections to areas of interest, including the Anacostia Riverwalk Trail, are not currently provided. As a result, impacts under Alternative A would be adverse and would be noticeable to park visitors due to noncompliance with ABA-accessibility standards, poor accessibility between the National Mall, Tenth Street, SW, and the southwest waterfront, and the lack of bicycle-friendly features provided at Banneker Park. However, impacts to park visitors would not likely be significant under Alternative A because even though universal access would not be provided, limited access would remain available during the short-term, and because if Alternative A were selected for implementation, future development of Banneker Park, as outlined in the SW Ecodistrict Plan, or if selected as a site for a museum or commemorative work, would reevaluate the issue of accessibility at Banneker Park at that time.

Impacts of Alternative B (NPS and NCPC Preferred Alternative)

Alternative B would provide universal accessibility at Banneker Park between the National Mall, Tenth Street, SW, and the southwest waterfront. During construction of the temporary connection, park visitors may be temporarily impacted. Active construction areas would be off limits to park visitors for safety reasons. Pedestrians and bicyclists may be required to follow detours around the construction, but access would not be restricted between the National Mall, Tenth Street, SW, Ninth Street, SW, or Maine Avenue, SW, and waterfront amenities.

Under Alternative B, a stairway would be constructed along the western hillslope of Banneker Park that would provide a direct connection for pedestrians between the southwest waterfront, Tenth Street, SW, and the National Mall. The stairway would also provide a connection from Banneker Park to the Fish Market and the future Wharf development. The stairway would be strategically located within a planned view corridor, purposefully designed into the layout of the Wharf development, to provide scenic views of the Washington Channel and East Potomac Park from the overlook at Banneker Park. A bike trough would be incorporated into the stairway design to make access easier for bicyclists who prefer to walk their bikes up or down the stairs.

ABAAS-compliant pathways would be constructed along the eastern hillslope of Banneker Park under Alternative B to provide greater accessibility between the National Mall, Tenth Street, SW, and the southwest waterfront. The pathways would be designed to be 10 feet in width in order to safely accommodate shared use by pedestrians and bicyclists, thereby reducing the

potential for user conflicts. Sight lines would be maintained along the pathways as an added safety measure. The proposed ABAAS-compliant pathways would provide enhanced accessibility at Banneker Park for bicyclists by improving connectivity between the National Mall, Tenth Street, SW, Maine Avenue, SW, and Ninth Street, SW. To further enhance accessibility, curb ramps would be installed at the overlook, along the southern end of Tenth Street, SW, and at road crossings along existing and proposed sidewalks so that direct connections between the National Mall, Tenth Street, SW, and the southwest waterfront would be provided for pedestrians and bicyclists. Improved connectivity would also be provided to the Case Memorial Bridge pedestrian/bicycle ramp and the Anacostia Riverwalk Trail, though bicyclists would be required to cross Maine Avenue, SW to access the trail.

Users of the ABAAS-compliant pathways would not be afforded the same views of the Washington Channel and East Potomac Park provided to pedestrians along the stairway under Alternative B. Views from the pathways would generally be of the future Wharf development.

Landscaping proposed under Alternative B would also enhance the visitor experience, as a limited section of the original tree planting plan designed by Dan Kiley would be reintroduced to the park's green space. Tree selection would be compatible, but not identical, to the original plantings installed at the site. As a result, there would be new opportunities for visitor appreciation of the park's landscape architecture and for interpretation.

Under Alternative B, the lower levels of the stairway and landing along Maine Ave, SW, would be bordered by a retaining wall measuring up to 10 feet tall at its highest point. The retaining wall would partially block views of Banneker Park to the north by pedestrians and bicyclists traveling along Maine Avenue, SW; however, the retaining wall would not impact visitors' views from the stairway or ABAAS-compliant pathways towards the waterfront.

Finally, the installation of wayfinding signage would also benefit pedestrians and bicyclists using the connection at Banneker Park to access the National Mall, the waterfront along Maine Avenue, SW, or Tenth Street, SW, and East Potomac Park, and by directing pedestrians and bicyclists to the Anacostia Riverwalk Trail.

Cumulative Impacts. Other past, present, and reasonably foreseeable future projects, including the Wharf development, improvements to Tenth Street, SW, as outlined in the SW Ecodistrict Plan, and the restoration of the Lunch Room and Oyster Shucking Shed at the former Municipal Fish Market are expected to revitalize the southwest waterfront area of the District. New attractions and enhanced infrastructure in the area would have considerable benefits to visitors to the National Mall, Tenth Street, SW, and Banneker Park. As part of the Wharf development, a new intersection with pedestrian crossings has been installed on Maine Avenue, SW, near the Fish Market. Alternative B would contribute a beneficial incremental impact to the beneficial impacts of nearby projects, as accessibility between the National Mall, Tenth Street, SW, the southwest waterfront, and surrounding areas would be improved for pedestrians and bicyclists. As a result, there would be an overall beneficial cumulative impact under Alternative B when combined with other nearby projects.

