



Washington Monument Visitor Security Screening

ENVIRONMENTAL ASSESSMENT



July 2013

**NATIONAL PARK SERVICE
U.S. DEPARTMENT OF THE INTERIOR**

NATIONAL MALL AND MEMORIAL PARKS
WASHINGTON, D.C.



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PROJECT SUMMARY

The National Park Service (NPS), in cooperation with the National Capital Planning Commission (NCPC) has prepared this Environmental Assessment (EA) to evaluate a range of alternatives for the enhancement and improvement of the visitor screening at the Washington Monument (the Monument) in Washington, D.C.

The National Mall is a highly recognizable space and one of the most significant historic landscapes in the United States, extending east to west from the U.S. Capitol building to the Potomac River and north to south from Constitution Avenue, NW to the Thomas Jefferson Memorial. The Washington Monument is the central point of the National Mall, placed at the intersection of two significant axes between the U.S. Capitol and the Lincoln Memorial to the east-west and the White House to the Jefferson Memorial to the north-south. The Washington Monument is made up of a stone masonry obelisk set within a circular granite plaza and flanked by large turf expanses.

As the primary memorial to the nation's first president, the Monument is one of the most prominent icons in the nation and is toured by approximately one million visitors annually with millions more visiting the surrounding grounds. Its popularity, combined with its status as an icon, makes it a potential target for terrorist attack. A permanent perimeter vehicular barrier system was completed with landscape improvements in 2006. The visitor screening improvement project is needed because the existing visitor screening station, constructed at the Monument's base in 2001, was intended to be temporary and requires replacement to meet the long term security and cultural resource management requirements at the Monument. In 2002, the NPS completed a design for the Washington Monument Permanent Security Improvements including a comprehensive landscape solution for perimeter vehicular barrier system and a new screening facility. However, only the vehicular barrier system was installed. This project revisits the feasibility of a new entrance and visitor security screening facility.

This EA presents a range of alternatives to improve the security and visitor flow at the Washington Monument in a manner that preserves the character and visitor experience of the Washington Monument and Grounds.

Alternative C, a new screening facility on the Plaza in the same location as the existing temporary facility, is the NPS preferred alternative. Implementation of this alternative would result in long-term beneficial impacts to visitor use and experience from the improved aesthetics of the screening facility. There would also be long-term beneficial impacts to public safety and park management and operations. There would be long-term negligible adverse impacts to soils and long-term minor adverse impacts to visitor use and experience from congestion on the Plaza and the continued obstruction of the original view of the Monument's intersection with the Plaza on the eastern face. There would be long-term moderate adverse impacts to visual resources and cultural resources. However, due to the facility's design and ability to be removed, there would be long-term beneficial impacts to visual resources. There would be short-term negligible adverse impacts to soils and short-term minor adverse impacts to public safety, park operations and management, and cultural resources resulting from construction activities and the disruption of the Monument Plaza. There would be short-term moderate adverse impacts to visitor use and visual resources due to the closure of the project area during construction.

Note to Reviewers and Respondents:

To comment on this EA, you may mail comments or submit them online within 30 days of the publication of this EA at <http://parkplanning.nps.gov/NAMA> and follow the appropriate links. Please be aware that your comments and personally 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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CHAPTER 1: PURPOSE AND NEED

Introduction

The National Park Service (NPS) has prepared this environmental assessment (EA) to evaluate a range of alternatives for the improvement of security and visitor screening at the Washington Monument (Monument) located on the Washington Monument grounds (Monument grounds) in Washington, D.C., and administered by the National Mall and Memorial Parks (Park).

In 2002, the NPS completed a design for Washington Monument permanent security improvements, which included a comprehensive landscape solution for a perimeter vehicular barrier system and a new screening facility. However, only the vehicular barrier system and a portion of the landscape design were implemented. The NPS is currently revisiting the feasibility of a new entrance and visitor screening facility and the removal of the existing temporary facility. The proposed action is the subject of this EA and is analyzed in several alternatives.

Purpose of and Need for Action

The purpose of the proposed action is to improve the security and visitor flow at the Monument in a manner that preserves the character and visitor experience of the Monument and the Monument grounds.

As the primary memorial to the nation's first president, the Monument is one of the most prominent icons in the nation and is toured by more than 600,000 visitors annually with millions more visiting the surrounding Monument grounds (Hamilton, pers. comm. 2013). Its popularity, combined with its status as an icon, makes it a potential target for terrorist attack. As a result, the NPS constructed a temporary visitor security facility in 2001 to address the potential takeover of the Monument; visitors must undergo electronic screening before gaining access to the Monument. To address vehicular attacks, the NPS installed a permanent perimeter vehicular barrier system with landscape improvements in 2006. The current project is needed to replace the existing temporary visitor screening facility to meet the Monument's long-term security and cultural resource management requirements developed by the Park and the United States Park Police (USPP).

These long-term security and cultural resource management requirements at the Monument include:

- locating visitor screening outside the walls of the Monument to ensure protection of both human life and the Monument structure in the event of a security breach
- maintaining visitor use that has, since 1888, included access to the top of the Monument for views of the city of Washington
- preserving the fabric of the Monument, which is a historic property
- maintaining consistency with the Monument and Monument grounds cultural landscape in regard to views and vistas, buildings and structures, and circulation

Project Area

The Monument is located in the monumental core of downtown Washington, D.C., as the central element on the grand vista that connects the U.S. Capitol building to the east and the World War II Memorial, Lincoln Memorial, and Reflecting Pool to the west. The project area is situated within the larger cultural

landscape of the Monument grounds, which includes 106 acres bounded by Constitution Avenue to the north, Maine Avenue to the south, 14th Street on the east, and 17th Street on the west (see Figure 1.1).

Figure 1.1 – Project Area



In addition to the Monument, the project area includes several features identified in Figure 1.2. These features are described in more detail in Chapter 3 and more briefly as follows:

THE MONUMENT

The Washington Monument is a stone masonry structure that resembles the form of an Egyptian obelisk, standing approximately 555 feet tall (Milner 2004). It rests on an artificially constructed knoll that was designed to hide the original monument foundation and to provide additional stability to the soil underpinning it (Milner 2004).

Figure 1.2 – Aerial Image of the Project Area



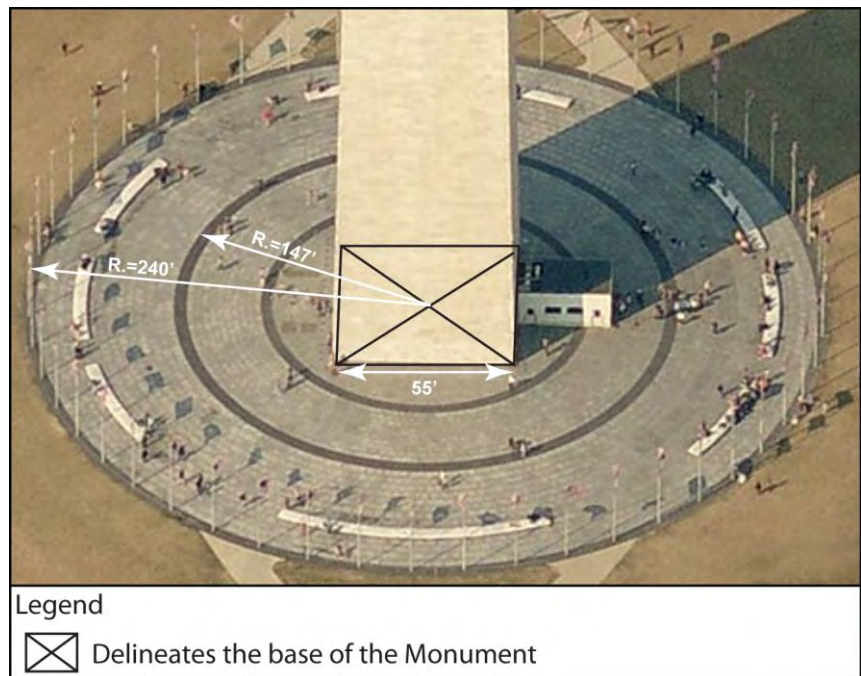
TEMPORARY SECURITY SCREENING FACILITY

In 2001, a small, one-story, faux-stucco structure was added to the east face of the Monument to accommodate security screening and visitor entry.

GRANITE PLAZA

At the base of the Monument is a large circular Plaza with two concentric rings; the first ring has a diameter of 147 feet while the second one is 240 feet in diameter (see Figure 1.3). Between 1957 and 1958, the NPS encircled the Plaza with 50 evenly spaced American flags (Milner 2004).

Figure 1.3 – Aerial Image of the Granite Plaza



MONUMENT LODGE

This structure was built in 1888 to serve as a waiting room, comfort station, and visitor services station for Monument visitors (Milner 2004).

SYLVAN THEATER

The Sylvan Theatre was built in 1917 as a natural outdoor theater but evolved into a formal performance structure; by 1942, the stage resembled its present appearance (Milner 2008).

Project Background

The Monument, as the nation's foremost memorial to George Washington, is one of the most recognizable structures in the world. Since its opening in 1888, the Monument has been a major tourist attraction, and over the course of the last century, numerous actions have been undertaken to maintain the integrity of the monument and improve visitor comfort and public safety (Milner 2004).

L'Enfant's Plan of Washington, D.C., defined the physical and symbolic character of the nation's capital through its arrangement of buildings, structures, and views. The McMillan Commission reconciled the Monument with the L'Enfant Plan geometry and its original siting for the Monument. Various iterations of the design concepts for the Washington Monument and grounds over the last 40 years have maintained the spirit of the L'Enfant Plan by maintaining the primary structures and monuments as "dominant elements in the landscape."

Because it is a top tourist attraction and an American icon, the Monument has become a potential target for terrorist attacks and requires increased security measures. As a result, security provisions and additions to the Monument have been made over the past 20 years. In 2001, a temporary visitor security facility was added to address the potential takeover of the Monument, and in 2006, a permanent perimeter vehicular barrier system with landscape improvements was constructed. Today, action is needed to replace the existing temporary visitor screening facility to meet the Monument's long-term security and cultural resource management requirements.

The following table presents notable milestones in the history of the Monument that have informed this project.

Table 1.1 – Project Background

| | |
|-------------------------|---|
| 1885–1888 | The Monument is dedicated and opens to the public in October of 1888. |
| 1889 | The Monument Lodge, constructed as a waiting room and comfort station for Monument visitors, is open to the public. The building originally contained a waiting room, keeper's room, archive room, and public restrooms (Milner 2003). |
| 1911, 1917, 1931 | The Monument Lodge restrooms are expanded. |
| 1934 | The Monument undergoes major exterior restoration. |
| 1943 | The Monument Lodge waiting room is renovated. |
| 1964 | The Monument undergoes major exterior restoration. |
| 1973 | The NPS initiates a design process for an underground facility with an entrance near the foot of the Monument. |
| 1981–1986 | The NPS initiates a development concept plan for landscape improvements and above-ground buildings on the Monument grounds; in 1986, a plan for an above-ground visitor center located in the Monument's viewshed is rejected by federal review agencies. |
| 1989 | The NPS modifies the development concept plan, recommending four principal proposals: (1) visitor services shifted from the Monument base to the Sylvan Theatre area, (2) a grassy area at the Monument Plaza for passive use, (3) 15th Street realignment, and (4) the restoration of the Monument Lodge to its original appearance. |

| | |
|---------------------|--|
| 1993 | A new plan proposes restoration of the Monument Lodge as the entrance to a new underground visitor facility and walkway modifications for universal accessibility |
| 1997 | The Monument undergoes major exterior restoration for three years (1997–2000) |
| 1998 | A concrete ring of Jersey barriers is added around the Monument to provide a temporary vehicular barrier. |
| 1999 | The NPS commissions a report on Monument security. The findings detail the vulnerability of the Monument to a vehicle bomb attack. |
| 2001 | The NPS constructs a temporary visitor security facility at the east face of the Monument to address the potential takeover of the Monument; visitors who wish to gain access to the Monument must undergo electronic screening. |
| 2002 | The NPS initiates a design process for Washington Monument permanent security improvements that include designs, a new visitor facility to replace the temporary one, security improvements, and comprehensive landscape design. |
| 2003 | The National Capital Planning Commission and United States Commission of Fine Arts approve the landscape design, landscape plan, and perimeter vehicle security design for the Washington Monument permanent security improvements. Congress enacts Public Law 108-108, prohibiting an underground security screening or visitor contact facility at the Monument. |
| 2006 | The Washington Monument permanent security improvements are partially completed; the perimeter vehicle barrier system is completed, but only a portion of the landscape design is completed. The approved landscape plan is partially implemented. The Monument Lodge is restored. |
| 2010 | The National Mall Plan Final Environmental Impact Statement is finalized. The National Environmental Policy Act and design processes for this project begin with internal scoping. |
| 2011 | On August 23, a 5.8 magnitude earthquake occurs 84 miles southwest of Washington, D.C., damaging the Monument. Following the earthquake, the Monument is closed to visitors and a post-earthquake assessment is completed. |
| 2012–present | An earthquake damage repair plan is developed. Repairs are underway and scheduled for completion in spring 2014. |

2011 EARTHQUAKE AND RELATED DAMAGE

On Tuesday, August 23, 2011, a 5.8-magnitude earthquake with an epicenter near the town of Mineral, Virginia, caused significant damage to the Monument. On August 25, 2011, an NPS and architect/engineering (A/E) team examined the Monument and found that it was structurally sound but that it had visible damage to the upper pyramidion portion of the Monument. At the time, the A/E team completed an emergency waterproofing of cracks and removed the loose stone in the interior of the Monument. In addition the elevator was partially repaired and set to operate in “test” mode to support the A/E team.

Between September 23 and October 5, 2011, the A/E team conducted a more in-depth investigation to map the damaged areas. In addition, safety barrier would be installed to protect visitors from falling into the lower screening area. The A/E team found damage to both the interior and exterior of the Monument, the lighting protection system, and the elevator. Based on the A/E team’s damage and engineering analysis, a repair plan was developed to replace in kind damaged masonry of the Monument. In addition, as needed, masonry anchors will be installed to strengthen damages structural stone as part of repair efforts.

In addition to the damage assessment, several additional studies were performed to collect updated project area conditions for the Monument following the earthquake. The studies and available findings are summarized as follows:

- A Seismic Study was completed in June 2012 to analyze the extent of ground motion from the August 2011 earthquake. The study analyzed vulnerabilities of the Monument to future ground motion. No strengthening methodologies were recommended.
- A geotechnical analysis was completed in July 1998 and November 2011 to develop general foundation recommendations appropriate to all of the alternatives under consideration. The study also performed a liquefaction potential evaluation of the site.
- The National Geodetic Survey completed a full loop survey of geodetic benchmarks on the National Mall to establish accurate elevations of benchmarks on the National Mall after the August 2011 earthquake.
- The United States Geological Survey conducted a ground motion seismic study to help better estimate seismic hazard areas and the potential for future seismic activity.

Repairs of the Monument are ongoing and are expected to be completed in spring 2014.

LANDSCAPE PLANTINGS ON THE WASHINGTON MONUMENT GROUNDS

As part of the Smithsonian Institute's 2011 Programmatic Agreement (PA) for construction of the National Museum of African American History and Culture (NMAAHC), Smithsonian Institute will fund the NPS to complete unfinished tree plantings specified in the NCPC and NPS-approved Laurie Olin of Olin Studio's landscape plan for the Monument Grounds. Minor revisions to the Olin Plan will be necessary to respond to development proposals that did not exist at the time of the Olin Plan's completion, including construction of the NMAAHC, the Potomac Park levee, and future development proposed for the area surrounding the Sylvan Theater. Tree plantings will be completed within two years of the final signed PA in 2011.

Purpose and Significance of the National Mall and Memorial Parks

ESTABLISHMENT

In 1924, Public Law (PL) 202 established the National Capital Park Commission (renamed the National Capital Planning Commission [NCPC] following the passage of the 1952 National Capital Planning Act) and broadly mandated the NCPC to "prevent pollution of Rock Creek, and the Potomac and Anacostia Rivers and to preserve forests and natural scenery in and about Washington." In 1930, the Shipstead-Luce Act gave the United States Commission of Fine Arts (CFA) authority to review the designs of private construction projects within certain areas of the national capital, specifically for construction that fronts or abuts the grounds of the U.S. Capitol building, the grounds of the White House, and the Mall Park System, as well as Rock Creek Park, the National Zoo, the Rock Creek and Potomac Parkway, the southwest waterfront, and Fort McNair. In 1933–1934, federal parkland in the District of Columbia was consolidated under the management of the NPS. In the years that followed, a number of major memorials were added to the area that would come to be known as the National Mall. The boundary of the National Mall and Memorial Parks, or Park, is delineated in Figure 1.4.

Nevertheless, the origins of what is now the National Mall and Monument grounds pre-date the official establishment of the Park and trace back to the open spaces and parklands envisioned by the L'Enfant Plan. A more detailed discussion of the history of the National Mall and Monument can be found in Chapter 3.

PURPOSE

According to the Final National Mall Plan Environmental Impact Statement (NPS, 2010a), the purposes of the National Mall are to:

- maintain the National Mall in the heart of our nation's capital as a stage for national events and a preeminent national civic space for public gatherings because ~~it~~ is here that the constitutional rights of speech and peaceful assembly find their fullest expression"
- provide a monumental, dignified, and symbolic setting for the governmental structures, museums, and national memorials as first delineated by the L'Enfant Plan and further outlined in the McMillan Plan, as well as other significant plans
- maintain and provide for the use of the National Mall with its public promenades as a completed work of civic art—a designed historic landscape providing extraordinary vistas to symbols of our nation
- maintain National Mall commemorative works (memorials, monuments, statues, sites, and gardens) that honor presidential legacies, distinguished public figures, ideas, events, and military and civilian sacrifices and contributions
- forever retain the West Potomac Park section of the National Mall as a public park for recreation and enjoyment of the people

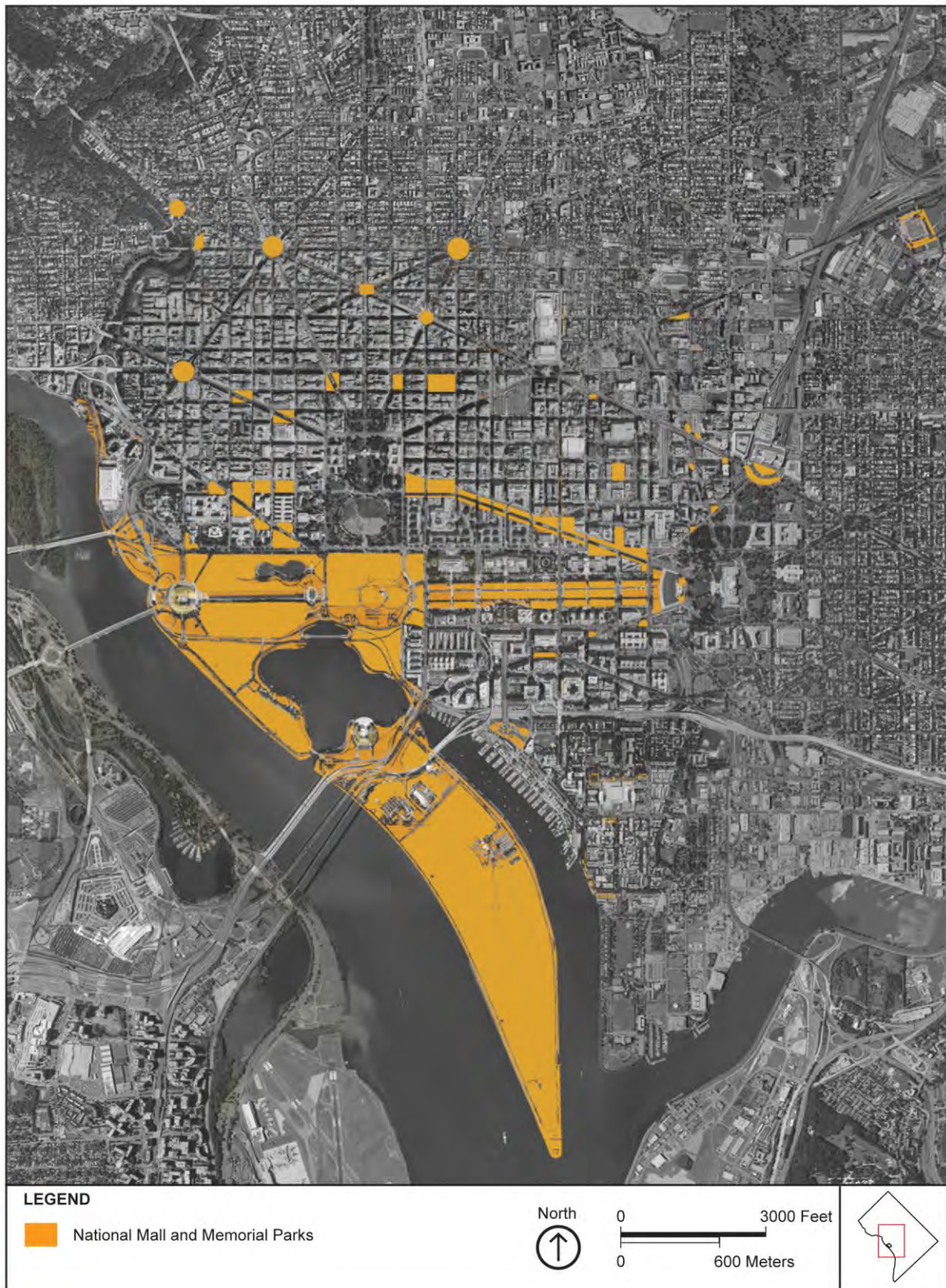
SIGNIFICANCE

As stated in the Final National Mall Plan Environmental Impact Statement (NPS, 2010a), the National Mall is significant for the following reasons:

- *The National Mall is the heart of our nation's capital and has endured since the city's original design by Pierre L'Enfant over 200 years ago.* The form and character of our planned national capital still reflect the historic L'Enfant and McMillan plans.
- *The National Mall is an inclusive and open environment where we celebrate our national identity and important events.* The National Mall, the nation's foremost civic space, is the primary location for political demonstrations, First Amendment activities, rallies, parades, and numerous festivals. Visitors of every race, nationality, and faith come to the National Mall to celebrate, commemorate, demonstrate, or recreate.
- *The National Mall is a preeminent national landscape, and its history and appearance have been enriched by gifts to the United States from other countries.* It is a combination of formally designed areas, such as the National Mall, the Monument grounds, and naturalistic areas, such as the Tidal Basin and West Potomac Park. Various trees and gardens symbolize cultural and diplomatic exchanges and gifts from other nations, such as the Japanese cherry trees, pagoda, and lantern; the German-American Friendship Garden; and Italy's gift of the *Arts of Peace*.

- *The National Mall is the center of our nation's cultural heritage.* The National Mall is surrounded by many of the country's most significant educational and cultural institutions, including the national museums of the Smithsonian Institution and the National Gallery of Art, along with the nearby National Archives, the U.S Bureau of Engraving and Printing, and the U.S. Holocaust Memorial Museum.

Figure 1.4 – National Mall and Memorial Parks



Applicable Federal Laws and Regulations

The NPS is governed by laws, regulations, and management plans before, during, and following any management action considered under any National Environmental Policy Act (NEPA) analysis. The following are laws and regulations that are applicable to the proposed action.

NATIONAL ENVIRONMENTAL POLICY ACT, 1969, AS AMENDED

The 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. It also required that each agency make that information an integral part of its decisions. The NEPA also requires that agencies make a diligent effort to involve the interested members of the public before they make decisions affecting the environment.

The NEPA is implemented through regulations of the Council on Environmental Quality (CEQ), effective 1978 (40 Code of Federal Regulation [CFR] §§1500–1508). The NPS has in turn adopted procedures to comply with NEPA and the CEQ regulations. These are contained in *Director's Order (DO) 12: Conservation Planning, Environmental Impact Analysis, and Decision-making* (2001), and its accompanying handbook.

NATIONAL HISTORIC PRESERVATION ACT, AS AMENDED THROUGH 2004 (16 U.S.C. 470)

The National Historic Preservation Act (NHPA) of 1966, as amended through 2004, protects buildings, sites, districts, structures, and objects that have significant scientific, historic, or cultural value. The NHPA established affirmative responsibilities of federal agencies to preserve historic and prehistoric resources. Effects on properties that are listed in or are eligible for the National Register of Historic Places (NRHP) must be taken into account in planning and operations. Any property that may qualify for listing in the NRHP must not be inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate.

Section 106 of NHPA, 16 USC 470 et seq., requires federal agencies to take into account the effects of their undertakings on historic properties either listed in or eligible to be listed in the NRHP. The historic preservation review process required by Section 106 is outlined in regulations 36 CFR §800, Protecting Historic Properties issued by the Advisory Council on Historic Preservation (ACHP), an independent federal agency established by the NHPA in 1966 to promote the preservation, enhancement, and productive use of our nation's historic resources. The goal of the Section 106 review process is to seek ways to avoid, minimize, or mitigate any adverse effects to historic properties.

PUBLIC LAW 108-108 (2003)

PL 108-108 (H. R. 2691—11) signed on January 7, 2003 designated appropriations for the fiscal year ending September 30, 2004, for the U.S. Department of the Interior and related agencies. The legislation designated that:

none of the funds provided in this or any other Act may be used for planning, design, or construction of any underground security screening or visitor contact

facility at the Washington Monument until such facility has been approved in writing by the House and Senate Committees on Appropriations.

As a result of PL 108-108, the Washington Monument permanent security improvements project was not completed; only the comprehensive perimeter vehicular barrier and partial landscaping improvements were completed.

HISTORIC SITES ACT OF 1935

This act declares as national policy the preservation for public use of historic sites, buildings, objects, and properties of national significance. It authorizes the Secretary of the Interior and NPS Director to restore, reconstruct, rehabilitate, preserve, and maintain historic or prehistoric sites, buildings, objects, and properties of national historical or archeological significance.

NPS ORGANIC ACT

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the U.S. Department of the Interior and the NPS to manage units ~~—d~~ 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 the NPS must conduct its actions in a manner that will ensure no ~~—d~~ogation 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 remains predominant, the NPS seeks to avoid or to minimize adverse impacts on Park resources and values. However, the NPS has discretion to allow impacts on Park resources and values when necessary and appropriate to fulfill the purposes of a Park (NPS 2006a; sec. 1.4.3). While some actions and activities cause impacts, the NPS cannot allow an adverse impact that would constitute impairment of the affected resources and values (NPS 2006b). 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 ~~—h~~arm the integrity of Park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006b). To determine impairment, the NPS must evaluate ~~—h~~e 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 2006b).

NATIONAL PARKS OMNIBUS MANAGEMENT ACT OF 1998

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

NPOMA directs the NPS to obtain scientific and technical information for analysis. The NPS handbook for DO-12 states that if ~~—s~~uch 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 2001b).

AMERICANS WITH DISABILITIES AND ARCHITECTURAL BARRIERS ACT GUIDELINES

Pursuant to the Americans with Disabilities Act of 1990 (ADA) and the Architectural Barriers Act of 1968 (ABA), all public buildings, structures, and facilities must comply with specific requirements related to architectural standards, policies, practices, and procedures that accommodate people with hearing, vision, or other disability; and other access requirements. Public facilities and places must remove barriers in existing buildings and landscapes, as necessary and where appropriate. The NPS must comply with Architectural Barriers Act Accessibility Standard (ABAAS) as well as ADA standards for this project.

MIGRATORY BIRD TREATY ACT OF 1918, AS AMENDED 1989

The original 1918 Migratory Bird Treaty Act implemented a 1916 treaty between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U.S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia). Specific provisions in the statute include a federal prohibition to —~~pursue~~, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds... or any part, nest, or egg of any such bird” (16 USC 703). This applies to birds included in international conventions between the U.S. and Great Britain, the U.S. and Mexico, the U.S. and Japan, and the U.S. and Russia.

The responsibilities of federal agencies to protect migratory birds are set forth in Executive Order (EO) 13186. The U.S. Fish and Wildlife Service (USFWS) is the lead agency for migratory birds. The Directors of the NPS and the FWS signed a Memorandum of Understanding (MOU) to Promote the Conservation of Migratory Birds on April 12, 2010, to meet the requirements under section 3 of EO 13186 concerning the responsibilities of federal agencies to protect migratory birds. The MOU specifies procedures that the superintendent of a NPS unit, or a designated representative of the superintendent, will conduct prior to starting any activity that is likely to result in unintentional take.

REDWOOD NATIONAL PARK ACT OF 1978, AS AMENDED

All national park system units are to be managed and protected as Parks, whether established as a recreation area, historic site, or any other designation. This act states that the NPS must conduct its actions in a manner that will ensure no —~~degradation~~ 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.”

CODE OF FEDERAL REGULATIONS

36 CFR §1.5

36 CFR §1.5 sets closures and public use limits for NPS units. These regulations specify the designated areas within Park units in the National Capital Region, including the project area, for specific visitor activities and emergency use restrictions.

36 CFR §7.96

36 CFR §7.96 sets forth guidelines to control special events and uses within NPS units including the National Mall. These regulations control site access, staging, risk management, comfort facilities, first aid, security, transportation, and cost recovery for the special events to minimize impacts to Park resources and the public. Further, 36 CFR §7.96 specifies the location, timing, and size of special events in the National Capital Region NPS units, including the project area.

COMMEMORATIVE WORKS ACT OF 1986

The Commemorative Works Act provides guidance for the planning and design of projects within the monumental core of downtown Washington, D.C. Specifically, the intent of the legislation is to:

- preserve the integrity of the comprehensive design of the L'Enfant and McMillan plans for the nation's capital
- ensure the continued public use and enjoyment of open space in the District of Columbia and its environs, and encourage the location of commemorative works within the urban fabric of the District of Columbia
- preserve, protect, and maintain the limited amount of open space available to residents of, and visitors to, the nation's capital
- ensure future commemorative works in areas administered by the NPS and the Administrator of General Services in the District of Columbia and its environs

The Commemorative Works Act was amended in 2003 by Congress, which designated the cross axis of the National Mall and the north-south axis between the Jefferson Memorial and the White House to be a “substantially completed work of civic art” and prohibited new commemorative works in this area. Congress also directed the NPS to begin planning for the future of the National Mall to protect its character (NPS 2009a).

Executive Orders and Director's Orders

DIRECTOR'S ORDER 17: NATIONAL PARK SERVICE TOURISM

DO-17 promotes and supports sustainable, responsible, informed, and managed visitor use through cooperation and coordination with the tourism industry. This DO provides guidance to the NPS to balance budgetary needs with resource management practices to keep key visitor attractions and services accessible to the public during peak visitation periods. When Park resources must be closed due to construction, this DO directs Park superintendents to communicate these closures with the tourism industry. Park superintendents are responsible for informing visitors, state tourism offices, gateway communities, and tourism-related businesses about current conditions of key Park resources, including current protection, recovery, and restoration measures.

DIRECTOR'S ORDER 28: CULTURAL RESOURCE MANAGEMENT

DO-28 calls for the 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 1998a). This DO also directs the 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 Building (NPS 1992). Additionally, the NPS will comply with the 2008 Service-wide Programmatic Agreement with the ACHP and the National Conference of State Historic Preservation Officers. The accompanying handbook to this order addresses standards and requirements for research, planning, and stewardship of cultural resources including archeological resources, cultural landscapes, historic and prehistoric structures, museum objects, and ethnographic resources.

DIRECTOR'S ORDER 28A: ARCHEOLOGY

This DO supplements *DO-28: Cultural Resources Management Guidelines*, providing guidance to Park managers and staff regarding archeological programs. This DO also details archeological program requirements within NPS units and all applicable standards and guidelines (NPS 1998a).

DIRECTOR'S ORDER 50C: PUBLIC RISK MANAGEMENT PROGRAM

DO-50c emphasizes the prevention of visitor incidents by providing guidelines for establishing a risk management process, while still preserving natural and cultural resources. Consideration for visitor safety will be built into the planning and design process for NPS facilities. This DO directs the NPS to inspect and update all pre-existing visitor use facilities to meet life safety codes and other state and national safety standards.

DIRECTOR'S ORDER 53: SPECIAL PARK USES

DO-53 sets forth the policies and procedures for administering Special Park Uses on NPS lands. Special Park uses are identified as mandatory or discretionary based on whether they are a right or a privilege of citizens. This DO specifies special uses compliance, permit terms and conditions, and guidelines for specific use rights, such as special events (NPS 2010b).

DIRECTOR'S ORDER 77-2: FLOODPLAIN MANAGEMENT

DO 77-2 was issued in response to EO 11988, *Floodplain Management*. This DO applies to all proposed NPS actions that could adversely affect the natural resources and functions of floodplains or increase flood risks. This includes those proposed actions that are functionally dependent upon locations in proximity to the water and for which non-floodplain sites are not practicable alternatives (NPS 2003).

NATURAL RESOURCES MANAGEMENT GUIDELINE, NPS-77 (1991)

The purpose of this document is to provide guidance to Park managers for all planned and ongoing natural resource management activities. Managers must follow all federal laws, regulations, and policies. This document provides the guidance for Park management to design, implement, and evaluate a comprehensive natural resource management program.

Local Plans and Policies

All action alternatives need to consider local plans and policies. The following initiatives serve to guide development and address important planning issues facing the National Capital Region, the monumental core, and the National Mall.

L'ENFANT PLAN (1791)

The original comprehensive plan of Washington, D.C., was designed by Peter (Pierre) Charles L'Enfant in 1791 as the site of the federal city. L'Enfant developed a plan that featured ceremonial spaces and grand radial avenues while respecting the natural contours of land. The resulting plan was a system of orthogonal streets with intersecting diagonal avenues that connected the most significant and important landmarks in the city. This plan included open vistas from the U.S. Capitol and the White House emphasized with an open promenade between the U.S. Capitol and the site of the Monument grounds with buildings on both sides of the promenade to reinforce the visual corridor (NPS 2010a).

THE McMILLAN PLAN (1901)

The McMillan Plan, created by the Senate Park Commission in 1901, sought to reestablish elements of the L'Enfant Plan and reemphasized and expanded the role of the Monument grounds as the center of the city's monumental core (NPS 2010a). The plan called for unobstructed views of the Monument and the U.S. Capitol across the National Mall (NPS 2010a).

NPS MASTER PLAN FOR THE WASHINGTON MALL (1976)

In 1976, Skidmore, Owings, and Merrill prepared a master plan for the NPS that delineated how the McMillan Plan would actually be realized in the Mall of the 1970s with an emphasis on pedestrian use.

THE NATIONAL MALL PLAN (2010)

The NPS National Mall Plan, which provides a comprehensive long-term vision for the National Mall, was prepared with input from the public, numerous federal and local agencies, and other stakeholders. While the plan addresses areas under NPS jurisdiction, it has been coordinated with plans by others such as the NCPC, the District Office of Planning, and the Architect of the Capitol, surrounding museums, and other federal buildings. Under the National Mall Plan, ~~the~~ the National Mall, as the premier civic and symbolic space for our nation, would be respectfully rehabilitated and refurbished so that very high levels of use could be perpetuated and the needs of all visitors and users could be met in an attractive, high-quality, energy-efficient and sustainable manner (NPS 2010a)."

During planning, the NPS evaluated a range of alternatives against how well they resolved known issues, addressed planning needs and objectives, fulfilled law and NPS policies, met NEPA goals, and what advantages each set of alternative ideas offered. The preferred or proposed action combined ideas from all the alternatives and was continually updated based on public comment. The National Mall Plan addresses natural and cultural resource protection, respects the history of development, and builds on the intent and extant features of historic plans. It also addresses the civic space venues and management (including First Amendment rights, national celebrations, and special events/other permitted activities); multi-modal access and circulation; multiple types of visitor experiences and enjoyment such as tourism, recreation, visitor education/interpretation, visitor facilities and services; park operations; and socio-economic impacts.

The Monument grounds are a component of the National Mall, and the completion of the Monument permanent security screening is addressed within the plan. The National Mall Plan-selected alternative includes improvements at the Monument grounds, such as the implementation of the landscaping plan approved in 2003 and the continuation of the use of the Monument Lodge for visitor services and restrooms.

EXTENDING THE LEGACY PLAN (1997)

In 1997, the NCPC completed the plan titled *Extending the Legacy: Planning America's Capital for the 21st Century*, which is the current guiding document for the monumental core. This plan provides a framework that expands upon the L'Enfant Plan and the McMillan Plan and advocates preserving the open landscape of the National Mall.

THE MEMORIALS AND MUSEUMS MASTER PLAN (2001)

The NCPC's Memorials and Museums Master Plan (2001) was generated out of the recognition that the popularity of the monumental core may soon surpass its capacity to accommodate new monuments and memorials in a setting that remains historic, open, and beautiful. The goal of the plan was to identify and promote new sites outside the monumental core to disperse new monuments and memorials, so the environment and character of the National Mall could be protected. The basis for memorial location is the Commemorative Works Act of 1986, which provides standards for the placement of memorials on certain federal land in Washington, D.C., and environs.¹ The project area is located in the "Reserve." (Chapter 89 of Title 40 of the Commemorative Zone Policy of the Memorials and Museums Master Plan discourages development on the National Mall and Washington Monument reservation and designates a "Reserve" area on the cross-axis of the National Mall where no new memorials will be permitted (NCPC 2001).

THE NATIONAL CAPITAL URBAN DESIGN AND SECURITY PLAN (2002)

In October 2002, the NCPC developed a National Capital Urban Design and Security Plan (NCUDSP). The NCUDSP was developed in cooperation with federal agencies, the District of Columbia government, security experts, the professional planning and design community, the Architect of the Capitol, and the public, as well as the U.S. Secret Service. The NCUDSP outlines the need to improve security in the national capital but to do so in a manner that is aesthetically pleasing to residents, workers, and tourists visiting the area. The temporary security structures established after the Oklahoma City bombings and increased after the September 11 (2001) attacks are often criticized for being unsightly and limiting to pedestrian access. The plan focused exclusively on perimeter building security designed to protect employees, visitors, and federal functions and property from threats generated by unauthorized vehicles approaching or entering sensitive buildings. The plan specifically addresses the first phase of a comprehensive vehicular barrier and landscape upgrades at the Monument (NCPC 2001).

COMPREHENSIVE PLAN FOR THE NATIONAL CAPITAL: FEDERAL ELEMENTS (2004)

In August 2004, the NCPC adopted the Comprehensive Plan for the National Capital: Federal Elements. The plan is a statement of goals, principles, and planning policies for the growth and development of the national capital during the next 20 years. The federal elements of the Comprehensive Plan for the National Capital identify and address the current and future needs of federal employees and visitors to the nation's capital; provide policies for locating new federal facilities and maintaining existing ones;

¹ The Commemorative Works Act provides standards and approval requirements as well as permitting requirements for location and design of new memorials and monuments in the District of Columbia. The act distinguishes between the adjacent portions of the District of Columbia, where the commemorative works of "pre-eminent historical and lasting significance" to the nation may be located, and areas outside this zone where works of "lasting historical significance" can be placed. It also seeks to preserve the urban design legacy of the L'Enfant and McMillan plans by protecting public open space and ensuring that future museums and memorials are appropriately located and designed.

promote the preservation and enhancement of the region's natural resources and environment; protect historic resources and urban design features that contribute to the image and functioning of the nation's capital; and working with local, state, and national authorities, support access into, out of, and around the nation's capital that is as efficient as possible for federal and nonfederal workers.

FEDERAL CAPITAL IMPROVEMENTS PROGRAM 2010-2015 (2009)

In February 2009, the NCPC completed the Federal Capital Improvements Program (FCIP) for fiscal years 2010–2015. This document lays out the proposed budgetary commitments as reviewed and evaluated by the NCPC regarding federal activities in Washington, D.C., and the surrounding Maryland and Virginia counties. The FCIP plans the budget for a six-fiscal-year cycle. Projects listed in this document are not assumed to be approved but, rather, the document includes the NCPC's comments and recommendations for future projects including encouraging federal agencies to design security improvements that are aesthetically appropriate to their surroundings and enhance the public environment. Furthermore, NCPC recommends a comprehensive approach to the design of permanent security measures (NCPC 2009).

MONUMENTAL CORE FRAMEWORK PLAN (2009)

The Monumental Core Framework Plan is a multi-agency effort led by the NCPC with the CFA. This planning effort illustrates opportunities to create new and accessible destinations for cultural attractions throughout the city. The Framework Plan provides a comprehensive approach to easing demand for construction on the National Mall in addition to creating attractive urban locations throughout the city. A preliminary plan was released in fall 2007, accentuating the Extending the Legacy Plan and the Malls and Memorials Master Plan. A final plan was completed and approved in 2009.

NPS Management Policies

The NPS Management Policies 2006 (NPS 2006a) is the basic NPS-wide policy document, adherence to which is mandatory unless specifically waived or modified by the NPS director or certain departmental officials, including the U.S. Secretary of Interior. Actions under this EA are in part guided by these management policies. Sections which are particularly relevant to this project are as follows:

SECTION 4.1.3 - EVALUATING IMPACTS ON NATURAL RESOURCES

The NPS will ensure that the environmental costs and benefits of proposed actions are fully and openly evaluated before implementing actions that may impact the natural resources of Parks. The process of evaluation must include public engagement; the analysis of scientific and technical information in the planning, evaluation, and decision-making processes; the involvement of interdisciplinary teams; and the full incorporation of mitigation measures and other principles of sustainable Park management (NPS 2006a).

SECTION 5.3.1 - PROTECTION AND PRESERVATION OF CULTURAL RESOURCES

The NPS will endeavor to protect cultural resources against overuse, deterioration, environmental impacts, and other threats without compromising the integrity of cultural resources (NPS 2006a).

SECTION 5.3.5 - TREATMENT OF CULTURAL RESOURCES

The NPS will provide for the long-term preservation of, public access to, and appreciation of the features, materials, and qualities contributing to the significance of cultural resources. Cultural resources are subject to several basic treatments, including (1) preservation in their existing states; (2) rehabilitation to serve contemporary uses, consistent with their integrity and character; and (3) restoration to earlier appearances by the removal of later additions and replacement of missing elements.

SECTION 5.3.5.2.7 - NEW CONSTRUCTION

Contemporary alterations and additions to a cultural landscape must not radically change, obscure, or destroy its significant spatial organization, materials, and features. New buildings, structures, landscape features, and utilities may be constructed in a cultural landscape if (1) existing structures and improvements do not meet essential management needs; (2) new construction is designed and sited to preserve the landscape's integrity and historic character; (3) and the alterations, additions, or related new construction is differentiated from yet compatible with the landscape's historic character, unless associated with an approved restoration or reconstruction. New additions will meet the *Secretary of the Interior's Standards for Rehabilitation*.

SECTION 8.2.1 - VISITOR CARRYING CAPACITY

The NPS will identify visitor carrying capacities for managing public use and will identify ways to monitor and address unacceptable impacts on Park resources and visitor experiences (NPS 2006a).

SECTION 8.2.2 - RECREATIONAL ACTIVITIES

The NPS will allow a variety of recreational uses and will monitor these visitor uses to determine their appropriateness for the specific Park unit as well as the level of impairment to Park resources (NPS 2006a).

SECTION 8.2.4 - ACCESSIBILITY FOR PERSONS WITH DISABILITIES

The NPS will make all reasonable efforts to make NPS facilities, programs, and services accessible to and usable by all people, including those with disabilities. The NPS will comply with the ABA of 1968, the Rehabilitation Act of 1973, and section 507 of the ADA (NPS 2006a).

SECTION 8.2.5.1 - VISITOR SAFETY

The NPS strives to protect human life and provide for injury-free visits. As a result, the NPS will apply national safety codes and standards to prevent injuries or recognizable threats to visitor safety and will reduce or remove known hazards. Examples of visitor safeguards include the installation of artificial lighting or paved walking surfaces (NPS 2006a).

SECTION 8.3.8 - HOMELAND SECURITY

The NPS will work cooperatively with the Department of the Interior, Department of Homeland Security and other federal, state, and local agencies to prevent and respond to foreign and domestic attacks on American soil. The NPS will maintain a capacity to rapidly move law enforcement personnel to critical asset and infrastructure or other identified areas in the event of a terrorist attack, elevated threat level, or other major emergency incident (NPS 2006a).

SECTION 9.1.1.4 - ADAPTIVE USE

The NHPA and EO 13006 (Locating Federal Facilities on Historic Properties) require each federal agency (before acquiring, constructing, or leasing buildings) to use, to the maximum extent feasible, historic properties available to it whenever operationally appropriate and economically prudent. The act also requires each agency to implement alternatives for the adaptive use of historic properties it owns if that will help ensure the properties' preservation. Therefore, the adaptive use of historic and non-historic buildings for operations such as visitor centers will be considered first, before new construction, provided that (1) it can meet park objectives and current code requirements, (2) its use will not be an intrusion on significant natural or cultural resources, and (3) a cost savings will be realized (NPS 2006a).

SECTION 9.1.3.2 - REVEGETATION AND LANDSCAPING

During replanting following construction, to the maximum extent possible, plantings will consist of species that are native to the Park or that are historically appropriate for the period or event commemorated. This section also dictates NPS use of soil fertilizers, avoidance of exotic plant species, and preservation of existing plant species (NPS 2006a).

Scoping Process and Public Participation

In addition to internal and agency scoping, public scoping for the Washington Monument Security Screening EA began November 2, 2010, and concluded March 31, 2011. During this time, a public scoping meeting was held on November 8, 2010, at the National Capital Region Headquarters at 1100 Ohio Drive SW, Washington, D.C., 20242. Notice of the public meetings was posted on the NPS Planning, Environment, and Public Comment website (PEPC). Approximately 30 people attended the meeting, including representatives from the National Coalition to Save Our Mall, NCPC, the Guild of Professional Tour Guides, the Committee of 100, the District of Columbia State Historic Preservation Officer (SHPO), and Cultural Tourism in DC. The purpose of this meeting was to solicit public input on the purpose, need, and objectives of the project, major issues, and potential alternatives. Following the public meeting and for the remainder of the public scoping period, informational signage was placed outside of the Monument Lodge to solicit input from the visiting public.

At the public meeting and during the 150-day public scoping period, NPS received a total of 51 comments from a combination of unaffiliated individuals and associations. The commenters generally articulated concern for the Monument's structural stability and, in turn, visitor safety. Concern was also expressed about impacts to visitor use and experience and visual resources. Several commenters expressed interest in increased visitor amenities and interpretive opportunities. Numerous commenters voiced concern or support for various alternatives and many even suggested new alternatives.

ALTERNATIVES SCOPING

After the initial scoping meeting and following conclusion of the public scoping period, the project team reviewed and analyzed the public comments and used this input to develop new alternatives. Following the alternatives development process, a second comment period began September 6, 2011, and concluded November 30, 2011. During this time, another public meeting was held on September 20, 2011, at Union Station at 50 Massachusetts Avenue NE, Washington, DC, 20002 in the Columbus Club from 4:30 p.m. to 6:30 p.m. The purpose of the meeting was to provide information to the public about the design alternatives and to gather public input regarding the alternatives presented at the meeting.

At the public alternatives meeting and during the following public comment period, 20 comments were received and several information articles were submitted. Commenters expressed concerns about the structural stability of the Monument and what would happen as a result of any alternatives requiring underground activities. Many commenters had questions about the damage from the August 2011 earthquake and how it may have impacted the Monument's stability. Various commenters expressed support for or concern about the alternatives presented.

Agency Consultation

Coordination with local and federal agencies and various interest groups was conducted during the NEPA process to identify issues and/or concerns related to the proposed Monument visitor screening facility. In accordance with Section 7 of the Endangered Species Act, consultation letters were sent from the NPS to the USFWS on October 14, 2010, and to the District of Columbia Department of the Environment, Fisheries and Wildlife Division on October 22, 2010 (see Appendix A).

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties. In accordance with the regulations implementing Section 106, letters initiating the process were sent to the SHPO and ACHP on November 3, 2010. Documentation of these efforts to obtain public agency consultation is contained in Appendix A. In addition, NCPC requested and was identified as a cooperating agency for this project (defined by CEQ as an agency that has jurisdiction by law or special expertise with respect to any environmental impact involved in the project).

In addition, a number of agencies, organizations, stakeholders were invited to participate in this process as consulting parties. Below is a list of consulting parties that participated:

- ACHP
- American Institute of Architects)
- CFA
- Committee of 100.
- SHPO
- DC Preservation League
- National Coalition to Save Our Mall
- National Parks Conservation Association
- National Trust for Historic Preservation
- Smithsonian Institution
- Washington, D.C., Guild of Professional Tour Guides

Throughout this project, the Section 106 process and NEPA assessment have been closely coordinated, and in some cases, public scoping has been used to satisfy the requirement for both processes. For the purposes of Section 106, several consulting party meetings were held:

- Four consulting parties meetings were held on March 18, 2011; September 20, 2011; December 13, 2011; and September 13, 2012.
- In addition, a consulting parties' site visit was held on February 8, 2012.

3-D models of the alternatives were made available at these meetings to facilitate and aid the consulting parties' review of the alternatives.

Issues and Impact Topics

Issues describe problems or concerns associated with current impacts from environmental conditions or current operations as well as problems that may arise from the implementation of any of the alternatives. Potential issues associated with the replacement of the Monument visitor security screening facility were

identified during internal and public scoping. The NPS' primary concern is to ensure that any alternative considered will allow for minimal disturbance of the existing Park uses and the cultural landscape. The issues and concerns identified during scoping were grouped into impact topics that are discussed in —Chapter 3: Affected Environment” and are analyzed in —Chapter 4: Environmental Consequences.”

