



Thomas Jefferson Memorial Vehicle Security Barrier Environmental Assessment



March 2013

NATIONAL PARK SERVICE
U.S. DEPARTMENT OF THE INTERIOR



National Mall and Memorial Parks
Washington, DC

Thomas Jefferson Memorial
Vehicular Barrier Design
National Mall and Memorial Parks

ENVIRONMENTAL ASSESSMENT/ASSESSMENT OF EFFECTS

March 2013

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PROJECT SUMMARY

Introduction

The National Park Service (NPS) has prepared an Environmental Assessment (EA) to evaluate a range of alternatives for the construction of a vehicle security barrier at the Thomas Jefferson Memorial in Washington, DC. This document is being used for compliance with both the National Environmental Policy Act (NEPA) of 1969, as amended. NPS has been conducting consultation under Section 106 of the National Historic Preservation Act (NHPA) in coordination with this NEPA process.

The Thomas Jefferson Memorial (or the Memorial), a unit of the National Park System, is administered by the National Mall and Memorial Parks, the administrator of the NPS units of the Monumental Core of our Nation's Capital. The Memorial, dedicated on April 13, 1943, is the foremost memorial to the third President of the United States and is a key landmark in the Monumental Core of our Nation's Capital. Today, the Thomas Jefferson Memorial stands as a testament to the ideals Jefferson envisioned for this country: equality, education, liberty, and freedom.

Purpose and Need for the Action

The NPS has been studying security measures for the Jefferson Memorial since 1999. Following the September 11th, 2001 attacks on the World Trade Center and the Pentagon, temporary measures were put in place, including the placement of concrete jersey barriers around the Memorial ring and closure of the U-shaped driveway. These temporary measures do not comply with NPS' security objectives for the site. In addition, these measures impact the cultural landscape of the Memorial and impact views to and from the Memorial. The purpose of the proposed action is to replace the existing concrete barriers with a permanent vehicular barrier that is compatible with visitor use and the cultural landscape of the Jefferson Memorial site.

Overview of the Alternatives

This EA analyzes the no action alternative along with three alternatives for construction of a vehicular barrier, each of which includes improvements to bus drop-off and loading, parking for visitors with disabilities, and a relocation concession kiosk. The difference in the action alternatives is the location of the vehicle security barrier. Under Alternative 1, the vehicle security barrier follows along East Basin Drive. Under Alternative 2, the barrier alignment meanders through the Memorial grounds to reinforce the landscape's informal quality. Alternative 3 is a simplified wall located in a concentric arc alignment about the center point of the Memorial set at a distance outside of the determined blast zone.

Alternative 1 is the NPS Preferred Alternative; the implementation of which would result in beneficial impacts to soils, visitor use and experience, human health and safety, park operations and management, and traffic and transportation. There would be minor to moderate, long-term, adverse impacts to vegetation, and cultural resources, including scenic resources, historic structures and districts, and cultural landscapes.

How to Comment

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 that we will be able to do so. Please mail comments to:

Terri Urbanowski
Denver Service Center
12795 West Alameda Parkway
Lakewood, CO 80288-2838
RE: Thomas Jefferson Memorial Vehicular Security Barrier EA

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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 construction of a vehicle security barrier at the Thomas Jefferson Memorial in Washington, DC (see Figure 1). The Thomas Jefferson Memorial (or Memorial), a unit of the National Park System, is administered by the National Mall and Memorial Parks, the administrator of the NPS units of the Monumental Core of our Nation's Capital.

This EA analyzes the no action alternative along with three alternatives for construction of a vehicular barrier, each of which includes improvements to bus drop-off/loading, parking for visitors with disabilities, and improved concessions. The EA analyzes the potential environmental impacts that would result from the implementation of these improvements and has been prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the regulations of the Council on Environmental Quality (CEQ) for implementing NEPA (40 Code of Federal Regulation (CFR) 1500-1508), and the NPS's Director's Order #12, Conservation Planning, Environmental Impact Analysis, and Decision-making. In accordance with Section 800.8 of the Advisory Council on Historic Preservation's regulations (36 CFR 800), the process and documentation required for preparation of this EA have been coordinated with consultation under Section 106 of the National Historic Preservation Act (NHPA).

Purpose of and Need for Action

The NPS is proposing to construct a vehicle security barrier at the Thomas Jefferson Memorial in Washington, DC. The purpose of the proposed action is to replace the existing concrete barriers with a permanent vehicular barrier that is compatible with visitor use and the cultural landscape of the Jefferson Memorial site and that would improve access to the Memorial. The proposed action would:

- Provide a long-term vehicle security solution
- Balance historic values, security needs, and site sensitivity
- Improve drop-off and loading for buses and parking for visitors with disabilities
- Protect important viewsheds
- Maintain contextual compatibility with the Memorial and the National Mall
- Improve visitor experience during special events
- Reduce pedestrian / bicycle conflicts
- Improve access to concessions
- Improve site furnishings integration

Security improvements are needed to address potential terrorist threats to the United States and its symbols. For many years, security fences and concrete jersey barriers have been in place at a number of national landmarks in Washington, DC. After the September 11, 2001 attacks on the World Trade Center and the Pentagon, concrete jersey barriers were erected to prevent access around the Memorial ring at the Jefferson Memorial. The U-shaped driveway was closed for traffic entering the Memorial. However, the temporary measures do not comply with NPS- developed security objectives for the site. In addition, these temporary barriers adversely affect the historic landscape of the Jefferson Memorial. A long-term solution is needed to provide adequate protection of the Memorial and its visitors, while preserving the integrity of the cultural landscape of the Memorial.

The bus drop-off and loading zone and parking for visitors with disabilities are currently located along East Basin Drive west of the South Lawn. The bus drop-off and loading zone is often crowded with

tourists queuing for buses along a relatively narrow sidewalk. Parking for visitors with disabilities is limited and often occupied by unauthorized vehicles. In addition, pedestrians and bicyclists currently compete for use of sidewalks along East Basin Drive and on internal paths around the Memorial. Changes are needed to the barrier and sidewalk system to reduce conflicts between these two groups of users.

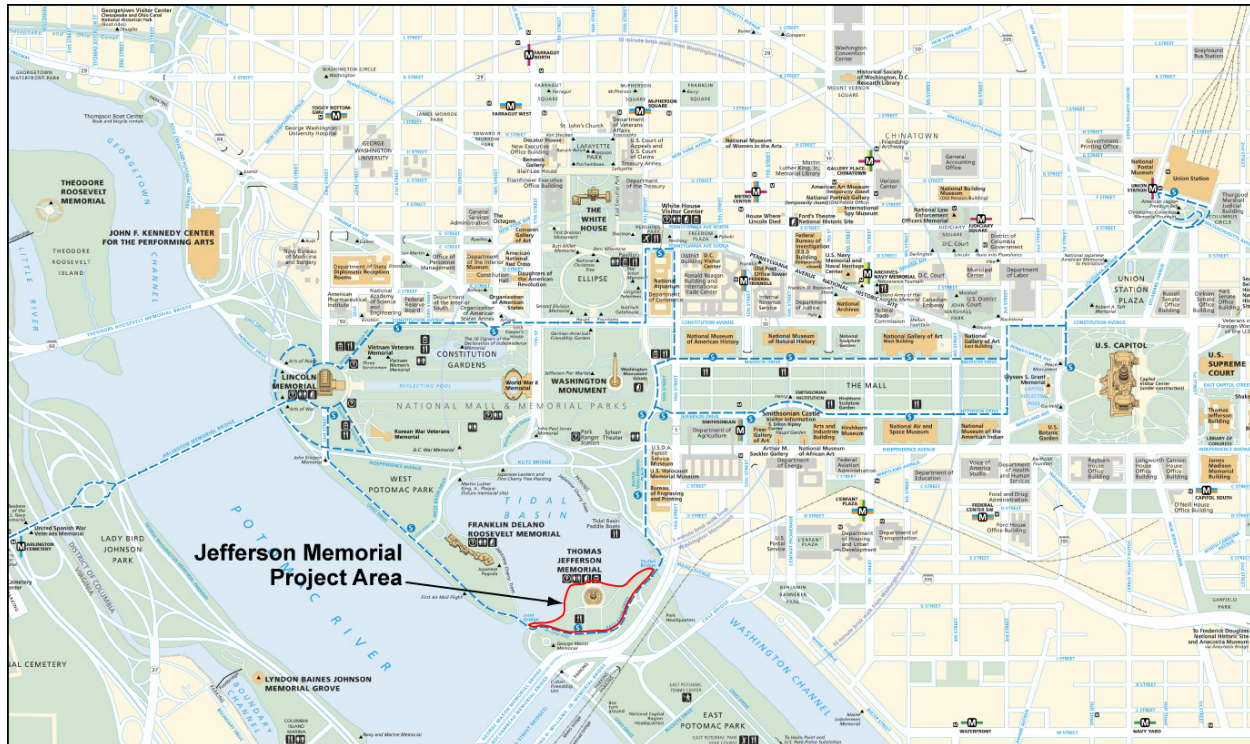


Figure 1. Location of the Thomas Jefferson Memorial

Significance of the Jefferson Memorial

The Thomas Jefferson Memorial, dedicated on April 13, 1943, is the foremost memorial to the third President of the United States and is a key landmark in the Monumental Core of the Nation's Capital (Figure 2). The Memorial is located between East Basin Drive and the southern edge of the Tidal Basin in Southwest Washington, DC. Today, the Thomas Jefferson Memorial stands as a testament to the ideals Jefferson envisioned for this country: equality, education, liberty, and freedom.



Figure 2. The Thomas Jefferson Memorial

composition in the middle of the city that was first envisioned by Pierre L'Enfant. At that time, only the

left arm of the kite had not been completed and it was decided that a memorial honoring President Jefferson would complete the final aspect of the composition.

The Memorial, modeled after the Pantheon in Rome, is an original adaptation of neoclassical architecture. Jefferson himself, in the designs for Monticello and the University of Virginia, used this concept of a circular, dome-shaped, colonnaded structure. Architect John Russell Pope first designed the Memorial. Following Pope's untimely death, architects Daniel P. Higgins and Otto R. Eggers were selected as the Memorial's architects. Considerable controversy surrounded the choice of the site and the Memorial's pantheon design. Higgins and Eggers sought to alleviate the concerns of the Commission of Fine Arts (CFA) and the National Capital Park Commission [the predecessor to the National Capital Planning Commission (NCPC)]¹ by moving the monument 600 feet south of its original site and to decrease the size of the structure for compatibility with other monuments. They also proposed to forgo the design for elaborate landscaping as envisioned by Pope, which would leave the Tidal Basin, the street plan, and a majority of the cherry trees largely intact. The final Jefferson Memorial landscape was derived from the plan designed by Frederick Law Olmsted, Jr.'s firm and included clustered groups of trees and shrubs to the north and south of the Memorial within the circular driveway surrounding the Memorial.

Few changes have taken place at the Jefferson Memorial since its dedication in 1943. The most notable change is the replacement of the original plaster model statue of Jefferson with a bronze statue after World War II. Other changes have included the elimination of the circular drive around the Memorial, subdivision of the grounds by the expansion of the bridge and highway access ramps, and decline of elements of the original planting.

Project Background

A 1999 report commissioned by the National Park Service developed security measures that should be taken to protect the United States' memorials and monuments within the National Capital Region of the NPS. This study suggested having security protection systems in place and named the resources that needed to be protected, including the Thomas Jefferson Memorial.

In March 2000, Congress authorized NCPC to establish an Interagency Security Task Force to evaluate the impact of security measures on the historic urban design of Washington's Monumental Core within which the Jefferson Memorial is located. The Task Force, which includes the NPS, issued a report titled *Designing for Security in the Nation's Capital* that looked at options for security improvements around the Nation's Capital. The report included a recommendation that the NCPC prepare an integrated Urban Design and Security Plan for the Monumental Core. *The National Capital Urban Design and Security Plan* was issued by the NCPC in October 2002 and "focused on perimeter building security designed to protect employees, visitors, and Federal functions and property from threats generated by unauthorized

¹ The National Capital Park Commission was established as a park planning agency by act of June 6, 1924, as amended (40 U.S.C. 71 et seq.). Two years later its role was expanded to include comprehensive planning. In 1952, under the National Capital Planning Act, the name of the Commission was changed to the National Capital Planning Commission, and it was designated the central planning agency for the Federal and District of Columbia governments. NCPC is the central agency for conducting planning and development activities for Federal lands and facilities in the National Capital Region. The region includes the District of Columbia and all land areas within the boundaries of Montgomery and Prince George's Counties in Maryland and Fairfax, Loudoun, Prince William, and Arlington Counties and the city of Alexandria in Virginia.

vehicles approaching or entering sensitive buildings” (NCPC, 2002). The *Urban Design and Security Plan* notes that, along with the Washington Monument and the Lincoln Memorial, the Jefferson Memorial has special security needs. The Plan states that “All three are surrounded by sweeping expanses of lawn that provide ample space for low stone walls, planters, and landscape elements that respect their setting” and that “At the Lincoln Memorial a low wall will enclose the mound on which the memorial sits. Retractable bollards allow limited access to the circular roadway and benches and bollards permit easy pedestrian movement between the memorial and the Mall (NCPC, 2002).