Conclusion. Under Alternative B, restricted access to construction areas and pedestrian and bicycle detours would result in temporary adverse impacts to park visitors during construction. However, these impacts would be short-lived and would not eliminate all opportunities to access the National Mall, Tenth Street, SW, Ninth Street, SW, or Maine Avenue, SW, and waterfront amenities. To minimize impacts, park visitors and neighbors would be notified in advance that construction of the temporary connection would soon be underway. Also, construction would be performed Monday through Friday, and/or during other off-peak visitor use periods, if possible, to lessen the impact on park visitors.

Following construction of the temporary connection, beneficial impacts would result from improved accessibility between the National Mall, Tenth Street, SW, and the southwest waterfront, including the future Wharf development and the Fish Market for pedestrians and bicyclists. Improved accessibility would also be provided to the Case Memorial Bridge pedestrian/bicycle ramp and the Anacostia Riverwalk Trail. The temporary connection would be constructed within a planned view corridor to provide scenic views of the Washington Channel and East Potomac Park. In addition, a retaining wall would be required along the southern hillslope of the park to accommodate the lower levels of the stairway, pathways, and sidewalks. Visitors' views of Banneker Park to the north would be blocked from the stairway landing by the retaining wall. The addition of landscaping would enhance visitor's experiences whether traveling through the park or stopping to admire local scenery. The installation of wayfinding signage would also benefit park visitors by providing clear direction to various area destinations, including the National Mall, the waterfront, Tenth Street, SW, East Potomac Park via the Case Memorial Bridge pedestrian/bicycle ramp, and the Anacostia Riverwalk Trail. In consideration of these improvements, there would be substantial benefits to park visitors under Alternative B. Alternative B would add a beneficial incremental impact to the beneficial cumulative impacts of other projects.

Impacts of Alternative C

Alternative C would provide universal accessibility at Banneker Park between the National Mall, Tenth Street, SW, and the southwest waterfront. During construction of the temporary connection, park visitors may be temporarily impacted. Active construction areas would be off limits to park visitors for safety reasons. Pedestrians and bicyclists may be required to follow detours around the construction, but access would not be restricted between the National Mall, Tenth Street, SW, Ninth Street, SW, or Maine Avenue, SW, and waterfront amenities.

Under Alternative C, a stairway would be constructed along the eastern hillslope of Banneker Park that would provide a direct connection for pedestrians between the southwest waterfront, Tenth Street, SW, and the National Mall. The stairway would also provide a connection from Banneker Park to the Fish Market and the future Wharf development. A bike trough would be incorporated into the stairway design to make access easier for bicyclists who prefer to walk their bikes up or down the stairs. The stairway would not be located within the planned view corridor, purposefully designed into the layout of the Wharf development, to provide scenic views of the Washington Channel and East Potomac Park from the overlook at Banneker Park.

Consequently, constructing the stairway on the east side of Banneker Park would not preclude the continued use of the existing social trail along the western hillslope of Banneker Park, though the NPS would reestablish turf grass along the pathway to discourage its use by pedestrians.

An ABAAS-compliant pathway would also be constructed under Alternative C to provide greater accessibility between the National Mall, Tenth Street, SW, and the southwest waterfront. The pathway would parallel the proposed stairway along the eastern hillslope of Banneker Park and would be designed to be 10 feet in width in order to safely accommodate shared use by pedestrians and bicyclists, thereby reducing the potential for user conflicts. Sight lines would be maintained along the pathways as an added safety measure. The proposed ABAAS-compliant pathway would provide a shorter route to the Fish Market than the existing paved pathway, and would also provide enhanced accessibility at Banneker Park for bicyclists by improving connectivity between the National Mall, Tenth Street, SW, Maine Avenue, SW, and Ninth Street, SW. To further enhance accessibility, curb ramps would be installed at the overlook, along the southern end of Tenth Street, SW, and at road crossings along existing and proposed sidewalks so that a direct connection between the National Mall, Tenth Street, SW, and the southwest waterfront would be provided for pedestrians and bicyclists. Improved connectivity would also be provided to the Anacostia Riverwalk Trail, though bicyclists would be required to cross Maine Avenue, SW to access the trail.