Impact Topics Analyzed in this EA

VISITOR USE AND EXPERIENCE

The proposed action would result in impacts on visitor use and experience, affecting visitor movement and circulation within the Monument and public recreation on the Monument grounds with both short- and long-term impacts. To the maximum extent practicable, construction activity would be timed to avoid impacts to special events such as during the 4th of July. As a result of potential impacts that would occur from both the no action and action alternatives, visitor use and experience is addressed as an impact topic in this EA.

PUBLIC SAFETY

Currently, risks to public safety result from the vulnerability of the Monument to terrorist attack. The risks are amplified by the proximity of the visitor screening facility to the entrance of the Monument. As a result of potential impacts that would occur from both the no action and action alternatives, public safety is addressed as an impact topic in this EA.

PARK MANAGEMENT AND OPERATIONS

Currently, there are separate facilities for visitor screening and ticket distribution for entrance into the Monument. As a result, Park operations are split between the Monument and Monument Lodge. The consolidation of operations and construction of a new facility would potentially result in potential impacts to Park operating costs, life-cycle costs, maintenance, and staff operations. As a result of potential impacts that would occur from both the no action and action alternatives, Park management and operations are addressed as an impact topic in this EA.

SOILS

Some of the action alternatives would require the excavation and grading of soils to install foundations and walls, to relocate utilities on a portion of the Monument grounds, and to provide engineered solutions to ensure long-term stability of the monument. Although the area of disturbance consists of fill (USDA 1976), some soil productivity would be lost in the project area. As a result of potential impacts that would occur from both the no action and action alternatives, soils are addressed as an impact topic in this EA.

VISUAL RESOURCES

Some of the action alternatives would introduce new walkways and features in the project area and would result in changes to the visual character. In addition, new features could alter the views and vistas to and from the Monument grounds, some of which are character defining features of the cultural landscape. As a result of potential impacts that would occur from both the no action and action alternatives, visual resources are addressed as an impact topic in this EA.

CULTURAL RESOURCES (HISTORIC STRUCTURES AND CULTURAL LANDSCAPES)

Under the regulations implementing Section 106 of the NHPA, the NPS determined that proposed action would constitute an “undertaking” having a potential effect on NRHP resources and then assessed both a Primary and a Secondary Area of Potential Effect (APE). The proposed action would potentially affect resources listed in or determined eligible for the NRHP as a historic site, a contributing feature of a historic structure, or a cultural landscape.

Impact Topics Dismissed from Further Analysis

AIR QUALITY AND CLIMATE CHANGE

The 1963 Clean Air Act, as amended (42 USC 7401 et seq.), requires federal land managers to protect air quality in national parks. The project site is located in the Washington Metropolitan Area nonattainment zone for ozone. During construction, dust and vehicle emissions would temporarily affect local air. Overall, there would be a slight and temporary degradation of local air quality due to dust generated from construction activities, but these effects would be localized and negligible to minor. The Park’s current level of air quality would not be affected by the proposed action; therefore, this topic was dismissed as an impact topic.

Climate change refers to any significant changes in average climatic conditions (such as mean temperature, precipitation, or wind) or variability (such as seasonality and storm frequency) lasting for an extended period (decades or longer). Recent reports by the U.S. Climate Change Science Program, the National Academy of Sciences, and the United Nations Intergovernmental Panel on Climate Change provide evidence that climate change is occurring as a result of rising greenhouse gas emissions and could accelerate in the coming decades.

While climate change is a global phenomenon, it manifests differently depending on regional and local factors. General changes that are expected to occur in the future as a result of climate change include hotter, drier summers; warmer winters; warmer ocean water; higher ocean levels; more severe wildfires; degraded air quality; more heavy downpours and flooding; and increased drought. Climate change is a far-reaching, long-term issue that could affect the Park and its resources, visitors, and management. Although some effects of climate change are considered known or likely to occur, many potential impacts are unknown. Much depends on the rate at which the temperature would continue to rise and whether global emissions of greenhouse gases can be reduced or mitigated. Climate change science is a rapidly advancing field and new information is being collected and released continually.

Construction activities associated with implementation of the proposed action would contribute to increased greenhouse gases emissions, but such emissions would be short term, ending with the cessation of construction, and it is not possible to meaningfully link the greenhouse gases emissions of such individual project actions to quantitative effects on regional or global climatic patterns. Any effects on climate change would not be discernible at a regional scale. Therefore, this impact topic was dismissed from further evaluation.

CULTURAL RESOURCES (OTHER)

Certain cultural resources, not primarily associated with NRHP, are impact topics under NPS regulations that must be evaluated or dismissed in EAs (NPS 1998a).

ARCHEOLOGY

During the early stages of planning, while numerous conceptual alternatives were developed and evaluated, NPS sponsored an archeological assessment (LeeDecker and Wagner 2011) to evaluate the general condition of the landscape, focusing on identification of prehistoric or historic landscapes that might contain archeological resources. The study methods included a review of existing databases maintained by the NPS, the SHPO, a literature review, and a geoarcheological field investigation. The study area was defined to include the security zone established in the 2004–2006 program of security improvements for the Monument, which encompassed areas of potential ground disturbance associated with the conceptual alternatives that had been developed. Within the 14-acre study area, 12 borings were placed in a cruciform pattern oriented on the north-south and east-west axes from the Monument. The borings were advanced to depths ranging from 15 to 26 feet below ground surface, which was sufficient to reach the level where a buried natural landscape would have been present, given favorable preservation conditions.

The geoarcheological study confirmed that the entire study area is covered by fill deposits that ranged in depth from 9 to 19 feet below grade with greater depths in the areas nearest the Monument. Beneath the fill, a buried natural landscape was identified at elevations ranging from about 15 to 22 feet above mean sea level (amsl). This landscape is believed to have the potential to contain a Native American archeological site. During the construction of the Monument in the nineteenth century, a collection of Native American artifacts was recovered that indicates episodic use of the area for at least 7,000 years. The collection has been cataloged as archeological site 51NW35-Monument Grounds. This collection is apparently from a site on the south bank of Tiber Creek, although the exact origin is unknown.

The installation of two to three geothermal wells would require excavations that might reach the buried landscape that potentially could contain archeological site 51NW35 or an unknown archeological resource. However, the installation of these geothermal wells would be limited in number and in diameter and would not mix or alter the layers of subsurface materials. Ground-disturbing activities associated with Alternative C would include the placement of foundation and utility lines; because the new facility is quite small, foundation work would be relatively minor and would be confined to areas of documented fill. Likewise, any new utility lines for the Alternative C screening facility would be placed within fill deposits of no archeological significance. Alternatives B and D would require 14-foot deep cuts into the landscape along the east (Alternative B) and south (Alternative D) edges of the Plaza, reaching an elevation of about 24-25 feet amsl. The geoarcheological borings in these areas indicate that the natural landscape is at an elevation of about 20 feet amsl. Even with an allowance of two to three feet for placement of pavement substrates or foundations, the landscape cuts that would be required under Alternatives B and D would still not reach the natural landscape that potentially could contain archeological resources. Any utility connections needed for the proposed new bathroom would undergo Park review to ensure that archeological resources are avoided.

Because none of the action alternatives would have any foreseeable impacts to archeological resources, archeological resources was dismissed as an impact topic in this EA. As the design plans for the project proceed, NPS will review the development plans to assess possible impacts to archeological resources. If the selected design requires excavations that might impact potential archeological resources, NPS would continue Section 106 consultation with the SHPO and other parties through the standard review process under 36 CFR §800 or under the terms of the 2008 NPS-wide PA. Through this ongoing process, it is assumed that any impacts to archeological resources would be avoided or mitigated to the extent that they would be negligible. The Section 106 consultation process for this project is described in Chapter 5 of this document.

MUSEUM COLLECTIONS

The proposed action would have any direct effect upon recognized museum collections (historic artifacts, natural specimens, and archival and manuscript material); therefore, this topic was dismissed as an impact topic.

ETHNOGRAPHIC RESOURCES

Ethnographic resources are defined by the NPS as any ~~ite~~, structure, object, landscape, or natural resources feature assigned traditional, legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (NPS 1998b). In this analysis, the NPS’ term ~~ethnographic resources~~” is equivalent to the term ~~Traditional Cultural Property~~” (TCP), which is more widely used in cultural resource management. Guidance for the identification of ethnographic resources is found in National Register Bulletin #38, *Guidelines for Evaluating and Documenting Traditional Cultural Properties* (NPS 1998b). The key considerations in identifying the TCPs are their association with cultural practices or beliefs of a living community that are (1) rooted in the community’s history, and (2) are important in maintaining the continuing cultural identity of the community (Parker and King 1998). No properties meeting the definition of a TCP lie within the APE; therefore, ethnographic resources are dismissed as an impact topic.

ENVIRONMENTAL JUSTICE

Presidential EO 12898, *General Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires all federal agencies to incorporate environmental justice into their missions by identifying and addressing the disproportionately high and/or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities. According to the United States Environmental Protection Agency, environmental justice is the

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

The goal of ~~fair treatment~~” is not to shift risks among populations but to identify potentially disproportionately high and adverse effects and to identify alternatives that may mitigate these impacts.

Communities surrounding the National Mall contain both minority and low-income populations; however, environmental justice is dismissed as an impact topic for the following reasons:

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

- Implementation of the preferred alternative would not result in any identified effects that would be specific to any minority or low-income community.

The impacts associated with implementation of the preferred alternative would not disproportionately affect any minority or low-income population or community.

FLOODPLAINS

EO 11988, *Floodplain Management*, provides for the protection of floodplain values, while NPS *DO 77-2: Floodplain Management* (NPS 2003) provides the NPS with requirements for implementing the EO. Although a small portion of the southwest corner of the Monument grounds is located within designated floodplains (see Figure 1.5), the project area is not in the floodplain. Therefore, a floodplain statement of finding is not necessary for this project because the proposed action would not affect floodplain functions or values, affect flood water flows, or involve construction of structures that could be affected by flooding. Consequently, floodplains were dismissed as an impact topic.

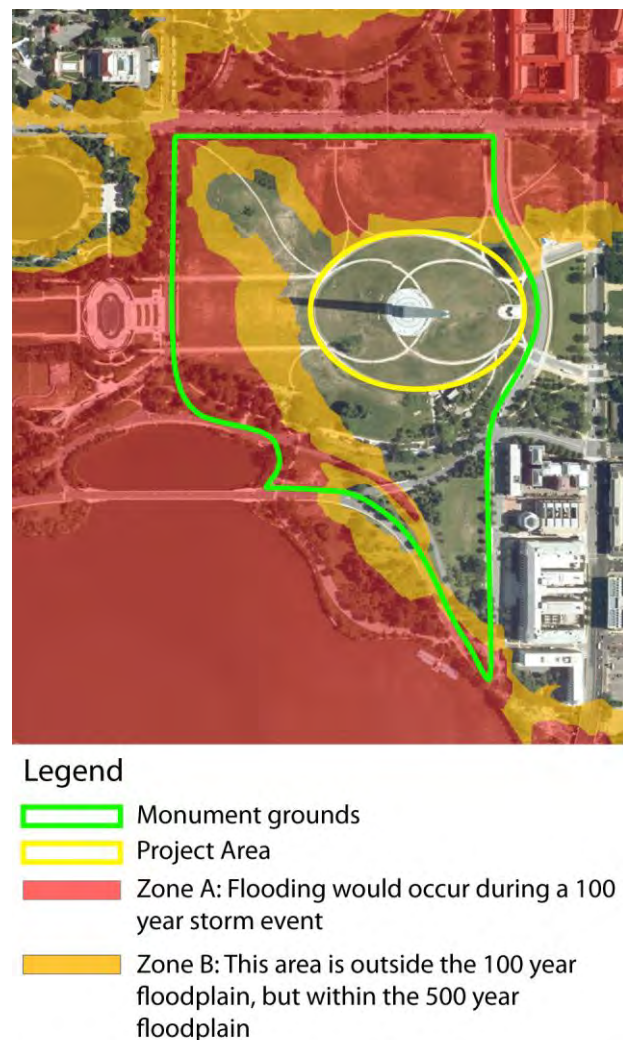
GEOLOGY

The proposed action would not inherently change or alter the geological resources on the Monument grounds, although soils would be displaced during construction and as part of the engineered solution to ensure long-term stability of the Monument. The findings from the geotechnical study are discussed in Chapter 3, Affected Environment, Soils, and subsurface impacts to soils related are addressed in Chapter 4, Impacts to Soils. Therefore, because related impacts are addressed under the Soils section, geology was dismissed as an impact topic.

INDIAN TRUST RESOURCES

Secretarial Order 3175 requires that any anticipated impacts to Indian trust resources from a proposed project or action by the U.S. Department of the Interior agencies be explicitly addressed in environmental documents. The federal Indian trust responsibility is a legally enforceable fiduciary obligation on the part of the U.S. to protect tribal lands, assets, resources, and treaty rights, and it represents a duty to carry out the mandates of federal law with respect to American Indian and Alaska Native tribes.

Figure 1.5 – Floodplains in the Project Area.



Source: Current FEMA Issued Flood Maps 1100010018C, 2010.

There are no Indian trust resources in the Washington, D.C., area. The lands comprising the National Mall are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, the impact topic of Indian trust resources was dismissed.

LAND USE

NPS (2006), *Management Policies*, provides for the protection of parklands, federal lands, and privately owned lands adjacent to Park units. Both the no action and action alternatives would be consistent with and support the Park plans and policies and would not change land use in the project area; therefore, land use was dismissed as an impact topic.

PRIME AND UNIQUE FARMLAND SOIL

The Farmland Protection Policy Act requires the identification and protection of the most important farmland soils of the nation. Two classes of important farmland soils are categorized—those of national importance and unique farmland soils (of state importance). Prime farmland, as defined by the United States Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses (USDA 1993). There are no soil map units classified as being prime or unique farmland soil within the project area. The topic has therefore been dismissed.

SOCIOECONOMICS

NEPA requires an analysis of impacts to the human environment, which includes economic, social, and demographic elements in the affected area. Construction activities associated with the proposed action may bring a short-term need for additional personnel in the Park, but this addition would be minimal and would not affect the surrounding community's overall population, income, or employment base. The proposed action would neither change local and regional land use nor appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a temporary beneficial impact to the economies of nearby area (e.g., minimal increases in employment opportunities for the construction workforce and revenues for local businesses and government generated from construction activities and workers). Impacts would be negligible and temporary, therefore; socioeconomics was dismissed as an impact topic.

TOPOGRAPHY

Implementation of the proposed action would require cut and fill of the topography in the project area, which would reshape the mound that provides the substrate for the Monument. The general slopes and contours of the landform on the remaining portions of the Monument grounds would not be altered. Although there would be potential impacts to topography resulting from the action alternatives, the effects would not be above minor in degree. Therefore, topography was dismissed as an impact topic.

TRAFFIC AND TRANSPORTATION

Because the proposed action would be confined to only a portion of the Monument grounds, adjacent roadways would not be affected, except during construction when there would be short-term impacts from construction equipment and activity crossing Maine Avenue SW and Independence Avenue SW. However, construction activity would be timed to avoid disruption of traffic and transportation during peak hours, so associated impacts would be short term and minor. Therefore, traffic and transportation was dismissed as an impact topic.

VEGETATION

The primary vegetative feature of the Monument grounds is the open lawn that defines the ground plane of the site. Other predominant types of vegetation are street trees that delineate the perimeters of the grounds, groves of canopy and cherry trees, and cherry trees along the Tidal Basin (NPS 2010a). Although implementation of the proposed action would result in some disturbance of turf in the project area, it would not result in the disturbance or removal of any trees. Resultant impacts would not result in greater than negligible effects on vegetation so this resource area was dismissed as an impact topic.

WATER RESOURCES

NPS policies require water quality protection consistent with the Clean Water Act, the purpose of which is to restore and maintain the quality and integrity of the nation's waters. The proposed action would not directly impact water resources. Water quality, water quantity, and drinking water are not expected to be affected by the project. Because the project would not result in impacts to water resources, this impact topic was dismissed from further analysis in this document.

WETLANDS

No wetlands would be affected by the proposed action; therefore, wetlands were dismissed as an impact topic.

WILDLIFE

The project area is in a relatively urban setting, surrounded by manicured lawns and landscaping. It is adjacent to heavily used roads with attendant vehicle noise. As a result, wildlife in the project area is limited to adapted urban species, such as raccoons, waterfowl, squirrels, songbirds, and an occasional hawk using the larger trees to perch. No nesting of raptors is known or expected. Although construction-related activities may temporarily displace wildlife from the area, the proposed action would not result in greater than negligible effects on wildlife or wildlife habitat. Due to the area's urban context, the level of human activity, and minimal habitat value, wildlife was dismissed as an impact topic.

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CHAPTER 2: ALTERNATIVES

Introduction

NEPA requires that federal agencies explore a range of reasonable “alternatives” for implementing the proposed action. The alternatives under consideration must include the “no action” alternative as prescribed by 40 CFR §1502.14. Any alternative analyzed must meet the management objectives of the Park, either wholly or partially, while also meeting the purpose of and need for the project.

Project alternatives may originate from the proponent agency, local government officials, or members of the public. Alternatives may also be developed during the early stages of project development at public scoping meetings or in response to comments from coordinating or cooperating agencies. The alternatives analyzed in this document are the result of internal scoping, public scoping, and agency consultation. The components of the action alternative represent the outcome of extensive collaboration between the NPS and the consultant design team.

As part of this planning process, the NPS developed and considered 18 alternatives. After extensive collaboration among the NPS, consulting parties, and the project consultant team’s designers and engineers, 15 of these alternatives were dismissed from detailed analysis and 4 alternatives were carried forward for further analysis in the EA. These include the no action alternative and three action alternatives.

Alternative A: The No Action Alternative

The no action alternative represents a continuation of the existing sequence of visitor ticketing, screening, and entrance into the Monument. Visitors would continue to retrieve their tickets at the Monument Lodge and queue on the granite Plaza located at the perimeter of the Monument (see Figure 2.1). They would continue to exit from the Monument onto the granite Plaza.

Prior to the August 2011 earthquake, visitors wishing to enter the Monument would obtain entry tickets from the Monument Lodge (a small structure located to the east of the Monument on 15th Street NW) and then queue on the granite Plaza that encircles the Monument. At their designated time, visitors enter a temporary screening facility located against the base of the east face the Monument where they are screened by the NPS and the USPP security staff. After completing the security process, visitors proceed into the elevator lobby of the Monument for ascent. Upon descent, visitors exit through a side door in the temporary facility. The temporary screening facility has ballistic protection.

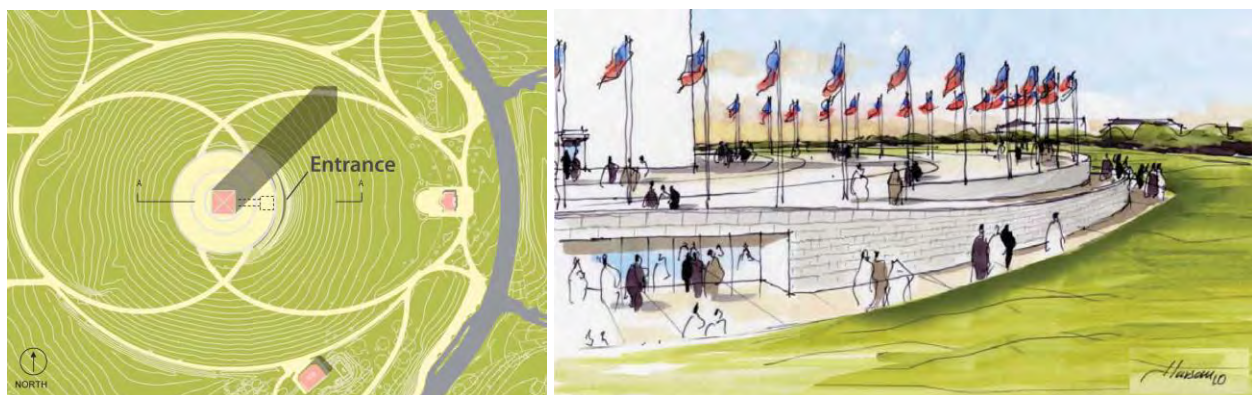
Currently, the Monument is temporarily closed for repairs due to an earthquake on August 23, 2011. The NPS expects the Monument to reopen to visitors once repairs are completed.

Figure 2.1 – Alternative A: No Action Alternative Aerial Plan and Image of Existing Screening Facility**Alternative B: Ramp at Plaza Perimeter**

This alternative focuses on visitor entry and queuing to the Monument via recessed ramps directly adjacent to the east side of the Plaza. A subterranean entrance and facility would provide ingress and security screening to visitors. The Monument elevator would be extended down to this subterranean level to convey visitors to the top of the Monument.

APPROACH

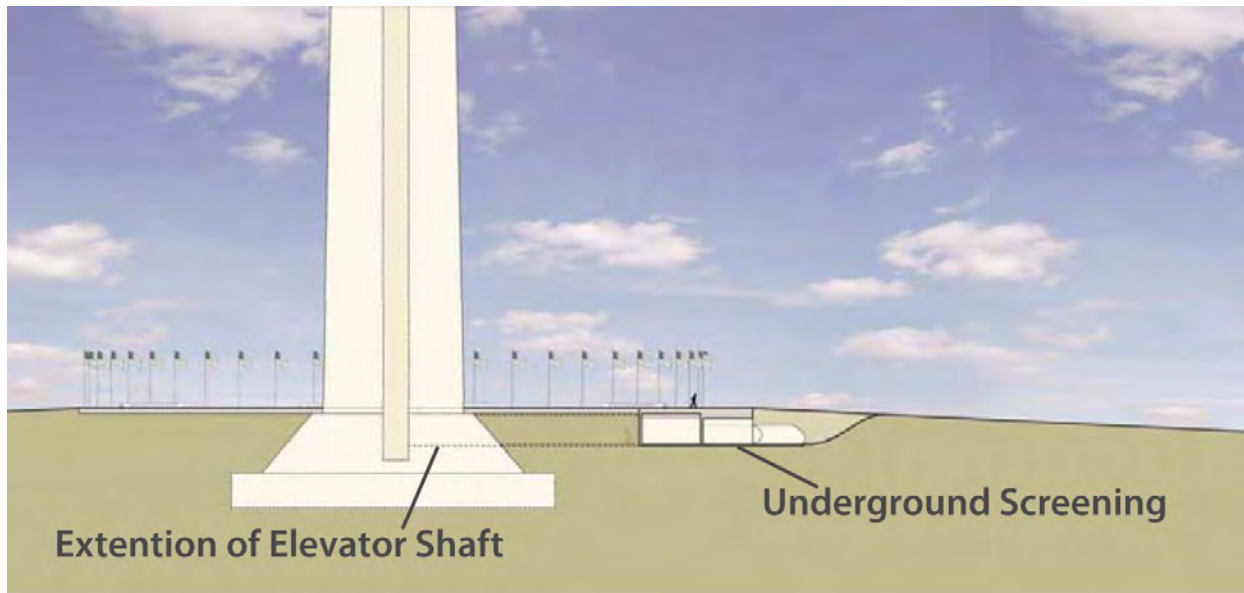
Under this alternative, the NPS would provide a new visitor approach where visitors would enter by walking from the Monument Lodge to the Monument on the existing circular paths to the north and south of the Monument Lodge. Sloped pathways parallel to the Plaza would connect the circular pathways, leading visitors up to the Plaza and down to the visitor entry and security screening point below (see Figure 2.2).

Figure 2.2 – Aerial Plan and Rendering of Alternative B**QUEUING AND SCREENING**

Queuing and screening of visitors would occur in the space under the eastern portion of Plaza (see Figure 2.3). Once inside the subterranean space, visitors would enter the Monument via a lower level connection

from the screening space to the elevator from which they could access the Monument. To accomplish this connection, the existing Monument visitor elevator would be extended to the lower level.

Figure 2.3 – Section View of Alternative B, Looking North



MONUMENT PLAZA

The current temporary visitor screening facility would be removed and a fixed panel of glass would cover the existing Plaza entrance, allowing visitors to view the interior lobby of the Monument. All benches on the Plaza would remain (see Figure 2.4). On the eastern edge of the Plaza, a 42 inch-high, ADA-compliant safety barrier would be installed to protect visitors from the risk of falling to the lower screening area. The materials used for the barrier would be based those used in the Monument or its landscape features, such as the walls installed as part of the Laurie Olin landscaping plan, and would be determined during the design process.

Cuts would be made into the landscape adjacent to the Plaza to accommodate the gentle sloping pathways that would connect the existing circular paths to the Plaza above and the new visitor entry and screening point below. The rise of the landscape from the Monument Lodge to the Plaza would not be elevated above the current elevation. Nevertheless, there would be a cut into the landscape reaching a depth of 14 feet directly adjacent to the sloping pathways.

Alternative B would require the removal of a large volume of earth from the east edge of the Plaza. Because the Monument's foundations do not extend down to bedrock and it currently rests on a deposit of fill (Mueser Rutledge 2011), it has been historically vulnerable to heaving and differential settlement. In addition, the Monument is subject to high wind forces, the effects of which are mitigated in part by the weight of the earth holding it in place. Therefore, any large earth-moving activities around its perimeter pose a risk and great care must be taken to ensure the Monument remains stabilized and balanced in equilibrium.

Any change in weight on the east side of the foundation would require an equal change on the west side. In other words, the weight of the soil removed on the east side of Alternative B would require a similar removal of soil, equal in weight to the volume removed on the east, and in a mirrored location in the turfgrass area off the Plaza. To compensate for the visual impact, the soil could be removed and replaced

with a lightweight concrete fill or on the east side heavier elements could be introduced within the envelope of the new construction.

Figure 2.4 – Aerial Perspective and Enlarged Aerial Perspective of Alternative B Looking Northwest



Alternative C: Freestanding Plaza Pavilion

This alternative focuses on providing the visitor queuing and screening on the Plaza, similar to the no action alternative. The pavilion material could be glass, concrete, or a combination of the two. Nevertheless, if glass were used, there would need to be some opacity to ensure the screening process would not be visible from the outside. The pavilion would include transparent glass roof material so that the Monument would be visible to visitors entering it.

APPROACH

Visitors would continue to approach the Monument and Plaza via the existing circular paths to the north and south of the Monument Lodge. The intersection of these pathways with the Monument Plaza would not change (see Figure 2.5).

Figure 2.5 – Aerial Plan and Rendering of Alternative C



QUEUING AND SCREENING

Under Alternative C, visitors would enter the Monument through a glass-encased visitor entry and screening facility on the eastern face of the Monument (see Figures 2.5 and 2.6). All visitor queuing and screening would occur within this new glass structure. In addition, ingress and egress from the Monument would be through this new glass screening facility.

MONUMENT PLAZA

No changes would be made to the configuration, shape, or benches on the Plaza. The only alteration would be the appearance and footprint of the screening facility on the eastern face of the Monument.

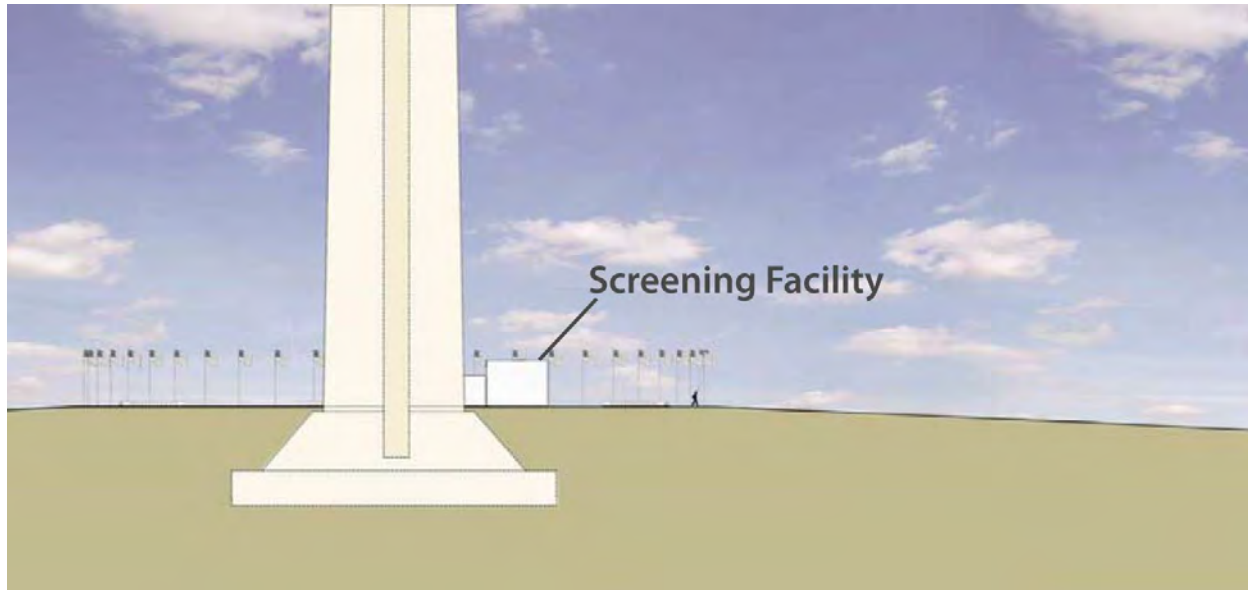
Figure 2.6 – Aerial perspective and enlarged aerial perspective of Alternative C looking northwest.



LANDSCAPE

No changes would be made to the landscape beyond the footprint of the Plaza (see Figure 2.7.) The new screening facility would be visible from the north and south as shown in figure 2.7. There would be no excavation or changes to the topography.

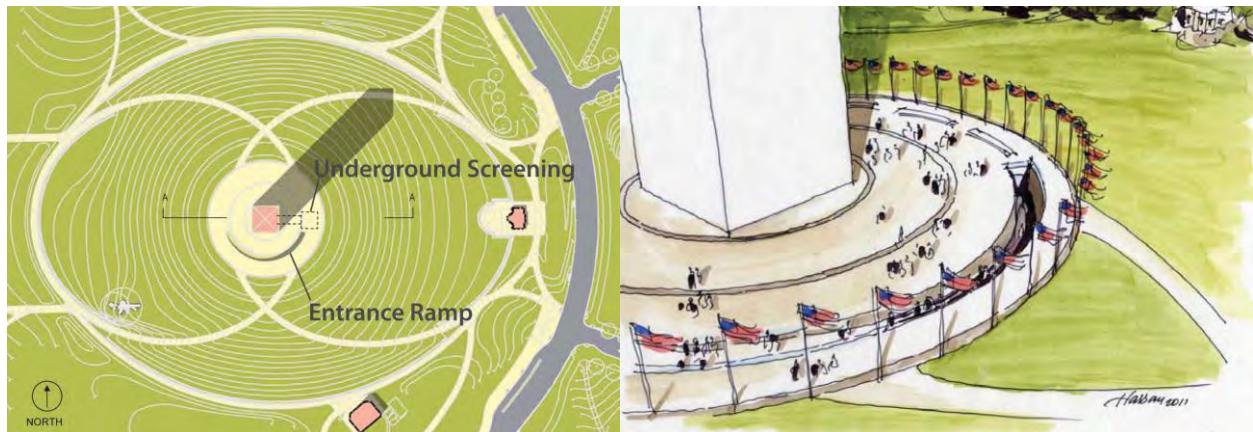
Figure 2.7 – Section View of Alternative C Looking North



Alternative D: Ramp in Plaza

Alternative D emphasizes providing the visitor queuing, screening, and ingress to the Monument via a ramp set in the Plaza (see Figure 2.8). A subterranean entrance would provide space for visitor screening and convey visitors to the Monument via the Monument elevator, which would be extended down to the lower level.

Figure 2.8 – Aerial plan and rendering of Alternative D.



APPROACH

Under Alternative D, visitors would be able to approach the Plaza from any direction (see Figure 2.9). No changes would be made to the existing circular paths to the north and south of the Monument Lodge. However, visitors approaching the Monument and Plaza from the south would be required to walk around the ramp within the Plaza to access the Monument or portions of the Monument.

Figure 2.9 – Aerial Perspective and Enlarged Aerial Perspective of Alternative D Looking Northwest

QUEUING AND SCREENING

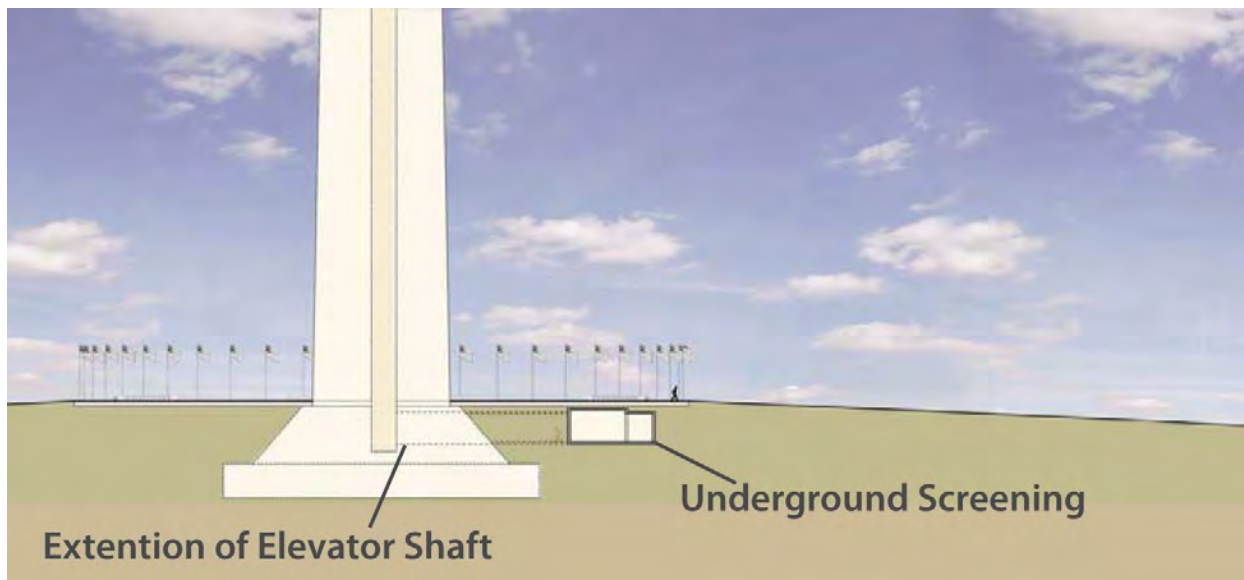
The ramp set in the Plaza would provide entrance to the new visitor queuing and screening facility at the lower level (see Figure 2.8). The ramp would be 12 feet wide and have a radius matching the second of the concentric circles currently inscribed on the Plaza.

MONUMENT PLAZA

The ramp would remove a portion of the Plaza including several visitor benches (see Figure 2.9). In addition, a 42 inch-high, ADA-compliant railing would be set in the Plaza around the incision of the ramp to protect visitors from falling to the lower screening area. The railing materials would be based on those used in the Monument or its landscape features, such as the walls installed as part of the Laurie Olin landscaping plan, and would be determined during the design process. Unlike with Alternative B, removal of soil from the opposite side of the Plaza and replacing it with lighter weight fill would not be necessary. Alternative D would not pose as great a risk to the stability of the Monument as Alternative B for two reasons. First, the volume of soil proposed for removal is a fraction (approximately one-quarter) of the volume of Alternative B. Secondly, the area of soil removal relative to the Monument would be half the distance to that of Alternative B. This is important to note because the potential impact of soil removal and risk of destabilization is at its most minimal at the center of the Monument but intensifies as the distance from the center increases. Although further engineering analysis would be required during design development to determine a specific strategy to ensure absolute equilibrium under Alternative D, the weight of soil removed would likely be balanced by the weight of the new construction elements that would be introduced. Therefore, no equal balancing on the south side of the Monument would be required (Cavanaugh, pers. comm., 2013).

LANDSCAPE

No changes to the landscape beyond the footprint of the Monument Plaza would be made (see Figure 2.10). Nevertheless, there would be a cut into the landscape reaching a depth of 14 feet because of the ramp set within the Plaza.

Figure 2.10 – Section View of Alternative D Looking North

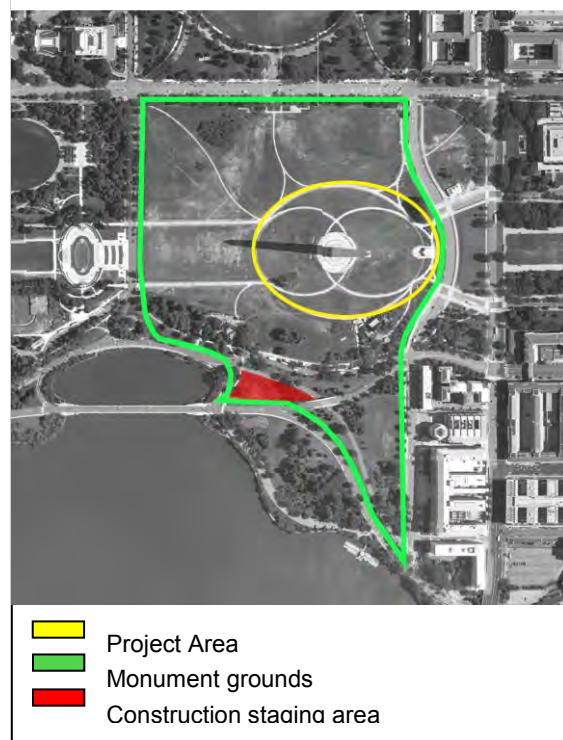
Elements Common to All Action Alternatives

Under all action alternatives, the temporary screening facility would be removed. On the interior, the elevator doors would be replaced with glass doors. Under all action alternatives, visitors would obtain tickets from the Monument Lodge prior to their entrance into the Monument. All action alternatives would be blast resistant and have ballistic protection.

NPS intends to consider, during design refinements, whether a small, single bathroom, for use by staff, may be provided within the new screening facility. In addition, geothermal wells may be installed in order to supplement climate control and reduce energy consumption at the facility. It is anticipated that this array would consist of 2-3 wells, extending to a depth of 400-500 feet, spaced 20 feet apart, with pipes running from the wells to a subsurface mechanical room of the facility. Since the bathroom and geothermal array may be included in any final designs for the facility, they are considered to be a part of all action alternatives and analyzed in this document.

Construction Staging

Construction would be performed on an optimized schedule to limit facility closures and is estimated to last approximately 6 to 8 months. Funding availability will determine the construction timing. Construction staging would occur on the southwest corner of the Monument grounds (see Figure 2.11).

Figure 2.11 – Washington Monument Security Screening Construction Staging

Mitigation Measures for the Action Alternative

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. To help ensure the protection of 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 properly implemented and achieve their intended results.

VISITOR USE AND EXPERIENCE

- The NPS shall prepare public interpretation and education materials that broadly address the historical development of the Washington Monument and its Grounds. Public interpretation and historical education media may include, but not be limited to wayside exhibits, reconstruction drawings, NPS-style brochures and internet-based content. NPS shall include “What’s Going On?” informational signs to place on construction fencing for the duration of construction.
- NPS will establish and implement a long-term monitoring plan for on the monument within a year of the project start and will make this information available to the public.
- Construction activity would be timed, so it does not coincide with special events that occur on the National Mall or in the project area.

PUBLIC SAFETY

- Construction workers and employees would follow an approved health and safety plan, which would adhere to all applicable laws, regulations, and NPS policies.
- Barriers and signs would be used around construction sites to divert the public from potential safety hazards.

SOILS

- Best management practices for erosion and sediment control would be employed during and after construction, including stabilization and re-vegetation after construction is completed.
 - During construction, exposed soils would be covered with plastic sheeting, jute matting, erosion netting, straw, or other suitable cover material to prevent soil erosion and movement during rain or wind events.
 - Erosion containment controls, such as silt fencing and sediment traps (e.g., hay bales), would be used to contain sediment onsite.
 - Replacement soil, which would be brought in from elsewhere, would not come from pristine sites and should be salvaged, in accordance with NPS policy.

VISUAL/AESTHETICS

- Ongoing review with regulatory agencies within the monumental core (District of Columbia Historic Preservation Office [SHPO], NCPC, and CFA) within the design development and Section 106 process would ensure that the proposed action blend as harmoniously as possible with the existing scale, context, and landscape in the project area.

- During construction, visual screening would be used to shield equipment during construction where appropriate and possible.

CULTURAL RESOURCES


- Throughout the design process, the NPS will continue to consult with cooperating agencies and consulting parties as defined in the Memorandum of Agreement (MOA) to ensure adverse effects to cultural resources are avoided, minimized, and mitigated to the maximum extent possible. (see Appendix D)
- Impacts to the cultural landscape would be minimized by ensuring that the operation and construction of a facility for Washington Monument visitor security screening is conducted in a manner consistent with *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes* (Birnbaum 1996).
- Impacts to historic structures would be minimized by ensuring that work on the Washington Monument including its foundation and Plaza is conducted in a manner consistent with *The Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes* (NPS 1992).
- If archeological resources were discovered during construction, 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 can be developed. Consultation with the NPS, and/or the NPS regional archeologist and the SHPO would 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 were discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (25 USC 3001) of 1990 would be followed.




Alternatives Considered but Not Carried Forward for Detailed Analysis



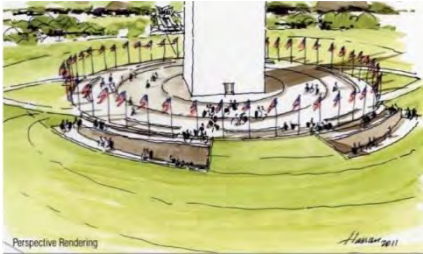
Several alternatives or alternative elements were identified during the design process and internal and public scoping. Some of these were determined to be excessive, or much less desirable than similar options included in the analysis, and were therefore not carried forward for analysis in this EA. Justification for eliminating alternatives from further analysis was based on factors relating to:



- technical or economic infeasibility
- inability to meet project objectives or resolve project need
- duplication with other less environmentally damaging or less expensive alternatives
- conflict with the statement of purpose and need or other policies
- Impacts that were too severe on environmental or historic resources.

Table 2.1 – Alternatives Considered, but Dismissed from Further Analysis

| Alternative | Description | Basis For Dismissal |
|---|--|---|
| New Approach Through the Landscape <p>This series of options is united by a common theme of introducing new paths or structures into the landscape. These new elements would bring visitors into the Monument through a subsurface security screening vestibule. From there, visitors would proceed to a lower level elevator lobby to ascend to the top of the Monument. Under each option, the foundation of the Monument would be penetrated to allow for the creation of a new passage to the lower level elevator lobby and the existing elevator pit would be extended downward by one level. The exact location of the penetration would vary by option.</p> | | |
| East Axial Entry  <p>Perspective Rendering</p> | <p>This option would provide a symmetrical approach toward the Monument through the landscape from the Monument Lodge. Visitors would retrieve tickets at the Monument Lodge and then proceed along a gently sloping path westward toward the Monument. From this path, visitors could either ascend up to the Plaza level by two symmetrical ramps or enter the Monument through a subsurface security screening vestibule located directly below the eastern portion of the Plaza.</p> | <p>This option was not carried forward because the proposed pathway connection between the Monument Lodge and the Monument would have too great of a visual impact and would disrupt the continuity of the north to south axis. This option is similar in concept to the East Axial Concourse option, but with greater visual impact resulting from the pair of large ramps that lead up to the Monument on either side of the entry pathway.</p> |

| | | |
|--|--|---|
| <p>East Axial Concourse</p>  | <p>This option would provide a symmetrical approach toward the Monument through the landscape from the Monument Lodge. Visitors would retrieve tickets at the Monument Lodge and then proceed along a gently sloping path westward toward the Monument. Visitors would ascend up ramp to the Monument and enter via a subsurface security screening vestibule located directly below the eastern portion of the Plaza.</p> | <p>This option is similar in concept to the Ramp at Plaza Perimeter alternative, but with greater effect on visitor use and experience and the cultural landscape resulting from the new sloped north to south ramp. This option would have too great of a visual impact and would disrupt the continuity of the north to south axis.</p> |
| <p>Recessed East Entry</p>  | <p>This option would create a new concentric circular path in the landscape that is offset from the Plaza. The new path would intersect the location where the two existing elliptical paths meet in the landscape and would enable visitors to descend down into a new subsurface security screening vestibule.</p> | <p>This option was not carried forward because it would result in too great an impact to the landscape (including the circulation paths and landforms, which are contributing features to the cultural landscape). This option would also introduce new pathways that are not adjacent to the Monument, creating an additional visual intrusion to the landscape. Because these pathways are new, they might also cause the formation of new social trails, which could degrade the overall visual character of the Monument grounds and create a burden on Park management and operations. This option is similar in concept to the Recessed East Entry at Plaza option, but with greater visual impact due to a greater distance between the Plaza and the new entry.</p> |
| <p>South Plaza Ramp</p>  | <p>This option would use the residual space between the intersection of the two existing elliptical paths and the Plaza to introduce a three-legged ramp that descends to a new subsurface security screening vestibule. Under this option, visitors would begin to ramp downward at the Plaza.</p> | <p>This option is very similar to the South Walkway Ramp option, but it would require three segments to the ramp instead of two. In addition, visitors would enter the ramp from a location immediately adjacent the Plaza, which could cause some congestion around the perimeter of the Plaza. Because the South Walkway Ramp would present a distinctly different point of entry to the ramps and would resolve the descent in two segments rather than three, the South Plaza Ramp option was eliminated from further consideration.</p> |

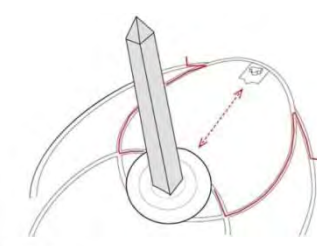
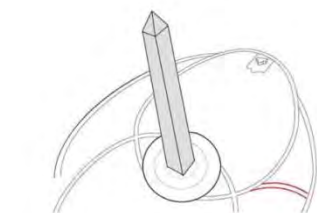
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| <p>South Walkway Ramp</p>  | <p>This option would use the intersection of the two existing elliptical paths to introduce a two-legged ramp that descends to a new subsurface security screening vestibule. Under this option, visitors would begin to ramp downward at the intersection of the two elliptical paths.</p> | <p>This option is similar in concept to the Ramp in Plaza alternative and accomplished the same end result, but with more damage to the cultural resources. Specifically this option had more impacts to topography and the mound,</p> |
| <p>Symmetrical Pavilions for Elevator and Stairs</p>  <p>Perspective Rendering</p> | <p>This option would introduce two new small structures at the location off the Plaza where the two existing elliptical paths meet in the landscape. These new structures would contain an elevator and stair to accommodate visitor entry into a subsurface security screening vestibule.</p> | <p>This option would introduce two new pavilions that would house elevators and stairs for visitors to access the Monument. These two new pavilions would be new elements in the landscape that would be visible from all directions. This alternative also was not carried forward because the glass pavilion option would be a singular, smaller structure, and less of an intrusion into the landscape. In addition, the glass pavilion option would not require the additional elevator, stairs, and excavation.</p> |
| <p>Recessed West Entry</p>  <p>Perspective Rendering</p> | <p>This option would use two symmetrical switchback ramps to transition visitors from the Plaza level to a subsurface security screening vestibule located directly below the eastern portion of the Plaza. To maintain the direct visual and physical access to the Monument from the east, the landscape would be extended over the new subsurface security screening entrance.</p> | <p>This option was not carried forward because the entrance to the Monument would be more substantially hidden underground than in related options, resulting in a less dignified ingress for visitors. In addition, the pathways would cut into the ground to a considerable degree on either side, disrupting the visual continuity of the eastern grass panel leading up to the Monument.</p> |

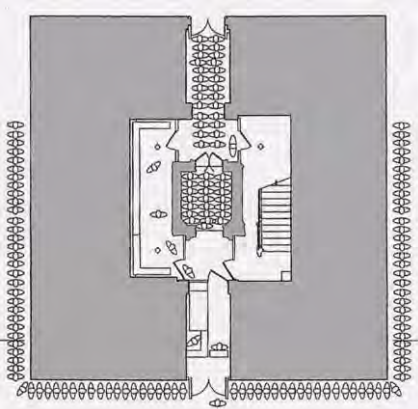

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| Asymmetrical Recessed East Entry  | <p>This option would use a ramp adjacent to the eastern side of the Plaza to transition visitors from the Plaza level to a subsurface security screening vestibule located directly below the eastern portion of the Plaza.</p> | <p>This option is very similar to the Ramp in the Plaza option, but it would have additional impacts to soils and topography outside of the footprint of the Plaza. Because the Ramp in the Plaza option would present a similar option resulting in fewer impacts, the South Plaza Ramp option was eliminated from further consideration.</p> |
| Security Screening on the Plaza <p>This option focuses on removing the existing visitor screening structure on the Plaza and replacing it with a new structure. Within this theme, no option would require any subsurface disturbance. The option would delineate the placement and massing (footprint and height) for a new structure on the Plaza and is not intended to explicitly express materiality.</p> | | |
| Full Plaza Pavilion  | <p>This option would introduce a new structure that would encompass the entirety of the base of the Monument.</p> | <p>This option was not carried forward because of the visual and related impacts to visitor use and experience, cultural resources, Park operations and maintenance, and security. By surrounding the Monument with a visitor screening facility, visitors would not be able to fully access the base of the Monument and the visual transition between the shaft and Plaza would be disrupted.</p> <p>In addition, a large glass structure, surrounding the Monument would present two challenges. First, the security screening equipment requires some degree of concealment, which glass would not provide. Second, the maintenance requirement for glass would present an unacceptable burden on Park management and operations. Although these challenges would be present in other glass alternatives, the amount of glass would present too great of a maintenance need.</p> |
| Escorted Options <p>These options are united by a common theme of screening visitors at a location away from the Monument so that no structure would directly abut it. They also would require an escorted entry into the Monument.</p> | | |

Pedestrian Thoroughfare

This option provides a direct pedestrian path toward the Monument from the Monument Lodge. Visitors would retrieve tickets at the Monument Lodge from a new visitor security screening facility and then proceed along a sloping path westward to the Plaza level. This option would require that NPS staff escort pre-screened visitors along the entire path to ensure that the path would not be traversed or compromised by any non-pre-screened members of the public.

