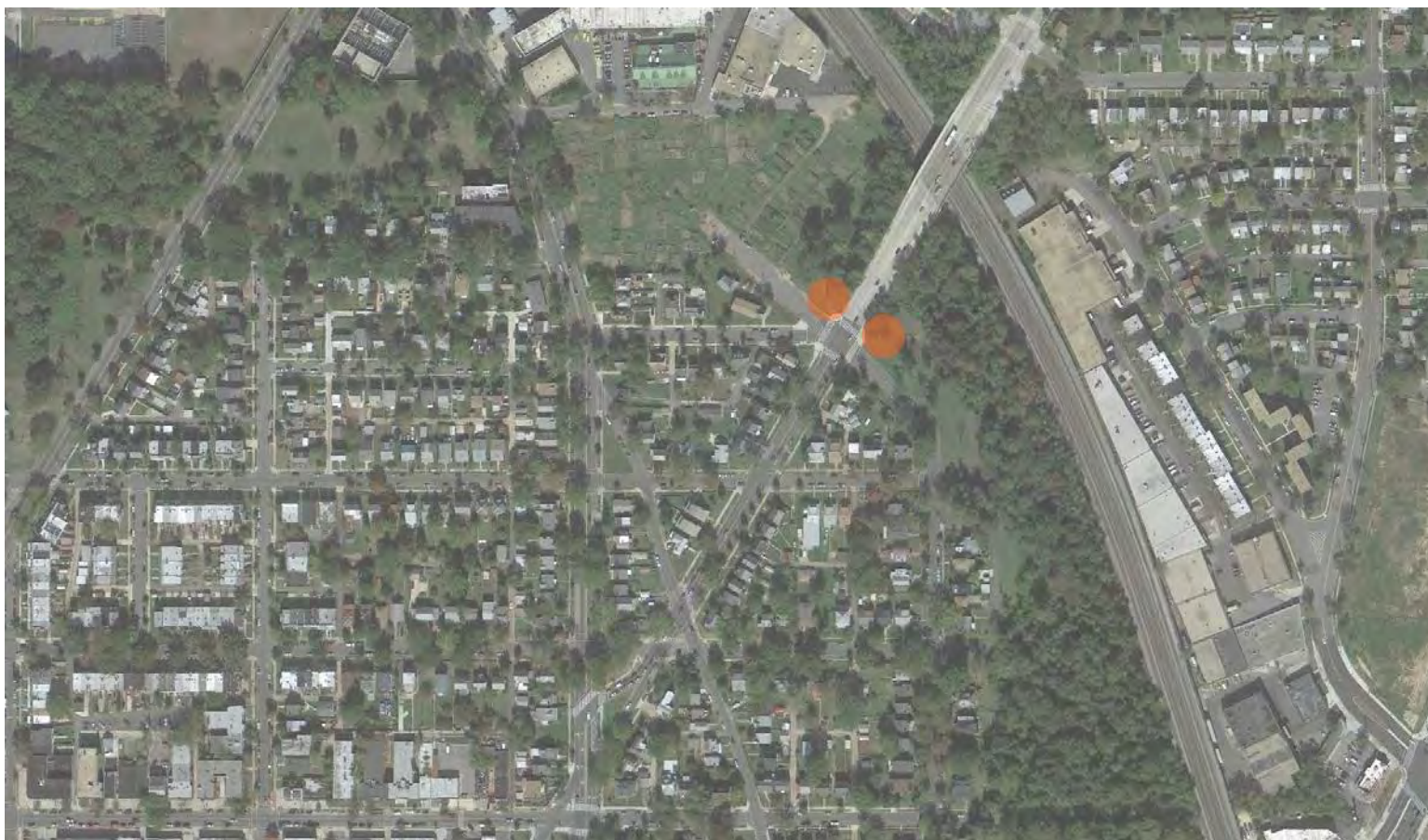


Metro Memorial Park Environmental Assessment

Washington, DC



June, 2013

Sponsoring Agency



Responsible Federal Agency



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EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

The District of Columbia (the District) proposes to establish a permanent memorial honoring the victims of, and first responders to, the 2009 Metrorail Red Line crash. The District has identified two sites, located east and north of the intersection of South Dakota Avenue NE and New Hampshire Avenue NE for consideration. Both sites are located on lands administered by Rock Creek Park, an administrative unit of the National Park Service (NPS). As part of this proposal, NPS would transfer jurisdiction of the selected parcel to the District for the proposed memorial.

The purpose of the memorial is to honor the victims of the crash, celebrate the heroism of first responders, and uplift the community. The memorial would provide a permanent place of commemoration and would allow groups to gather safely and to hold commemorative events at a location that would withstand the weather.

This EA presents two alternative locations, or action alternatives, and a No Action Alternative. Both action alternatives would place a plaza area, landscape, and sculptural element within the Fort Circle Parks/Civil War Defenses of Washington. Alternative 1 would place the memorial east of the intersection of South Dakota and New Hampshire Avenues, while Alternative 2 would place the memorial north of this intersection. Under Alternative 1, open space used for multi-purpose recreation and community gatherings would be replaced by open space with a commemorative element. Under Alternative 2, the area used for multi-purpose recreation would be replaced with a commemorative element. No on-site parking would be provided under the alternatives.

The implementation of the action alternatives would result in long-term minor adverse impacts on visitor use and experience due to the change in use. The action alternatives could result in moderate adverse impacts on archeological resources due to site disturbance, and would result in long-term minor adverse impacts on historic resources and cultural landscapes due to the introduction of the memorial within the Fort Circle Parks/Civil War Defenses of Washington. The action alternatives would result in minor adverse impacts on transportation due to increased traffic and parking demand generated by the memorial.

This document is being used for compliance with both the National Environmental Policy Act (NEPA) of 1969, as amended and the National Historic Preservation Act of 1966, as amended.

Note to Reviewers and Respondents

To comment on this EA, you may mail comments or submit them online at <http://parkplanning.nps.gov/ROCR> and follow the appropriate links. Please be aware that your comments and personal identifying information may be made publicly available at any time. While you may request that NPS withhold your personal information, we cannot guarantee that we will be able to do so. Please mail comments to:

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1.0 PURPOSE AND NEED

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1.1 INTRODUCTION

The District of Columbia (the District) proposes to establish a permanent memorial honoring the victims of, and first responders to, the 2009 Metrorail Red Line crash. The District has identified two sites, located east and north of the intersection of South Dakota Avenue NE and New Hampshire Avenue NE for consideration, as illustrated in Figure 1-1. Both sites are located on lands administered by Rock Creek Park, an administrative unit of the National Park Service (NPS). As part of this proposal, NPS would transfer jurisdiction of the selected parcel to the District for the proposed memorial. Further references to streets are assumed to be NE, unless otherwise specified.

The Metrorail Red Line collision killed nine people and injured 80 more, with twelve children left orphaned. The collision continues to affect the victims, their families, and the community. In response to this event, the District has commissioned a memorial plaque and initiated planning for a memorial.

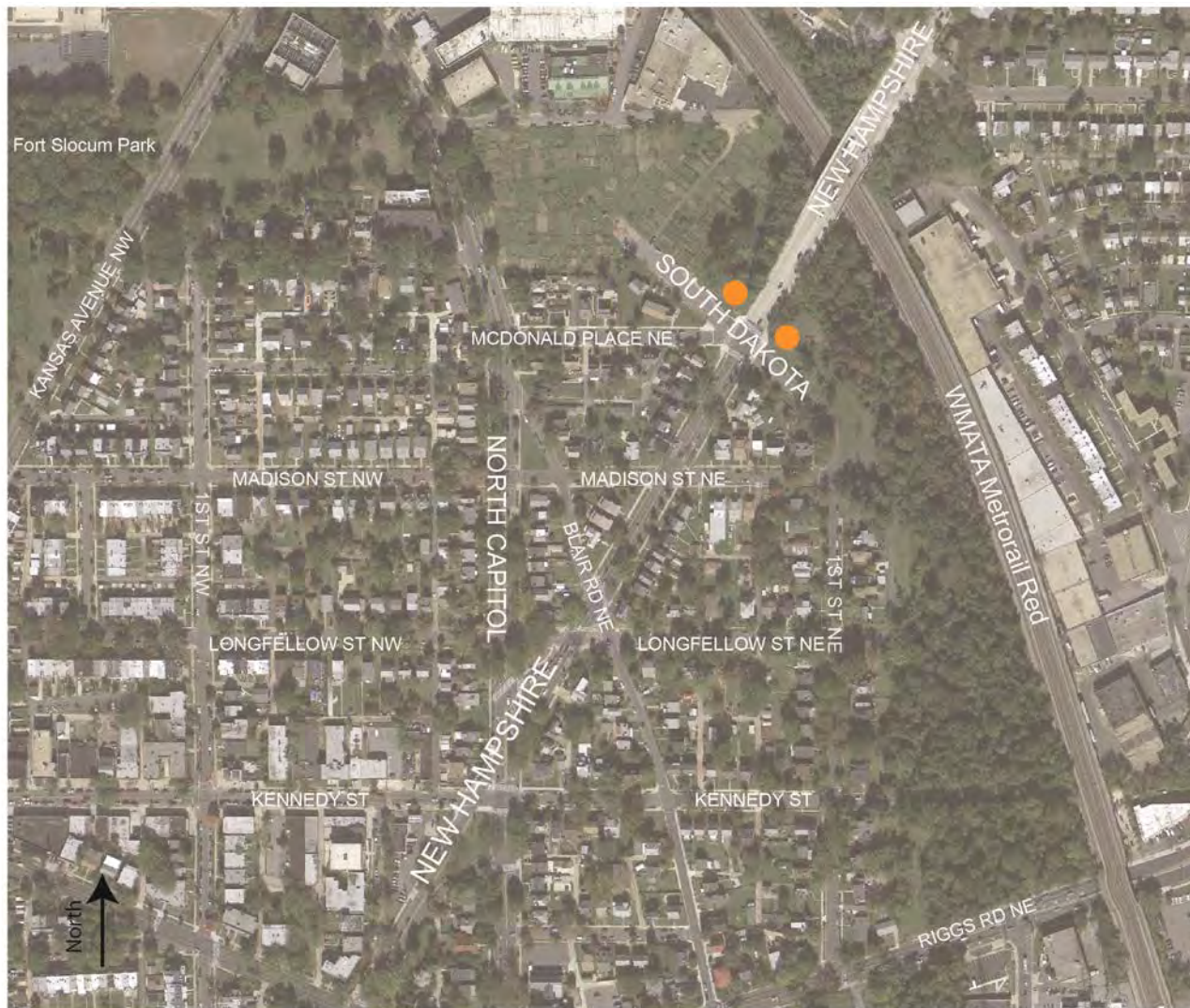
To honor the victims, celebrate the heroism of the first responders, and uplift the community, the District has initiated planning for a memorial park and garden. The District is responsible for the design and construction of the memorial. Once construction is complete, the memorial would be operated and maintained by the District.

After analyzing several possibilities in a site selection process in 2012, the District has identified two potential sites for the location

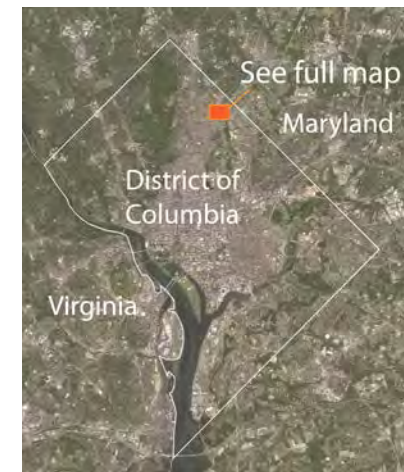
of the memorial. In both cases, these sites are currently owned by the federal government under the jurisdiction of NPS. Before the memorial is established, the District would require the transfer of jurisdiction for the selected site from the NPS to the District.

The establishment of a memorial on NPS property and the associated transfer of the property to the District are the subject of this environmental assessment (EA). NPS requires the EA in order to meet its regulatory requirements. The National Capital Planning Commission (NCPC) holds approval authority over the jurisdictional transfer and advisory review authority over the memorial site development plans, which requires the District to submit the memorial plans for Commission action prior to construction. NCPC is also requested or designated by the lead agency to assist in the preparation of the EA as a cooperating agency.

The District, in association with NPS, has prepared this EA consistent with the National Environmental Policy Act (NEPA) of 1969, as amended; the Council on Environmental Quality (CEQ) regulations implementing NEPA [40 Code of Federal Regulations (CFR) 1500-1508 (1986)], as amended; and NPS Director's Order #12 (DO-12). This EA has also been prepared consistent with NCPC's Environmental and Historic Preservation Policies and Procedures. In conjunction with this EA, the project is undergoing a review of potential effects on historic resources in compliance with Section 106 of the National Historic Preservation Act (NHPA) of 1966.



● Memorial Site Alternatives Locations



1-1: Memorial Site Alternatives Locations

Source: Google and AECOM, 2011

1.2 PURPOSE AND NEED FOR ACTION

The proposed action is the establishment of a memorial honoring victims of the 2009 Metrorail Red Line crash on NPS property, which would necessitate a transfer of jurisdiction. The purpose of the memorial is to honor the victims of the crash, celebrate the heroism of first responders, and uplift the community.

The memorial is needed to provide a permanent place of commemoration. The memorial would allow groups to gather safely and to hold commemorative events at a location that would withstand the weather. The community established a temporary memorial along New Hampshire Avenue at the bridge over the Metrorail tracks. The District subsequently has placed a plaque at the bridge; however, the location does not provide a safe gathering place for groups.

1.3 PROJECT BACKGROUND

As described earlier, the Metrorail Red Line crash near the Fort Totten Metrorail station affected many riders and their families. This event claimed the lives of nine victims, injured 80 people, and orphaned 12 children. The crash represents the deadliest accident in the system's history, and one of the country's worst rail accidents. The collision continues to affect the victims, their families, and the community. In response to this event, the District has commissioned a memorial plaque and initiated planning for a memorial. In response, the District has initiated the establishment of a permanent memorial to commemorate this event. Planning for the memorial has included site selection and preliminary design elements. The preliminary vision for the memorial is a design of approximately 6,000 to 10,000 square feet with a walkway, seating, landscaping, and sculptural element.

Site Selection

In 2010, the District began evaluating potential sites for the location of the proposed memorial. The District evaluated seven potential memorial sites: six administered by the District Department of Parks and Recreation (DPR) and one administered by NPS. Once the evaluation was completed, the District determined that the site located east of the intersection of South Dakota and New Hampshire Avenue would be most appropriate due to its location approximately 0.1 miles from the incident site, the presence of the heavily traveled New Hampshire Avenue, and the large size of the park. More detailed information regarding site selection is provided in Section 2 of this EA.

The District presented information on the proposed site to the public at a meeting on June 28, 2012. At that time, residents stated that they currently use the suggested site for community gatherings, such as a 4th of July picnic, and active recreation. The community identified concerns about the potential use of the site for a memorial, including limitations on recreation opportunities, traffic and parking, loss of privacy, and safety issues.

In response to the issues raised, the District considered additional sites for the location of the memorial. As a result, the District identified the site north of the intersection of New Hampshire Avenue and South Dakota Avenue as a potential location.

Design

To further the development of the memorial, the District's Commission on the Arts and Humanities issued a Call to Artists Request for Proposals (RFP) for the design of the memorial in April, 2012. The RFP was a request for local artists and/or landscape architects to develop the artistic concept for a permanent memorial park with public art installations. The RFP generated six responses, with the final selection pool narrowed to three artists. The District expects to select an artist in the summer of 2013.

1.3.1 Agency Relationships

Although the District proposes to construct and maintain the memorial, NPS currently controls the project site. Prior to the construction of the memorial, NPS would transfer jurisdiction of the property to the District. At that point, the District would be responsible for the property's care and maintenance.

Approvals Framework

NPS must submit the proposed transfer of jurisdiction to NCPC for its approval. Due to its approval role, NCPC is required to comply with NEPA and has adopted NEPA guidance outlined in Section 4(D) of NCPC's Environmental and Historic Preservation Policies and Procedures. NCPC's regulations require applicants to prepare the necessary NEPA and Section 106 of the NHPA documents, in conformance with respective CEQ and ACHP requirements.

The State Historic Preservation Officer (SHPO; see list of acronyms and abbreviations in Section 7.2) has reviewed the proposed establishment of the memorial and jurisdictional transfer, as called for by the National Historic Preservation Act. SHPO must make determinations of effects, in coordination with any consulting parties, to historic resources as a result of the memorial. These determinations enable NPS and NCPC to meet their Section 106 responsibilities.

1.3.2 Purpose and Significance of the Fort Circle Parks

The memorial site alternatives are part of Rock Creek Park. This park unit lies within the National Capital Region, which contains numerous park units of NPS. The document that guides the management of the memorial site alternatives is the Fort Circle Parks Final Management Plan (NPS 2004). This management plan applies to lands that comprise the Fort Circle Parks (see Figure 1-2), which are spread across three separate park units (Rock Creek Park, the National Capital- East, and George Washington Memorial Parkway) within the National Capital Region, and provides broad direction for the use, management, and development of the Fort Circle Parks.

Purpose of the Fort Circle Parks

As stated in the Fort Circle Parks Final Management plan, the purpose of the Fort Circle Parks is to

- Preserve and interpret historical resources related to the Civil War defenses of Washington.
- Conserve this linkage of urban green spaces that contribute to the character and scenic values of the nation's capital.
- Provide recreational opportunities compatible with historic and natural resource values.

Significance of the Fort Circle Parks

Park significance statements capture the essence of a park's importance to the nation's natural and cultural heritage.

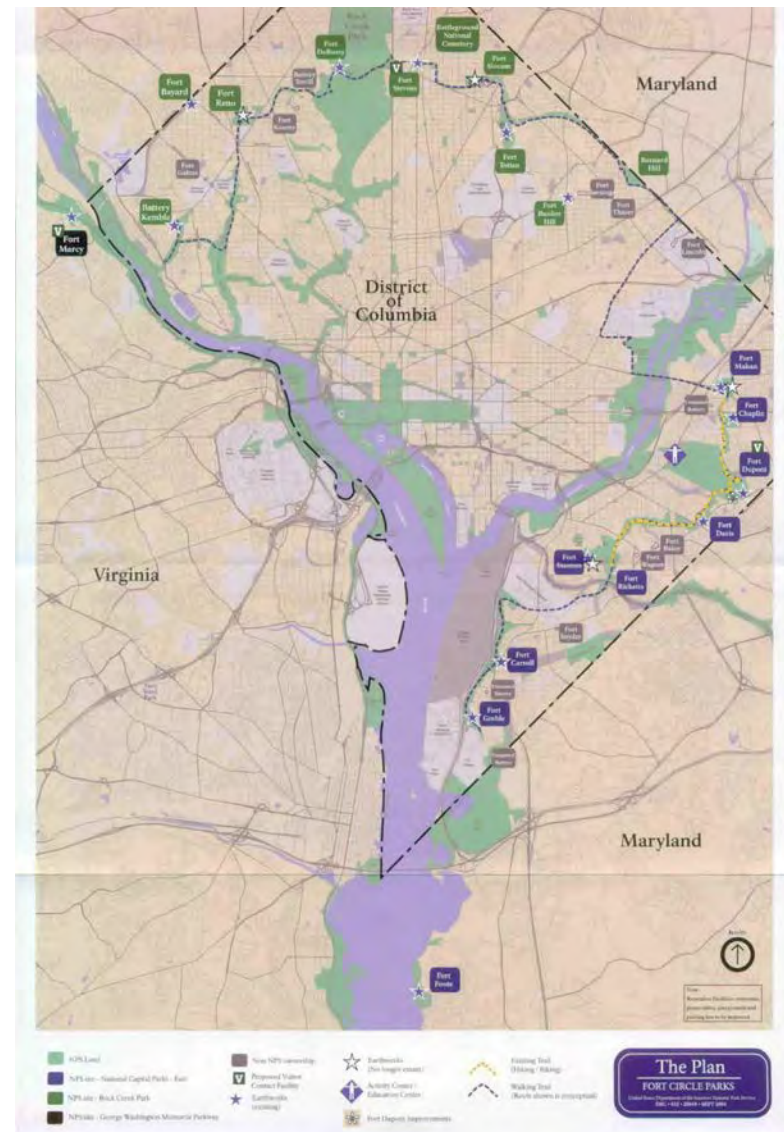


Figure 1-2: Map of Fort Circle Parks

Source: NPS 2004

Understanding park significance helps managers make decisions that preserve the resources and values necessary to the park's purpose. The following significance statements for Fort Circle Parks reflect the importance of park resources:

- The park sites contain remains of the defense sites (e.g., forts, batteries, rifle trenches) that effectively deterred the invasion of the nation's capital during the Civil War.
- The Fort Circle Parks include the remains of forts that were engaged in the Battle of Fort Stevens in July 1864—the only Civil War battle in the District of Columbia and the only time a sitting U.S. president has come under enemy fire in warfare.
- The pattern (greenbelt) of public space of Fort Circle Parks represents an element of one of the earliest urban planning efforts for public recreation in the United States (as first suggested in the 1902 *McMillan Commission Report* and the 1926-1927 *National Capital Planning Commission Plan*). Today it enhances the aesthetics of the nation's capital and the quality of life for its citizens.
- The Fort Circle Parks preserve significant natural features, including substantial acreage of mature native hardwood forest, geological and aquatic resources, and a diversity of important habitat for indigenous flora and fauna that are unusual in an urban setting and that contribute to the uniqueness of the nation's capital.

1.3.3 Relationship to Laws, Executive Orders, Policies, and other Plans

The proposed action and the site upon which it would be constructed relate to a variety of laws, policies, and other plans. The purpose of this section is to describe the regulatory framework for the memorial and jurisdictional transfer. The following section describes the NPS Organic Act, NEPA, NHPA, the National Parks Omnibus Management Act, the Capper-Cramton Act, and the Migratory Bird Treaty Act. It also includes Executive Orders 12898 and 11593; NPS Director's Orders 12 and 28; the McMillan Commission Report; the *Memorials and Museums Master Plan*; the *Comprehensive Plan for the National Capital, Federal Elements and District Elements*; the *Capital Space: Ideas to Achieve the Full Potential of Washington's Parks and Open Space*; the *Fort Circle Parks Final General Management Plan*; and NCPC Donor Recognition Policies.

NPS Organic Act

Through the NPS Organic Act of 1916 (Organic Act), Congress has directed the U.S. Department of Interior and NPS to manage units “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations” (16 USC 1). Congress reiterated this mandate in the Redwood National Park Expansion Act of 1978 by stating that NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 USC 1a-1). Despite these mandates, the Organic Act

and its amendments afford the NPS latitude when making resource decisions that balance resource preservation and visitor recreation.

Because conservation is an important function of the agency, NPS seeks to avoid or to minimize adverse impacts on park resources and values. NPS has discretion to allow impacts on park resources and values when necessary and appropriate to fulfill the purposes of a park (NPS 2006 sec. 1.4.3). While some actions and activities cause impacts, NPS cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS, 2006 sec. 1.4.3). The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the acts (16 USC 1a-1). An action constitutes an impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS, 2006 sec. 1.4.5). To determine impairment, NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS 2006 sec. 1.4.5).

Park units vary based on their enabling legislation, natural resources, cultural resources, and missions; management activities appropriate for each unit and for areas within each unit vary as well. An action appropriate in one unit could impair resources in another unit. This EA analyzes the context, duration, and intensity of impacts related to the establishment of the memorial, as well as the potential for resource impairment as required by the Organic Act and other regulations described below.

National Environmental Policy Act, 1969, as Amended

NEPA was passed by Congress in 1969 and took effect on January 1, 1970. This legislation established this country’s environmental policies, including the goal of achieving productive harmony between human beings and the physical environment for present and future generations. It provided the tools to implement these goals by requiring that every federal agency prepare an in-depth study of the impacts of “major federal actions having a significant effect on the environment” and alternatives to those actions. NEPA required that each agency make that information an integral part of its decisions. It also requires that agencies make a diligent effort to involve the interested and affected public before they make decisions affecting the environment.

NEPA is implemented through CEQ regulations (40 CFR 1500–1508) (CEQ 1978) and U.S. Department of Interior regulations (43 CFR Part 46). NPS has in turn adopted procedures to comply with the Act and the CEQ regulations, as found in Director’s Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making (NPS 2006a), and its accompanying handbook. This EA complies with NEPA, NCPC’s Environmental and Historic Preservation Practices and Procedures, and the procedures outlined in Director’s Order 12.