Under Alternative B, users of the ABAAS-compliant pathway would be afforded views of the future Wharf development. Also, it is possible that the removal of the existing paved pathway leading from Tenth Street, SW, to the Maine Avenue and Ninth Street, SW, intersection would encourage the establishment of a social trail along the eastern hillslope of Banneker Park, as the proposed stairway and ramp would not provide a direct connection to the Maine Avenue and Ninth Street, SW intersection.

Landscaping proposed under Alternative C would also enhance the visitor experience, as a limited section of the original tree planting plan designed by Dan Kiley would be reintroduced to the park's green space. Tree selection would be compatible, but not identical, to the original plantings installed at the site. As a result, there would be new opportunities for visitor appreciation of the park's landscape architecture and for interpretative.

Under Alternative C, the lower levels of the stairway, ABAAS-compliant pathway, and landing along Maine Ave, SW, would be bordered by a retaining wall measuring up to 16 feet tall at its highest point. The retaining wall would partially block views of Banneker Park to the north by pedestrians and bicyclists traveling along Maine Avenue, SW; however, the retaining wall would not impact visitors' views from the stairway or ABAAS-compliant pathway towards the waterfront.

Finally, the installation of wayfinding signage would also benefit pedestrians and bicyclists using the connection at Banneker Park by providing clear direction to the National Mall, the waterfront along Maine Avenue, SW, or Tenth Street, SW, and East Potomac Park, and by directing pedestrians and bicyclists to the Anacostia Riverwalk Trail.

Cumulative Impacts. Other past, present, and reasonably foreseeable future projects, including the Wharf development, improvements to Tenth Street, SW, as outlined in the SW Ecodistrict Plan, and the restoration of the Lunch Room and Oyster Shucking Shed at the Fish Market are expected to revitalize the southwest waterfront area of the District. New attractions and enhanced infrastructure in the area would have considerable benefits to visitors to the National Mall, Tenth Street, SW, and Banneker Park. As part of the Wharf development, a new intersection with pedestrian crossings has been installed on Maine Avenue, SW, near the Fish Market. Alternative C would contribute a beneficial incremental impact to the beneficial impacts of nearby projects, as accessibility between the National Mall, Tenth Street, SW, the southwest waterfront, and surrounding areas would be improved for pedestrians and bicyclists. As a result, there would be an overall beneficial cumulative impact under Alternative C when combined with nearby projects.

Conclusion. Under Alternative C, restricted access to construction areas and pedestrian and bicycle detours would result in temporary adverse impacts to park visitors during construction. However, these impacts would be short-lived and would not eliminate all opportunities to access the National Mall, Tenth Street, SW, Ninth Street, SW, or Maine Avenue, SW, and waterfront amenities. To minimize impacts, park visitors and neighbors would be notified in advance that construction of the temporary connection would soon be underway. Also, construction would be performed Monday through Friday, and/or during other off-peak visitor use periods, if possible, to lessen the impact on park visitors.

Following construction of the temporary connection, beneficial impacts would result from improved accessibility between the National Mall, Tenth Street, SW, and the southwest waterfront, including the future Wharf development and the Fish Market for pedestrians and bicyclists. Improved accessibility would also be provided to the Case Memorial Bridge pedestrian/bicycle ramp and the Anacostia Riverwalk Trail. The temporary connection would not be constructed within the planned view corridor; therefore, users of the stairway or ABAAScompliant pathway would not be afforded views of the Washington Channel and East Potomac Park. In addition, a retaining wall would be required along the southern hillslope of the park to accommodate the lower levels of the stairway, pathway, and sidewalks. Visitors' views of Banneker Park to the north would be blocked from the stairway landing by the retaining wall. The addition of landscaping elements would enhance visitor's experiences, whether traveling through the park or stopping to admire local scenery. The installation of wayfinding signage would also benefit park visitors by providing clear direction to various area destinations, including the National Mall, the waterfront, Tenth Street, SW, East Potomac Park via the Case Memorial Bridge pedestrian/bicycle ramp, and the Anacostia Riverwalk Trail. In consideration of these improvements, implementation of Alternative C would result in benefits to park visitors. Alternative C would add a beneficial incremental impact to the beneficial cumulative impacts of other projects.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

A summary of the environmental consequences of each alternative is presented in **Table 2**. See the "Affected Environment and Environmental Consequences" section for detailed explanations of the impacts presented.