After the September 11, 2001 attacks on the World Trade Center and the Pentagon, concrete jersey barriers were erected around the Memorial ring and the U-shaped driveway was closed (see Figure 3). These measures were put in place as a first response to provide security to the Memorial and to protect its visitors from the threat of terrorist attacks.

In 2002, the NPS issued a Draft EA for public comment that assessed alternatives for a permanent vehicular barrier system around the Jefferson Memorial. Based on comments received from the public and agencies, including NCPC and CFA, the alternatives were further refined and analyzed in a Final EA in 2004. However, the NCPC and the CFA still did not feel that any of the alternatives studied at that time were appropriate for the setting of the Jefferson Memorial and, therefore, none of these alternatives was selected for implementation.



Figure 3. Concrete Jersey Barriers at the Jefferson Memorial

In 2006, the NPS worked with the U.S. Army Corps of Engineers (USACE) to study vehicle security systems that would be less intrusive on the historic landscape. None of the alternatives studied by the USACE were determined feasible, and to date no long term solution has been identified

As a result of the past planning studies and input from NCPC, CFA, and other interested parties, the NPS is reconsidering the design of the security measures at the Jefferson Memorial. The NPS has reinitiated consultation and public involvement on the project and developed new alternatives that are assessed in this Environmental Assessment.

Relationship to Laws, Executive Orders, Policies, and Other Plans

NATIONAL ENVIRONMENTAL POLICY ACT OF 1969, AMENDED (42 U.S.C. 4321-4347)

The National Environmental Policy Act (NEPA) was passed by Congress in 1969 and took effect on January 1, 1970. This landmark 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 carry out these goals by mandating 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, and requiring that each agency make that information an integral part of its decisions. NEPA also requires that agencies make a diligent effort to involve the interested and affected public before they make decisions affecting the environment.

NEPA is implemented through the Council on Environmental Quality Regulations for Implementing NEPA (40 CFR 1500-1508). In accordance with these regulations, the NPS has adopted Director's Order #12, Conservation Planning, Environmental Impact Analysis, and Decision-making, which provides procedures for NEPA compliance for the NPS.

NATIONAL HISTORIC PRESERVATION ACT, AS AMENDED THROUGH 2000 (16 U.S.C 470)/SECTION 106

Section 106 of the National Historic Preservation Act (NHPA), as amended, and implemented by 36 CFR Part 800, requires Federal agencies to consider the effects of their actions on historic properties, and provide the State Historic Preservation Officer(s) (SHPO) and the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on Federal projects that would have an effect on historic properties prior to implementation. Historic properties are defined as archaeological sites, standing structures, or other historic resources listed in or eligible for listing in the National Register of Historic Places (NRHP).

HISTORIC SITES ACT OF 1935

The Historic Sites Act of 1935 declares that it is a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the people of the United States. This Act authorizes the NPS to survey, preserve, restore, rehabilitate, and maintain sites, buildings, and objects of historical or archaeological significance.

NPS ORGANIC ACT

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

Because conservation 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 2006 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 2006). The Organic Act prohibits actions that permanently impair Park resources unless a law directly and specifically allows for the acts (16 USC 1a-1). An action constitutes an impairment when its impacts "harm the integrity of Park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values" (NPS 2006). To determine impairment, the NPS must evaluate "the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative impacts of the impact in question and other impacts" (NPS 2006).

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

Purpose and Need

technical and scientific information. Both also recognize that such data may not be readily available and 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 “such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision will be modified to eliminate the action causing the unknown or uncertain impact, or other alternatives will be selected” (NPS 2006).

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 the Architectural Barriers Act Accessibility Standard (ABAAS) as well as ADA standards for this project.

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 “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.”

CLEAN WATER ACT

The Clean Water Act (CWA) establishes the basic structure for regulating pollutant discharges to navigable waters of the U.S. It sets forth procedures for effluent limitations, water quality standards and implementation plans, national performance standards, and point source (e.g., municipal wastewater discharges) and nonpoint source programs (e.g., stormwater). The CWA also establishes the National Pollutant Discharge Elimination System (NPDES) under Section 402 and permits for dredged or fill material under Section 404 (EPA 2008b).

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 birds, included in the terms of this Convention...for the protection of migratory birds... or any part, nest, or egg of any such bird” (16 U.S.C. 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 (FWS) is the lead agency for migratory birds. The Directors of the NPS and the FWS signed a Memorandum of Understanding to Promote the Conservation of Migratory Birds (MOU) on April 12, 2010, in order to meet the requirements under section 3 of

Executive Order 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 an unintentional take of a migratory bird.

EXECUTIVE ORDER 11988 FLOODPLAIN MANAGEMENT

Executive Order (EO) 11988 (Floodplain Management) requires Federal agencies to avoid direct or indirect support of development within the 100-year floodplain whenever there is a practicable alternative. A floodplain is defined as the lowland and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands and, including, at a minimum, that area subject to a 1 percent or greater chance of flooding in any given year. The critical action floodplain is defined as the 500-year floodplain (0.2 percent chance floodplain) (EPA 1979). The 500-year floodplain as defined by 40 CFR 9 is an area, including the base floodplain, which is subject to inundation from a flood having a 0.2 percent chance of being equaled or exceeded in any given year.

EXECUTIVE ORDER 13514: FEDERAL LEADERSHIP IN ENVIRONMENTAL, ENERGY, AND ECONOMIC PERFORMANCE

Issued on October 5, 2009, Executive Order 13514 seeks to make improvements in the overall sustainability of the federal government. This order requires all federal agencies to develop a plan to meet a wide range of goals for improving sustainability, such as sustainable community planning, water efficiency, environmental management, high performance buildings and systems, and reduced greenhouse gas emissions (Exec. Order No. 13514 74 FR 52117 2009).

COMMEMORATIVE WORKS ACT

The Commemorative Works Act of 1986 (40 U.S.C. 89) provides guidance for the planning and design of projects within the Monumental Core of downtown Washington, DC, 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 to 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; and
- Ensure future commemorative works in areas administered by the NPS and the Administrator of General Services in the District of Columbia and its environs:
 - are appropriately designed, constructed, and located; and
 - reflect a consensus of the lasting national significance of the subjects involved.

The Commemorative Works Act was amended in 2003 by Congress, who designated the east-west axis of the National Mall from the Lincoln Memorial to the U.S. Capitol, and the north-south axis between the Jefferson Memorial and the White House to be a “substantially completed work of civic art” and established a Reserve, or no-build zone, within this area. Congress also directed the NPS to begin planning for the future of the National Mall to protect its character (NCPC 2003).

Local Plans and Policies

THE L'ENFANT AND THE MCMILLAN PLANS

In 1791, George Washington hired Pierre L'Enfant to design the city of Washington. L'Enfant developed a Baroque plan that features ceremonial spaces and grand radial avenues, while respecting natural contours of the land. The result was a system of intersecting diagonal avenues superimposed over a grid system. The avenues radiated from the two most significant building sites that were to be occupied by houses for Congress and the President (NPS, 2003). The avenues were to be wide and lined with trees. Important structures, monuments, and fountains were to be erected to visually connect ideal topographical sites throughout the city.

The Senate Park Commission, better known as the McMillan Commission, was formed in 1901 under the leadership of Senator James McMillan with Secretary Charles Moore. In March 1901, Congress appointed the Commission, whose members included Daniel Burnham, Charles McKim, Frederick Law Olmsted Jr., and Augustus Saint-Gaudens. The McMillan Commission sought to recapture the fundamental nature of the greensward envisioned by Pierre L'Enfant through elimination of discordant elements. The plans of the McMillan Commission called for the re-design of the ceremonial core, consisting of the Capitol Grounds and Mall and included extensions of the Mall west and south of the Washington Monument; consolidating city railways and alleviating at-grade crossings; clearing slums; designing a coordinated municipal office complex in the triangle formed by Pennsylvania Avenue, 15th Street, and the Mall; and establishing a comprehensive recreation and park system that would preserve the ring of Civil War fortifications around the city (NPS, 2003). In order to realize the L'Enfant vision, the report outlined the necessity of establishing axial relations between the legislative and executive branches of government.

NATIONAL MALL PLAN

The NPS has developed a National Mall Plan that provides a long-term vision for the management of the National Mall in Washington, DC. The Plan presents a vision about the kinds of resource conditions, visitor experiences, and facilities that would best fulfill the purposes of the National Mall (NPS, 2010a). The National Mall includes the Lincoln Memorial, the Washington Monument, the Thomas Jefferson Memorial, the World War II Memorial, the Korean War Memorial, the Vietnam Veterans Memorial, the Ulysses S. Grant Memorial, Constitution Gardens, the Franklin Delano Roosevelt Memorial, the George Mason Memorial, and the D.C. War Memorial. The National Mall Plan includes various landscape improvements, restoration of several memorials, changes to food and concession locations, additional restrooms, a paving plan, and additional urban recreational activities.

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. It favors preserving the open landscape of the Monument Grounds and also redefines the Monumental Core, extending its boundaries along North Capitol, South Capitol, and East Capitol Streets.

The Legacy Plan is now the general framework for Washington, DC, and all plans since then have been based on this document. Because intense construction of memorials and museums in the Monumental Core would overwhelm the historic open space on the National Mall and surrounding areas, this plan encourages new construction away from the National Mall and towards geographically significant areas in other quadrants of the city to generate more dispersed economic development.

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 to protect the environment and character of the National Mall. 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, DC, and environs.² 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 Mall where no new memorials will be permitted.

THE NATIONAL CAPITAL URBAN DESIGN AND SECURITY PLAN (2002)

In October 2002, the NCPC developed a National Capital Urban Design and Security Plan. This plan was developed in cooperation with federal agencies, the District 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. NCPC published an addendum to the Plan in May 2004 to provide improved guidance to submitting agencies, and they adopted Supplemental Submission Guidelines for Permanent Security in May 2005. To provide technical information about the design of crashworthy barriers, NCPC published a booklet titled *Designing and Testing of Perimeter Security Elements* in March 2006.

The *Urban Design and Security Plan* outlines the need to improve security in the National Capital and recognizes the need to do so in a manner that is aesthetically pleasing to residents, workers, and tourists visiting the area. The Plan focuses 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 security designs outlined in the Plan include using architectural elements to enhance the security around federal buildings. These elements include decorative lighting, bollards, planters that may also serve as benches, fencing, and lawns. The Plan does not address issues such as building hardening, operation procedures, or surveillance. The Plan notes that, along with the Washington Monument and the Lincoln Memorial, the Jefferson Memorial has special security needs. The Plan stated that "All three are surrounded by sweeping expanses of lawn that provide ample space for low stone walls, planters, and landscape elements that respect their setting" and that "At the Lincoln Memorial a low wall will enclose the mound on which the memorial sits. Retractable bollards allow limited access to the circular roadway and benches and bollards permit easy pedestrian movement between the memorial and the Mall (NCPC, 2002).

² 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. The act distinguishes between the adjacent portions of the District, 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.

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

In August 2004, 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 plan encompasses all federal lands in Washington, DC, and the surrounding areas, including Montgomery and Prince George's Counties in Maryland; Arlington, Fairfax, Loudoun, and Prince William Counties in Virginia; and all cities within the boundaries of those counties. 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; guide the placement and accommodation of foreign missions and international agencies; 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.

NATIONAL CAPITAL FRAMEWORK PLAN (PLANNING INITIATIVE)

The National Capital Framework Plan (Framework Plan) is a multi-agency effort led by the NCPC with the CFA. This planning effort shows how 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.

NPS Policies and Plans

DIRECTOR'S ORDER 28: CULTURAL RESOURCE MANAGEMENT

Director's Order 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 2006). This order 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*. Additionally, the NPS will comply with the 2008 Service-wide Programmatic Agreement (PA) with the Advisory Council on Historic Preservation (ACHP) and the National Conference of State Historic Preservation Officers. The accompanying handbook to this order addressed standards and requirements for research, planning, and stewardship of cultural resources as well as the management of archeological resources, cultural landscapes, historic and prehistoric structures, museum objects, and ethnographic resources.

DIRECTOR'S ORDER 42: ACCESSIBILITY FOR VISITORS WITH DISABILITIES IN NATIONAL PARK SERVICE PROGRAMS AND SERVICES

Director's Order 42 approaches the issue of accessibility in a comprehensive, organized way, rather than on a project-by-project basis. The primary goal of the program is to develop and coordinate a system-wide, comprehensive approach to achieving the highest level of accessibility that is reasonable, while ensuring consistency with the other legal mandates of conservation and protection of the resources that the NPS manages. Since 1980, the NPS has been working with accessibility coordinators in each regional office, and in parks and program offices, to: (1) assess the level of accessibility of various parks; (2)

identify the barriers to accessibility; (3) develop policies and guidelines regarding appropriate methods and techniques for improving access; and (4) provide technical assistance and in-service training on effective approaches and program implementation. The NPS employs the principles of universal design in providing facilities for everyone, rather than for only a portion of the population, including those persons with invisible disabilities such as cardiac and respiratory problems; those who have temporary disabilities such as broken arms or legs; and parents with strollers and wheeled devices.