National Historic Preservation Act, as Amended Through 2000 (16 U.S.C. 470), Including Section 106

NHPA of 1966, as amended through 2000, protects buildings, sites, districts, structures, and objects that have significant scientific, historic, or cultural value. The act established affirmative responsibilities of federal agencies to preserve historic and

prehistoric resources. Section 106 of the NHPA directs federal agencies to take into account the effects of any undertaking on historic properties. “Historic property” is defined as any district, building, structure, site, or object that is eligible for listing in the National Register of Historic Places (NRHP). Section 106 also provides the Advisory Council on Historic Preservation (ACHP) and the state historic preservation officer (SHPO) an opportunity to comment on the assessment of effects that would result from the undertaking.

The Civil War Defenses of Washington is listed in the NRHP. The connector pieces between the actual fort sites are considered to be contributing elements. NPS is currently updating the NRHP nomination to reflect the significance of these parcels of parkland. Because this project is a federal undertaking, NPS is required to take into account potential adverse effects on historic properties. As a result, a review of the project’s potential effects on historic resources is being undertaken consistent with Section 106 of NHPA. NPS formally began the Section 106 consultation process on February 15, 2012. The Section 106 consultation process is being carried out concurrently with the NEPA process.

National Parks Omnibus Management Act of 1998

The National Parks Omnibus Management Act (16 USC 5901 et seq.) underscores NEPA and is fundamental to NPS park management decisions. It provides direction for articulating and connecting resource management decisions to the analysis of impacts, using appropriate technical and scientific information. Both the National Parks Omnibus Management Act and NEPA also recognize that such data may not be readily available and provide options for resource impact analysis should this be the case.

The National Parks Omnibus Management Act directs NPS to obtain scientific and technical information for analysis. The NPS handbook for Director’s Order 12 states that if “such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision will be modified to eliminate the action causing the unknown or uncertain impact or other alternatives will be selected” (NPS 2006a; NPS 2006b, sec 4.4). This EA has been prepared consistent with the National Parks Omnibus Management Act, using appropriate technical and scientific information.

Capper-Cramton Act of 1930

The Capper-Cramton Act of May 29, 1930, as amended, called for the acquisition, establishment, and development of the George Washington Memorial Parkway along the Potomac from Mount Vernon and Fort Washington to the Great Falls, as well as to provide for the acquisition of lands in the District of Columbia and the states of Maryland and Virginia requisite to the comprehensive park, parkway, and playground system of the National Capital. The Capper-Cramton Act, as it relates to the Fort Circle Parks, appropriated funds for the further acquisition of “such lands in the District of Columbia as are necessary and desirable for the suitable development of the National Capital park, parkway, and playground system.” This EA evaluates impacts on properties whose acquisition was authorized by the Capper-Cramton Act.

Executive Order 12898 – Minority Populations and Low-Income Populations

On February 11, 1994, President Clinton issued Executive Order 12898. This order directs agencies to address environmental and human health conditions in minority and low-income communities so as to avoid the disproportionate placement of any adverse effects from federal policies and actions on these populations. This EA complies with Executive Order 12898 by determining whether minority and low-income communities would be disproportionately adversely affected by the establishment of the memorial in Section 1.7.1.

Executive Order 11593 – Protection and Enhancement of the Cultural Environment

This Executive Order directs NPS to support the preservation of cultural properties, to identify and nominate to the National Register cultural properties within the park, and to “exercise caution . . . to assure that any NPS-owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered.” Section 106 consultations were undertaken for the memorial to ensure that actions regarding cultural properties are consistent with Executive Order 11593.

Director’s Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making

Director’s Order 12 (NPS 2006a) and its accompanying handbook outline policies and procedures by which NPS carries out NEPA and the NPS Organic Act. This order provides specific guidance on analysis standards required by legislation, and describes the roles

and responsibilities for decision makers within NPS. It encourages the use of interdisciplinary approaches to decision-making, establishment of benchmarks demonstrating best management practices, use of alternative dispute resolution, peer review panels, and analysis of impairment to resources as part of the environmental impact analysis process. As part of the development of this EA, NPS created an interdisciplinary team. Comprised of members with technical expertise in the resources identified in this EA, the team reviewed analysis to ensure its quality. This EA was prepared in accordance with the instructions, guidance, and policies of Director’s Order 12.

Director’s Order 28: Cultural Resource Management

Director’s Order 28 calls for NPS to protect and manage cultural resources in its custody through effective research, planning, and stewardship and in accordance with the policies and principles contained in the NPS Management Policies (NPS, 2006). This order also directs NPS to comply with the substantive and procedural requirements described in the Secretary of the Interior’s *Standards and Guidelines for Archeology and Historic Preservation*, the Secretary of the Interior’s *Standards for the Treatment of Historic Properties with Guidelines for Treatment of Cultural Landscapes*, and the Secretary of the Interior’s *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring and Reconstructing Historic Buildings*. Additionally, NPS will comply with the 2008 Programmatic Agreement (PA) among NPS, ACHP, and the National Conference of State Historic Preservation Officers for Compliance with Section 106 of the NHPA. The accompanying handbook to this order addressed standards and requirements for research, planning, and stewardship of cultural resources as well as the management of archeological resources,

cultural landscapes, historic and prehistoric structures, museum objects, and ethnographic resources. This EA was prepared in accordance with the standards described in Director's Order 28. Section 106 consultation regarding the memorial described in this EA helps to ensure that actions will comply with Director's Order 28.

McMillan Commission Report

The 1902 McMillan Commission Report to Congress proposed creation of a "Fort Drive" connecting the Civil War circle of forts and earthen fortifications surrounding the city of Washington. This was to be a modern roadway through a landscaped corridor providing leisurely access to each fort site. In 1902, the drive would have been outside the city. Since the initial concept of a roadway, the idea has been refined by subsequent NCPC and NPS planning processes to be a series of connecting green spaces, which is more fully summarized in the description of the *Fort Circle Park Final General Management Plan* of 2004.

Memorials and Museums Master Plan

The *Memorials and Museums Master Plan*, prepared by NCPC and the Joint Memorial Task Force at the request of Congress "to guide the location and development of future Commemorative and cultural facilities in the District of Columbia and its environs," expands on some of the principles laid out in the Legacy Plan. The *Memorials and Museums Master Plan* establishes a framework for future memorials within the circles and squares of major avenues, at urban gateways and scenic overlooks, and along the Anacostia and Potomac Rivers. Although the location of the memorial is not specifically identified in the plan, the policies for new memorials

state that new memorials should be located along major avenues and Special Streets and that they must not encroach on neighboring memorials and open space. The *Memorials and Museums Master Plan* also states that memorials and museums should enhance the image and identity of their surroundings, and that new memorials should take advantage of existing infrastructure, especially public transportation.

Comprehensive Plan for the National Capital, Federal Elements

The *Comprehensive Plan for the National Capital: Federal Elements* (NCPC, 2004) is the principal planning document adopted by NCPC for the planning of federal facilities. The Comprehensive Plan contains goals, objectives, and planning policies for the growth and development of the Nation's Capital. It looks to the L'Enfant and McMillan Plans to preserve and enhance the image and identity of the national capital region. The Comprehensive Plan calls for the federal government to preserve the important scenic, historic, and natural elements for the Fort Circle Parks. Furthermore, the Comprehensive Plan states that the federal government should complete the Fort Circle Park trail system as a continuous trail, linking the historic Civil War Fort sites within the District. Existing street rights-of-way should be used when necessary to connect the various sections of the Fort Circle Parks. Regarding historic properties, the Comprehensive Plan calls for the federal government to sustain exemplary standards of historic property stewardship.

Comprehensive Plan for the National Capital, District Elements

The *Comprehensive Plan for the National Capital: District Elements* (DCOP, 2006) was prepared by the District of Columbia government and contains policies and maps that guide local government and

private development in Washington, DC. The Comprehensive Plan states that the District should

“protect and enhance the Fort Circle Parks as an integrated network of permanent open spaces that connect neighborhoods, provide scenic beauty and historic interest, and offer a variety of recreational activities. Recognize District and federal actions that would harm historic and ecological resources in the Fort Circle Parks, and strongly support actions that would improve their maintenance, connectivity, visibility, accessibility, and safety.”

The Comprehensive Plan calls for the preservation of steep slopes, the implementation of low-impact development (LID) techniques, the promotion of community gardens, and the conservation of the urban forest.

The Rock Creek East Area Element identified a number of goals for the area that includes the Fort Circle Parks. Specifically, the area element states as a policy “Maintain and improve the Fort Circle Parks, especially Fort Stevens and Fort Slocum. The Fort Circle green spaces should be more effectively linked and commemorated, and conserved as an essential cultural, historical, recreational, aesthetic, and natural resource.”

Furthermore, the document calls for collaboration with NPS to “explore the feasibility of developing additional community-serving recreational facilities at Rock Creek Park and within the Fort Circle Parks to increase recreational options, public safety and community stewardship of these assets.”

CapitalSpace: Ideas to Achieve the Full Potential of Washington’s Parks and Open Space

The goal of the *Capital Space: Ideas to Achieve the Full Potential of Washington’s Parks and Open Space* (CapitalSpace) initiative is to address the growing, changing, and sometimes conflicting needs of residents, visitors, and workers regarding parks and open spaces. One of the Six Big Ideas, which form the overall goals of the plan, is to link the Fort Circle Parks. Relevant policies and strategies recommendations in support of the goal are outlined below:

Promote the Fort Circle Parks and Greenway as a National Historic, Cultural, and Recreational Treasure.

- Install park and trail signage and interpretive stations to provide information, celebrate important vistas, and describe the park’s role in the Civil War.
- Increase visitor resource and programming, especially near trail heads.
- Building public awareness about the Fort Circle Parks and the Greenway.

Activate the Fort Circle Parks and Greenway for Residents and Visitors.

- Improve existing recreational facilities, with an emphasis on recreation fields.
- Enhance cultural and natural interpretive amenities provided within the parks.
- Enhance the park edges to be more welcoming to residents and visitors.

Increase Public Access by Connecting the Fort Circle Parks and Greenway to Other Destinations.

- Design and build the entire Greenway trail to link all of the fort parks.
- Improve existing trails, including the hiker-biker trail, with increased maintenance, signage, and interpretation.
- Strengthen connections from the Greenway to transit, schools, and other parks with improved streetscape conditions, street crossings, on-road bike lanes, and signage.
- Provide low-impact trails within the fort parks to offer opportunities for discovery of views, exploration of interior woodlands, and native habitats.

Protect and Celebrate the Diverse Natural Resources of the Fort Circle Parks.

- Restore upland and stream habitats by managing invasive species and daylighting stream channels where feasible.
- Interpret natural resources through identification of native vegetation, habitat, and species.
- Utilize innovative techniques, such as low-impact stormwater management, to address impacts to natural resources and landscapes.

Fort Circle Parks Final General Management Plan

The *Fort Circle Parks Final General Management Plan* (GMP) identifies management goals and strategies for the Fort Circle Parks related to cultural and natural resources, visitor use, creation, interpretation, and education. The GMP calls for the management of

natural resources to maintain the greenbelt around the city, interpreting the Civil War defenses, developing a trail linking facilities, and the improvement of recreation opportunities and facilities. Additionally, the GMP calls for a visitor center at Fort Stevens and an education center at Fort Dupont.

1.4 SCOPING

NEPA Scoping Process

As part of the preparation of this EA, appropriate government agencies, public organizations, and interested citizens were contacted and informed about the project (see Appendix A). Notices were placed in NPS's Planning, Environment, and Public Comment (PEPC) website and distributed via the NPS email list. The purpose of the communications was to solicit comments on the proposed improvements, identify potential environmental concerns, and obtain other relevant information. Scoping input was obtained from the following agencies and organizations:

- NPS
- NCPC
- DC SHPO
- PEPCO
- South Manor Civic Association

In addition, a public scoping meeting was hosted on February 28, 2013 to convene the interested parties and generate further discussion of issues. Staff from the NPS, representatives from the Advisory Neighborhood Council and the South Manor Civic Association, victims' family members, one team of memorial design finalists and members of the public attended the meeting. Comments received focused on potential impacts on traffic and parking, potential public safety concerns from the provision of seating at the memorial, and changes to visitor use and experience.

NPS and the District of Columbia considered all scoping comments in the preparation of this EA. The comments are identified in Section 1.5: Issues and Section 1.6: Impact Topics, and are included in Appendix B.

1.5 ISSUES

Several key issues were identified during the scoping process:

- *Visitor use.* Stakeholders stated that the use of the area east of the New Hampshire and South Dakota Avenues intersection is used by the community as gathering space for numerous events, as well as active recreation. Comments expressed concern that the location of the memorial at that site (described in Chapter 2 as Alternative 1) would disrupt the existing recreational use of the site.
- *Vehicular Transportation:* Among the comments received at the meeting, some stated that the memorial would generate large increases in traffic, similar to the conditions that occurred during the commemoration of the one-year anniversary of the event. Additional comments noted the potential impact of construction on vehicular transportation in the area.
- *Parking.* Residents expressed concern that visitation to the memorial would increase the demand for parking, as well as reduce parking availability during the construction.
- *Public safety.* Due to public safety concerns, comments noted that the provision of seating should be carefully considered.
- *Resource topics.* Comments supported the inclusion of historic resources in the EA.
- *Utilities.* In order to minimize impacts on utilities during the construction of the memorial, comments requested that the District of Columbia coordinate with PEPCO in order to avoid impacts and avoid conflicts.
- *Noise.* Comments expressed concern that the memorial would generate noise during construction.

1.6 IMPACT TOPICS ANALYZED IN THIS EA

A number of impact topics were identified for the Memorial through a variety of sources, including scoping for this EA; NPS knowledge of memorials in the national capital area; federal laws, regulations, and executive orders; and NPS management policies. Resource areas, such as cultural resources, that could be affected by the transfer of jurisdiction and the establishment of a memorial, are considered in this EA. The impact topics that have been determined to require a more detailed analysis of potential impacts as part of this EA are described below.

Cultural Resources

As specified in Chapter 5 of the NPS Management Policies 2006, the NPS is committed to identifying, documenting, and protecting cultural resources. NPS NEPA guidance requires the consideration of five types of cultural resources:

- **Cultural Landscapes:** A geographic area, including both cultural and natural resources and the wildlife and wildlife habitat or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.
- **Historic Structures or Districts:** Historic properties significant in the history of American architecture, culture, engineering, or politics at the national, state, or local level.
- **Archeology:** Material remains or physical evidence of past human life or activities of archeological interest.

- **Museum Collections:** Prehistoric and historic objects, artifacts, works of art, archival documents, and natural history specimens. Prevention of damage and minimization of potential for deterioration are NPS management goals.
- **Ethnography:** Cultural and natural features of a Park that are of notable significance to traditionally associated peoples, which include contemporary Park neighbors and ethnic or occupational communities that have been associated with a Park for at least two or more generations (40 years), and whose interests in the Park's resources began before the Park's establishment.

The project area contains and has the potential to impact an historic property. The archeological potential of the project area has not yet been assessed. The site is also part of the Civil War Defenses of Washington Cultural Landscape. No museum collections or ethnographic resources would be impacted. Therefore, museum collections and ethnography have been dismissed from further analysis (see Section 1.6.1 for dismissal).

Archeology

Because Civil War era trenches and other defenses were in place in the vicinity of the project area as well as encampments of soldiers assigned to the Defenses at Fort Slocum, the possibility of identifying features or recovering artifacts related to this period exists. Archeological resources related to the Civil War and the Battle of Fort Stevens have already been identified on NPS land, increasing the possibility that intact archeological resources may be present on Civil War Defenses of Washington sites. Also because of

the close proximity to a water source, an unnamed tributary to the east, there is a reasonable probability that prehistoric use of the area may be identified as well. The District plans to conduct archaeological investigations prior to the construction of the memorial. Therefore, archeological resources are addressed as an impact topic in this EA.

Historic Structures and Districts

The transfer of jurisdiction and a subsequent establishment of the memorial could have potential impacts on the integrity of the Fort Circle Parks and Civil War Defenses of Washington, of which the memorial sites under consideration are part; this property is the only historic property identified within the Area of Potential Effect (APE), as defined in Section 3.2. Therefore, historic resources are addressed as an impact topic in this EA.

Cultural Landscapes

The transfer of jurisdiction and subsequent establishment of the memorial could have potential impacts on the integrity of the Civil War Defenses of Washington Cultural Landscape, which is documented in the Civil War Defenses of Washington Cultural Landscape Inventory (CWDW CLI). While the sites under consideration were not originally forts, the properties were acquired in order to form the Fort Circle Parks system. The CWDW CLI identifies the acquired lands as contributing features to the cultural landscape. Therefore, historic resources are addressed as an impact topic in this EA.

Visitor Use and Experience

The sites are largely grass panels bordered by trees and dense vegetation. The sites are currently open space and offer multi-purpose recreation opportunities. The memorial would increase visitor use at the site over current levels and alter the recreation opportunities at the site. Therefore, visitor use and experience is considered an impact topic.

Transportation

The establishment of the memorial, which would occur upon the completion of transfer of jurisdiction, could have impacts on transportation. The follow areas of transportation could be affected by the memorial:

- Vehicular traffic. Many of the visitors to the memorial site would likely travel via automobile. Similarly, because most visitors would travel specifically to the site, rather than as part of a tour to other locations within the vicinity.
- Parking. No parking would be provided by the memorial. Because many visitors would arrive via automobile and need a place to park, parking could be impacted.

Therefore, transportation is addressed as an impact topic in this EA.

1.6.1 Impact Topics Dismissed from Further Analysis

The following topics were eliminated from further analysis in this EA. With mitigation, the potential impacts on these resources, to the extent they would occur, would be negligible or localized.

Air Quality

The 1963 Clean Air Act and the 1970 and 1990 Clean Air Act Amendments require public land managers, including NPS Park Superintendents, to protect air quality in national parks. The U.S. Environmental Protection Agency (EPA) has issued National Ambient Air Quality Standards for six criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter with a diameter less than or equal to 10 micrometers (PM₁₀) and particulate matter with a diameter less than or equal to 2.5 micrometers (PM_{2.5}), lead (Pb), and sulfur dioxide (SO₂). Areas across the country are monitored for their criteria pollutant level. Air Quality Control Regions are monitored for their attainment or non-attainment of the standards. Air Quality Control Regions that exceed the allowable criteria pollutant level are designated as “non-attainment” areas; there are different levels of severity of nonattainment from marginal, moderate, serious, severe or extreme. The Washington, DC area is in moderate nonattainment for the criteria pollutant O₃, and nonattainment for PM_{2.5}; the area is in attainment for all other criteria pollutants.

Due to the limited potential grading area, the limited duration of construction equipment use, and the negligible vehicle trips that would be generated by the memorial’s operation, the project-generated emissions for O₃ and PM_{2.5} would be below minimum pollutant thresholds and would not change regional air quality. Best

management practices related to vehicle and equipment emissions, such as the use of electric power sources for construction equipment, rather than portable fuel-combustion generators, would further reduce construction emissions. Therefore, this impact topic was dismissed from further analysis.

Ethnographic Resources

Ethnographic resources are defined by NPS as any “site, structure, object, landscape, or natural resource feature assigned traditional, legendary, religious, subsistence or other significance in the cultural system of a group traditionally associated with it” (NPS, 1998). In this analysis, the NPS’ term “ethnographic resource” is equivalent to the term Traditional Cultural Property (TCP). As defined by NPS’s National Register Bulletin, *Guidelines for Evaluating and Documenting Traditional Cultural Properties*, a TCP is the “association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community.” There are no properties that meet the definition of a TCP within the APE. Therefore, this impact topic has been dismissed from further consideration.

Museum Collections

The memorial would not have any effects on recognized museum collections (historic artifacts, natural specimens, and archival and manuscript material). As a result, the memorial would not have an impact on museum collections. Therefore, this impact topic was dismissed from further analysis.

Environmental Justice

Executive Order 12898, “Federal 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 the programs and policies on minorities and low-income populations and communities. According to the EPA, environmental justice is

“...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.”

Although there are residential populations in the immediate vicinity of the site, the proposed action would not affect the area’s demographic composition. Environmental Justice populations would not be directly affected by the proposed action, and it is highly unlikely that the project would introduce materials into the environment that would have indirect adverse health effects or impact the economic conditions of low income populations. Thus, Environmental Justice was eliminated from detailed analysis.

Human Health and Safety

Because the memorial would be bound by roads on three sides, the potential threats to human health and safety include pedestrian safety, security, access to emergency responders, and potentially hazardous materials currently located at the site. The site is considered a low-priority target for terrorism. Due to their location along New Hampshire and South Dakota Avenues, emergency responders would have adequate access to the memorial site alternatives. The issue of pedestrian safety is addressed under the impact topic of transportation. Additionally, the memorial would comply with the Architectural Barriers Act, enabling those with disabilities or specific access needs to experience the memorial. The memorial design, including seating and lighting, would be designed to minimize illicit activities that could occur at the memorial sites.

The staging of the memorial construction would be conducted on-site. Fencing would be used to limit access to the staging and construction areas during the construction. Therefore, human health and safety was dismissed from further consideration as an impact topic.

Land Use

Land use is often divided into categories depending upon the types of activities for which the land is used, such as industrial, retail, open space, etc. In the case of the alternative sites for the memorial, the existing land use is open space. The memorial would continue use of the sites as open space, providing a more formal setting with seating and enhanced landscaping. The memorial design would be consistent with the Memorials and Museums Master Plan, the

Comprehensive Plan for the National Capital, and other plans and policies.

Specifically, under the Comprehensive Plan for the National Capital, Federal Elements, there are four elements that apply to the memorial: historic preservation, environmental protection, transportation, and parks and open space. Under the historic preservation element, policies for the national capital image focus on the visual character of the city and ensuring that new development with the District of Columbia is compatible. Policies for the stewardship of historic properties focus on identifying, maintaining, adaptively reusing, and preserving such properties. Due to its location, modest scale, and quality materials, the memorial would be in keeping with these policies. Furthermore, the potential impacts on historic properties are considered in Section 4.2: Cultural Resources in this EA.

The federal environment element focuses on air and water quality; water supply; land resources, including floodplains, soils, and vegetation; and human activities, such as environmental justice. Through the use of on-site stormwater treatment, including the use of LID measures, increased tree canopy, lighting, and construction techniques that comply with local noise ordinances, the memorial would be consistent with these policies.

The transportation element covers a wide variety of transportation issues, ranging from transit to parking to bicycle facilities. Overall, the goal is to develop and maintain a multi-modal regional transportation network. The memorial would not result in long-term changes to transportation facilities or services in the area due to the memorial's compact design that is wholly within an existing

open space, and is therefore in keeping with the transportation element.

The parks and open space element is designed to preserve the key natural resources in the area and provide sufficient parks and recreation areas, preserve the nature and diversity of the natural and cultural heritage, and use open space to help guide urban growth. The memorial site alternatives are currently a vegetated open space. The proposed memorial would continue the use of the sites as open space, and enhance the sites by the addition of a designed landscape and a work of civic art, consistent with these policies. Therefore, this topic was dismissed from further analysis.

Noise

The primary source of ambient noise (the combined sound from all noise-producing sources in a given area) in the area around the project site is vehicular traffic and human voices, although trains along the Metrorail and freight and passenger rail tracks are frequently audible. Overall, ambient noise in the area around the project site is typical of such noise in a medium-dense urban environment. The District of Columbia's noise control code (Title 20, Chapter 20-27 and 20-28) states that for areas zoned commercial or light manufacturing, such as the project site, noise may be no louder than 65 dBA during the daytime and no more than 60 dBA during the evening. From 7:00 a.m. to 7:00 p.m., construction noise levels may not exceed 80 dBA, unless granted a variance.

Noise generated by the use of the site would primarily be human voices. Because the site is a memorial and would not include active recreation, it is anticipated that such noise would be similar to

existing conditions and within the existing allowed volume. During construction of the site, construction equipment may generate noise at levels higher than the existing conditions, but within the limits allowable for construction. This condition would be temporary in nature. Therefore, noise was dismissed as an impact topic.