This concept was not carried forward because it would result in extreme impacts to Park management and operations and visitor use and experience. The Park would be required to supplement the staff onsite to screen and escort visitors from the Monument Lodge to the Monument and to ensure that unscreened and screened visitors remain separate. This increase in staffing would present a great burden on Park management and operations. In addition, to further ensure that unscreened visitors do not co-mingle with screened ones, a large portion of the eastern grounds and Plaza would be closed to unscreened visitors, compromising their visitor experience. Logistically, this option would not be reliable for security purposes because of the great risk that screened and unscreened visitors would not remain separate.

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| <p>Motorized Route (Surface)</p>  <p>Key Plan View</p> | <p>This option would require new pathways to be constructed parallel to the existing pedestrian walkways to accommodate the motorized transport of visitors to the Monument from the Monument Lodge. Visitors would retrieve tickets from a new visitor security screening facility at Monument Lodge and then board motorized vehicles that would drop off visitors at the Plaza. This option would require NPS staff to ensure there are no vehicular/pedestrian conflicts at the drop-off location and also to ensure that pre-screened visitors are separated from non-pre-screened members of the public.</p> | <p>Logistically, this option would not be reliable for security reasons because there would be a great risk that screened and unscreened visitors would not remain separate. Pedestrian and vehicular pathway conflicts also would present public safety concerns.</p> <p>The Park would be required to supplement the staff onsite to ensure the public safety of visitors along the motorized route and at the Plaza level. Park staff would need to manually lower the retractable bollards to allow the motorized vehicles to use the pathways, which would leave the Monument grounds vulnerable for a period of time. Park staff would also be required to operate and maintain the vehicles, presenting a great burden on Park management and operations.</p> <p>To further ensure public safety, portions of the Monument grounds would be restricted for pedestrian use while the Monument is open for visitation. This restriction would compromise visitor use and experience.</p> <p>Finally, the motorized vehicles would need to be stored onsite, which would require the construction of a new facility that would visually impact cultural resources.</p> |
| <p>Sylvan Theater</p>  <p>Key Plan View</p> | <p>This option would require a new subsurface pathway connecting the Monument and Monument grounds. Visitors would retrieve tickets from a new visitor security screening facility and then board motorized vehicles that would utilize this subsurface connection to transport visitors to the Monument.</p> | <p>Because this option is a motorized vehicle option similar to the previous one, the same constraints would apply and were factored into its dismissal. This concept was not carried forward because it would result severe impacts to Park management and operations, visitor use and experience, and public safety.</p> |
| <p>Other Options</p> <p>Two stand-alone options developed by the consultant team, the NPS, and/or members of the public were evaluated but dismissed from further consideration because of specific reasons.</p> | | |

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| <p>West Entry</p>  | <p>This option would bring visitors to the Monument from the west and would allow for the removal of the existing east entrance security facility.</p> | <p>This option was not carried forward because it would produce unacceptable security risk and would not accomplish all security goals. Placing the security screening instruments into the walls of the Monument would not afford the security screening team enough time or distance to effectively react to and mitigate a threat. This alternative would also not accomplish the security objective to provide visitors with an experience that affords the highest level of security with the least amount of intrusion and inconvenience.</p> <p>In addition this option cannot be explored further due to technical infeasibility because of the current configuration with no portal on the western face of the Monument. Efforts to reopen this portal would have an effect on the historic statue of George Washington.</p> |
| <p>Embedded Security</p>  | <p>This option would remove the existing east entrance security facility and introduce a prefabricated, modular security screening unit within the thickness of the existing Monument walls on the ground level to the east. Under this option, the original west portal would be restored and used for egress.</p> | <p>This option was not carried forward because it would produce unacceptable security risk and would not accomplish all security goals. Similar to the West Entry option, this option would not afford the security screening team enough time or distance to mitigate potential security threats. In addition, it would not meet the security objective of providing the highest level of security with the least amount of intrusion and inconvenience to visitors.</p> |
| <p>No Security Equipment</p> | <p>This option would remove the existing east entrance security facility and use an NPS Ranger to enforce security entrance into the Monument.</p> | <p>This option was not carried forward because it would produce unacceptable security risk and would not accomplish all security goals. This option would provide neither time nor distance for security personnel to respond to potential threats. In addition, it would not accomplish the security objective of providing visitors an experience that affords the highest level of security because it would provide no security.</p> |

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NPS Preferred Alternative

The CEQ Section 5.4 (d) requires the Park to identify a preferred alternative in the EA if one has been identified. The preferred alternative is the alternative the NPS believes would best accomplish its goals, objectives, and purpose and need. In selecting a preferred alternative, the NPS must consider the associated impacts to natural and cultural resources.

On February 26 and 27, 2013, the NPS and USPP participated in a Choosing by Advantages and Value Analysis (CBA/VA) Workshop at the National Mall and Memorial Parks Headquarters in Washington D.C. The purpose of the CBA/VA Workshop was to enable the NPS to identify a preferred alternative using a facilitated decision-making process. The CBA/VA methodology involved comparing advantages between Alternatives B, C, and D and prioritizing them to determine the most important factors.

Over the course of the two-day workshop, the NPS and USPP evaluated a range of factors including but not limited to:

- preventing the loss of resources, including maintaining the aesthetics of the Monument (views, structure, and material) and Monument grounds
- protecting the health, safety and welfare of visitors and employees
- enhancing public safety by allowing USPP improved visibility looking outward from the screening station;
- improving the operational efficiency of the NPS staff and USPP
- minimizing daily operations and maintenance (including snow removal, vandalism, cleaning, and camera maintenance,)
- providing visitor services and enhance visitor comfort and efficiency
- optimizing public support for the project

Following the qualitative discussion of the advantages of each alternative and the quantitative allocation of numerical values to the advantages, Alternative C scored the highest and was selected as the preferred alternative.

Environmentally Preferable Alternative

The NPS is required to identify the environmentally preferable alternative in its NEPA documents for public review and comment (NPS 2001b). According to the CEQ regulations implementing NEPA (43 CFR §46.30), the environmentally preferable alternative is the alternative “that causes the least damage to the biological and physical environment and best protects, preserves, and enhances historical, cultural, and natural resources.” The environmentally preferable alternative is identified upon consideration and weighing by the responsible official of long-term environmental impacts against short-term impacts in evaluating what is the best protection of these resources. In some situations, such as when different alternatives impact different resources to different degrees, there may be more than one environmentally preferable alternative.

Alternative C is also the environmentally preferred alternative because it has the least impact on historic and cultural resources. Unlike Alternatives B or D, it is reversible, which is preferable according to the Secretary of the Interior’s Standards for the Treatment of Historic Properties. Alternative C also has the least impact to soils of the action alternatives because there would be no changes to the landscape beyond the footprint of the Plaza and no excavation or change to the topography.

The no action alternative would impact cultural landscapes/historic districts and structures due to the aesthetically deficient existing temporary entrance facility, its obscuring the east face entrance of the Monument, and adverse impacts to the views of the Monument from the east, south, and north.

Alternative B would require the removal of a large amount of soils on the east side of the Monument. In addition, geotechnical analysis performed for this alternative indicates that engineered solutions would be required to minimize movement of the foundation and entail balancing any change in weight loading on the east side of the foundation with an equal change on the west side. Consequently, an equally large amount of soil would need to be removed and replaced with lighter fill material on the west side of the Monument. In addition, Alternative B would require puncturing the foundation of the Monument to enable a subsurface point of entry on the east side.

Alternative D would not require removing or re-engineering earth from the Monument grounds, but it would require the removal and demolition of portions of the Plaza including two benches and multiple paving stones. In addition, Alternative D would also require puncturing the foundation of the Monument to enable a subsurface point of entry on the east side.

Summary of Impacts

The table on the following pages provides a summary of environmental consequences for each resource area analyzed in “Chapter 4: Environmental Consequences.” There would be no impairment to any of the resources resulting from the implementation of the action alternative. Options are determined to have beneficial or adverse impacts for each area of analysis, and adverse impacts are rated as negligible, minor, moderate or major, Impacts are also assessed as to whether they are short-term--less than a year in duration, or long-term--greater than a year in duration. Threshold definitions for each topic are included in Chapter 4.

Table 2.2 – Summary of Impacts (Environmental Consequences)

| Resource Area | Alternative A: No Action Alternative | Alternative B: Ramp at Plaza Perimeter | Alternative C: Freestanding Plaza Pavilion | Alternative D: Ramp in Plaza |
|----------------------------|---|---|---|---|
| Visitor Use and Experience | <p>Under the No Action Alternative, long-term moderate adverse impacts to visitor use and experience would result from the continued presence and use of the temporary visitor screening facility. There would also be long-term moderate adverse impacts to visitor experience as a result of congestion created by queuing on the Plaza and visitors waiting for their tour in the elements.</p> <p>Cumulative Impacts: The long-term moderate adverse impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. There would be short-term minor to moderate adverse cumulative effects on visitor use and experience resulting from construction activity associated with the cumulative projects. The level of intensity of the impacts would depend on the duration and extent of the construction activities.</p> | <p>Under Alternative B, long-term minor adverse impacts to visitor use and experience would result from the noticeable 14 foot change in elevation of the landscape directly adjacent to the Plaza where the new ramps would be installed. There would also be long-term beneficial impacts to visitor experience as a result of improved visitor queuing and screening, the potential for increased interpretive opportunities, improved visitor access to all sides of the Monument, and restoring the visual appearance of the Monument Plaza.</p> <p>Cumulative Impacts: The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. There would be a short-term minor to moderate adverse cumulative effect on visitor use and experience resulting from construction activity related to the implementation of Alternative B and cumulative projects.</p> | <p>Under Alternative C, long-term beneficial impacts to visitor use and experience would result from the improved aesthetics of the screening facility. There would be long-term minor adverse impacts to visitor use and experience as a result of visitor congestion on the Plaza and the continued obstruction of the original view of the Monument’s intersection with the Plaza on the eastern face.</p> <p>Cumulative Impacts: The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. There would be a short-term minor to moderate adverse cumulative effect on visitor use and experience resulting from construction activity related to the implementation of Alternative C and cumulative projects.</p> | <p>Under Alternative D, long-term minor adverse impacts to visitor use and experience would result from the incision of the ramp into the Plaza, breaking up continuous visitor access to the Plaza and removing benches on the southern side. There would also be long-term beneficial impacts to visitor experience as a result of improved visitor queuing and screening, the potential for increased interpretive opportunities, and improved visitor access to all sides of the Monument.</p> <p>Cumulative Impacts: The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. There would be a short-term minor to moderate adverse cumulative effect on visitor use and experience resulting from construction activity related to the implementation of Alternative D and cumulative projects.</p> |
| Public Safety | <p>Implementation of the No Action Alternative would result in long-term beneficial impacts to public safety due to the continued use of the temporary visitor screening facility on the Plaza.</p> <p>Cumulative Impacts: The long-term beneficial and long-term minor adverse impacts of this alternative, when combined with the long-term beneficial and short-term minor adverse impacts of other past, present, and reasonably foreseeable future actions, would result in long-term beneficial and minor adverse impacts to public safety.</p> | <p>Under Alternative B, long-term beneficial impacts to public safety would result from the adequate screening provided by the new screening facility and the new designated visitor queuing space. In addition, there would be long-term beneficial impacts because the new facility would help meet the long-term security goals and provide additional time and distance to the security screening team to mitigate threats. Short-term minor adverse impacts to public safety could result from construction activities, but would be minimized by contractors following approved NPS health and safety plans.</p> <p>Cumulative Impacts: The long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. Short-term minor adverse impacts to public safety could result from construction activities, but would be minimized by contractors following approved NPS health and safety plans.</p> | <p>Under Alternative C, long-term beneficial impacts to public safety would result from the continued adequate screening and protection provided by the facility. In addition, the new facility would help meet long-term security management goals resulting in long-term beneficial impacts. There would also be long-term minor adverse impacts as a result of the queuing location having no protection from the elements or designated queuing space. Short-term minor adverse impacts to public safety could result from construction activities, but would be minimized by contractors following approved NPS health and safety plans.</p> <p>Cumulative Impacts: The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the short-term minor adverse and long-term beneficial impacts of cumulative impacts projects would be overall long-term beneficial cumulative impacts to public safety.</p> | <p>Under Alternative D, long-term beneficial impacts to public safety would result from the adequate screening provided by the new screening facility and the new designated visitor queuing space. In addition, there would be long-term beneficial impacts because the new facility would help meet the long-term security goals and provide additional time and distance to the security screening team to mitigate threats. Short-term minor adverse impacts to public safety could result from construction activities, but would be minimized by contractors following approved NPS health and safety plans.</p> <p>Cumulative Impacts: The long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect.</p> |

| Resource Area | Alternative A: No Action Alternative | Alternative B: Ramp at Plaza Perimeter | Alternative C: Freestanding Plaza Pavilion | Alternative D: Ramp in Plaza |
|--------------------------------|--|---|--|---|
| Park Management and Operations | <p>The No Action Alternative represents the continuation of current maintenance efforts and operations for the project area. Park operating costs would not be lowered, and management and operations of the Park would still be split between the Monument, Temporary Screening Facility, Monument Lodge, and Survey Lodge. Additionally, this alternative would retain the existing temporary visitor screening facility. The No Action Alternative would result in long-term minor adverse impacts to Park management and operations.</p> <p>Cumulative Impacts: The long-term minor adverse impacts resulting from the No Action Alternative, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term negligible cumulative effect. Construction activity resulting from these actions would result in a short-term minor adverse cumulative effect on Park management and operations.</p> | <p>Under this alternative, Park operating and maintenance costs are expected to be lower than they are under the No Action Alternative as a result of the new permanent facility. Similar to the No Action Alternative, staff operations would still be split between the Monument, Monument Lodge, and Survey Lodge. This alternative would result in long-term beneficial impacts to Park management and operations. Implementation of Alternative B would have short-term minor adverse impacts to Park management and operations and a long-term beneficial impact to Park management and operations. Construction activity resulting from these actions would result in a short-term minor adverse cumulative effect on Park management and operations.</p> <p>Cumulative Impacts: The long-term beneficial impacts resulting from Alternative B, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effects.</p> | <p>Under this alternative, Park operating and maintenance costs are expected to be lower than they are under the No Action Alternative as a result of the new permanent facility. Similar to the No Action Alternative staff operations would still be split between the Monument, Monument Lodge, and Survey Lodge. This alternative would result in long-term beneficial impacts to Park management and operations as a result of the new permanent screening facility.</p> <p>Cumulative Impacts: The long-term beneficial impacts resulting from Alternative C, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. Construction activity resulting from these actions would result in a short-term, minor adverse cumulative effect on Park management and operations.</p> | <p>Under this alternative, Park operating and maintenance costs are expected to be lower than they are under the No Action Alternative as a result of the new permanent facility. Similar to the No Action Alternative, staff operations would still be split between the Monument, Monument Lodge, and Survey Lodge. This alternative would result in in short-term minor adverse impacts to Park management and operations due to the disruption of the Park functions and requirements for construction activity coordination and supervision and long-term beneficial impacts to Park management and operations as a result of increased efficiencies and security.</p> <p>Cumulative Impacts: The long-term beneficial impacts resulting from Alternative D, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. Construction activity resulting from these actions would result in a short-term minor adverse cumulative effect on Park management and operations.</p> |
| Soils | <p>No soils disturbances would occur as a result of this alternative.</p> <p>Cumulative Impacts: There would be long-term beneficial impacts to soil resources resulting from past, present, and reasonably foreseeable future projects, but the No Action Alternative would not contribute to them.</p> | <p>Alternative B would result in minor adverse long-term impacts to soils from the removal of soil and the addition of a ramp at the Plaza perimeter, as well as replacement of soil with lighter weight fill material to counterbalance the weight of soil removed for the ramp and screening facility. There would be short-term impacts to soils related to construction activities</p> <p>Cumulative Impacts: There would be long-term beneficial cumulative impacts to soils from past, present, and reasonably foreseeable future projects, which would be lessened to a degree by the long-term minor adverse impacts from Alternative B, but still have a net long-term beneficial cumulative effect.</p> | <p>Alternative C would result in no adverse impacts to soil resources.</p> <p>Cumulative Impacts: There would be long-term beneficial cumulative impacts to soils from past, present, and reasonably foreseeable future projects, but Alternative C would not contribute to them.</p> | <p>Alternative D would result in minor adverse long-term impacts to soils from the removal of soil and the addition of a ramp within the Plaza.</p> <p>Cumulative Impacts: There would be long-term beneficial cumulative impacts to soils from past, present, and reasonably foreseeable future projects, which would be lessened to a degree by the long-term minor adverse impacts from Alternative D, but still have a net long-term beneficial cumulative effect.</p> |
| Visual Resources | <p>Under the No Action Alternative, long-term moderate adverse impacts to visual resources would result from diminished visual integrity of the Monument caused by the inconsistent aesthetics and visual character of the temporary visitor screening facility. There would also be long-term moderate adverse impacts to views and vistas as a result of the temporary screening facility's placement obscuring the visual intersection of the Monument with the Plaza.</p> <p>Cumulative Impacts: The long-term moderate adverse impacts of this alternative, when combined with the net cumulative beneficial impacts of other past, present, and reasonably foreseeable future actions, would downgrade the existing long-term moderate adverse impacts to a long-term minor adverse effect to visual resources in the project area. There would be a short-term minor adverse cumulative effect on visual resources resulting from cumulative projects construction.</p> | <p>Under Alternative B, long-term negligible adverse impacts to visual resources would result from the 42 inch high safety barrier, which would be visible on the Plaza looking north, east, and south. There would also be long-term beneficial impacts to visual resources as a result of removal of the temporary visitor screening facility and restoring the original views and vistas of the Monument.</p> <p>Cumulative Impacts: The long-term negligible adverse and long-term beneficial impacts of this alternative, in combination with the minor to moderate adverse and beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a net long-term beneficial cumulative effect. There would be a short-term minor adverse cumulative effect on visitor use and experience resulting from construction activity related to the implementation of Alternative B and cumulative projects.</p> | <p>Implementation of Alternative C would result in long-term moderate adverse impacts to views and vistas as a result of the temporary screening facility's placement blocking the visual intersection of the Monument with the Plaza. There would also be long-term beneficial impacts to visual resources as a result of the replacement of the temporary screening facility with a new facility that is consistent with the aesthetics and visual character of the Monument and surrounding.</p> <p>Cumulative Impacts: The long-term moderate adverse and long-term beneficial impacts of this alternative, in combination with the net long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in an overall long-term beneficial cumulative effect, lessened to a degree by the long-term moderate adverse impacts from this alternative. There would be a short-term minor adverse cumulative effect on visitor use and experience resulting from construction activity related to the implementation of Alternative C and cumulative projects.</p> | <p>Implementation of Alternative D would result in long-term beneficial impacts to visual resources as a result of removal of the temporary visitor screening facility and restoring the original views and vistas of the Monument. Alternative D would also result in long-term negligible adverse impacts to visual resources would result from the 42 inch safety barrier, which would be visible on the Plaza looking south. There would also be long-term minor adverse impacts from the implementation of Alternative D as a result of the visual intrusion to the Plaza from the new ramp.</p> <p>Cumulative Impacts: The long-term negligible to minor adverse and long-term beneficial impacts of this alternative, in combination with the net beneficial cumulative impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect, lessened to a degree by the long-term negligible to minor impacts from Alternative D. There would be a short-term minor adverse cumulative effect on visitor use and experience resulting from construction activity related to the implementation of Alternative D and cumulative projects.</p> |

| Resource Area | Alternative A: No Action Alternative | Alternative B: Ramp at Plaza Perimeter | Alternative C: Freestanding Plaza Pavilion | Alternative D: Ramp in Plaza |
|--------------------|---|--|--|---|
| Cultural Resources | <p>The No Action Alternative would result in long-term, moderate, adverse impacts to cultural landscapes/ historic districts and structures due to the aesthetically deficient existing temporary entrance facility, its obscuring the east face entrance to the Monument, and the adverse impacts to views of the Monument from the east, south, and north as well as views from the top of the Monument Plaza in plan.</p> <p>Cumulative Impacts: Cumulative impacts would be long-term and beneficial with the no action having a noticeable adverse contribution to these impacts, but not changing the combined impact.</p> | <p>Under Alternative B, there would be a long-term major adverse effect due to the fact that it requires cutting into the Monument foundation, lawn and mound, thus altering historic fabric and the topography. It also reroutes the circulation pattern and is the most extreme reconfiguration of the spatial organization of the grounds. It adversely impacts views of the Monument from the east, south, and north as well as views from the top of the Monument Plaza in plan. There is the potential for minor, long-term adverse impacts to the Washington Monument due to excavations for utility connections (geothermal, restroom, and electric.)</p> <p>Cumulative Impacts: Cumulative impacts would be long-term and beneficial with Alternative B having a noticeable adverse contribution to these impacts, but not changing the combined impact.</p> | <p>Under Alternative C, there would be a moderate long-term adverse impact cultural landscapes/ historic districts and structures due the obscuring of the historic east doorway; the intrusion of the new entrance facility on views of the Monument from the east, south, and north; the asymmetry in plan; and the interference with the simplicity of an obelisk rising from the ground. There is the potential for minor, long-term adverse impacts to the Washington Monument due to excavations for utility connections (geothermal, restroom, and electric.)</p> <p>Cumulative Impacts: Cumulative impacts would be long-term and beneficial with Alternative C having a noticeable adverse contribution to these impacts but not changing the combined impact.</p> | <p>Under Alternative D, there would be a long-term moderate adverse effect due to the visibility of the safety barriers, the borrowing of space from the Monument Plaza, cutting into the Monument foundation, rerouting the circulation pattern and a less extreme reconfiguration of the spatial organization of the grounds. It adversely impacts views of the Monument from the east, south, and north as well as views from the top of the Monument Plaza in plan. There is the potential for minor, long-term adverse impacts to the Washington Monument due to excavations for utility connections (geothermal, restroom, and electric.)</p> <p>Cumulative Impacts: Cumulative impacts would be long-term and beneficial with Alternative D having a noticeable adverse contribution to these impacts but not changing the combined impact.</p> |

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CHAPTER 3: AFFECTED ENVIRONMENT

This chapter describes existing environmental conditions in the areas potentially affected by the proposed action. The following impact topics were identified: visitor use and experience, public safety, Park management and operations, soils, visual resources, and cultural resources (historic structures and districts and cultural landscapes). Potential impacts are addressed in the same order in —Chapter 4: Environmental Consequences.”

Visitor Use and Experience

The project area is located within the National Mall and the Park unit of the NPS, which encompasses portions of the monumental core in downtown Washington, D.C., and includes the National Mall, one of the most popular tourist destinations in the country. Many elements contribute to the project area’s popularity and inform visitor experience and visitor use, both of which are considered separately within this analysis. Visitor experience is the overall perception of a place and is, in this context, informed by things such as adjacent attractions (i.e., museums and memorials), public access, and visual quality. Visitor use describes the multiple ways in which a site is used. In this context, the project area is used as a circulation thoroughfare, a recreational destination, and a civic stage for special events. The analysis of this resource area is separated into visitor use and experience on the Monument grounds and within the Monument itself.

QUEUING AND SCREENING

Currently, the Monument is closed for repairs following the August 23, 2011, earthquake. Nevertheless, prior to closure and post repairs, the Monument operated under the following procedures. Tickets are required for admission to the Monument and are administered through the National Park Reservation Service. Tickets are either reserved online or distributed for same day entry on a first come, first served basis at the Monument Lodge, which opens at 8:30 a.m. All tickets are issued by timed entry.

The Monument is open daily, except July 4 and December 25. Although closed since the August 2011 earthquake, the Monument’s regular summer operating hours between the end of May and Labor Day are from 9:00 a.m. to 10:00 p.m. During the remainder of the year, the Monument is open from 9:00 a.m. to 5:00 p.m. (NPS 2010c).

To enter the Monument, visitors with tickets queue on the granite Plaza and, at the appointed time, enter the security screening facility, which is housed in a small temporary structure that is attached to the east façade of the Monument. It measures approximately 20 feet wide and 30 feet long and contains a magnetometer and metal detector. The visitor screening facility is attended by two NPS rangers and USPP personnel. After visitors have successfully passed through the security checkpoint, they queue in the interior elevator lobby, which is limited to occupancy of 80 people at a time. The visitor sequence throughout the Monument tour is universally accessible.

Once inside the Monument, visitors queue in the interior lobby at ground level and ride an elevator to the observation level (500-foot level) in groups of approximately 20. Once at the 500-foot level, visitors can enjoy a 360-degree view of the District of Columbia through four sets of windows on each face of the Monument. The time visitors can remain on the 500-foot level is not restricted. Visitors must take stairs down to the 490-foot level and board the elevator to descend to ground level. Once at ground level, visitors exit through a side door in the interim screening facility, a process that often leads to congestion in the small space.

MONUMENT PLAZA

The large circular granite Plaza at the base of the Monument is surrounded by a series of granite benches and a row of 50 American flags. From the Plaza, a 360-degree view of the city is available. In addition, the Plaza provides direct access to the Monument, enabling visitors to walk up and touch the base of the Monument. The granite Plaza is composed of two concentric rings (see Figure 1.3 in Chapter 1) and is used by the public, although no demonstrations or first amendment activities are permitted in the inner perimeter circle of the Plaza, except for Washington's annual birthday commemorative ceremony on February 22.

MONUMENT GROUNDS/LANDSCAPE

Since the 19th century, the Monument grounds have been used extensively for commemorative events,¹ national celebrations,² First Amendment gatherings,³ and inaugural events. Most recently, in January 2013, the 57th Presidential Inauguration events were held on the National Mall with more than one million people in attendance concentrated from the Washington Monument grounds east toward the U.S. Capitol. Annual visitation for the Washington Monument was 628,665 visitors in 2010 (NPS 2013a). Annual statistics for 2011 are not accurate due to the Monument's closure after the August 2011 earthquake. Visitation peaks during June, July, and August (NPS 2013b).

The Monument grounds have been and continue to be used extensively for recreational purposes. Today, the Monument grounds are permitted for uses such as organized softball, rugby, kickball, and Frisbee through the National Mall and Memorial Parks Division of Permits Management, located in the Park's Headquarters building at 900 Ohio Drive SW in Washington, D.C. (NPS 2010c). Informal and passive recreational uses on the Monument grounds do not require a permit.

In addition to the Monument itself, several other salient features on the Monument grounds contribute to visitor use and experience.

OTHER RESOURCES

The following resources also inform the visitor use and experience in the project area but are not anticipated to be directly impacted by the proposed action alternatives.

SYLVAN THEATER

Sylvan Theater was constructed in 1917 initially as an outdoor theater and has evolved into a permanent public performance space on the southeast portion of the Monument grounds (Milner 2008). Like the rest of the Monument grounds, Sylvan Theater has served as a venue for numerous performances, concerts, ceremonies, and speeches for nearly 100 years (Milner 2008).

¹ Washington's annual birthday commemorative ceremony is held on the granite plaza every February 22.

² The Monument grounds have hosted Independence Day festivities since before the Washington Monument was completed (NPS 2010a).

³ Groups have been gathering on the site since the 1920s. Notable events include the Bonus March of 1932, the 1963 Civil Rights March, anti-Vietnam War marches in the 1970s, the Million Man March in 1995, and protests against war in Iraq during the 2000s (NPS 2010a).

MONUMENT LODGE

This structure was built in 1888 to serve as a waiting room and comfort station for Monument visitors (Milner 2004). Over the next century, the Monument Lodge underwent a series of alterations to enhance visitor comfort including the enlargement of restrooms in 1931 and the renovation of the interior of the main central room in 1942. Today, the Monument Lodge has a bookstore, information desk, a ticket window (to retrieve tickets to the Monument), and two public restrooms in the rear (west) of the facility.

In 1993, the NPS prepared a Development Concept Plan that, in part, proposed the construction of an underground visitor's center, entered through a rehabilitated Monument Lodge. As a result, the area to the rear (west) of the Monument Lodge was prepared for future construction, but the proposal was never implemented.

VISITOR USE AND EXPERIENCE INSIDE THE MONUMENT

INTERPRETATION

A variety of information is provided to visitors primarily during the elevator ride and through interpretive exhibits in the observation level at the top of the Monument. At each of the window in the observation level, exhibits identify features in the current landscape and what was the historic landscape. Views to the north, south, east, and west can be seen from the windows. Other exhibits focus on the history of the Monument and the history of George Washington. Information about the Monument and memorial stones on the Monument's interior is also provided by the NPS ranger conducting the tour and at the Monument Lodge.

MONUMENT INTERIOR

Renovations to the interior of the Monument have occurred throughout its history to respond to visitor comfort, new elevator technology, and historic preservation. Most current finishes in the interior date to the 1992 renovation (Milner 2004). The most recent and notable interior renovations occurred in 1992 and 2000 and introduced upgraded finishes to the interior elevator lobby, including:

- the restoration of the terrazzo floor and marble wainscot (dating to 1904 and 1913, respectively)
- new bronze elevator doors and the replacement of the east elevator lobby doors
- installation of new limestone surround at the east elevator doors
- installation of bronze inscriptions, swags, and bas relief plaques mounted to interior lobby walls (Milner 2004)

VISITOR USE AND EXPERIENCE IN THE SURROUNDING AREA

The Monument grounds are adjacent to the Mall and include some of the oldest and most prominent parkland in the NPS. The Monument grounds are bounded by some of the nation's most noteworthy museums, memorials, and buildings, making it one of the most-visited destinations in the country.

ADJACENT ATTRACTIONS

The museums in the nearby vicinity of the project area include the National Gallery of Art and the Smithsonian Institution's National Museum of American History, National Museum of Natural History, National Museum of the American Indian, National Air and Space Museum, African Art Museum, International Gallery (Ripley Center), Freer Gallery of Art / Sackler Gallery, Arts and Industries Building, Hirshhorn Museum and Sculpture Gallery, and the Smithsonian Castle.

The project area falls along the prominent cross axis of national monuments in downtown Washington, D.C., that (in addition to the Monument) includes the World War II Memorial and Lincoln Memorial to the west, the U.S. Capitol building to the east, the White House to the north, and the Jefferson Memorial to the south. The Vietnam Veterans Memorial and Korean War Veterans Memorial are located immediately off the central east/west axis.

Public Access

The project area is well served by multiple modes of transportation, and visitors have access to and from the project area via Metrorail, Metrobus, NPS Tourmobile, DC circulator, Capital Bikeshare, or car. Limited off-street parking can be found around the National Mall as can be paid parking garages within a half-mile radius of the project area. In addition, 26 parking spaces are located off 15th Street NW for government vehicles and Park staff parking; no public parking is available (NPS 2010a).

Public Safety

The NPS is committed to providing high-quality opportunities for visitors and employees to enjoy parks in a safe and healthy environment. Furthermore, the NPS strives to protect human life and provide for injury-free visits. Safety applies to both Park visitors and employees.

The National Mall and Memorial Parks Division of Interpretation and Education help provide visitor safety as well as first-line response for medical emergencies. The USPP have primary law enforcement jurisdiction on the National Mall but also work with the U.S. Capitol Police, the U.S. Secret Service, the D.C. Metropolitan Police Department, and other law enforcement agencies to provide safety and security within downtown Washington, D.C. (NPS 2010a). Park staff members are subject to the same safety hazards that pertain to the general public.

SECURITY

PERIMETER SECURITY

By 2006, a comprehensive vehicle barrier system was constructed on the Monument grounds and replaced the double rings of Jersey barriers that were installed. This vehicular barrier system consists of walled terraces and pathways constructed around the Monument that appear to blend harmoniously into the topography of the Monument grounds. The landscape design incorporated berms that are set back approximately 50 feet from the walls to screen them from the west.

MONUMENT SECURITY

Visitors queue on the granite Plaza outside the east side of the Monument and are grouped apart from other visitors in the area. At designated times, groups are led into the interim screening facility and undergo security screening with x-ray and magnetometer equipment monitored by the USPP.

ACCESSIBILITY

The NPS is committed to enabling universal accessibility in all NPS facilities to ensure compliance with various laws including the ABA of 1968, the ABAAS, the Rehabilitation Act of 1973, the Equal Employment Opportunity Act of 1972, and the ADA of 1990. The NPS policy actively promotes equal access to all Park resources for people with disabilities.

To fulfill its symbolic and civic importance, the National Mall is a role model of inclusiveness and universal design for all citizens and the Monument grounds are no exception (NPS 2010a). The curvilinear, sloped walkways and other landscape improvements that were implemented at the Monument

grounds in 2006 provided fully accessible pathways to the Monument, making the Monument and granite Plaza fully accessible.

Park Management and Operations

The National Mall and Memorial Parks is an administrative unit of the national park system. Park management structure is divided into the office of the superintendent and several divisions, including administration, maintenance, interpretation and education, Park programs, and resource management. Overall management decisions concerning the Park, and the resources within it, are the responsibility of the superintendent, while interpretive ranger staff coordinate daily operations at the Monument.

STAFFING

The Park has a staff of approximately 330, who have responsibility for the National Mall's historic landscape and commemorative works, as well as the additional 156 U.S. reservations (circular, triangular, and rectangular parks throughout the District) within Park.

Within the Monument, there are security staff in the visitor screening facility as well as numerous park rangers throughout the Monument, including in the elevator lobby, in the elevator, at the 500-foot observation level, and at the 490-foot observation level. All activity in public areas of the Monument is monitored by closed circuit television cameras. The Monument is temporarily closed for repairs due to an earthquake on August 23, 2011. Once repairs are undertaken, it is expected that the Monument would once again be open to visitors.

PERMITTING FOR PUBLIC USE

One feature unique of this Park is the frequency of special events such as the Fourth of July, Folk Life Festival, the National Cherry Blossom Festival, and Presidential Inaugural activities. These special events introduce large numbers of visitors, delivery trucks, and staging equipment to the National Mall, including the Monument grounds, and strain Park resources and infrastructure.

These activities are permitted through the Division of Park Programs pursuant to 36 CFR §7.96. Permits are required for events of greater than 25 people, as stated in the Visitor Use and Experience section, and can be obtained with advance notice and for a fee through the National Mall and Memorial Parks Division of Park Programs.⁴ The permitting process is intended to ensure that there is no conflict between special events and general visitor activities (NPS 2010a).

The NPS has a set of terms for these permits that regulate site access, staging, risk management, comfort facilities, first aid, security, transportation, and cost recovery to minimize impacts to Park resources and the public. Events must also follow risk management plans to ensure the safety and comfort of attendees including providing additional first aid stations, comfort facilities, site security, and coordinating with the Washington Metropolitan Area Transit Authority (WMATA) for transportation (NPS 2007).

⁴ All permits must be received at this office at least 48 hours prior to the proposed event. All applications, unless determined to be a First Amendment activity, require a \$50.00 processing fee (NPS 2010c).

MAINTENANCE

The maintenance division is responsible for Park maintenance of the Monument and Monument grounds including the Monument, visitors screening facility, Monument Lodge, Sylvan Theater, and Survey Lodge. Operational activities and maintenance on the Monument grounds include trash and snow removal, turf maintenance, and inspection and upkeep of the low granite walls and curbs and retractable bollards that are components of the vehicular barrier system.

Soils

Originally, most of the Monument grounds were occupied by the Tiber Creek. The adjacent area and most of downtown Washington, D.C., were made up of swamplands and tidal marshes and marked by its drainage systems. During the mid- to late-19th century the main channel of Tiber Creek was replaced by a trunk sewer and the area was filled to create buildable land, which now encompasses much of downtown Washington, D.C., and portions of the National Mall (Wagner 2007).

An investigation of the subsurface conditions of the project area was completed on November 21, 2011. This investigation determined that the uppermost material within the project area is fill material and ranges in thickness from 9 to 18 feet. Various layers of sandy silt, sand, gravel, clay, and decomposed rock lie below this stratum of fill. The Monument foundation bears on a stratum of sand and gravel, which in turn is on a stratum of clay.

This study also performed an investigation of the impacts of various excavations of the soil surrounding the Monument and estimated the impact that the disruption of soil would have on the Monument. These findings are presented in the analysis of impacts in Chapter 4.

Finally, this investigation performed an evaluation of the liquefaction potential of the soils beneath the Monument, or the potential for wet soils to soften, become unstable, or “~~liquid~~,” and lose their bearing strength in the event of an earthquake. To analyze this potential, the investigation chose a conservative design earthquake event. Such analyses also consider the depth of groundwater because saturation of soils by groundwater is a factor in liquefaction, and use two earthquake parameters—moment magnitude (M_w), and peak ground acceleration (PGA). Moment magnitude is a measure of the size of an earthquake in terms of energy released and is the current measure used by the USGS to measure earthquake magnitude (rather than the more commonly known Richter scale, which the M_w scale replaced in the 1970s) (Hanks and Kanamori 1979). PGA is a measure of earthquake acceleration on the ground, and measures how hard, or how intensely, the ground would shake in a given geological area, both vertically, and horizontally. It is typically expressed in terms of acceleration due to the earth’s gravity. The design earthquake event for this study had an M_w of 6 (the 2011 earthquake had a 5.8 magnitude) and used a peak ground acceleration of 0.1 g (0.981 m/s^2), where the perceived shaking would be strong. This earthquake is the equivalent to a 2,500-year return period earthquake event in the Washington, D.C., area (a 0.04 percent chance of occurring in a given year). The study found that liquefaction of the soils would be unlikely during an event of this magnitude (Mueser Rutledge 2011).

Under NPS Management Policies 2006, the NPS actively seeks to understand and preserve the soil resources of its parks and properties, and prevent unnatural erosion, physical removal, or contamination of the soil to the extent possible (NPS 2006a). The Soil Survey of the District of Columbia, produced by the U.S. Department of Agriculture (USDA) and Natural Resources Conservation Service (NRCS 2006) was consulted to identify soils within the project area. Consistent with the findings of the geotechnical study, the Soil Survey of the District of Columbia shows only one soil map unit within the project area, which is Udorthents. Udorthents are characterized by nearly level to steep soils that have been heavily influenced by humans (USDA 1976). Soils in the area are composed of an assortment of fill materials

causing a wide variety of physical and chemical soil properties. In the project area, the topsoil ranges from sandy loam, loam, and silt loam (NPS 2010a). However, subsoils in the project area are much more variable. Soil permeability and runoff appear to be somewhat varied within the project area. However, soil drainage occurs at a rate lower than what is considered acceptable for turf use, especially after rain events (NPS 2010a). As a result of intensive visitor use, the soils are highly compacted and function as an impervious surface. All the soils are well compacted by heavy visitor use. The Plaza and walkways around the Monument represent slightly over an acre of hardscaping, under which the soils are somewhat more compacted than in the turf area on the project grounds.

Visual Resources

The visual and aesthetic quality of the project area is affected by its overall visual character as well as the associated views and vistas within and around the area. The visual character of a site embodies the defining and memorable site features that contribute to overall perception and visitor experience, such as the site's spatial organization, buildings, and small structures. Views and vistas capture the range of the eye and frame the visual character of the site. Views and vistas are composed of foreground and background elements and are taken from a certain point of view. For this analysis, the term *—ista* defines views of primary importance that were specifically planned, designed, and implemented. The term *—iew* describes those unplanned views that resulted from the construction of other features.

VISUAL CHARACTER

The visual character of the site is dominated by several structures, the most prominent of which is the Monument. The backdrop to the Monument is the topographical mound, symmetrical curved and sloped walkways, and granite Plaza encircled with flags. The small structures on the Monument grounds (Sylvan Theater, Survey Lodge, and Monument Lodge) are character-defining features of the cultural landscape, but they are deferential in scale to the Monuments and vistas.

THE WASHINGTON MONUMENT

The Monument is an obelisk constructed of white marble ashlar blocks, standing 555 feet, 5-1/8 inches high (NPS 2010a). The base is 55 feet wide with 13-foot-thick masonry walls at the base that taper to 1-foot-thick walls toward the top (Milner 2004). On the interior of the Monument, 193 commemorative stones that start at the 30-foot level and continue to the 450-foot level (Milner 2004) are visible from the glass openings in the elevator cab. The vertical Monument has a clear visual intersection with the horizontal Plaza (except on the eastern side where the temporary screening facility intrudes) that due to its elevation compared to the rest of the National Mall is visible from great distances.

Due to the post-August 2011 earthquake repairs, scaffolding and visual screening is in place and is currently part of the visual character of the Monument.

THE MONUMENT LODGE

Monument Lodge is small structure (approximately 25 feet by 30 feet) constructed of rusticated ashlar stone (Figure 3.1) (NPS 2010a). The building opened in 1889 and was intended to serve as a point of arrival for visitors to the Monument (Milner 2004).

Figure 3.1 – Monument Lodge



SURVEY LODGE

The Survey Lodge is a two-story structure located to the south of the Monument that was built in 1885 of waste stock granite and white marble that was used to construct the Monument (NPS 2010a). It was rehabilitated, including a complete renovation of the interior, from 1989 to 1993.

SYLVAN THEATER

Sylvan Theater, located 150 yards southeast of the Monument, was originally built in 1917 (Figure 3.2) (NPS 2010a). It is a public gathering and performance space that, despite its size, remains fairly visually unobtrusive in the scope of the Monument grounds.

Figure 3.2 – Sylvan Theater



MONUMENT PLAZA

The granite Plaza that surrounds the Monument is encircled by 50 American flags and provides a panoramic view of the primary vistas extending west to the Lincoln Memorial (see Figure 3.3) and east to the U.S. Capitol (see Figure 3.4).

VIEWS AND VISTAS

Visible from miles away, the Washington Monument is the most prominent structure on the largest open space in the heart of the nation's capital. The vistas that connect the Monument to prominent buildings, landscapes, monuments, and memorials in the adjacent area have been faithfully maintained and retain the strong visual corridors established by the L'Enfant and McMillan plans (NPS 2010a). These vistas are defining aspects of the Monument grounds (NPS 2010a).

The L'Enfant Plan included open vistas from the U.S. Capitol and the White House to the intersection of their respective axes with an open promenade between the U.S. Capitol building and what would be the monument grounds with buildings on both sides of the promenade to reinforce the visual corridor (NPS 2010a). The construction of the Monument, which began in 1848, placed the obelisk just southeast of this cross axis (NPS 2010a).

Figure 3.3 – Vista toward Lincoln Memorial from Washington Monument



Figure 3.4 – Vista toward U.S. Capitol from Washington Monument



The landscape of the east-west axis between the U.S. Capitol and the Lincoln Memorial has a formal aesthetic quality inspired by the large French boulevards with a broad, linear open space reinforced by an allée of elm trees. From the Monument, one can look toward the U.S. Capitol past the greensward of the National Mall. From this vantage point, the Monument Lodge is prominent and highly visible (Figure 3.4). From the Monument looking toward the Lincoln Memorial, the uninterrupted view is dominated by the World War II Memorial and the Reflecting Pool with the Lincoln Memorial rising up in the background.

In contrast, the north-south axis between the White House and the Jefferson Memorial is less linear with a less formal, more park-like setting that uses organic forms to define the visual space. From the White House moving south, the visual character changes from an urban setting surrounded by buildings to a large, open green expanse on the Monument grounds and finally to a more natural setting south of Sylvan Theater toward the Tidal Basin. This southern viewshed between the Monument and the Jefferson Memorial is extremely naturalized and organic with the least symmetry of all four views looking from the Monument. Looking north from the Monument in the other direction, the White House and the Ellipse in front of it are highly visible.

In addition to being defining aspects of the Monument grounds, the views of the Monument from various parts of the city as an icon continue to be valued with particular importance being placed in the visibility of the base of the Monument from points afar.

Cultural Resources

Cultural resources for federal agency planning and environmental review purposes are primarily those resources that qualify for the NRHP as well as those addressed by certain other laws protecting archeological sites and Native American properties. The NHPA, as amended, is the principal legislative authority for managing cultural resources associated with NPS projects. Generally, Section 106 of the NHPA requires all federal agencies to consider the effects of their actions on cultural resources listed and/or determined eligible for listing in the NRHP. Such resources are also termed “historic properties.”

Moreover, the federal agency must afford the ACHP the opportunity to comment in the event that an undertaking will have an adverse effect on a cultural resource that is eligible for or listed in the NRHP, and must consult with the SHPO and other interested parties in an effort to avoid, minimize, or mitigate adverse effects.

Eligibility for the NRHP is established according to the official Criteria of Evaluation contained in 36 CFR §60.4 issued by the U.S. Department of the Interior. The criteria relate to the quality of significance in American history, architecture, archeology, engineering, and culture present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives of persons significant in our past; or
- C. that 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
- D. that have yielded, or may be likely to yield, information important in prehistory or history.

Other important laws and regulations designed to protect cultural resources are:

- Native American Graves Protection and Repatriation Act, 1990

- American Indian Religious Freedom Act, 1978
- NEPA, 1969
- Archeological Resources Protection Act, 1979
- EO 11593: Protection and Enhancement of the Cultural Environment, 1971

In addition, the NPS has a unique stewardship role in the management of its cultural properties, reflected in its own regulations and policies. In these policies, the NPS categorizes cultural resources as: archeological resources, cultural landscapes, historic districts and structures, museum objects, ethnographic resources, and Indian Trust resources and sacred sites.

As indicated in “Chapter 1: Purpose and Need,” the project to construct and operate a visitor screening facility for the Washington Monument has been evaluated as having no potential impact on museum collections, ethnographic resources, archeological resources, or Indian resources and sacred sites. Therefore, these impact topics have been dismissed, leaving only historic districts and structures and cultural landscapes to be evaluated. The Washington Monument and Monument grounds have been evaluated according to several resource types over time but most recently as a cultural landscape. The consideration of cultural resources by the NPS meets pertinent requirements of the NHPA and related legislation and implementing requirements.

Under the regulations implementing Section 106 of the NHPA, the NPS first determined that construction and operation of a visitor screening facility for the Washington Monument would constitute an “undertaking” having a potential effect on NRHP resources, and then assessed its APE. Two APEs have been identified, both larger than the potential area of construction for a visitor screening facility connecting to the Monument. The primary APE is coterminous with the Monument grounds (and District of Columbia Reservation 2). It provides a window on the project’s potential effects on the Monument itself, its setting, and the contributing features of the cultural landscape. The secondary, much larger, APE corresponds to the National Mall and President’s Park as open spaces surrounded and defined by adjacent buildings and associated views and vistas. It follows the outer boundaries of numerous officially designated but sometimes overlapping historic districts and cultural landscapes. A more detailed listing and description of the historic resources within the secondary APE is given below. The boundaries of the two APEs were delineated in consultation with the District of Columbia SHPO as provided for in the Section 106 implementing regulations, 36 CFR §800. Figure 3.5 illustrates the two APEs.

Figure 3.5 – Primary and Secondary APE



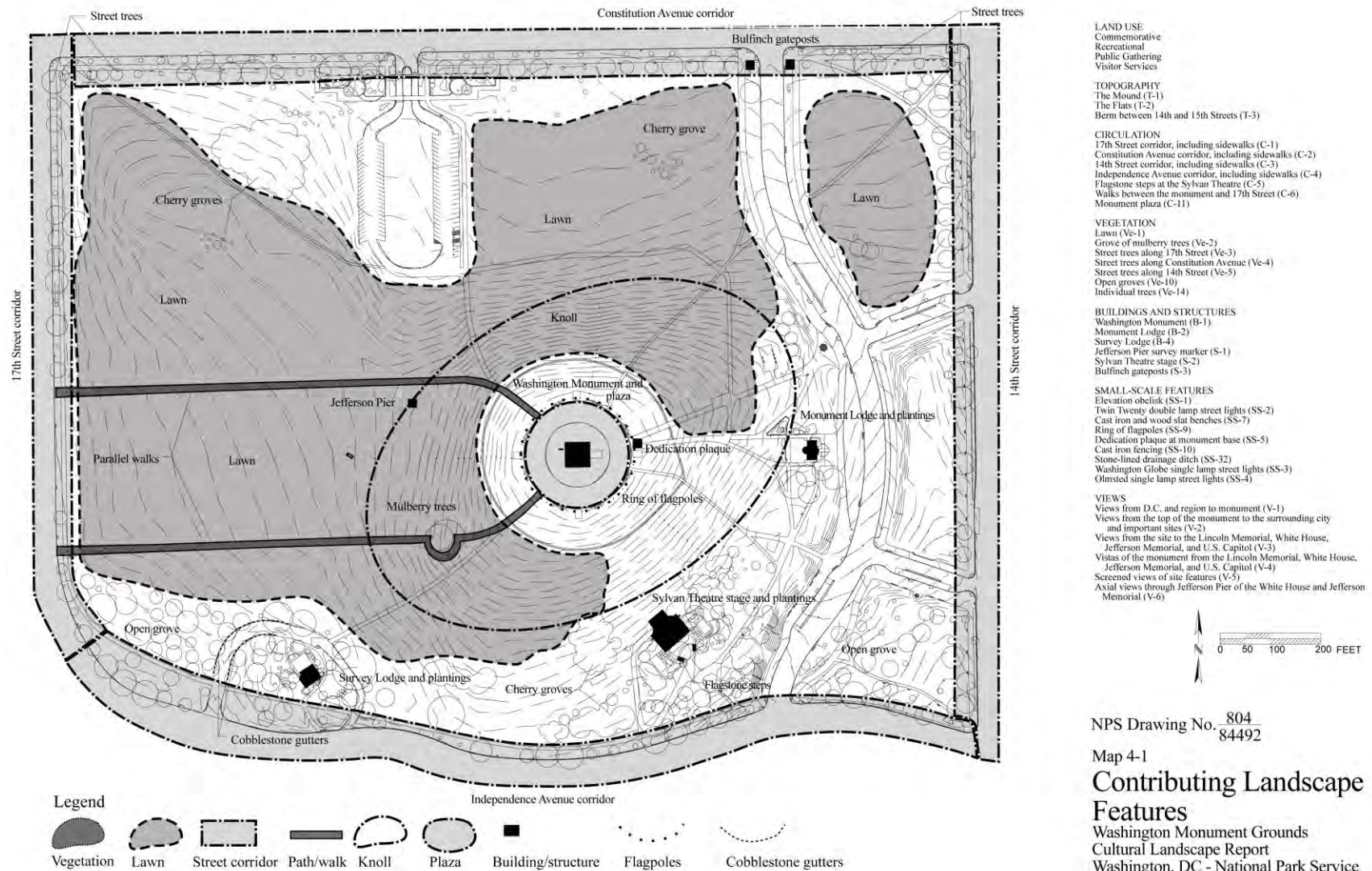
Historic Structures and Districts — Primary APE

THE WASHINGTON MONUMENT AND GROUNDS — DOCUMENTATION

The Washington Monument's inclusion in the NRHP dates from the original passage of the NHPA in 1966. However, it was not until 1980 that a complete NRHP nomination form for the "Washington Monument and Grounds" was completed and accepted by the Keeper of the NRHP. The site's significance as the leading memorial to George Washington, an example of Egyptian Revival architecture, and for its contribution to the history of structural engineering qualified it under Criterion C. Its period of significance was given as 1848 to 1889, the period of its construction. It also was listed as a National Historic Civil Engineering Landmark in 1981.