DIRECTOR'S ORDER 77-2: FLOODPLAIN MANAGEMENT

Director's Order 77-2 was issued in response to *Executive Order 11988, Floodplain Management*. This order 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.

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.

NPS MANAGEMENT POLICIES 2006

The NPS Management Policies 2006 (NPS 2006) 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 that 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 taking 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 2006).

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 2006).

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 2006).

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 2006).

Section 9.1.2 - Accessibility for Persons With Disabilities

The NPS will provide accessible facilities and resources in a manner that is consistent with preserving park resources and providing visitor safety and high-quality visitor experiences. The policy states that “in most instances, the degree of accessibility provided will be proportionately related to the degree of human-made modifications in the area surrounding the facility and the importance of the facility to people visiting or working in the park (NPS, 2006).”

Scoping Process and Public Participation

Scoping is the effort to involve agencies, and organizations, and the public in determining the issues to be addressed in the environmental document. Among other tasks, scoping determines important issues and eliminates issues determined not to be important; allocates assignments among the interdisciplinary team members and/or other participating agencies; identifies related projects and associated documents; identifies other permits, surveys, and consultations required with other agencies; and creates a schedule that allows adequate time to prepare and distribute the environmental document for public review and comment before a final decision is made. Scoping is a process that seeks opinions and consultation from any interested agency or agency with legal jurisdiction.

Internal Scoping. Internal scoping is an integrated part of NPS projects. Multidiscipline team meetings were conducted throughout this project. Issues discussed include the project background, existing site conditions, feasible alternatives, and potential impacts to environmental and cultural resources.

External Scoping. On December 2, 2009, the NPS held a public scoping meeting to seek input on the scope of the environmental studies, alternatives to the proposed action, and potential impacts. Approximately a dozen people attended the meeting, including representatives from the National Coalition to Save Our Mall, Guild of Professional Tour Guides, and the Committee of 100. Comments received at the meeting included concerns about whether security measures are needed, impacts to viewsheds, impacts to the Memorial’s landscape (including impacts to cherry trees), and the need for adequate areas for tour bus drop-off and loading.

Issues and Impact Topics

Issues and concerns affecting the proposed action were identified by specialists in the NPS, including the resource management staff of the National Mall and Memorial Parks, which administers NPS units of the Monumental Core of our Nation's Capital. Issues and concerns affecting the proposed action were also identified through public scoping and through consultation with the NCPC and the CFA. As noted above, issues identified through external scoping included whether security measures are needed, impacts to viewsheds, impacts to the Memorial’s landscape (including impacts to cherry trees), and the need for adequate areas for tour bus drop-off and loading.

The primary issue associated with the proposed action is how to design a vehicle security barrier in a manner that meets the project need while not detracting from the historic nature of the memorial and the cultural landscape. Other issues identified through internal scoping and solicitations of public input focus on impacts to the natural environment, including the floodplain and vegetation and impacts to transportation and the visitor experience. In addition, the safety and security of the visitors was a critical issue in meeting the need for the proposed action.

NPS staff worked with consultants, the NCPC, and the CFA to develop alternatives that were sensitive to the context of the Memorial without appearing as though they are part of the original memorial design.

Impact Topics Analyzed in this EA

Impact topics are resources of concern that could be affected, either beneficially or adversely, by the range of alternatives. Impact topics were identified on the basis of Federal laws, regulations, Executive Orders, NPS *Management Policies* (2001), the Environmental Screening Form from Director's Order #12, and from NPS knowledge of limited or easily impacted resources. An Environmental Screening Form environmental screening form completed by the NPS identifies potential issues and impact topics that require additional investigation to address the requirements of the National Environmental Policy Act of 1969 and Director's Order #12. Specific impact topics were developed based upon the Environmental Screening Form, to ensure the alternatives were compared on the basis of the most relevant topics. As a means of evaluation, impact topics included in this document were analyzed in more detail to compare the environmental consequences of the no action alternative and the three action alternatives.

The impact topics identified on the Environmental Screening Form are explained below.

SOILS

Soils would be disturbed as a result of construction activities. In addition, soils in the vicinity of the National Mall have been compacted due to the high level of visitors. The barrier design under the proposed actions would encourage visitors to use existing paths and thus reduce social paths and associated impacts to soils. Therefore, impacts to soil resources have been analyzed to determine the potential impacts of the proposed actions.

VEGETATION

Construction activities for the proposed action would require the removal of vegetation, including trees and grasses within the Jefferson Memorial landscape. Therefore, the alternatives for the proposed action were analyzed to determine their impact on vegetation.

SCENIC RESOURCES (AESTHETICS AND VIEWSHEDS)

The aesthetics and visual resources of the Jefferson Memorial and the vistas to and from the Memorial help to define the historic nature of the Memorial and the visitor experience. The proposed action would alter the aesthetics and visual resources and the existing vistas. Therefore, the alternatives to the proposed action were analyzed to determine their impact on aesthetics and visual resources.

CULTURAL RESOURCES

The National Historic Preservation Act (NHPA; 16 USC 470 et seq.), NEPA, the NPS Organic Act, NPS 2006, DO #12 (Conservation Planning, Impact Analysis and Decision-making), and NPS-28 (Cultural Resources Management Guideline) require the consideration of impacts on any cultural resource that might be affected. The NHPA specifically requires consideration of impacts on a cultural resource either listed in, or eligible to be listed in, the National Register of Historic Places (NRHP). Cultural resources include: archeological resources; historic structures and districts; cultural landscapes; ethnographic resources; and museum objects, collections, and archives. Historic structures, historic districts, and cultural landscapes have been carried forward for analysis in this EA. Because these resources are interrelated, they have been addressed together under the Cultural Resources heading.

Purpose and Need

The Jefferson Memorial is listed on the National Register of Historic Places and is a contributing element to the designation of the East and West Potomac Parks Historic District to the National Register. The proposed action would alter the Jefferson Memorial landscape and may affect views to and from other historic properties within the National Mall and Memorial Parks, including within the East and West Potomac Parks Historic District. Therefore, historic structures, historic districts, and cultural landscapes are included together as the Cultural Resources impact topic.

VISITOR USE AND EXPERIENCE

Maintaining and improving the quality of the visitor experience at the Jefferson Memorial is very important to the NPS. Therefore, the alternatives were assessed to determine their impact on visitor use and experience.

HUMAN HEALTH AND SAFETY

Safety and security are part of the need for the proposed action. The alternatives to the proposed action were assessed to determine their impact on safety and security of the Memorial, its visitors, and staff.

PARK OPERATIONS AND MAINTENANCE

Uninterrupted and efficient park operations at the Jefferson Memorial are vital to meeting the NPS mission. Therefore, the alternatives to the proposed action were assessed to determine their impact on this topic.

TRANSPORTATION AND TRAFFIC

The purpose of park roads is to enhance visitor experience while providing safe and efficient accommodation of park visitors. However, urban parkways and city streets have a dual function, and not only serve park purposes, but also serve as extensions of the local transportation network and carry large volumes of non-park related traffic (NPS, 1984). The flow of vehicle and pedestrian traffic around the Jefferson Memorial is important to maintaining access and security for the Memorial. Therefore, the alternatives were analyzed to determine their impact on traffic.

Impact Topics Dismissed from Further Analysis

The non-controversial topics discussed below would either not be impacted or would be impacted negligibly by the alternatives evaluated in this document. Therefore, these topics have been briefly discussed in this section of the EA and then dismissed from further consideration or evaluation. Negligible impacts are impacts that are localized and immeasurable at the lowest level of detection.

GEOLOGY AND TOPOGRAPHY

Minor grading would be required for construction activities under the proposed alternatives. The geology of the site would not be affected. The action alternatives would only slightly alter topography in the vicinity of the Memorial; however, due to the highly disturbed nature of the Memorial site as an area of considerable landfill, these changes would not be adverse. Therefore, this topic was dismissed from further analysis.

WATER RESOURCES (WETLANDS AND WATER QUALITY)

There are no wetlands within the study area. The Tidal Basin lies directly north and west of the Memorial. The proposed vehicle security barrier would begin and end at the Tidal Basin; however, none of the proposed alternatives would require construction within the water.

The use of a modular system of piers, wall segments, horizontal bars, and benches in the vehicle security barrier would minimize the addition of impervious surfaces, thereby having negligible impacts on stormwater infiltration. The existing grade in the west area of the site slopes toward the northwest, and the south lawn area slopes toward the northeast. The proposed barrier would not impact the stormwater drainage pattern of these two areas. The existing grade in the east area of the site slopes toward the southeast. The proposed barrier would block the stormwater in this area from draining to East Basin Drive. Therefore, a new stormwater drainage system would be proposed to collect the stormwater in the east part of the site.

In addition, erosion and sediment control measures would be utilized during construction to prevent soil from leaving the project area and entering the Tidal Basin. The new vehicle security barrier would have no to negligible impacts to groundwater resources.

None of the alternatives considered in this document would affect water resources of the project area. Therefore, this topic was dismissed from further analysis.

FLOODPLAINS

Although the Jefferson Memorial lies within the 100-year floodplain, the security barrier would have negligible impacts to the floodplain functions and values, and no impact on flood frequency, duration, or base flood elevation. Because the proposed improvements would add only a minor amount of new impervious area within the floodplain and would remove a small percentage of the trees on the Memorial grounds, the barrier would not result in an increase in flood levels. Furthermore, spacing between the modular barrier system would continue to allow floodwaters to pass unobstructed. Relocation of the concession kiosk would not create new impacts as the kiosk would be moved a short distance from one location in the floodplain to another location in the same floodplain. Therefore, this topic was dismissed from further analysis.

Under NPS DO# 77-2: Floodplain Management, a SOF is required when a proposed action would have an adverse effect on a floodplain. The SOF is intended to provide documentation as to why the proposed site was selected and a less floodprone alternative site was rejected. After consulting with Gary Smillie, a NPS scientist and floodplain compliance specialist with the NPS Water Resources Division, it was determined that a SOF would not be required because the impacts to the floodplain would be negligible.

WILDLIFE

Wildlife at the Jefferson Memorial is characteristic of an urban environment, and consists primarily of avian species. Birds commonly observed are those associated with human activity and include house sparrows, European starlings, common grackles, and rock doves (pigeons). Other species present are those associated with edge habitats created by plantings of trees and shrubs and include gray catbirds, northern mockingbirds, eastern phoebes, blue jays, and northern cardinals. Canada geese and mallards have adapted to human presence and are common along the water edges of the Potomac River and the Tidal Basin. Mammals present include Eastern chipmunks, gray squirrels, and occasional Norway rats, house mice, and beavers. Trees and shrubs planted for landscaping purposes provide nesting sites, food, and cover for many of the wildlife species present.

Purpose and Need

The proposed action would only cause a negligible disruption to wildlife during construction because the project area is located within an urban and human dominated landscape surrounded by major access roads and buildings. Impacts to nesting habitat are not anticipated but, should this change, NPS and its contractors would comply with the specifications of the MOU to Promote the Conservation of Migratory Birds. Therefore, this topic was dismissed from detailed analysis.

RARE, THREATENED, AND ENDANGERED SPECIES

There are no rare, threatened, or endangered species or habitat known or expected to occur in the project area; therefore this impact topic was dismissed from consideration.

AIR QUALITY

The Air Quality Act in 1967 (now referred to as the Clean Air Act) and subsequent amendments established procedures for improving conditions, including a set of National Ambient Air Quality Standards (NAAQS).

The Washington metropolitan area continues to be in non-attainment for ozone and particulate matter (PM_{2.5}). The Metropolitan Washington Air Quality Committee (MWAQC) has a State Implementation Plan (SIP) for the region, which presents its goal to meet air quality standards. Similarly, in 2008, the MWAQC has approved a new air quality plan in an effort to further improve air quality by reducing fine particulate matter.

The construction of the site improvements would have negligible, short-term, adverse impacts to air quality during construction due to fugitive air dust. Once complete, the proposed action would help alleviate vehicle emissions as result of improved traffic conditions because back-ups in traffic would not occur as people enter and exit the Jefferson Memorial. Therefore, this topic was not analyzed in detail.

ARCHEOLOGY RESOURCES

In 1870, the Army Corps of Engineers began the long project of dredging the Potomac River and disposing of dredged materials in such a way to prevent siltation. By 1901, 31 acres adjacent to the Washington Monument had been filled and subsequently turned into Potomac Park (NPS 2003). Since all the land for the Jefferson Memorial is reclaimed land from the Potomac River, there is no archeological significance to the site. Therefore, this topic was dismissed from further consideration.