Park Operations and Management

As part of the proposed action, NPS would transfer jurisdiction of the selected memorial site to the District, which would then own and operate the site. Due to the small size of the memorial sites under consideration, their transfer from NPS would not substantially alter the operations and maintenance requirements of the Fort Circle Parks and Civil War Defenses of Washington. Therefore, this topic was dismissed from further analysis.

Socioeconomics

Because the memorial sites addressed in this EA would continue to operate as parkland, the transfer of jurisdiction and establishment of a memorial would not offer long-term new business opportunities or the creation of new jobs. Implementation of the memorial could provide temporary beneficial impacts on the local economy resulting from minimal increases in employment opportunities from the construction of the site. Therefore, socioeconomic resources were dismissed as an impact topic.

Soils

The land comprising the memorial site alternatives is relatively flat, with an overall elevation of about 36 feet above mean sea level. The sites are located within a largely developed area, bordered by

residential uses, parkland, and rail lines. Open space, consisting of a turfgrass panel, comprises most of the approximately 10,000 square foot site under Alternatives 1 and approximately half of the memorial site under Alternative 2. While construction-related activities would temporarily increase the potential of erosion, the preparation and implementation of a sediment control plan would minimize the short-term impacts and there would be minimal long-term effects on soils on the site. Therefore this topic was dismissed from further analysis as an impact topic.

Vegetation

The 10,000 square feet memorial site alternatives are comprised entirely of vegetated area. However, both sites have been previously disturbed, and the existing vegetation located on them is the result of 100 years of urban development. Currently the sites' open space is an established mixture of turfgrass that is not native to the Washington D.C. area, edged by a mix of trees and dense vegetation (including invasive species). Construction of the memorial would permanently remove approximately 3 trees from the Alternative 1 site and up to approximately 16 trees from the Alternative 2 site, as well as a portion of the turfgrass at both memorial site alternatives. In the context of the Washington, D.C. region the amount of vegetation that would be disturbed or removed through development of the site would be negligible. Under Alternative 2, invasive species would be removed from a portion of the site. Both alternatives would include plantings and trees as result of the implementation of their respective landscape plans. If trees are removed from the alternative sites considered, the District would comply with the Urban Forestry Administration's Special Tree Removal Permit. Therefore this topic was dismissed from further analysis as an impact topic.

Threatened, Endangered, Rare, and Special Concern Species and Migratory Birds

The memorial site alternatives are located in an urbanized area, bordered by roadways, with much vehicular and pedestrian traffic. No endangered species occur in District lands. Furthermore, there are no rare, threatened, or endangered species or migratory birds, or their habitat, known or expected to occur in the project area. The District of Columbia Wildlife Action Plan identifies Fort Circle Parks as part of its hardwood habitat, which would include the potential memorial sites (DC Department of the Environment 2006). However, the park would continue to form a contiguous range of hardwood habitat (although the existing separation by New Hampshire Avenue would remain), and the amount of land transferred to the District for use as a memorial would be small. The alternative memorial sites are primarily turf, with trees and dense vegetation bordering the site. Therefore, this impact topic was dismissed from consideration.

Unique Ecosystems, Biospheres Reserves, or World Heritage Sites

There are no known biosphere reserves, World Heritage sites, or unique ecosystems listed at the memorial site alternatives. Therefore, this impact topic was dismissed from further analysis.

Utilities and Infrastructure

Utilities do not currently service the memorial site alternatives. While the memorial could require new electrical connections, depending upon the design of the memorial, it is anticipated that connections short-term disruptions of service due to construction

would be minimal. The District would coordinate with PEPCO and other utility providers to avoid disruptions during construction.

In addition, in order to comply with stormwater requirements, it is anticipated that the memorial design would increase the amount of amount of impervious surface at the memorial site alternatives, but that stormwater would be managed at the site through low-impact development (LID) practices. This method would treat stormwater on-site and would have no impacts on the existing utilities. Therefore, utilities and infrastructure were dismissed from further analysis as an impact topic.

Water Resources

There are no bodies of water located at the memorial site alternatives. The closest water body is Rock Creek, which is located approximately 1.8 miles from the memorial site alternatives, and Sligo Creek, which is located approximately three miles from the memorial site alternatives. The construction would likely include excavation to a depth of up to approximately five feet, and would therefore be unlikely to encounter groundwater, which is estimated to be approximately eight to 50 feet below grade. (DC Department of Consumer and Regulatory Affairs 1993).

The memorial site alternatives do not currently contain impervious surfaces. In order to comply with DC stormwater regulations, the memorial design, once completed, would treat stormwater on-site and incorporate LID measures. Before construction, a stormwater management plan would be submitted to the DC Department of the Environment (DDOE) for approval.

According to FEMA Flood Insurance Rate Map #1100010010C, dated September 2010, the memorial site alternatives are located outside the 100-year (one percent annual chance flood hazard) and 500-year (0.2 percent annual chance flood hazard) floodplains. Because the memorial is outside the 100-year and 500-year floodplain, NPS would not require a statement of findings for the transfer of jurisdiction, consistent with Director's Order 77-2, Floodplain Management. Therefore, this impact topic was dismissed from further analysis.

Wetlands

Wetlands are defined by three characteristics: hydrophytic vegetation, soils inundated or saturated for more than 12.5 percent of the growing season, and hydric soils. Given that the memorial site alternatives are located in an urban setting with no indicators for the presence of wetlands, this topic was dismissed from further analysis.

2.0 ALTERNATIVES

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2.1 INTRODUCTION

The proposed action is the transfer of jurisdiction of property from NPS to the District for a parcel of land that would allow for the establishment of a memorial to honor victims of the Metrorail Red Line accident of 2009, celebrate the heroism of the first responders, and uplift the community. The District undertook a site selection process in 2010 which initially identified seven District-owned sites. In 2012, the search was expanded to include Reservation 497, and two specific sites were examined: the overlook site (Alternative 1) at the east side of the New Hampshire and South Dakota Avenues intersection, and the garden-adjacent site (Alternative 2) at the north side of the same intersection (see Figure 2-1 and Figure 2-2). These sites are the subject of this EA.

The two memorial site alternatives, both of which are under NPS jurisdiction, are identified in the *Fort Circle Parks General Management Plan* as Fort Circle Corridor- Fort Totten to Fort Slocum. This EA evaluates a range of alternatives related to the location of the proposed memorial, including two action alternatives and a No Action Alternative. This section defines the No Action Alternative, describes the alternative locations for the memorial, identifies the preferred alternative, and summarizes the environmental impacts and mitigation measures for each alternative. Memorial sites initially identified but ultimately dismissed from consideration are described in Sections 2.6.1 and 2.6.2 and illustrated in Figure 2-10.



Figure 2-1: Memorial Site Alternatives (area and location of jurisdictional transfer estimated and is for illustrative purposes)

Source: Google, 2011



Figure 2-2: Property Map Illustrating Memorial Site Alternatives

Source: District, 2013

2.2 DESCRIPTION OF ALTERNATIVES

2.2.1 NO ACTION ALTERNATIVE

As part of the environmental review process, the consequences of a No Action Alternative are considered. Under the No Action Alternative, all existing features of the considered sites (Reservation 497) would remain in their current condition and use, as illustrated in Figure 2-3 and Figure 2-4. This would include visitor use, management of the site, and existing vegetation.

Under the No Action Alternative, NPS would continue to manage and operate the memorial site alternatives, continuing its current management practices to maintain the site, such as mowing. The existing open space would still be used as vegetated open space and natural areas, allowing for multi-purpose recreation and community gatherings.

The existing vegetation would remain at the sites. The Fort Circle Corridor- Fort Totten to Fort Slocum would continue to be maintained as a mowed green strip with mixed woodland; the community garden to the north of the memorial site alternatives would continue to operate.

Under the No Action Alternative, the existing semi-circle of concrete barriers would remain at the memorial site north of the intersection of New Hampshire and South Dakota Avenues, as would the existing signs demarcating NPS property.



Figure 2-3: Existing Condition of Memorial Site 1, as Seen Looking South from New Hampshire Avenue

Source: District of Columbia, 2012



Figure 2-4: Existing Condition of Memorial Site 2, as Seen Looking East from South Dakota Avenue

Source: District of Columbia, 2012

2.2.2 ELEMENTS COMMON TO ALL ACTION ALTERNATIVES

In response to the Metrorail Red Line collision of June 22, 2009, the District has commissioned a memorial plaque and initiated planning for a memorial. Each of the two action alternatives would establish and operate a memorial dedicated to the victims and first responders of the 2009 Metrorail Red Line crash. Although the action alternatives represent two distinct locations for the memorial, the establishment of the memorial would incorporate several design features common to both action alternatives.

The goals of the project are as follows:

- Design a memorial park that allows for meditation, remembrance, reflection, hope and renewal.
- Incorporate commissioned poem, solar lighting, benches, memorial wall, play area, pedestrian walkway, and landscaping into the art installation.
- Engineer the public art installation to ensure that the work is stable and safely installed.
- Treat the landscape in a way that ensures a unified blend with the artwork.

Memorial Program

In order to meet the goals of the project, a memorial program, or associated requirements, has been identified. It is anticipated that the square footage of the memorial would be 6,000 to 10,000 square feet in area. The memorial would contain limited public seating in order to accommodate those needing a place to rest during their visit. A healing garden with native plants and trees would offer elements of rejuvenation. Site lighting and site lines from the main

road would ensure the safety of visitors by lighting pathways and ensuring visibility.

Memorial Design

The memorial design would be modest, and would likely contain a plaza area, landscape, and sculptural element. The memorial would include a signature piece of art by a local artist. The landscape at the site would be comprised of native plants and flowers. The intention of the memorial would be to serve as a place of repose, reflection, and remembrance. In addition, the memorial would be a cooperative, inclusive project providing an amenity for the community and comfort for the relatives of the victims.

In April 2012, the District's Commission on the Arts and Humanities issued a Call to Artists RFP to develop the artistic concept for a permanent memorial park with public art installations. The artist's work would also include the fabrication of artistic elements, such as statues and sculptures included at the memorial. Six artists responded, which the Commission on the Arts and Humanities narrowed to three artists.

More specifically, the following design criteria were included in the design RFP:

- The creation of a serene setting where visitors can pause and reflect.
- A significant marker (i.e. bronze or granite plaque, wall, gateway, etc.) at the entrance of the memorial with didactic information about the designation as a memorial for the families and affected community.

- Public artwork, such as sculpture, statue, creative fence or wall, paving pattern, etc.).
- Seating (including custom/artistic benches).
- Play area.
- Pedestrian walkway.
- Solar lighting, which, due to the proximity of the site to residential uses across South Dakota Avenue, must be designed to not disrupt the neighbors living adjacent to the park.
- Creative incorporation of the poem "The Rise of the Fallen" by District Poet Laureate, Delores Kendrick. Her poem was created for and will be dedicated to the families. Its proposed use must be approved by the Poet Laureate before final implementation.
- Use of low-impact development (LID) measures, with conservation of energy a major consideration.

Since the issuance of the design RFP, the District coordinated with the victims' families and the community. As a result of this consultation, the District has removed the play area from the memorial design criteria. Similar memorials established elsewhere that feature one or more of these elements are illustrated in Figure 2-5, Figure 2-6, and Figure 2-7.



Figure 2-5: Example of a Memorial with Sculpture
 Source: District of Columbia, 2012



Figure 2-6: Example of a Garden Memorial
 Source: District of Columbia, 2012



Figure 2-7: Example of a Memorial with Sculpture and Landscape

Source: District of Columbia, 2012

Operation and Maintenance

Once the transfer of jurisdiction is executed, the District would construct, maintain, and operate the memorial. This would include maintaining the landscape and built elements. No NPS staff would participate in the maintenance or interpretation of the site.

2.2.3 ALTERNATIVE 1: OVERLOOK SITE

Alternative 1 would transfer approximately 10,000 square feet of land east of the intersection of New Hampshire and South Dakota Avenues from NPS jurisdiction to the District in order to establish a memorial at the site. The Alternative 1 site is part of Reservation 497 within the Fort Circle Parks and is identified as a Natural Resource Zone in the *Fort Circle Parks Final Management Plan*, which states that “the natural resource zone comprises areas of the parks that are managed primarily to maintain forests and natural scenery, but they may also contain cultural resources.” Although the placement of the memorial on this site would be inconsistent with that designation, it would be highly visible and would be located near the incident location.

Under Alternative 1, open space area currently used for multi-purpose recreation and community gatherings would be replaced by open space with a commemorative element. The adjacent parklands would continue to offer open space available for multi-purpose recreation.

The location of the memorial at this site would remove vegetation, primarily grass with scattered trees (See Figure 2-8). Instead, a new landscape featuring native plants would be installed at the site. The adjacent parkland’s mowed grass and trees would remain.



Figure 2-8: View looking east to interior of Memorial Site 1

Source: District of Columbia, 2012

2.2.4 ALTERNATIVE 2: GARDEN-ADJACENT SITE (PREFERRED ALTERNATIVE)

Alternative 2 would transfer up to approximately 10,000 square feet of land north of the intersection of New Hampshire and South Dakota Avenues from NPS jurisdiction to the District in order to establish a memorial at the site. The Alternative 2 site is also part of Reservation 497 in the Fort Circle Parks and is identified as a Recreational Zone in the *Fort Circle Parks Final Management Plan*, which states that “the recreation zone will contain areas where recreational facilities have been developed or those that have been designated for specific activities....these will be relatively small nodes of intense activity in portions of the Fort Circle Parks that are not associated with the Civil War defenses and do not contain earthworks or other historic or archeological resources.” Placement of the memorial on this site would be consistent with this designation, would be highly visible and would locate it near the incident location.

Under Alternative 2, open space area currently used for multi-purpose recreation would be replaced by open space with a commemorative element. The adjacent parklands would continue to serve as open space available for community gardens.

The location of the memorial at this site would remove vegetation, primarily grass with mixed trees and dense vegetation. Instead, a new landscape featuring native plants would be installed at the site.

Under Alternative 2, the concrete semi-circular barriers, originally installed to prevent illegal parking, at the site would be removed, as would the markers demarcating the NPS property line. Instead, memorial features would be located at the site.



Figure 2-9: View looking east to interior of Memorial Site 2
Source: AECOM 2013

2.2.5 IDENTIFICATION OF THE PREFERRED ALTERNATIVE

NPS and the District have identified Alternative 2 as the preferred alternative. Alternative 2 provides the best location to both serve the purpose of the proposed memorial as well as address community concerns. As described above, the site is identified as a Recreational Zone in the *Fort Circle Parks Final Management Plan*. Because the establishment of a memorial for the Metrorail Red Line accident of 2009 would not be associated with the Civil War defenses and does not contain above-ground resources, Alternative 2 would be consistent with the Recreation Zone. Additionally, it would be in close proximity to the crash site being commemorated and would be in a highly visible location. Alternative 2 would not alter multi-purpose recreation space and community gatherings that occur within the Fort Circle Park; currently, it is not used by the community for recreation due to its small size and vegetation.

During the site selection and scoping processes, members of the community identified several concerns about establishing the memorial. Among the concerns were the potential of the memorial to facilitate criminal activity; increase noise, traffic, and parking issues in the area. The scoping process also identified concerns that Alternative 1 would disrupt existing recreation activities at that site.

Both Alternatives 1 and 2 would also meet the purpose and need of the project. Similar impacts on public safety, noise, traffic, and parking would occur. However, the location of Alternative 1 would result in greater impacts on the visitor use and experience due to the alteration of open space, which would replace multi-purpose recreation and community gathering space with a commemorative feature (see Sections 3.2 and 4.3 for a full description of Visitor Use and Experience). Furthermore, placement of the memorial on the

Alternative1 site would not be consistent with its designation in the *Fort Circle Parks Final Management Plan* as a Natural Resource Zone, which states that resources can be minimally modified for visitor needs or for visitor safety, but that tolerance for resource degradation will be low (see Sections 3.1 and 4.2 for a full description of the management zones).

2.3 CONSTRUCTION STAGING

Staging for the construction of the memorial will take place on site. On-site support staff will be positioned in temporary trailers with a lay down area at this location. Minimal lane closures of New Hampshire or South Dakota Avenues would occur in order to deliver materials to the site. Such closures would be infrequent and temporary in nature, and would occur during off-peak hours to avoid traffic lane closures. Efforts would be made for deliveries to take place on South Dakota Avenue, rather than the busier New Hampshire Avenue. Additionally, short-term closures of sidewalks may occur. Temporary fencing or other barriers will be installed for safety purposes.

2.4 MITIGATION MEASURES OF THE ACTION ALTERNATIVES

NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of the natural and cultural resources and the quality of the visitor experience, the following protective measures would be implemented as part of the selected action alternative. The NPS would implement an appropriate level of monitoring throughout the construction process to help ensure that protective measures are being properly implemented and are achieving their intended result:

Cultural Resources

- If during construction, archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources can be identified and documented and an appropriate mitigation strategy developed. If necessary, consultation with the DC Historic Preservation Officer, NPS, and/or the NPS Regional Archeologist will be coordinated to ensure that the protection of resources is addressed. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed.
- Additional mitigation for impacts on archeological, historic, and visual resources may be determined during the Section 106 consultation process. If the project is determined to have an adverse effect, the District, NPS, NCPC, DC SHPO, and ACHP would develop a memorandum of agreement to

mitigate adverse impacts to cultural resources. Potential mitigation measures that could be identified in the Section 106 process include:

- The development of a Phase 1 archeological study.
- The District and NPS would develop an interpretive feature for the memorial site, or adjacent land, to educate visitors about the Fort Circle Park System/Civil War Defenses of Washington. Such a feature could include development of a smartphone app for visitors in addition to or in lieu of a physical sign or other structure adjacent to the memorial.
- Development of cultural landscape inventories focusing on individual/distinct Fort Circle Park System/Civil War Defenses of Washington sites.

of temporary signage in high-visibility locations; notification through mailings, email, and/or list serves; and announcements at community meetings and/or church services.

- Include messages about public transit (such as Metrorail access, Metrobus schedules, nearby bicycle routes, etc.) in literature publicizing the memorial.
- Explore locating a Capital Bikeshare station at the Fort Totten Metrorail station.

Visitor Use and Experience

To mitigate adverse impacts on visitor use and experience resulting from a change in recreation opportunities, the District would extend water lines to the Blair Road Community Garden as part of the proposed South Dakota Avenue streetscape improvements.

Transportation

To mitigate adverse impacts on transportation, the District would carry out the following actions:

- Monitor adjacent streets regarding parking availability; if warranted, the District would establish time-restricted parking zones on selected streets.
- Inform neighborhood residents of memorial events that are expected to have a large attendance through the placement

2.5 ALTERNATIVES CONSIDERED BUT DISMISSED

Several alternative sites were identified during the site selection process and internal and public scoping. Following the identification of potential sites, a comprehensive report was presented to the victims' families. The site selection process for locating the Metro Memorial involved a review of six District sites located within northeast Washington, followed by a review of NPS sites in the vicinity. The suitability of each site was assessed based on criteria defined in the program of requirements, as well as a weighing of the positive and negative features of each location. The criteria included the following items:

- Proximity to the incident site. Locations near the site of the accident were considered more attractive.
- Proximity to public transportation. Locations near Metrorail or frequently served bus routes provide better access for visitors.
- Visibility. The memorial should be visible from the street network, as opposed to being shielded from view by trees, development, or distance.
- Size. The memorial site needs to be large enough to accommodate the memorial program

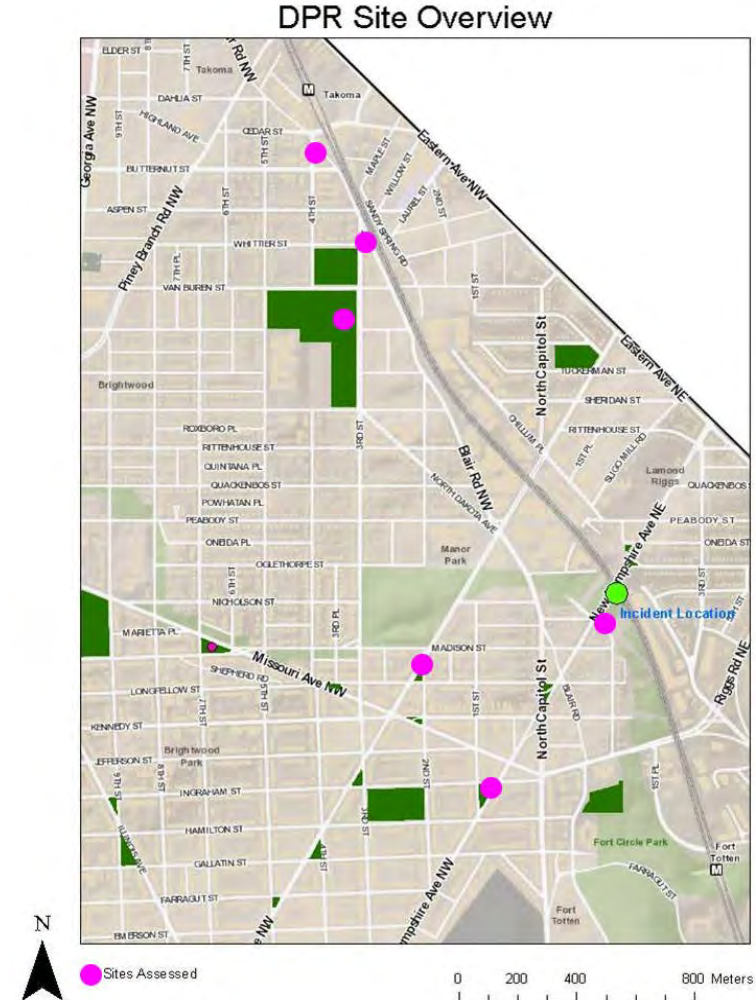


Figure 2-10: Memorial Sites Initially Considered

Source: District of Columbia, 2012

The alternative sites were determined not to sufficiently meet the site selection criteria, to be unreasonable, or much less desirable than similar options included in the analysis. In addition, some sites conflicted with already-established park uses. Therefore, the alternative sites were not carried forward for analysis in this EA.

2.5.1 DISTRICT SITES

The District initially identified six additional sites located on land administered by the District of Columbia Department of Parks and Recreation. These sites initially considered are listed below.

- Takoma Recreation and Aquatics Center
- 4th Street and Blair Road
- Blair Road, Third and Whittier Streets
- Missouri Avenue, 7th and Madison Streets
- Kansas Avenue and 2nd and Longfellow Streets
- New Hampshire, 1st and Ingraham Streets

After consideration, the District determined that the sites did not adequately meet the site selection criteria (see Appendix B: Site Selection Summary). As a result, these sites were dismissed from further consideration.

2.5.2 ADDITIONAL NPS SITE

In its review of potential sites, the District also evaluated Reservation 425, located at the intersection of New Hampshire Avenue and Oglethorpe Street. The District determined that this triangular parcel would not be large enough to adequately accommodate the memorial program. As a result, this site was dismissed from further consideration.

2.6 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The NPS is required to identify the environmentally preferable alternative in its NEPA documents for public review and comment. The NPS, in accordance with the Department of the Interior policies contained in the Departmental Manual (516 DM 4.10) and the council on Environmental Quality's *NEPA's Forty Most Asked Questions*, defines the environmentally preferable alternative (or alternatives) as the alternative that best promotes the national environmental policy expressed in NEPA (Section 101(b)(516 DM 4.10). In their *Forty Most Asked Questions*, CEQ further clarifies the identification of the environmentally preferable alternative, stating "Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (Q6a).

The No Action Alternative would not impact biological or natural resources or cultural resources. It would not degrade the environment through disturbance of soils or removal of vegetation. Views and other elements of cultural resources would not be affected by the No Action Alternative; the existing cultural resources would continue to be managed similar to existing practices. The No Action Alternative would continue to provide open space to the visiting public. The No Action Alternative would not affect transportation. As a result, after completing the environmental analysis, NPS identified the No Action Alternative as the environmentally preferable alternative in this EA and the alternative that best meets the definition established by the CEQ.

2.7 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

A summary of the environmental consequences as a result of the alternatives described in this chapter follows in Table 2-1. The full analysis for each impact topic is found in Section 4.