The technical documentation standards of the period in which the 1980 NRHP nomination was written have since been upgraded, and the 1980 nomination is currently judged inadequate due to several information gaps. The two most important are (1) the identification of "contributing features" of the resource's significance and (2) the recognition of cultural landscape features. In the decade of the 2000s, the NPS, while not submitting an updated NRHP nomination, issued several reports that fill in those gaps. In 2003 John Milner and Associates in association with Grunley-Walsh Joint Venture prepared a *Washington Monument Grounds Cultural Landscape Report*, which was revised in 2008. The same joint venture also prepared a *Washington Monument and Associated Structures Historic Structures Report* (HSR) in 2004. The former study was followed up by an in-house, NPS-prepared *Washington Monument and Grounds Cultural Landscapes Inventory* (CLI), 2009 which extended the period of significance to 1943 (Figure 3.6).

Figure 3.6 – Cultural Landscape Resources



For the purpose of this EA, the CLI contains the latest information on the criteria of significance, period of significance, and contributing features of the landscape components of Washington Monument and grounds. For the chronology and construction details of the Monument itself and ancillary structures such as the Monument Lodge, the HSR, while not specifically identifying contributing features, is the most authoritative source.

THE WASHINGTON MONUMENT AND GROUNDS — HISTORY

In the decades following George Washington's death in 1799, many proposals to memorialize the nation's founder and first President were made, including formal portraiture, an equestrian statue, and a mausoleum. However, the origin of the most prominent and enduring memorial to Washington lay in the planning of the capital city, the site of which he chose and which bears his name. Major Pierre Charles L'Enfant's Plan for the City of Washington within the District of Columbia envisioned a grand longitudinal, tree-lined avenue bordered by government buildings sweeping westward from the U.S. Capitol on Jenkins Hill to Tiber Creek off the Potomac River. The west axis would meet up with a south axis, extending from the President's House at a point where an equestrian statue of George Washington would be placed. Although there was dry land at the point of the crossing, the marshes of the creek began nearby to the west (Milner 2004).

Nothing was done to implement this proposal or any memorial on a large scale until the formation in 1833 of the Washington Monument National Monument Society led by Chief Justice John Marshall. Fundraising, limited at first to \$1.00 per person, floundered. After a design completion in 1836 that did not produce any entries the Society deemed worth pursuing, the Society, under Congressional pressure to make progress, loosened its terms on fundraising and formed a design selection committee that in 1845 chose a design by Robert Mills. Mill's design, estimated at \$200,000, and consisted of a 600-foot-tall, flat-topped obelisk surrounded by a monumentally scaled colonnaded rotunda or —National Pantheon” showcasing statues of 30 Revolutionary War notables. Washington, portrayed as driving a chariot, would be the prominent sculpture that surmounted the rotunda. Massive east and west portals with pediment, entablature, winged ball, and asp over the door would channel visitors to the monument (Milner, 2004).

Construction began in 1848 after President James Polk had made available District of Columbia Reservation 2, 37 acres along the Potomac that included L'Enfant's intended site, although the Society actually located the monument's foundation 372 feet to the east and 123 feet to the south. The reason for this decision is not documented, but concern for adequate soils to support the weight of the monument may have led the builders to avoid greater proximity to the river. Because the Society did not have sufficient funds to build the memorial as designed, Mills altered it to allow a phased approach in which a 500-foot-tall obelisk on a series of massive steps would be built first with the pantheon to follow when money became available. The bluestone gneiss foundation was completed that year. By 1854 the walls of the shaft had reached 152 feet above the foundation, but at this point the Society, having spent \$230,000, was out of money and construction was halted (Milner 2004).

During the Civil War, the monument grounds were pressed into service as a cattle yard for Union troops. Despite the victory of the Union, efforts to appeal to national pride in the reunification of the United States to attract funds for resuming work on the monument to the first President did not succeed. The grounds, however, having become a wasteland and gaining the reputation of —Murderer's Row,” was improved in 1872 by the District Board of Public Works and the U.S. Army Corps of Engineers (USACE). Gravel roads were built, land was reclaimed near the river (creating two lakes), and, unfortunately, the superstructure of the Jefferson Stone or benchmark for the monument was broken off and removed.

The approach of the American Centennial of 1876 was the catalyst that finally galvanized Congress to provide for the completion of the monument. Public funds in the amount of \$200,000 were authorized, the

land taken back from the Society, and the responsibility for completing the construction given to the USACE with Lt. Col. Thomas Casey in charge (Milner 2004).

How to complete the monument and the adequacy of the existing foundations became a subject of debate. The outcome was an additional expenditure of \$36,000 for Casey to design and build massive concrete footings under the original foundations and concrete buttresses to tie them together. The delicate task of constructing new features under an existing foundation was a remarkable engineering achievement. In the course of planning for the foundations, Casey, with the advice of the U.S. Ambassador to Italy George Marsh, developed a design to complete the monument as a simple, undecorated obelisk of 500 feet with a steeply pitched pyramidion, intended to be of iron and glass, raising the height to 555 feet (Milner 2004).

Once again, in 1880, the monument grounds became a building site. After the successful foundation operation, an earthen embankment of fill supplemented with excess bluestone gneiss stones was built around the base. Several courses of inferior stonework at the top of the shaft were removed (leaving the baseline height at 150 feet) and an interior iron structure was installed consisting of eight Phoenix iron columns to support an elevator and stairs. A regular rhythm of installing 20 feet of new interior structure above the shaft and then matching it with 20 feet of exterior stone walls plus the improvement of hoist technology permitted the new work to proceed expeditiously. The earlier design for a glass and iron pyramidion had to be dropped due to, among other reasons, the fear that it would discolor the stone below. Casey's 1884 redesign was for a purely marble pyramidion supported by 12 marble ribs beginning at 470 feet. This also solved the problem of excessive weight on the on the shaft and instability due to high winds at the top. A small, 100-ounce cast-aluminum capstone was attached to the point of the pyramidion (Milner 2004).

The ceremony to dedicate the completed Washington Monument, presided over by President Chester Arthur, took place on February 21, 1885. The design and engineering of the structure, depending upon the strength and mutual support of many blocks of stone from different sources, were compared to the newfound unity of the nation with its motto of *E pluribus unum*" (Milner 2004).

Considerable site work and "lifting out" of the Monument itself were needed before the Washington Monument could be opened to the public. "Presentation blocks" were set in the interior walls. The construction hoist system was converted into a passenger elevator, and the interior wooden staircase was replaced with an iron one. Engine and boiler houses had to be relocated out of view. Casey, after proposing something more grandiose, developed a simpler and less expensive plan for the base and entrances that expanded the existing terrace and sloped it gradually into the landscape, augmented by trees and shrubs (Milner 2004).

The filling of the Potomac Tidal Flats by the Office of Public Buildings and Grounds had created the Tidal Basin, the Washington Channel, and a major expansion of the Washington Monument grounds with available fill. Casey implemented his naturalistic scheme for the grounds. Roads and walkways were paved followed existing looping carriageways and paths. In 1887, Babcock Lake, north of the monument was filled in (Milner 2004).

Needed utilities and service facilities were relocated, the boiler was moved to a new stone building 750 feet southwest of the Monument, and a brick tunnel hosing incoming and outgoing steam pipes was connected with the Monument elevator's steam engine. This building is now the Survey Lodge. A small rusticated stone lodge at the eastern perimeter of the grounds, the Monument Lodge, was built to accommodate a variety of public service and administrative functions. In 1888, the Washington Monument opened to the public (Milner 2004).

The 1901 McMillan Plan for the improvement and expansion of the monumental core of Washington had a major influence in expanding the east-west axis of the National Mall to the west of the Monument grounds and the north-south axis to the south to a memorial on the opposite side of the Tidal Basin.

However, its proposals for a more formal Beaux Arts treatment of the Monument grounds with rectilinear terraces and planted beds were never realized, in part due to concern about undermining the stability of the Monument's foundation (Milner 2004).

The 20th century saw technological updates to the Monument's infrastructure: internal and external lighting, a change from the steam-powered elevator to an electric-powered one, and a waiting room at the base. In the 1940s, the northwest portion of the grounds was occupied, as was much of the land in West Potomac Park, by World War temporary office buildings or "tempo." In 1943, the Jefferson Memorial was dedicated, completing the north-south axis of the McMillan Plan. In 1957 to 1958, the base was ringed by an array of permanent flagpoles flying the American flag (Milner 2004).

Perhaps the most important development for the Washington Monument and grounds in the previous century was the sheer popularity of the space for demonstrations, celebrations, military reviews, recreation, and significant events in the life of the nation, such as the return of the hostages from Iran. However, as the end of the century approached, certain untoward events, such as suicides and standoffs with allegedly bomb laden protesters who had gained access the base of the Monument brought security concerns to the forefront. In the aftermath of the terrorist attacks on Washington and New York of September 11, 2001, the Washington Monument, already surrounded by a ring of Jersey barriers, appeared to be a "high value" target. The immediate response from the NPS was the installation of an interim visitor screening facility along the east entrance to the monument. For a more permanent and aesthetically pleasing solution to the various perceived security threats to the Monument and its visitors, a design competition was held for vehicular barriers and a visitor screening facility. The Olin Partnership submitted the winning proposal that called for two wide, intersecting walkway loops defined by retaining walls to function as vehicular barriers, and an underground visitor's facility linked by an underground walkway to an entrance at the Monument Lodge. With modifications, the Olin proposal was approved by the various design review and planning agencies that hold sway in Washington. The vehicular barrier component of the project, not visible from the bordering streets due to the rise in the topography—in the manner of an 18th century English "ha-ha"—has been constructed. The visitor access component has not been.

THE WASHINGTON MONUMENT — CHARACTER DEFINING FEATURES

As indicated previously, an itemized comprehensive listing of the character defining features of the Washington Monument as a structure will not be available until the 1980 NRHP nomination is updated. However, the HSR by John Milner Associates of 2004 in Section 6.1 —"Character Defining Features," part of Chapter 6 —"Evaluation of Integrity," provides a three paragraph textual analysis of this subject. It should be noted that the HSR's analysis extends the earlier 1980 NRHP nomination period of significance of 1848–1889 (the period of construction) to 1914 to incorporate the construction of significant interior features. Other documentary efforts such as the NRHP nomination of the Plan of the City of Washington have included the Washington Monument and Grounds and also expanded the period of significance. The HSR indicates:

Dominating the Washington D.C. skyline, the Washington Monument is primarily defined by the uninterrupted rise of the marble obelisk, tapering slightly towards its pyramidion's apex. Smooth finished blocks of marble of ashlar masonry create the tapering planes of the unadorned obelisk. The simple geometric form of the monument provides a canvas for the daily changes in light reflected off the marble masonry. At the 150-foot level, the color of the marble masonry changes slightly, marking the pause in construction of the monument shaft during 1854–1880.

On the interior, the Washington Monument is characterized by the vertical arrangement of spaces with the entry area on the ground floor, the observation and elevator re-entry levels on the 500- and 490-foot levels, separated by 490 feet of the

monument shaft. The ground floor has a square floor plan wrapped around the central elevator shaft with halls leading off to the east and west. The north portion of the ground floor is currently partitioned off as a mechanical room. The walls of the mechanical room are the exposed gneiss of the monument foundation courses and the floors are paved with the diamond-patterned stone flooring dating to 1886. The remaining ground-floor area is open to the top of the pyramidion and is dominated by the heavy masonry and ribs of its structure. The finishes at the observation area all date to the 2000 renovation work. The 490-foot elevator re-entry area was created in 1958 to improve traffic flow for visitors to the 500-foot observation level. All finishes at this level date to the 2000 renovation.

The interior of the monument shaft is characterized by walls of structural marble, granite, and gneiss masonry that winds around the central iron stair structure that winds around the open elevator shaft. The change in masonry on the shaft interior documents the pause in construction at the 150-foot level as well as alteration in the monument's masonry-bearing structure. Above the 150-foot level, the solid granite interior walls change to checkerboard granite and marble and then to solid marble as the walls thin toward the pyramidion. Memorial stones are set within the interior shaft masonry at stair landings. The memorial stones date from the beginning of construction through the recent past and are composed of various stone materials in a wide range of styles. The stair structure is composed of Phoenix columns, stair landings at every 10 feet, steps, cross bracing, and wire-mesh grilles covering the elevator shaft. Though modified throughout its history, the central stair structure retains its essential form and materials.

It should be noted that not all of prominent features of the interior, particularly in the lobby, are historically contributing, although they may appear so. The statue of George Washington in the west vestibule is one of many bronze replicas of Jean Antoine Houdon's 1791 marble statue of Washington in the Virginia Capitol. The Egyptian Revival surround of the elevator, the elevator's bronze doors, and the bronze bas relief plaque, swags and inscriptions date from a 1992–2000 renovation. Only certain smaller grain features of the 1904 to 1913 period, such the marble wainscot and mosaic floors (restored in 1992–2000), are contributing (Milner 2004).

THE WASHINGTON MONUMENT AND GROUNDS – RELATION TO OTHER NRHP LISTED STRUCTURES

THE L'ENFANT PLAN OF THE CITY OF WASHINGTON

The L'Enfant Plan of the City of Washington was nominated and listed on the National Register in 1997. Its Areas of Significance (Section 8) were given as community planning and development, landscape architecture, politics and government, and transportation. This unusual type of historic resource, a city plan nominated as a "structure," was not defined as the plan of L'Enfant and Ellicott, mapped and frozen in time in 1791. The Section 7 (Description) summary indicates "for nearly a century, the realization of physical changes to the original plan were gradual, until the second important benchmark in the development of Washington's urban plan: the McMillan Commission and its 1901–1902 recommendations." The period of significance is designated as 1790–1942. The actual items that were considered to constitute the "structure" listed on the NRHP were listed in the Boundary Justification of Section 10 (Geographical Data): "The nominated area includes all parks and reservations; streets and avenues; buildings, structures, and objects; and corridor of open space that extends from original building line to building line and forms the right-of-way; though they may not be nominated, specific scenic vistas along major axes and among major monuments are important features to the character of the plan." Essentially, the L'Enfant Plan NRHP nomination recognizes the urban spaces and vistas within the original boundaries of the city of Washington (below Florida Avenue) that were created over a century

and half that generally conformed with L'Enfant's monumental Baroque-inspired vision. In addition to the McMillan Plan, recognition is given to another latter-day measure, the Height of Buildings Act of 1910, which ensured that the parks, wide boulevards, and vistas envisioned would not be overwhelmed by tall buildings, a possibility of 20th century technology that L'Enfant could not have anticipated.

The significance of the National Mall and the Monument grounds to the L'Enfant Plan is noted primarily in the inclusion of —~~Res~~ervations 2-6: National Mall and Monument Grounds” in the Inventory of Contributing Features and secondarily in the inclusion and exclusion of certain avenues and streets framing the Mall in the Inventory of Contributing Features. (It should be noted that the —~~igin~~” of many features deemed contributing is often given as one or more of the —~~I~~Enfant Plan, Ellicott Map, and McMillan Plan,” thus confirming that the 1901 McMillan Plan is also seen as a source of historic significance) (Leach and Barthold 1997).

The Monument grounds contains the following components: the Washington Monument (1848–1884; located slightly off axis of the U.S. Capitol and White House), Sylvan Theater (1917–1961), Boiler Room/Survey Lodge (1886), Memorial Lodge (1888), Jefferson Pier Marker (1889), and German-American Friendship Garden (1988). Using leftover stone from the construction of the monument, a Boiler House and a Monument Lodge were constructed on the grounds in 1886 and 1888, respectively. The Boiler House, which was originally constructed to house the steam-generating plant for the Monument elevator, was later renamed the Survey Lodge and now serves as the headquarters for NPS Mall Operations. The Monument Lodge contains restrooms and a book store and provides will call and ticket reservations for visits to the monument.

The following features associated with the Washington Monument Grounds are listed under the subheadings of —~~C~~ontributing to the Structure” for —~~M~~ajor Streets”—Constitution Avenue (City Canal, B Street North) and Independence Avenue (B Street South); for —~~N~~th-South Streets”—14th Street NW. Under the subheading —~~C~~ontributing Associated Vistas,” the U.S. Capitol along the Mall to the Lincoln Memorial and the western horizon is identified as one of the two —~~P~~imary Vistas.”

The nomination of the L'Enfant Plan of the City of Washington also contains a list of specific non-contributing features including —~~B~~uildings,” —~~P~~arks (Reservations),” —~~R~~oadways,” —~~B~~ridges,” and —~~I~~nterruptions and Obstructions of Associated Vistas.” None are directly associated with the Monument grounds. It also notes that —~~i~~ncidental components of the public space such as street and sidewalk paving, manholes, utilities, and other like elements are considered non-contributing” (Leach and Barthold 1997).

Cultural Landscapes — Primary APE

Cultural landscapes, as defined by *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*, consist of —ageographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values” (Birnbaum 1996). The proposed alternatives have the potential to directly affect one cultural landscape: the Washington Monument Grounds as defined in the NPS' 2009 CLI.

THE WASHINGTON MONUMENT GROUNDS CULTURAL LANDSCAPE INVENTORY

In 2009, the NPS completed the CLI for the Monument grounds, jurisdictionally a component of the National Mall and Memorial Parks. The Monument grounds CLI embraces the 106 acres bounded by Constitution Avenue NW on the north, the Tidal Basin on the south, 17th Street NW on the west, and 14th Street NW on the east. It is a rectangle except for the shoreline of the Tidal Basin that curves from the northwest to the southeast.

The CLI, in its Inventory Unit Description, recognizes the previous documentation work accomplished, particularly in the 1980 NRHP nomination of the Washington Monument and grounds and the 1997

NRHP nomination of the L'Enfant Plan (Leach and Barthold 1997). However, it notes: "These existing nominations inadequately describe contributing landscape features and so do not adequately document the cultural landscape." The CLI is also able to provide, due to its more recent date, a description and narrative history of the Monument and grounds in its current state including the Olin security/circulation pathways. The CLI contains a detailed chronology (including all land transfers), and physical history of the monument and grounds unlike the preceding documents.

Table 3.1 summarizes the CLI significance data according to current NRHP technical standards. A more contemporary emphasis is placed upon landscape:

Table 3.1 – CLI Significance Data

| Significance Criteria | (Cites National Register of Historic Places Criteria A, C, and D) |
|--|---|
| Time Period: | 1791–1943 |
| Historic Context Theme | Expressing Cultural Values |
| Historic Context Subtheme | Landscape Architecture |
| Historic Context Facet | The City Beautiful Movement |
| Other Facet | The Early National Period |
| Other Facet | The Late Victorian Eclectic Landscape |
| Other Facet | Urban Planning in the Twentieth Century |
| Time Period: | 1791–1943 |
| Historic Context Theme | Expressing Cultural Values |
| Historic Context Subtheme | Architecture |
| Historic Context Facet | Exotic Revivals (1830–1860) |
| Areas of Significance | |
| | Architecture |
| | Archeology |
| | Community Planning and Development |
| | Engineering |
| | Landscape Architecture |
| Cultural Landscape Type and Use | |
| Type | Designed |
| Primary Historic Function | Plaza/Public Space (Square)- Other |
| Primary Current Use | Plaza/Public Space (Square)- Other |

Leach and Barthold (1997)

The "Analysis and Evaluation" section of the CLI presents a general summary of the features and values of the Monument grounds as a cultural landscape. It evaluates the Monument grounds as retaining its integrity for its period of significance (1791 to 1943) according to the seven aspects of integrity used by the National Register: Location, Design, Setting, Materials, Workmanship, Feeling, and Association. The CLI provides the following commentary on each of these aspects, all of which it concludes support the historic integrity of the resource:

Location – The Washington Monument Grounds occupies its historic location as U.S. Reservation 2, a 106- acre area bounded by 17th Street on the west, Constitution Avenue on the north, 14th Street on the east, and the Tidal Basin on the south....

Design – From the late 19th century through 1943, numerous plans for the Washington Monument Grounds were adopted and only partially implemented, but many of the historic structures on the site are extant in their original locations. Perimeter circulation corridors are unchanged, as is the form of the Independence Avenue extension implemented in 1942 to 1943. Interior circulation has been altered in a manner compatible with historic features.

Setting – The Washington Monument Grounds was designated by L'Enfant in 1791 as U.S. Reservation 2, the site of an equestrian statue of George Washington. Although lacking a statue as envisioned by L'Enfant, the construction of the Washington Monument obelisk began in 1848 and was completed in 1884. The importance of the location was reinforced by the 1901 McMillan Plan, which expanded the north-south and east-west axes with Washington Monument at their center. Since the views and vista to and from the monument have not been altered significantly, the property's cultural landscape retains integrity to the period of significance.

Materials – Most of the extant buildings, structures, and small-scale features are composed of their original materials. Likewise the plant materials, represented by interior groves, large expanses of lawn, cherry trees lining the Tidal Basin and elms along the perimeter roads, all retain historic integrity.

Workmanship – Much of original 19th century workmanship used in the construction of the Washington Monument, the Monument Lodge, Survey Lodge, and Jefferson Pier survives today, including the exterior marble used to construct the Monument, Monument Lodge, and Survey Lodge...

Feeling – The Washington Monument remains the focal point of the grounds, as it did throughout the period of significance. The park setting surrounding the Monument continues to include open lawns and groves of trees. *Walks installed in 2004-2005 evoke the curvilinear roads and walkways present during the period of significance. (Emphasis added)...*

Association – The Washington Monument Grounds possess integrity in their association with George Washington, as the site of the monument constructed to commemorate the nation's first president. The grounds also retain their association with the 1791 L'Enfant Plan and the 1901 McMillan Plan for the improvement of Washington (Leach and Barthold 1997).

CHARACTERISTICS AND FEATURES

Characteristics and features are identified in the CLI for views and vistas, buildings and structures, circulation, vegetation, topography, land use, spatial organization, small-scale features, archeology, and constructed water features. The CLI may be consulted for the detail of characteristics and features. It should be noted that **all** of the above features were evaluated as retaining their historic integrity or being compatible with the design intent of the Washington Monument and grounds according to the aspects of integrity above, except constructed water features, which no longer exist, and archeological resources, the presence of which is unknown.

Several prominent features of the Monument grounds are notable for not having been evaluated as "contributing," generally because they fall outside the 1791–1943 period of significance and have not been deemed compatible enough with the historic character of the grounds (as have the Olin walkway/vehicular barriers) to be included. Among these are the Sylvan Theater, the current visitor screening facility, kiosks, boat dock and ramp, German-American Friendship Garden, terrace at the Monument Lodge, and most barriers, benches, and flood lighting fixtures.

Historic Structures and Districts — Secondary APE

This section addresses historic properties present that have been determined eligible for the NRHP as buildings, structures, sites, objects, and historic districts, essentially the architectural resources. Because the monumental core of Washington has been a focus of preservation activity from the initial passage of the NHPA in 1966 and before, the official documentation of its historic resources has been accomplished in a series of studies that sometimes overlap and vary in approach with changing technical standards. Some NRHP districts and sites are also Cultural Landscapes, a more recent designation and discussed in the section below. Table 3.3 provides a summary of all the historic properties including cultural landscapes and memorials within the larger Secondary APE for the Monument visitor screening facility.

The project has the potential to indirectly affect several major NRHP-listed historic properties including the National Mall, the Lincoln Memorial, the Federal Triangle, the Lockkeeper's House, President's Park South, the Pennsylvania Avenue Historic the Vietnam Veterans Memorial, West Potomac Park Historic District, the Northwest Rectangle Historic District, and the L'Enfant and McMillan plans of the City of Washington. In addition to these seven properties, the project has the potential to affect the WWII Memorial, which is a protected area because it is a federally legislated property. A number of individually listed properties are not discussed separately here, as they are contributing elements to either the West Potomac Park Historic District or the L'Enfant (and McMillan) Plan of the City of Washington. The 1981 NRHP nomination's —Description" (Section 7) indicated: ~~the~~ Mall is a large greensward slightly over one mile in length with a standard width of 1500 feet, but narrowing to approximately 500 feet at its eastern terminus." It then described the National Mall's internal streets, noting that of the four aligned east and west, Madison and Jefferson Drives are open to motorized traffic while the two innermost ones, Washington and Adams Drives, were converted to gravel pedestrian walkways in the 1970s. The —Description" notes the presence of all the existing major structures within the boundaries including the various museums, five statues, two sculpture gardens, an ice skating rink, and even the Smithsonian Metro station. However, no classification of any feature as ~~on~~tributing" or ~~non~~contributing" was given other than to note that the Smithsonian Castle, the Arts and Industries Building, the Peace Monument, and the Grant Memorial were listed on the NRHP.

The 1981 nomination of the National Mall has emphasized its role as the central axis of Pierre Charles L'Enfant's monumental core, stating the —Grand Avenue'...run(ing) west from the Capitol to a point directly south of the President's House where its terminus would be crowned by an equestrian statue of General George Washington." According to L'Enfant's Plan, the Mall was to be ~~four~~ hundred feet in breadth, about a mile in length, bordered by gardens, ending in a slope from the houses on each side."

However, the National Mall—as a planned open space linking one of the most important buildings and the most towering monument of the American government—has greatly evolved from its conception by L'Enfant up to the present day. The 185 years of development on the grounds of L'Enfant's concept until the Bicentennial year referenced by the nomination saw many periods in which the plan was ignored, contradicted by incompatible construction, and superseded by planning initiatives that were either at odds with L'Enfant's French-inspired Baroque principles (e.g., the looping carriage roads of Alexander Jackson Downing emanating from the Smithsonian) or somewhat consistent in a later idiom (the Beaux Arts sweep of the McMillan Plan with a late assist from the formal modernism of Skidmore, Owings, & Merrill. The eastern, original portion of the National Mall (from 3rd Street NW west to 14th Street NW) is now lined on its northern and southern flanks by museums and the Agriculture Department, nearly all of which are individually eligible for the NRHP.

A number of historic resources stand on the north side of Constitution Avenue near the intersection with 17th Street. These include the Second Divisional Memorial, the Pan American Union, the Ellipse, and the Bulfinch Gatehouses (at the northeast corner of 17th Street and Constitution Avenue, the second located at the Monument Grounds at the intersection of 15th Street and Constitution Avenue). None of these

resources would be physically impacted by any of the proposed alternatives; however, potential visual impacts may affect any of these resources

Listed on the NRHP in 1981, the Lincoln Memorial, at the foot of 23rd Street NW, is significant for its architecture, landscape architecture, sculpture, and commemoration. It is an excellent and unique example of a Beaux Arts monument in the United States, and it is important as a shrine to Abraham Lincoln. The Lockkeeper's House, listed on the NRHP in 1973, is located on the southwest corner of 17th Street and Constitution Avenue. It is significant as the only remnant of the Chesapeake and Ohio (C&O) Canal extension, built in 1832 and 1833, that connected the Chesapeake and Ohio Canal to the Washington City Canal. It is the oldest historic structure in the care of the Park, pre-dating even the Monument grounds.

The Vietnam Veterans Memorial, designed by architect Maya Lin, was administratively listed on the NRHP the same day as its dedication ceremony in November 1982. Located in the northwest corner of Constitution Gardens, the memorial is comprised of a V-shaped black granite wall. The landscape for the memorial area was entirely re-graded, so the ground slopes down to the walls. One of the walls is aligned with the Washington Monument, while the other looks to the Lincoln Memorial.

East and West Potomac Parks Historic District was originally listed on the NRHP in 1973. West Potomac Park includes approximately 400 acres and extends from the Potomac River to 17th Street (west to east) and from Constitution Avenue to the Potomac Railroad Bridge (north to south). It was originally meant to serve passive recreation purposes with areas reserved for active recreation. From its original concept, it has developed into a —designed landscape occupied by prominent monuments and memorials” (Bobezcko and Robinson 1998:7-3). Although the park was developed as a concept of the L'Enfant Plan of 1791, its overall design is associated with the McMillan Plan from 1901 to 1902.

The Northwest Rectangle Historic District is bounded on the south by Constitution Avenue, to the east by 17th Street, to the west by 23rd Street, and roughly bounded to the north by E and F Streets. It has been determined eligible by the District of Columbia Historic Preservation Office (SHPO). The historic district comprises government offices and institutions such as the Pan American Union, Daughters of the American Revolution, the Red Cross, and the National Academy of Sciences. The District is a result of a unified planning effort to develop a complex of federal buildings of the first half of the 20th century.

The L'Enfant Plan was listed on the NRHP in 1997 for its —relationship with the creation of the new United States of America and the creation of a capital city;” its original design was by Pierre L'Enfant, and subsequent alterations were made by notable persons. The period of significance is 1790 to 1942 and encompasses both the 1791 City of Washington design of Pierre L'Enfant and the 1901 and 1902 McMillan Plan developed by a four-member commission of architects: Charles McKim and Daniel Burnham, landscape architect Frederick Law Olmsted, Jr., and the sculptor Augustus Saint-Gaudens. The 3,565-acre area nominated reflects the street grid, diagonal avenues, parks and their statuary, vistas among monuments and sites over federal land within the plan's boundaries. The WWII Memorial, authorized by Congress in 1993, is the first national memorial dedicated to all who served during World War II. The Rainbow Pool site at the east end of the Reflecting Pool was chosen as the memorial's site, which eventually covered 7.4 acres. Designed by Friedrich St. Florian, an architect based in Providence, Rhode Island, the memorial opened to the public in 2004 after three years of construction. The Second Divisional Memorial is located on the southern trail of President's Park. It honors the nearly 18,000 soldiers who lost their lives in the Second Division of the United States Army. It was first dedicated in 1936 to honor those lost in World War I. It has since had two additions to honor the victims of World War II and the Korean War. The memorial is composed of a large, granite doorway flanked with two wreaths with an 18-foot sword guarding the doorway.

The Ellipse, also referred to as President's Park South, is a 52-acre park located to the south of the White House. The Ellipse is a contributing feature of the L'Enfant Plan as it was first conceived in 1791. The

USACE began work on the Ellipse in 1867, and it was landscaped in 1879. President's Park South was listed on the NRHP in 1979.

The U.S. Capitol Gatehouses, also known as Bulfinch Gatehouses, are listed on the NRHP and include two gatehouses on Constitution Avenue—one on the northeast corner of 17th Street and the second on the northwest corner of 15th Street—and two gateposts on the south side of Constitution Avenue at the intersection of 15th Street. The Bulfinch Gatehouses and Gateposts are nationally significant for their association with Charles Bulfinch, a master architect. Originally built on the U.S. Capitol grounds, they were moved to their current locations on 15th and 17th streets in 1874 and 1880.

Cultural Landscapes — Secondary APE

The proposed alternatives have the potential to affect six cultural landscapes besides the Monument Grounds. They are Constitution Gardens, Lincoln Memorial Grounds, President's Park South, the Jefferson Memorial, the Mall, and Union Square. All are parts of the National Mall, a term used by the NPS to describe the area between the U.S. Capitol on the east and the Potomac River at the Lincoln Memorial on the west.

Encompassing 43.1 acres, Constitution Gardens is a park unit of West Potomac Park and is therefore part of the National Mall. It is bounded by Constitution Avenue on the north, 17th Street on the east, Henry Bacon Drive on the west, and a flood control levee to the south at the bottom of its slope near the outer elm walks north of the Reflecting Pool. The Washington office of Skidmore, Owings, and Merrill designed Constitution Gardens in the early 1970s using the 1902 McMillan Plan as their base plan. The location on the National Mall with its open spaces and views has been an ideal location for memorials and statues although, due to perceived overcrowding with memorials, the Commemorative Works Act of 1986 was amended in 2003 to declare a "reserve" in the National Mall (i.e., a completed work of public art on which no more memorials were to be accommodated). The northwest corner of Constitution Gardens is the site of the nationally recognized Vietnam Veterans Memorial (1982). Subsequent additions include the Memorial to the 56 Signers of the Declaration of Independence (1982), the Three Servicemen statue (1984), the Vietnam Women's Memorial (1993), and an "In Memory" plaque commemorating those who served in the Vietnam War (2000/2006 replacement). The most recent addition to Constitution Gardens is the Garden of Remembrance, a feature associated with the WWII Memorial south of Constitution Gardens.

The Lincoln Memorial Grounds cultural landscape embraces 94 acres and includes the Reflecting Pool, Lincoln Memorial, the circular drive around the memorial, and a portion of the radial roads leading from the memorial. The Potomac River bounds the west side.

A part of the development of Potomac Park and the National Mall by the McMillan Commission was the creation of a memorial to Abraham Lincoln. The Lincoln Memorial Commission, created in 1911, selected Henry Bacon as the architect of the memorial, which was completed in 1917 and officially dedicated in 1922. Landscaping of the grounds continued through the 1920s with the addition of the Ericsson Memorial in a traffic circle south of the Lincoln Memorial in 1927. The grounds were completed in 1932 along with the approaches to the Arlington Memorial Bridge.

In 2006, the NPS issued a CLI for the Mall, which embraced the 135 acres bounded by the outer curbs of Madison Drive on the north, Jefferson Drive on the south, 14th Street on the west, and 3rd Street on the east. It is a rectangle except for the section of Jefferson Drive that curves northward into the National Mall in front of the Smithsonian Castle. The enframing buildings, ice rink, sculpture garden, and other structures that occupy the space between Madison Drive and Constitution and Pennsylvania Avenues on the north and the space between Independence and Maryland Avenues on the south as well as Union Square are considered an important part of the physical context of the National Mall CLI; however, only the internal 135-acre rectangle of open space was directly analyzed.

The President's Park South cultural landscape is characterized by the almost unaltered flat topography since the site improved in the late 19th century according to the designs of Andrew Jackson Downing. Reclaimed from a marshy zone stretching down from the White House grounds to Tiber Creek, the 52-acre park has is almost synonymous with the Ellipse, an oval roadway at the center of the rectangular greensward. Around 10 monuments and memorials are arrayed near the perimeters of the park, most notably the Sherman Statue and subsidiary Park at the northeast, the First Division Monument at the northwest, and the Second Division Memorial at the southwest just inward from Constitution Avenue.

President's Park is best known the site of public commemorations, outdoor recreation, and the lighting of the National Christmas Tree in December (NPS 2010d).

East of the territory covered by the Mall CLI is the Union Square cultural landscape, adjacent to the U.S. Capitol, which defined in a separate CLI. Due to the modest scale of the alternatives evaluated in this EA, neither the remote Union Square nor Thomas Jefferson Memorial cultural landscapes will be described in this section.

Table 3.3 – Historic Resources within the Secondary Area of Potential Effects

| Individually Listed Historic Properties | Historic Districts |
|---|---|
| American National Red Cross | The Washington Monument Grounds Historic District |
| American Pharmaceutical Institute | Northwest Rectangle Historic District |
| Arlington Memorial Bridge | Seventeenth Street Historic District |
| Arts and Industries Building | Pennsylvania Avenue National Historic Site |
| Bulfinch Gatehouses and Gateposts | Federal Triangle Historic District |
| Constitution Hall | West Potomac Park Historic District |
| Corcoran Gallery of Art | The National Mall |
| DAR Memorial Continental Hall | CULTURAL LANDSCAPES |
| District of Columbia District Building | President's Park South |
| President's Park South | Constitution Gardens |
| Jefferson Memorial | Lincoln Memorial Grounds |
| Federal Reserve Board Building | Washington Monument and Grounds |
| Franklin Delano Roosevelt Memorial | Thomas Jefferson Memorial |
| Freer Gallery of Art | Union Square |
| Korean War Veterans Memorial | The Mall |
| Lincoln Memorial | |
| Lockkeeper's House | |
| National Academy of Science and Engineering | |
| National Archives | MEMORIALS |
| National Gallery of Art West Building | National World War II Memorial |
| National Museum of Natural History | John Paul Jones Statue |
| Old Post Office Building | Second Division Memorial |
| Pan American Union | The Sherman Statue and Park |
| Plan of the City of Washington | The First Division Monument |
| Smithsonian Institution Building | The Zero Milestone |
| U.S. Department of the Interior (New Interior Building) | The Original Patentees of the District of Columbia Memorial |
| U.S. Department of the Interior Offices | |
| U.S. Department of the Interior South Building | |
| U.S. Department of the Treasury Building | |
| Van Ness House Stables | |
| Vietnam Veterans Memorial | |
| Washington Monument | |
| White House (not officially listed on the NRHP) | |

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

This “Environmental Consequences” chapter analyzes both beneficial and adverse impacts that would result from implementing any of 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 methods used for determining cumulative impacts. As required by CEQ regulations implementing the NEPA, a summary of the environmental consequences for each alternative is provided in Table 2.2 in “Chapter 2: Alternatives.” The resource topics presented in this chapter and the organization of the topics correspond to the resource discussions contained in “Chapter 3: Affected Environment.” Throughout this document the terms *impact* and *effect* are used interchangeably.

General Methodology for Establishing Impact Thresholds and Measuring Effects by Resource

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

These elements are described in the following sections.

General Analysis Methods

The analysis of impacts follows CEQ guidelines and DO-12 procedures (NPS 2001b) and incorporates the best available information applicable to the setting and the actions being considered in the alternatives. For each resource topic addressed in this chapter, the applicable analysis methods are discussed, including assumptions and impact intensity thresholds.

Impact Thresholds

Determining impact thresholds is a key component in applying NPS *Management Policies* and DO-12. These thresholds provide the reader with an idea of the intensity of a given impact on a specific topic. The impact threshold is determined primarily by comparing the effect on a relevant standard based on applicable or relevant/appropriate regulations or guidance, relevant 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 all alternatives are described in terms of type (beneficial or adverse); context; duration (short or long term); and intensity (negligible, minor, moderate, or 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 interests, society as 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, or major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed. Thresholds are provided only for adverse impacts. (An EA typically does not include major adverse impacts; otherwise an environmental impact statement would likely be required.)

Cumulative Impacts Analysis Method

NEPA regulations require an assessment of cumulative effects in the decision-making process for federal projects. Cumulative effects are defined as “the impact on the environment that 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” (CEQ 2005). Cumulative effects are considered for all alternatives, including the No Action Alternative.

The methodology for determining cumulative effects is derived from using an “ $X+Y=Z$ ” analysis where “X” represents the impacts of the alternative and “Y” is other past, present, and reasonably foreseeable future actions. When considered relative to each other, their combined contribution to the overall cumulative effect is “Z.” It is important to note that due to the disparate scale and location of the proposed actions, effects on a resource from certain proposed actions could be moderate but when considered in the overall context for that resource, could constitute a relatively small incremental portion of the project area and contribute to a collective minor effect.

Table 4.1 summarizes the projects considered for cumulative impacts and describes the various resource areas that could be affected by those projects. In addition to those actions identified below, other current and future plans, including the National Mall Plan Environmental Impact Statement, are described in “Chapter 1: Purpose and Need.” Figure 4.1 delineates the location of the projects being considered for cumulative impacts. The analysis of cumulative effects was accomplished using four steps:

1. **Identify Resources Affected** — Fully identify resources affected by any of the alternatives. These include the resources addressed as impact topics in “Chapter 3: Affected Environment” and “Chapter 4: Environmental Consequences” of the document.
2. **Set Boundaries** — Identify an appropriate spatial boundary for each resource. The spatial boundary for each resource topic is listed under each topic.
3. **Identify Cumulative Action Scenario** — Determine which past, present, and reasonably foreseeable future actions to include for each resource. These are listed in Table 4.1 and are described below.
4. **Cumulative Impact Analysis** — Summarize impacts of the other actions (X) plus impacts of the proposed action (Y), to arrive at the total cumulative impact (Z). This analysis is included for each resource at the end of the analysis for each alternative.

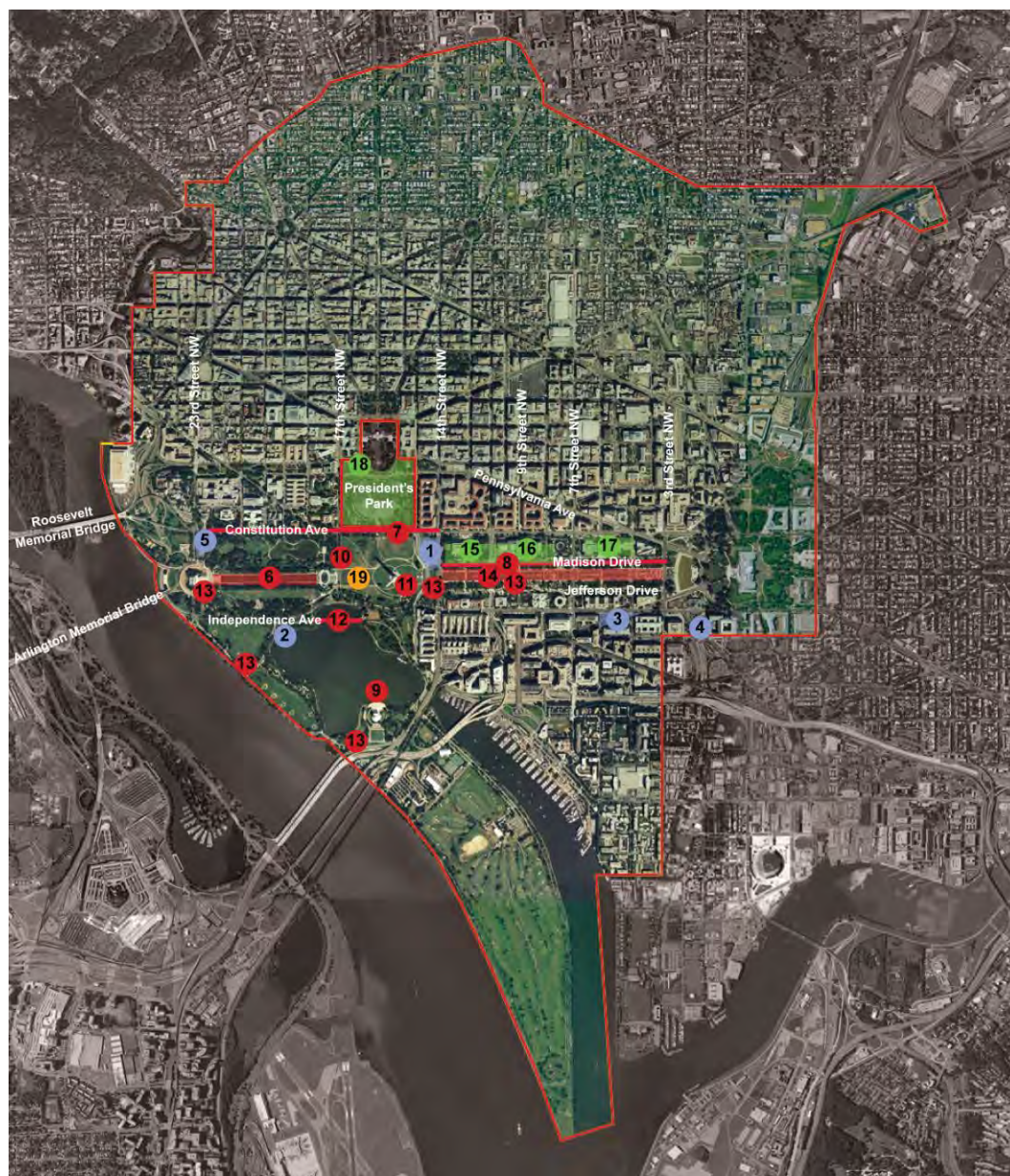
Table 4.1 – Cumulative Impacts Projects or Actions

| Type of Action | Cumulative Impacts Project | Description | Status |
|-----------------------------|---|---|---------------------------------|
| New Museums and Memorials | National Museum for African American History and Culture (NMAAHC) | <p>This building would be constructed on a 5-acre parcel on the Washington Monument grounds between 14th and 15th Streets and Constitution Avenue NW.</p> <p>Affected Impact Topics: This new museum would affect visitor use because it would be a highly visible draw for tourists upon completion of construction. It would affect visual and cultural resources because it would be the first new structure to be built on the National Mall in the 21st century.</p> | PRESENT/ FUTURE 2012–2015 |
| | Martin Luther King, Jr., Memorial | <p>This project established a memorial to Dr. King on a 3-acre site within the triangular area bounded by Independence Avenue, relocated West Basin Drive, and the western edge of the Tidal Basin walkway. The memorial is a conceptual landscape experience, using stone, water, and trees to convey the main themes of Dr. King's legacy: justice, democracy, and hope.</p> <p>Affected Impact Topics: This new memorial affects visitor use because it is a highly visible draw for tourists.</p> | PAST Summer 2011 |
| | Dwight D. Eisenhower Memorial | <p>This new memorial is proposed to be built across Independence Avenue from the National Air and Space Museum and north of the Department of Education. The design concept includes a cohesive and important civic space and urban monument in the heart of the capital region that provides a quiet and contemplative space.</p> <p>Affected Impact Topics: This new memorial would affect visitor use and Park management and operations because it would be a highly visible draw for tourists upon completion of construction.</p> | PRESENT/ FUTURE 2012–? |
| | American Veterans Disabled for Life Memorial (AVDLM) | <p>The AVDLM will occupy a 2-acre site south of Independence Avenue SW at 2nd Street SW and Canal Street SW. The memorial will honor all those veterans who were permanently disabled while serving in the United States Armed Forces.</p> <p>Affected Impact Topics: This new memorial would affect visitor use and Park management and operations because it would be a highly visible draw for tourists upon completion of construction.</p> | PRESENT 2011–2013 |
| | Vietnam Veterans Memorial | <p>The center is proposed to be built in the northwestern corner of the National Mall near the Vietnam Veterans Memorial.</p> <p>Affected Impact Topics: This new memorial would affect visitor use and Park management and operations because it would be a highly visible draw for tourists upon completion of construction.</p> | PRESENT/ FUTURE 2012–? |
| Civil Improvements Projects | Lincoln Memorial Reflecting Pool Rehabilitation | <p>This project rehabilitated and enhanced the infrastructure, circulation, and accessibility around the Lincoln Memorial east Plaza. At the Reflecting Pool, upgrades to the structural and water systems improved its functionality and sustainability and formalize walkways along the north and south edges of the pool. Site furnishings throughout the project area were refurbished and reconfigured.</p> <p>Affected Impact Topics: During construction, these improvements impact visitor use due to the disruption to the Reflecting Pool for approximately 18 months. Following completion, there were impacts to Park management and operations due to the new water system and visitor use.</p> | PAST 2009–2012 |

| | | | |
|-----------------------------|---|---|--|
| Civil Improvements Projects | Constitution Avenue Street Improvements | Constitution Avenue NW between 23rd Street NW and 16th Street NW was rehabilitated; streetscape improvements introduced new street lighting and storm sewer upgrades. Affected Impact Topics: During construction, these improvements would impact visitor use and public safety. | PAST 2011 |
| | Madison Drive Streetscape Improvements | Madison Drive was rehabilitated with enhancements to streetscape elements. Affected Impact Topics: During construction, these improvements impacted visitor use and visual resources in the project area. | PAST 2011 |
| | Jefferson Seawall Rehabilitation | This project rehabilitated the Thomas Jefferson Memorial Plaza, seawall, and staircases in a manner that improved pedestrian circulation and visitor safety. Affected Impact Topics: These improvements impacted Park management and operations and cultural and visual resources. During construction, there were impacts to public safety and visitor use. | PAST 2009–2010 |
| | Potomac Park Levee Project | This project would introduce an improved levee system in the area between 23rd Street and 17th Street and along the north side of the Reflecting Pool. At 17th Street, just south of Constitution Avenue, a closure structure would be built with abutments that support posts and panels that would be erected during a flood emergency. At 23rd Street and along the Reflecting Pool, existing low spots in the levee would be filled and brought to an elevation that complies with USACE standards. Affected Impact Topics: The new structures and landscape modifications would potentially impact Park management and operations and cultural and visual resources. During construction, it would potentially impact public safety, visitor use, and soils. | PRESENT 2008–? |
| | Washington Monument Earthquake Damage Repairs | Damage occurred to the Washington Monument following the August 23, 2011 earthquake. Following extensive investigation, a repair plan was developed and is in the process of being implemented. Affected Impact Topics: As a result of the Washington Monument's closure during construction, there are impacts to visitor use and experience, cultural resources, public safety, and visual resources. | PRESENT 2011–2014 |
| | Kutz Bridge Rehabilitation | This project proposes to rehabilitate Kutz Bridge on eastbound Independence Avenue SW over the Tidal Basin. Affected Impact Topics: Impacts to visitor use and experience and public safety are expected to occur as a result of the improvements. | FUTURE Summer 2014 |
| | Installation of Capital Bikeshare Stations | Five bikeshare stations within Park were installed at the following locations: Smithsonian Metro entrance, Lincoln Memorial area, Jefferson Memorial area, Washington Monument area, and Franklin Delano Roosevelt/Martin Luther King, Jr. Memorial area. Affected Impact Topics: Impacts resulted to visitor use and experience as a result of the increased transportation opportunities for visitors on the National Mall. | PAST Summer 2012 |
| | National Mall Turf and Soil Reconstruction | This project removed and replaced the existing soil and irrigation system and installing new curb and gutter profiles around the turf panels on the National Mall between Madison and Jefferson Drives and 3rd and 14th Streets NW. Turf panel management strategies seeking to minimize turf damage and soil compaction were implemented for this project area. Affected Impact Topics: During construction, these improvements impacted visitor use due to the closure of portions of the project area. Following completion, impacts resulted to soils, Park management and operations, visual resources, vegetation, and visitor use and experience | PRESENT/ FUTURE Phase 1 complete Phase 2 2014–2016 |

| | | | |
|-----------------------------|--|---|-----------------------------|
| Civil Improvements Projects | | due to the improved turf panel appearance. | |
| | Sylvan Theater Project | <p>This project will rehabilitate the Sylvan Theater area by creating a performance landscape to accommodate a variety of events as well as restore the existing tree canopy and providing increased visitor amenities. This project, along with the Constitution Gardens Project is funded by the Trust for the National Mall. If funds are raised, one of these two proposed projects would move forward by 2016.</p> <p>Affected Impact Topics: This project could potentially impact visitors use and experience, Park management and operations, visual resources, and cultural resources.</p> | FUTURE 2016 |
| | Constitution Gardens Project | <p>This project will rehabilitate Constitution Gardens, revitalizing the area and replacing the pond as well as providing additional visitor amenities and use opportunities. This project, along with the Sylvan Theater Project, is funded by the Trust for the National Mall. If funds are raised, one of these two proposed projects would move forward by 2016.</p> <p>Affected Impact Topics: This project could potentially impact visitors use and experience, Park management and operations, visual resources, and cultural resources.</p> | FUTURE 2016 |
| Security Upgrades | Smithsonian National Museum of American History, Smithsonian National Museum of Natural History , President's Park South Project | <p>Since the 1995 Oklahoma City federal building bombing and 9/11, security improvements have been implemented or would likely be implemented in the future throughout the Washington, D.C., area, including the project area. The Smithsonian Institution has recently completed perimeter security projects.</p> <p>Affected Impact Topics: The security measures, although important for public safety, have resulted in impacts on the visual and cultural resources of the area. The presence of law enforcement has also been increased, causing impacts on Park management and operations.</p> | PAST/ PRESENT/ FUTURE |
| Plans | National Mall Plan | <p>The goal of the National Mall Plan is to establish a sense of place and an overall identity for the National Mall, creating a coherent pedestrian environment that would complement and balance the natural environment, formal and informal features, and national commemorative works.</p> <p>Affected Impact Topics: Implementation of the National Mall Plan would impact visitor use and experience, visual resources, soils, public safety, and cultural resources due to improved amenities, restored turf areas, and increased transportation and interpretive opportunities. Park management and operations would also be impacted beneficially by improved sustainable maintenance practices.</p> | PAST/ PRESENT/ FUTURE |

Figure 4.1 – Cumulative Impacts Projects



Legend

- | | |
|--|---|
| <p>■ NEW MUSEUMS AND MEMORIALS</p> <ul style="list-style-type: none"> 1. National Museum of African American History & Culture (NMAAHC) 2. Martin Luther King Jr. Memorial (MLK) 3. Dwight D. Eisenhower Memorial 4. American Veterans Disabled for Life Memorial (AVDLM) 5. Vietnam Veterans Memorial Center <p>■ CIVIL IMPROVEMENTS</p> <ul style="list-style-type: none"> 6. Lincoln Memorial Reflecting Pool Rehabilitation 7. Constitution Avenue Street Improvements 8. Madison Drive Improvements 9. Jefferson Seawall Rehabilitation 10. Potomac Park Levee Project (17th Street closure) 11. Washington Monument Earthquake Repairs 12. Kutz Bridge Rehabilitation 13. Installation of Capital Bikeshare Stations 14. National Mall Turf and Soil Reconstruction | <p>■ SECURITY UPGRADES</p> <ul style="list-style-type: none"> 15. Smithsonian NMAH 16. Smithsonian NMNH 17. National Gallery of Art East Building 18. President's Park South Project <p>■ PLANS</p> <ul style="list-style-type: none"> 19. National Mall Plan <p> AREA CONTAINING NATIONAL MALL AND MEMORIAL PARKS</p> |
|--|---|

Visitor Use and Experience

METHODOLOGY AND ASSUMPTIONS

The purpose of this impact analysis is to assess the effects of the alternatives on the visitor use and experience in the areas that would be affected by the Washington Monument visitor security screening facility rehabilitation in and around the project area. To determine impacts, the current uses of the area were considered and the potential effects of the construction and implementation of the rehabilitation on visitor experience and use were analyzed. Activities and the type of visitor use and experience that occur in the Park and that might be affected by the proposed action, as well as the visual character of the area and noises experienced by the visitors were considered.