MUSEUM COLLECTIONS

None of the proposed actions would have any impacts to recognized museum collections (historic artifacts, natural specimens, and archival and manuscript materials). Therefore, this impact topic was not studied in detail.

ETHNOGRAPHIC RESOURCES

The NPS defines ethnographic resources as any “site, structure, object, landscape or natural resource feature assigned traditional legendary, religious, subsistence or other significance in the cultural system of a group traditional associated with it” (Director’s Order #12, *Cultural Resources Management Guidelines*, P. 181). Because no ethnographic resources are known to exist in proximity of the project area, this topic was dismissed from further analysis

INDIAN TRUST RESOURCES

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

There are no Indian trust resources in the area of the Jefferson Memorial. The lands comprising the Memorial are not held in trust by the Secretary of the Interior for the benefit of Indians due to their status as Indians. Therefore, this impact topic was not studied in detail.

LAND USE

The project area is composed of 19.2 acres in West Potomac Park, immediately south of the Tidal Basin, within the city limits of Washington, DC. The project area consists of a maintained landscaped lawn on which the Jefferson Memorial is situated. The project area is bounded by the Tidal Basin to the west and north, and to the east and south by East Basin Drive. The entire site is designated as the Thomas Jefferson Memorial. Due to the Federal land use designation, the city of Washington, DC, has no land use zoning jurisdiction over the land. The existing use of the land would not change as a result of the proposed security improvements; therefore, this topic was dismissed from further analysis.

SOCIOECONOMIC RESOURCES

The social economic environment consists of local, regional, and national businesses; the Federal government; the District of Columbia government; residences; the local and regional economy; and tourism. The area surrounding the Jefferson Memorial consists of parkland, Federal buildings, and highways. The local economy and businesses include tourism and the Federal government.

There would be no impacts to local residents as a result of the proposed action. The proposed vehicular barrier system would not impact tourism at the Jefferson Memorial or the National Mall and, therefore, would not impact businesses or the local or regional economy. The proposed improvements to the bus drop-off and loading area and the proposed disabled parking would have beneficial impacts on tourist accessing the Memorial and therefore may result in beneficial impacts to the local economy from spending by these tourists. Therefore, this topic was not analyzed in detail.

ENVIRONMENTAL JUSTICE

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

Purpose and Need

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.
- The impacts associated with implementation of the preferred alternative would not disproportionately affect any minority or low-income population or community.
- 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 to the socioeconomic environment resulting from implementation of any of the action alternatives would be beneficial. Therefore, environmental justice was not analyzed in detail in this EA.

UTILITIES

The existing infrastructure within the project area is not anticipated to be directly affected by the construction of a vehicle security barrier around the Jefferson Memorial. The proposed project would not adversely impact water and sewer service, storm drainage, electrical power and natural gas, communication, or waste management. Therefore, utilities were not studied in detail.

SOUNDSCAPE MANAGEMENT

In accordance with the NPS *Management Policies* (2001) and Director’s Order #47, *Sound Preservation and Noise Management*, an important objective of the NPS’s mission is the preservation of natural soundscapes associated with national park units. Natural soundscapes exist in the absence of human caused sound. The natural ambient soundscape is the aggregate of all the natural sounds that occur in park units, together with the physical capacity for transmitting natural sounds. Natural sounds occur within and beyond the range of sounds that humans can perceive and can be transmitted through air, water, or solid materials. The frequencies, magnitudes, and duration of human caused sound considered acceptable varies among NPS units. Acceptance levels for each park unit are generally greater in developed areas and less in undeveloped areas.

The new vehicle security barrier would result in no long-term changes in noise frequencies, magnitudes, and durations. Typical noise associated with commercial properties surrounding the site is currently produced in the project area. In addition, several transportation noise sources exist such as vehicle traffic, nearby railroads, and the flight path of the Ronald Reagan Washington National Airport. As a result of the nearby land uses and background levels of noise, the proposed action would have negligible impacts on sound preservation and noise management.

Furthermore, the proposed action would result in negligible, short-term impacts on noise levels during construction and would have negligible impacts on sound preservation and noise management. The contractor would be required to comply with local noise ordinances. Because the proposed action would result in negligible, short-term, adverse impacts on noise levels during construction and negligible, long-

term, adverse impacts on sound preservation and noise management, soundscape management was dismissed as an impact topic.

LIGHTSCAPE MANAGEMENT

In accordance with NPS *Management Policies* (2001), the NPS strives to preserve to the extent possible the quality of lighting associated with natural ambient landscapes and the night sky. Addition of substantial new lighting is not included as part of this project, however, there is the anticipated need for alteration of existing light pole bases to meet grade. There may also be a need for additional lighting at parking areas and features for the purposes of visitor safety and comfort, but any additional lighting would be minimal. Because the proposed action would negligibly impact or contribute to the natural ambient landscapes of the Jefferson Memorial, lightscape management was dismissed as an impact topic.

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CHAPTER 2: ALTERNATIVES

Introduction

This section describes four alternatives, including the no action alternative for improving the security of the Jefferson Memorial. As described in the Project Background, since September 11th, 2001 the NPS has conducted an extensive evaluation of vehicular security in and around the Jefferson Memorial. Over the course of the past few years, the NPS in consultation with the NCPC, the CFA, the interested public, and its consultants have narrowed down the list of possible viable alternatives.

The National Park Service and its design consultants progressed through concept development to identify alternatives using a process that included:

- Research and understanding of Memorial and landscape evolution
- An understanding of relevant planning initiatives for central Washington, DC that should be considered in the design of the project
- Site analysis including: vehicular, pedestrian, and bicycle circulation; views; site topography; existing vegetation; existing open spaces; existing site furnishings, lighting, and noise; current use of the site
- Focusing on the identification of security objectives including blast zone setbacks
- Incorporation of comments from several meetings with the staffs of the CFA and the NCPC

The site analysis evaluated and identified the following existing site conditions that would influence the design of a vehicular barrier system and other site improvements:

- Vehicular Circulation: The Memorial is accessed primarily by car or bus. The bus drop-off and loading area is often crowded with tourists queuing for buses along a relatively narrow sidewalk. Existing parking for those with disabilities is near the existing concession kiosk.
- Pedestrian Circulation: Visitors on foot access the Memorial from the FDR Memorial along the west edge of the Tidal Basin or from the east from the Tidal Basin parking area. Additionally, there is pedestrian circulation from the parking areas southwest of the Memorial and some circulation from the 14th Street Bridge. Internal paths are sometimes shared with bicyclists and a number of “social” paths have developed across lawns.
- Bicycle Circulation: Bicycle commuters frequently travel the route along East Basin Drive to and from 14th Street Bridge, sharing the sidewalks with pedestrians along both the perimeter of the site and the internal paths inside of the barriers.
- Topography: The Memorial site topography consists predominantly of relatively minor slopes between 0% and 3% and was created primarily from dredge fill. There are two areas of approximately 5% slope that could require unique detailing of the barrier design:
 - The area to the north of the present bus drop-off between the South Lawn and the Inlet Bridge
 - The area along the seawall walkway, east of the memorial
- Vegetation: Much of the original layout and location of plantings from the Frederick Law Olmsted, Jr. design are still evident today with some modifications to plantings over time.
- Views: Views into and out of the Memorial site are very important to reinforcing the strong visual relationships with monuments and grounds of the National Mall. The Olmsted, Jr. planting designs included plant groupings to reinforce and direct views to and from the White House and Washington and Lincoln Memorials. In addition, the placement and design of some existing site elements, including planters, fencing, gates, bollards, trash receptacles, lighting, jersey barriers, etc., require better integration with the site.

Based on an evaluation of existing conditions and the commonalities that exist within distinct areas of the site, three zones were designated for consideration during barrier design. These zones are West Frontage (from the Inlet Bridge to the west driveway into the site), South Lawn (the lawn area directly south of the Memorial between the U-shaped driveway), and East Frontage (from the east driveway to the Outlet Bridge) (see Figure 4). Additional information about the existing condition is provided in Chapter 3, Affected Environment.

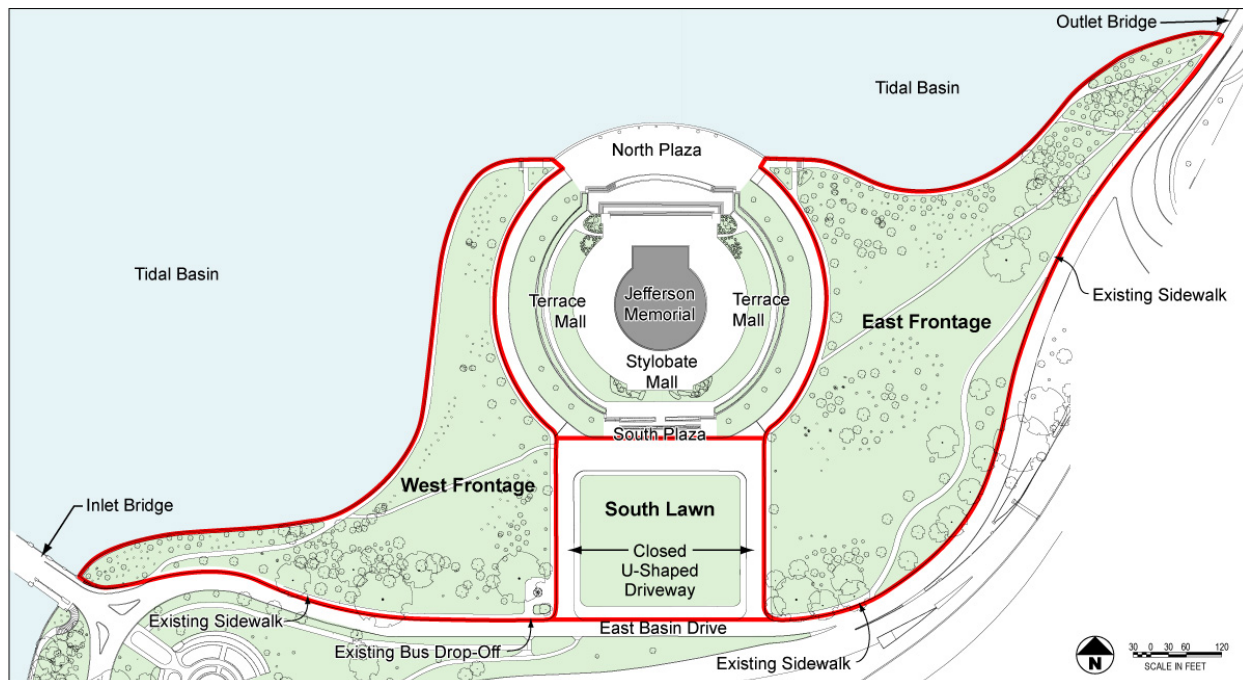


Figure 4. Site Zones

Descriptions of Alternatives

NO ACTION ALTERNATIVE

The no action alternative represents a continuation of the existing conditions and operations. The concrete jersey barriers, located along East Basin Drive, in front of the U-shaped driveway, and through the Memorial's landscape, would remain in place (see Figure 5). These jersey barriers would continue to serve as the only physical security barrier for the Memorial. The jersey barriers would not change in condition or volume.

The U-shaped driveway would remain closed to vehicular traffic, and no changes would be made to the asphalt driveway.

No new paths would be constructed within the Memorial grounds and existing paths would remain in their current condition and location allowing visitors to walk through the Memorial grounds and to access



Figure 5. Concrete Jersey Barriers at the Jefferson Memorial

the Memorial itself. Landscaping on the Memorial grounds would not be altered under the no action alternative and it would continue to be subject to routine maintenance by the NPS. All historic and non-historic trees would remain in place. The concession kiosk would remain in its current location in front of the South Lawn and would not be improved.

Also under this alternative, parking for persons with disabilities and the drop-off and loading area would remain in their current location along East Basin Drive west of the South Lawn. Conflicts between buses, taxis, and other vehicles would continue. Sidewalks in the vicinity of the bus drop-off and loading area would not be widened and visitors would continue to have only a small area within which to load and unload from buses.

ACTION ALTERNATIVES

The NPS is considering three action alternatives. Each of the action alternatives consist of:

- A vehicle security barrier at the Jefferson Memorial with sufficient setback to meet the security needs of the project;
- A bus drop-off and loading zone for 10+ tour buses
- Six to eight new handicap parking spaces would be added to the south side of East Basin Drive with a pedestrian crossing near the existing concession kiosk.
- Sidewalks along bus drop-off and loading zone would be widened for visitor safety and to ease congestion
- Accessible routes would be provided throughout the site and tie into existing paths around the Memorial
- Tree planting would be added on the south side of East Basin Drive across from the South Lawn to buffer noise and views of I-395
- The existing concession kiosk would be located further west from its current location to minimize visual impacts on the Memorial and better serve visitors arriving/leaving by bus.