Table 2-1 : Summary of Impacts to Resources by Alternative

Impact Topic	No Action Alternative	Alternative 1	Alternative 2 (Preferred Alternative)
Cultural Resources: Archeological Resources	The memorial would not be built. Therefore, there would be no impacts on archeological resources.	Alternative 1 would require up to approximately 10,000 square feet of area in proximity to the Civil War Defenses of Washington, which could potentially result in moderate adverse impacts to archeological resources. When combined with cumulative projects, the long-term impacts could be adverse.	Alternative 2 would require up to approximately 10,000 square feet of area in proximity to the Civil War Defenses of Washington, which could result in moderate adverse impacts to archeological resources. When combined with cumulative projects, the long-term impacts could be adverse.
Cultural Resources: Historic Resources	The memorial would not be constructed. Therefore, there would be negligible impacts on historic resources.	Alternative 1 would install a memorial in what is presently open space identified in the <i>Fort Circle Parks Final Management Plan</i> as a Natural Resource Zone, resulting in short- and long-term minor adverse impacts on the Fort Circle Park System/Civil War Defenses of Washington. Cumulative impacts on the Fort Circle Park System/Civil War	Alternative 2 would install a memorial in what is presently open space identified in the <i>Fort Circle Parks Final Management Plan</i> as a Recreation Zone, resulting in short- and long-term minor adverse impacts on the Fort Circle Park System/Civil War Defenses of Washington. Cumulative impacts on the Fort Circle Park System/Civil War

Impact Topic	No Action Alternative	Alternative 1	Alternative 2 (Preferred Alternative)
		Defenses of Washington would be minor and adverse.	Defenses of Washington would be minor and adverse.
Cultural Resources: Cultural Landscapes	The memorial would not be constructed. Therefore, there would be negligible impacts on cultural landscapes.	Alternative 1 would install a memorial in what is presently open space identified in the <i>Fort Circle Parks Final Management Plan</i> as a Natural Resource Zone, resulting in short- and long-term minor adverse impacts on the Civil War Defenses of Washington cultural landscape. Cumulative impacts on the Civil War Defenses of Washington would be minor and adverse.	Alternative 2 would install a memorial in what is presently open space identified in the <i>Fort Circle Parks Final Management Plan</i> as a Recreation Zone, resulting in short- and long-term minor adverse impacts on the Civil War Defenses of Washington cultural landscape. Cumulative impacts on the Civil War Defenses of Washington would be minor and adverse.
Visitor Use and Experience	The existing site would continue to be used for recreation. Therefore, there would be no impacts.	Alternative 1 would alter 10,000 square feet of existing open space used for multi-purpose recreation and replace it with a commemorative element, resulting in minor adverse impacts on those using the park. Short-term moderate adverse impacts would occur during construction. Cumulatively, Alternative 1 would have short-term moderate adverse impacts and overall long-term minor	Alternative 2 would alter 10,000 square feet of existing open space used for recreation and replace it with a commemorative element, resulting in minor adverse impacts on those using the park. Short-term moderate adverse impacts would occur during construction. Cumulatively, Alternative 1 would have short-term moderate adverse impacts and overall long-term minor adverse impacts.

Impact Topic	No Action Alternative	Alternative 1	Alternative 2 (Preferred Alternative)
		adverse impacts.	
Transportation	Under the No Action Alternative, the memorial would not be established. Therefore, there would be no impacts on transportation as a result.	Alternative 1 would cause small short-term and long-term increases in the volume of vehicular traffic in the study area, resulting in minor adverse impacts on vehicular traffic and parking. Impacts to transit, pedestrian and bicycle connections, safety, and circulation would be negligible. Short-term impacts as a result of construction would be minor. There would be minor cumulative impacts on vehicular traffic and parking and negligible cumulative impacts on transit and pedestrian and bicycle circulation.	Alternative 2 would cause small short-term and long-term increases in the volume of vehicular traffic in the study area, resulting in minor adverse impacts on vehicular traffic and parking. Impacts to transit, pedestrian and bicycle connections, safety, and circulation would be negligible. Short-term impacts as a result of construction would be minor. There would be minor cumulative impacts on vehicular traffic and parking and negligible cumulative impacts on transit and pedestrian and bicycle circulation.

3.0 AFFECTED ENVIRONMENT

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3.1 CULTURAL RESOURCES

This section documents the cultural resources located on the project site and within the surrounding area. This information was derived from NRHP nominations, historic maps, and field surveys. For the purposes of this document, the cultural resources impact topic considered is historic (above-ground) properties, including historic structures and districts, and memorials. Ethnographic resources and museum collections were dismissed as impact topics.

The National Historic Preservation Act (NHPA) of 1966 is the guiding legislation for the preservation of historic properties. As broadly defined by 36 CFR 800, historic properties are “any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in the National Register of Historic Places.” According to the NHPA, properties that qualify for inclusion in the NHRP must meet at least one of the following criteria:

Criterion A: Be associated with events that have made a significant contribution to the broad patterns of our history;

Criterion B: Be associated with the lives of persons of significance in our past;

Criterion C: Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history (36 CFR 60.4).

Properties that qualify for the NRHP must also possess integrity, which is defined as the ability of a property to convey its significance. The seven aspects of integrity are location, design, setting, materials, workmanship, feeling, and association. The term “eligible for inclusion in the NRHP” describes properties formally designated as eligible and all other properties determined to meet NRHP Criteria.

In accordance with Section 106 of the NHPA, federal agencies are required to consider the effects of a proposed project on properties listed in, or eligible for listing in, the NRHP. NPS has entered into consultation with SHPO and other interested agencies and individuals to identify historic properties that could be affected, to assess potential adverse effects, and to resolve the adverse effects through mutually agreed upon avoidance, minimization, or mitigation measures.

An initial step in the Section 106 process is the determination of the area within which historic properties would be affected or are likely to be affected. The area of potential effects (APE) as defined by 36 CFR 800.16(d) 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. The area of potential effects is influenced by the scale and nature of

an undertaking and may be different for different kinds of effects caused by the undertaking.” For the development of the memorial site selection and transfer of jurisdiction (the undertaking), NPS initiated consultation with the DC SHPO in 2013.

For the site selection, the Primary APE for above-ground historic resources is the historic property on which the memorial site alternatives are located. A broader secondary APE was defined that represents the area within which the proposed Memorial has the potential to have both direct effects and indirect visual effects on historic properties. Within the APE the Civil War Defenses of Washington/Fort Circle Parks are properties listed in the National Register of Historic Places. Both the primary and secondary APEs for historic above-ground resources are identified in Figure 3-1. For below-ground resources, the APE would be the limits of disturbance at the memorial site.



Metro Memorial Park
Area of Potential Effects

Figure 3-1: Area of Potential Effects (APE)

Source: AECOM, 2013

3.1.1 Archeological Resources

Local Context

The Potomac River Valley has a rich history of human occupation dating back at least 13,000 years. Prior to the 17th century the Nacotchtank inhabited the area around the Anacostia River when the first Europeans arrived. However, by the early 18th century the Nacotchtank people had largely relocated from the area leaving only scattered groups of Piscataway in the vicinity. Native American settlements are known to have existed in the Rock Creek Park area, and artifacts collected in the late 19th and early 20th centuries, and housed at the Smithsonian Natural History Museum, attest to prehistoric occupation spanning thousands of years. Because of its proximity to important waterways and good hunting grounds, the project area would have been an ideal setting for different subsistence activities throughout prehistory (Bushong 1990).

The earliest urban development in Northwest DC grew out of Pierre Charles L'Enfant's 1791 Plan for the Capital City. The area selected for the federal city was previously made up of plantations and was mostly rural, including the area encompassing present-day downtown (Gutheim 2006). In the 19th century, downtown encompassed the area between K Street and the Mall and between the White House and the Capitol, and became one of the most densely populated parts of the city (Passonneau 2004: 52). The current project area remained relatively rural and unpopulated into the late 19th century, with farms and orchards cover much of the area. During the Civil War, troops and military support functions, including infrastructure to house and feed the troops, were a large presence in the capital city (Gutheim 2006: 62). This military activity brought some improvements in municipal services such as

sewers and road paving in the downtown portion of the District, but at the same time caused a strain on the city's resources due to the greatly increased population.

At the turn of the 20th century, the Senate Park Commission, known as the McMillan Commission, was formed to develop a plan to improve Washington's park system and address the placement of future public buildings (Gutheim 2006). The commission expanded on L'Enfant's Plan in a manner consistent with the City Beautiful movement, extending The Mall and terminating several visual axes with monuments. Among other things, the commission's plan called for a new system of parks to connect the former Defenses of Washington, which consisted of a string of forts and earthworks around the city (Handly 1996: 53). In the early part of the 20th century, downtown was increasingly developed with office buildings and department stores. The city began to expand outward into new neighborhoods such as Brighton and Manor Park, in the vicinity of the project area.

During World War II, the number of federal employees expanded significantly and temporary and permanent office buildings were built to accommodate them. In the post-war period, residential settlement was increasingly dispersed and the housing boom drew city dwellers to the new suburbs. The automobile became the primary means of commuting into the city and in areas where mixed residential and commercial neighborhoods once stood, lots were cleared for office buildings and parking lots (Gutheim 2006). The streets included in the L'Enfant plan were extended outward toward the city's boundaries. This extension brought New Hampshire and Kansas Avenues into the project area.

Site History

Private ownership of the vicinity of the project area began in 1688 when Henry Darnall acquired a grant for some 6,000 acres that included much of northwest D.C (Bushong 1990: 13). The area was sold several times and was leased to various tenant farmers over the years. By the start of the Civil War, a J. Carpenter is shown on maps as living and farming the area (see Figure 3-2).



Figure 3-2: Project Vicinity Showing J. Carpenter Occupation and Multiple Structures

Source: Library of Congress, Geography and Maps Division

In 1860, just prior to the Civil War, Washington, D.C. was a city of approximately 62,000 residents. The city was virtually undefended with only Fort Washington, some 12 miles south on the Potomac, in place to protect the capital. Realizing the need for better protection, the Federal army planned and began constructing additional defenses for the city that stretched over a 37 mile circle around the city (see Figure 3-3). By the end of the war 68 forts had been constructed; forever changing the landscape of the city both physically and in terms of population and culture (Handly 1996: 5). Thousands of trees had been taken down to construct the fortifications and to provide a clear firing range to their front in case of enemy advancement. By War's end the city had nearly doubled in size as former slaves flocked to Washington for protection and to find work.

The 68 forts encircling the city were reinforced by 93 detached batteries for field guns, 20 miles of rifle pits, and covered ways, wooden blockhouses at three key points, 32 miles of military roads, several stockaded bridgeheads, and four picket stations. As many as 1501 field and siege guns were in place in these defenses. By 1865 Washington had become the most well protected city in the world (Handly 1996).

Photographs from the period indicate the strength of the new fortifications and give a sense of the landscape of the area. Two of the fortifications near the project area are Fort Stevens and Fort Totten, both of which were photographed during the war. In these photos the rural character of the surrounding countryside is evident as is the extent of soil and timber needed to create these forts (see Figure 3-4 and Figure 3-5). Also the type of weaponry utilized in the forts is presented.



Figure 3-3: Defenses of Washington by the End of the Civil War (War Department 1865)

Source: Library of Congress, Geography and Maps Division



Figure 3-4: Fort Stevens where the Confederate Army Attacked in 1864.

Source: Library of Congress, Prints and Photographs Collection



Figure 3-5: Fort Totten, to the southeast of the Project Area, Showing the Countryside and Defenses.

Source: Library of Congress, Prints and Photographs Collection

The fort closest to the project area was Fort Slocum, located to the west between present day New Hampshire and Kansas Avenues (see Figure 3-6 and Figure 3-7). Fort Slocum was built by the 2nd Rhode Island Infantry and was named for Colonel John Slocum of the 2nd R.I., who was killed at the First Battle of Manassas. The fort had 25 guns and mortars and commanded the intersection of Blair Road and nearby Riggs Road. Fort Slocum included an outer battery and rifle pits extending east and west. The fort also provided support for Fort Stevens to the west. Fort Stevens had the

distinction of being the only fort in the Defenses of Washington to come under direct attack during the War.

General Jubal Early of the Confederate Army made his way south through Maryland following a hard-fought battle at the Monocacy River near Frederick, Maryland. His troops finally reached Fort Stevens and the battle took place there on July 11th and 12th of 1864. The Confederate forces were turned back after a less than vigorous attempt to overrun the fortifications. General Early had been delayed long enough at Monocacy to allow time for veteran reinforcements to arrive to defend the city. At Fort Slocum and the surrounding forts, Early observed veteran troops and knew he had little chance of penetrating the defenses. During the fighting at Fort Stevens President Lincoln achieved the distinction of becoming the only sitting U.S. President to come under direct fire during a time of war as he stood on the ramparts and observed the fighting.

During the War, the 76th New York Infantry, 11th Vermont, 2nd Pennsylvania Artillery, 1st New Hampshire Heavy Artillery, 150th Ohio National Guard, 14th Michigan Battery, and Knapp's Pennsylvania Artillery manned Fort Slocum at different times (Cooling 2009: 186) (see Figure 3-8 and Figure 3-9). When the Confederates attacked Fort Stevens on July 11th of 1864, Fort Slocum opened the engagement by firing its long range guns at Early's Army. Because the fortifications surrounding the city were undermanned, employees of the Army Quartermaster office and soldiers being treated at local hospitals assisted the fort's defenders during the attack by General Early. The quartermaster employees were led by General Montgomery Meigs (Cooling 2009: 187). Fort Slocum and the other forts in N.W Washington, were under the Command of General Martin Hardin, a close friend of President

Lincoln and a veteran of the Mine Run Campaign where he lost his left arm.

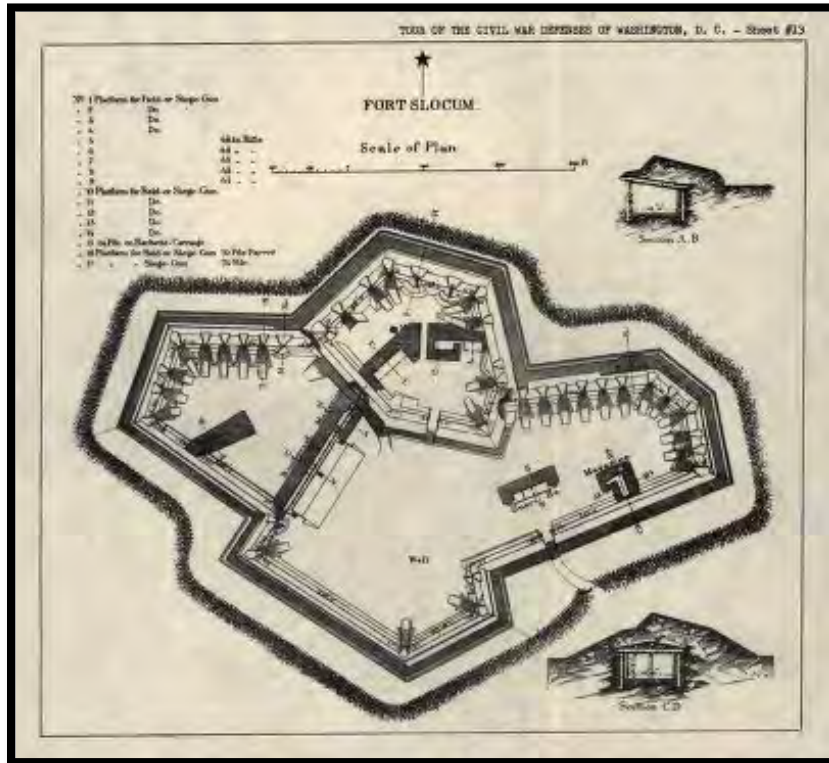


Figure 3-6: Fort Slocum

Source: Library of Congress, Prints and Photographs Collection



Figure 3-7: Fort Slocum and Vicinity. 1862 Union Army Map (Hodasevich)

Source: Library of Congress, Geography and Maps Division



Figure 3-8: 31st Pennsylvania Encampment near Fort Slocum

Source: Library of Congress, Prints and Photographs Collection



Figure 3-9: Camp life at Fort Slocum with the 31st Pennsylvania.

Source: Library of Congress, Prints and Photographs Collection

President Lincoln authorized the use of African Americans in federal service by issuing the Second Confiscation and Militia Act on July 17, 1862. It was not until his Emancipation Proclamation six months later that black men could serve in combat. On May 22, 1863 the United States War Department issued General Order Number 143, establishing the Bureau of Colored Troops resulting in the recruitment of African American men into the Army. The regiments of the Union army that were composed of African American men were called the United States Colored Troops (USCT).

The USCT seldom were allowed to see active battle and often were assigned as laborers and guards on fortifications throughout the North, including the Defenses of Washington. The 28th Regiment of U.S. Colored Troops and Company E of the 4th U.S. Colored Infantry were two of the troops attached to the Defenses of Washington. While it is unclear if any troops from these companies served at Fort Slocum it seems likely as they and their officers were photographed at nearby Fort Lincoln and at Ft. Slocum (see Figure 3-10 and Figure 3-11).



Figure 3-10: Officers of the 4th U.S. Colored Infantry at Ft. Slocum (note General Hardin's headquarters in the background).

Source: Library of Congress, Prints and Photographs Collection



Figure 3-11: Company E, 4th U.S Colored Infantry at the Washington Defenses.

Source: Library of Congress, Prints and Photographs Collection

Archeological Potential

Soils mapped at the site are classified as a clayey Udorthents soil (Smith 1976). The soil is not prime agricultural soil but was nonetheless used for agricultural purposes by way of pasture and orchard land prior to the 20th century. Historic Civil War era maps of the area show multiple farms in the area with a number of houses and other outbuildings. The maps also indicate the trench-work and other defenses beyond the fort itself (see Figure 3-12). Later maps indicate no development on the lots to the northeast of the intersection of New Hampshire Avenue and South Dakota indicating a potential for intact historic horizons to exist (see Figure 3-13 and Figure 3-14).

Several archeological studies have been conducted throughout the greater Washington D.C. area on the defenses of the city. Many artifacts and features related to the encampments have been recovered and identified in these efforts (Mihailovic. 2011). This includes remnants of dump sites related to the camps as well as two Crimean Ovens near Fort Williams in Alexandria which were used to heat tents. A four year archeological investigation of Rock Creek Park found extensive evidence associated with the Civil War and the Battle of Fort Stevens at Fort DeRussy and Fort Totten, as well as within the Rock Creek valley (Louis Berger 2008).

Because Civil War era trenches and other defenses were in place in the vicinity of the project area as well as encampments of soldiers assigned to the Defenses at Fort Slocum, the possibility of identifying features or recovering artifacts related to this period exists. Also because of the close proximity to a water source, an unnamed tributary to the east, there is a reasonable probability that prehistoric use of the area may be identified as well. Two

springheads are evident in historic maps of the area; these are often likely locations for temporary prehistoric encampments.

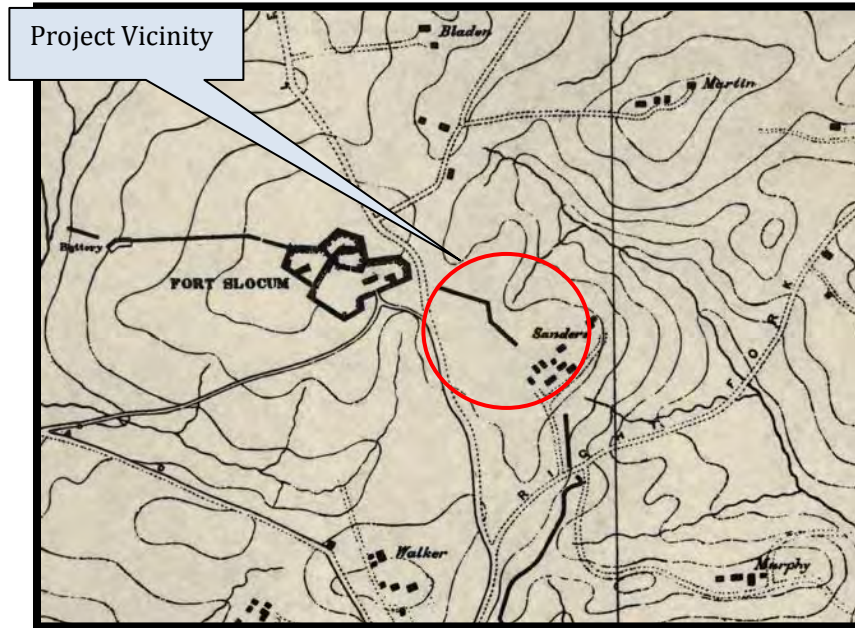


Figure 3-12: Fort Slocum Area as Shown in the 1865 Barnard Map

Source: Library of Congress, Geography and Maps Division

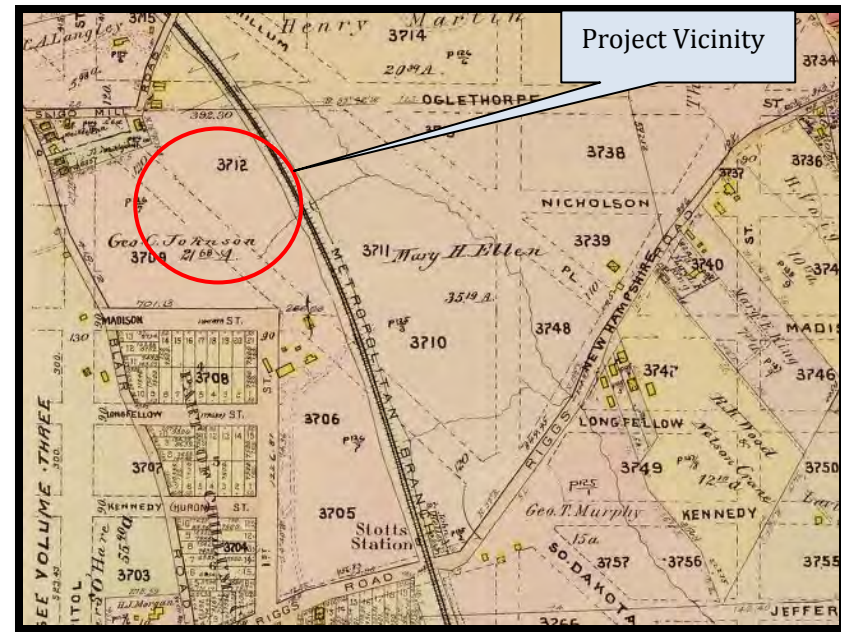


Figure 3-13: 1907 Real Estate Map of DC Showing Project Vicinity

Source: Library of Congress, Geography and Maps Division

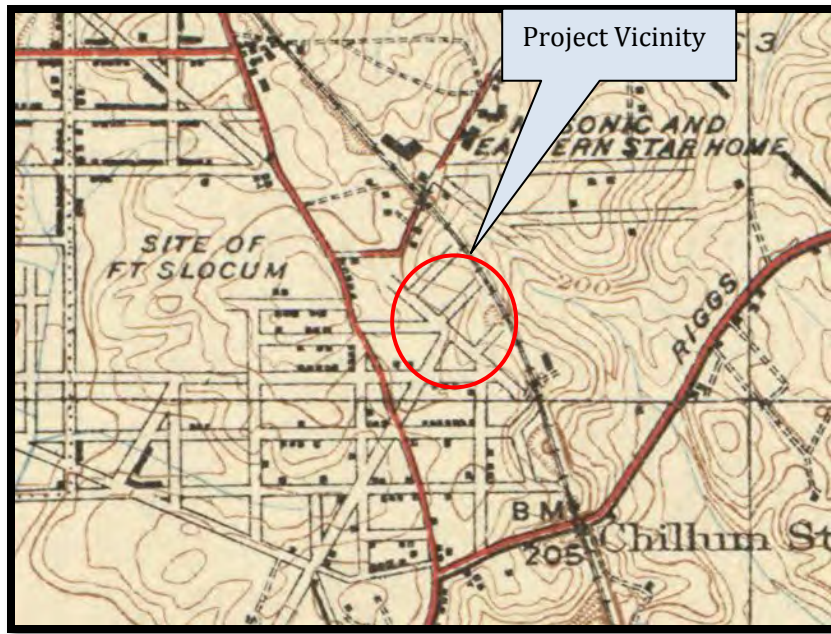


Figure 3-14: 1929 USGS Map of the Project Vicinity

Source: Library of Congress, Geography and Maps Division

3.1.2 Historic Resources

Civil War Defenses of Washington/Fort Circle Park System

Nineteen forts comprise the NPS properties in the Washington, DC area that contain areas covered by the Civil War Defenses of Washington, with additional properties comprising the Fort Circle Park System (see Figure 3-15). The forts vary in terms of their level of intactness. Many of the properties retain their original features, including earthworks, such as Fort Totten. Other facilities have been removed entirely, with no recognizable features remaining, such as Fort Slocum. At the opening of the Civil War in 1861, the Union Capital was virtually without protection, the city not having been threatened since the invasion by the British in 1814. The circle of forts developed quickly around the capital during the war years. These forts represent, collectively, an important remnant of the war. The Civil War Defenses of Washington is listed in the National Register of Historic Places.