STUDY AREA

The proposed action would be located on the Monument grounds between Constitution and Independence Avenues and 15th and 17th Streets NW. For the impact analysis, the study area for visitor use and experience includes the larger area of the National Mall as well as the attractions and museums in the surrounding areas. Projects and plans in the immediate vicinity of the National Mall, particularly those that result in new visitor use opportunities or temporary closures, are considered in the cumulative impact analysis.

IMPACT THRESHOLDS

Negligible: The impact would not be detectable or would be barely detectable to most visitors and would not affect their experiences or opportunities in a perceptible manner.

Minor: The impact would be detectable to some visitors and might result in some effect on their experiences or opportunities.

Moderate: The impact would be readily apparent to many visitors and would likely affect the experiences or opportunities of many visitors.

Major: The impact would be obvious to most visitors and would affect the experiences or opportunities of most or all visitors.

Duration: Short-term impacts would occur throughout the course of one year. Long-term impacts would last more than one year.

Impacts of Alternative A: No Action Alternative

ANALYSIS

Under the No Action Alternative, visitors would continue to enjoy the same level of access and frequency of use in the project area after the completion of the current earthquake repairs.

QUEUING AND SCREENING

Ticketed visitors wishing to enter the Washington Monument would continue to queue and be screened on the Plaza. All visitor activities would occur in the same space resulting in congestion and long-term minor adverse impacts to visitor use and experience because of decreased free flow of foot traffic and ease of accessing the Monument face.

MONUMENT PLAZA

The non-permanent nature of this facility and its contrast to the aesthetics of the Monument and the surrounding facilities would result in long-term moderate adverse impacts to visitor experience because

the contrast in aesthetics and temporary nature of the building would continue to be readily apparent to visitors.

MONUMENT GROUNDS / LANDSCAPE

The No Action Alternative would result in no alterations or impacts to the landscape or topography.

OTHER RESOURCES

No impacts to Sylvan Theater, the Monument Lodge, or the Monument interior would occur under the No Action Alternative because implementation of this alternative would not alter or stop their functioning.

CUMULATIVE IMPACTS

Present and future construction on the National Mall and surrounding areas, including the Dwight D. Eisenhower Memorial, American Veterans Disabled for Life Memorial (AVDLM), Potomac Park Levee Project, NMAAHC, Vietnam Veterans Memorial Visitor Center, Kutz Bridge repairs, and Washington Monument earthquake damage repairs would contribute cumulatively to visitor experience by enhancing existing Park resources and adding new visitor destinations.

Roadway enhancements along Constitution Avenue and Madison Drive have introduced uniform street furnishings (such as lighting fixtures and trash receptacles) and visual enhancement to streetscapes around the project area.

The implementation of the National Mall Plan would result in a more sustainable National Mall with improved visitor experiences (education, venues for civic and recreational activities, visitor facilities, and improved visitor quality); improved access for pedestrians, people with disabilities, bicycles, and multi-modal transportation; and more sustainable approaches to resource management, stormwater management, Park management/event management, and utilities. Smaller turf areas would be renovated or restored more frequently improving visitor access and more equitably scheduling multiple uses.

Construction activity resulting from these projects would result in temporary disruptions to certain areas of the Park that could inconvenience visitors and detract from visitor experience. Depending on the duration and extent of construction, the number of affected visitors would vary.

These past, present, and reasonably foreseeable future actions would enhance the condition and visual quality of existing Park features and create new attractions and destinations for visitors. Despite the increased visitation and more intensive use of the Park resources resulting from these projects, overall, they would provide beneficial impacts to visitor use and experience.

As described above, the implementation of the No Action Alternative would result in long-term moderate adverse impacts to visitor use and experience. The long-term moderate adverse impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in long-term beneficial cumulative impacts with the adverse impacts of the No Action Alternative lessening the overall beneficial impacts to some degree. Construction activity resulting from these projects would result in short-term minor to moderate adverse cumulative effects on visitor use and experience depending on the duration and extend of construction.

CONCLUSION

Under the No Action Alternative, long-term moderate adverse impacts to visitor use and experience would result from the continued presence and use of the temporary visitor screening facility. There would also be long-term minor adverse impacts to visitor experience as a result of congestion created by queuing on the Plaza. The long-term moderate adverse impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. Short-term minor to moderate adverse cumulative effects on visitor use

and experience would result from construction activity associated with the cumulative projects. The level of intensity of the impacts would depend on the duration and extent of the construction activities.

Impacts of Alternative B: Ramp at Perimeter Plaza

ANALYSIS

This alternative would introduce a new visitor approach where visitors would enter the Monument by walking from the Plaza down sloped pathways to the visitor entry and security screening point below. These pathways would be fully compliant with the ADA and ABAAS, ensuring that all visitors would have access to the Monument. However, this approach would alter visitors' experience by removing the visual connection of seeing the Monument directly as one enters the Monument, resulting in a noticeable difference in entry and a long-term minor adverse impact to visitor use and experience.

QUEUING AND SCREENING

All ticketed visitors wishing to enter the Monument would queue and be screened in the space under the eastern portion of the Plaza. Once inside, visitors would enter the Monument via a lower level connection from the screening space to the elevator from which they could access the Monument. This alternative would provide a designated space for visitor queuing, screening, and ingress, thereby improving the visitor screening process, separating the different types of visitor use, and providing additional space for screening and security activities. In addition, the subterranean entrance would provide increased space that could potentially be used for supplementary interpretive opportunities. Improved visitor queuing and screening and the potential for increased interpretive opportunities would result in long-term beneficial impacts to visitor use and experience.

MONUMENT PLAZA

Under this alternative, the current temporary screening facility would be removed to enable direct visitor access to all sides of the Monument. In addition, glass would be placed in the current entrance, allowing all visitors a view of the inside of the Monument. Removing the temporary visitor screening facility would also restore the original views and vistas of the Monument and the Plaza. The intersection of the Monument with the Plaza would be visible from all sides as originally intended. Improved visitor access to all sides of the Monument and the restoration of the visual appearance of the Plaza would result in long-term beneficial impacts to visitor use and experience.

The 42-inch safety barrier around the edge of the Plaza would be noticeable to visitors, but it would not block the view of the U.S. Capitol building to the east, resulting in no impacts to visitor use and experience.

MONUMENT GROUNDS/ LANDSCAPE

This alternative would result in cuts into the landscape adjacent to the Plaza to accommodate the gentle sloping pathways connecting the existing circular paths to the Plaza above and the new visitor entry and screening point below. Excavation and construction of the entrance would be below the current grade and would not alter the current visitor view looking from the Monument Lodge west toward the Monument. Nonetheless, the 14-foot drop in elevation would be noticeable to visitors approaching the Monument via the landscape from the east, resulting in long-term minor adverse impacts to visitor use and experience because it would alter the visitor approach to the Monument.

During construction of this proposed alternative, the Monument and the Plaza would remain closed to visitors resulting in short-term moderate adverse impacts to visitor use and experience. However, these impacts would cease upon completion of construction activities.

OTHER RESOURCES

No impacts to Sylvan Theater, the Monument Lodge, or the Monument interior would occur under the No Action Alternative. The Monument Lodge would continue to function as the ticketing location, comfort station, and bookstore.

CUMULATIVE IMPACTS

Impacts to visitor use and experience from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative; however, implementation of Alternative B would add long-term minor adverse impacts. When combined with the long-term beneficial and long-term minor adverse impacts to visitor use and experience resulting from implementation of Alternative B, the long-term beneficial cumulative effect would be lessened to a degree by the long-term minor adverse impacts under this alternative.

Short-term minor to moderate adverse impacts would vary based on the location and duration of construction activities associated with the cumulative projects.

CONCLUSION

Under Alternative B, long-term minor adverse impacts to visitor use and experience would result from the noticeable difference in entry and 14-foot change in elevation of the landscape directly adjacent to the Plaza where the new ramps would be installed. Long-term beneficial impacts to visitor experience would occur as a result of improved visitor queuing and screening, the potential for increased interpretive opportunities, improved visitor access to all sides of the Monument, and the restoration of the visual appearance of the Plaza. The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. A short-term minor to moderate adverse cumulative effect on visitor use and experience would result from construction activity related to the implementation of Alternative B and cumulative projects.

Impacts of Alternative C: Freestanding Plaza Pavilion**ANALYSIS**

This alternative focuses on providing visitor queuing and screening on the Plaza, similar to the No Action Alternative, but with a more aesthetically pleasing, permanent solution. The pavilion material might include stone, glass, or metal. If glass were used, there would need to be some opacity to ensure the screening process would not be visible from the outside. The pavilion would include transparent glass roof material so that the Monument would be visible to visitors entering it.

QUEUING AND SCREENING

All ticketed visitors wishing to enter the Monument would continue to queue and be screened on the Plaza. Visitor queuing, screening, and ingress would occur in the same space as other visitor activity types resulting in congestion. As a result, there would be long-term minor adverse impacts to visitor use and experience.

MONUMENT PLAZA

Under this alternative, the current temporary screening facility would be replaced with a permanent screening facility that would be more compatible with the aesthetics of the Monument and surrounding facilities resulting in long-term beneficial impacts to visitor experience. However, the new screening facility would continue to block the original views and vistas of the Monument and the Plaza. The intersection of the Monument with the Plaza would continue to only be visible from three sides unlike it was originally intended to be, resulting in long-term minor adverse impacts to visitor experience.

MONUMENT GROUNDS/ LANDSCAPE

Alternative C would not result in any alterations, excavations or impacts to the landscape and ground surrounding the Monument.

During construction of Alternative C, the Monument and the Plaza would remain closed to visitors, resulting in short-term moderate adverse impacts to visitor use and experience. However, these impacts would cease upon completion of construction activities.

OTHER RESOURCES

No impacts to Sylvan Theater, the Monument Lodge, or the Monument interior would occur under the No Action Alternative. The Monument Lodge would continue to function as the ticketing location, comfort station, and bookstore.

CUMULATIVE IMPACTS

Impacts to visitor use and experience from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative; however, implementation of Alternative C would add long-term minor adverse impacts. When combined with the long-term beneficial and long-term minor adverse impacts to visitor use and experience resulting from implementation of Alternative C, there would be a long-term beneficial cumulative effect.

Short-term minor to moderate adverse impacts would vary based on the location and duration of construction of cumulative projects.

CONCLUSION

Under Alternative C, long-term beneficial impacts to visitor use and experience would result from the improved aesthetics of the screening facility. Long-term minor adverse impacts to visitor use and experience would result from visitor congestion on the Plaza and the continued obstruction of the original view of the Monument's intersection with the Plaza on the eastern face. The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. There would be a short-term minor to moderate adverse cumulative effect on visitor use and experience resulting from construction activity related to the implementation of Alternative C and cumulative projects.

Impacts of Alternative D: Ramp in Plaza

ANALYSIS

Alternative D emphasizes providing visitor queuing, screening, and ingress to the Monument via a ramp set into the Plaza. A subterranean entrance would provide space for visitor screening and convey visitors to the Monument via the Monument elevator, which would extend down to the lower level.

QUEUING AND SCREENING

All ticketed visitors wishing to enter the Monument would queue and be screened in the space under the southern portion of Plaza. Once inside the screening facility, visitors would enter the Monument via a lower level connection from the screening space to the elevator from which they could access the Monument. Similar to Alternative B, this alternative would provide a designated space for visitor queuing, screening, and ingress improving the visitor screening process and separating the different visitor uses, resulting in long-term beneficial impacts to visitor use and experience. The separate screening facility would also provide additional space for visitor screening and security activities. There

would also be potential for visitor interpretation and education activities within the designated screening facility, resulting in long-term beneficial impacts to visitor use and experience.

MONUMENT PLAZA

Similar to Alternative B, under this alternative, the current temporary screening facility would be removed, restoring the originally intended views of the intersection of the Monument with the Plaza and of the inside of the Monument. This would result in improved visitor access to all sides of the Monument and restored views of the Monument and would provide long-term beneficial impacts to visitor use and experience.

However, the incision of the ramp into the Plaza would break up the continuous access visitors currently have to the entire Plaza. In addition, in order to install the ramp within the Plaza, benches on the southern side of the Plaza would be removed, resulting in long-term minor adverse impacts to visitor use and experience.

The 42-inch safety barrier around the edge of the ramp incision to Plaza would be noticeable to visitors, but it would not block the view looking south, resulting in no impacts to visitor use and experience.

MONUMENT GROUNDS/LANDSCAPE

This alternative would not impact or result in excavation of the landscape or Monument grounds outside the footprint of the Plaza.

During construction of Alternative D, the Monument and the Plaza would remain closed to visitors, resulting in short-term moderate adverse impacts to visitor use and experience. However, these impacts would cease upon completion of construction activities.

OTHER RESOURCES

No impacts to Sylvan Theater, the Monument Lodge, or the Monument interior would occur under the No Action Alternative. The Monument Lodge would continue to function as the ticketing location, comfort station, and bookstore.

CUMULATIVE IMPACTS

Impacts to visitor use and experience from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative; however, implementation of Alternative D would add long-term minor adverse impacts. When combined with the long-term beneficial and long-term minor adverse impacts to visitor use and experience resulting from implementation of Alternative D, there would be a long-term beneficial cumulative effect.

Short-term minor to moderate adverse impacts would vary based on the location and duration of construction of cumulative projects.

CONCLUSION

Under Alternative D, long-term minor adverse impacts to visitor use and experience would result from the incision of the ramp into the Plaza by breaking up continuous visitor access to the Plaza and removing benches on the southern side. Long-term beneficial impacts to visitor experience would result from improved visitor queuing and screening, the potential for increased interpretive opportunities, and improved visitor access to all sides of the Monument. The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. A short-term minor to moderate adverse cumulative effect on visitor use and experience would result from construction activity related to the implementation of Alternative D and cumulative projects.

Public Safety

METHODOLOGY AND ASSUMPTIONS

The analysis of public safety considers risks to Park employees and the general public that are associated with hazards in the project area, as well as the proposed construction, maintenance, and implementation of the visitor security screening facility and associated Monument grounds. This analysis also considers the overall security of the project site, including that of the Park staff and visitors, as well as the Monument itself. Impacts for this resource area were analyzed qualitatively, using information provided by the USPP and Park service staff familiar with the current security, operation, and maintenance within the project area.

STUDY AREA

The proposed actions would be located on the Monument grounds between Constitution and Independence Avenues and 15th and 17th Streets NW.

IMPACT THRESHOLDS

Impact thresholds are as follows.

Negligible: The impact on public safety would not be measurable or perceptible.

Minor: The impact on public safety would be detectable but would not have an appreciable effect on overall public health and safety. Individuals could be affected in a localized area. If mitigation were needed, it would be relatively simple and would likely be successful.

Moderate: The impact on public safety would be readily apparent and result in substantial, noticeable effects on public safety on a local scale. Mitigation measures would probably be necessary and would likely be successful.

Major: The impact on public safety would be readily apparent and result in substantial, noticeable effects on public safety on a regional scale. Extensive mitigation measures would be needed, and success would not be guaranteed.

Duration: Short-term impacts would be immediate, occurring during implementation of the alternative. Long-term impacts would persist after implementation of the alternative.

Where impacts on public safety become moderate, it is assumed that current visitor satisfaction and safety levels would begin to decline, and some of the Park's long-term visitor goals would not be achieved.

Impacts of Alternative A: No Action Alternative

ANALYSIS

Under the No Action Alternative, the existing security measures, which consist of a temporary visitor screening facility at the eastern base of the Monument, would remain in place.

PUBLIC SAFETY AND SECURITY

Under this alternative, the Monument's screening facility would continue to effectively detect the presence of prohibited items that could cause harm to Park visitors and resources and greatly decrease the threat of a person carrying a gun, bomb, or any other items prohibited by the Park. This level of protection would have long-term beneficial impacts to public safety for Park visitors and staff within and in the vicinity of the Monument. However, the current screening facility was intended to be temporary and

requires replacement in order to meet the long-term security requirements at the Monument. Perimeter security for the Monument would not be impacted by the implementation of this alternative.

ACCESSIBILITY

Under this alternative, the Monument would remain fully accessible. The ADA-compliant sloped walkways and other landscape improvements would not be impacted by implementation of this alternative.

CUMULATIVE IMPACTS

Present and future construction on the National Mall and surrounding areas, including the Dwight D. Eisenhower Memorial, AVDLM, Potomac Park Levee Project, NMAAHC, Vietnam Veterans Memorial Visitor Center, Kutz Bridge repairs, the Sylvan Theater improvements, the Constitution Gardens improvements, and Washington Monument earthquake damage repairs could result in short-term minor adverse impacts to public safety. These impacts would result from construction activities occurring in proximity to people visiting the Monument and surrounding attractions on the National Mall. Impacts would also result from the increased number of large construction vehicles hauling materials to and from the sites on local roads. However, construction contractors would follow approved NPS health and safety plans, so risks to Park staff and members of the public would be minimized. Following construction, the operation and maintenance of these projects would not pose any risk to public safety.

Perimeter security projects would enhance public safety at attractions on the National Mall that are adjacent to the project area.

Roadway enhancements along Constitution Avenue and Madison Drive have introduced uniform street furnishings (such as lighting fixtures and trash receptacles) around the project area, resulting in long-term beneficial impacts to public safety.

The implementation of the National Mall Plan would result in a more sustainable National Mall with improved site amenities, pathways, and improved access for pedestrians, people with disabilities, bicycles, and multi-modal transportation, resulting in long-term beneficial impacts to public safety.

These past, present, and reasonably foreseeable future actions would enhance pedestrian movement, lighting, accessibility, and security and would result in beneficial impacts to public safety.

As described above, the implementation of the No Action Alternative would result in long-term beneficial and long-term minor adverse impacts to public safety. The long-term beneficial and long-term minor adverse impacts of this alternative, when combined with the short-term minor adverse and long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in long-term beneficial adverse and short-term minor adverse cumulative impacts to public safety.

CONCLUSION

Implementation of the No Action Alternative would result in long-term beneficial impacts to public safety due to the continued use of the temporary visitor screening facility on the Plaza. However, long-term minor adverse impacts would occur to public safety because the temporary screening facility would not meet the long-term security management requirements at the Monument. The long-term beneficial and long-term minor adverse impacts of this alternative, when combined with the long-term beneficial and short-term minor adverse impacts of other past, present, and reasonably foreseeable future actions, would result in long-term beneficial and minor adverse impacts to public safety.

Impacts of Alternative B: Ramp at Perimeter Plaza

ANALYSIS

Under Alternative B, visitor entry and queuing to the Monument would be accomplished via new recessed ramps directly adjacent to the east side of the Plaza. A subterranean entrance and facility would provide ingress and security screening to visitors.

PUBLIC SAFETY AND SECURITY

The permanent screening facility would provide sufficient security, protection, and threat detection resulting in long-term beneficial impacts to the public. The new facility would also help meet the long-term security management goals for the Monument, resulting in long-term beneficial impacts to public safety. In addition, the new placement of the screening facility entrance in relationship to the Monument would afford the security screening team additional time and distance to effectively react to and mitigate threats, resulting in long-term beneficial impacts to public safety.

Although this alternative would introduce a 14-foot change in topography with the new ramps, a 42-inch safety barrier would be installed around the perimeter of the Plaza to protect visitors from the risk of falling to the lower screening area, resulting in no impacts to public safety. Perimeter security for the Monument would not be impacted under this alternative.

ACCESSIBILITY

Under Alternative B, additional sloped pathways would be constructed parallel to the Plaza and would connect the circular pathways, leading visitors up to the Plaza and down to the visitor entry and security screening point below. These pathways would be fully compliant with ADA requirement and, as a result, would not alter the accessibility of the Monument.

Construction under this alternative could result in short-term minor adverse impacts to public safety. These impacts would result from the increased number of large construction vehicles hauling materials to and from the sites on local roads and proximity to visitors in the area. However, construction contractors would follow approved NPS health and safety plans, so risks to Park staff and members of the public would be minimized. Following construction, the operation and maintenance of these projects would not pose any risk to public safety.

CUMULATIVE IMPACTS

Impacts to public safety from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative. When combined with the long-term beneficial impacts to public safety resulting from implementation of Alternative B, there would be a long-term beneficial cumulative effect.

CONCLUSION

Under Alternative B, long-term beneficial impacts to public safety would result from the adequate screening provided by the new screening facility. In addition, long-term beneficial impacts would occur because the new facility would help meet the long-term security goals and provide additional time and distance for the security screening team to mitigate threats. The long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. Short-term minor adverse impacts to public safety could result from construction activities, but these effects would be minimized by contractors following approved NPS health and safety plans.

Impacts of Alternative C: Freestanding Plaza Pavilion

ANALYSIS

Under Alternative C, a permanent, more aesthetically pleasing visitor screening facility would be built at the location of the existing temporary structure on the eastern face of the Monument.

PUBLIC SAFETY AND SECURITY

The new permanent screening facility would provide sufficient protection by effectively detecting the presence of prohibited items and by greatly decreasing the threat posed by a person carrying a gun, bomb, or any other items prohibited by the Park. This level of protection would have long-term beneficial impacts to public safety for Park visitors and staff within the vicinity of the Monument. In addition, this new permanent facility would help meet the long-term security management goals for the Monument, resulting in long-term beneficial impacts to public safety. Perimeter security for the Monument would not be impacted under this alternative.

ACCESSIBILITY

Similar to the No Action Alternative, under Alternative C, the Monument would remain fully accessible. The ADA-compliant sloped walkways and other landscape improvements would not be impacted under this alternative.

Similar to Alternative B, construction of this alternative could result in short-term minor adverse impacts to public safety. However, impacts would be minimized by following approved NPS health and safety plans. Following construction, the operation and maintenance of these projects would not pose any risk to public safety.

CUMULATIVE IMPACTS

Impacts to public safety from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative. When combined with the long-term beneficial and long-term minor adverse impacts to public safety resulting from implementing Alternative C, overall long-term beneficial cumulative impacts would occur with some of the benefits being offset slightly by the minor adverse impacts from this alternative.

CONCLUSION

Under Alternative C, long-term beneficial impacts to public safety would result from the continued adequate screening and protection provided by the facility. In addition, the new facility would help meet long-term security management goals, resulting in long-term beneficial impacts. Short-term minor adverse impacts to public safety could result from construction activities, but these impacts would be minimized by contractors following approved NPS health and safety plans. The long-term minor adverse and long-term beneficial impacts of this alternative, in combination with the short-term minor adverse and long-term beneficial impacts of cumulative impacts projects, would be overall long-term beneficial cumulative impacts to public safety.

Impacts of Alternative D: Ramp in Plaza

ANALYSIS

Under Alternative D, visitor queuing, screening, and ingress to the Monument would be provided via a ramp set into the Plaza. A subterranean entrance would provide space for visitor screening and convey visitors to the Monument via the Monument elevator, which would extend down to the lower level.

PUBLIC SAFETY AND SECURITY

Similar to Alternative B, the new in-Plaza approach and underground screening facility would provide sufficient security, protection, and threat mitigation, resulting in long-term beneficial impacts to the public. The new facility would also help meet the long-term security management goals for the Monument and afford the security screening team additional time and distance to effectively react to and mitigate threats, resulting in long-term beneficial impacts to public safety.

Alternative D would introduce a 14-foot change in elevation on the Plaza with the ramp incision, and a 42-inch safety barrier would be installed around the perimeter of this incision to protect visitors from the risk of falling to the lower screening area, resulting in no impacts to public safety. Perimeter security for the Monument would not be impacted under this alternative.

ACCESSIBILITY

Implementation of Alternative D would add a new sloped ramp in the Plaza that would connect the Plaza to the visitor entry and security screening point below. The ramp would be fully compliant with ADA requirements and, as a result, would not alter the accessibility of the Monument.

Similar to Alternative B, construction of this alternative could result in short-term minor adverse impacts to public safety. However, impacts would be minimized by following approved NPS health and safety plans. Following construction, the operation and maintenance of these projects would not pose any risk to public safety.

CUMULATIVE IMPACTS

Impacts to public safety from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative. When combined with the long-term beneficial impacts to public safety resulting from implementation of Alternative D, there would be a long-term beneficial cumulative effect.

CONCLUSION

Under Alternative D, long-term beneficial impacts to public safety would result from the adequate screening provided by the new screening facility. In addition, long-term beneficial impacts would occur because the new facility would help meet the long-term security goals and provide additional time and distance for the security screening team to mitigate threats. Short-term minor adverse impacts to public safety could result from construction activities, but these impacts would be minimized by contractors following approved NPS health and safety plans. The long-term beneficial impacts of this alternative, in combination with the beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect.

Park Management and Operations

METHODOLOGY AND ASSUMPTIONS

For the purpose of this analysis, Park management and operations refers to the quality and effectiveness of the Park staff to maintain and administer Park resources and facilities and to provide for an effective visitor experience. This includes an analysis of the condition and maintenance of the facilities and concessioners used to support the operations of the Park. Facilities include the Park and the sites within the study area. Park staff who are knowledgeable of these issues were members of the planning team that evaluated the impacts of each alternative. The impact analysis is based on the current description of Park operations presented in “Chapter 3: Affected Environment” of this document.

STUDY AREA

While the proposed action would be located on the Monument grounds between Constitution and Independence Avenues and 15th and 17th Streets NW, the study area for the Park operations and maintenance impact analysis includes the larger area of the National Mall, as well as the attractions and museums in the surrounding areas. Projects and plans in the immediate vicinity of the National Mall, particularly those that would have an impact on Park management and operations, are considered in the cumulative impact analysis. Park management and operations encompass staffing and facilities.

IMPACT THRESHOLDS

Impact thresholds are as follows.

Negligible: Park operations would not be impacted or the impact would not have a noticeable or appreciable impact on Park operations.

Minor: Impacts would be noticeable, but would be of a magnitude that would not result in an appreciable or measurable change to Park operations.

Moderate: Impacts would be readily apparent and would result in a substantial change in Park operations that would be noticeable to staff and the public. Mitigation could be required and may be effective.

Major: Impacts would be readily apparent and would result in a substantial change in Park operations that would be noticeable to staff and the public and would require the Park to readdress its ability to sustain current Park operations.

Duration: Short-term impacts are those lasting during the period of construction; long-term impacts are those that would occur after construction is complete.

Impacts of Alternative A: No Action Alternative

ANALYSIS

Under the No Action Alternative, visitors would continue to enter the Monument through the temporary visitor screening facility. No additional Monument staff would be required to staff the Monument, and the temporary visitor screening facility would remain in place. Construction of a new visitor screening facility would not impact special events and permitted activities. Because the existing visitor screening facility was intended to be a temporary structure, some additional maintenance requirements may be incurred by the Park to maintain the facility beyond its planned lifetime (NPS 2013c). These requirements are anticipated to be greater than the maintenance requirements of a new visitor screening facility.

Overall, this alternative would have a long-term minor adverse impact on Park management and operations due to these maintenance requirements.

CUMULATIVE IMPACTS

Implementation of the National Mall Plan, which includes the past, present, and reasonably foreseeable future construction of the Martin Luther King, Jr., Memorial, AVDLM, Potomac Park and Levee Project, Jefferson Seawall rehabilitation, Lincoln Memorial Reflecting Pool rehabilitation, and NMAAHC, as well as the future construction of the Dwight D. Eisenhower Memorial and the Vietnam Veterans Memorial have and would result in increases in Park staff and operating costs to support the new structures and facilities. However, the impacts of past and present projects on staff operations and operating costs have been offset by the implementation of energy-efficient components and sustainable systems. and future projects' impacts would also be offset by energy-efficient components and sustainable systems.

Construction of perimeter security improvements and an increase in the number of law enforcement officers employed by the Park has caused an increase in Park maintenance and operations costs. However, Constitution Avenue and Madison Drive street improvements enhanced roadway conditions and introduced energy efficient features, reducing Park maintenance and operating costs.

The Monument is currently closed due to the Washington Monument earthquake repairs. While the number of staff required to run the day-to-day operations of the Washington Monument has decreased as a result of the temporary closing of the Monument to the public, the overall operations and maintenance costs have increased as the repairs process is underway. Once repairs are complete, it is expected that the Monument would re-open to the public.

These past, present, and reasonably foreseeable future projects would result in short-term increases in Park staff responsibilities and operating costs. However, in the long term, the Park systems and facilities would be improved through greater efficiency, sustainability, and reliability.

As described previously, the implementation of the No Action Alternative would result in long-term minor adverse impacts to Park management and operations. When combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, the No Action Alternative would result in a long-term negligible cumulative effect. Construction activity resulting from these actions would result in short-term minor adverse cumulative effects on Park management and operations.

CONCLUSION

It is anticipated that maintenance requirements for the temporary facility would increase as a result of the retention of the temporary visitor screening facility. The No Action Alternative would result in long-term minor adverse impacts to Park management and operations due to increasing maintenance requirements.

The long-term minor adverse impacts resulting from the No Action Alternative, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term negligible cumulative effect. Construction activity resulting from these actions would result in a short-term minor adverse cumulative effect on Park management and operations.

Impacts of Alternative B: Ramp at Plaza Perimeter

ANALYSIS

Under Alternative B, permitted activities would not be allowed in the construction area, and Monument staff would be relocated to other portions of the National Mall during the construction of the new visitor screening facility (NPS 2013c). This alternative would eliminate the need to maintain a temporary structure on the Plaza for screening visitors, and a fixed, glass panel would cover the existing Plaza

entrance and allow visitors to view the interior of the Monument. This glass panel would require periodic maintenance and cleaning. Additionally, a series of glass panels would be constructed at the entrance to the new visitor screening facility, and these panels would require periodic maintenance and cleaning as well. Some portions of the new visitor screening facility are anticipated to lead to greater maintenance requirements under this alternative compared to Alternatives A and C due to the necessity of cleaning windows; removing snow from the ramps; and periodically maintaining ramps, walls, and railings. There would be an increased potential for vandalism under this alternative as well. The addition of a bathroom with a toilet and sink would require cleaning and supplies stocking that is not needed at the existing facility, which would have a negligible adverse impact on park operations. However, the presence of a bathroom would have a net beneficial impact on the interpretive rangers and security staff who would no longer be required to walk to the Monument Lodge to use the facilities. Additionally, it is anticipated that this alternative, compared to Alternatives A and C, would require the employment of an additional security guard on the ramps leading into the visitor screening facility (Appendix C).

Implementation of Alternative B would have short-term minor adverse impacts to Park management and operations due to the disruption of the Park and requirements for construction-activity coordination and supervision. Long-term impacts to Park management and operations would be minor because maintenance and operations requirements are expected to be greater than those described under Alternatives A and C.

CUMULATIVE IMPACTS

Impacts to Park management and operations from past, present, and reasonably foreseeable future actions would be similar to those under Alternative A and would be beneficial in the long term, but short-term minor adverse impacts to Park management and operation would occur, with the exception of the Washington Monument earthquake repairs. Once the Washington Monument earthquake repairs are complete, the implementation of Alternative B could commence. However, the starting date of construction is not known at this time. When impacts to Park management and operations from past, present, and reasonably foreseeable future actions are considered along with the short-term impacts that would occur during the implementation of Alternative B, there would be short-term minor adverse cumulative impacts to Park management and operations. When impacts to Park management and operations from past, present, and reasonably foreseeable future actions are considered along with the long-term minor adverse impacts of implementing Alternative B, there would be a long-term negligible cumulative effect on Park management and operations.

CONCLUSION

Under this alternative, Park operating and maintenance requirements are anticipated to be higher than they are under the No Action Alternative as a result of the new permanent facility. Implementation of Alternative B would have short-term minor adverse impacts to Park management and operations and a long-term minor impact to Park management and operations. The long-term minor impacts resulting from Alternative B, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in long-term negligible cumulative effects.

Impacts of Alternative C: Freestanding Plaza Pavilion

ANALYSIS

Under Alternative C, impacts to permitted activities would be similar to those described under Alternative B. The visitor screening facility under this alternative is expected require less maintenance than under Alternatives A, B, and D. Additionally, it is anticipated that fewer staff would be required to operate the visitor screening facility than under Alternatives B and D because this alternative would not require the

hiring of an additional security officer to monitor the ramps leading to the entrance of the facility (Appendix C).

Several options are under consideration for the design of Alternative C. Of these options, the designs that incorporate a solid building envelope are anticipated to require less maintenance than the options with a glass building envelope because it is believed that the glass envelope would require more cleaning and would trap more heat, increasing both cleaning and HVAC requirements, respectively.

In the short term, this alternative would have similar impacts to staffing and permitting as those described under Alternative B. Long-term impacts to Park management and operations would be beneficial as maintenance and operations requirements are anticipated to be less than those described under Alternatives A, B, and D.

CUMULATIVE IMPACTS

Impacts to Park management and operations from past, present, and reasonably foreseeable future actions would be similar to those described under Alternative B. Therefore, when impacts to Park management and operations from past, present, and reasonably foreseeable future actions are considered along with the short-term impacts that would occur under Alternative C, there would be short-term minor adverse cumulative impacts to Park management and operations. When impacts to Park management and operations from past, present, and reasonably foreseeable future actions are considered along with the long-term beneficial impacts of implementing Alternative C, there would be a long-term beneficial cumulative effect to Park management and operations.

CONCLUSION

Under this alternative, Park operating and maintenance costs are expected to be lower than they are under Alternatives A, B, and D. Implementation of Alternative C would have short-term minor adverse impacts to Park management and operations and a long-term beneficial impact to Park management and operations.

The long-term beneficial impacts resulting from Alternative C, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect. Construction activities resulting from these actions would result in a short-term minor adverse cumulative effect on Park management and operations.

Impacts of Alternative D: Ramp in Plaza

ANALYSIS

Alternative D would require the maintenance and operation of a new visitor screening area below the Plaza. Additionally, under this alternative, a fixed, glass panel would cover the existing Plaza entrance and allow visitors to view the interior of the Monument. This glass panel would require periodic maintenance and cleaning. Impacts to Park management and operations would be similar to those described under Alternative B. Long-term impacts to Park management and operations would be minor because maintenance and operations requirements would be similar to those described under Alternative B.

CUMULATIVE IMPACTS

Impacts to Park management and operations from past, present, and reasonably foreseeable future actions would be similar to those described under Alternative B. Therefore, when impacts to Park management and operations from past, present, and reasonably foreseeable future actions are considered along with the short-term impacts that would occur during the implementation of Alternative D, there would be short-term minor adverse cumulative impacts to Park management and operations. When impacts to Park

management and operations from past, present, and reasonably foreseeable future actions are considered along with the long-term negligible impacts of implementing Alternative D, a long-term negligible cumulative effect to Park management and operation would occur.

CONCLUSION

Under this alternative, Park operating and maintenance requirements are expected to be similar to those described under Alternative B. This alternative would result in in short-term minor adverse impacts to Park management and operations due to the disruption of the Park functions and requirements for construction activity coordination and supervision and long-term minor adverse to Park management and operations.

The long-term minor adverse impacts resulting from Alternative D, when combined with the long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term negligible cumulative effect. Construction activities would result in short-term minor adverse cumulative effects on Park management and operations.

Soils

METHODOLOGY AND ASSUMPTIONS

This section assesses the potential effects on the turf and soils in the project area. Potential impacts on soils were assessed based on soil characteristics such as suitability and specific limitations associated with the soil types present in the project area and the extent of possible disturbance. Impact analysis and the conclusions for possible impacts to the resources were based on a geotechnical analysis of the project area, review of existing literature and soil and topography maps, and information provided by the NPS and other agencies.

STUDY AREA

The proposed action would be located on the Monument grounds between Constitution and Independence Avenues and 15th and 17th Streets NW. The area bounded by these streets represents the area of analysis. Cumulatively considerable projects for this resource topic include those projects located immediately adjacent to the project area and the Mall.

IMPACT THRESHOLDS

The following thresholds were used to determine the magnitude of impacts on soil resources:

Negligible: Impacts on soils would be slight and largely unnoticeable compared to healthy native soils typical of the soil type and profile. Any effects on productivity, compaction, infiltration, subsidence, or erosion potential would not be measurable.

Minor: Impacts on soils would be noticeable compared to healthy native soils typical for the soil type and profile. Any effects on productivity, compaction, infiltration, subsidence, or erosion potential would be measurable, but localized to a small area.

Moderate: Impacts on soils would be readily apparent compared to healthy native soils typical for the soil type and profile. Any effects on productivity, compaction, infiltration, subsidence, or erosion potential would be measurable and would cover several acres.

Major: Impacts on soils would substantially alter healthy native soils typical for the soil type and profile. Any effects on productivity, compaction, infiltration, subsidence, or erosion potential would be measurable and would affect a relatively large area (more than 5 acres).

Duration: Short-term impacts to soils would occur during the construction activities. Long-term impacts to soils would extend after completion of the project.

Impacts of Alternative A: No Action Alternative

ANALYSIS

Implementation of the No Action Alternative would result in no change to the grounds at the Washington Monument. Visitor queuing for entrance to the Monument would continue to occur on the granite Plaza located at the perimeter of the Monument. No soil would be disturbed as a result of this alternative. Therefore, there would be no impacts to soils.

CUMULATIVE IMPACTS

The No Action Alternative would result in no impacts to soil resources, and therefore there would not be any cumulative impacts to soils associated with Alternative A.

CONCLUSION

There would be no impacts to soils resources under the No Action Alternative. Therefore, there would not be any cumulative impacts to soils associated with this alternative.

Impacts of Alternative B: Ramp at Plaza Perimeter

ANALYSIS

Implementation of Alternative B would result in long-term minor adverse impacts to soil resources. Impacts to soils would occur from the removal of a noticeable portion of udorthent fill-type soils from the landscape adjacent to the Plaza to construct the ramps and excavate the underground screening facility. In addition, impacts to soils would occur from the replacement of a similar amount (in terms of weight) of udorthent fill-type soils with lighter weight fill material on the other side of the Plaza to balance the weight of the soil on either side of the Monument and prevent differential settlement (Mueser Rutledge 2011). Additional excavation would be required to accommodate a deeper elevator shaft directly below the Monument. The geotechnical report states that the uppermost material within the project area is fill material and ranges in thickness from 9 to 18 feet (Mueser Rutledge 2011). Various layers of sandy silt, sand, gravel, clay, and decomposed rock lie below this stratum of fill. These soils are not deemed particularly productive because they are composed of an assortment of fill materials and function as an impervious surface due to their high compaction as a result of intensive visitor use. The removal of these fill-type soils would result in minimal net loss of soil productivity.

In addition, long-term minor adverse impacts to soils would result from increased compaction due to the installation of the hardscape ramps to reach the new screening facility that would extend beyond the existing hardscape of the Plaza. Geothermal well installation at the site would have a negligible, adverse impact to soils through creation of two to three 400-500-foot wells, and through any additional excavation required for a subsurface mechanical room.

Once placed, the new fill would be covered with topsoil and turfgrass to replicate the existing elevation of the grounds in the area. This would result in long-term minor adverse impacts to soils because the old fill material would be replaced with new, lighter fill material. There could be short-term localized benefits for the soil at the top because it would be somewhat less compacted than it is presently for some period of time, until visitor use traffic compacts it again.

For Alternative B, as for each of the action alternatives, best management practices for erosion and sediment control would be employed during and after construction potentially including, but not limited to, erosion containment controls, coving exposed soils with plastic sheeting, and salvaging replacement soil in accordance with NPS policy.

CUMULATIVE IMPACTS

Past, present, and reasonably foreseeable future plans and actions relevant to soils at the Washington Monument include the National Mall Plan, the Potomac Park Levee Project, the Sylvan Theater Project, the Constitution Gardens Project, and the National Mall Turf and Soil Reconstruction. Over the long term, implementation of these projects would result in long-term beneficial impacts due to improved protection and function of soil resources because of turf management modifications, reconstructed soil profiles, installation of irrigation systems, and sustainable approaches to resource management at individual project sites. With minor adverse long-term impacts to soils from the implementation of this alternative, Alternative B would marginally lessen the long-term beneficial cumulative impacts from past, present, and reasonably foreseeable future projects, but still result in a combined long-term beneficial cumulative effect.

CONCLUSION

Alternative B would result in minor adverse long-term impacts to soils from the removal of soil and the addition of a ramp at the Plaza perimeter, and the excavations and replacement of soil with lightweight fill to counterbalance the effect of the new screening facility on the Monument. There would be long-term beneficial cumulative impacts to soils from past, present, and reasonably foreseeable future projects, which would be lessened to a degree by the long-term minor adverse impacts from Alternative B, but still have a net long-term beneficial cumulative effect.

Impacts of Alternative C: Freestanding Plaza Pavilion

ANALYSIS

Construction of the freestanding pavilion under Alternative C would require construction of a foundation below the frostline, which in the Washington, D.C., area is approximately 2.5 feet below grade. To do so, the Plaza would need to be penetrated, and footers for the structure would be placed (Muesser Rutledge 2011). The weight-loading requirements for the Plaza are expected to be relatively light, similar to the temporary structure currently in place, and the structure could be supported by the fill without affecting the Monument foundations. Heavier structures would require further analysis to prevent impacts to the Monument. There would therefore be limited adverse impacts to soils under Alternative C, related to the small amount of soil that would be disturbed by excavation and compaction to place the foundation for the pavilion. Geothermal well installation at the site would have a negligible, adverse impact to soils through creation of two to three 400-500-foot wells, and through any additional excavation required for a subsurface mechanical room. As a result of this alternative, a limited amount of soils would be disturbed, resulting in a long-term negligible adverse effect on soils and an associated short-term negligible effect on soils during construction that would be further minimized through the use of erosion and sediment control best management practices.

CUMULATIVE IMPACTS

The effects from past, present, and reasonably foreseeable action under Alternative C would be the same as discussed under Alternative B. Implementation of these projects would result in improved protection to soil resources at the project site and long-term beneficial cumulative impacts on soils. The negligible short- and long-term adverse impacts under Alternative C would minimally lessen the long-term beneficial cumulative impacts to soils, but the overall cumulative impact on soils would be beneficial.

CONCLUSION

Alternative C would result in negligible short- and long-term adverse impacts to soil resources. There would be long-term beneficial cumulative impacts to soils from past, present, and reasonably foreseeable future projects, but Alternative C would not contribute to these impacts.

Impacts of Alternative D: Ramp in Plaza

ANALYSIS

Implementation of Alternative D would include the removal of approximately a quarter of the udorthent fill-type soils from the landscape, similar to Alternative B due to the incision and placement of a ramp within the Plaza. This activity would result in both long- and short-term minor adverse impacts to soils. As indicated in the impacts discussion for Alternative B, these soils are not deemed particularly productive, and their removal would result in minimal net loss of soil productivity. In addition, under this alternative, removed soil would be from under the Plaza, a previously compacted area. This area would be subject to new compaction after installation of the hardscape ramp, resulting in minor adverse impacts.

Geothermal well installation at the site would have a negligible, adverse impact to soils through creation of two to three 400-500-foot wells, and through any additional excavation required for a subsurface mechanical room.

For Alternative D, as for each of the action alternatives, best management practices for erosion and sediment control would be employed during and after construction, potentially including, but not limited to, erosion containment controls, covering exposed soils with plastic sheeting, and salvaging replacement soil in accordance with NPS policy.

CUMULATIVE IMPACTS

The same cumulative projects described under the No Action Alternative would apply for Alternative D. Over the long term, implementation of these projects would result in improved protection to soil resources at the project site. With minor adverse long-term impacts to soils from the implementation of this alternative, Alternative D would marginally lessen the long-term beneficial cumulative impacts from past, present, and reasonably foreseeable future projects, but still result in a combined long-term beneficial cumulative effect.

CONCLUSION

Alternative D would result in minor adverse long-term impacts to soils from the removal of soil and the addition of a ramp within the Plaza. There would be long-term beneficial cumulative impacts to soils from past, present, and reasonably foreseeable future projects, which would be lessened to a degree by the long-term minor adverse impacts from Alternative D, but still have a net long-term beneficial cumulative effect.

Visual Resources

METHODOLOGY AND ASSUMPTIONS

This visual impact assessment addresses potential changes to the project area's visual character, views, and vistas that would result from implementation of the proposed action. Existing photographs and a viewshed analysis (Appendix B) prepared by the consultant design team were used for this analysis.

STUDY AREA

The study area for visual resources includes the National Mall in the vicinity of the Washington Monument and vistas that extend along the grand east to west axis created by the U.S. Capitol Building, the Washington Monument, and the Lincoln Memorial, as well as the north to south axis created by the White House, the Ellipse, and the Washington Monument.

IMPACT THRESHOLDS

The following thresholds were used to determine the degree of impacts on visual resources in the project area:

Negligible: The proposed action would not impact the aesthetics or visual viewshed of the proposed project area during construction or operations.