Under each of the action alternatives, the U-shaped driveway would be permanently closed and resurfaced with paving for pedestrian use. The sidewalks that currently line the U-shaped drive would be removed.

The proposed locations of the bus drop-off and loading zone, accessible parking area, and concession kiosk are the same in all of the action alternatives, and the sidewalk would be widened to 12 feet along East Basin Drive to provide for pedestrian and cyclist traffic.

The difference in the action alternatives is the location of the vehicle security barrier. The alternatives are evaluated in Section 4.0, Environmental Consequences. For the purposes of this document, the Preferred Alternative is Alternative 1.

ALTERNATIVE 1 – BARRIER AS A STREETSCAPE FEATURE (PREFERRED ALTERNATIVE)

The goal of this alternative is to provide a vehicular barrier that is aligned with the edge of East Basin Drive, extending from the Inlet Bridge to the Outlet Bridge. The barrier design in Alternative 1 consists of a modular arrangement of piers, walls, horizontal bars, and bench segments and maximizes transparency intended to lessen the visual impact from the roadway and edge path. The sidewalk abutting East Basin Drive would remain, but new internal paths would be added with alignments that reflect the curvilinear aesthetics of paths and plantings designed by Olmsted, Jr. Existing paths would be removed and disturbed areas back-filled and seeded.

At the East Frontage, the barrier would begin about 1 foot from the edge of the existing bridge wall. The sidewalk would be widened to 12 feet wide along East Basin Drive, and a pedestrian plaza would be created where users decide whether to enter the site along the Tidal Basin path, or continue along the sidewalk. Integrated seating would be provided to accentuate this area as an entry point and provide a spot for resting. Along the East Frontage, the barrier consists of piers, wall segments, and horizontal bars with a continuous raised base abutting the edge of the sidewalk. At the East Frontage viewshed of the Memorial, the barrier would be made more transparent by elimination of wall segments, instead using only piers and horizontal bars.

The South Lawn would be bordered by either a system of wall segments and piers linked by horizontal bars, or a line of bollards. Either option would include walls and integrated benches at each end of the South Lawn to emphasize entry points into the site, or the barrier would extend into the sidewalk to allow pedestrians to walk on the Memorial side of the barrier, separated from bicycle traffic on the roadway side of the barrier. The U-shaped driveway surrounding the South Lawn would be resurfaced as a pedestrian plaza and the existing sidewalks around the “U” would be removed.

Along the West Frontage, the sidewalk width would be expanded to 12 feet with the barrier wall of piers and horizontal bars directly abutting the north edge of the sidewalk. In this area, seating would be integrated into the barrier for visitors waiting to board buses. As it approaches the Inlet Bridge, the barrier would contain a series of piers, horizontal bars, and wall segments.

Also included in this alternative would be the addition of a bus drop-off and loading zone to accommodate 10 or more tour buses. Additional accessible parking spaces are proposed for visitors with disabilities.

Under this alternative, the concession kiosk would be relocated along the West Frontage in the vicinity of the bus drop-off and loading zone.

Figure 6 depicts the general concept design for Alternative 1, and Figures 7 through 9 provide renderings of Alternative 1.

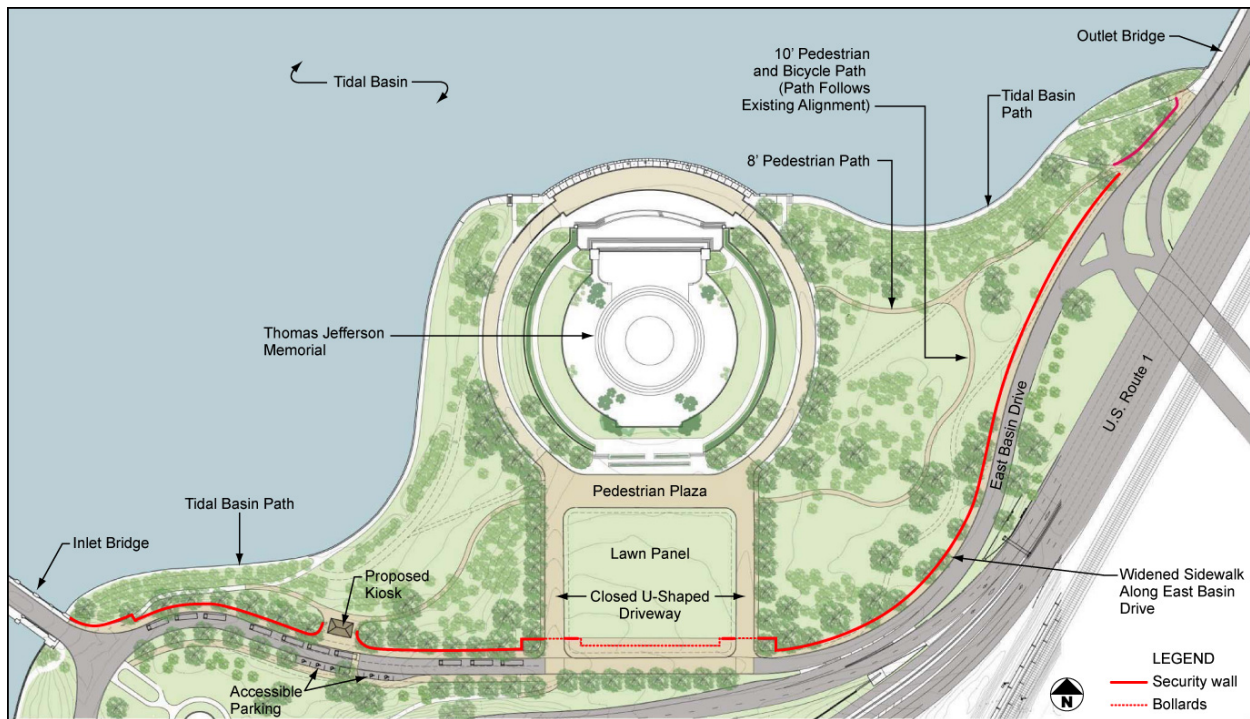


Figure 6. Alternative 1 (Preferred Alternative): Barrier as Streetscape Feature, Design Diagram

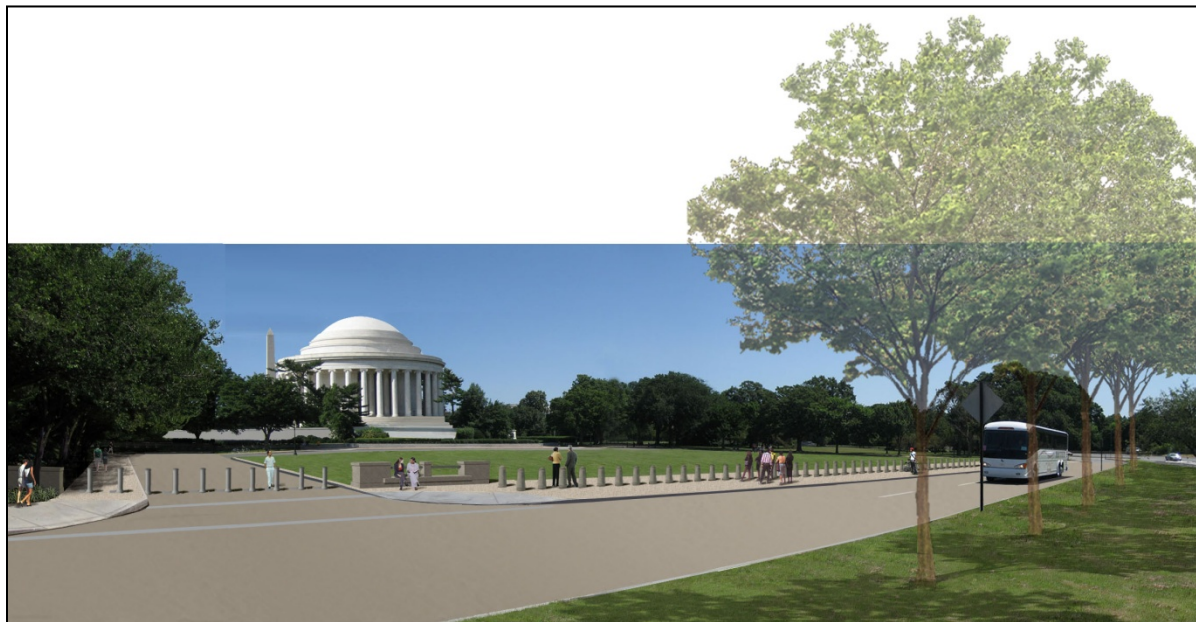


Figure 7. Alternative 1 (Preferred Alternative), South Lawn, Option with Bollards

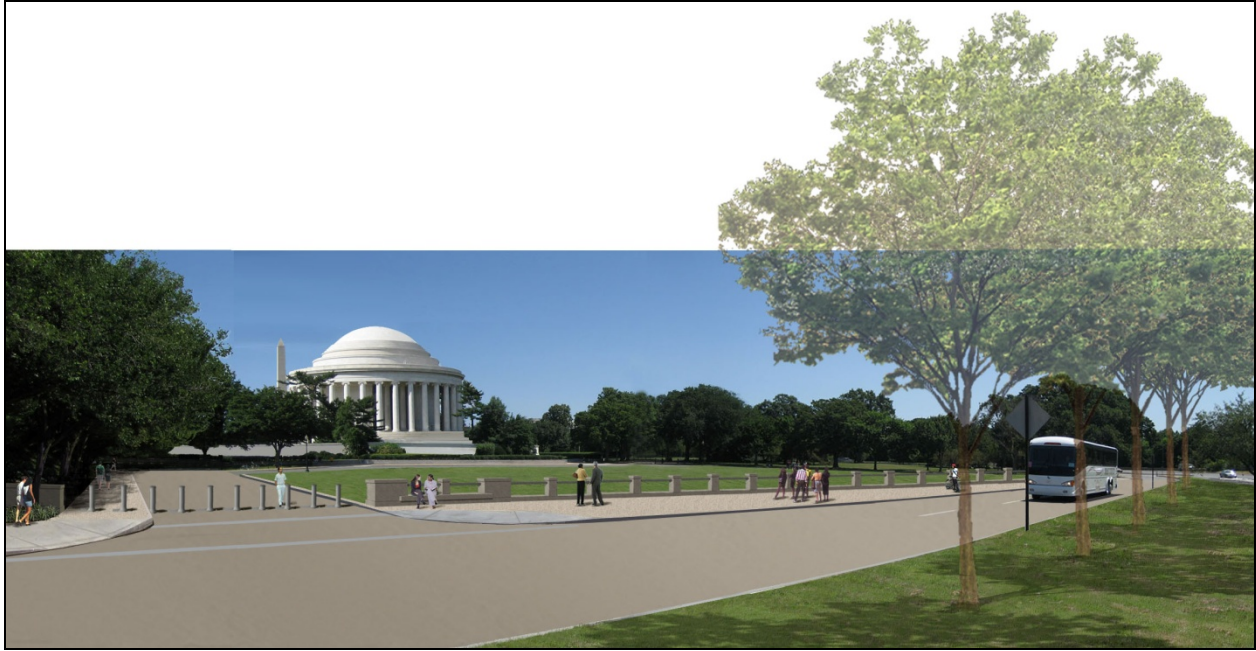


Figure 8. Alternative 1 (Preferred Alternative), South Lawn, Option with Piers



Figure 9. Alternative 1 (Preferred Alternative), Bus Drop-Off and Loading Zone

ALTERNATIVE 2 – BARRIER AS A LANDSCAPE FEATURE

The goal of this alternative is to provide a barrier alignment that meanders through the Memorial grounds to reinforce the landscape's informal quality. The design for Alternative 2 would provide framed openings at key view points of the Memorial and consists primarily of a simplified, textured stone wall with integrated seating and modest articulation at wall openings. The reorganization of circulation, spaces, and plantings are intended to reinforce the character of the original Olmsted, Jr. plan. The sidewalk abutting East Basin Drive would remain, but new internal paths would be added with alignments that reflect the curvilinear aesthetics of paths and plantings designed by Olmsted, Jr. Alternative 2 is intended to reflect Olmsted, Jr.'s design intent, while curving through the site to minimize existing tree damage and loss. Existing paths would be removed and disturbed areas back-filled and seeded. The vehicle security barrier would begin and end at the Tidal Basin from the Inlet to the Outlet Bridges.

Precedents for the design of the barrier in this alternative include materials, textures, forms, and articulation of the walls at Frick Park by John Russell Pope, the designer of Jefferson Memorial.

At the East Frontage side of the proposed barrier where it meets the Tidal Basin, the stone wall would curve through the landscape and terminate along the south side of the Tidal Basin Walkway. A short wall transitions and a single bollard would be located between the walkway and basin wall at the end of the vehicular barrier. A new pathway would abut the meandering wall and would extend southward into the site providing access to the East Frontage side of the Memorial. Where this pathway and barrier intersect the East Frontage viewshed, the barrier wall would be replaced with a series of stone bollards for greater visual transparency. The wall ends would be articulated with piers and integrated seating. A 12-foot wide sidewalk abutting East Basin Drive would remain as it currently exists, while new internal paths alignments would be designed to reflect Olmsted, Jr.'s original design. The barrier wall alignment would be independent of the roadway and pathway geometries and meanders to integrate with the site and avoid existing trees.