In addition to the forts, other properties were acquired during the 20th century in an effort to develop a parkway connecting the forts and encircling Washington. Identified in the McMillan Commission Plan of 1902, Frederick Law Olmsted, Jr. proposed a regional park system with a fort drive memorializing the forts by maintaining them as park lands. By 1965, it was determined that a parkway would not be feasible. Instead, NPS and NCPC proposed to create series of linked parks offering recreation and green space (see Figure 3-15 and Figure 3-16). The Fort Circle Park System, in combination with the Civil War Defenses of Washington, is listed in the National Register of Historic Places and the District of Columbia Inventory of Historic Sites.

Currently, the Alternative 1 and 2 memorial sites are managed per the *Fort Circle Parks Final Management Plan*, the focus of which includes managing cultural and natural resources. The Alternative 1 site is located within a Natural Resource Zone, which is managed primarily to maintain forests and natural scenery, but may also contain cultural resources. The desired resource condition within this zone is for natural processes to predominate except when some manipulation is needed for safety, resource protection, or habitat restoration. Furthermore, the plan states that structures not directly related interpretation are appropriate only if they are required to preserve cultural or natural resources.

The Alternative 2 memorial site is located within a Recreation Zone, which is intended to contain recreation facilities or areas designated for specific activities. The *Fort Circle Parks Final Management Plan* identifies appropriate facilities as those which are highly specialized and designed for high use.



Figure 3-15: Map of Civil War Defenses of Washington
 Source: NPS, 2004



Figure 3-16: View South of Civil War Defenses of Washington/Fort Circle Parks at Metro Memorial Site Alternative 1
 Source: AECOM, 2013



**Figure 3-17: Civil War Defenses of Washington/Fort Circle
Park System Recreation at Fort Mahan**

Source: AECOM, 2010

3.1.3 Cultural Landscapes

The National Park Service prepared the Cultural Landscape Inventory of the Civil War Defenses of Washington (CLI) in 1996. The CLI documents the overall cultural landscape consisting of the fortifications, supporting defense works, and associated features that formed an integral unit for defending the city. Today, over thirty of the sites that made up the Civil War Defenses of Washington/Fort Circle Parks, located on approximately 130 acres, are under the jurisdiction of the National Park Service. The CLI addresses the forts and batteries which are owned by NPS, as well as those that are not owned by NPS.

The defenses, built to protect the city during the Civil War, greatly impacted the Washington area culturally, socially, and politically. The defenses also tremendously impacted the physical landscape. Miles and miles of trees and many buildings were razed to construct sixty-eight enclosed forts and armed batteries, and ninety-three unarmed batteries. Rifle pits connected the forts and batteries in a thirty-seven-mile band around the city. The extensive fort system discouraged the Confederacy from attacking the city that symbolized the Union. The protection of the fort system attracted escaping slaves, many of whom settled nearby and provided services for the forts and soldiers.

The CLI identifies numerous contributing features to the cultural landscape, including patterns of spatial organization, the response to the natural environment, topography, land use, views and vistas, circulation, archeology, and structures. The spatial patterns are made up of the organization of the fort structures and their grounds,

with a connecting line that formed the defense barrier. Similarly, the existing structures that remain at the sites, including their organizational elements, are contributing features of the cultural landscape. The CLI identified the rivers, cliff terraces, and vegetation that made up the natural environment of the forts at the time of their construction and use; today, the vegetation has been altered or is overgrown with natural succession. Similarly, the topography of the fort sites and the views and vistas of the fort sites has evolved over time, with high points continuing to offer views and vistas, although much is through overgrown vegetation. Archeological resources located at this site are considered contributing features. The circulation routes for soldiers and supplies contribute to the cultural landscape, using the predecessors of many existing and current routes. In addition, land connecting the forts was acquired in order to develop a parkway system. Combined, these circulation patterns also appear on maps as a ring of green space encircling Washington. Over time, the land use of the Civil War Defenses of Washington/Fort Circle Parks has evolved into largely recreational uses, as well as for educational opportunities and as a site for special events.

The present-day fort sites that comprise the Civil War Defenses of Washington/Fort Circle Parks vary in their degrees of integrity. Some, such as Battleground National Cemetery and Fort Stevens, retain structures and earthworks. Other sites exhibit no evidence of fort remains, such as Fort Slocum, the closest fort site to the memorial site alternatives. The memorial site alternatives are not located on fort sites, but are part of the green space connecting the forts.

3.2 VISITOR USE AND EXPERIENCE

The Alternative 1 site is located east of the same intersection and consists of a swath of maintained lawn approximately 400 feet long and ranging between approximately 70 to 120 feet in width. The lawn is interspersed with several landscape trees and two utility poles and is bordered along its northern and eastern edges by a dense stand of trees and overgrowth.

The Alternative 2 (Preferred Alternative) site is located north of the New Hampshire Avenue-South Dakota Avenue/1st Street intersection. The site is characterized by an area of maintained lawn adjacent to the north corner of the intersection. Further to the north, the lawn is bordered by a substantially larger area of trees and overgrowth.

Both of the proposed memorial sites are part of the NPS-managed Civil War Defenses of Washington/Fort Circle Parks System which is composed of more than 30 sites that made up the Civil War defenses of Washington (see Section 3.1 Cultural Resources). As stated in the *Fort Circle Parks Final Management Plan*, prepared by NPS in 2006, visitors to properties comprising the Fort Circle Park should have the opportunity to do the following (NPS, 2006):

- Interact with the Fort Circle Parks' cultural and natural resources in ways that do not damage or derogate those resources and provide safe, satisfying experiences;
- Readily access orientation and activity-planning information and easily find their way around the park sites.

- Enjoy the park sites through passive and active recreational experiences in social or solitary ways.
- Learn about or simply enjoy the diversity of the sites' natural resources.
- Learn about and contemplate the Battle of Fort Stevens and the important role that the Civil War defenses played in the war.
- Appreciate the vulnerability of the sites' natural and cultural resources to human activities inside and outside park boundaries, and actively participate in helping to preserve and protect park resources.
- Interact with park employees and/or volunteers who are courteous and knowledgeable.

The *Fort Circle Parks Final Management Plan* identifies zones to provide a specific management emphasis, as well as desired visitor experience, for each portion of the Fort Circle Parks. Alternative 1 is identified in the *Fort Circle Parks Final Management Plan* as part of the Natural Zone, which allows visitors to hike along trails. The scenic quality and natural sound are considered important. Alternative 2 (Preferred Alternative) is identified as a Recreation Zone, which encompasses active recreation, areas to passively watch the activities of others, and areas of relative quiet for community gardens. The *Fort Circle Parks Final Management Plan* states that community gardens would receive less noise than active recreation areas. The Blair Road Community Garden borders the Alternative 2 (Preferred Alternative) site to the north.

Neither memorial site alternative contains signage or other amenities indicating their inclusion in the Fort Circle Parks System. Approximately ten small concrete barriers are located on the



Figure 3-18: Fort Circle Parks Management Zones

Source: NPS, 2004

Preferred Alternative Site along the transition between the lawn space and the more densely-vegetated portion of the property.

Comments from residents of the neighborhood who attended the public scoping meeting for this EA indicate that the Alternative 1 site is used frequently for multi-purpose recreational activities, such as picnics and games. The greater presence of dense vegetation with less open grass, as well as the concrete barriers, on the Alternative 2 (Preferred Alternative) site limits its use by visitors. It is assumed that visitors to either site most frequently originate from the surrounding neighborhood, but may also include those from outside the neighborhood who pass by regularly on New Hampshire Avenue and have knowledge of the open space.

3.3 TRANSPORTATION RESOURCES

Vehicular Traffic

The potential sites for the proposed memorial are located on the east and north sides of intersection of New Hampshire and South Dakota Avenues. This area of Washington, D.C.'s Northeast quadrant is served by an extensive vehicular transportation network consisting of roads classified by the District Department of Transportation (DDOT) as principal arterial, minor arterial, collector, and local roads. Examples of each type of road in the vicinity of the project sites are presented in Table 3-1.

Table 3-1: DDOT Road Classifications

Road Classification	Road Name	General Location
Principal Arterial	New Hampshire Avenue	Between North Capitol Street NW and Eastern Avenue NE
	4th Street NE	South of Riggs Road NE
	Riggs Road NE	Between North Capitol Street NW and 4th Street NE
	Missouri Avenue NW	West of North Capitol Street NW
Minor Arterial	North Capitol Street NW/Blair Road NW	North of New Hampshire Avenue NE
	New Hampshire Avenue NW	West of North Capitol Street NW
	Kansas Avenue NW/NE	West of New Hampshire Avenue

Road Classification	Road Name	General Location
		NW/NE
	Riggs Road NE	West of 3rd Street NE/ 4th Street NE
	Eastern Avenue NE	Northeast of project sites
	North Capitol Street NE	North of Kansas Avenue NE
Collector	Blair Road NE	East of North Capitol Street NE
	3rd Street NE	North of Riggs Road NE
	Kennedy Street NW	West of North Capitol Street NW
	1st Place NE	Between Riggs Road NE and 4th Street NE
	3rd Street NW	North of Missouri Avenue NW
Local	South Dakota Avenue NE/1st Street NE	West and east of New Hampshire Avenue NE
	McDonald Place NE	West of New Hampshire Avenue NE
	Madison Street NW/NE	West and east of New Hampshire Avenue NE
	Longfellow Street NE	Between North Capitol Street NW and South Dakota Avenue/1st Street NE
Source: District of Columbia Functional Classification Map, 2011b		

Near the project sites, New Hampshire Avenue and North Capitol Street are two-way, four-lane roads that carry two lanes of traffic in each direction. South Dakota Avenue, 1st Street, Madison Street, and Blair Road are two-way, two-lane streets with one lane of traffic in each direction; however, the segment of Blair Road between Madison Street and North Capitol Street is one-way only in a northwesterly direction. South Dakota Avenue dead-ends approximately 400 feet northwest of its intersection with New Hampshire Avenue. McDonald Place is a single-lane, one-way street that conveys traffic west to east. Longfellow Street is a two-lane, two-way street between North Capitol Street and 1st Street.

Average annual daily traffic (AADT) volumes for selected roads in the vicinity of the project sites are presented in Table 3-2.

Table 3-2: Annual Average Daily Traffic Volumes

Road Name	Segment	AADT Volume	Road Classification
New Hampshire Avenue NE	North Capitol Street NW to Eastern Avenue NE	14,500	Principal Arterial
Eastern Avenue NE	Kansas Avenue NE to Sargent Road NE	14,300	Minor Arterial
North Capitol Street NW	Kansas Avenue to New Hampshire Avenue	20,100	Minor Arterial
Blair Road NE	North Capitol Street NW to Riggs Road NE	3,600	Collector
Riggs Road NE	Blair Road NE to 3rd Street NE/4th Street NE	28,800	Principal Arterial
Kennedy Street NW	New Hampshire Avenue NW to North Capitol Street NW	4,600	Collector
Missouri Avenue	New Hampshire Avenue NW to North Capitol Street NW	31,200	Principal Arterial
Source: DDOT, 2012			

Parking

Unrestricted on-street parking is available near the project sites along both sides of McDonald Place, South Dakota Avenue, 1st Street, Madison Street, and the majority of Longfellow Street. Parking is prohibited along the west (southbound) side of New Hampshire Avenue Monday through Friday between 7:00 a.m. and 9:30 a.m. and on the east (northbound) side between 4:00 and 6:30 p.m. Parking is prohibited at all times along North Capitol Street and most of Blair Road in the vicinity of the project sites. There are no off-street public parking lots or parking structures near the project sites.

Public Transportation

There are nine bus stops within a quarter-mile radius of the project sites. Five are located along North Capitol Street and Blair Road NW and are served by WMATA's K2 bus route, which runs between the Fort Totten and Takoma Metrorail stations and operates Monday through Friday from 5:58 a.m. to 7:16 p.m. Four stops along New Hampshire Avenue are serviced by the WMATA K6 bus route, which runs between the Fort Totten Metrorail Station and the White Oak Shopping Center in Prince George's County, Maryland. The K6 route operates Monday through Friday from approximately 5:00 a.m. to 12:20 p.m. and Saturdays and Sundays from approximately 6 a.m. to 1 a.m.

Fort Totten and Takoma are the closest Metrorail stations to the project sites. Both are served by Metrorail's Red line. Fort Totten is located approximately 0.6 mile to the southeast and Takoma is located about 1.23 miles to the northwest.

Pedestrian and Bicycle Connections, Safety, and Circulation

Sidewalks are located in the vicinity of the project sites along either side of McDonald Place, Madison Street, New Hampshire Avenue, and North Capitol Street. Unsignalized crosswalks are present on all four sides of the intersection of New Hampshire and South Dakota Avenues adjacent to the project sites. DDOT intends to make streetscape improvements to the segment of South Dakota Avenue northwest of its intersection with New Hampshire Avenue. The proposed improvements would include curb and gutter and sidewalks along both sides of the street, and would conform to current DDOT streetscape design standards.

There are no dedicated bike lanes along the roads in the project area, and traffic conditions for bicycling along New Hampshire Avenue in the vicinity of the project sites have been evaluated as poor by DDOT. Bicycling conditions on neighborhood streets in the project area are generally considered good or have not been evaluated (DDOT 2011a).

NPS has identified bicycle and pedestrian trails as part of the Civil War Defenses of Washington. Next to the project sites, South Dakota Avenue is considered a hiking and biking route, extending the biking route north through the community gardens and the hiking route east along McDonald Place. These are shown in Figure 3-19.

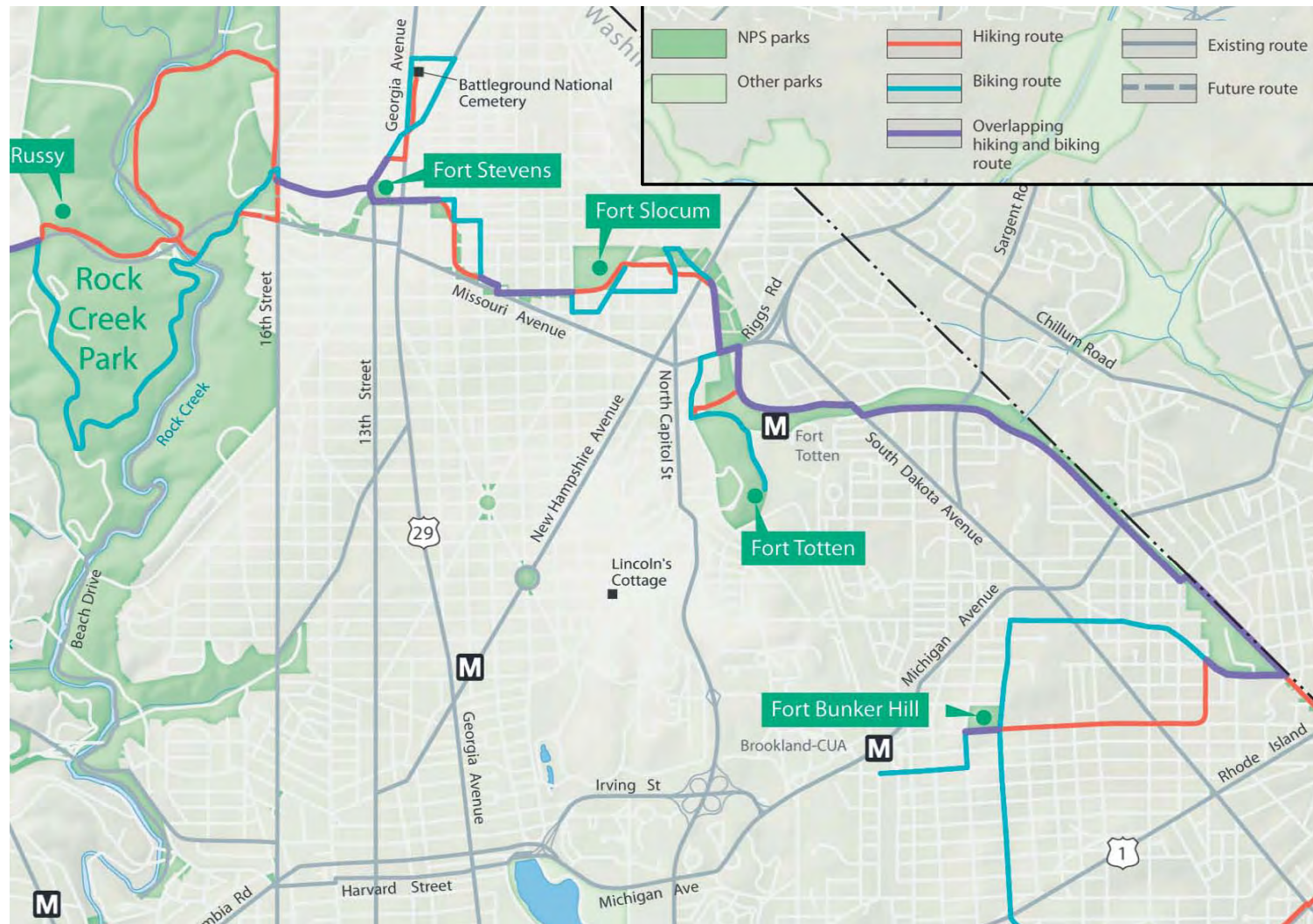


Figure 3-19: Map of NPS Civil War Defenses of Washington Trail System

Source: NPS

4.0 ENVIRONMENTAL CONSEQUENCES

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4.1 GENERAL METHODOLOGY FOR ESTABLISHING IMPACT THRESHOLDS AND MEASURING EFFECTS BY RESOURCE

This Environmental Consequences chapter analyzes both beneficial and adverse impacts that would result from implementing the alternatives considered in this EA. This chapter also includes definitions of impact thresholds (e.g., negligible, minor, moderate, and major), methods used to analyze impacts, and the analysis used for determining cumulative impacts. As required by CEQ regulations implementing NEPA, a summary of the environmental consequences for each alternative, which can be found in Section 2: Alternatives, is provided in Table 2-1. The resource topics presented in this chapter, and the organization of the topics, correspond to the resource discussions contained in Section 3: Affected Environment of this EA.

General Methodology for Establishing Impact Thresholds and Measuring Effects by Resources

The following elements were used in the general approach for establishing impact thresholds and measuring the effects of the alternatives on each resource category:

- General analysis methods as described in guiding regulations, including the context and duration of environmental effects;
- Basic assumptions used to formulate the specific methods used in this analysis;
- Thresholds used to define the level of impact resulting from each alternative;
- Methods used to evaluate the cumulative impacts of each alternative in combination with unrelated factors or actions affecting park resources; and
- Methods and thresholds used to determine if impairment of specific resources would occur under any alternative.

4.1.1 General Analysis Methods

The analysis of impacts follows CEQ guidelines and Director's Order 12 procedures (NPS 2001) and is based on the underlying goal of providing long-term protections, conservation, and restoration of native species and cultural landscapes. This analysis incorporates the best available scientific literature applicable to the region and setting, the species being evaluated, and the actions being considered in the alternatives.

As described in Section 1, NPS created an interdisciplinary science team to provide important input to the impact analysis. For each resource topic addressed in this chapter, the applicable analysis methods are discussed, including assumptions and impact intensity thresholds. Impacts described in this section are direct unless otherwise indicated.

4.1.2 Basic Assumptions

As stated above, the analysis of impacts follows CEQ guidelines and Director's Order 12 procedures (NPS 2001) and incorporates the best available scientific literature applicable. However, applicable literature is not always available. In such cases, analysis may require assumptions of specific conditions. Assumptions used for

analysis in this EA are identified and explained for each resource, as needed.

4.1.3 Impact Thresholds

Determining the impact thresholds is a key component in applying NPS *Management Policies* and Director's Order 12. These thresholds provide the reader with an idea of the intensity of a given impact on a specific resource. The impact threshold is determined primarily by comparing the effect to a relevant standard based on applicable or relevant/appropriate regulations or guidance, scientific literature and research, or best professional judgment. Because definitions of intensity vary by impact topic, intensity definitions are provided separately for each impact topic analyzed in this document. Intensity definitions are provided throughout the analysis for negligible, minor, moderate, and major impacts. In all cases, the impact thresholds are defined for adverse impacts. Beneficial impacts are addressed qualitatively.

Potential impacts of the action alternatives are described in terms of type (beneficial or adverse); context; duration (short-or long-term); and intensity (negligible, minor, moderate, and major). Definitions of these descriptors include:

Beneficial: A positive change in the condition or appearance of the resource or a change that moves the resource toward a desired condition.

Adverse: A change that declines, degrades, and/or moves the resource away from a desired condition or detracts from its appearance or condition.

Context: The affected environment within which an impact would occur, such as local, park-wide, regional, global, affected interest, society as a whole, or any combination of these. Context is variable and depends on the circumstances involved with each impact topic. As such, the impact analysis determines the context, not vice versa.

Duration: The duration of the impact is described as short-term or long-term. Duration is variable with each impact topic; therefore, definitions related to each impact topic are provided in the specific impact analysis narrative.

Intensity: Because definitions of impact intensity (negligible, minor, moderate, and major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed.

4.1.4 Cumulative Impacts Analysis Method

The CEQ regulations to implement NEPA require the assessment of cumulative impacts in the decision-making process for federal actions. Cumulative impacts are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions” (40 CFR 1508.7). As stated in the CEQ handbook, “Considering Cumulative Effects” (1997), cumulative impacts need to be analyzed in terms of the specific resource, ecosystem, and human community being affected and should focus on effects that are truly meaningful. Cumulative impacts are considered for all alternatives, including the No Action Alternative.

Cumulative impacts were determined by combining the impacts of the alternative being considered with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects and plans at Rock Creek Park and, if applicable, the surrounding area. Table 4-1 summarizes these actions that could affect the various resources at the site, along with the plans and policies of both the park and surrounding jurisdictions, which were discussed in Section 2. Additional explanation for most of these actions is provided in the narrative following the table.

The analysis for cumulative impacts was accomplished using four steps:

Step 1: Identify Resources Affected. Fully identify resources affected by any of the alternatives. These include the resources addressed as impact topics in Sections 3 and 4 of this document.

Step 2: Set Boundaries. Identify an appropriate spatial and temporal boundary for each resource. The temporal boundaries are noted at the top of Table 4-1, and the spatial boundary for each resource topic is listed under each topic.

Step 3: Identify Cumulative Action Scenario. Determine which past, present, and reasonably foreseeable future actions to include with each resource. These are listed in Table 4-1, described below, and illustrated in Figure 4-1.

Step 4: Cumulative Impact Analysis. Summarize the impacts of other actions, plus impacts of the proposed action to arrive at the total cumulative impact. This analysis is included for each resource in Section 4.

Table 4-1: Summary of Cumulative Projects

Impact Topic	Study Area	Present Actions	Future Actions
Cultural Resources: Archeological Resources	APE	Implementation of <i>Fort Circle Parks Final Management Plan</i>	The Hampshires, South Dakota Streetscape Improvements
Cultural Resources: Historic Resources	APE	Implementation of <i>Fort Circle Parks Final Management Plan</i>	The Hampshires, South Dakota Streetscape Improvements
Cultural Resources: Cultural Landscapes	APE	Implementation of <i>Fort Circle Parks Final Management Plan</i>	The Hampshires, South Dakota Streetscape Improvements
Visitor Use and Experience	Fort Circle Parks	Implementation of <i>Fort Circle Parks Final Management Plan</i>	The Hampshires, South Dakota Streetscape Improvements
Transportation	One-half mile of site	Implementation of <i>Fort Circle Parks Final Management Plan</i>	The Hampshires, South Dakota Streetscape Improvements

Descriptions of Cumulative Projects

South Dakota Avenue Streetscape and Roadway Improvements

The District proposes to improve the portion of South Dakota Avenue between (north of) New Hampshire Avenue and the Blair Road Community Garden. The improvements would include the repaving of the roadway, the construction of sidewalks, and installation of street lights.