Table 2: Summary of Environmental Consequences				
Impact Topic	Alternative A: No- Action	Alternative B (NPS and NCPC Preferred Alternative)	ed Alternative C	
Historic Structures and Districts, including Cultural Landscapes	No new impacts to Banneker Park or the other historic resources within the APE. Noticeable adverse impacts would result from erosion of the lawn and hillslope caused by the continued use of social trails, but these impacts are not likely to be significant because the severity of erosion occurring on the site is minimal.	Noticeable adverse impacts to Banneker Park from adding new elements into the landscape, and modifying original Dan Kiley design elements. Impacts would not likely be significant, and would not likely result in an adverse effects determination under Section 106 of the NHPA, because the project would not diminish the integrity of character-defining features, or the overall integrity of historic resources.	Noticeable adverse impacts to Banneker Park from adding new elements into the landscape, modifying original Dan Kiley design elements, and the addition of new elements within the vicinity and viewshed of historic properties. Alternative C would diminish the overall integrity of Banneker Park, and would likely result in an adverse effects determination under Section 106 of the NHPA, because the parallel stairway and pathway on the eastern hillslope of Banneker Park is redundant and is not a sensitive design solution.	
Water Quality	No noticeable impacts to water quality.	No temporary impacts to water quality anticipated during construction due to the implementation of stormwater BMPs including silt fence and stabilized construction entrances. Beneficial impacts to water quality anticipated from the implementation of bioretention into the design of the proposed connection to collect and treat runoff prior to entering receiving waterbodies.	No temporary impacts to water quality anticipated during construction due to the implementation of stormwater BMPs including silt fence and stabilized construction entrances. Beneficial impacts to water quality anticipated from the implementation of bioretention into the design of the proposed connection to collect and treat runoff prior to entering receiving waterbodies.	

Table 2: Summary of Environmental Consequences				
Impact Topic	Alternative A: No- Action	Alternative B (NPS and NCPC Preferred Alternative)	Alternative C	
Visitor Use and Experience	Noticeable adverse impacts to park visitors due to poor accessibility and the lack of bicycle-friendly features provided at Banneker Park. Impacts would not likely be significant because limited access would remain available until future development of Banneker Park would improve accessibility.	Temporary adverse impacts to park visitors during construction. Beneficial impacts following construction from improved accessibility for pedestrians and bicyclists between the National Mall, Tenth Street, SW, and the southwest waterfront, including the future Wharf development and the Fish Market.	Temporary adverse impacts to park visitors during construction. Beneficial impacts following construction from improved accessibility for pedestrians and bicyclists between the National Mall, Tenth Street, SW, and the southwest waterfront, including the future Wharf development and the Fish Market.	

MITIGATION MEASURES OF THE ACTION ALTERNATIVES

Mitigation measures would be implemented, whenever feasible, to avoid and/or minimize environmental impacts under the action alternatives. The exact mitigation measures to be implemented would depend upon the final design and approval of plans by relevant agencies. A summary of the mitigation measures that would be considered are presented in **Table 3**.

Table 3: Mitigation Measures of the Action Alternatives		
Impact Topic	Mitigation Measures	
Historic Structures and Districts, including Cultural Landscapes	 The NPS would conduct ongoing consultation with the DC SHPO to ensure that designs, construction materials, landscaping, etc. are compatible, to the extent possible, with the original Dan Kiley design of Banneker Park. The design would include reintroducing a limited section of the original gird pattern of trees originally intended by Kiley in the design of the park. The NPS would select plant material to be sympathetic to Kiley's design. Turf grass would be reestablished in disturbed areas following construction to minimize the potential for erosion of the lawn and hillslopes. New Japanese yew bushes would be planted along the edge of the south exit road from Tenth Street, SW, to Ninth Street, SW, to define the edge of the landscape improvements, control pedestrian traffic, and to replace the Japanese yew that would be removed to accommodate the end of the ABAAS-compliant pathway at the Maine Avenue and Ninth Street, SW, intersection. 	
Water Quality	 During construction, stormwater BMPs, such as the installation of silt fence and stabilized construction entrances, would be implemented to reduce the potential for sediment to be transported off the site and into receiving waterbodies. Bioretention, including rain gardens or bioswales, would be incorporated into the design of the connection to collect and treat stormwater onsite with the goal of 100 percent retention. If this is determined not feasible, stormwater management would be designed to control 1.2 inch rain events, or the maximum amount of retention that is practicable at the site. Following construction, turf grass would be reestablished in disturbed areas to prevent erosion. The social trail on the western hillslope of Banneker Park would be replaced with a stairway (Alternative B), or replanted with turf grass (Alternative C), which would reduce the potential for erosion of the currently exposed soils. 	