Minor: The proposed action would not substantially change the scenic vista, would not substantially change scenic resources, and would not substantially change the existing visual character or quality of the site and its surroundings. The effect would be detectable, but slight, and would minimally diminish overall integrity, or affect the character-defining feature(s) of the visual resources and aesthetic environment.

Moderate: The proposed action would result in a noticeable effect on a scenic vista; alter scenic resources, including but not limited to, trees and historic buildings; or alter the existing visual character or quality of the site and its surroundings. The effect would diminish the overall integrity, or would alter a character-defining feature(s) of the visual resources and aesthetic environment.

Major: The proposed action would result in a substantial effect on a scenic vista; substantially alter scenic resources, including but not limited to, trees and historic buildings; or substantially alter the existing visual character or quality of the site and its surroundings. The effect would significantly diminish the overall integrity, or would significantly alter a character-defining feature(s) of the visual resources and aesthetic environment.

Duration: In the short term, the most negative visual impacts would be related to the activity and disruption associated with construction. Long-term impacts would be related to permanently compromised, obscured, or disrupted views from the areas where the proposed action would occur.

Impacts of Alternative A: No Action Alternative

ANALYSIS

The temporary visitor screening facility would remain on the Plaza at the base of the eastern face of the Monument for an unknown time. The screening facility would not be altered, and the materials would remain aesthetically deficient and inconsistent with the aesthetics and visual character of the Monument and other resources such as the Monument Lodge and Survey Lodge. The presence of the temporary

facility would continue to diminish the visual integrity of the Monument resulting in long-term moderate adverse impacts to the visual character of the project area. The granite Plaza would remain intact, and the number of flags and benches would remain the same.

The temporary visitor screening facility would continue to be visible looking west from the Mall as well as while standing on the Plaza looking east towards the U.S. Capitol building (see Figures 4.2 and 4.3). The temporary visitor screening facility would continue to obscure the visual intersection of the base of the Monument with the Plaza on the eastern face of the Monument adversely impacting views of the Monument from the east, south, and north, as well as views from the top of the Monument, resulting in long-term moderate adverse impacts to important views in the project area.

Figure 4.2 – No Action Alternative Pedestrian View from the Monument Looking East with Temporary Screening Facility Visible on the Plaza.



Figure 4.3 –View from the Mall Looking West at the Monument.



CUMULATIVE IMPACTS

Construction of the Dwight D. Eisenhower Memorial, AVDLM, Potomac Park Levee Project, NMAAHC, Vietnam Veterans Memorial, Kutz Bridge repairs, Turf and Soil Reconstruction Project, and Washington Monument earthquake damage repairs would impact the visual resources within the project area. Construction activities relating to all of these projects would result in short-term minor adverse impacts to visual resources from the presence of construction equipment and staging. However, these impacts would cease upon construction completion.

The Potomac Park Levee improvements will introduce landscape regrading along the existing levee berm (the northern boundary of the project area) and the removal and replacement of a substantial number of trees along 17th Street adjacent to Constitution Gardens. These actions would create a long-term minor adverse effect in the surrounding area.

The NMAAHC will be constructed by 2016 on the National Mall at the southwest corner of 14th Street NW and Constitution Avenue NW, on the Monument grounds. The presence of a new building in this location will affect the vista between the U.S. Capitol Building, Washington Monument, World War II Memorial, and the Lincoln Memorial, creating a long-term adverse impact on visual resources that will range from minor to moderate.

The implementation of the National Mall Plan would yield beneficial impacts on visual resources by establishing a sense of place and an overall identity for the National Mall, creating a coherent pedestrian environment that would complement and balance the natural environment, formal and informal features, and national commemorative works.

The National Mall Turf and Soil Restoration project upon completion will restore the visual integrity and character of the turf panels on the National Mall resulting in long-term beneficial impacts to the visual character and views and vistas in the project area.

Either the Constitution Gardens improvements or the Sylvan Theater replacement should take place within the near future. Either project would be expected to have a long-term beneficial effect upon visual resources in the Monument grounds and National Mall. Nevertheless, until the project to be implemented in the near term has been selected and the final design released, it would be premature to make a definitive assessment of the project's effects for this topic.

These projects on and around the National Mall generate visual cumulative impacts that are long-term beneficial. When combined with the long-term moderate adverse impacts associated with the No Action Alternative, these beneficial actions would downgrade the existing long-term moderate adverse effect to a long-term minor adverse effect to visual resources in the project area.

CONCLUSION

Under the No Action Alternative, long-term moderate adverse impacts to visual resources would result from diminished visual integrity of the Monument caused by the inconsistent aesthetics and visual character of the temporary visitor screening facility. There would also be long-term moderate adverse impacts to views and vistas as a result of the temporary screening facility's placement obscuring the visual intersection of the Monument with the Plaza. The long-term moderate adverse impacts of this alternative, when combined with the net cumulative beneficial impacts of other past, present, and reasonably foreseeable future actions, would downgrade the existing long-term moderate adverse impacts to a long-term minor adverse effect to visual resources in the project area. There would be a short-term minor adverse cumulative effect on visual resources resulting from cumulative projects construction.

Impacts of Alternative B: Ramp at Perimeter Plaza

ANALYSIS

VISUAL CHARACTER

Removal of the temporary visitor screening facility would result in long-term beneficial impacts to the visual character of the Monument because the screening facility is not consistent with the visual character of the Monument. The introduction of new ramps directly adjacent to the Plaza would alter the circular appearance of the Plaza from overhead. However, this change would not be visible from far off. In addition, the ramps would be consistent in material and design to the other pathway elements in the project area.

VIEWS AND VISTAS

Implementation of Alternative B would result in the removal of the temporary visitor screening facility and relocation of visitor screening and ingress to beneath the Plaza, restoring the original views and vistas of the Monument. The intersection of the Monument with the Plaza would be visible from all sides as originally intended, resulting in long-term beneficial impacts to visual resources. The vital role of the Monument in punctuating both the east-west and north-south visual axes of the National Mall would hardly be impacted. The landscape would be cut into directly adjacent to the eastern portion of the Plaza; this cut would alter the topography but would only be visible within proximity to the Monument and would depend on the elevation of the viewer. The cut would not be visible from farther off such as from the Monument Lodge or National Mall (see Figure 4.5) although it would be visible from the top of the Monument. Retaining walls, ramps, the 42-inch safety barrier, and changes to the mound would alter views of Monument from the east of the Monument grounds, its northern and southern boundaries, and the Mall at least several blocks to the east and south (Figure 4.4). The barrier, however, would not block

the significant viewsheds such as the views of the White House looking north or the U.S. Capitol building looking east resulting in long-term minor adverse impacts to visual resources.

Figure 4.4 – Alternative B Pedestrian View from Plaza Looking North with 42-inch Barrier Visible in Lower Right Corner



Figure 4.5 – View from the National Mall Looking West at the Monument



There would be short-term moderate adverse effects resulting from construction because the presence of construction equipment and sheds and the disruption of the project area would be detectable, but slight, and would minimally diminish overall visual integrity.

CUMULATIVE IMPACTS

Impacts to visual resources from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative. When combined with the long-term beneficial and long-term negligible adverse impacts to visual resources resulting from implementation of Alternative B, there would be a net long-term beneficial cumulative effect.

Short-term minor adverse impacts would result from construction of cumulative projects.

CONCLUSION

Under Alternative B, long-term negligible adverse impacts to visual resources would result from the 42-inch safety barrier, which would be visible on the Plaza looking north, east, and south. There would also be long-term beneficial impacts to visual resources as a result of removal of the temporary visitor screening facility and restoring the original views and vistas of the Monument. The long-term negligible adverse and long-term beneficial impacts of this alternative, in combination with the minor to moderate adverse and beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in a net long-term beneficial cumulative effect. There would be a short-term moderate adverse cumulative effect on visual resources resulting from construction activity related to the implementation of Alternative B and cumulative projects.

Impacts of Alternative C: Freestanding Plaza Pavilion

ANALYSIS

VISUAL CHARACTER

Although the new visitor security screening facility would add a semi-permanent component to the base of the Monument, it would be designed and constructed such that the materials and design would be consistent with the aesthetics and visual character of the Monument and surrounding buildings. The facility could be removed without damage to the Monument when security conditions permit, thus resulting in long-term beneficial impacts to visual resources.

VIEWS AND VISTAS

Alternative C would have similar impacts to views and vistas as the No Action Alternative in that the new visitor screening facility would be visible standing on the Plaza looking east towards the U.S. Capitol building and looking west from the Mall towards the Monument (see Figures 4.6 and 4.7). The screening facility would also obscure the visual intersection of the base of the Monument with the Plaza on the eastern face of the Monument resulting in long-term moderate adverse impacts to important views in the project area.

Figure 4.6 – Alternative C Pedestrian View from Plaza Looking East



Figure 4.7 – View from the National Mall Looking West at the Monument



During construction of Alternative C, there would be short-term moderate adverse effects resulting because the presence of construction equipment and sheds and the disruption of the project area would be detectable, but slight, and would minimally diminish overall visual integrity.

CUMULATIVE IMPACTS

Impacts to visual resources from past, present, and reasonably foreseeable future actions would be similar to those under the No Action Alternative. When combined with the long-term beneficial and long-term moderate adverse impacts to visual resources resulting from implementation of Alternative C, there would be a net long-term beneficial cumulative effect, lessened somewhat by the long-term moderate adverse impacts of this alternative.

Short-term minor adverse impacts would result from construction of cumulative projects.

CONCLUSION

Implementation of Alternative C would result in long-term moderate adverse impacts to views and vistas as a result of the temporary screening facility's placement blocking the visual intersection of the Monument with the Plaza. There would also be long-term beneficial impacts to visual resources as a result of the replacement of the temporary screening facility with a new facility that is consistent with the aesthetics and visual character of the Monument and surrounding areas. The long-term moderate adverse and long-term beneficial impacts of this alternative, in combination with the net long-term beneficial impacts of other past, present, and reasonably foreseeable future actions, would result in an overall long-term beneficial cumulative effect, lessened to a degree by the long-term moderate adverse impacts from this alternative. There would be a short-term moderate adverse cumulative effect on visual resources resulting from construction activity related to the implementation of Alternative C and cumulative projects.

Impacts of Alternative D: Ramp in Plaza

ANALYSIS

Alternative D emphasizes providing visitor queuing, screening, and ingress to the Monument via a ramp set into the Plaza.

VISUAL CHARACTER

Similar to Alternative B, implementation of Alternative D would involve the removal of the temporary visitor screening facility resulting in long-term beneficial impacts to the visual character of the Monument because the screening facility is not consistent with the visual character of the Monument. In addition, a glass panel would be installed where the doorway to the old screening facility was, enabling clear visual access to the interior of the Monument.

The addition of a ramp inset into the Plaza would impact the historically circular, surface level base that is the Granite Plaza. This intrusion would be slightly visible from the east and west and more so from the south as well as from the top of the Monument resulting in long-term minor adverse impacts to the visual character of the Plaza.

VIEWS AND VISTAS

Alternative D would result in the removal and replacement of the temporary visitor screening facility with subterranean visitor screening and ingress, restoring the original views and vistas of the Monument. The intersection of the Monument with the Plaza would be visible from all sides as originally intended, resulting in long-term beneficial impacts to visual resources. There would be no visual impacts to the landscape because all cuts would be within the footprint of the Plaza.

The 42-inch safety barrier surrounding the incision on the Plaza would be visible to visitors coming to and from the Plaza. The barrier would be on the southern side of the Plaza and would not obstruct any significant views because the view of Jefferson Memorial from the Plaza is obscured by trees and vegetation. Therefore, there would only be long-term negligible adverse impacts as a result of the installation of the 42-inch safety barrier.

Figure 4.8 – Alternative D Pedestrian View from the Plaza Looking South with the 42-inch Barrier Running through the Center of the Photo



Figure 4.9 – Aerial View of the Monument



Implementation of Alternative D would result in short-term moderate adverse effects from construction because the presence of construction equipment and sheds and the disruption of the project area would be detectable, but slight, and would minimally diminish overall visual integrity.

CUMULATIVE IMPACTS

Impacts from past, present, and reasonably foreseeable future actions to visual resources would be similar to those under the No Action Alternative. When combined with the long-term beneficial and long-term negligible to minor adverse impacts to visual resources resulting from implementation of Alternative D, there would be a net long-term beneficial cumulative effect, lessened to a degree by the long-term negligible to minor adverse impacts from Alternative D.

Short-term minor adverse impacts would result from construction of cumulative projects.

CONCLUSION

Implementation of Alternative D would result in long-term beneficial impacts to visual resources as a result of removal of the temporary visitor screening facility and restoring the original views and vistas of the Monument. Alternative D would also result in long-term minor adverse impacts to visual resources because of the 42-inch safety barrier, which would be visible on the Plaza looking south. There would also be long-term minor adverse impacts from implementation of Alternative D as a result of the visual intrusion to the Plaza from the new ramp. The long-term negligible to minor adverse and long-term beneficial impacts of this alternative, in combination with the net beneficial cumulative impacts of other past, present, and reasonably foreseeable future actions, would result in a long-term beneficial cumulative effect, lessened to a degree by the long-term negligible to minor impacts from Alternative D. There would be a short-term moderate adverse cumulative effect on visual resources resulting from construction activity related to the implementation of Alternative D and cumulative projects.

Cultural Resources

METHODOLOGY AND ASSUMPTIONS

The NPS categorizes cultural resources by the following categories: archeological resources, cultural landscapes, historic districts and structures, museum objects, and ethnographic resources. As noted in the “Issues and Impact Topics” section of “Chapter 1: Purpose and Need,” impacts to cultural landscapes and historic districts and structures are of potential concern for this project. There would be no impacts to archeological resources, ethnographic resources, or museum objects, so these topics were dismissed from consideration.

The analyses of effects on cultural resources that are presented in this section respond to the requirements of both NEPA and Section 106 of the National Historic Preservation Act (NHPA). In accordance with Advisory Council on Historic Preservation (ACHP) regulations implementing Section 106 (36 CFR Part 800, *Protection of Historic Properties*), impacts on cultural resources were identified and evaluated by: (1) determining the area of potential effect (APE); (2) identifying cultural resources present in the APE that are either listed in or eligible to be listed in the National Register of Historic Places (NRHP), i.e., historic properties; (3) applying the criteria of *adverse effect* to affected historic properties; and (4) considering ways to avoid, minimize, or mitigate adverse effects.

Under the implementing regulations for Section 106, a determination of either *adverse effect* or *no adverse effect* must also be made for affected historic properties. An *adverse effect* occurs whenever an impact alters any characteristic of a cultural resource that qualifies it for inclusion in the NRHP (for example, diminishing the integrity of the resource’s location, design, setting, materials, workmanship, feeling, or association). Adverse effects also include reasonably foreseeable effects caused by the proposal that would occur later in time, be farther removed in distance, or be cumulative. A determination of *no adverse effect* means there is either no effect or that the effect would not diminish in any way the characteristics of the cultural resource that qualify it for inclusion in the NRHP.

CEQ regulations DO-12: *Conservation Planning, Environmental Impact Analysis and Decision-making* (NPS 2001b) also call for a discussion of the appropriateness of mitigation, as well as an analysis of how effective the mitigation would be in reducing the intensity of a potential impact (e.g., reducing the intensity of an impact from major to moderate or minor). Any resultant reduction in intensity of impact due to mitigation, however, is an estimate of the effectiveness of mitigation under NEPA only. Cultural resources are non-renewable resources, and adverse effects generally consume, diminish, or destroy the original historic materials or form, resulting in a loss in the integrity of the resource that can never be recovered. Therefore, although actions determined to have an *adverse effect* under Section 106 may be mitigated, the effect remains adverse.

The NPS guidance for evaluating impacts (DO-12: *Conservation Planning, Environmental Impact Analysis, and Decision Making*; NPS 2001b) requires that impact assessment be scientific, accurate, and quantified to the extent possible. For cultural resources, it is seldom possible to measure impacts in quantifiable terms; therefore, impact thresholds must rely heavily on the professional judgment of resource experts.

Historic Districts and Structures/Cultural Landscapes

The Washington Monument and grounds was documented for the NRHP first as a historic site and then as a component of the “L’Enfant Plan of the City of Washington,” a historic structure. A 2004 Historic Structures Report (HSR) by John Milner Associates, Inc. (Milner) is the most recent and authoritative source for the significance of the Monument structure, its interior and exterior, though not the surrounding Plaza, which has been altered since its publication. In 2009, the NPS documented the Monument grounds in a Cultural Landscape Inventory (CLI). The latter report is the most recent and authoritative source for the significance of the Monument grounds as a historic designed landscape and incorporates the major security-motivated site improvements of the 2004-2005 Olin Plan.

Because the historic property that is the main focus of analysis, the Monument grounds, although documented successively as a historic site and as a cultural landscape, is essentially the **same** multi-component cultural resource, it will be discussed here in a single section.

STUDY AREA

The study area for cultural resources is the APE. A Primary APE for the project has been designated that is coterminous¹ with the boundaries of the Monument grounds, 14th St. N.W. on the east, 17th St. N.W. on the west, Constitution Ave. N.W. on the north, and the shoreline of the Tidal Basin on the south. A larger Secondary APE has been designated that consists of the National Mall and certain adjacent historic districts. The Washington Monument Grounds, equivalent to District of Columbia Reservation #2, is also a component of the NRHP-listed structure, “The L’Enfant Plan of the City of Washington.” (See the “Cultural Resources” section in “Chapter 3: Affected Environment” for a more detailed description of the study area.)

IMPACT THRESHOLDS

Character-defining features of a cultural landscape may include spatial organization and land patterns, topography, vegetation, circulation patterns, water features, structures/buildings, and small-scale objects. See the *Secretary of Interior’s Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes* (Birnbaum 1996)

The thresholds of change for the intensity of an impact are defined in much the same manner both cultural landscapes and for historic districts and structures (see *The Secretary of the Interior’s Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*) (Weeks and Grimmer 1995). For purposes of analyzing potential impacts on both types of historic resource, the thresholds of change for the intensity of an impact are defined as follows:

- Negligible: The impact is at the lowest level of detection with neither adverse nor beneficial consequences. For purposes of Section 106, the determination of effect would be *no adverse effect*.
- Minor: Adverse impact—Preservation of landscape patterns and features would be in accordance with the Secretary of the Interior’s Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes, thereby maintaining the integrity of the cultural landscape. Alteration of a pattern(s) or feature(s) of a historic district or structure listed on or eligible for the NRHP would

¹ Coterminous is defined as having the same or coincident boundaries. In this instance, the Monument grounds boundary is the same boundary as that of the Primary APE.

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

Beneficial impact— Preservation of landscape patterns and features would be in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes, thereby maintaining the integrity of the cultural landscape. The character-defining features of the historic district or structure would be stabilized/preserved in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings to maintain its existing integrity. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Moderate: Adverse impact—The impact would alter a character-defining feature(s) of the cultural landscape and diminish the integrity of that feature(s) of the landscape. The impact would alter a character-defining feature(s) of a historic district or structure and diminish the integrity of that feature(s) of the historic property. For purposes of Section 106, the determination of effect would be *adverse effect*, but one which could be fairly easily avoided, minimized, or mitigated through an Agreement Document.

Beneficial impact—Preservation of landscape patterns and features would be in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes, thereby maintaining the integrity of the cultural landscape. The historic district or structure would be rehabilitated in accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings to make possible a compatible use of the property while preserving its character-defining features. For purposes of Section 106, the determination of effect would be *no adverse effect*.

Major: Adverse impact—The impact would alter a 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. The impact would alter a character-defining feature(s) of the historic district or structure and would 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* and would present serious difficulty in avoiding, minimizing, or mitigating through an Agreement Document.

Beneficial impact—The cultural landscape would be restored in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties and Guidelines for the Treatment of Cultural Landscapes* to accurately depict the features and character of a landscape as it appeared during its period of significance. The historic district or structure would be restored in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* 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: Short-term impacts are those lasting less than one year; long-term impacts are those lasting longer than one year.

Analysis of the Impacts

As indicated in Chapter 2, 18 alternatives were initially considered for the project. Of those, only four, including the No Action Alternative, have been carried forward for further analysis in this EA. The narrowing of alternatives from 23 to 4 was the result of comments received from the public after public scoping and Section 106 consulting party meetings as well as reviews by the NCPC and the United States Commission of Fine Arts (CFA). Many of the dismissed alternatives would have required major interventions in the territory of the Monument grounds, while the remaining alternatives under active consideration are limited to alterations on or in the Plaza, or around its immediate perimeter.

For this reason, many of the potential adverse impacts to cultural resources in the Primary APE and, even more so, in the Secondary APE, have already been avoided. With regard to the Monument and the Plaza, it is important to note that only certain extant features have been evaluated as historically significant. The Plaza, although present at a smaller scale and with different materials from earlier periods, has been renovated and updated as recently as 2005 by the (partial) implementation of the Olin Plan. It is listed in the 2009 CLI as a “non-contributing” feature. Because the analysis below relates only to impacts on cultural resources under NEPA (and the equivalent effects on historic properties under Section 106), it does not purport to be a broader design critique of the alternatives.

The NPS, in its standard format for inventorying cultural landscapes, recognizes 10 broad categories of features, which are then classified as “contributing” or “non-contributing” with regard to eligibility for the NRHP. They are views and vistas, buildings and structures, circulation, vegetation, topography, land use, spatial organization, small scale features, archeology, and constructed water features. These categories provide a wide overview of the cultural landscape, which incorporates cultural resources, such as buildings, structures, and archeological sites that have traditionally been nominated individually for the NRHP as well as landscape features that have rarely been included. For the Monument and Monument grounds, all categories are represented by features that contribute to the resource’s integrity except constructed water features. As indicated in Chapter 2, archeological sites may be present, but at such a depth below the Monument grounds’ overlying fill that they could not be impacted by any of the alternatives and so need not be further considered.

Analysis of the impacts of the four alternatives has proceeded in a coordinated NEPA/Section 106 process, which involved several meetings by the NPS with a broad spectrum of Consulting Parties. Weighing of impacts on cultural resources and other topics that resulted from the consultation meetings had a considerable outcome on the EA. In terms of Section 106, it led to the adoption of a Memorandum of Agreement to avoid, minimize, and mitigate adverse to historic properties (See Appendix D).

The following more detailed analysis, which replicates the Section 106 consultation, is based upon the categories and specific features that are considered important for the Monument and Monument grounds in the 2009 CLI described in further detail in Chapter 3 of this EA (NPS 2009b).

Impacts of Alternative A: No Action Alternative

ANALYSIS

Table 4.2 describes the anticipated impacts of the No Action Alternative on each of the eight broad categories of cultural resource type present at the Monument grounds, as well as those on any NPS numbered contributing feature falling under each category.

Table 4.2 – CLI Contributing Features – No Action Alternative

| Type of Resource | Impact Analysis |
|---|---|
| Views and Vistas Impacts | |
| Views from D.C. and surrounding region to Monument. | Entrance pavilion alters views of Monument from the east of the Monument grounds, its northern and southern boundaries, and the Mall at least several blocks to the east. |
| Views from top of Monument to surrounding city and important sites. | The view from the top of the Monument to the Plaza is altered. No view of the surrounding city or important sites is impacted. |
| Views to and from the site to the Lincoln Memorial, White House, Thomas Jefferson Memorial, and U.S. Capitol. | Entrance pavilion slightly alters views of the U.S. Capitol, Jefferson Memorial, and perhaps the White House. |
| Buildings and Structures Impacts | |
| Washington Monument. | Affects stone where the temporary facility attaches to the Monument. |
| | The temporary entrance facility is of a design and materials that are incompatible with the simplicity and character of the Monument. |
| | The existing below-grade configuration limits the number of connections to the Monument, such as utility conduits, which has a minor adverse impact on the structure. |
| Circulation Impacts | |
| | Although access is at the traditional east doorway, the temporary facility obscures the door. |
| Vegetation Impacts | |
| Lawn. | None. |
| Topography Impacts | |
| | None. |
| Land Use Impacts | |
| | None. |
| Spatial Organization Impacts | |
| | The temporary facility compromises the simplicity of the Monument in relation to the landscape, as well as symmetry in plan. |

There would be moderate long-term adverse impacts to cultural landscapes and historic structures/districts caused by the No Action Alternative. The existing temporary screening facility is aesthetically deficient and obscures the east face entrance to the Monument, adversely impacting views of the Monument from the east, south, and north, as well as views from the top of the Monument. If future security conditions change, it would be reversible.

CUMULATIVE IMPACTS

Construction of the NMAAHC, the first new structure to be built on the National Mall in the 21st century, will affect the setting of cultural resources in the vicinity, once completed. New national museums and memorials on the Mall, having undergone a rigorous design review process, are considered by the Smithsonian Institution to be NRHP resources upon their completion. Nonetheless, the NMAAHC, now under construction, will partially obscure views of the Washington Monument from certain vantage points. So, for the purposes of this EA, it can be said to have a moderate long-term adverse effect upon the Monument grounds, where it is located.

The Potomac Park Levee Project will introduce new structures and landscape modifications that will have a minor long-term adverse effect on the cultural resources of the Monument and Monument grounds.

The Jefferson Seawall rehabilitation has had major long-term beneficial impacts to that memorial and negligible impacts to the Monument and Monument grounds.

The goal of the National Mall Plan is to establish a sense of place and an overall identity for the National Mall, creating a coherent pedestrian environment that would complement and balance the natural environment, formal and informal features, and national commemorative works. The National Mall Plan would have a moderate long-term beneficial impact on the National Mall and the Monument grounds as a cultural landscape and a historic site.

Either the Sylvan Theater replacement or the Constitution Gardens improvements should take place within the near future. Sylvan Theater is not considered a contributing feature to the Monument grounds, while Constitution Gardens is a designated cultural landscape, although one that is often regarded as less than successful in certain aspects of its design. Either project would probably have a long-term beneficial effect upon cultural landscapes and historic structures/districts in the Monument grounds and National Mall. However, until the project to be implemented in the near term has been selected and the final design released, it would be premature to make a definitive assessment of the project's effects for this topic.

Long-term moderate adverse impacts to cultural landscapes/historic districts and structures would result from the No Action Alternative. In combination with the largely long-term beneficial impacts that have resulted from the cumulative actions, the No Action Alternative would have a noticeable adverse contribution to the overall long-term beneficial impacts, but would not change the combined impact.

CONCLUSION

The No Action Alternative would result in long-term moderate adverse impacts to cultural landscapes/historic districts and structures due to the aesthetically deficient existing temporary entrance facility; its obscuring of the east face entrance to the Monument; and the adverse impacts to views of the Monument from the east, south, and north as well as views from the top of the Plaza in plan. Cumulative impacts would be long-term and beneficial with the No Action Alternative having a noticeable adverse contribution to these impacts, but not changing the combined impact.

Impacts of Alternative B: Ramp at Plaza Perimeter

ANALYSIS

Table 4.3 describes the anticipated impacts of Alternative B on each of the eight broad categories of cultural resource type present at the Monument grounds, as well as those on any NPS numbered contributing feature falling under each category. For a broader discussion of all resource types and evaluation of contributing versus non-contributing features, see Chapter 3.

Table 4.3 – CLI Contributing Features - Alternative B

| Type of Resource | Impact Analysis |
|---|---|
| Views and Vistas Impacts | |
| Views from D.C. and surrounding region to the Monument. | Retaining walls, ramps, safety barrier, and changes to the mound alter views of the Monument from the east of the Monument grounds, its northern and southern boundaries, and the Mall at least several blocks to the east. |
| Views from top of the Monument to surrounding city and important sites. | Retaining walls, ramps, safety barrier, and changes to the mound alter views of the immediate Monument setting from the top of the Monument, but not the surrounding city and important sites. |
| Views to and from the site to the Lincoln Memorial, White House, Thomas Jefferson Memorial, and U.S. Capitol. | Retaining walls, ramps, safety barrier, and changes to mound slightly alter views to the U.S. Capitol, Jefferson Memorial, and perhaps the White House. |
| Buildings and Structures Impacts | |
| Washington Monument. | Removes original material from the Mills and Casey eras foundations. Makes the historic east entrance visible again. |
| | Portions of the Plaza would be taken up and replaced with the same materials after routing of heating, water, and sewer pipes. |
| Circulation Impacts | |
| | Closes traditional Plaza level east entrance point of Monument in favor of a more remote subterranean access. Ends access to elevator lobby contributing features. Preserves overall Mall circulation patterns. |
| Vegetation Impacts | |
| Lawn. | Removes a portion of lawn east of Plaza. |
| Topography Impacts | |
| | Excavates a portion of the mound. |
| Land Use Impacts | |
| | None. |
| Spatial Organization Impacts | |
| | New features separate Plaza from landscape at the east. Simplicity of the Monument in relation to the landscape is compromised, as well as symmetry in plan. |

To summarize, Alternative B would cause adverse impacts from rerouting the traditional entrance sequence from the east side doorway on the Plaza to a subterranean entrance cut into the landscape, requiring the alteration of historic material at the base of the Monument and bypassing the elevator lobby, which contains a number of contributing features. If future security conditions change, it would not be reversible. Alternative B's impacts on views and vistas would not be substantial, but relatively minor due to the large scale of the viewshed between the U.S. Capitol and the Lincoln Memorial. The vital role of the Washington Monument in punctuating both the east-west and north-south axes of the National Mall would hardly be impacted. Only from a few blocks to the east of the Monument grounds would the cut into the mound at the perimeter of the Plaza be very visible, and that would depend upon the elevation of

the viewer, refinements in the final design (such as the “ha ha”² approach applied to the ramps), and artificial illumination at nightfall.

A major adverse impact of Alternative B would be the necessity to cut into the Monument’s foundation and into the lawn and mound, thus compromising the simplicity of Monument’s setting as an enormous sheer obelisk rising directly from the mound. By reaching beyond the perimeter of the Plaza to provide a visitor security screening sequence, it would cause a greater geographical scope of impacts than Alternatives C and D. In addition, utility connections leading to and from a new bathroom in the facility, geothermal wells, and an underground mechanical room would require some utility excavation and potential connections through the Plaza. Utility connections would avoid additional impacts to the Mills and Casey foundation. However, impacts to the plaza would result in long-term, minor adverse impacts.

The limited scale and visibility of Alternative B are such that it would have no impacts on any of the NRHP historic districts, structures, or cultural landscapes within the larger Secondary APE except that of National Mall itself, the impacts of which have already been described in the Views and Vistas analysis above. Certain contributing interior features of the Washington Monument such as the wainscoting and terrazzo flooring, which are identified in the HSR treating the Monument grounds as a NRHP historic site, might no longer be visible to the public but would not necessarily be physically altered. Impacts on the Phoenix columns would be possible, but might be avoided. No other structure or building on the Monument grounds, such as the Monument Lounge, Survey Lodge, or the Jefferson Pier, would be impacted. There would also be no impacts to “The L’Enfant Plan of the City of Washington,” specifically Reservation #2 or the streets surrounding the Monument grounds.

Implementation of Alternative B would have a major long-term adverse effect upon the Monument and Monument grounds, both as an NRHP cultural landscape and a historic site. It would have no effect upon any other historic property within the Secondary APE, except for the National Mall on which it would have a minor long-term adverse effect. There would be minor short-term adverse effects due to the disruption to the Monument grounds caused by construction.

CUMULATIVE IMPACTS

The projects with cumulative impacts relevant to cultural resources are analyzed under the No Action Alternative section. Long-term major adverse impacts to cultural landscapes/historic districts and structures would result from Alternative B. In combination with the largely long-term beneficial impacts that have resulted from the cumulative actions, Alternative B would have a noticeable adverse contribution to the overall long-term beneficial impacts, but would not change the combined impact.

CONCLUSION

Under Alternative B, there would be a long-term major adverse effect because this alternative requires cutting into the Monument foundation, lawn, and mound, thus altering historic fabric and the topography. The Plaza would be replaced in kind after the installation of necessary water, sewer, and heating pipes. It also would reroute the circulation pattern and is the most extreme reconfiguration of the spatial organization of the grounds. It would adversely impact views of the Monument from the east, south, and north as well as views from the top of the Plaza in plan. Cumulative impacts would be long-term and beneficial with Alternative B having a noticeable adverse contribution to these impacts, but not changing the combined impact.

² The ha-ha is a landscape design feature that uses a trench, the inner side of which is vertical, with the outer face sloped and turfed, making the trench, in effect, a sunken fence or retaining wall. The ha-ha is designed not to interrupt the view from a garden or park, and to be invisible until seen from close range.

Impacts of Alternative C: Freestanding Plaza Pavilion

ANALYSIS

Table 4.4 describes the anticipated impacts of Alternative C on each of the eight broad categories of cultural resource type present at the Monument grounds, as well as those on any NPS numbered contributing feature falling under each category.

Table 4.4 – CLI Contributing Features – Alternative C

| Type of Resource | Impact Analysis |
|---|--|
| Views and Vistas Impacts | |
| Views from D.C. and surrounding region to the Monument. | Entrance pavilion alters views of the Monument from the east of the Monument grounds, from its northern and southern boundaries, and from the Mall at least several blocks to the east, but no more so than the existing condition, i.e., the temporary entrance facility. |
| Views from top of the Monument to surrounding city and important sites. | The view from the top of the Monument to the Plaza is altered, similar to the existing condition. No view of the surrounding city or important sites is impacted. |
| Views to and from the site to the Lincoln Memorial, White House, Thomas Jefferson Memorial, and U.S. Capitol. | Entrance pavilion slightly alters views of the U.S. Capitol, Jefferson Memorial, and perhaps the White House, but no more so than the existing condition, i.e., the temporary entrance facility. |
| Buildings and Structures Impacts | |
| Washington Monument. | Affects stone where pavilion attaches to the Monument, as does existing temporary facility. |
| | Portions of the Plaza would be taken up and replaced with the same materials after routing of heating, water, and sewer pipes. |
| Circulation Impacts | |
| | Although access is at traditional east doorway, the entrance pavilion obscures the door, as does the temporary facility. Preserves overall Mall circulation patterns. |
| Vegetation Impacts | |
| Lawn. | None. |
| Topography Impacts | |
| | None. |
| Land Use Impacts | |
| | None. |
| Spatial Organization Impacts | |
| | Entrance pavilion compromises the simplicity of the Monument in relation to the landscape, as well as symmetry in plan. Similar to existing condition. |

Having no impacts on vegetation, topography, and land use, as well as lesser impacts on circulation, spatial organization, and interior building features than Alternatives B and D, Alternative C is essentially

a variation on the No Action Alternative. If future security conditions change, it would be reversible. The existing temporary visitor screening pavilion, although the baseline condition, does adversely impact the simplicity of the Monument rising from the ground and interferes with views from the east, south, and north. The design and materials (perhaps glass) of a new permanent entrance facility attached to the east doorway of the Monument might minimize or mitigate these adverse impacts. In addition, utility connections leading to and from a new bathroom in the facility, geothermal wells, and an underground mechanical room would require some utility excavation and potential connections through the Plaza. Utility connections would avoid impacts to the Mills and Casey foundation. However, impacts to the plaza would result in long-term, minor adverse impacts.

The limited scale and visibility of Alternative C are such that it would have no impacts on any of the NRHP historic districts, structures, or cultural landscapes within the larger Secondary APE except that of National Mall itself, the impacts of which have already been described in the Views and Vistas analysis above. Certain contributing interior features of the Washington Monument, such as the wainscoting and terrazzo flooring, which are identified in the HSR treating the Monument grounds as an NRHP historic site, would continue to be visible, although the east face doorway would continue to be obscured. No other structure or building on the Monument grounds, such as the Monument Lounge, Survey Lodge or the Jefferson Pier, would be impacted. There would also be no impacts to “The Plan of the City of Washington,” specifically Reservation #2 or the streets surrounding the Monument grounds.

Implementation of Alternative C would have a moderate long-term adverse effect upon the Monument and Monument grounds both as an NRHP cultural landscape and a historic site. Alternative C would have no effect upon any other historic property within the Secondary APE, except for the National Mall on which it would have a minor long-term adverse effect. There would be minor short-term adverse effects due to the disruption of the Plaza caused by construction.

CUMULATIVE IMPACTS

The projects with cumulative impacts relevant to cultural resources are analyzed under the No Action Alternative section. Long-term moderate adverse impacts to cultural landscapes/historic districts and structures would result from Alternative C. In combination with the largely long-term beneficial impacts that have resulted from the cumulative actions, Alternative C would have a noticeable adverse contribution to the overall long-term beneficial impacts, but would not change the combined impact.

CONCLUSION

Under Alternative C, there would be a moderate long-term adverse impact to cultural landscapes/historic districts and structures because the historic east doorway would be obscured; the new entrance facility would intrude on views of the Monument from the east, south, and north; the plan would be asymmetrical; and the simplicity of an obelisk rising from the ground would be compromised. The Plaza would be replaced in kind after the installation of necessary water, sewer, and heating pipes. Cumulative impacts would be long-term and beneficial with Alternative C having a noticeable adverse contribution to these impacts but not changing the combined impact.

Impacts of Alternative D: Ramp in Plaza

ANALYSIS

Table 4.5 describes the anticipated impacts of Alternative D on each of the eight broad categories of cultural resource type present at the Monument grounds, as well as those on any NPS numbered contributing feature falling under each category.

Table 4.5 – CLI Contributing Features- Alternative D

| Type of Resource | Impact Analysis |
|---|--|
| Views and Vistas Impacts | |
| Views from D.C. and surrounding region to the Monument. | Safety barriers alter views of the Monument from the south, east, and west. The effect is greatest from the south. However, the scale of the safety barriers is less than that of the intervention at the east of the Plaza in Alternative B, thus minimizing the visual impact from the east. |
| Views from top of the Monument to surrounding city and important sites. | Safety barriers alter views of immediate Plaza from the top of the Monument, but not of the surrounding city and important sites. The Plaza has changed in materials and circumference over time. |
| Views to and from the site to the Lincoln Memorial, White House, Thomas Jefferson Memorial, and U.S. Capitol. | The view to the Jefferson Memorial would be slightly altered. |
| Buildings and Structures Impacts | |
| Washington Monument. | Removes original material from the Mills and Casey era foundations. Makes the historic east entrance visible again. |
| | Portions of the Plaza would be taken up and replaced with the same materials after routing of heating, water, and sewer pipes. |
| Circulation Impacts | |
| | Closes traditional Plaza-level east entrance point of the Monument in favor of a more remote (but less so than in Alternative B) subterranean access. Ends access to elevator lobby contributing features. Limits access to a portion of the Plaza. Preserves overall Mall circulation patterns. |
| Vegetation Impacts | |
| Lawn. | None. |
| Topography Impacts | |
| | None. |
| Land Use Impacts | |
| | None. |
| Spatial Organization Impacts | |
| | Ramps and safety barriers alter the existing relationship between the Monument, Plaza, and surrounding landscape, but the intervention is not as great as Alternative B. |

To summarize, adverse impacts of Alternative D include rerouting the traditional entrance sequence from the traditional east-side doorway of the Monument on the Plaza to a subterranean entrance via a ramp curving into the Plaza. Alternative D also requires the alteration of historic material at the base and bypasses the elevator lobby, which contains a number of contributing features. If future security conditions change, it would not be reversible. Its impacts on views and vistas are relatively minor due to

the large scale of the viewshed between the U.S. Capitol and the Lincoln Memorial and the Jefferson Memorial and the White House. The safety barriers would appear more prominent from the south.

The necessity to cut into the Plaza is somewhat problematic because the Plaza, historically present as a circular, surface level base of a certain circumference crowning the mound, has recently been altered by the Olin Plan. The paving, stone benches (several of which would be removed by Alternative D) and other fixtures are new. Therefore the Plaza is no longer considered a contributing feature. Purely in terms of designated historic contributing features, the alteration of the Plaza is preferable to the alteration of the mound and lawn. In addition, utility connections leading to and from a new bathroom facility, geothermal wells, and mechanical room would require some utility excavation and potential connections through the Plaza. Utility connections would avoid additional impacts to the Mills and Casey foundation. However, impacts to the Plaza would result in long-term, minor adverse impacts.

Alternative D would compromise the simplicity of Monument's setting as an enormous sheer obelisk rising directly from the mound, but to a lesser extent than Alternative B. The limited scale and visibility of Alternative D are such that it would have no impacts on any of the NRHP historic districts, structures, or cultural landscapes within the larger Secondary APE except that of National Mall itself, the impacts of which have already been described in the Views and Vistas analysis above. Certain contributing interior features of the Washington Monument, such as the wainscoting and terrazzo flooring, which are identified in the HSR treating the Monument grounds as an NRHP historic site, might no longer be visible to the public but would not necessarily be physically altered. Possible impacts on the Phoenix columns are unknown at this point because the project is still in the design process. No other structure or building on the Monument grounds such as the Monument Lounge, Survey Lodge, or the Jefferson Pier would be impacted. There would also be no impacts to "The L'Enfant Plan of the City of Washington," specifically Reservation #2 or the streets surrounding the Monument grounds.

Implementation of Alternative D would have a moderate long-term adverse effect upon the Monument and Monument grounds both as an NRHP cultural landscape and a historic site. It would have no effect upon any other historic property within the Secondary APE, except for the National Mall on which it would have a minor long-term adverse effect. There would be minor short-term adverse effects due to the disruption to the Monument grounds caused by construction.

CUMULATIVE IMPACTS

The projects with cumulative impacts relevant to cultural resources are analyzed under the No Action Alternative section. Long-term moderate, adverse impacts to cultural landscapes/historic districts and structures would result from Alternative D. In combination with the largely long-term beneficial impacts that have resulted from cumulative actions, Alternative D would have a noticeable adverse contribution to the overall long-term beneficial impacts but would not change the combined impact.

CONCLUSION

Under Alternative D, there would be a long-term moderate adverse effect due to the visibility of the safety barriers, borrowing of space from the Plaza, cutting into the Monument foundation, rerouting the circulation pattern, and a less extreme reconfiguration of the spatial organization of the grounds. The Plaza would be replaced in kind after the installation of necessary water, sewer, and heating pipes. Alternative D also would adversely impact views of the Monument from the east, south, and north as well as views from the top of the Plaza in plan. Cumulative impacts would be long-term and beneficial with Alternative D having a noticeable adverse contribution to these impacts but not changing the combined impact.

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CHAPTER 5: CONSULTATION AND COORDINATION

The NPS places a high priority on public involvement in the NEPA process and on giving the public an opportunity to provide input and comment on proposed actions. As part of the NPS NEPA and Section 106 process, issues associated with the proposed action were identified during the internal scoping meeting held with NPS and have been communicated to other affected agencies and stakeholders.

Coordination with local and federal agencies was conducted during the NEPA process to identify issues and/or concerns related to natural and cultural resources at the Washington Monument project location. NPS conducted two public meetings to solicit input and comment from members of the public. The first was held on November 8, 2010, to solicit input on the purpose and need and important issues for NPS to consider. The second was held on September 20, 2011, to solicit input on the draft alternatives. These public scoping efforts are described in more detail in “Chapter 1: Purpose and Need.”

Compliance with Section 106 of the NHPA, as amended, included consultation with the District of Columbia SHPO, the ACHP, the CFA, and the NCPC. In addition, a number of agencies, organizations, stakeholders, including members of the public, were invited to participate in this process as consulting parties throughout the Section 106 process. The assessment of effect will be completed and documented separately from this EA. The NPS began consultation with the SHPO on November 3, 2010 (see appendix A); coordination and consultation are ongoing.

In accordance with Section 7 of the Endangered Species Act, the Park requested, on October 14, 2010, an updated list of rare, threatened, and endangered species known to be present in the project area. By letter dated December 29, 2010, the USFWS responded that other than transient species, no proposed or federally listed species are known to exist in the project area. The Park also sent a letter to the District Department of Environment, Fisheries and Wildlife Division, stating that according to its Wildlife Action Plan (2006), no species of greatest conservation need are present in the vicinity of the project. The District Department of Environment did not provide further updates or comments in response to this letter.

Comment Period

To comment on this EA, you may mail comments or submit them online at <http://parkplanning.nps.gov/NAMA> 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 our ability to do so. Please mail comments to Joni Gallegos (Attn: Washington Monument Security Screening) at National Park Service, 12795 West Alameda Parkway, Lakewood, CO 80288-2838.

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Acronyms

| | |
|---|------------|
| Advisory Council on Historic Preservation | (ACHP) |
| Americans with Disabilities Act | (ADA) |
| Above Mean Sea Level | (amsl) |
| Architect/Engineering | (A/E) |
| Architectural Barriers Act | (ABA) |
| Architectural Barriers Act Accessibility Standard | (ABAAS) |
| Advisory Council on Historic Preservation | (ACHP) |
| Area of Potential Effect | (APE) |
| American Veterans Disabled for Life Memorial | AVDLM |
| Choosing by Advantages and Value Analysis | (CBA/VA) |
| Code of Federal Regulation | (CFR) |
| Council on Environmental Quality | (CEQ) |
| Cultural Landscape Inventory | (CLI) |
| Director's Order | (DO) |
| District of Columbia Historic Preservation Office | (DC HPO) |
| District of Columbia Water and Sewer Authority | (DC Water) |
| Environmental Assessment | (EA) |
| Executive Order | (EO) |
| Federal Capital Improvements Program | (FCIP) |
| Finding of No Significant Impact | (FONSI) |
| General Services Administration | (GSA) |
| Historic Structures Report | (HSI) |
| Leadership in Energy and Environmental Design | (LEED) |
| Martin Luther King, Jr. | (MLK) |
| Memorandum of Understanding | (MOU) |
| Moment Magnitude | (Mw) |
| National Capital Region | (NCR) |
| National Capital Planning Commission | (NCPC) |
| National Capital Urban Design and Security Plan | (NCUDSP) |
| National Environmental Policy Act | (NEPA) |
| National Historic Landmark | (NHL) |
| National Historic Preservation Act | (NHPA) |
| National Mall and Memorial Parks | (Park) |
| National Museum of African American History and Culture | (NMAAHC) |
| National Park Service | (NPS) |
| National Parks Omnibus Management Act | (NPOMA) |
| National Register of Historic Places | (NRHP) |
| Natural Resources Conservation Service | (NRCS) |
| Northwest | (NW) |
| Peak Ground Acceleration | (PGA) |
| Planning, Environment, and Public Comment website | (PEPC) |

| | |
|--|--------------------|
| Potomac Electric Power Company | (PEPCO) |
| Programmatic Agreement | (PA) |
| Public Law | (PL) |
| Smithsonian Institute | (SI) |
| Southwest | (SW) |
| State Historic Preservation Officer | (SHPO) |
| Traditional Cultural Property | (TCP) |
| United States Army Corps of Engineers | (USACE) |
| United States Code | (USC) |
| United States Commission of Fine Arts | (CFA) |
| United States Department of Agriculture | (USDA) |
| United States Fish and Wildlife Service | (USFWS) |
| United States Geological Survey | (USGS) |
| United States Park Police | (USPP) |
| United States Secret Service | (USSS) |
| Washington Metropolitan Area Transit Authority | (WMATA) |
| Washington Monument | (Monument) |
| Washington Monument grounds | (Monument grounds) |

Key Word Glossary

Affected Environment — The existing environment to be affected by a proposed action and alternatives.

Best Management Practices — 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 — Established by Congress within the Executive Office of the President with passage of the NEPA of 1969. The CEQ coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.

Cultural Landscape – Environments that include natural and cultural resources associated with a historical context.

Cultural Resources — 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 (40 CFR §1508.7).

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

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 USFWS, and it is responsible for reviewing the status of the species on a five-year basis.

Environmental Assessment — An environmental analysis prepared pursuant to NEPA to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement.

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.

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.

Impairment—The NPS requires an analysis of potential effects to determine whether actions would impact or impair Park resources. The NPS is empowered with the management discretion to allow impacts on Park resources and values (when necessary and appropriate) to fulfill the purposes of a Park, as long as the impact does not constitute impairment of the affected resources and values.

Magnetometer – A walkthrough metal detector used for security in public facilities.

Mall — The area west of the United States Capitol between Madison and Jefferson Drives from 1st to 14th Streets NW/SW. The east end of the Mall from 1st to 3rd streets NW/SW between Pennsylvania Avenue and Maryland Avenue and is also known as Union Square. The Mall is characterized by the east-west stretch of lawn bordered by rows of American elm trees.

Monumental Core — The monumental core currently 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 — The act, as amended, articulates the federal law that mandates protecting the quality of the human environment. It requires federal agencies to systematically assess the environmental impacts of their proposed activities, programs, and projects including the No Action Alternative of not pursuing the proposed action. NEPA requires agencies to consider alternative ways of accomplishing their missions in ways which are less damaging to the environment.

National Historic Preservation Act of 1966 (16 USC 470 et seq.) — An Act to establish a program for the (PL 89-665; 80 STAT. 915; 16 USC 470, as amended by PL 91-243, PL 93-54, PL 94-422, PL 94-458, PL 96-199, PL 96-244, PL 96-515, PL 98-483, PL 99-514, PL 100-127, and PL 102-575).

National Mall — The area comprised of the Mall, the Washington Monument, and West Potomac Park. It is managed by the NPS’ National Mall and Memorials Parks.

National Register of Historic Places — 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 NHPA of 1966, as amended.

Pyramidion – The shaft of the Washington Monument is topped by a white marble pyramidion rising 55 feet-1 $\frac{5}{8}$ inches tall (Milner 2003).

Scoping — Scoping, as part of NEPA, requires examining a proposed action and its possible effects; establishing the depth of environmental analysis needed; and determining analysis procedures, data needed, and task assignments. The public is encouraged to participate and submit comments on proposed projects during the scoping period.

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.

Viewshed — A viewshed includes a total visible area from a particular fixed vantage point.

Vista— A distant or long view, especially one seen through some opening such as an avenue or trees that form an avenue.