The Hampshires Development

Comstock Homes is constructing 169 residential units at 6000 New Hampshire Avenue, NE. The Hampshires, as the development is known, will include upon completion 38 detached single-family homes, 73 townhouses, and 58 condominium apartments containing a combined 369,684 square feet of floor area. The project will provide community green space, recreation facilities, 268 on-site parking spaces and 70 additional parking spaces on private streets.

Fort Circle Parks Final Management Plan

In 2004, the NPS adopted the Fort Circle Parks Final Management Plan (FMP), which focuses on managing cultural and natural resources, visitor use, recreation, interpretation, and education. The Fort Circle Parks FMP calls for a new trail connecting the historic earthworks and linking most of the fort sites. Interpretation would also be incorporated in the trail system. Site furnishings throughout the project area would be refurbished and reconfigured.

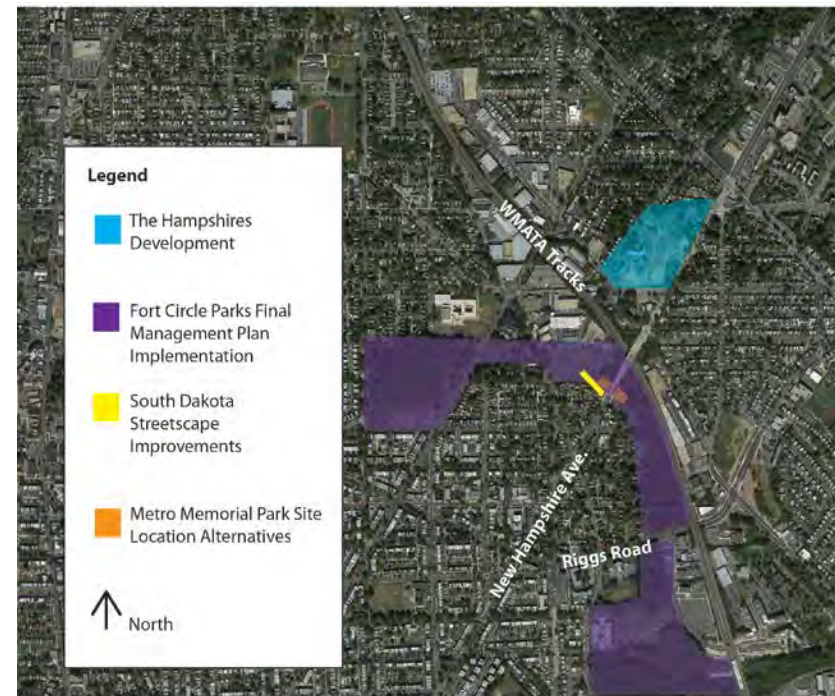


Figure 4-1: Location of Cumulative Projects

Source: AECOM, 2013

4.2 CULTURAL RESOURCES

4.2.1 Archeological Resources

As archeological resources exist essentially in subsurface contexts, potential impacts are assessed according to the extent to which the proposed alternatives would involve ground disturbing activities such as excavation or grading. Potential effects to historical archeological resources are assumed to be local to the Washington, DC area, unless identified as regional within the analysis. Potential effects to prehistoric archeological resources are assumed to have regional impacts, unless otherwise identified in the analysis in this document.

Study Area

The APE for archeological resources is the approximately 10,000 square foot memorial site alternatives, as defined in Figure 3-1 (also illustrated to the right). Alternative 1 represents the site east of the intersection of New Hampshire and South Dakota Avenues, while Alternative 2 (Preferred Alternative) represents the site north of this intersection.

Impact Thresholds

A proposed alternative is considered to have an impact on archeological resources when it results in the whole or partial destruction of the resource. The impact thresholds for archeological resources outlined here take into account both the degree to which the alternative has the potential to destroy an archeological resource and the degree to which the losses could be mitigated



through strategies such as archeological data recovery or preservation in place.

Under Section 106 of the National Historic Preservation Act (NHPA), an undertaking must be evaluated for its effects on resources eligible for listing on the National Register of Historic Places (NRHP). Resources can meet four eligibility criteria, and must also be found to have sufficient integrity. No archeological resources have been identified within the project area to date. The impacts discussion is therefore based on a preliminary assessment of archeological potential and not on known archeological resources.

- *Negligible.* The impact is barely measurable, with no perceptible adverse or beneficial consequences. Under Section 106, this would be considered *no adverse effect*.
- *Minor.* A minor adverse impact on archeological sites with the potential to yield important information in prehistory or history is detectable and measurable, but does not diminish the overall integrity of the resource. For purposes of Section 106, a determination of minor impact would be considered *no adverse effect*.
- *Moderate.* A moderate adverse impact is sufficient to cause a noticeable change, substantially affecting archeological sites with the potential to yield information, even if most of the resource can be avoided, and resulting in loss of overall integrity. For purposes of Section 106, a determination of moderate impact would be considered an *adverse effect*.
- *Major.* A major adverse impact consists of highly noticeable disturbance, degradation, or destruction of an archeological resource that results in the loss of most or all of the site and its potential to yield important information. For the purposes of Section 106, a determination of major impact would be considered an *adverse effect*.
- *Beneficial Impacts.* The site would be actively stabilized or preserved in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* to accurately depict its form, features, and character as it appeared during its period of significance. For purposes of

Section 106, the determination of effect would be no adverse effect.

- *Duration.* All impacts to archeological resources are considered to be long-term since they result in the loss of non-renewable cultural resources.

Archeological Impacts of No Action Alternative

Under the No Action Alternative, there would be no ground-disturbing activities on the site as the Metro Memorial would not be constructed. Thus, there would be no direct or indirect impacts to archeological resources and there would be no adverse effect under Section 106.

Cumulative Impacts

With no ground-disturbing activities on the site under the No Action Alternative, there would be no cumulative impacts to archeological resources.

Conclusion

Under the No Action Alternative, there would be no ground-disturbing activities on the site as the memorial would not be constructed. Thus, there would be no direct, indirect, or cumulative impacts to archeological resources and no adverse effect under Section 106.

Archeological Impacts of Alternative 1

Under Alternative 1, installation of the Memorial east of the intersection of New Hampshire and South Dakota Avenues would require extensive excavation into the surface and into subsoil. In total, an area of approximately 5,000 to 10,000 square feet would be excavated with a maximum depth of five feet.

As part of the mitigation measures for visitor use, the District would provide a water connection to the Blair Road Community Garden. The water line would be placed within the right-of-way, in

previously disturbed areas to the extent possible, at the edge of the garden.

Because Civil War era trenches and other defenses were in place in the vicinity of the project area, as well as encampments of soldiers assigned to the Defenses at Fort Slocum, the possibility of identifying features or recovering artifacts related to this period exists. Due to the close proximity to a water source, an unnamed tributary to the east, there is a reasonable probability that prehistoric use of the area may be identified as well.

Observations made during a field visit suggest that some disturbance has occurred at the project site as a result of the construction of the two intersecting streets. However, historic research indicates that the potential still exists for intact resources to remain in place beyond the immediate vicinity of the intersection. There is some potential for prehistoric resources but the primary likelihood is that historic archeological resources related to the Civil War activity, and domestic sites of the 19th century, may be preserved beneath the surface at the two alternative project areas. As a result, Alternative 1 could result in moderate adverse impacts on archeological resources.

Mitigation

Additional mitigation for impacts on archeological resources may be determined during the Section 106 consultation process. Mitigation measures that have been identified in the Section 106 process include the development of a Phase 1 archeological study.

If during construction, archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources can be identified and documented and an

appropriate mitigation strategy developed. If necessary, consultation with the DC Historic Preservation Officer, NPS, and/or the NPS Regional Archeologist will be coordinated to ensure that the protection of resources is addressed. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed.

Cumulative Impacts

Potential impact from the implementation of the Fort Circle Parks GMP could result in the loss of further archeological resources related to the Civil War Defenses of Washington through the establishment of trails and educational facilities. However, such activities would be required to consult with the SHPO through the Section 106 process, and it is assumed that mitigation, if necessary, would occur. Disturbance of archeological remains could occur through the implementation of roadway and streetscape improvements to South Dakota Avenue, given the proximity to the Civil War Defenses. The Hampshires development would not result in impacts on historic resources within the APE. As a result, these projects could result in moderate adverse impacts on archeological resources.

As mentioned above, Alternative 1 could result in moderate adverse impacts on archeological resources. When combined with the cumulative projects described above, Alternative 1 could result in moderate adverse impacts on archeological resources.

Conclusion

The potential for archeological resources exists within the Alternative 1 memorial site. As a result of the excavation necessary for the memorial, there could be long-term moderate adverse impacts on archeological resources. When combined with the cumulative projects, there could be moderate adverse impacts.

Archeological Impacts of Alternative 2 (Preferred Alternative)

Under Alternative 2, installation of the Memorial north of the intersection of New Hampshire and South Dakota Avenues would require extensive excavation into the surface and into subsoil. In total, an area of approximately 5,000 to 10,000 square feet would be excavated to a maximum depth of five feet. As part of the mitigation measures for visitor use, the District would provide a water connection to the Blair Road Community Garden. The water line would be placed within the right of way, in previously disturbed areas to the extent possible, to the edge of the garden.

Because the Alternative 2 site is also in the vicinity of Fort Slocum, the impacts on archeological resources would be similar to those in Alternative 1. Due to the proximity of Fort Slocum, the possibility of identifying features or recovering artifacts related to this period exists. Due to the close proximity to a water source, an unnamed tributary to the east, there is a reasonable probability that prehistoric use of the area may be identified as well.

Observations made during a field visit suggest that some disturbance has occurred at the project site as a result of the construction of the two intersecting streets. However, historic research indicates that the potential still exists for intact resources to remain in place beyond the immediate vicinity of the intersection. There is some potential for prehistoric resources but the primary likelihood is that historic archeological resources related to the Civil War activity, and domestic sites of the 19th century, may be preserved beneath the surface at the project area. As a result, Alternative 2 could result in moderate adverse impacts on archeological resources.

Mitigation

Mitigation under Alternative 2 would be the same as under Alternative 1. Additional mitigation for impacts on archeological resources may be determined during the Section 106 consultation process. Mitigation measures that have been identified in the Section 106 process include the development of a Phase 1 archeological study.

If during construction, archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources can be identified and documented and an appropriate mitigation strategy developed. If necessary, consultation with the DC Historic Preservation Officer, NPS, and/or the NPS Regional Archeologist will be coordinated to ensure that the protection of resources is addressed. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed.

Cumulative Impacts

Because the affected sites are in such proximity and have similar histories, the impacts of cumulative projects under Alternative 2 could be moderate, the same as under Alternative 1. Alternative 2 could result in moderate adverse impacts on archeological resources. When combined with the cumulative projects described above, Alternative 2 could result in moderate adverse impacts on archeological resources.

Conclusion

The potential for archeological resources exists within the Alternative 2 memorial site. As a result of the excavation necessary for the memorial, there could be long-term moderate adverse impacts on archeological resources. When combined with the cumulative projects, there could be moderate adverse impacts.

4.2.2 Historic Resources

Methodology and Assumptions

Historic resources located within the APE that are listed in, or potentially eligible for listing in, the NRHP were identified as part of this study through the Section 106 process. For each of the alternatives, a determination was made regarding possible adverse effects under Section 106 and these determinations correlate to the NEPA impacts as indicated in the impact thresholds below.

A range of sources were used in analyzing the impacts to these resources, including National Register nominations, historic maps, and field surveys.

Study Area

The study area for historic resources is the Secondary APE, as delineated in Figure 3-1 (and repeated below). The area is bound the Fort Circle Parks boundary to the north, the WMATA Metrorail Red Line tracks to the east, Riggs Road to the south, and Blair Road to the west.



Impact Thresholds

The impact thresholds for historic resources are described in the following categories:

- Negligible.** The impact does not result in any noticeable changes to the resource or its visual context. For the purposes of Section 106, a determination of negligible impact would be considered *no adverse effect*.
- Minor.** A minor adverse impact occurs when there are noticeable changes to the resource or its context, but these changes do not affect the resource's character-defining features or integrity. For the purposes of Section 106, a
 - determination of minor impact would be considered *no adverse effect*.
- Moderate.** A moderate adverse impact results in a change to one or more of the resource's character-defining features, but would not diminish the integrity of the resource to the extent that its NRHP eligibility would be lost. For the purposes of Section 106, a moderate impact would be an *adverse effect*.
- Major.** A major adverse impact results in substantial and highly noticeable changes to character-defining features such that the integrity of the resource would be compromised to the extent that it may no longer be eligible for listing in the National Register. For the purposes of Section 106, a major impact would be an *adverse effect*.
- Beneficial:** A beneficial impact would improve or increase character-defining features or would reduce features that impede character-defining features. For purposes of Section 106, the determination of effect would be *no adverse effect*.
- Duration:** Short-term impacts would occur and last through the construction period. Long-term impacts would extend beyond the construction period.

Historic Resources Impacts of No Action Alternative

Under the No Action Alternative, no changes would be made to the memorial sites under consideration. The existing trees and open space would remain. There would be no change to the historic resource, the Fort Circle Parks/Civil War Defenses of Washington, within the APE. As a result, there would be no impacts on historic resources and no adverse effect under Section 106.

Cumulative Impacts

Because there would be no impacts on historic resources under the No Action Alternative, there would be no cumulative impacts.

Conclusion

Under the No Action Alternative, no changes would be made to the project site. The historic resources located within the APE, the Fort Circle Parks/Civil War Defenses of Washington, would remain unchanged. Thus, there would be no impacts on historic resources under the No Action Alternative and no adverse effect under Section 106.

Historic Resources Impacts of Alternative 1

During the construction of the memorial under Alternative 1, the use of the adjacent parkland for recreation would be diminished due to staging of the construction and noise. Staging for the construction could include the temporary use of adjacent parkland, thereby removing the area available for recreation purposes. Similarly, noise generated by the construction would make the area less attractive for recreation uses. As a result, there would be short-term minor adverse impacts on the Fort Circle Park System/Civil War Defenses of Washington.

Alternative 1 would remove approximately 10,000 square feet of land within the Fort Circle Park System/Civil War Defenses of Washington from NPS jurisdiction in order to establish a memorial. The Alternative 1 memorial site is not located on a Civil War fort site, but is instead part of the properties that connect the Civil War forts in a continuous park. The transfer would alter the recreational use of the site from active recreation to a commemorative feature. Additionally, the site is located in an area identified in the *Fort Circle Parks Final Management Plan* as a Natural Resource Zone. However, the remaining adjacent parklands would continue to connect the forts and remain a contiguous park system. The specific design would determine the size and elements of the memorial.

Under Alternative 1, no direct impacts would occur to the Civil War forts. Due to its location, changes to the memorial site under Alternative 1 would not alter the setting of Fort Slocum, which is identified in the National Register of Historic Places nomination. However, Alternative 1 would introduce a new element into this connector piece which was purchased as part of the planning effort for Fort Drive. Because the *Fort Circle Parks Final Management Plan*

states that orientation structures are appropriate, while other structures would be appropriate only if they preserve cultural or natural resources, the location of a memorial within the Natural Resources Zone would not be consistent with the *Fort Circle Parks Final Management Plan*. Due to the alteration of the park system, there would be long-term minor adverse impacts on historic resources. There would be *no adverse effect* under Section 106.

Mitigation

Mitigation measures for historic resources may be determined during the Section 106 consultation process. If the project is determined to have an adverse effect, the District, NPS, NCPC, DC SHPO, and ACHP would develop a memorandum of agreement to mitigate adverse impacts to cultural resources. Potential mitigation measures that could be identified in the Section 106 process include:

- The District and NPS would develop an interpretive feature for the memorial site, or adjacent land, to educate visitors about the Fort Circle Park System/Civil War Defenses of Washington. Such a feature could include development of a smartphone app for visitors in addition to or in lieu of a physical sign or other structure adjacent to the memorial.
- Development of cultural landscape inventories focusing on individual/distinct Fort Circle Park System/Civil War Defenses of Washington sites (inventories for Battleground National Cemetery and Fort Stevens have already been completed).

Cumulative Impacts

The District's proposal to improve South Dakota Avenue between New Hampshire Avenue and the Civil War Defenses of Washington/Fort Circle Parks would repave the existing roadway and add sidewalks and lighting. These measures would be consistent with streetscapes in the vicinity, and would not alter the contributing features of the Fort Circle Park System/Civil War Defenses of Washington. As a result, these road improvements would result in negligible impacts on the Fort Circle Park System/Civil War Defenses of Washington. The Hampshires development would not result in impacts on historic resources within the APE.

The transfer of jurisdiction and subsequent establishment of a memorial under Alternative 1 would result in short- and long-term minor adverse impacts on the Fort Circle Park System/Civil War Defenses of Washington due to changes in recreational use. When combined with the South Dakota Avenue road improvements, the project would result in short- and long-term minor cumulative impacts.

Conclusion

Alternative 1 would remove approximately 10,000 square feet of the Fort Circle Park System/Civil War Defenses of Washington from NPS jurisdiction and establish a memorial at east of the New Hampshire and South Dakota Avenues intersection. These actions would alter the recreational land use, resulting in long-term minor adverse impacts on historic resources. Construction staging could temporarily reduce the recreational use of adjacent parkland, result in short-term minor adverse impacts on historic resources. In

combination with cumulative projects, there would be short- and long-term minor adverse cumulative impacts.

Historic Resources Impacts of Alternative 2 (Preferred Alternative)

During the construction of the memorial under Alternative 2, the use of the adjacent parkland for recreation would be diminished due to staging of the construction and noise. Staging for the construction could include the temporary use of adjacent parkland, thereby removing the area available for recreation purposes. Similarly, noise generated by the construction would make the area less attractive for recreation uses. As a result, there would be short-term minor adverse impacts on the Fort Circle Park System/Civil War Defenses of Washington.

Alternative 2 would remove approximately 10,000 square feet of land within the Fort Circle Park System/Civil War Defenses of Washington from NPS jurisdiction in order to establish a memorial. The Alternative 2 memorial site is not located on a Civil War fort site, but is instead part of the properties that connect the Civil War forts in a continuous park. Additionally, the site is located in an area identified in the *Fort Circle Parks Final Management Plan* as a Recreation Zone. The transfer would alter the recreational use of the site from multi-purpose recreation to a commemorative feature. However, the remaining adjacent parklands would continue to connect the forts and remain a contiguous park system.

Under Alternative 2, no direct impacts would occur to the Civil War forts. Due to its location, changes to the memorial site under Alternative 2 would not alter the views and vistas from Fort Slocum, which is identified in the National Register of Historic Places nomination. Because the *Fort Circle Parks Final Management Plan* states that facilities will be highly specialized and designed for high use, the establishment of the memorial at the Alternative 2 site

would be consistent with the Recreation Zone. Due to the alteration of the park system, there would be long-term minor adverse impacts on historic resources. There would be *no adverse effect* under Section 106.

Mitigation

Under Alternative 2, the mitigation measures would be the same as under Alternative 1, and would be determined during the Section 106 consultation process. If the project is determined to have an adverse effect, the District, NPS, NCPC, DC SHPO, and ACHP would develop a memorandum of agreement to mitigate adverse impacts to cultural resources. Potential mitigation measures that could be identified in the Section 106 process include:

- The District and NPS would develop an interpretive feature for the memorial site, or adjacent land, to educate visitors about the Fort Circle Park System/Civil War Defenses of Washington. Such a feature could include development of a smartphone app for visitors in addition to or in lieu of a physical sign or other structure adjacent to the memorial.
- Development of cultural landscape inventories focusing on individual/distinct Fort Circle Park System/Civil War Defenses of Washington sites (inventories for Battleground National Cemetery and Fort Stevens have already been completed).

Cumulative Impacts

The District of Columbia's proposal to improve South Dakota Avenue between New Hampshire Avenue and the Civil War Defenses of Washington/Fort Circle Parks would repave the existing

roadway and add sidewalks and lighting. These measures would be consistent with streetscapes in the vicinity, and would not alter the contributing features of the Fort Circle Park System/Civil War Defenses of Washington. As a result, these road improvements would result in negligible impacts on the Fort Circle Park System/Civil War Defenses of Washington. The Hampshires development would not result in impacts on historic resources within the APE.

The transfer of jurisdiction and subsequent establishment of a memorial under Alternative 2 would result in short- and long-term minor adverse impacts on the Fort Circle Park System/Civil War Defenses of Washington due to changes in recreational use. When combined with the South Dakota Avenue road improvements, the project would result in short- and long-term minor cumulative impacts.

Conclusion

The transfer of jurisdiction and subsequent establishment of a memorial under Alternative 2 would result in short- and long-term minor adverse impacts on the Fort Circle Park System/Civil War Defenses of Washington due to changes in recreational use. When combined with the South Dakota Avenue road improvements, the project would result in short- and long-term minor cumulative impacts.

not diminish the integrity of a character-defining feature(s) or the overall integrity of the landscape. For purposes of Section 106, the determination of effect would be *no adverse effect*.

- *Moderate*: The impact would alter a character-defining feature(s) of the cultural landscape and diminish the integrity of that feature(s) of the landscape. For purposes of Section 106, the determination of effect would be *adverse effect*.
- *Major*: The impact would alter character-defining feature(s) of the cultural landscape and severely diminish the integrity of that feature(s) and the overall integrity of the historic property. For purposes of Section 106, the determination of effect would be *adverse effect*.
- *Beneficial*: A beneficial impact would improve or increase character-defining features or would reduce features that impede character-defining features. For the purposes of Section 106, the determination of effect would be *no adverse effect*.
- *Duration*: Short-term impacts would occur and last through the construction period. Long-term impacts would extend beyond the construction period.

Cultural Landscape Impacts of No Action Alternative

Under the No Action Alternative, no changes would be made to the memorial site alternatives. The existing trees and open space would remain. There would be no change to the cultural landscape located within the APE, the Civil War Defenses of Washington, as a result of the No Action Alternative. Thus, there would be no adverse effect under Section 106.

Cumulative Impacts

Because there would be no impacts on cultural landscapes under the No Action Alternative, there would be no cumulative impacts.

Conclusion

Under the No Action Alternative, no changes would be made to the project site. The cultural landscape located within the APE, the Civil War Defenses of Washington, would not change as a result of the No Action Alternative. Thus, there would be no adverse effect under Section 106.

Cultural Landscapes Impacts of Alternative 1

During the construction of the memorial under Alternative 1, the use of the adjacent parkland for recreation would be diminished due to staging of the construction and noise. Staging for the construction could include the temporary use of adjacent parkland, thereby removing the area available for recreation purposes. Similarly, noise generated by the construction would make the area less attractive for recreation uses. As a result, there would be short-term minor adverse impacts on the Civil War Defenses of Washington cultural landscape.

Alternative 1 would change the circulation patterns exhibited by the Civil War Defenses of Washington cultural landscape by removing from NPS jurisdiction a portion of land east of the intersection of New Hampshire and South Dakota Avenues that comprises the land connecting the forts and establishing a memorial. Although the approximately 10,000 square foot site would be removed from NPS jurisdiction, the remaining portion of the Civil War Defenses of Washington would continue to link the forts.

Alternative 1 would alter the recreational use of the Civil War Defenses of Washington cultural landscape by adding a commemorative element to an area primarily used for multi-purpose recreation. Alternative 1 would replace 10,000 square feet of open space in an area identified in the *Fort Circle Parks Final Management Plan* as a Natural Resource Zone with a landscaped memorial, plaza, and sculptural element. Recreation would continue to occur on adjacent parkland not included in the transfer of jurisdiction. The use of the Alternative 1 site as a memorial would not be inconsistent with the overall educational, recreational, and special event uses of the Civil War Defenses of Washington

cultural landscape. However, placement of the memorial and its associated infrastructure at this site would not be consistent with the area's designation as a Natural Resource Zone.

Alternative 1 would not alter the patterns of spatial organization, the response to the natural environment, topography, views and vistas, archeology, and structures that are contributing features of the Civil War Defenses of Washington cultural landscape. Overall, as a result of Alternative 1, there would be long-term minor adverse impacts on the Civil War Defenses of Washington cultural landscape. There would be *no adverse effect under Section 106*.