Along the West Frontage, portions of the curving barrier would abut and define a widened sidewalk as it extends westward from the South Lawn. Integrated benches in the barrier wall would provide seating for people waiting for buses. The barrier would continue to curve away from the walkway and extend down the existing slope through the landscape where it would break at a new pathway entrance and then continue to curve to the barrier terminus at the Tidal Basin. The wall terminus would be treated in a similar manner as at the east terminus and allows the pathway at the Tidal Basin to continue unimpeded.

The South Lawn would be bordered by a line of stone bollards bounded by stone end walls with integrated seating on the east and west corners of the South Lawn. The West Basin Entry would include widened sidewalks with benches along the East Basin drive frontage. Stone bollards and seating would be included in the vehicular barrier wall beginning at the existing pedestrian path along the Tidal Basin. The U-shaped driveway surrounding the South Lawn would be resurfaced as a pedestrian plaza and the existing sidewalks around the "U" would be removed.

Also included in this alternative would be the addition of a bus drop-off and loading zone to accommodate 10 or more buses. Additional accessible parking spaces are proposed for visitors with disabilities.

Under this alternative, the concession kiosk would be relocated along the West Frontage in the vicinity of the bus drop-off and loading zone.

Figure 10 depicts the general concept design for Alternative 2, and Figures 11 through 13 provide renderings of Alternative 2 from various points around the Memorial.

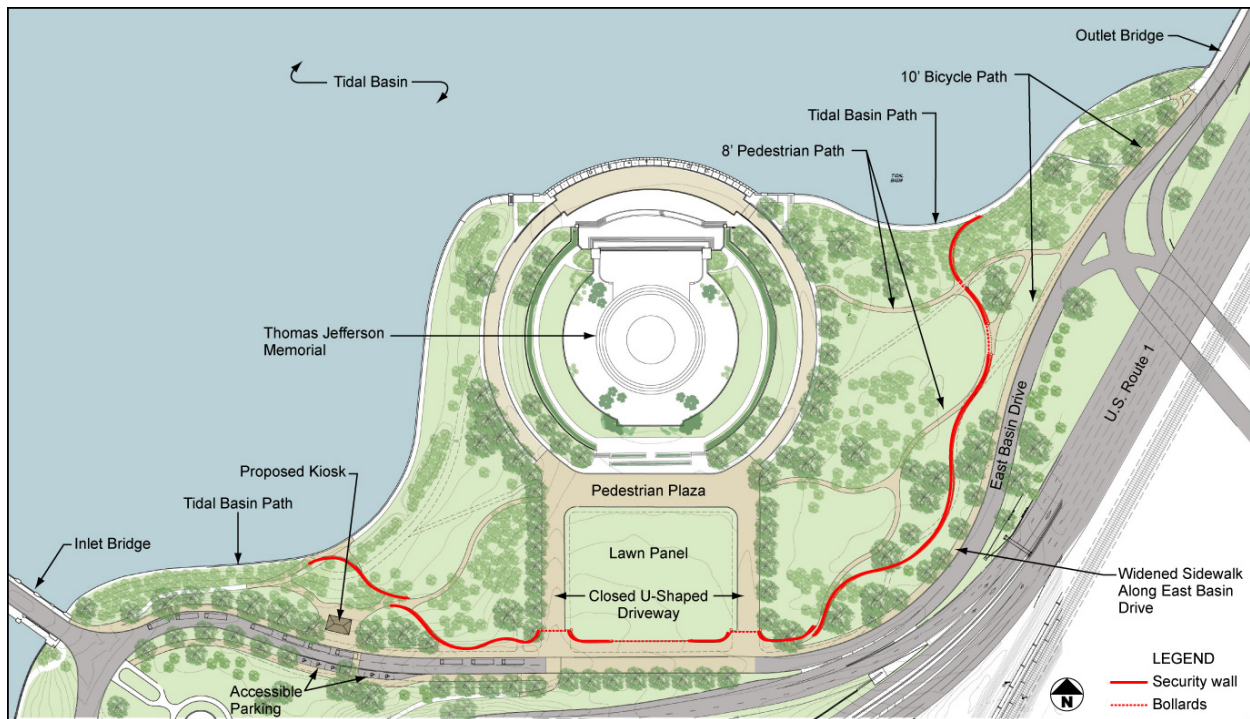


Figure 10. Alternative 2: Barrier as Landscape Feature, Design Diagram

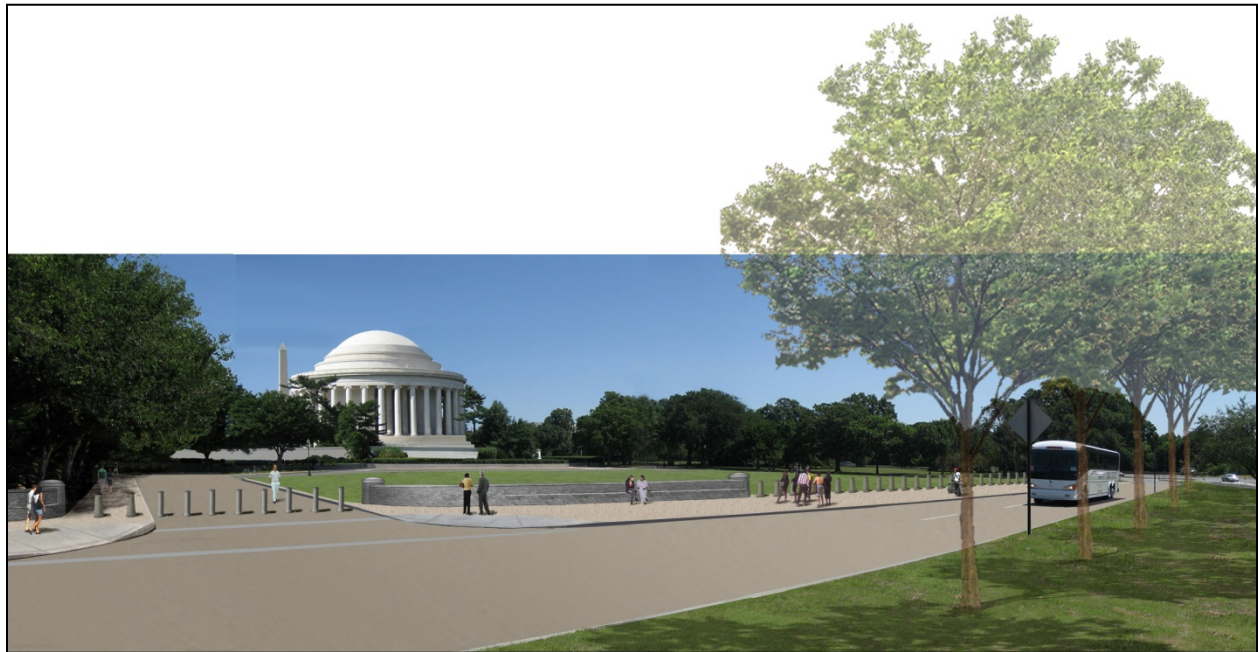


Figure 11. Alternative 2, South Lawn



Figure 12. Alternative 2, East View



Figure 13. Alternative 2, Bus Drop-Off and Loading Zone

ALTERNATIVE 3 – BARRIER AS A FORMAL FEATURE

The goal of this alternative is to provide a barrier based on the form of the Memorial itself. The barrier design in Alternative 3 would be a simplified wall located in a concentric arc alignment about the center point of the Memorial set at a distance outside of the determined blast zone. The barrier would terminate at the Tidal Basin wall at both ends. The radius of the barrier arc would be consistent throughout the Memorial grounds irrespective of tree locations and open spaces. However, the radius dimension would

be determined to minimize tree impacts as much as possible. A widened sidewalk abutting East Basin Drive would provide for “through” pedestrian and cyclist traffic. A new internal walkway would be added, abutting and inside the new concentric barrier. Additional new internal paths would be added to reinforce open spaces and viewsheds of the Memorial and facilitate access to the Memorial. Existing paths would be removed and disturbed areas back-filled and seeded.

At the East Frontage side of the barrier, the minimally-detailed stone wall would terminate at the Tidal Basin pathway with two piers flanking a wall segment that would incorporate an integrated bench. The design is intended to help articulate the wall terminus, provide a place for rest, and facilitate user orientation. Bollards would be placed in the basin walkway to allow pedestrians to pass while maintaining barrier integrity.

The continuous wall would be interrupted where paths pass through the wall at which point the wall ends are articulated with piers and integrated seating elements. By locating the wall within the landscape and away from the perimeter of the Memorial grounds, it is intended that the barrier would recede visually into the landscape. Minimizing breaks in the wall is intended to reinforce viewsheds over the wall without the visual distraction of changing barrier types.

Along the length of the South Lawn, the barrier would break from the concentric alignment and parallel East Basin Drive in order to border the south edge of the lawn. Transitional connections between this straight barrier segment and the concentric East Frontage and West Frontage segments would occur with short, north-south barrier segments connecting to retractable steel bollards across the Memorial entry roads. To maintain continuity of design, the barrier across the South Lawn would continue as a wall along the north edge of the sidewalk. The ends of the wall would be articulated with stone piers and long, integrated benches. The sidewalk would be widened to provide for safer comingling of pedestrians and bicyclists in this area. The existing sidewalks at the perimeter of the lawn would be removed with the lawn extending to the curb line.

The U-shaped driveway surrounding the South Lawn would be resurfaced as a pedestrian plaza and the existing sidewalks around the “U” would be removed.

Due to the concentric alignment of the barrier wall that locates it away from the site perimeter, there would be no interplay between the barrier and sidewalk along the West Frontage. The sidewalk would be widened to 12 feet to better accommodate bus passenger queuing. The concentric barrier would extend through the landscape to the Tidal Basin pathway where it would terminate in a similar manner as at the East Frontage end with piers flanking a short wall segment incorporating an integrated bench, and steel bollards in the pathway.

Also included in this alternative would be the addition of a bus drop-off and loading zone to accommodate 10 or more buses. Additional accessible parking spaces are proposed for visitors with disabilities.

Under this alternative, the concession kiosk would be relocated along the West Frontage in the vicinity of the bus drop-off and loading zone.

Figure 14 depicts the general concept design for Alternative 3, and Figures 15 through 17 provide renderings of Alternative 3 from various points around the Memorial.

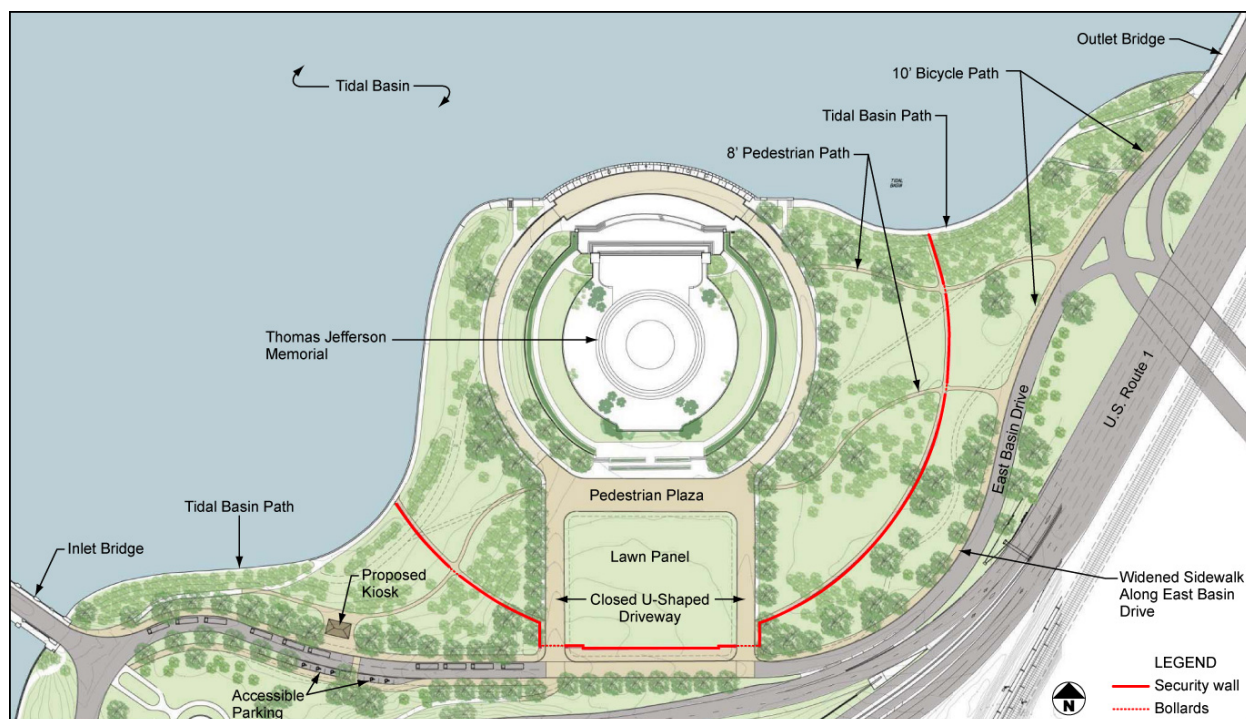


Figure 14. Alternative 3: Barrier as Formal Feature, Design Diagram



Figure 15. Alternative 3, South Lawn



Figure 16. Alternative 3, East View



Figure 17. Alternative 3, West End

Mitigation Measures of the Action Alternatives

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 being properly implemented and are achieving their intended results.