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APPENDIX A: CONSULTATION AND CORRESPONDENCE

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Chesapeake Bay Field Office -- List request review letter

Page 1 of 1



United States Department of the Interior
U.S. Fish & Wildlife Service
Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, MD 21401
410/573 4575

**Endangered Species List Review**

| | |
|------------------|--------------------------------------|
| Today's date | October 14, 2010 |
| Name | Kristen Murphy |
| Company | National Park Service |
| street address | 900 Ohio Drive, SW |
| county | |
| city, state, zip | Washington, D.C. 20024 |
| email | kristen_murphy@nps.gov, 202-245-4674 |

My project is *not* located on one of the quad maps on the Chesapeake Bay Field Office web site.

Please send the endangered species and critical habitats list review to me at either the address above, or email a response. If additional information is required, please call me.

Project Location:

Street name Washington Monument Grounds, National Mall
City, state, zip Washington, D.C.

Proposed Construction/ Refurbishment Activity:

(Example: The proposed project is to build 100 rental units to replace apartments that were razed. This is Phase I of a larger residential development.)

The National Park Service (NPS) proposes to improve the security and visitor screening at the Washington Monument in Washington, D.C. In 2002, the NPS completed a design for Washington Monument Permanent

pending EA and are explored in several alternatives.

Enclosed are photographs (optional), either a location map or current topographic map, or a site map of the subject property.

<http://www.fws.gov/chesapeakebay/EndSppWeb/elements/listrequestletter.html>

10/14/2010

Washington Monument Visitor Security Screening, Washington D.C.





United States Department of the Interior

FISH AND WILDLIFE SERVICE

Chesapeake Bay Field Office
177 Admiral Cochrane Drive
Annapolis, Maryland 21401
<http://www.fws.gov/chesapeakebay>



December 29, 2010

Kristen Murphy
National Park Service
900 Ohio Drive, SW
Washington, DC 20024

RE: Washington Monument Grounds, National Mall Washington DC

Dear Kristen Murphy:

This responds to your letter, received, October 14, 2010, requesting information on the presence of species which are federally listed or proposed for listing as endangered or threatened in the above referenced project area. We have reviewed the information you enclosed and are providing comments in accordance with section 7 of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*).

Except for occasional transient individuals, no proposed or federally listed endangered or threatened species are known to exist within the project impact area. Therefore, no Biological Assessment or further section 7 consultation with the U.S. Fish and Wildlife Service is required. Should project plans change, or should additional information on the distribution of listed or proposed species become available, this determination may be reconsidered.

This response relates only to federally protected threatened or endangered species under our jurisdiction. Limited information is currently available regarding the distribution of other rare species in the District of Columbia. However, the Nature Conservancy and National Park Service (NPS) have initiated an inventory of rare species within the District. For further information on such rare species, you should contact Mary Pfaffko of the National Park Service at (202)-535-1739.

Effective August 8, 2007, under the authority of the Endangered Species Act of 1973, as amended, the U.S. Fish and Wildlife Service (Service) removed (delist) the bald eagle in the lower 48 States of the United States from the Federal List of Endangered and Threatened Wildlife. However, the bald eagle will still be protected by the Bald and Golden Eagle Protection Act, Lacey Act and the Migratory Bird Treaty Act. As a result, starting on August 8, 2007, if your project may cause "disturbance" to the bald eagle, please consult the "National Bald Eagle Management Guidelines" dated May 2007.



If any planned or ongoing activities cannot be conducted in compliance with the National Bald Eagle Management Guidelines (Eagle Management Guidelines), please contact the Chesapeake Bay Ecological Services Field Office at 410-573-4573 for technical assistance. The Eagle Management Guidelines can be found at:

<http://www.fws.gov/migratorybirds/issues/BaldEagle/NationalBaldEagleManagementGuidelines.pdf>.

In the future, if your project can not avoid disturbance to the bald eagle by complying with the Eagle Management Guidelines, you will be able to apply for a permit that authorizes the take of bald and golden eagles under the Bald and Golden Eagle Protection Act, generally where the take to be authorized is associated with otherwise lawful activities. This proposed permit process will not be available until the Service issues a final rule for the issuance of these take permits under the Bald and Golden Eagle Protection Act.

An additional concern of the Service is wetlands protection. Federal and state partners of the Chesapeake Bay Program have adopted an interim goal of no overall net loss of the Basin's remaining wetlands, and the long term goal of increasing the quality and quantity of the Basin's wetlands resource base. Because of this policy and the functions and values wetlands perform, the Service recommends avoiding wetland impacts. All wetlands within the project area should be identified, and if alterations of wetlands is proposed, the U.S. Army Corps of Engineers, Baltimore District, should be contacted for permit requirements. They can be reached at (410) 962-3670.

We appreciate the opportunity to provide information relative to fish and wildlife issues, and thank you for your interests in these resources. If you have any questions or need further assistance, please contact Devin Ray at (410) 573-4531.

Sincerely,



Leopoldo Miranda
Field Supervisor



United States Department of the Interior

NATIONAL PARK SERVICE
National Mall & Memorial Parks
900 Ohio Drive, S.W.
Washington, D.C. 20024-2000



D66 (NCR-NAMA)

October 22, 2010

Mr. Brian D. King
Associate Director
Wildlife Management Branch
Fisheries & Wildlife Division
DC Department of the Environment
51 N Street NE
Washington, DC 20002

Dear Mr. King:

Your recent letter, dated October 12, 2010, confirmed that that, according to data derived from the District's Wildlife Action Plan (2006), no species of greatest conservation need are present in the vicinity of the National Park Service's (NPS) proposed National Mall turf and soil reconstruction project. In addition, you noted that the area does not harbor any species listed under the federal Endangered Species Act (ESA) or species or ecological communities classified by NatureServe as G1 (critically imperiled) or G2 (imperiled), nor are any such species likely to occur due to lack of suitable habitats and insufficient nearby habitat preferences. The NPS is currently preparing an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969, for a separate proposal on the National Mall, the improvement of security and visitor screening at the Washington Monument. Because the Washington Monument grounds are geographically adjacent to the turf and soil reconstruction project referenced in your letter, we do not anticipate any effects to federally listed or locally sensitive species. This letter is to inform you of the proposed action and provide you the opportunity for further input, if necessary.

In 2002, the NPS completed a design for Washington Monument Permanent Security Improvements which included a comprehensive landscape solution for a perimeter vehicular barrier system and a new screening facility. However, only the vehicular barrier system and a portion of the landscape design were implemented. The NPS is currently revisiting the feasibility of a new entrance and visitor screening facility and the removal of the existing temporary facility. These proposed actions are the subject of the pending EA and are explored in several alternatives.



If you have any questions or updated information regarding sensitive species and their habitat on the National Mall, please contact Kristen Murphy at (202) 245-4674 or by email at kristen_murphy@nps.gov.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Mark Isaksen', written over a light blue horizontal line.

Mark Isaksen
Chief of Resource Management
National Mall and Memorial Parks

cc. Tim Canan, The Louis Berger Group, Inc.
Julie Eitner, The Louis Berger Group, Inc.



United States Department of the Interior

NATIONAL PARK SERVICE
National Mall & Memorial Parks
900 Ohio Drive, S.W.
Washington, D.C. 20024-2000



D66 (NCR-NAMA)

November 2, 2010

Mr. Reid Nelson, Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, N.W., Suite 803
Washington, D.C. 20004

Dear Mr. Nelson:

The National Park Service (NPS) has initiated consultation with the District of Columbia State Historic Preservation Officer (DC SHPO) on the Washington Monument Visitor Security and Screening Project, an undertaking which will have an effect upon historic properties under Section 106 of the National Historic Preservation Act.

As the primary memorial to the nation's first president, the Washington Monument is one of the most prominent American icons and hosts approximately one million visitors annually. In 2001, a visitor screening facility was constructed that was intended to be temporary, and in 2006 a permanent perimeter vehicular barrier system with landscape improvements was completed. The purpose of the proposed project is to complete the last phase of comprehensive perimeter security improvements by replacing the existing temporary facility and improving the overall security of the Monument in a manner that maintains and preserves the visitor experience and cultural landscape of the Washington Monument Grounds. The attached materials provide a synopsis of the goals and anticipated work components of the project. The materials include a proposed Area of Potential Effect (APE), which is subject to modification based on this consultation process. The NPS has also initiated consultation with the National Capital Planning Commission and the U.S. Commission of Fine Arts regarding the proposed project.

The NPS has begun scoping in preparation of an Environmental Assessment (EA) to analyze impacts specific to the Washington Monument Visitor Security and Screening Project. The NPS intends to complete the Section 106 process concurrently with the National Environmental Policy Act (NEPA) per the ACHP's regulations (36 CFR 800.8). The NPS plans to consult the public per 800.3(e) in public meetings and through our



Planning, Environment, and Public Comment website – www.parkplanning/nps.gov. The first meeting open to the public will be a public scoping meeting to be held from 5:30 p.m. to 7:30 p.m. on Monday, November 8, 2010 in the Cafeteria of the NPS National Capital Region Headquarters, 1100 Ohio Drive SW, Washington, DC.

At this conceptual stage, the NPS has not yet made a formal determination of the effect of the project on historic properties. The APE includes many highly significant cultural resources, such as the Lincoln Memorial, the Washington Monument, the World War II Memorial, the Korean War Veterans Memorial, and several historic district and cultural landscapes. These resources have been extensively documented in connection with other projects on the National Mall; therefore we do not identify a need for additional survey requirements on potentially affected architectural or landscape resources. We intend to conduct a geoarcheological investigation to determine the potential of the site for archeological resources.

Because of the sensitive nature of the project site, and the potential for adverse effects, we are happy to invite the active participation of the Council in the Section 106 process. Please indicate whether you wish to do so or have any other questions about the undertaking by contacting Kristen Murphy, Environmental Protection Specialist, at (202) 245-4674.

Sincerely,



Maria Burks
Acting Superintendent
National Mall and Memorial Parks

cc:

Ms. Katry Harris
Historic Preservation Specialist, Office of Federal Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue, N.W., Suite 803
Washington, D.C. 20004

Mr. David Maloney
District of Columbia Historic Preservation Office

Ms. Nancy Witherell
National Capital Planning Commission

Mr. Tom Luebke
Commission of Fine Arts

Washington Monument Visitor Security Screening

U.S. Department of the Interior
National Park Service



Project Area

Washington Monument Visitor Security Screening

U.S. Department of the Interior
National Park Service



Proposed Actions

This EA presents a range of alternatives to improve the security and visitor screening at the Washington Monument (the Monument) located on the Washington Monument grounds in Washington, D.C.

In 2002, the NPS completed a design for the Washington Monument Permanent Security Improvements that included a comprehensive landscape solution for a perimeter vehicular barrier system and a new screening facility. However, only the vehicular barrier system and a portion of the landscape design were implemented. The NPS is currently revisiting the feasibility of a new entrance and visitor screening facility and the removal of the existing temporary facility. These proposed actions are the subject of this EA and are explored in several alternatives.



Temporary visitor screening facility



Visitors waiting to enter the Monument.



Purpose and Need

The purpose of the proposed actions is to improve the security of the Monument in a manner that maintains and preserves the visitor experience and cultural landscape of the Monument grounds.

As the primary memorial to the nation's first president, the Monument is one of the most prominent American icons and is visited by approximately one million visitors annually. Its popularity, combined with its status as an icon, makes it a potential target for terrorist attacks. In 2001, a visitor screening facility was constructed that was intended to be temporary. In 2006, a permanent perimeter vehicular barrier system with landscape improvements was completed. Action is needed to complete the comprehensive perimeter security improvements.

Washington Monument Visitor Security Screening

U.S. Department of the Interior
National Park Service



Section 106

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties.

If it is determined that the proposed action could affect historic properties, S106 is triggered. The Section 106 task and the NEPA assessment need to be closely coordinated.

Area of Potential Effect

According to 36 CFR 800.16(d), the Area of Potential Effect (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.

Section 106 Process

- Define Undertaking / Initiate Section 106
- Identify Consulting Parties
- Plan to involve the Public
- Define Area of Potential Effect (APE)
- Identify Significant Cultural Resources in APE
- Assess Effects on Significant Resources
- Apply Criteria of Adverse Effect
- Continue Consultation
- Draft Agreement Document, if needed





United States Department of the Interior

NATIONAL PARK SERVICE
National Mall & Memorial Parks
900 Ohio Drive, S.W.
Washington, D.C. 20024-2000



D66 (NCR-NAMA)

November 3, 2010

Mr. David Maloney
State Historic Preservation Officer
DC State Historic Preservation Office
Office of Planning
1100 4th Street, SW
Suite E650
Washington, DC 20024

Subject: Section 106 Consultation - Washington Monument Visitor Security and Screening Project

Dear Mr. Maloney:

The National Park Service (NPS) wishes to formally initiate consultation with the District of Columbia Historic Preservation Office under Section 106 of the National Historic Preservation Act (NHPA) on the Washington Monument Visitor Security and Screening Project, an undertaking, in accordance with 36 CFR 800.3 of the regulations of the Advisory Council on Historic Preservation (ACHP).

As the primary memorial to the nation's first president, the Washington Monument is one of the most prominent American icons and hosts approximately one million visitors annually. In 2001, a visitor screening facility was constructed that was intended to be temporary, and in 2006 a permanent perimeter vehicular barrier system with landscape improvements was completed. The purpose of the proposed project is to complete the last phase of comprehensive perimeter security improvements by replacing the existing temporary facility and improving the overall security of the Monument in a manner that maintains and preserves the visitor experience and cultural landscape of the Washington Monument Grounds. The attached materials provide a synopsis of the goals and anticipated work components of the project. The materials include a proposed Area of Potential Effect (APE), which is subject to modification based on this consultation process. The NPS has also initiated consultation with the Advisory Council on Historic Preservation, the National Capital Planning Commission, and the U.S. Commission of Fine Arts regarding the proposed project.



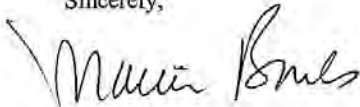
The APE includes many highly significant cultural resources, such as the Lincoln Memorial, the Washington Monument, the World War II Memorial, the Korean War Veterans Memorial, and several historic district and cultural landscapes. These resources have been extensively documented in connection with other projects on the National Mall; therefore we do not identify a need for additional survey requirements on potentially affected architectural or landscape resources. We intend to conduct a geoarcheological investigation to determine the potential of the site for archeological resources.

The NPS has begun an Environmental Assessment (EA) to analyze impacts specific to the Washington Monument Visitor Security and Screening Project. The NPS intends to complete consultation for Section 106 of the NHPA concurrently with the National Environmental Policy Act process. The NPS plans to consult the public per 800.3(e) in public meetings and through our Planning, Environment, and Public Comment website – www.parkplanning/nps.gov. The first meeting open to the public will be a public scoping meeting to be held from 5:30 p.m. to 7:30 p.m. on Monday, November 8, 2010 in the Cafeteria of the NPS National Capital Region Headquarters, 1100 Ohio Drive SW, Washington, DC.

At this conceptual design stage, the NPS is not prepared to make a formal determination of effect for the Washington Monument Visitor Security and Screening Project, but looks forward to consultation with the District of Columbia Preservation Office on this and other steps in the process.

Thank you for your help. If you have any questions, please do not hesitate to call Kristen Murphy, Environmental Protection Specialist, at (202) 245-4674.

Sincerely,



Maria Burks
Acting Superintendent
National Mall and Memorial Parks

Enclosures

cc:

C. Andrew Lewis
Senior Historic Preservation Specialist
DC State Historic Preservation Office
Office of Planning
1100 4th Street, SW, Suite E650
Washington, DC 20024

Washington Monument Visitor Security Screening

U.S. Department of the Interior
National Park Service



Project Area

Washington Monument Visitor Security Screening

U.S. Department of the Interior
National Park Service



Proposed Actions

This EA presents a range of alternatives to improve the security and visitor screening at the Washington Monument (the Monument) located on the Washington Monument grounds in Washington, D.C.

In 2002, the NPS completed a design for the Washington Monument Permanent Security Improvements that included a comprehensive landscape solution for a perimeter vehicular barrier system and a new screening facility. However, only the vehicular barrier system and a portion of the landscape design were implemented. The NPS is currently revisiting the feasibility of a new entrance and visitor screening facility and the removal of the existing temporary facility. These proposed actions are the subject of this EA and are explored in several alternatives.



Temporary visitor screening facility



Visitors waiting to enter the Monument.



Purpose and Need

The purpose of the proposed actions is to improve the security of the Monument in a manner that maintains and preserves the visitor experience and cultural landscape of the Monument grounds.

As the primary memorial to the nation's first president, the Monument is one of the most prominent American icons and is visited by approximately one million visitors annually. Its popularity, combined with its status as an icon, makes it a potential target for terrorist attacks. In 2001, a visitor screening facility was constructed that was intended to be temporary. In 2006, a permanent perimeter vehicular barrier system with landscape improvements was completed. Action is needed to complete the comprehensive perimeter security improvements.

Washington Monument Visitor Security Screening

U.S. Department of the Interior
National Park Service



Section 106

Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires Federal agencies to take into account the effects of their undertakings on historic properties.

If it is determined that the proposed action could affect historic properties, S106 is triggered. The Section 106 task and the NEPA assessment need to be closely coordinated.

Area of Potential Effect

According to 36 CFR 800.16(d), the Area of Potential Effect (APE) is the geographic area or areas within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist. The area of potential effects is influenced by the scale and nature of the undertaking and may be different for different kinds of effects caused by the undertaking.























Section 106 Process




























- Define Undertaking / Initiate Section 106
- Identify Consulting Parties
- Plan to involve the Public
- Define Area of Potential Effect (APE)
- Identify Significant Cultural Resources in APE
- Assess Effects on Significant Resources
- Apply Criteria of Adverse Effect
- Continue Consultation
- Draft Agreement Document, if needed



APPENDIX B: VIEWSHED ANALYSIS SUMMARY

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| | No Action | A.1 Ramp at Perimeter | A.3 Ramp in the Landscape | A.5 North and South Access | A.7 Ramp at Plaza Perimeter | B.1 Glass Plaza Pavilion | C.1 Ramp in Plaza |
|--|---|---|--|--|---|---|---|
| |  |  |  |  |  |  |  |
| View from Old Post Office tower |  |  |  |  |  |  |  |
| View looking west from the Mall |  |  |  |  | |  | |
| View looking east from the WWII Memorial |  | | |  | | | |
| View looking from the Jefferson Memorial |  | | | | | | |

| |  No Action | A.1 Ramp at Perimeter | A.3 Ramp in the Landscape | A.5 North and South Access | A.7 Ramp at Plaza Perimeter | B.1 Glass Plaza Pavilion | C.1 Ramp in Plaza |
|---|---|--|--|---|--|---|---|
| |  |  |  |  |  |  |  |
| Aerial view |  |  |  |  |  |  |  |
| Pedestrian view from the Monument looking east |  | |  | | |  | |
| Pedestrian view from the Monument looking west |  | | |  | | | |
| Pedestrian view from the Monument looking north |  |  | |  |  | | |
| Pedestrian view from the Monument looking south |  | | |  | | |  |

APPENDIX C: DRAFT VALUE ANALYSIS STUDY FOR WASHINGTON MONUMENT VISITOR SCREENING FACILITY

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Value Analysis Study for Washington Monument Visitor Screening Facility

Task Order Number
T2011100364

Draft Report

27 February 2013



Beyer Blinder Belle Architects
3307 M Street, NW, Suite 301
Washington, DC 20007



U.S. COST
1200 Abernathy Road, NE, Suite 950
Atlanta, GA 30328

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FOREWORD

This Value Analysis Report presents the recommendations of the Value Analysis Study for the Washington Monument Visitor Screening Facility at Washington, DC, National Mall and Memorial Park, conducted on 26 and 27 February 2013 in Washington, DC.

This is to certify that the Value Analysis Study was led by the undersigned National Park Service Value Analysis Technical Expert and was conducted in accordance with National Park Service value analysis principles and guidelines.

Wade L. Martin, CVS, CCC, RPA, LEED AP
Value Study Facilitator

EXECUTIVE SUMMARY

The National Park Service is preparing to advertise a construction project that would replace the existing Visitor Screening Facility at the Washington Monument. A value study was conducted on 26 – 27 February 2013 in Washington, DC.

Summary Description of Project

The new Visitor Screening Facility is to replace the temporary facility constructed in 2001 to screen visitors and their belongings prior to their entry into the Monument.

Value Study Objectives

- To select using the Choosing by Advantages (CBA) approach a Preferred Alternative for the Visitor Screening Facility from the 3 short-listed alternatives proposed: (1) a Plaza Perimeter Ramp Option (Alternate B); (2) a Freestanding Plaza Pavilion Option (Alternate C) and, (3) a Plaza Ramp Option (Alternate D).
- To use the CBA approach to select a preferred option (meeting the greatest number of functional requirements) for the preferred Alternative

Summary of Recommendations

The CBA approach indicated the preferred alternative is Alternate C, the Freestanding Plaza Pavilion. The subsequent CBA review of optional configurations for Alternate C indicated that the glass cube option is the preferred option.

Comparative Costs

As indicated on the Cost Estimate Summary included in the Appendices, the initial cost for Alternatives B, C and D are:

- Alternative B: Plaza Perimeter Ramp: \$ 8,001,059
- Alternative C: Freestanding Plaza Pavilion: \$ 4,549,214
- Alternative D: Plaza Ramp: \$ 7,551,059

VALUE STUDY

STUDY SPECIFICS AND OBJECTIVES

The value study had two basic objectives:

- To select using the Choosing by Advantages (CBA) approach a Preferred Alternative for the Visitor Screening Facility from the 3 short-listed alternatives proposed: (1) a Plaza Perimeter Ramp (Alternate B); (2) a Freestanding Plaza Pavilion (Alternate C) and, (3) a Plaza Ramp (Alternate D).
- To use the CBA approach to select a preferred Option for the preferred Alternative

The study team was composed of professional architects representing Beyer Blinder Belle Architects & Planners, LLP (the Design A/E for the new Visitor Screening Facility) and National Park Service project management, operations, police and maintenance representatives. Members of the park staff provided the team with knowledge of the existing conditions at the current Visitor Screening Facility and the adjacent Monument and Monument Grounds as well as insight into how the new facility would be operated for each of the three Alternatives.

SPECIAL CRITERIA

APPLICABLE CODES:

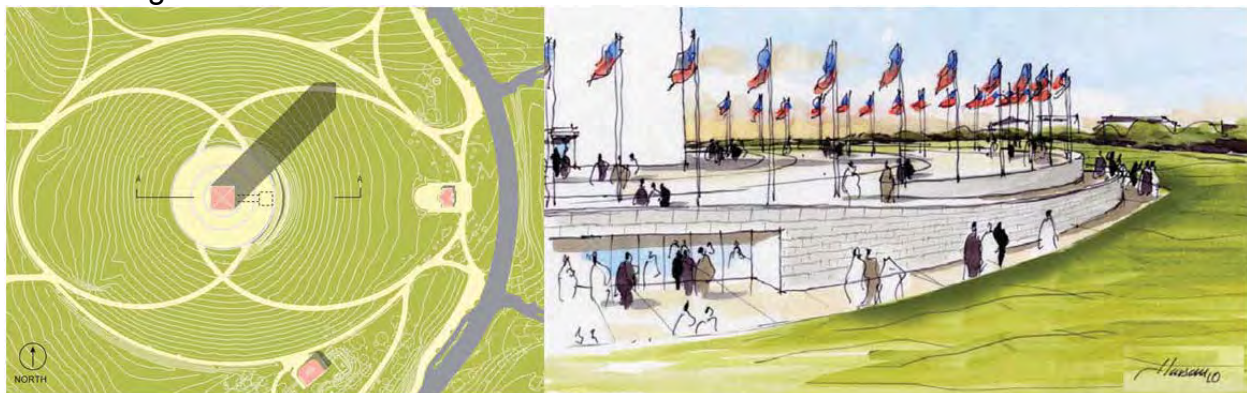
- National Building Codes
- Uniform Federal Accessibility Standards
- Americans with Disabilities Act

PROJECT BACKGROUND

The project will replace the existing Visitor Security Screening Facility with a new facility that will facilitate the screening of Monument visitors and their belongings prior to accessing the Monument elevator for transit to the top two floors of the monument to appreciate the view. The existing Facility was constructed as a temporary structure in 2001 and is undersized for the queuing and screening of visitors in the group size (24 – 28) that constitutes a full load for the elevator. Additionally, the design does not facilitate the Park Police desired view from within the Facility to the surrounding plaza area.

The new Visitor Security Screening Facility includes a screening device for the detection of metal on visitors entering the facility and an x-ray device for the screening of belongings. The Facility is configured to accommodate 24 – 28 visitors in a queue before passing through the screening equipment and includes an office area for Park Police use and a return pathway for visitors exiting the elevator after their visit. Alternatives, B, C and D were previously selected from a larger array of alternatives as being the most acceptable options relative to the Visitor Screening function at the Monument.

Alternative B focuses on visitor entry and queuing to the Monument via recessed ramps directly adjacent to the east side of the Monument Plaza. A subterranean entrance and facility would provide ingress and security screening to visitors. The Monument elevator would be extended down to this subterranean level to convey visitors to the top of the Monument. All visitor queuing and screening would occur in the space under the eastern portion of Monument Plaza. Once inside the subterranean space, visitors would enter the Monument via a lower level connection from the screening space to the elevator from which they could access the Monument. To accomplish this connection, the existing Monument visitor elevator would be extended to the lower level.



Alternative C focuses on providing the visitor queuing and screening on the Monument Plaza, similar to the No Action Alternative, but with a more aesthetically pleasing, permanent solution. The pavilion material could be glass, concrete, or a combination of the two. Nevertheless, if glass is used, there would need to be some opacity to ensure the screening process would not be visible from the outside. The pavilion would include transparent glass roof material so that the Monument would be visible to visitors entering it.



Alternative D emphasizes providing the visitor queuing, screening, and ingress to the Monument via a ramp set in the Monument Plaza. A subterranean entrance would provide space for visitor screening and convey visitors to the Monument via the Monument elevator, which would be extended down to the lower level.



GENERAL SITE MAP



PHASE I - INFORMATION

The information phase introduced the project and familiarized the team members with the background and existing conditions. The initial information phase of the study was conducted on Tuesday, 26 February 2013 and began with an introduction by Stephen Lorenzetti, Deputy Superintendent, National Mall and Memorial Parks, followed by a presentation of the three alternative concepts for the new Visitor Screening Facility by Jill Cavanaugh of Beyer Blinder Belle. During the introduction, the VA team was advised of the importance of this project and the need to maintain the character and fabric of the Monument and Monument Grounds.

At the beginning of the second day, Jill presented a number of design Options to the Plaza Pavilion Alternative.

A range of material was available to the value study team including:

- The Beyer Blinder Belle provided Description of the Alternatives for Alternatives B, C and D
- The Beyer Blinder Belle provided Options to Alternative C
- Preliminary Project Cost Estimates for Each Alternative

STAKEHOLDERS

In an effort to understand the context for this project, the study team discussed the interests of the known project “stakeholders”, person with an active interest in the making of project decisions or the outcome of such decisions.

| # | Stakeholders | Primary Interest |
|---|--|--|
| 1 | <ul style="list-style-type: none"> • National Park Service | <ul style="list-style-type: none"> • Visitor Experience and Comfort • Protection of Resources (Security) • Protection of Resources (Preservation) • Sustainability (Durability) • Construction Cost |
| 2 | <ul style="list-style-type: none"> • U.S. Commission of Fine Arts • National Capital Planning Commission • DC Historic Preservation Office • Advisory Council for Historic Preservation • National Trust for Historic Preservation • DC Preservation League • Smithsonian Institution • Committee of 100 • National Coalition to Save Our Mall • Guild of Professional Tour Guides | <ul style="list-style-type: none"> • Protection of Resources (Preservation) • Impact on Monument and Grounds |
| 3 | <ul style="list-style-type: none"> • NPS Rangers | <ul style="list-style-type: none"> • Visitor Experience • Visitor Flow • Universal Accessibility • Ease of Management/Control |

| # | Stakeholders | Primary Interest |
|---|---|--|
| 4 | <ul style="list-style-type: none">NPS Park Police | <ul style="list-style-type: none">Protection of Resources – Security for the Monument and GroundsVisitor FlowEmployee and Visitor Safety |

COST MODELING

A cost model summarizing the costs associated with various building components of the 3 Alternatives was prepared to help focus on larger elements of the design. The various cost elements were plotted in descending order of construction cost. This allowed the study team to identify the 20 percent of the project that typically accounts for 80 percent of the total project cost.

COST MODELS

Cost Model - Alternative B Date: March 2013

| Item | Alternative B | |
|----------------------------------|-------------------------|-------------------|
| | Ramp in Plaza Perimeter | % of Construction |
| Selective Building Demolition | \$872,100 | 26.9% |
| Shell/ Exterior Closure | \$861,850 | 26.6% |
| Site Work and Demolition | \$532,091 | 16.4% |
| Foundation - Substructure | \$169,008 | 5.2% |
| Site Improvements | \$144,793 | 4.5% |
| Geothermal System | \$131,498 | 4.1% |
| Elevator | \$131,372 | 4.1% |
| Interior Construction Partitions | \$108,000 | 3.3% |
| Electrical | \$74,770 | 2.3% |
| I.T. Equipment | \$50,000 | 1.5% |
| Roof Construction and Coverings | \$33,993 | 1.0% |
| Security Equipment | \$33,000 | 1.0% |
| Superstructure | \$28,504 | 0.9% |
| Floor Finish | \$28,000 | 0.9% |
| Fire Protection | \$13,580 | 0.4% |
| Wall Finish | \$11,200 | 0.3% |
| Ceiling Finish | \$11,200 | 0.3% |
| Plumbing | \$6,460 | 0.2% |
| Construction Cost | \$3,241,419 | 100% |

COST MODELS

Cost Model - Alternative C
Date: March 2013

| Item | Alternative C | |
|----------------------------------|-----------------------------|-------------------|
| | Freestanding Plaza Pavilion | % of Construction |
| Shell/ Exterior Closure | \$1,272,800 | 66.5% |
| Site Improvements | \$109,816 | 5.7% |
| Interior Construction Partitions | \$108,000 | 5.6% |
| Geothermal System | \$94,594 | 4.9% |
| Foundation - Substructure | \$88,980 | 4.7% |
| Electrical | \$86,392 | 4.5% |
| I.T. Equipment | \$50,000 | 2.6% |
| Site Work and Demolition | \$36,245 | 1.9% |
| Security Equipment | \$33,000 | 1.7% |
| Floor Finish | \$14,800 | 0.8% |
| Fire Protection | \$7,178 | 0.4% |
| Wall Finish | \$6,000 | 0.3% |
| Elevator | \$5,000 | 0.3% |
| Construction Cost | \$1,912,805 | 100% |

COST MODELS

Cost Model - Alternative D

Date: March 2013

| Item | Alternative D | |
|----------------------------------|--------------------|-------------------|
| | Ramp in Plaza | % of Construction |
| Site Improvements | \$898,377 | 28.4% |
| Selective Building Demolition | \$879,012 | 27.8% |
| Shell/ Exterior Closure | \$308,000 | 9.7% |
| Superstructure | \$196,326 | 6.2% |
| Electrical | \$181,168 | 5.7% |
| Geothermal System | \$131,498 | 4.2% |
| Elevator | \$131,372 | 4.2% |
| Foundation - Substructure | \$112,298 | 3.5% |
| Site Work and Demolition | \$110,826 | 3.5% |
| I.T. Equipment | \$50,000 | 1.6% |
| Security Equipment | \$33,000 | 1.0% |
| Interior Construction Partitions | \$32,440 | 1.0% |
| Wall Finish | \$24,300 | 0.8% |
| Plumbing | \$20,550 | 0.6% |
| Fire Protection | \$16,817 | 0.5% |
| Site Utilities | \$15,000 | 0.5% |
| Floor Finish | \$14,760 | 0.5% |
| Ceiling Finish | \$8,856 | 0.3% |
| Construction Cost | \$3,164,600 | 100% |

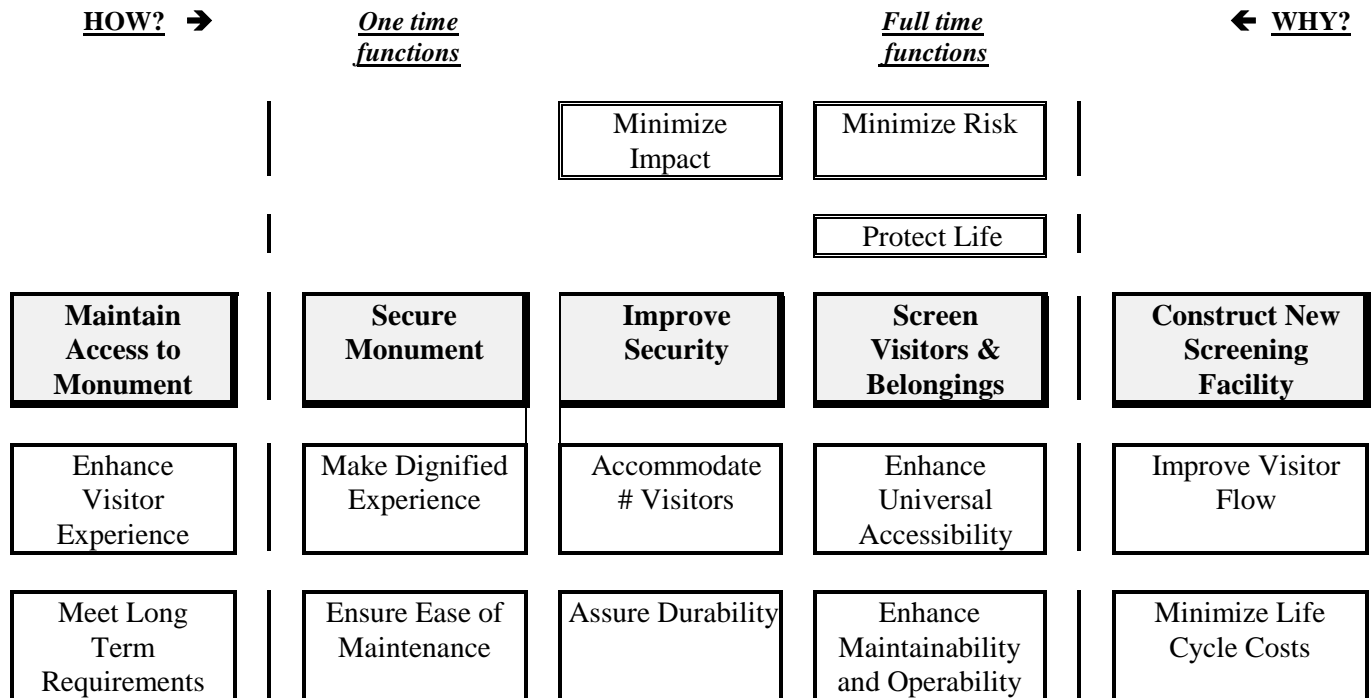
PHASE II - FUNCTIONAL ANALYSIS

The study team conducted functional analysis of the project identifying the key functional objectives and elements. The information, presented in a Functional Analysis System Technique diagram (FAST) portrays a functional description of potential areas to be studied and reflects the design team's conceptual design Alternatives. The diagram presents how and why a function exists. The diagram clearly represents the functions addressed by the design in addition to the functional requirements of the Visitor Security Screening Facility. Using functional analysis the study team validated the general project program.

The following functions were identified (B indicates a Basic Function):

- B Improve security
 - Screen visitors
 - X-ray packages
 - Maintain stand-offAccommodate special group access
Meet long term security requirements (future needs)
Protect human life
Protect structure
 - Minimize risk
 - Ensure technical feasibility
- B Enhance visitor experience
 - Advise of security expectations (prior to screening)
 - Accommodate 20-25 people in screening area (out of the weather)
 - Advise of closure
 - Make a dignified experience
 - Ensure life safety
 - Enhance universal accessibility
 - Improve visitor flowMake clean, bright and welcoming
- B Preserve character/fabric of the monument and monument grounds
 - Minimize touch to the existing
 - Minimize nighttime impact
- B Maintain access to top
- B Minimize impact on historic structure
- Ensure plaza visit as part of the experience
- Enhance Maintenance and Operations
 - Limit external loose objects
 - Ensure ease of maintenance
 - Assure durable, easy to keep clean, bright, and welcoming

F.A.S.T. DIAGRAM WASHINGTON MONUMENT SCREENING FACILITY



PHASE III - EVALUATION (Part 1 - Evaluation Factors)

As the first task of the evaluation phase the team developed and discussed the factors which would be used to evaluate the alternatives.

The NPS Objectives and Factors 1-7 shown below were established for the NPS servicewide priority setting process and grow out of National Leadership Council guidance and formed a framework for evaluation.

The study team then defined variables and sub-factors to tailor the evaluation factors to the needs of this project.

EVALUATION FACTORS AND DEFINITIONS

| | |
|--|---|
| NPS OBJECTIVE: Protect Cultural and Natural Resources | |
| Factor 1: Prevent Loss of Resources | |
| Sub-factor | Definitions/Variables |
| Maintain Aesthetics of Monument | Limit any adverse impact on the monument and/or grounds |
| Maintain Integrity of Structure and Materials | Least risk to structural integrity |
| Maintain Integrity of Grounds | Limit impact on the Plaza and surrounding Monument grounds |
| Factor 2: Maintain and Improve the Condition of Resources | |
| Sub-Factor | Definitions/Variables |
| Determined Not Applicable | |
| NPS OBJECTIVE: Provide for Visitor Enjoyment | |
| Factor 3: Provide visitor services and educational and recreational opportunities | |
| Sub-factor | Definitions/Variables |
| Visitor Comfort | |
| Visitor Efficiency | |
| Factor 4: Protect Public Health, Safety and Welfare | |
| Sub-factor | Definitions/Variables |
| Visitor Safety and Security | Ensure a safe environment |
| NPS OBJECTIVE: Improve Efficiency of Park Operations | |
| Factor 5: Improve Operational Efficiency and Sustainability | |
| Sub-factor | Definitions/Variables |
| Required number of Staff and Park Police | The number of staff positions required to monitor the security screening process and the Monument Grounds |
| Daily Operational and Maintenance Requirements | The effort required to maintain the new facility environs (e.g., snow removal, maintenance of security elements, cleaning requirements) |

| Factor 6: Protect Employee Health, Safety, and Welfare | |
|---|--|
| Sub-factor | Definitions/Variables |
| Visibility from Within to the Grounds | Views from within the screening facility to the surroundings to preclude a breach of security |
| NPS OBJECTIVE: Provide Cost-Effective, Environmentally Responsible, and Otherwise Beneficial Development for the National Park System. | |
| Factor 7: Provide Other Advantages to the National Park System | |
| Sub-factor | Definitions/Variables |
| Public Support | The positive view of various interest groups including the Arts Commission |
| Level of Complexity | The ease of construction |
| SPECIAL FACTOR: COST | |
| Sub-factor | Definition/Variables |
| Initial Cost (Short-Term) | <ul style="list-style-type: none"> • Capital Costs |
| Life Cycle Cost (Long-Term) | <ul style="list-style-type: none"> • Maintenance Costs • Operating Costs • Staffing Costs |

The value study team examined three alternative design approaches. These alternatives were selected for further development and evaluation using the Choosing by Advantages process.

| | Alternative (Brainstormed) | Disposition of Alternative |
|---|-----------------------------|----------------------------|
| B | Plaza Perimeter Ramp | See CBA Matrix |
| C | Freestanding Plaza Pavilion | See CBA Matrix |
| D | Plaza Ramp | See CBA Matrix |

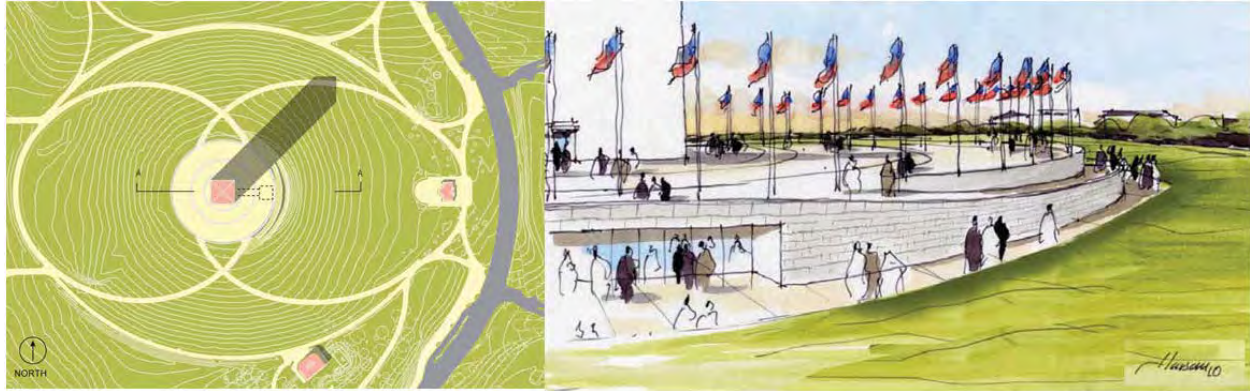
PHASE III - EVALUATION (Part 2 - Choosing by Advantages)

The three (3) alternatives were evaluated using a process called Choosing by Advantages (CBA), where decisions are based on the importance of advantages between alternatives. The evaluation involves the ranking of the evaluation factors then the identification of the attributes or characteristics of each alternative relative to the evaluation criteria, a determination of the advantages for each alternative within each evaluation factor, and then the weighing of importance of each advantage.

The CBA evaluation tables form the basis for presenting the alternatives and design sketches and cost estimates are attached. The evaluation tables present many types of information. Attributes and Advantages of an alternative are indicated in the tables. The advantages are all rated on a common scale within each factor.

ALTERNATIVES DRAWINGS

Alternative B: Plaza Perimeter Ramp



Alternative C: Plaza Pavilion



Alternative D: Plaza Ramp

PHASE III EVALUATION: ALTERNATIVES CBA MATRIX

| Protect Cultural and Natural Resources | | | | | | | | | |
|---|---------------------|---------------|-------|--|-------|--|-------|--|-------|
| Factor | Relative Importance | Alternative | | | | | | | |
| | | 1: Status Quo | Score | B | Score | C | Score | D | Score |
| Factor 1: Prevent Loss of Resources | 10 | | | | 40 | | 80 | | 50 |
| Maintain Aesthetics of monument | | | | | | | | | |
| Maintain integrity of structure and materials | | | | | | | | | |
| Maintain integrity of grounds | | | | | | | | | |
| Attributes | | | | No Visible Touch to Monument; Requires Elevator Extension to Lower Level; Extensive changes to Grounds | | A light touch on the Plaza and Monument; Modular construction; Consistent with Status Quo approach | | Not Visible from Street or Grounds; Requires extensive Plaza changes; no Visible Touch to Monument; Requires Elevator Extension to Lower Level | |
| Advantages | | | | Maintains Purity of Monument Form, Symmetrical Approach | | A light touch on the plaza and Monument, No loss of Resources, Completely Reversible, Least Risk to Structural Integrity | | Maintains Purity of Monument Form, Least Visual Impact | |
| Weighted Score | | | | | 400 | | 800 | | 500 |

| Provide for Visitor Enjoyment | | | | | | | | | |
|---|---------------------|---------------|-------|--|-------|--|-------|--|-------|
| Factor | Relative Importance | Alternative | | | | | | | |
| | | 1: Status Quo | Score | B | Score | C | Score | D | Score |
| Factor 3: Provide Visitor Services and Educational and Recreational Opportunities | 6 | | | | 30 | | 75 | | 50 |
| Visitor Comfort | | | | | | | | | |
| Visitor Efficiency | | | | | | | | | |
| Attributes | | | | Lengthy exposed Ramp for Physically Challenged; Dual Ramp allows for separation of ingress & egress flows; open to winds | | | | Lengthy Ramp for physically challenged; Drop-off from Plaza Level poses danger; Not easily recognized as the Monument access point; protected from winds | |
| Advantages | | | | | | | | | |
| Weighted Score | | | | | 210 | | 525 | | 350 |
| Factor 4: Protect Health, Safety and Welfare | 8 | | | | 40 | | 60 | | 40 |
| Visitor Safety | | | | | | | | | |
| Attributes | | | | Drop-off from Plaza Level poses danger; Ramps can be hazardous | | At plaza level so easy entry/exit; Visible | | Drop-off from Plaza Level poses danger; Ramp can be hazardous | |
| Advantages | | | | | | Shortest and Most Direct Access Route; Environs easily monitored by Rangers and Police | | | |
| Weighted Score | | | | | 320 | | 480 | | 320 |

| Improve Efficiency of Park Operations | | | | | | | | | |
|---|---------------------|---------------|-------|---|-------|--|-------|--|-------|
| Factor | Relative Importance | Alternative | | | | | | | |
| | | 1: Status Quo | Score | B | Score | C | Score | D | Score |
| Factor 5: Improve Operational Efficiency | 7 | | | | | | | | |
| Staff and Park Police (# of personnel) | | | | | | | | | |
| Daily Operations and Maintenance (snow removal, vandalism, cleaning, camera maintenance, etc) | | | | | | | | | |
| Attributes | | | | Ramp challenges for snow removal; Additional Officer positions, cameras and lights for effective monitoring | | Clear sightlines to surrounding Plaza from Within; Visible on Plaza from surrounding streets | | Not visible from Streets; Ramp challenges for snow removal; Requires additional Officer positions, lights and cameras for effective monitoring | |
| Advantages | | | | | | Most operationally efficient, Most Compact, Monitored by Existing Cameras and Lights, Easily Maintained, Highly visible and Least Subject to Vandalism | | | |
| Weighted Score | | | | | 210 | | 525 | | 350 |

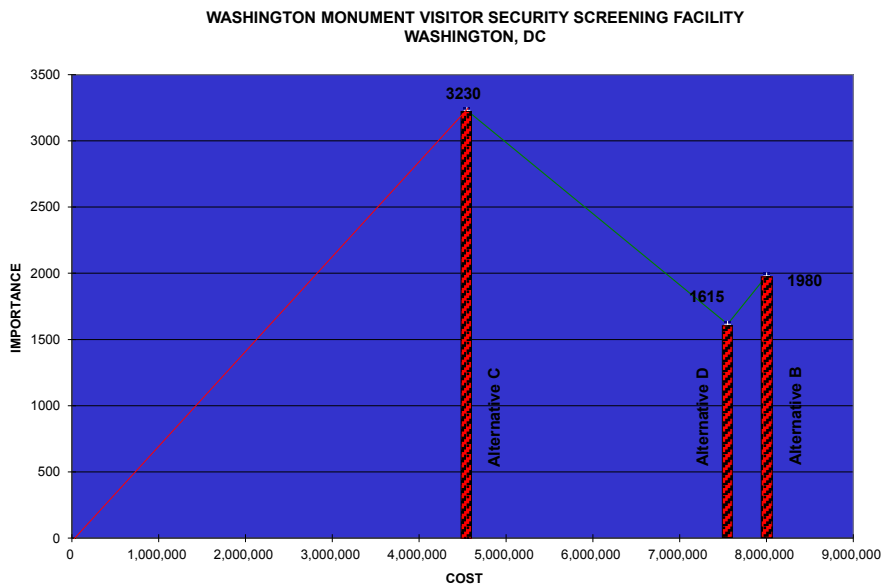
| Factor | Relative Importance | Alternative | | | | | | | |
|---|---------------------|---------------|-------|--|-------|--|-------|---|-------|
| | | 1: Status Quo | Score | B | Score | C | Score | D | Score |
| Factor 6: Protect Employee Health, Safety and Welfare | 9 | | | | | | | | |
| Visibility (Inside out) | | | | | 30 | | 90 | | 0 |
| Protection and threat mitigation | | | | | 70 | | 30 | | 50 |
| Employee Comfort | | | | | 50 | | 70 | | 20 |
| Attributes | | | | Extend Monument Elevator to Lower Level; greatest stand-off between Monument and Screening | | Extensive views to Plaza from within; Daylit spaces | | Underground, at end of long ramp: Limited View; Limited Daylighting Options; Very little Heat Transfer due to Ground on 3 Sides | |
| Advantages | | | | Visitor Screening away from Monument | | Most Visibility, Above Ground Work Environment, Ease of Accommodating Special Groups | | | |
| Weighted Score | | | | | 450 | | 585 | | 225 |

| Provide Cost-Effective, Environmentally Responsible and Otherwise Beneficial Development for the NPS | | | | | | | | | |
|--|---------------------|---------------|-------|---|-------|--|-------|---|-------|
| Factor | Relative Importance | Alternative | | | | | | | |
| | | 1: Status Quo | Score | B | Score | C | Score | D | Score |
| Factor 7: Provide Other Advantages to the National Park System | 4 | | | | 60 | | 90 | | 25 |
| Public Support | | | | | | | | | |
| Level of Complexity | | | | | | | | | |
| | | | | | | | | | |
| Attributes | | | | Complex construction for tunnel to Monument; Extensive changes to Grounds | | Modular for quick on-site construction; a betterment to the 'familiar' status quo Facility | | Complex Construction for tunnel to Monument | |
| Advantages | | | | | | Broad and Extensive Public Support, Least Complex, Most Constructible | | | |
| Weighted Score | | | | | 240 | | 360 | | 100 |
| | | | | | | | | | |
| Total Importance of Advantages | | | | | 1,980 | | 3,230 | | 1,615 |
| | | | | | | | | | |
| Initial Cost | | | | \$ 8,001,059 | | \$ 4,549,214 | | \$ 7,551,059 | |
| | | | | | | | | | |
| Importance/Initial Cost Ratio | | | | 247 | | 710 | | 213 | |
| | | | | | | | | | |
| Life Cycle Cost | | | | | | | | | |
| | | | | | | | | | |
| Total | | | | | | | | | |

ANALYSIS

The study team evaluated the benefit or importance of advantage to be realized from the Alternatives B, C and D (CBA Matrix above). On purely a benefit or importance basis Alternative C, the Plaza Pavilion, provides the greatest advantage to the NPS.