Mitigation

Mitigation measures for cultural landscapes may be determined during the Section 106 consultation process. If the project is determined to have an adverse effect, the District, NPS, NCPC, DC SHPO, and ACHP would develop a memorandum of agreement to mitigate adverse impacts to cultural resources. Potential mitigation measures that could be identified in the Section 106 process include:

- The District and NPS would develop an interpretive feature for the memorial site, or adjacent land, to educate visitors about the Fort Circle Park System/Civil War Defenses of Washington. Such a feature could include development of a smartphone app for visitors in addition to or in lieu of a physical sign or other structure adjacent to the memorial.
- Development of cultural landscape inventories focusing on individual/distinct Fort Circle Park System/Civil War Defenses of Washington sites (inventories for Battleground

National Cemetery and Fort Stevens have already been completed).

Cumulative Impacts

The District of Columbia's proposal to improve South Dakota Avenue between New Hampshire Avenue and the Civil War Defenses of Washington/Fort Circle Parks would repave the existing roadway and add sidewalks and lighting. These measures would be consistent with streetscapes in the vicinity, and would not alter the contributing features of the Civil War Defenses of Washington. As a result, these road improvements would result in negligible impacts on the Civil War Defenses of Washington. The Hampshires development would not result in impacts on cultural landscapes within the APE.

The transfer of jurisdiction and subsequent establishment of a memorial under Alternative 1 would result in short- and long-term minor adverse impacts on the Civil War Defenses of Washington cultural landscape due to changes to circulation patterns and land use. When combined with the South Dakota Avenue road improvements, the project would result in short- and long-term minor cumulative adverse impacts.

Conclusion

Alternative 1 would remove approximately 10,000 square feet of the Civil War Defenses of Washington cultural landscape from NPS jurisdiction and establish a memorial east of the New Hampshire and South Dakota Avenues intersection. These actions would alter the circulation patterns and land use of the cultural landscape, resulting in long-term minor adverse impacts on cultural landscapes. Construction staging could temporarily reduce the

recreational use of adjacent parkland, result in short-term minor adverse impacts on cultural landscapes. In combination with cumulative projects, there would be short- and long-term minor to moderate cumulative impacts.

Cultural Landscapes Impacts of Alternative 2 (Preferred Alternative)

During the construction of the memorial under Alternative 2, staging for the construction would occur on the site, but could include the temporary use of adjacent parkland, thereby removing the area available for recreation purposes. Similarly, noise generated by the construction would make the area less attractive for recreation uses. As a result, there would be short-term moderate adverse impacts on the Civil War Defenses of Washington cultural landscape.

Alternative 2 would change the circulation patterns exhibited by the Civil War Defenses of Washington cultural landscape by removing from NPS jurisdiction a portion of land north of the intersection of New Hampshire and South Dakota Avenues that comprises the land connecting the forts and establishing a memorial. Although the approximately 10,000 square feet site would be removed from NPS jurisdiction, the remaining portion of the Civil War Defenses of Washington would continue to link the forts.

Alternative 2 would alter the recreational use of the Civil War Defenses of Washington cultural landscape by adding a commemorative element to an area that functions as open space available for recreation. Alternative 2 would replace 10,000 square feet of grass and wooded open space in an area identified in the *Fort Circle Parks Final Management Plan* as a Recreation Zone with a landscaped memorial, plaza, and sculptural element. Recreation would continue to occur on adjacent parkland not included in the transfer of jurisdiction, including the community gardens northeast of the Alternative 2 memorial site. The use of the Alternative 2 site as a memorial would not be inconsistent with the overall

educational, recreational, and special event uses of the Civil War Defenses of Washington cultural landscape, nor would it be inconsistent with the area's designation as a Recreation Zone.

Alternative 2 would not alter the patterns of spatial organization, the response to the natural environment, topography, views and vistas, archeology, and structures that are contributing elements of the Civil War Defenses of Washington cultural landscape. Overall, as a result of Alternative 2, there would be minor impacts on the Civil War Defenses of Washington cultural landscape. There would be *no adverse effect under Section 106*.

Mitigation

Under Alternative 2, the mitigation measures would be the same as under Alternative 1, and would be determined during the Section 106 consultation process. If the project is determined to have an adverse effect, the District, NPS, NCPC, DC SHPO, and ACHP would develop a memorandum of agreement to mitigate adverse impacts to cultural resources. Potential mitigation measures that could be identified in the Section 106 process include:

- The District and NPS would develop an interpretive feature for the memorial site, or adjacent land, to educate visitors about the Fort Circle Park System/Civil War Defenses of Washington. Such a feature could include development of a smartphone app for visitors in addition to or in lieu of a physical sign or other structure adjacent to the memorial.
- Development of cultural landscape inventories focusing on individual/distinct Fort Circle Park System/Civil War Defenses of Washington sites (inventories for Battleground

National Cemetery and Fort Stevens have already been completed).

Cumulative Impacts

The cumulative projects under Alternative 2 would be the same as those described above under Alternative 1, resulting in negligible impacts on the Civil War Defenses of Washington cultural landscape. As described above, the transfer of jurisdiction and subsequent establishment of a memorial under Alternative 2 would result in short-term moderate and long-term minor adverse impacts on the Civil War Defenses of Washington cultural landscape due to changes to circulation patterns and land use. The Hampshires development would not result in impacts on cultural landscapes within the APE. When combined with the South Dakota Avenue road improvements, the project would result in short-term moderate and long-term minor cumulative impacts.

Conclusion

Alternative 2 would remove approximately 10,000 square feet of the Civil War Defenses of Washington cultural landscape from NPS jurisdiction and establish a memorial east of the New Hampshire and South Dakota Avenues intersection. These actions would alter the circulation patterns and land use of the cultural landscape, resulting in long-term minor adverse impacts on cultural landscapes. Construction staging could temporarily reduce the recreational use of adjacent parkland, result in short-term moderate adverse impacts on cultural landscapes. In combination with cumulative projects, there would be short- and long-term minor adverse cumulative impacts on the Civil War Defenses of Washington cultural landscape.

4.3 VISITOR USE AND EXPERIENCE

Methodology and Assumptions

This analysis considered the current uses of the proposed memorial sites and the potential effects on the visitor experience resulting from the construction of the memorial on those sites. The memorial could affect the activities and the type of visitor experience and use/visitation at the project site and the surrounding area.

The District anticipates that the primary visitors to the memorial would be relatives and close friends of the victims who died in the June 22, 2009 Metrorail crash. Occasional events, such as commemorations of the accident's anniversary and victims' birthdays and wedding anniversaries, would also occur at the site. The estimation of attendees is based upon previous commemoration events held by the District, WMATA, and the victims' families at other locations. See Section 4.4 for detailed calculations of attendees.

Study Area

The study area for visitor use and experience are the project sites and the adjacent NPS-managed Fort Circle Parks System properties.

Impact Thresholds

The following thresholds were used to determine the magnitude of impacts on visitor use and experience:

Negligible: Visitors would likely be unaware of any effects associated with implementation of the alternative. There would be no noticeable change in visitor use and experience

or in any defined indicators of visitor satisfaction or behavior.

Minor. Changes in visitor use and/or experience would be slight and detectable but would not appreciably limit critical characteristics of the visitor experience. Visitor satisfaction would remain stable.

Moderate. A few critical characteristics of the desired visitor experience would change and/or the number of participants engaging in a specified activity would be altered. Some visitors who desire their continued use and enjoyment of the activity/visitor experience might pursue their choices in other available local or regional areas. Visitor satisfaction would begin to decline.

Major. Multiple critical characteristics of the desired visitor experience would change and/or the number of participants engaging in an activity would be greatly reduced or increased. Visitors who desire their continued use and enjoyment of the activity/visitor experience would be required to pursue their choices in other available local or regional areas. Visitor satisfaction would markedly decline.

Beneficial. Characteristics of the desired visitor experience would improve and/or the number of participants engaging in an activity would increase. Visitor satisfaction would increase.

Duration. Short term impacts would occur during the time of construction and the first year of operation. Long-term impacts would last beyond the first year of operation.

Visitor Use and Experience Impacts of No Action Alternative

Under the No Action Alternative, the proposed memorial sites would remain in their current condition. Visitors would continue to use them for recreational activities, such as watching games or picnicking. Thus, the No Action Alternative would have no impacts on visitor use and experience at either site.

Mitigation

No mitigation would be necessary under the No Action Alternative because there would be no impacts.

Cumulative Impacts

Because there would be no impacts on visitor use and experience under the No Action Alternative, there would be no cumulative impacts.

Conclusion

Under the No Action Alternative the project sites would remain under the jurisdiction of the NPS and would continue to be used for recreation. There would be no impacts on visitor use and experience at the sites.

Visitor Use and Experience Impacts of Alternative 1

Visitor access to the site for recreational activities would be restricted in the short term during construction of the memorial. However, visitors would still have access to the adjacent area of open space as well as the area north of the intersection of New Hampshire and South Dakota Avenues for such activities. Construction noise, although within the regulatory limits, would disturb the quieter setting of the Blair Road Community Gardens and its solitary visitor experience. Thus, short-term adverse impacts on visitor use and experience at the Alternative 1 site would be moderate.

The establishment of the memorial at the Alternative 1 site would replace an area of maintained lawn and some landscape trees with a memorial that would include formal landscaping, a paved plaza, and a sculptural element. The site would no longer be available for multi-purpose recreational activities but would instead be a place for commemoration. Installation of the memorial in this location would also remove from NPS jurisdiction a portion of land that comprises the Fort Circle Park System. However, the use of the Alternative 1 site as a memorial would not be inconsistent with the overall educational, recreational, and special event uses of the Civil War Defenses of Washington cultural landscape, and the adjacent and nearby elements of the Fort Circle Park System would remain accessible to visitors. Construction of the memorial at the Alternative 1 site would result in long-term beneficial impacts for the families and friends of victims of the Metrorail accident by providing them with a permanent place for memorializing those who were killed and injured. Conversely, the memorial would have long-term adverse impacts on visitors wishing to use the site for recreational activities or to appreciate and understand its role as part of the Civil War-era defense of Washington, D.C. Due to its

commemorative nature, the memorial would not generate levels of noise that would disturb the solitary experience of the Blair Road Community Garden. Overall, because areas for multi-purpose recreation and portions of the Fort Circle Parks System would remain available nearby, those impacts would be minor.

Mitigation

To mitigate adverse impacts on visitor use and experience under Alternative 1 resulting from a change in recreation opportunities, the District would extend water lines to the Blair Road Community Garden as part of the proposed South Dakota Avenue streetscape improvements.

Cumulative Impacts

Cumulative projects under Alternative 1 would consist of the South Dakota Avenue Streetscape and Roadway Improvements and the *Fort Circle Parks Final Management Plan*. They would enhance the use and experience of visitors to the memorial by improving access to the site and by providing signage and other visitor amenities. Thus, when combined with the effects of Alternative 1, impacts resulting from the cumulative projects would be minor and adverse.

Conclusion

Alternative 1 would have short-term moderate adverse impacts on the use and experience of visitors to the project site and the Blair Road Community Garden. In the long term, the project would have beneficial impacts on visitors wishing to pay tribute to victims of the Metrorail crash by providing them with a permanent memorial to those killed and injured in the accident. Overall, the installation of the memorial under Alternative 2 would also have minor adverse impacts on visitors wanting to use the site for multi-purpose

recreational activities or learning about the site's role in the Civil War-era defense of Washington. Cumulative projects would have minor adverse long-term impacts on visitors to the area.

Visitor Use and Experience Impacts of Alternative 2 (Preferred Alternative)

In the short term, visitors would be unable to access the site for recreational activities during construction of the memorial. Visitors would still have access to the nearby area of open space east of the intersection of New Hampshire and South Dakota Avenues for such activities. Construction noise, although within the regulatory limits, would disturb the quieter setting of the Blair Road Community Gardens and its solitary visitor experience. Short-term adverse impacts on visitor use and experience at the Alternative 2 site would be moderate.

The installation of the memorial at the Alternative 2 site would replace an area of dense vegetation and small maintained lawn with a memorial that would include formal landscaping, a paved plaza, and a sculptural element. The site would no longer be available for recreational activities but would instead be a place for commemoration. The establishment of the memorial in this location would also remove from NPS jurisdiction a portion of land that comprises the Fort Circle Park System. However, the use of Alternative 2 site as a memorial would be consistent with the overall educational, recreational, and special event uses of the Civil War Defenses of Washington cultural landscape, and nearby elements of the Fort Circle Park System would remain accessible to visitors. Due to its commemorative nature, the memorial would not generate levels of noise that would disturb the solitary experience of the Blair Road Community Garden. Construction of the memorial at the Alternative 2 site would result in long-term beneficial impacts for the families and friends of victims of the Metrorail accident by providing them with a permanent place for memorializing those who were killed or injured. Conversely, the memorial would have long-term adverse impacts on visitors wishing to use the site for

recreational activities or to appreciate and understand its role as part of the Civil War-era defense of Washington, D.C. Overall, because nearby areas for recreation and portions of the Fort Circle Parks System would remain accessible and unchanged, those impacts would be minor.

Mitigation

As under Alternative 1, to mitigate adverse impacts on visitor use and experience under Alternative 2 resulting from a change in recreation opportunities, the District would extend water lines to the Blair Road Community Garden as part of the proposed South Dakota Avenue streetscape improvements.

Cumulative Impacts

The cumulative projects under Alternative 2 would be the same as those described under Alternative 1. They would enhance the use and experience of visitors to the memorial by improving access to the site and by providing signage and other visitor amenities. As described above, Alternative 2 would result in overall minor adverse impacts on visitor use and experience. Thus, when combined with the effects of Alternative 1, impacts resulting from the cumulative projects would be minor and adverse.

Conclusion

Alternative 2 would have short-term moderate adverse impacts on the use and experience of visitors to the project site. In the long term, the project would have beneficial impacts on visitors wishing to pay tribute to victims of the Metrorail crash by providing them with a permanent memorial to those killed and injured in the accident. However, construction of the memorial would also have moderate adverse impacts on visitors wanting to use the site for

recreational activities or learning about the site's role in the Civil War-era defense of Washington. Cumulative projects would have minor adverse long-term impacts on visitors to the area.

4.4 Transportation Resources

Study Area for Impacts on Transportation Resources

The study area for the transportation resources impacts analysis consists of the following streets and street segments (see Figure 4-2):

- New Hampshire Avenue between the bridge over the Metrorail tracks (northeast of the project sites) and its intersection with North Capitol Street.
- North Capitol Street from its intersection with New Hampshire Avenue to its intersection with McDonald Place.
- McDonald Place.
- South Dakota Avenue from its terminus northwest of the project sites to where it becomes 1st Street southeast of the project sites.
- 1st Street from its origin southeast of the project sites to its intersection with Longfellow Street.
- Madison Street between North Capitol Street NW and its intersection with South Dakota Avenue/1st Street.
- Blair Road between its intersection with North Capitol Street NW and its intersection with Longfellow Street.
- Longfellow Street between North Capitol Street NW and South Dakota Avenue/1st Street.

Methodology and Assumptions

A quantitative traffic analysis was not performed because vehicle trips generated by the memorial are expected to be minimal. The impact analysis is based on assumptions for future transportation conditions in the project area once the memorial is open to the public. Those assumptions include:

- The majority of vehicular trips to the memorial would originate in the DC Metro area.
- Approximately 12 or fewer daily visitors to the memorial (this estimate is based on the total number of crash victims [101; see Section 1.1] multiplied by the estimated number of surviving relatives and/or close friends of each victim who would potentially visit [4] plus the estimated number of first responders to the crash [100] divided by 365 calendar days plus the estimated number of neighborhood residents and/or passerby who may visit the memorial each day [10]).
- Most visits would occur on weekends, although some would also occur Monday through Friday.
- Most visits would occur between 8:00 a.m. and 5:00 p.m.
- Larger numbers of visitors would congregate at the memorial on special occasions, including:
 - Victims' birthdays, marriage anniversaries, and other noteworthy occasions. These occasions could occur approximately 10 to 20 times each year and could draw crowds numbering between 10 and 30 people.



Figure 4-2: Vehicular Traffic Study Area

Source: AECOM, 2013

- The anniversary of the crash, June 22, which could draw approximately 300 people (based on previous ceremonies held in other locations).
- Most visitors would travel to the memorial by private automobile.
- Visitors traveling to the memorial by private automobile would park on the streets in the adjacent neighborhoods and walk to the memorial site.
- Visits to the memorial, including for special/noteworthy occasions described above, would last for one hour or less.

Impact Thresholds

The following thresholds were used to determine the magnitude of impacts on transportation resources in the study area:

Negligible: The impact is barely detectable and/or results in no measurable or perceptible change to the transportation resource, including vehicular traffic, parking, public transportation, and pedestrian and bicycle circulation.

Minor: The impact is slight but detectable to memorial visitors and/or residents of the neighborhoods adjacent to the proposed memorial sites, and/or results in small but measureable changes to the transportation infrastructure; however, the effect is localized to the streets comprising the study area.

Moderate: The effects occur within one-quarter mile of the proposed memorial sites and/or are easily detectable to

memorial visitors and neighborhood residents, as well as vehicular, public transportation, pedestrian and/or bicycle traffic traveling on any of the streets comprising the study area but not traveling to the memorial.

Major: The impact affects transportation resources in both the study area and in the regional transportation network. A major adverse impact would occur if changes generated by the construction or operation of additional projects lead to significant failure, without remediation, of particular modes of transportation or significantly alter/ degrade the flow of people and goods in the region.

Transportation Impacts of the No Action Alternative

Under the No Action Alternative, land for the proposed memorial would not be transferred from NPS to the District government, and the memorial to the victims and first responders of the 2009 Metrorail accident would not be built. Thus, transportation conditions in the vicinity of the project sites would remain as at present, and the No Action Alternative would have no impacts on transportation resources.

Mitigation

No mitigation would be necessary under the No Action Alternative because there would be no impacts.

Cumulative Impacts

Because there would be no impacts to on transportation under the No Action Alternative, there the project would result in no cumulative impacts on transportation.

Conclusion

Under the No Action Alternative, the memorial would not be established. Therefore, there would be no impacts on transportation as a result.

Transportation Impacts of Alternative 1

Vehicular Traffic

Construction of the memorial would temporarily increase the number of vehicles on the local road network as a result of heavy trucks carrying materials and equipment and workers' personal vehicles traveling to the project site. The number of additional vehicles would fluctuate throughout the memorial's construction phase, but the project's relatively small scale would ensure that increases in vehicular traffic would remain minimal. These increases would be barely noticeable in the context of the road network near the project site, which includes multiple principle arterial and minor arterial roads, as well as the volume of traffic handled by the roads within that network. Traffic volumes in the surrounding transportation network would return to pre-project levels following the completion of the memorial. For these reasons, short-term impacts on vehicular traffic in the vicinity of the project site would be negligible.

Based on the assumptions presented above, the number of vehicle trips generated by the memorial on most days of the year would be relatively small. These additional vehicle trips would be barely noticeable and within the capacity of the road network in the vicinity of the memorial site and would thus have negligible impacts. The number of vehicle trips would likely increase during special occasions at the memorial, such as an annual remembrance service on the anniversary of the accident (June 22) and individual victims' birthdays, anniversaries, and other noteworthy dates. The number of additional vehicles traveling to the memorial for these instances would fluctuate depending on the event being commemorated, with the greatest number of additional vehicles anticipated to occur on the anniversary of the accident. However,

these occasions would occur relatively infrequently in the context of a calendar year, and would likely occur between late morning and early afternoon (i.e., outside of morning and evening peak traffic periods). The additional number of vehicles traveling to the memorial site would be minimal in comparison to the volume of traffic handled by the road network in the vicinity of the memorial site. Thus, long-term impacts on vehicular traffic in the project area resulting from Alternative 1 would be minor.

Parking

During construction, most workers would likely park their personal vehicles along the segment of South Dakota Avenue northwest of the intersection of New Hampshire and South Dakota Avenues. Generally, the number of workers' vehicles parked on the street is expected to remain low throughout the construction phase due the small size of the memorial site and the correspondingly small number of workers (estimated at 12 or fewer on any given day) that would be working on the site at any given time. The amount of available on-street parking along this segment of South Dakota Avenue/1st Street—approximately 270 feet on either side of the street—would be adequate to accommodate workers' parking needs during construction of the memorial.

Workers parking along this segment of South Dakota Avenue would be unlikely to conflict with the parking needs of three nearby uses—a community garden, a church, and a single-family residence—for the following reasons:

- Construction activities at the memorial site would occur Monday through Friday during normal work hours (i.e., 8 a.m. to 5 p.m.); in contrast, the majority of gardening activities likely take place on weekends.

- No construction activities would occur on Sundays during church service hours.
- Parking is available at the single-family residence in the form of an off-street driveway.

Further, the proposed DDOT streetscape improvements for this segment of South Dakota Avenue (see Section 4.1.4) would be coordinated so as not to conflict with the construction of the memorial. For these reasons, short-term impacts on parking during the construction of the memorial would be minor.

The long-term demand for additional parking on neighborhood streets generated by visitors to the memorial would be minimal on most days. Parking demand would increase for special remembrances at the memorial, such as the anniversary of the accident and individual victims' birthdays, anniversaries, and other noteworthy dates. It is also likely that the parking demand for memorial visitors would be somewhat greater on weekends than on weekdays. In general, however, the majority of visits to the memorial, including events when attendance would be expected to increase, would be of short duration (i.e., one hour or less). The on-street parking that is currently available in the neighborhoods adjacent to the memorial site would be sufficient to handle the increased parking demand generated by visitors to the memorial. Therefore, long-term impacts on parking resulting from the implementation of Alternative 1 would be minor.

Public Transportation

As described in the assumptions presented above, it is anticipated that few visitors to the proposed memorial would arrive via public transportation. The existing bus stops in the vicinity of the project

site and current capacities of the WMATA bus routes (K2 and K6), Metrorail line (Red), and Metrorail stations (Takoma and Fort Totten) serving the area would be sufficient to accommodate visitors to the proposed memorial. Thus, Alternative 1 would have negligible impacts on public transportation services in the vicinity of the project site.

Pedestrian Connections, Safety, and Circulation

Construction of the proposed memorial would not require the closure or relocation of sidewalks or bicycle routes in the vicinity of the project area. Therefore, the implementation of Alternative 1 would have no short-term impacts on pedestrian and bicycle connections, safety and circulation.

The proposed streetscape improvements to the segment of South Dakota Avenue northwest of its intersection with New Hampshire Avenue (see Section 4.1.4), which would be undertaken by DDOT prior to or following construction of the memorial, would have indirect beneficial long-term impacts on pedestrian connections, circulation and safety in the vicinity of the memorial site.

The establishment of the memorial at the Alternative 1 site would not require the removal or alteration of existing sidewalks or crosswalks. The memorial would have an adverse impact on pedestrian circulation because most visitors would likely park along the segment of South Dakota Avenue southeast of its intersection with New Hampshire Avenue; this portion of the road lacks sidewalks on either side of the street. Additional pedestrian traffic in the vicinity of the memorial could slightly increase the risk to pedestrian safety, particularly at intersection crossings in the area, but this elevated risk would be minimal. Therefore, long-term

adverse impacts on pedestrian safety and circulation near the memorial would be negligible.

The implementation of Alternative 1 would not require the removal or alteration of bicycle lanes or bicycle routes in the vicinity of the project site. The memorial could generate some bicycle trips to the area, slightly increasing the risk to bicyclist safety since the area lacks dedicated bicycle infrastructure (see Section 3.3). The increased risk would be minimal, however, since it is likely that few visitors would travel to the memorial by bicycle. Therefore, the proposed memorial would have negligible long-term impacts on bicycle connections, safety and circulation.

Mitigation

The District would employ one or more of the following methods to mitigate impacts resulting from Alternative 1 on transportation in the project area:

- Monitor adjacent streets regarding parking availability; if warranted, the District would establish time-restricted parking zones on selected streets.
- Informing neighborhood residents of memorial events that are expected to have a large attendance through the placement of temporary signage in high-visibility locations; notification through mailings, email, and/or list serves; and announcements at community meetings and/or church services.
- Include messages about public transit (such as Metrorail access, Metrobus schedules, nearby bicycle routes, etc.) in literature publicizing the memorial.

- Explore locating a Capital Bikeshare station at the Fort Totten Metrorail station.