SOILS

- 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.
- Best management practices for erosion and sediment control would be employed during and after construction, including stabilization and revegetation after construction is completed.
- If needed, replacement soil would be brought in from outside of the Park, in accordance with NPS policy.
- If needed, existing soil would need to be removed from the National Mall site and disposed of in an environmentally sympathetic fashion with the potential for reuse.

VEGETATION

- Root zones of mature trees within the construction zone would be protected by placing fencing around the perimeter of the trees to prevent heavy equipment from compacting the roots or causing damage to the bark.
- Temporary fencing would be erected to keep construction equipment away from existing trees.
- The park's natural resource management specialist would be consulted when determining tree removals.
- Trees and shrubs would be replaced, as appropriate, to mitigate the impacts of the some of the trees, shrubs, and ground cover that would be lost.

SCENIC RESOURCES AND CULTURAL RESOURCES

- Materials, features, and finishes would be used that would be compatible with the existing conditions.
- Removed trees and shrubs would be replaced, as appropriate, to mitigate the impacts of the some of the trees, shrubs, and ground cover that would be lost. These plantings would be guided by the Olmsted Plan for the grounds as documented in the *Jefferson Memorial Cultural Landscape Inventory* of 2001.
- Carrying out site improvements in accordance with the *Secretary of Interior's Standards for the Treatment of Historic Properties with Guidelines for Cultural Landscapes* to ensure development is compatible with the historic setting and harmonizes with historic structures and landscapes.
- Ongoing review with regulatory agencies within the Monumental Core (DC State Historic Preservation Office (DCSHPO), NCPC, and CFA) within the design development and Section 106 process would ensure that the proposed actions blend as harmoniously as possible with the existing scale, context, and landscape in the project area.

VISITOR USE AND EXPERIENCE

- Public information would be made available on the Park website and on signs in the Park to inform visitors of temporary closures within the project area.
- Every attempt would be made to time construction activity so it does not coincide with events that occur on the National Mall or in the project area.
- Designs would be compliant with the Americans with Disabilities Act Accessibility Guidelines. For example, bollards, if used, would be placed a minimum of 4 feet apart. Openings in walls would also be a minimum of 4 feet wide.
- Directional signage would be increased to direct visitors where to park along Ohio Drive and where to walk to reach the Jefferson Memorial.
- Sustainable design practices would be implemented.
- Construction and construction deliveries would only be able to occur during non-rush hour (9:30 am to 3:30 pm), Monday through Friday. A public notice of the construction schedule would be provided.

HUMAN HEALTH AND SAFETY AND PARK OPERATIONS

- Barriers and signs would be used during construction to divert visitors from potentially dangerous situations.
- Announcements would be made on the Park website and in the media to alert the public to the construction schedule and locations.

TRANSPORTATION AND TRAFFIC

- Directional signage would be increased to direct visitors where to park along Ohio Drive and where to walk to reach the Jefferson Memorial.

Alternatives Considered But Dismissed

The NPS considered several alternatives throughout the design process that began in 2002. After consulting with the public and regulatory agencies, including the DC HPO, NCPC, and CFA, these alternatives were determined to be insufficient or not to have a great impact on the Memorial and its grounds and were therefore dismissed from consideration. Justification for eliminating alternatives from further study was based on factors relating to:

- Technical or economic infeasibility;
- Conflicts with already-established park uses;
- Conflict with the statement of purpose and need, or other policy; and/or
- Severe impact on environmental or cultural resources.

2002 ALTERNATIVES

In 2002, the NPS issued a Draft EA for public comment that assessed two alternatives for a vehicular security barrier. One alternative would provide a security barrier along the outer edge of the Memorial ring (see Figure 18). At the south side of the Memorial, the security barrier would come across the existing parking area directly in front of the Memorial. However, analysis showed that the barrier in this location would be too close to the structure and would not be able to prevent extensive damage to the Jefferson Memorial, its visitors and staff in the event of a vehicular bomb blast. Therefore, this option was dismissed because it would not meet the purpose and the need of the project.

The second alternative would provide a vehicular barrier system along East Basin Drive. The existing landscaping would be left as intact as possible and minor changes to the existing pedestrian paths would occur (see Figure 19). The intent of this alternative was to respect the landscape plan as envisioned by Frederic Law Olmsted, Jr. Under this alternative, a 30-inch high security barrier wall would be constructed on the east side of the Memorial grounds starting from approximately 120 feet from the east side of the U-shaped driveway and would continue along the existing pedestrian path. Two additional sections of a vehicular barrier wall would be located on the west and east sides of the Memorial between circular finished walls. Two circular finished walls would be placed at the entrance to the pedestrian path on the east side and two would be placed at the entrance to the pedestrian path on the west side. Bollards would be constructed from the edge of the existing tour bus drop-off and loading area along East Basin Drive to the security barrier wall on the east side of the Memorial. The public, NCPC, and CFA provided comments during the release of the Draft EA that indicated that the use of retaining walls under this alternative would create too much of a visual intrusion on the cultural landscape and the historic setting. The proposed walls under this alternative would have few breaks thus obstructing floodwaters resulting in an adverse impact to the floodplain. Therefore this alternative was dismissed from further consideration because it would have too great an environmental impact.

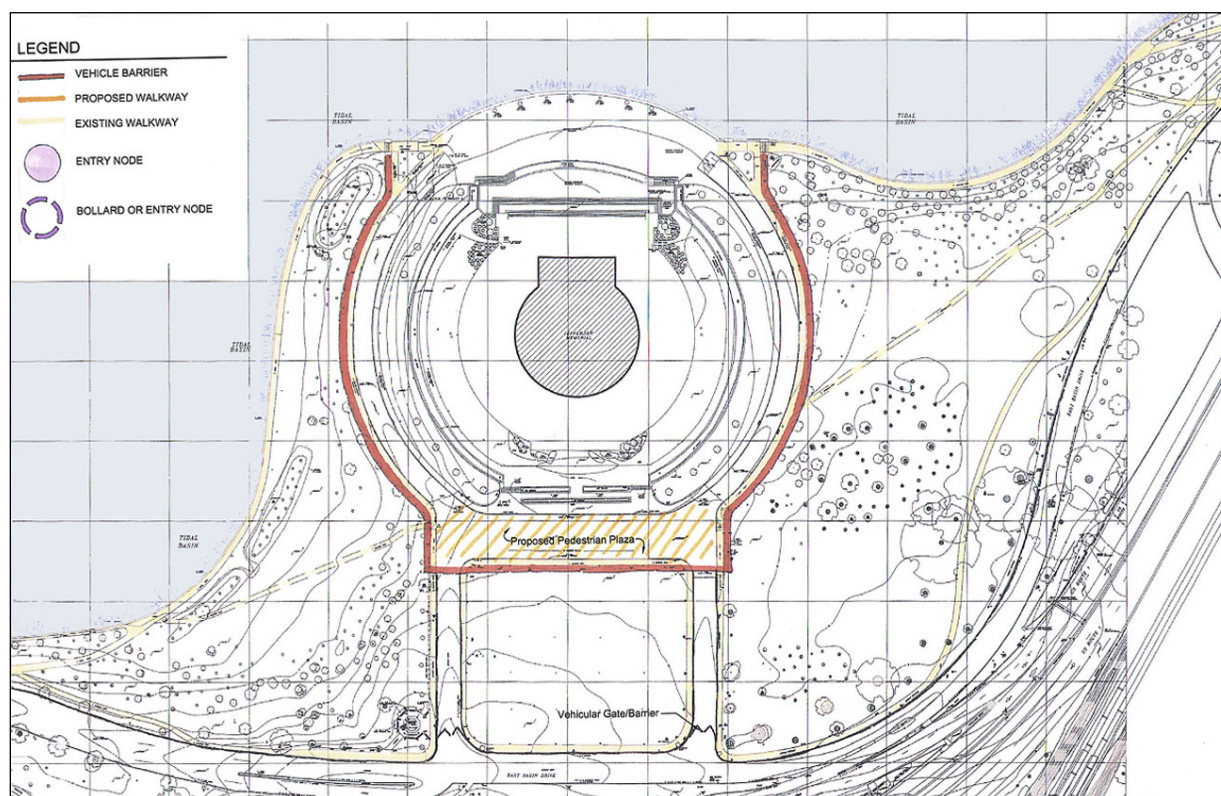


Figure 18. 2002 Alternative 1

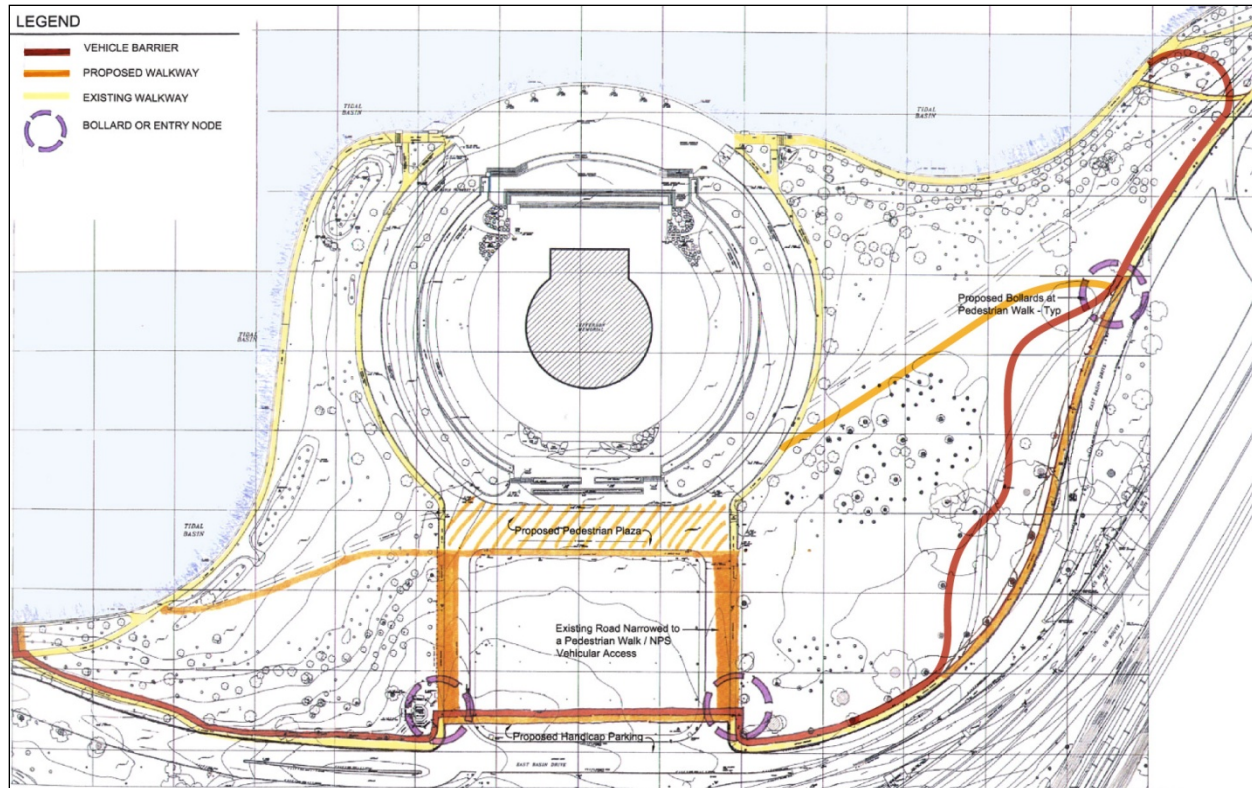


Figure 19. 2002 Alternative 2

The National Park Service also assessed a parking option that could be paired with either of the alternatives analyzed. This parking option would provide a relocation of accessible parking for visitors with disabilities to the north side of East Basin Drive, east of the existing concessions stand. This area would consist of six accessible spaces and one taxi-stand space. The five tour bus parking spaces would remain in their existing location. This parking option was dismissed because it penetrated the minimum barrier set-back for the security barrier and, therefore, did not meet the purpose and need (see Figure 20).