Table 3: Mitigation Measures of the Action Alternatives		
Impact Topic	Mitigation Measures	
	Park visitors and neighbors would be notified in advance of any construction activities that would result in temporary road closures or parking restrictions.	
	Construction will be performed Monday through Friday, and/or during other off-peak visitor use periods, if possible, to lessen the impact on park visitors.	
Visitor Use and Experience	The temporary connection would incorporate sympathetic design elements, including landscaping, that would be complimentary with the intent of Dan Kiley's original design, and would be constructed within a planned view corridor to provide scenic views of the Washington Channel and East Potomac Park.	
	Wayfinding signage would be installed to provide clear direction to the National Mall, the waterfront along Maine Avenue, SW, or Tenth Street, SW, and East Potomac Park, and by directing pedestrians and bicyclists to the Anacostia Riverwalk Trail.	

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CONSULTATION AND COORDINATION

The NPS conducted public involvement during the NEPA process to provide an opportunity for the public to comment on the proposed action. Consultation and coordination with federal and District agencies, American Indian tribes, and other interested parties was also conducted to identify issues and/or concerns related to natural and cultural resources. This section provides a brief summary of the public involvement and agency consultation and coordination that occurred during planning of the Banneker Park Connection project.

PUBLIC INVOLVEMENT

As a part of the NEPA process, and to comply with the requirements of Section 106 of the NHPA, the NPS and NCPC involved the public in project planning by conducting a 45-day public and agency scoping period from July 20, 2015 through September 2, 2015. The public, agencies, and stakeholders were invited to submit comments on the project during this time period. In addition, a public open house was held on Tuesday, August 11, 2015, that provided citizens with an opportunity to learn about the proposed Banneker Park Connection project; identify any areas of concern regarding the proposed project; provide the opportunity for the public to share their knowledge of important environmental and cultural issues that should be considered during planning; and gain public feedback to help inform the development of project alternatives. A total of 36 individuals signed-in at the public open house. The majority of public comments were from individuals living near the project area. Most public comments expressed support for the project. Most notably, commenters expressed the desire to make the connection user-friendly for pedestrians and bicyclists.

AGENCY CONSULTATION AND COORDINATION

The NPS conducted several agency consultation and coordination activities during planning for the proposed pedestrian connection at Banneker Park. Consultation and coordination included:

- An agency scoping meeting held on August 20, 2015 to discuss the proposed action; present conceptual alternatives; determine potentially applicable laws, regulations, and/or requirements related to the project; and to identify potential issues and concerns. At this meeting, the agencies encouraged the NPS to develop additional concepts for the project, and to present them at future meetings for further discussion.
- A design pin-up session was held with the agencies on October 5, 2015 to address
 comments received during the agency scoping meeting and to present a wider range of
 alternatives for consideration.
- A consulting parties meeting was held on November 12, 2015 as part of the Section 106
 process to present refined project alternatives, the draft APE, and to discuss potential
 issues and concerns related to historic preservation with the agencies and other

consulting parties. Several concepts were dismissed from further consideration as a result of discussions during the consulting parties meeting. The consulting parties were supportive of Alternative B because the proposed ABAAS-compliant paths would provide access to both the Maine Avenue, SW, intersection near the Fish Market, and the Maine Avenue and Ninth Street, SW, intersection. Also, the consulting parties preferred the lower retaining wall height under Alternative B, as compared to the other alternatives.

The following agencies and stakeholders were contacted to request input on the project:

- Advisory Council on Historic Preservation
- Advisory Neighborhood Commission
 6D
- Arena Stage at the Mead Center of American Theater
- Bicycle Advisory Council
- The Committee of 100
- The Cultural Landscape Foundation
- DC Preservation League
- DC Council
- DC Department of Energy and the Environment
- DC Department of Parks and Recreation
- DC Department of the Environment
- DC Department of Transportation
- DC Office of Disability Rights
- DC Office of Planning
- DC State Historic Preservation Office
- Delaware Nation
- Executive Office of the Mayor
- General Services Administration
- Harbour Square Board of Directors
- Historical Society of Washington, DC

- International Committee for the Documentation of Buildings, Sites, and Neighborhoods for the Modern Movement
- Jefferson Middle School Academy
- National Mall Coalition
- National Trust for Historic Preservation
- Office of Advisory Neighborhood Commissions
- Preservation Action
- Southwest Business Improvement District
- Southwest Neighborhood Assembly
- Tiber Island Cooperative
- Trust for the National Mall
- U.S. Commission of Fine Arts
- U.S. General Services Administration
- U.S. Fish and Wildlife Service
- Washington Area Bicyclist Association
- Waterfront Gateway Neighborhood Association
- Over 30 local residents (names excluded for privacy)

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