Cumulative Impacts

The three cumulative projects described in Section 4.1.4 could result in cumulative impacts on Alternative 1, as described in the following paragraphs.

The Hampshires development would generate new vehicle trips, which in turn would likely increase traffic congestion, particularly on New Hampshire Avenue. The District of Columbia Zoning Commission Order No. 05-30 found that the Hampshires development would not significantly increase roadway congestion. The order stated that nearby signalized intersections would continue to operate at an acceptable level of service or better, following the project's completion. Thus, the project would have a long-term minor adverse effect on vehicular traffic.

DDOT's proposed streetscape improvements on the segment of South Dakota Avenue northwest of its intersection with New Hampshire Avenue would have long-term beneficial impacts on vehicular parking by formalizing the street's curblane through the installation of curb and gutter. They would also have long-term beneficial impacts on pedestrian connections, safety and circulation by installing sidewalks on either side of that segment of South Dakota Avenue.

Implementation of the 2004 *Fort Circle Parks Final Management Plan* would potentially generate additional vehicle trips to the study area by increasing public awareness of the Fort Circle Parks System elements located in the study area. These additional vehicle trips would likely be minimal in the context of the volume of traffic occurring in the study area. Therefore, the implementation of the

Final Management Plan would have long term negligible adverse effects on vehicular traffic.

As described above, Alternative 1 would result in long-term minor adverse impacts on vehicular traffic and parking, and negligible adverse impacts on public transportation and bicycle and pedestrian circulation. When considered with the impacts from the cumulative projects, Alternative 1 would result in minor adverse cumulative impacts.

Conclusion

Alternative 1 would cause small short-term and long-term increases in the volume of vehicular traffic in the study area, but these increases would be minimal in the context of the traffic volumes handled by the local road network and would thus have a short-term negligible and long-term minor impact. There would be increased short-term and long-term demand for parking in the vicinity of the memorial site. However, parking near the project site is sufficient to meet this demand, except on days commemorating significant anniversaries of the event, and the overall impact would be minor. Similarly, the capacity of public transportation systems serving the project vicinity is sufficient to handle any additional trips by visitors to the memorial; impacts would be negligible. Long-term impacts on pedestrian and bicycle connections, safety, and circulation in the vicinity of the memorial would be negligible due to minimally increased levels of pedestrian and bicycle activities; there would be no short-term impacts. Cumulative impacts on transportation resources would be adverse and minor.

Transportation Impacts of Alternative 2 (Preferred Alternative)

Vehicular Traffic

Like Alternative 1, construction of the memorial would temporarily increase the number of vehicles on the local road network as a result of heavy trucks carrying materials and equipment and workers' personal vehicles traveling to the project site. The number of additional vehicles would fluctuate throughout the memorial's construction phase, but the project's relatively small scale would ensure that increases in vehicular traffic would remain minimal. These increases would be barely noticeable in the context of the road network near the project site, which includes multiple principle arterial and minor arterial roads, as well as the volume of traffic handled by the roads within that network. Traffic volumes in the surrounding transportation network would return to pre-project levels following the completion of the memorial. For these reasons, short-term impacts on vehicular traffic in the vicinity of the project site would be negligible.

Based on the assumptions presented above, the number of vehicle trips generated by the memorial on most days of the year would be relatively small. These additional vehicle trips would be barely noticeable and within the capacity of the road network in the vicinity of the memorial site and would thus have negligible impacts. The number of vehicle trips would likely increase during special occasions at the memorial, such as an annual remembrance service on the anniversary of the accident (June 22) and individual victims' birthdays, anniversaries, and other noteworthy dates. The number of additional vehicles traveling to the memorial for these instances would fluctuate depending on the event being commemorated, with the greatest number of additional vehicles

anticipated to occur on the anniversary of the accident. However, these occasions would occur relatively infrequently in the context of a calendar year, and would likely occur between late morning and early afternoon (i.e., outside of morning and evening peak traffic periods). The additional number of vehicles traveling to the memorial site would be minimal in comparison to the volume of traffic handled by the road network in the vicinity of the memorial site. Thus, long-term impacts on vehicular traffic in the project area would be minor.

Parking

As described for Alternative 1, most workers would likely park their personal vehicles along the segment of South Dakota Avenue adjacent to the project site (northwest of the intersection of New Hampshire and South Dakota Avenues) during construction of the proposed memorial. Generally, the number of workers' vehicles parked on the street is expected to remain low throughout the construction phase due the small size of the memorial site and the correspondingly small number of workers (estimated at 12 or fewer on any given day) that would be working on the site at any given time. The amount of available curbside parking along this segment of South Dakota Avenue—approximately 270 feet on either side of the street—would be adequate to accommodate workers' parking needs during construction of the memorial.

Workers parking along this segment of South Dakota Avenue would be unlikely to conflict with the parking needs of three nearby uses—a community garden, a church, and a single-family residence—for the following reasons:

- Construction activities at the memorial site would occur Monday through Friday during normal work hours (i.e., 8

a.m. to 5 p.m.); in contrast, the majority of gardening activities likely take place on weekends.

- No construction activities would occur on Sundays during church service hours.
- Parking is available at the single-family residence in the form of an off-street driveway.

Further, the proposed DDOT streetscape improvements for this segment of South Dakota Avenue (see Section 4.1.4) would be coordinated so as not to conflict with the construction of the memorial. For these reasons, short-term impacts on parking during the construction of Alternative 2 would be negligible.

In the long term, the demand for additional parking on neighborhood streets generated by visitors to the memorial would be minimal on most days. Parking demand would increase for special remembrances at the memorial, such as the anniversary of the accident and individual victims' birthdays, anniversaries, and other noteworthy dates. It is also likely that the parking demand for memorial visitors would be somewhat greater on weekends than on weekdays. In general, however, the majority of visits to the memorial, including events when attendance would be expected to increase, would be of short duration (i.e., one hour or less). The on-street parking that is currently available in the neighborhoods adjacent to the memorial site would be sufficient to handle the increased parking demand generated by visitors to the memorial. Although the Therefore, long-term impacts on parking resulting from the implementation of Alternative 2 would be minor.

Public Transportation

As described in the assumptions presented above, it is anticipated that few visitors to the proposed memorial would arrive via public transportation. The existing bus stops in the vicinity of the project site and current capacities of the WMATA bus routes (K2 and K6), Metrorail line (Red), and Metrorail stations (Takoma and Fort Totten) serving the area would be sufficient to accommodate visitors to the proposed memorial. Thus, Alternative 2 would have negligible impacts on public transportation services in the vicinity of the project site.

Pedestrian and Bicycle Connections, Safety, and Circulation

Construction of the proposed memorial would not require the closure or relocation of sidewalks or bicycle routes in the vicinity of the project area. Therefore, the implementation of Alternative 2 would have no short-term impacts on pedestrian and bicycle connections, safety and circulation.

The proposed streetscape improvements to the segment of South Dakota Avenue northwest of its intersection with New Hampshire Avenue (see Section 4.1.4), which would be undertaken by DDOT prior to or following construction of the memorial, would have indirect beneficial long-term impacts on pedestrian connections, circulation and safety in the vicinity of the memorial site.

The establishment of the memorial at the Alternative 2 site would not require the removal or alteration of existing sidewalks or crosswalks. The memorial would have an adverse impact on pedestrian circulation because some visitors would likely park along the segment of South Dakota Avenue southeast of its intersection with New Hampshire Avenue; this portion of the road lacks sidewalks on either side of the street. However, it is likely that

the instances when memorial visitors would be required to park in that area would be infrequent. Additional pedestrian traffic in the vicinity of the memorial could slightly increase the risk to pedestrian safety, particularly at intersection crossings in the area, but this elevated risk would be minimal. Therefore, long-term adverse impacts on pedestrian safety and circulation near the memorial would be negligible.

The implementation of the Preferred Alternative would not require the removal or alteration of bicycle lanes or bicycle routes in the vicinity of the project site. The memorial could generate some bicycle trips to the area, slightly increasing the risk to bicyclist safety since the area lacks dedicated bicycle infrastructure (see Section 3.3). The increased risk would be minimal, however, since it is likely that few visitors would travel to the memorial by bicycle. Therefore, the proposed memorial would have negligible long-term impacts on bicycle connections, safety and circulation.

Mitigation

The District would employ one or more of the following methods to mitigate impacts resulting from Alternative 2 on transportation in the project area:

- Monitor adjacent streets regarding parking availability; if warranted, the District would establish time-restricted parking zones on selected streets.
- Inform neighborhood residents of memorial events that are expected to have a large attendance through the placement of temporary signage in high-visibility locations; notification through mailings, email, and/or list serves; and

announcements at community meetings and/or church services.

- Include messages about public transit (such as Metrorail access, Metrobus schedules, nearby bicycle routes, etc.) in literature publicizing the memorial.
- Explore locating a Capital Bikeshare station at the Fort Totten Metrorail station.

Cumulative Impacts

Cumulative projects for Alternative 2 would be the same as those described for Alternative 1. As described above, Alternative 1 would result in long-term minor adverse impacts on vehicular traffic and parking, and negligible adverse impacts on public transportation and bicycle and pedestrian circulation. Overall, impacts from cumulative projects under Alternative 1 would be adverse and minor. When combined with the cumulative projects, cumulative impacts from Alternative 2 would be adverse and minor.

Conclusion

Alternative 2 would cause small short-term and long-term increases in the volume of vehicular traffic in the study area, but these increases would be minimal in the context of the traffic volumes handled by the local road network and would thus have a minor impact. There would be increased short-term and long-term demand for parking in the vicinity of the memorial site. However, parking near the project site is sufficient to meet this demand except on days commemorating significant anniversaries of the event, and the overall impact would be minor. Similarly, the capacity of public transportation systems serving the project vicinity is sufficient to handle any additional trips by visitors to the

memorial; impacts would be negligible. Long-term impacts on pedestrian and bicycle connections, safety, and circulation in the vicinity of the memorial would be negligible due to minimally increased levels of pedestrian and bicycle activities; there would be no short-term impacts. Cumulative impacts on transportation resources would be adverse and minor.

5.0 CONSULTATION AND COORDINATION

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5.1 AGENCY CONSULTATION AND COORDINATION

Public agencies and individuals were involved in the development of this EA through the public scoping process and the Section 106 consultation process. NPS initiated the formal scoping process on February 14, 2013, when NPS distributed letters to cooperating agencies and stakeholders. In addition to mailing these notices, there were also notices included on NPS's Planning, Environment, and Public Comment (PEPC) website, which NPS uses to notify the public about NPS activities and actions. A public scoping meeting was held on February 28, 2013. The public comment period was closed on March 18, 2013. Comments received during this period were taken into consideration in the development of this EA.

In addition, meetings took place with stakeholders through the coordinated Section 106 and NEPA processes. NPS initiated the Section 106 process by sending a letter to the DC SHPO with a map of the Area of Potential Effect on February 15, 2013, as part of the site selection process for the memorial. On April 23, 2013, NPS and the District held an initial Section 106 consultation with the DC SHPO, NCPC, and CFA. Parties discussed the undertaking, the APE, and potential adverse effects at the meeting. Parties considered potential archeological resources at the site and cited the need for further study. The DC SHPO and other agencies stated that due to the minimal size of the site, the expected character of the memorial, and the identification in the *Fort Circle Parks Final Management Plan* of the Alternative 2 (Preferred Alternative) site as within a recreational zone, there would likely be no adverse effect under Section 106, if further archeological study occurred.

NCPC, CFA, and SHPO will review the concept and final designs for the memorial.

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6.0 LIST OF PREPARERS

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6.1 LIST OF PREPARERS

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7.0 GLOSSARY AND ACRONYMS

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7.1 GLOSSARY OF TERMS

Affected Environment — The existing environmental conditions to be affected by a proposed action and alternatives at the time the project is implemented.

Alignment — The arrangement or relationship of several disparate configuration components along a common vertical or horizontal line or edge.

Best Management Practices (BMP) — Methods that have been determined to be the most effective, practical means of preventing or reducing pollution or other adverse environmental impacts.

Contributing Resource — A building, site, structure, or object that adds to the historic significance of a property or district.

Council on Environmental Quality (CEQ) — Established by Congress within the Executive Office of the President with passage of the National Environmental Policy Act of 1969. CEQ coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.

Cultural Resources — Archaeological, historic, or visual resources including prehistoric and historic districts, sites, buildings, objects, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reason.

Cumulative Impacts — Under NEPA regulations, the incremental environmental impact or effect of an action together with the effects of past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

Enabling Legislation — The law that gives appropriate officials the authority to implement or enforce regulations.

Endangered Species — Any species that is in danger of extinction throughout all or a significant portion of its range. The lead federal agency for the listing of a species as endangered is the U.S. Fish and Wildlife Service and it is responsible for reviewing the status of the species on a five-year basis.

Environmental Assessment (EA) — An environmental analysis prepared pursuant to the National Environmental Policy Act to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement (EIS) or would not significantly affect the environment and thus conclude with a FONSI.

Environmental Impact Statement (EIS) — A report that documents the information required to evaluate the environmental impact of a project. It informs decision makers and the public of the reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the environment.

Executive Order — Official proclamation issued by the president that may set forth policy or direction or establish specific duties in connection with the execution of federal laws and programs.

Finding of No Significant Impact (FONSI) — A document prepared by a federal agency showing why a proposed action would not have a significant impact on the environment and thus would not require preparation of an

Environmental Impact Statement (EIS). A FONSI is based on the results of an Environmental Assessment (EA).

Floodplain — The flat or nearly flat land along a river or stream or in a tidal area that is covered by water during a flood.

Monumental Core — The monumental core is the central area of federal Washington that includes the National Mall and the areas immediately beyond it, including the United States Capitol, the White House and President's Park, Pennsylvania Avenue and the Federal Triangle area, East and West Potomac Parks, the Southwest Federal Center, the Northwest Rectangle, Arlington Cemetery, and the Pentagon.

National Environmental Policy Act (NEPA) — The Act as amended, articulates the federal law that mandates protecting the quality of the human and natural environment. It requires federal agencies to systematically assess the environmental impacts of their proposed activities, programs, and projects including the "no build" alternative of not pursuing the proposed action. NEPA requires agencies to consider alternative ways of accomplishing their missions in ways that would be less damaging to the environment.

National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.) — The Act that established a program for the preservation of historic properties throughout the nation, and for other purposes.

National Mall — The area comprised of the Mall, the Washington Monument, and West Potomac Park. It is managed by the National Park Service's National Mall & Memorials Parks.

National Register of Historic Places (NRHP) — A register of districts, sites, buildings, structures, and objects important

in American history, architecture, archeology, and culture, maintained by the secretary of the interior under authority of Section 2(b) of the Historic Sites Act of 1935 and Section 101(a)(1) of the National Historic Preservation Act of 1966, as amended.

Scoping — Scoping, as part of NEPA, requires soliciting public and agency comments on the proposed action and its possible effects; establishing the depth of environmental analysis needed; determining analysis procedures, data needs, and task assignments.

Threatened Species — Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Vista – A distant or long view, especially one seen through some opening such as an avenue or corridor, street wall, or the trees that frame an avenue or corridor; a site offering such a view.

Wetlands — The U.S. Army Corps of Engineers and the Environmental Protection Agency jointly define wetlands as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Wetlands generally include swamps, marshes, bogs, and similar areas.

7.2 ACRONYMS

ACHP	Advisory Council on Historic Preservation	NAMA	National Mall & Memorial Parks
APE	Area of Potential Effect	NCPC	National Capital Planning Commission
AADT	Average Annual Daily Traffic	NEPA	National Environmental Policy Act
CFR	Code of Federal Regulations	NHPA	National Historic Preservation Act
CFA	Committee of Fine Arts	NHRP	National Register of Historic Places
CEQ	Council on Environmental Quality	NAGPRA	Native American Graves Protection and Repatriation Act
DDOE	District Department of the Environment	NPS	National Park Service
DCOP	District of Columbia Office of Planning	PEPC	Planning, Environment, and Public Comment website
DDOT	District Department of Transportation	SHPO	State Historic Preservation Office
EA	Environmental Assessment	SOF	Statement of Findings
EPA	Environmental Protection Agency	TCP	Traditional Cultural Property
FONSI	Finding of No Significant Impact	USFWS	United States Fish and Wildlife Service
FIRM	Flood Insurance Rate Map	WMATA	Washington Metropolitan Area Transit Authority
LOS	Level of Service		
MOA	Memorandum of Agreement		

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8.0 REFERENCES

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8.1 REFERENCES

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APPENDICES

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A. SCOPING NOTIFICATION



Notice of Scoping Meeting For Metro Memorial Park



To be held on Thursday, February 28, 2013
6:00 p.m. to 8:00 p.m.
Greater Saint Paul Baptist Church
5720 South Dakota Avenue, NE
Washington, DC 20011

The District of Columbia proposes to establish a permanent memorial honoring the victims of the 2009 Metrorail Red Line crash. The District has identified two sites north and west of the intersection of 1st Street NE and New Hampshire Avenue NE for consideration. Both sites are located on lands administered by Rock Creek Park, an administrative unit of the National Park Service. As part of this proposal, the NPS would transfer jurisdiction of the selected parcel to the District for the proposed memorial. NPS and the District of Columbia have identified the sites north and west of the intersection of 1st Street NE, South Dakota Avenue NE, and New Hampshire Avenue NE for consideration.

In accordance with the National Environmental Policy Act (NEPA), the NPS and the District of Columbia are preparing an Environmental Assessment (EA) to identify alternatives and assess the potential impacts of the proposal. Concurrent to the NEPA process, the NPS and District of Columbia will conduct a consultation under Section 106 of the National Historic Preservation Act of 1966 (NHPA).

As part of this planning effort, a public scoping meeting will be held by the NPS and the District of Columbia on February 28, 2013 between 6:00 p.m. and 8:00 p.m. at the Greater Saint Paul Baptist Church, 5720 South Dakota Avenue, NE in Washington, DC. During this open house, the project team will be available to discuss alternatives and site characteristics.

The public is invited to comment on the proposed transfer of land, and to identify potential issues or concerns for consideration in the EA. During the meeting, comments may be submitted via written comment forms. In addition, you may submit comments electronically (the NPS preferred method of receiving comments), by fax, or mail them directly. The NPS will accept comments on the proposed project through March 18, 2013.

Submit comments on-line by following the appropriate links at: <http://parkplanning.nps.gov/racr>

Fax comments to:
Claire Sale
Attn: Metro Memorial Park EA
Fax: 703.549.8134

Mail directly to:
National Park Service
c/o AECOM
Claire Sale
Attn: Metro Memorial Park EA
675 North Washington St.
Alexandria, VA 22314

Before including your address, phone number, e-mail address, or other 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.

If you require additional information or special assistance to attend and participate in this meeting, please contact Claire Sale at 703.739.4750 or via email at claire.sale@aecom.com.

B. SECTION 106 INITIATION LETTER**United States Department of the Interior**

NATIONAL PARK SERVICE
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, N.W.
Washington, D.C. 20008-1207

February 15, 2013

Mr. David Maloney
District of Columbia Historic Preservation Officer
District of Columbia Historic Preservation Office
1100 4th Street SW, Suite E650
Washington, D.C. 20024

Subject: Section 106 Consultation, Metro Memorial Park

Dear Mr. Maloney:

The District of Columbia is proposing to construct a permanent memorial, honoring victims of the 2009 Metrorail Red Line accident, on a section of United States Reservation 497 in Washington, D.C. This will require the National Park Service to consider transferring jurisdiction for this land to the District of Columbia.

I am writing to formally initiate consultation for this undertaking with the District of Columbia Historic Preservation Office, in accordance with 36CFR800.3 of Section 106 of the National Historic Preservation Act. The two sites under consideration for this memorial are located directly north and directly east of the intersection of New Hampshire Avenue NE and South Dakota Avenue NE in Washington, D.C. The two parcels of U.S. Reservation 497 are part of the Fort Circle Park System/Civil War Defenses of Washington and are listed in the National Register of Historic Places.

The National Park Service will develop an Environmental Assessment for this project. We are requesting streamlining Section 106 with the National Environmental Policy Act requirements in accordance with 36CFR800.8. We plan to consult with the public per 800.3(e) in public meetings and through our Planning, Environment, and Public Comment website (www.parkplanning.nps.gov). We anticipate that these outreach efforts will accommodate both the National Environmental Policy Act requirements and the Section 106 process.

The National Park Service will hold a public scoping meeting for this project on Thursday, February 28, 2013 from 6:00 p.m. to 8:00 p.m. at the Greater Saint Paul Baptist Church, located at 5720 South Dakota Avenue NE in Washington, D.C.

The National Park Service and the District of Columbia are aware that the transfer of jurisdiction could adversely affect historic properties, including the Fort Circle Park System/Civil War Defenses of Washington. We have enclosed a map showing the proposed Area of Potential Effects (APE) and a list of possible consulting parties. These documents are intended as the baseline of discussion and can be modified to expedite the consultation process. The National Park Service is seeking ways to avoid and minimize the potential for adverse effects to historic properties. Once determined, we will prepare a formal Assessment of Effect for the project.

Thank you for your assistance on this project. If you have any questions, please do not hesitate to contact me.

Sincerely,

Tara D. Morrison
Superintendent

Enclosure

C. DETERMINATION OF EFFECT

GOVERNMENT OF THE DISTRICT OF COLUMBIA
STATE HISTORIC PRESERVATION OFFICER



June 17, 2013

Ms. Tara D. Morrison, Superintendent
National Park Service
National Capital Region
Rock Creek Park
3545 Williamsburg Lane, NW
Washington, DC 20008-1207

RE: Metro Memorial Park; Reservation 497

Dear Ms. Morrison:

As you may recall, we wrote to you on March 28, 2013 to provide our initial comments regarding the potential effects that the above-referenced undertaking could have on historic properties. Since that time, we participated in a follow-up meeting to discuss the project in more detail with representatives from the National Park Service, other District agencies and the project consultant team. Based upon the results of that meeting, we are writing to provide additional comments in accordance with Section 106 of the National Historic Preservation Act and the National Environmental Policy Act.

Our initial letter was based upon the notion that the undertaking involved the transfer of a portion, or portions, of Reservation 497 to the District of Columbia so that a permanent memorial can be constructed to honor the victims of the 2009 Metrorail Red Line accident. However, we now understand that the undertaking will consist of a transfer of jurisdiction only, and that the underlying land will remain in federal ownership.

Although construction of the memorial will have effects on the National Register of Historic Places-listed Fort Circle Park System/Civil War Defenses of Washington and any archaeological resources that may be present, we do not anticipate that any such effects are likely to be "adverse." In particular, we no longer consider 36 CFR 800.5(2)(vii) to be applicable to this undertaking.

Therefore, we have determined that the transfer of jurisdiction and construction of the Metro Memorial will have "no adverse effect" on historic properties, provided that the following conditions are met:

1. The NPS and/or the responsible District agency will consult further with our office regarding the location and design of the proposed memorial and will incorporate our comments into the design to the maximum extent feasible;
2. Phased archaeological survey will be conducted within the subject parcel(s) by professionals meeting the *Secretary of the Interior's Standards* and following the District's 1998 *Guidelines for Archaeological Investigations*, as amended. If National Register of Historic Places-eligible resources are identified and cannot be avoided, appropriate treatment will be determined in consultation with NPS and SHPO prior to starting any ground-disturbing activities.

Ms. Tara D. Morrison
Metro Memorial Park; Reservation 497
June 17, 2013
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3. Any archaeological collections, field notes, photos, digital and/or electronic data, related records, and GIS data generated by the project will be curated by the NPS and the archaeological consultants will prepare the collections and records for curation following NPS guidance.
4. The NPS will consult in accordance with 36 CFR 800.6 if the SHPO determines that an adverse effect will result from any aspect of the Metro Memorial Project, or any future project proposed on the portion or portions of Reservation 497 for which jurisdiction has been transferred.

If you should have any questions regarding the historic built environment, please contact me at andrew.lewis@dc.gov or 202-442-8841. Questions related to archaeological resources should be directed to Ruth Troccoli at ruth.troccoli@dc.gov or 202-442-8836. Otherwise, thank you for providing this opportunity to review and comment.

Sincerely,

C. Andrew Lewis
Senior Historic Preservation Specialist
State Historic Preservation Office

13-161

D. SITE SELECTION STUDY

See attached.