The Initial cost estimate for each alternative was developed. Results were graphed with importance or benefit on the vertical scale and initial cost on the horizontal scale. The negative slope of the increment from Alternative C to Alternatives B and D reflects poor value for alternatives B and D.

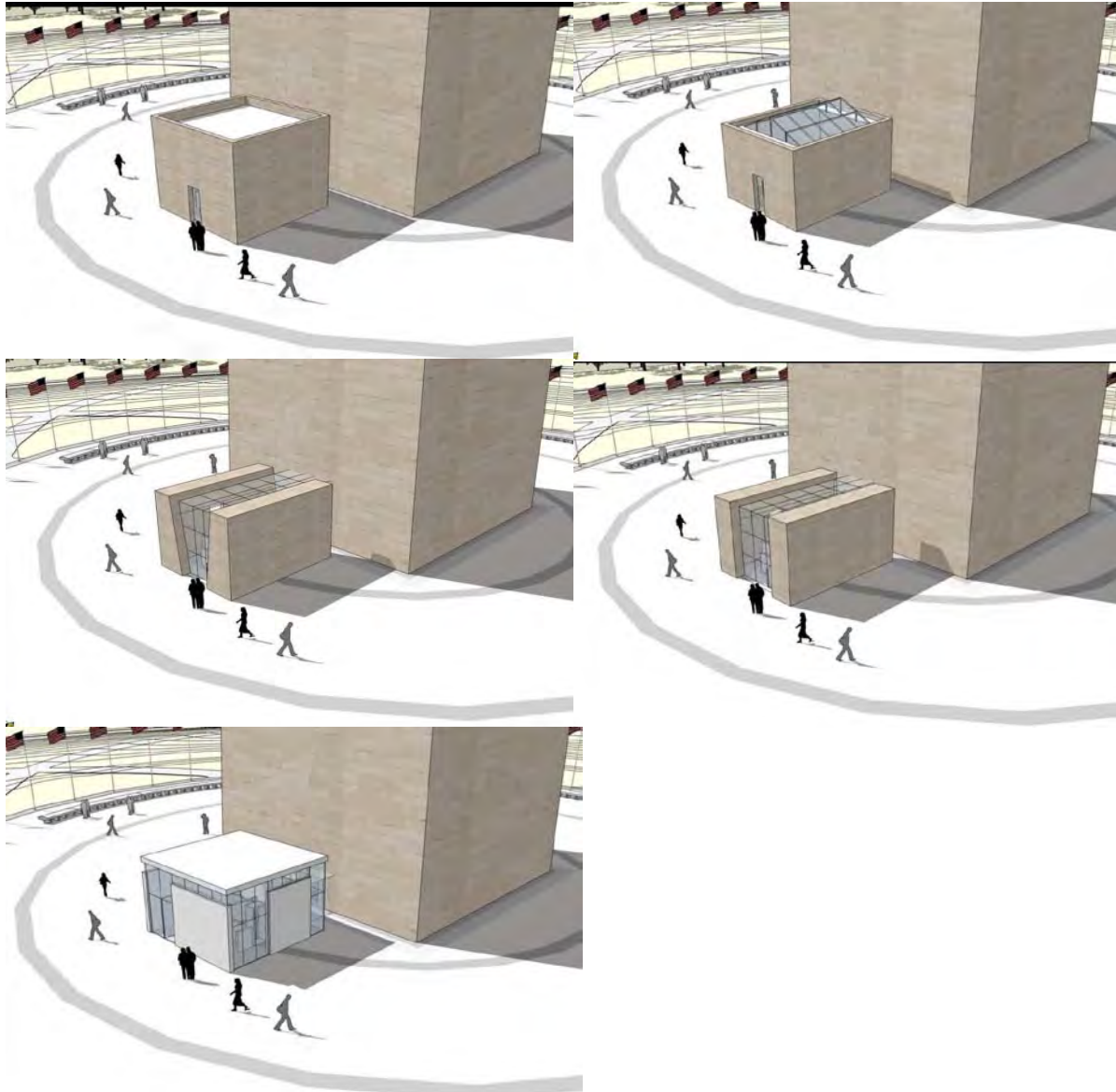


PHASE IV CREATIVITY: OPTIONS FOR ALTERNATIVE C

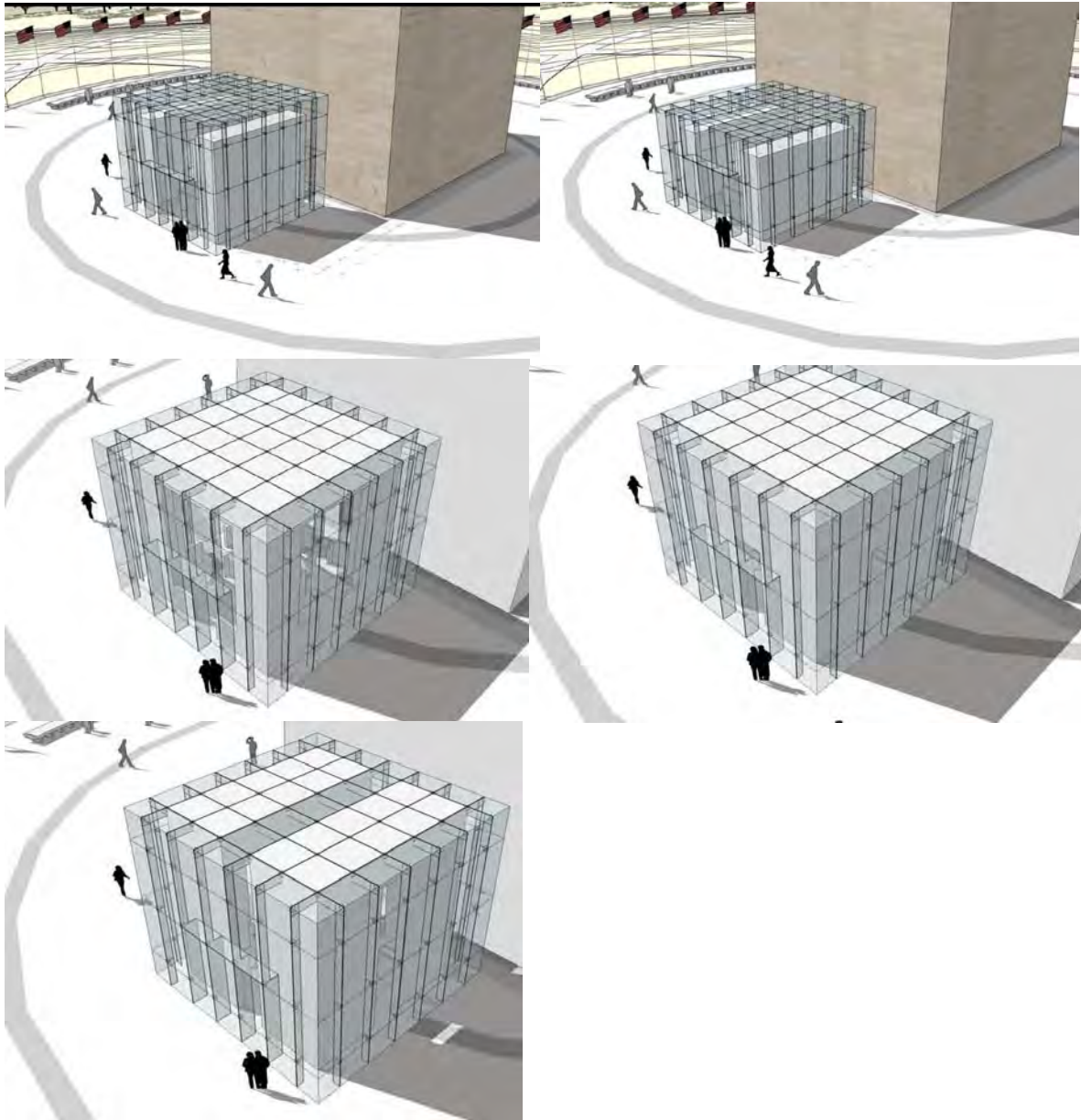
The Value Analysis Team was presented with fourteen options for the design of the Freestanding Plaza Pavilion Alternative (Alternative C). These options presented solid wall and part solid wall, and glass wall exterior wall, concepts for the design of the pavilion structure. Additionally, some options reflected a Box-in-a-Box approach to the design that featured part solid wall surfaces interior to glazed exterior surfaces. In all Options, the interior design would be largely of the same configuration with an efficient security screening structure and queuing arrangement. In order to expedite the CBA process the 7 Options were grouped into 3 Groups according to their major exterior wall

type before the evaluation. The following drawings are representative of the fourteen Options included in the 3 Groups presented to the team:

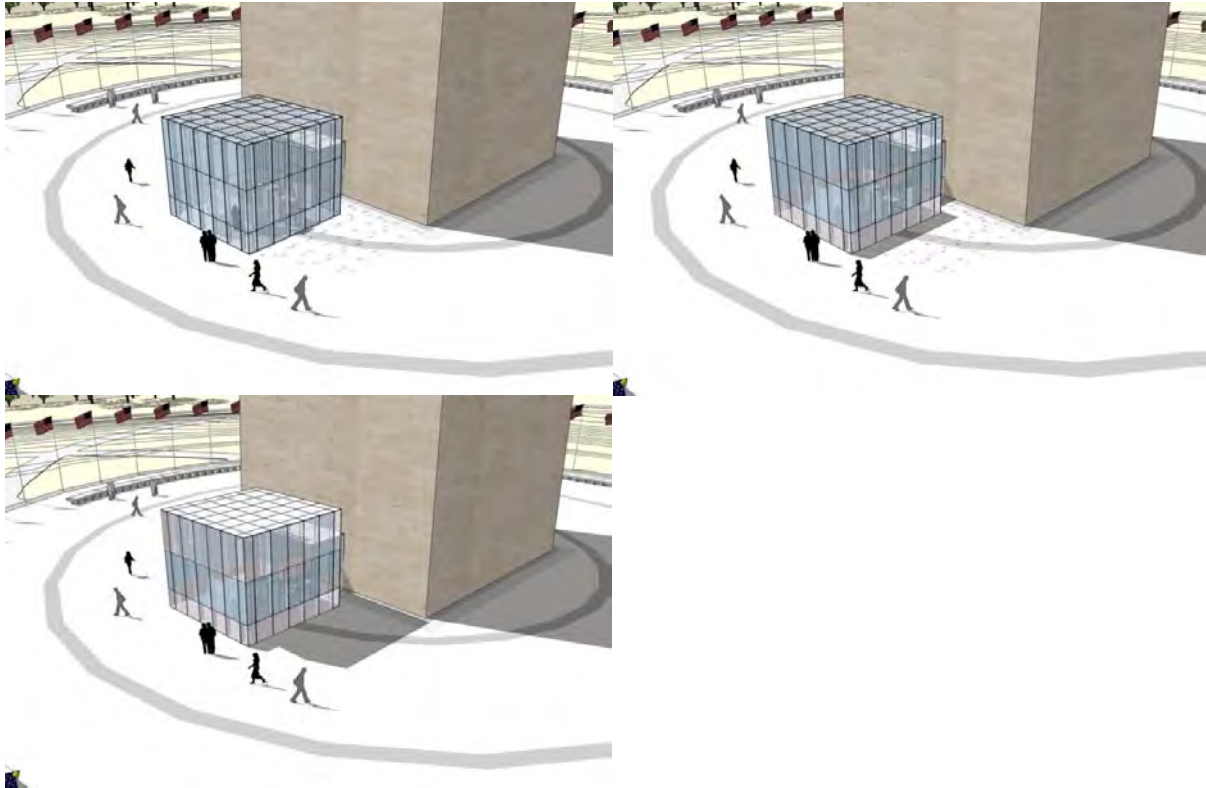
Option 1: Solid and Part Solid Exterior Wall Approach



Option 2: Box in a Box



Option 3: Glass Envelope



PHASE V EVALUATION

OPTIONS FOR ALTERNATIVE C CBA MATRIX

| Protect Cultural and Natural Resources | | | | | | | |
|--|---------------------|--|-------|---|-------|--|-------|
| Factor | Relative Importance | Alternative | | | | | |
| | | Solid | Score | Box-in-Box | Score | Glass Envelope | Score |
| Factor 1: Prevent Loss of Resources | 7 | | 35 | | 50 | | 90 |
| Prevent obscuring the monument (day and night) | | | 0 | | 50 | | 90 |
| Minimal Footprint on site | | | 80 | | 10 | | 90 |
| Ease of Discernment from historic structure | | | 20 | | 90 | | 90 |
| Attributes | | Solid exterior walls on most elevations; limited exterior views; solid or semi-solid mass on the plaza; second lowest footprint on plaza | | Glazed exterior with interior surround walls; Combination of open and closed with solid surfaces obscured by exterior glazing | | Fully open glazed exterior; combination of clear glazing and spandrel panels; 360 degree views of plaza and Monument; Glazed 'see thru' exterior; smallest footprint | |
| Advantages | | | | Provides for Screener concealment while allowing view out; easily differentiated from Monument | | Monument visible thru the Facility; Light touch on the Monument and Plaza; Easily differentiated from Monument; Minimum footprint | |
| Weighted Score | | | 245 | | 350 | | 630 |

| Provide for Visitor Enjoyment | | | | | | | |
|---|---------------------|---|-------|---|-------|--|-------|
| Factor | Relative Importance | Alternative | | | | | |
| | | Solid | Score | Box-in-Box | Score | Glass Envelope | Score |
| Factor 3: Provide Visitor Services and Educational and Recreational Opportunities | 4 | | 80 | | 70 | | 60 |
| Visitor Comfort | | | | | | | |
| | | | | | | | |
| Attributes | | Solid exterior walls on most elevations; limited exterior views | | Glazed exterior with interior surround walls; Combination of open and closed with solid surfaces obscured by exterior glazing | | Fully open glazed exterior; combination of clear glazing and spandrel panels; 360 degree views of plaza and Monument | |
| Advantages | | Easily maintained at a constant temperature | | Can be maintained at constant temperature; | | Extensive views while waiting; | |
| Weighted Score | | | 320 | | 280 | | 240 |
| Factor 4: Protect Health, Safety and Welfare | 9 | | 70 | | 70 | | 60 |
| Visitor safety | | | | | | | |
| Attributes | | Solid exterior wall surfaces for most elevations | | Glazed exterior with an inner surround of solid wall surfaces | | Glazed exterior wall surfaces | |
| Advantages | | High protection levels on solid surface elevations; Very limited visibility to exterior | | Interior walls can protect visitors; Good visibility | | Excellent visibility to environs; no hiding places not visible from within | |
| Weighted Score | | | 630 | | 630 | | 540 |

| Improve Efficiency of Park Operations | | | | | | | |
|---|---------------------|---|-------|---|-------|--|-------|
| Factor | Relative Importance | Alternative | | | | | |
| | | Solid | Score | Box-in-Box | Score | Glass Envelope | Score |
| Factor 5: Improve Operational Efficiency | 8 | | 45 | | 40 | | 80 |
| Staff and Park Police (# of Personnel) | | | 40 | | 40 | | 40 |
| Daily Operations and Maintenance (vandalism, cleaning, camera maintenance, etc) | | | 50 | | 40 | | 70 |
| Attributes | | Solid exterior walls on most elevations; limited exterior views | | Glazed exterior with interior surround walls; Combination of open and closed with solid surfaces obscured by exterior glazing | | Fully open glazed exterior; combination of clear (tinted) glazing and spandrel panels | |
| Advantages | | | | Glazing not as inviting to graffiti artists | | Fewest Park Police positions, lighting and camera requirements Exterior easily monitored from within; glazing not as inviting to graffiti artists | |
| Weighted Score | | | 360 | | 320 | | 640 |
| Factor 6: Protect Employee Health, Safety and Welfare | 10 | | 50 | | 65 | | 75 |
| Visibility (Inside out) | | | 20 | | 60 | | 90 |
| Employee Comfort | | | 80 | | 70 | | 60 |
| Attributes | | Solid exterior walls on most elevations; limited exterior views | | Limited Protection by surround walls; some daylighting possibilities | | Fully open glazed exterior; full daylighting possibilities | |
| Advantages | | Easily maintained at constant temperature | | Can be maintained at constant temperature; | | Exterior easily monitored from within; | |
| Weighted Score | | | 500 | | 650 | | 750 |

| Provide Cost-Effective, Environmentally Responsible and Otherwise Beneficial Development for the NPS | | | | | | | |
|--|---------------------|---|-------|--|-------|--|-------|
| Factor | Relative Importance | Alternative | | | | | |
| | | Solid | Score | Box-in-Box | Score | Glass Envelope | Score |
| Factor 7: Provide Other Advantages to the National Park System | 6 | | 50 | | 45 | | 65 |
| Level of Complexity /Constructability | | | 60 | | 40 | | 70 |
| Monument Closure Time | | | 40 | | 50 | | 60 |
| Attributes | | Solid exterior walls on most elevations; limited exterior views; construction of envelope on-site | | Glazed exterior with interior surround walls; Combination of open and closed with solid surfaces obscured by exterior glazing; exterior of modular pieces; Interior surround walls constructed on-site | | Fully open glazed exterior; combination of clear glazing and spandrel panels; Modular construction; largely fabricated off-site; Glazed Exterior | |
| Advantages | | | | | | Least time to erect on site; lowest required Monument closure time | |
| Weighted Score | | | 300 | | 270 | | 390 |
| | | | | | | | |
| Total Importance of Advantages | | | 2,355 | | 2,500 | | 3,190 |
| | | | | | | | |
| Initial Cost | | \$ 4,549,214 | | \$ 4,549,214 | | \$ 4,549,214 | |
| | | | | | | | |
| Importance/Initial Cost Ratio | | | | | | | |
| | | | | | | | |
| Life Cycle Cost | | | | | | | |
| | | | | | | | |
| Total | | | | | | | |

ANALYSIS: OPTIONS FOR ALTERNATIVE C

The study team re-assessed the CBA Evaluation Factors and changed/added and/or deleted sub-Factors as necessary to reflect the factors relative to the preferred Alternative. As the relative importance of the primary factors would change with the changing of the sub-factors, they re-rated the importance of the Primary Evaluation Factors. They then evaluated the benefit or importance of advantages to be realized from the 3 Groups of Options to Alternative C (CBA Matrix above). The analysis suggests that the Glass Envelope Option is the Preferred Option for Alternative C.

PHASE VI RECOMMENDATIONS/WRAP-UP

The value study team reviewed the study recommendations with Mr. Lorenzetti, Deputy Superintendent, National Mall and Memorial Parks, at the close of the study.

PHASE VII IMPLEMENTATION

Implementation of the value study recommendations will rest with the design team and the client team, as work progresses on the next stages.

VALUE STUDY TEAM

VA Workshop: Washington Monument Visitor Security Screening Facility

26 February 2013

SIGN-IN SHEET

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VA Workshop: Washington Monument Visitor Security Screening Facility

27 February 2013

SIGN-IN SHEET

| NAME | TITLE | REPRESENTING | PHONE | E-MAIL |
|-------------------|-----------------------|---------------------------|----------------|---------------------------|
| Andrea Lind | Project Specialist | NPS-Denver Service Center | 303 969 2983 | Andrea.Lind@nps.gov |
| Wade Martin | VATL | U.S. COST | 770 481 1607 | wmartin@uscost.com |
| Robert Ferriser | ESTIMATOR | U.S. COM | 401 701 9091 | RFERRISER@USCOM.COM |
| Hunny Hassan | Principal Architect | BBB | 202 333 8000 | hunny.hassan@bbbarch.com |
| TED WHITE | PARK RANGER | NPS NAMA | (202) 651-8453 | ted.white@nps.gov |
| NED WALLACE | CIVIL ENGINEER | NPS NAMA | 202-557-4367 | NED-WALLACE@NPS.GOV |
| Michael Kelly | PARK RANGER | NPS NAMA | 212 59 2662 | michael.kelly@nps.gov |
| James Perry | Chief, Resource Mgmt. | NPS NAMA | (202) 245-4711 | james.perry@nps.gov |
| Wayne Dixon | Supv. Bill Kugel | NPS / NAMA | 202-359-1525 | wayne.dixon@nps.gov |
| Rosanna Weltzin | DATA. CLING I+E | NPS / NAMA | 202-359-1528 | rosanna.weltzin@nps.gov |
| Joni Gallagos | PROJ. MGR | NPS / DSC | 202-619-6379 | joni-gallagos@nps.gov |
| Charles Dennyings | USPP ICON | USPP | 202 438 6658 | Charles.Dennyings@nps.gov |

APPENDICES

Value Study Agenda
Construction Cost Estimates

VALUE ANALYSIS WORKSHOP AGENDA

WASHINGTON MONUMENT VISITORS CENTER WASHINGTON, DC

2 DAY - VALUE ANALYSIS STUDY

26 – 27 February 2013

The value analysis workshop meeting for the subject project will be conducted for two (2) days between 8AM and 4PM on 26 – 27 February 2013 at the NPS National Capital Region Headquarters, 1100 Ohio Drive SW, Washington, DC.

Study Team Leader/Facilitator: Wade L. Martin, RPA, CVS, CCC, LEED AP

The value analysis study team members should bring any background material they might have that relates to the project. Important materials that will be used will include:

- Current Options (3) under consideration
- Current Options Cost Estimates; Cost Models
- Photographs, Site Plans.

Team members should also bring their own special materials or preferred tools (e.g., resource materials, codes, standards, tracing paper, laptop computers, pens, paper). Team members should plan on being present for the duration of the study, important information and understanding of issues are lost if team members miss portions of the study

TUESDAY, 26 February 8:00 AM – PHASE I – INFORMATION

The goal for this phase is for the team to develop a clear understanding of the project through review of the project data and functional analysis. The team will identify factors upon which options will be evaluated.

Introductions (15 minutes)

Jill Cavanaugh, PM

Overview of the Choosing by Advantages and Value Analysis Process

Wade Martin

Project Presentation and Project Goals and Objectives (30 min)

Design Team/NPS

Design Options review and discussion (1 hour)

Design Team

BREAK

TUESDAY, 26 February 10:30 AM – PHASE II – FUNCTION ANALYSIS

| | |
|--|------------------|
| Function Analysis | Wade Martin/Team |
| Choosing by Advantages Evaluation Factors Discussion | Team |

LUNCH

TUESDAY, 26 February 1:00 PM – 4:00 PM – PHASE III – EVALUATION

| | |
|--|------|
| Screening of the 3 Options/Selection of the Preferred Option | Team |
|--|------|

End of Day One

WEDNESDAY 27 FEBRUARY – 8:00 AM PHASE IV CREATIVITY

The team will brainstorm alternative means of enhancing the Preferred Option in meeting the functions identified for the new Visitor Center. The team will conceptually define the alternatives and assess the Order of Magnitude costs.

| | |
|--|------|
| Brainstorming and Alternatives Definition/Order of Magnitude Cost Assessment | Team |
|--|------|

BREAK

WEDNESDAY 27 FEBRUARY – 10:30 AM PHASE V EVALUATION/DEVELOPMENT

| | |
|---|------|
| Review and Refine the Evaluation Factors for the Alternatives | Team |
| Evaluate and Select the Creative Alternatives | Team |

LUNCH

**WEDNESDAY 27 FEBRUARY – 1:00 PM PHASE VI
DEVELOPMENT/RECOMMENDATION**

Further Develop the Selected Alternatives

BREAK

| | |
|--|------|
| Incorporate Selected Alternatives into the Preferred Option; Finalize the Recommended Option and Cost Estimates | Team |
|--|------|

CONSTRUCTION COST ESTIMATE SUMMARY SHEETS

Beyer Blinder Belle Architects & Planners LLP

Washington Monument Visitor Screening Facility

Park: WAMO

PMIS: 151073

Scope and Validation Report - Cost Analysis

Date: 07 March 2013

| | Alternative B | Alternative C | Alternative D |
|-----------------------------------|----------------------------|--------------------------------|--------------------|
| | Ramp at Plaza Perimeter | Freestanding Plaza Pavilion | Ramp in Plaza |
| Item | | | |
| Foundation - Substructure | \$169,008 | \$88,980 | \$112,298 |
| Superstructure | \$28,504 | \$0 | \$196,326 |
| Shell/ Exterior Closure | \$861,850 | \$1,272,800 | \$308,000 |
| Exterior Doors and Windows | | | |
| Roof Construction and Coverings | \$33,993 | | |
| Interior Construction Partitions | \$108,000 | \$108,000 | \$32,440 |
| Interior Doors and Windows | | | |
| Wall Finish | \$11,200 | \$6,000 | \$24,300 |
| Floor Finish | \$28,000 | \$14,800 | \$14,760 |
| Ceiling Finish | \$11,200 | \$0 | \$8,856 |
| Built-ins | | | |
| Elevator | \$131,372 | \$5,000 | \$131,372 |
| Plumbing | \$6,460 | | \$20,550 |
| HVAC | | | |
| Fire Protection | \$13,580 | \$7,178 | \$16,817 |
| Electrical | \$74,770 | \$86,392 | \$181,168 |
| Site Work and Demolition | \$532,091 | \$36,245 | \$110,826 |
| Selective Building Demolition | \$872,100 | | \$879,012 |
| Security Equipment | \$33,000 | \$33,000 | \$33,000 |
| I.T. Equipment | \$50,000 | \$50,000 | \$50,000 |
| Site Improvements | \$144,793 | \$109,816 | \$898,377 |
| Site Utilities | | | \$15,000 |
| Geothermal System | \$131,498 | \$94,594 | \$131,498 |
| Construction Cost | \$3,241,419 | \$1,912,805 | \$3,164,600 |
| AE Services | \$577,934 | \$1,038,597 | \$931,779 |
| Factors, Taxes, and Contingencies | \$922,832 | \$544,576 | \$900,962 |
| General Conditions | \$2,681,778 | \$1,435,110 | \$2,395,429 |
| Bonds, Insurance, Inflation | \$1,155,031 | \$656,723 | \$1,090,069 |
| Total Project Cost | \$8,578,993 | \$5,587,811 | \$8,482,838 |

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
PROJECT COST SUMMARY

Project: Washington Monument Visitor Screening Facility
Park: WAMO
Alpha: NAMA
PMIS: 151073

Estimate By: rrier rperrier@us
Date: 03/01/13

Reviewed By: Reviewer
Date: Review Date

| Item No. | Description | Quantity | Unit | Cost/Unit | Total |
|--|--------------------------------------|----------|--------|-----------|-------------|
| 1 | Alternate B: Ramp at Plaza Perimeter | 1,400 | sf | \$2,315 | \$3,241,419 |
| 2 | | | | | |
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| 17 | | | | | |
| 18 | | | | | |
| Subtotal Direct Construction Costs | | | | | \$3,241,419 |
| Value of Government Furnished Property (GFP) Included in Direct Cost (see footnote) ⁵ | | | | | \$0 |
| Direct Cost Subtotal without GFP | | | | | \$3,241,419 |
| | Published Location Factor | 0.97% | | | \$31,442 |
| | Remoteness Factor | 0.00% | | | \$0 |
| | Federal Wage Rate Factor | 1.50% | | | \$48,621 |
| | State & Local Taxes | 6.00% | | | \$194,485 |
| | Design Contingency | 20.00% | | | \$648,284 |
| Total Direct Construction Costs | | | | | \$4,164,251 |
| | Standard General Conditions | 10.00% | | | \$416,425 |
| | Government General Conditions | 17.00% | | | \$707,923 |
| | Historic Preservation Factor | 10.00% | | | \$416,425 |
| Subtotal NET Construction Cost | | | | | \$5,705,024 |
| | Overhead | 10.00% | | | \$570,502 |
| | Profit | 10.00% | | | \$570,502 |
| Estimated NET Construction Cost | | | | | \$6,846,028 |
| | Bonds & Permits | 2.00% | | | \$136,921 |
| | Contracting Method Adjustment | 5.00% | | | \$342,301 |
| | Inflation Escalation | 27 | Months | 4.00% | \$675,809 |
| Total Estimated NET Cost of Construction | | | | | \$8,001,059 |

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate
PROJECT COST SUMMARY

Project: Washington Monument Visitor Screening Facility
Park: WAMO
Alpha: NAMA
PMIS: 151073

Robert Perrier
rperrier@uscost.co
Estimate By: m
Date: 03/01/13

Reviewed By: Reviewer
Date: Review Date

| Item No. | Description | Quantity | Unit | Cost/Unit | Total |
|--|--|----------|--------|-----------|-------------|
| 1 | Alternate C: Freestanding Plaza Pavilion | 740 | sf | \$2,585 | \$1,912,805 |
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| 18 | | | | | |
| Subtotal Direct Construction Costs | | | | | \$1,912,805 |
| Value of Government Furnished Property (GFP) Included in Direct Cost (see footnote)* | | | | | \$0 |
| Direct Cost Subtotal without GFP | | | | | \$1,912,805 |
| | Published Location Factor | 0.97% | | | \$18,554 |
| | Remoteness Factor | 0.00% | | | \$0 |
| | Federal Wage Rate Factor | 1.50% | | | \$28,692 |
| | State & Local Taxes | 6.00% | | | \$114,768 |
| | Design Contingency | 20.00% | | | \$382,561 |
| Total Direct Construction Costs | | | | | \$2,457,380 |
| | Standard General Conditions | 10.00% | | | \$245,738 |
| | Government General Conditions | 17.00% | | | \$417,755 |
| | Historic Preservation Factor | 5.00% | | | \$122,869 |
| Subtotal NET Construction Cost | | | | | \$3,243,742 |
| | Overhead | 10.00% | | | \$324,374 |
| | Profit | 10.00% | | | \$324,374 |
| Estimated NET Construction Cost | | | | | \$3,892,491 |
| | Bonds & Permits | 2.00% | | | \$77,850 |
| | Contracting Method Adjustment | 5.00% | | | \$194,625 |
| | Inflation Escalation | 27 | Months | 4.00% | \$384,248 |
| Total Estimated NET Cost of Construction | | | | | \$4,549,214 |

United States Department of the Interior
National Park Service
Class C Construction Cost Estimate

PROJECT COST SUMMARY

Project: Washington Monument Visitor Screening Facility
Park: WAMO
Alpha: NAMA
PMIS: 151073

Estimate By: rrier rperrier@u
Date: 03/01/13

Reviewed By: Reviewer
Date: Review Date

| Item No. | Description | Quantity | Unit | Cost/Unit | Total |
|--|-------------------------------|----------|--------|-----------|-------------|
| 1 | Alternate D: Ramp in Plaza | 3,876 | sf | \$816 | \$3,164,600 |
| 2 | | | | | |
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| 17 | | | | | |
| 18 | | | | | |
| Subtotal Direct Construction Costs | | | | | \$3,164,600 |
| Value of Government Furnished Property (GFP) Included in Direct Cost (see footnote)* | | | | | \$0 |
| Direct Cost Subtotal without GFP | | | | | \$3,164,600 |
| | Published Location Factor | 0.97% | | | \$30,697 |
| | Remoteness Factor | 0.00% | | | \$0 |
| | Federal Wage Rate Factor | 1.50% | | | \$47,469 |
| | State & Local Taxes | 6.00% | | | \$189,876 |
| | Design Contingency | 20.00% | | | \$632,920 |
| Total Direct Construction Costs | | | | | \$4,065,561 |
| | Standard General Conditions | 10.00% | | | \$406,556 |
| | Government General Conditions | 17.00% | | | \$691,145 |
| | Historic Preservation Factor | 10.00% | | | \$406,556 |
| Subtotal NET Construction Cost | | | | | \$5,569,819 |
| | Overhead | 10.00% | | | \$556,982 |
| | Profit | 6.00% | | | \$334,189 |
| Estimated NET Construction Cost | | | | | \$6,460,990 |
| | Bonds & Permits | 2.00% | | | \$129,220 |
| | Contracting Method Adjustment | 5.00% | | | \$323,050 |
| | Inflation Escalation | 27 | Months | 4.00% | \$637,800 |
| Total Estimated NET Cost of Construction | | | | | \$7,551,059 |

APPENDIX D: DRAFT MEMORANDUM OF AGREEMENT

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**MEMORANDUM OF AGREEMENT
AMONG
THE NATIONAL PARK SERVICE
THE NATIONAL CAPITAL PLANNING COMMISSION
THE DISTRICT OF COLUMBIA STATE HISTORIC PRESERVATION OFFICE
AND
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING
THE SECURITY SCREENING FACILITY AT THE WASHINGTON MONUMENT
WASHINGTON, D.C.**

WHEREAS, the National Park Service (NPS) proposes to carry out the Washington Monument Security Screening Facility Project (Washington Monument Screening Facility), which includes construction of a pavilion on the Washington Monument plaza and installation of security screening equipment within the pavilion it (Undertaking) as shown in Exhibit A, Washington Monument Security Screening Facility Concept Plan: Freestanding Plaza Pavilion; and

WHEREAS, the Washington Monument is listed in the National Register of Historic Places (NRHP) and its Grounds, which include the Monument itself, the Monument Lodge, the Survey Lodge, landscape features, vegetation, topography, and circulation paths, were determined eligible for the National Register through the 2009 Cultural Landscape Inventory prepared by NPS, with concurrence from the District of Columbia State Historic Preservation Officer (DC SHPO) on September 28, 2009; and

WHEREAS, the National Park Service (NPS) is the Federal agency that controls, operates, and maintains the Washington Monument and its Grounds; and

WHEREAS, the Washington Monument, the primary memorial to the nation's first president, is toured by approximately one million people annually with millions more visiting the surrounding grounds, and is one of the most prominent icons in the nation, making it a potential target for terrorist attack; and

WHEREAS, a permanent vehicular barrier system was completed with landscape improvements in 2006, and the accompanying Programmatic Agreement is now expired; and

WHEREAS the existing temporary visitor screening facility, constructed at the Monument's base in 2001, requires replacement in order to meet the long-term security and cultural resource management requirements at the Monument; and

WHEREAS, NPS, pursuant to the regulations (36 CFR 800) implementing Section 106 of the National Historic Preservation Act (16 USC 470), issued letters dated November 2, 2010, initiating consultation with the District of Columbia State Historic Preservation Officer (DC SHPO) and inviting the Advisory Council on Historic Preservation (ACHP) to participate in the consultation; and

WHEREAS, the ACHP elected to participate in the consultation and to sign this Memorandum of Agreement (MOA); and

WHEREAS, NPS has consulted with other parties (Exhibit B) including, but not limited to, the U.S. Commission of Fine Arts (CFA), the Committee of 100 on the Federal City, the National Trust for Historic Preservation, the National Coalition to Save Our Mall, the Guild of Professional Tour Guides, the Smithsonian Institution, and the National Parks Conservation Association; and

WHEREAS, pursuant to 36 CFR 800.8(a), NPS has coordinated its Section 106 and National Environmental Policy Act (NEPA) reviews and has provided opportunities for review and comment on the Undertaking through five public meetings held from 2011 to 2013, including concept presentations at CFA and the National Capital Planning Commission (NCPC), Section 106 consulting party meetings, and a site visit for consulting parties; and

WHEREAS, NPS, in consultation with DC SHPO, ACHP, and the consulting parties, defined primary and secondary Areas of Potential Effect (APE) for the Undertaking (Exhibit C) extending beyond the project's immediate limits of construction and encompassing thirty-four (34) individually NRHP-listed historic properties, six (6) NRHP-listed historic districts, eight (8) cultural landscapes, and elements of the NRHP-listed Plan of the City of Washington; and

WHEREAS, no archeological investigation is warranted because the Undertaking will require construction only on made land resulting from the establishment of the mound at the Monument's base;; and

WHEREAS, the NPS made significant progress in avoiding, minimizing, and mitigating some adverse effects by means of the Section 106 and NEPA review processes, specifically the selection and refinement of the design that responds most directly to public comments and adheres to the *Secretary of Interior Standards for the Treatment of Historic Properties* and *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*; and

WHEREAS, following the Section 106 meeting on September 13, 2012, the Freestanding Plaza Pavilion was endorsed by the majority of the consulting parties; and

WHEREAS the Selected Alternative was chosen to lie lightly on the landscape and to be completely reversible should future circumstances warrant removal of security screening equipment; and

WHEREAS, the NPS, in consultation with DC SHPO, NCPC, ACHP and the consulting parties, determined that the Undertaking will have adverse effects upon historic properties and that such adverse effects include the construction of an entrance pavilion in the historically open space of the Monument plaza; alteration of the simplicity of the existing relationships between the Monument, plaza, and surrounding landscape; alteration of several significant views, including views of the Monument from the Monument grounds, the Mall, and the air, and panoramic views from the Monument to the east, north, and south (Exhibit D); and

WHEREAS, the November 8, 2010 National Mall Plan Programmatic Agreement among the National Park Service, the DCSHPO, and ACHP, provided mitigation for adverse effects on historic properties within the Plan boundaries, including the Washington Monument and its Grounds and these mitigation measures, which will be carried out by NPS, include:

- An update to the National Mall National Register Historic District Nomination;
- Identification of all contributing and non-contributing properties and National Historic Landmarks within the boundaries of the updated National Register nomination; and
- An assessment and consideration of National Historic Landmark nominations, based upon the information gathered; and

WHEREAS, the September 30, 2011 National Museum of African American History and Culture Programmatic Agreement among the Smithsonian Institution, the DCSHPO, NCPC, the National Park

Service, and ACHP, , provided mitigation for adverse effects to be carried out by the Smithsonian Institution that included the following stipulations related to the Washington Monument and its Grounds:

- Compilation of extensive baseline information to document pre-construction conditions and development and implementation of a Monitoring Plan that requires SI to install, prior to the testing phase, vibration and monitoring devices to be used during testing and through all phases of construction;
- Funding for the NPS to complete the unfinished tree plantings specified in the NCPC and NPS-approved Olin Design landscape plan for the Washington Monument Grounds;
- Consultation with the NPS to identify and funding for the research necessary for a qualified consultant to update the National Register Nomination for the Washington Monument Grounds.
- Development and implementation of a Protection Plan for the Bulfinch Gate Post at the southeast corner of 15th Street and Constitution Avenue, NW;
- Completion of an amendment for the existing National Register Nomination for the Bulfinch Gate Posts and Gate Houses;
- Development of a Treatment Plan for the Bulfinch Gate Post at the southeast corner of 15th Street and Constitution Avenue, NW;
- Photo documentation of the Monument Site prior to construction of the NMAAHC using Historic American Building Survey/Historic American Landscape Survey (HABS/HALS) standards;
- Notification of the DC SHPO and the NPS of the approximate date that the abandoned subterranean Water Intake Tunnel that crosses the site and connects the Tidal Basin to Constitution Avenue will be unearthed; inspection of the tunnel and evaluation of its historic significance by DC SHPO; photography and documentation of the tunnel in accordance with DC SHPO recommendations prior to removing the tunnel from the site; and Continued research on the history of the Monument Site including as it pertains to the African American heritage of Washington, DC.

WHEREAS, the procedures of NCPC require completion of NHPA and NEPA compliance prior to giving its legally mandated final approval to projects within the District of Columbia (National Capital Planning Act of 1952); and

WHEREAS, since NCPC and CFA may request further revisions to the design of the Security Screening Facility after the Section 106 and NEPA reviews have been completed, this MOA provides a process to address any new or intensified adverse effects that may result from subsequent design changes;

NOW, THEREFORE, NPS, DC SHPO, NCPC and ACHP agree that the Undertaking will be carried out in accordance with following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

The NPS shall ensure that the following measures are carried out:

1. Design Review

- a. All design elements of the security screening facility will conform to Washington Monument Security Screening Facility Project Concept Plan: Freestanding Plaza Pavilion, National Park Service (Exhibit A), with the understanding that the concept plan will be further developed as the project is funded.

- b. After the project is funded, but before the design process is completed, NPS shall submit 35% level plans directly to the Signatories and provide copies to the consulting parties via the Planning, Environment and Public Comment (PEPC) website. Within X days after providing the plans, NPS shall host a consulting parties meeting to seek comments on the 50 % level design. The NPS shall also accept written comments on the design for X days after the consulting parties meeting in case some parties are unable to attend.
- c. NPS shall also submit the 35% design to CFA and NCPC in accordance with the procedures and submittal standards of those agencies and on such dates as meet the NPS and agencies' review scheduling requirements.
- d. Following the consulting parties meeting,, the consideration of any written comments and the official review by CFA and NCPC, the NPS shall consider any requested modifications, revise the plans and assess whether any proposed changes have contributed to the avoidance, minimization, or mitigation of adverse effects; created new adverse effects; or intensified previously identified adverse effects. NPS shall then submit its determination along with supporting documentation in writing and via email to DC SHPO, NCPC, and ACHP and to the public and consulting parties by posting on PEPC.
- e. Within twenty (20) business days of receipt of the documentation specified in Stipulation 1(d), DC SHPO, NCPC, and ACHP shall notify NPS in writing of their concurrence or non-concurrence with NPS's determination. NPS may assume concurrence on the part of DC SHPO, NCPC, and/or ACHP if any party fails to respond within the specified review and comment period.
- f. If NPS, DC SHPO, NCPC, and ACHP agree that previously identified adverse effects have already been avoided, minimized, or mitigated through the Section 106 review process to an acceptable extent and that there will be no new or intensified adverse effects, NPS shall notify the consulting parties via a posting on PEPC and shall provide a twenty (20) business day review and comment period. If a consulting party or a member of the public objects to a finding of no new or intensified adverse effects via the PEPC website, NPS shall take that objection into account in accordance with Stipulation 4(b) (Dispute Resolution) of this MOA.
- g. If NPS, DC SHPO, NCPC, or ACHP determines that there will be new adverse effects or that previously identified adverse effects will be intensified, NPS shall notify the signatories through email and the public and consulting parties via email and a posting on PEPC and shall consult with the signatories within ten (10) business days to identify additional means to avoid, minimize, or mitigate the adverse effects and to determine how the resolution of adverse effects will be documented, including a possible amendment in accordance with Stipulation 6 (Amendments) of this MOA.
- h. If the signatories are unable to identify ways to avoid, minimize, or mitigate the intensified or new adverse effects, the NPS shall resolve the dispute in accordance with Stipulation 4 (Dispute Resolution) of this MOA.

3. Mitigation Plan

The NPS shall carry out the following mitigation measures.

- a. The NPS shall prepare public interpretation and education materials that broadly address the historical development of the Washington Monument and its Grounds. Public interpretation

and historical education media may include, but not be limited to wayside exhibits, reconstruction drawings, NPS-style brochures and internet-based content. NPS shall include “What’s Going On?” informational signs to place on construction fencing for the duration of construction.

- b. NPS will establish and implement a long-term monitoring plan for on the monument within a year of the project start and will make this information available to the public.
- c. NPS shall implement measures to protect the integrity of the Washington Monument during construction.

4. Dispute Resolution

A. For Signatories

1. Objection: In the event of any dispute under this Agreement, any of the Signatories to this Agreement may object in writing to NPS regarding any action proposed to be carried out with respect to the Undertaking or implementation of this Agreement. The written notice of dispute (“Notice of Dispute”) shall state with reasonable specificity the provisions of this Agreement under which such dispute is claimed to arise, and the manner in which the dispute may be satisfactorily cured. Upon receipt of such Notice of Dispute, NPS shall immediately notify the Signatories in writing of the Notice of Dispute as well as provide a copy of the Notice of Dispute and consult to resolve the objection, including any required modifications to the Final Design or construction. If, after initiating such consultation, NPS determines that the objection cannot be resolved through consultation, NPS shall forward all documentation relevant to the dispute to the ACHP, including NPS’s proposed response to the objection. Within fourteen (14) calendar days or within an agreed upon timeframe, the ACHP shall:
 - a. Advise NPS that the ACHP concurs with NPS’s proposed response to the objection, whereupon NPS shall respond to the objection accordingly;
 - b. Provide NPS with recommendations. Such recommendations must be considered by NPS, but are not binding. Once NPS takes these recommendations into account and responds, NPS can proceed to make a final decision regarding the dispute; or
 - c. Refer the dispute to ACHP membership for comment pursuant to 36 CFR § 800.7(c), and shall notify NPS in writing of such referral. The resulting comment must be considered by NPS, but is not binding. NPS shall take into account, and respond to, the resulting comment in accordance with 36 CFR § 800.7(c) and Section 110(l) of the NHPA, and then proceed to make a final decision regarding the dispute.
2. Failure to Comment: Should the ACHP fail to exercise one of the above options within fourteen (14) calendar days or agreed upon timeframe, NPS may proceed with its proposed response to the objection, and shall forward such response in writing to the Signatories.

3. Subject of Dispute: NPS shall take into account any ACHP recommendation or comment provided in accordance with this Stipulation with reference only to the subject of the dispute; NPS's responsibility to carry out all actions under this Agreement that are not the subject of the objection shall remain unchanged and in full force and effect.
4. If Signatories and NPS resolve the dispute set forth in the Notice of Dispute in a manner that requires NPS to take specified actions ("Cure"), NPS shall commence such actions within a reasonable period of time, not to exceed sixty (60) business days or other such timeframe agreed upon in writing by the Signatories and NPS (the "Cure Period"), and shall thereafter diligently pursue such Cure to completion. If at the end of any Cure period, there is no longer a breach of this Agreement, or NPS is diligently working toward completion of the Cure, NPS's RHPO shall issue to the Signatories a written acknowledgement of the Cure of the matter that was the subject of the Notice of Dispute.

B. For Concurring Parties

1. Objection: A Concurring Party may object in writing to NPS, with copies to the other Signatories and Concurring Parties regarding any action proposed to be carried out with respect to the Undertaking or implementation of this Agreement. NPS shall take such an objection into account and may consult about it with the objecting party, other Concurring Parties and Signatories as NPS deems appropriate. NPS shall then respond to the objecting party in writing, with copies to the Signatories. If NPS subsequently determines that the objection cannot be resolved through consultation, NPS shall notify the objecting party, the DC SHPO, and ACHP in writing which of the following options it shall exercise:
 - a. Seek the assistance of the ACHP in resolving the objection, pursuant to Stipulation 4.A above; or
 - b. Provide a formal written response to the objection within thirty (30) calendar days of notice to the objecting party.
2. Resolution of Dispute. If the NPS resolves the dispute set forth in the Notice of Dispute in a manner that requires the NPS to take specified actions ("Cure"), NPS shall commence such actions within a reasonable period of time, not to exceed sixty (60) business days or other such timeframe agreed upon in writing by NPS (the "Cure Period"), and shall thereafter diligently pursue such Cure to completion. If at the end of any Cure period, NPS determines that there is no longer a breach of this Agreement, or NPS is diligently working toward completion of the Cure, NPS's RHPO shall issue to Trump and to the Signatories a written acknowledgement of the Cure of the matter that was the subject of the Notice of Dispute.

5. Duration

This MOA shall be valid for a period of ten (10) years from the date of the last signature.

6. Amendments

This MOA may be amended when an amendment is agreed to in writing by all signatories. The amendment shall be effective on the date a copy signed by all of the signatories is filed with ACHP.

7. Termination

If any signatory to this MOA determines that the terms of the MOA cannot or are not being carried out, that objecting party shall so notify the other signatories in writing and consult with them to seek corrective action or amendment of the MOA. If within fourteen (14) days an agreement or amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories. Once the MOA is terminated, and prior to work continuing on the Undertaking, NPS must (a) either execute a new MOA or (b) request, take into account, and respond to the comments of the ACHP per 36 CFR Section 800.7. NPS will notify the signatories as to the course of action it will pursue.

8. Anti-Deficiency Act

Any requirement for the payment or obligation of funds by the Government established by the terms of this MOA shall be subject to availability of appropriated funds. No provision in this MOA shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, 31 USC Section 1341. If the availability of funds and compliance with the Anti-Deficiency Act impair the NPS' ability to perform under this MOA, then the NPS shall consult in accordance with Stipulation 6 of this MOA.

9. Exhibits Attached:

- A. Washington Monument Security Screening Facility Concept Plan: Freestanding Plaza Pavilion
- B. List of Consulting Parties
- C. Washington Monument Security Screening Facility Project Areas of Potential Effect (APE) and National Register or National Register-Eligible Properties
- D. Summary of Adverse Effects

Execution of this Memorandum of Agreement and implementation of its terms evidences that NPS has taken into account the effects of the Undertaking on historic properties and afforded ACHP a reasonable opportunity to comment.

SIGNATURES FOLLOW ON SEPARATE PAGES

DRAFT

MEMORANDUM OF AGREEMENT SIGNATORY PAGE
SECURITY SCREENING FACILITY AT THE WASHINGTON MONUMENT

Steve Whitesell
Regional Director, National Capital Region, NPS

Date

DRAFT

MEMORANDUM OF AGREEMENT SIGNATORY PAGE
SECURITY SCREENING FACILITY AT THE WASHINGTON MONUMENT

David Maloney
District of Columbia State Historic Preservation Officer

Date

DRAFT

MEMORANDUM OF AGREEMENT SIGNATORY PAGE
SECURITY SCREENING FACILITY AT THE WASHINGTON MONUMENT

Marcel C. Acosta
Executive Director
National Capital Planning Commission

Date

DRAFT

MEMORANDUM OF AGREEMENT SIGNATORY PAGE
SECURITY SCREENING FACILITY AT THE WASHINGTON MONUMENT

John M. Fowler
Executive Director,
Advisory Council on Historic Preservation

Date

DRAFT



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering wise use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historic places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people. The department also promotes the goals of the Take Pride in America campaign by encouraging stewardship and citizen responsibility for the public lands and promoting citizen participation in their care. The department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.