2004 ALTERNATIVES

Based on comments received on the 2002 Draft EA, the NPS prepared a Final EA in 2004 that studied three new alternatives for improvements to the Jefferson Memorial. These alternatives, described below, have been dismissed because the NPS, in consultation with NCPC and CFA, determined that they would have too great an impact on the visual setting of the Memorial and its landscapes.

Each of the alternatives studied in the 2004 EA consisted of:

- the placement of a vehicle security barrier at the Jefferson Memorial with sufficient setback to meet the security needs of the project;
- the use of bollards for the barrier design that would be placed a minimum of 4 feet apart to meet the requirements for individuals with disabilities;
- the creation of a pedestrian plaza through the permanent closure of the U-shaped driveway; and
- a new parking configuration.

The difference in the 2004 alternatives was the location of the vehicle security barrier and the parking configurations.

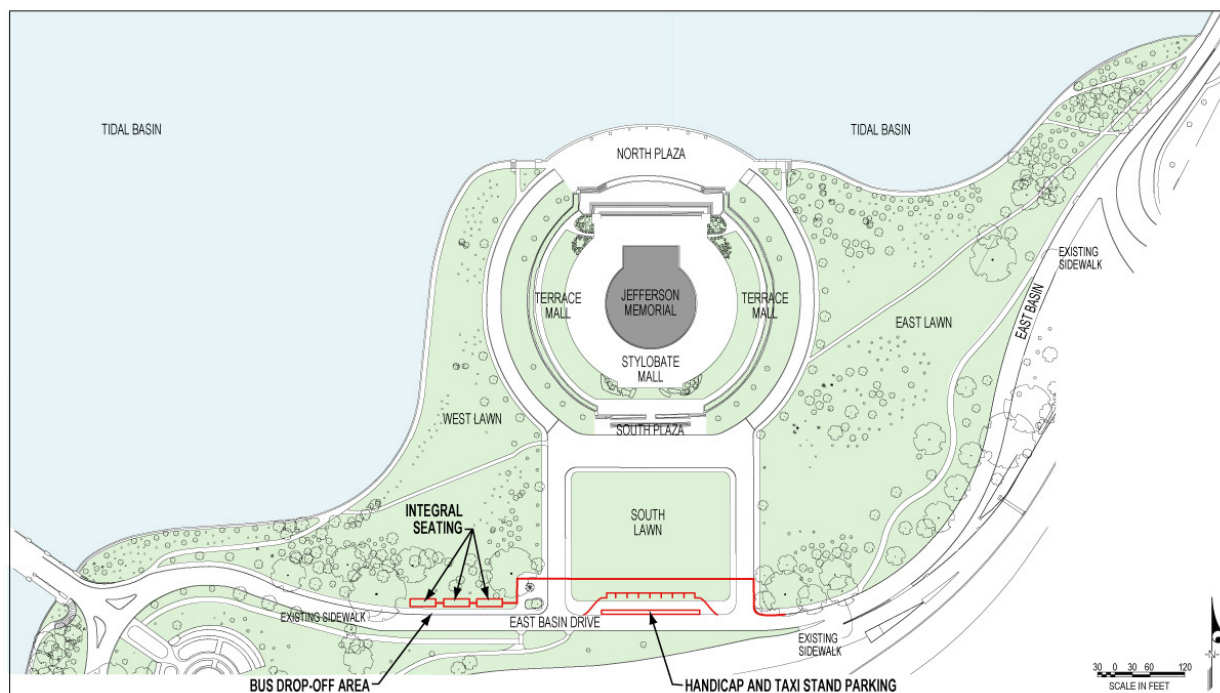


Figure 20. Dismissed Parking Option

Concentric Barrier Option

Under this Alternative, the NPS would construct a vehicle security barrier based on a concentric circle scribed from the center of the Jefferson Memorial. The vehicle security barrier would begin and end at the Tidal Basin, approximately 570 feet from the Inlet and Outlet Bridges. The NPS would construct some wall panels and a retractable crash gate for administrative access for NPS and Park Police vehicles from the outside curb on the west side of the U-shaped driveway to the outside curb on the east side. The crash gate would be similar in style to that used on the White House grounds. Removal of herbaceous ground cover (grass) would be required along the vehicular barrier system. Approximately eight trees would be affected because of the location of the vehicle security barrier. Figure 21 depicts the general concept design for the Concentric Barrier Option. This alternative was dismissed because it was determined that the visual impacts on the Memorial and its landscape would be too great.

Pedestrian Path Barrier Option

For the Pedestrian Path Barrier Option, the NPS would construct a vehicle security barrier along East Basin Drive on the west side of the Memorial consisting of bollards. Once past the U-shaped driveway, the vehicular barrier system would follow along the existing pedestrian path. Under this option, minor changes to the existing pedestrian paths would occur. The NPS would construct some wall panels and a retractable crash gate for administrative access for NPS and Park Police vehicles from the outside curb on the west side of the U-shaped driveway to the outside curb on the east side. The crash gate would be similar in style to those used on the White House grounds.

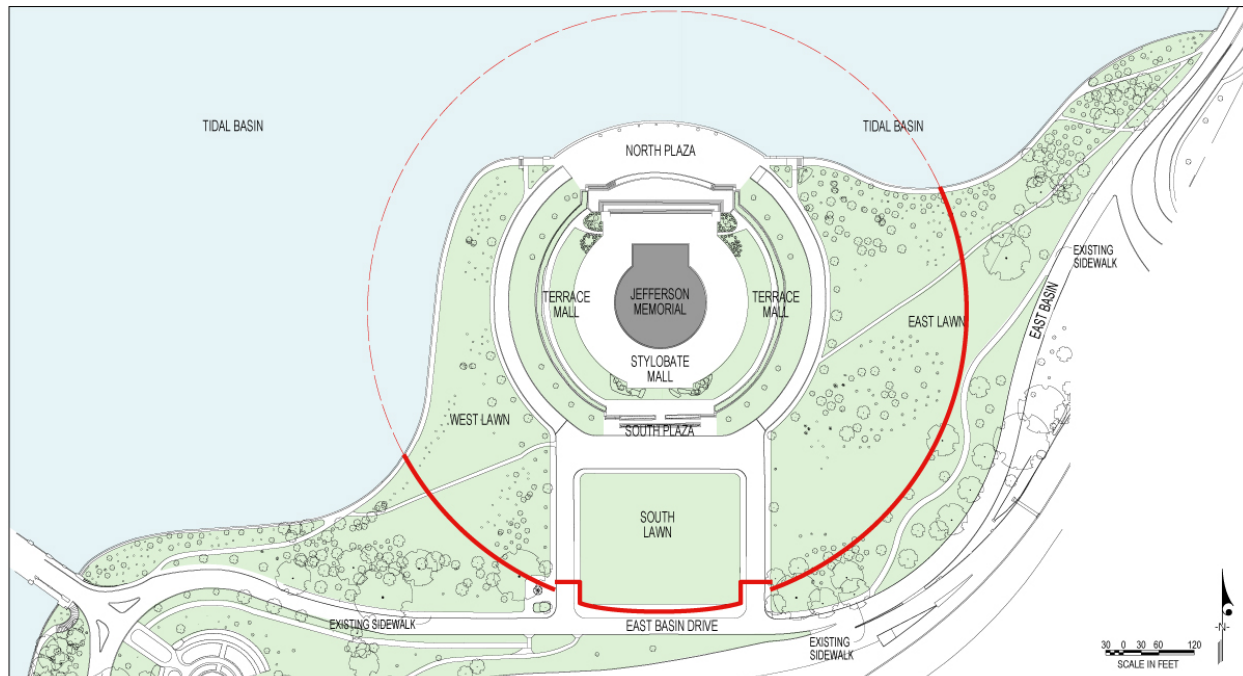


Figure 21. Concentric Barrier Option

The intent of this alternative was to respect the landscape plan as envisioned by Frederic Law Olmsted, Jr. Under this alternative, the barrier would be placed in a location along East Basin Drive that would be unobtrusive when viewed in context with the Memorial. Some herbaceous ground cover (grass) removal and shrub and tree relocation would occur along the northern side of East Basin Drive. Approximately 11 trees would be removed or affected because of the location of the vehicular barrier system. Figure 22 depicts the general concept design for the Pedestrian Path Barrier Option. While the intent of this alternative was to respect the cultural landscape plan and design an unobtrusive barrier, the NPS, in consultation with NCPC and CFA, ultimately concluded that the visual impacts on the Memorial and its landscape would be too great and this alternative was dismissed.

East Basin Drive Barrier Options

The NPS considered two options for a vehicle security barrier that would follow along East Basin Drive. For these options, the vehicle security barrier would be constructed of bollards just inside the limits of the existing sidewalk. Approximately 575 linear feet of a new 8-foot wide sidewalk would be constructed, using materials that match the existing sidewalk design, color, and texture, along the east portion of the vehicular barrier system.

For Option A, the vehicle security barrier would begin at the Tidal Basin approximately 420 feet from the Inlet Bridge and end at the Tidal Basin, approximately 360 feet from the Outlet Bridge. The NPS would construct some wall panels and a retractable crash gate for administrative access for NPS and Park Police vehicles from the outside curb on the west side of the U-shaped driveway to the outside curb on the east side. The crash gate would be similar in style to that used on the White House grounds. Some herbaceous ground cover (grass) removal would occur. Approximately eight trees would be removed because the placement of the vehicle security barrier. Figure 23 depicts the general concept design for Option A.

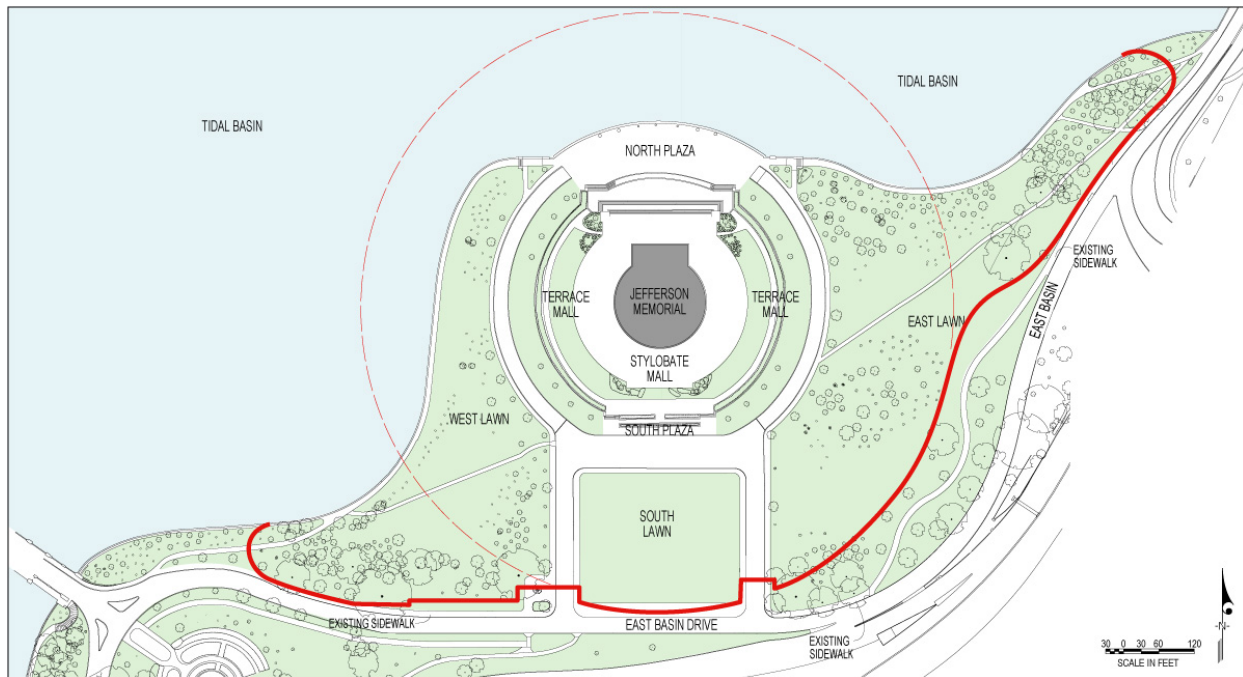


Figure 22. Pedestrian Path Barrier Option

For Option B, the vehicular barrier system would begin at the Inlet Bridge and end at the Outlet Bridge of the Tidal Basin. The NPS would construct some wall panels and a retractable crash gate for administrative access for NPS and Park Police vehicles from the outside curb on the west side of the U-shaped driveway to the outside curb on the east side. The crash gate would be similar in style to that used on the White House grounds. In addition, nearly all the existing vegetation and landscaping would remain. Some herbaceous ground cover (grass) removal might occur along the northern side of East Basin Drive, but no trees would be affected. The NPS would design the vehicle security barrier around the trees. Figure 24 depicts the general concept design for Option B.

NPS, in consultation with NCPC and CFA, concluded that the visual impacts on the Memorial and its landscape would be too great under both options of this alternative, and the alternative was dismissed.

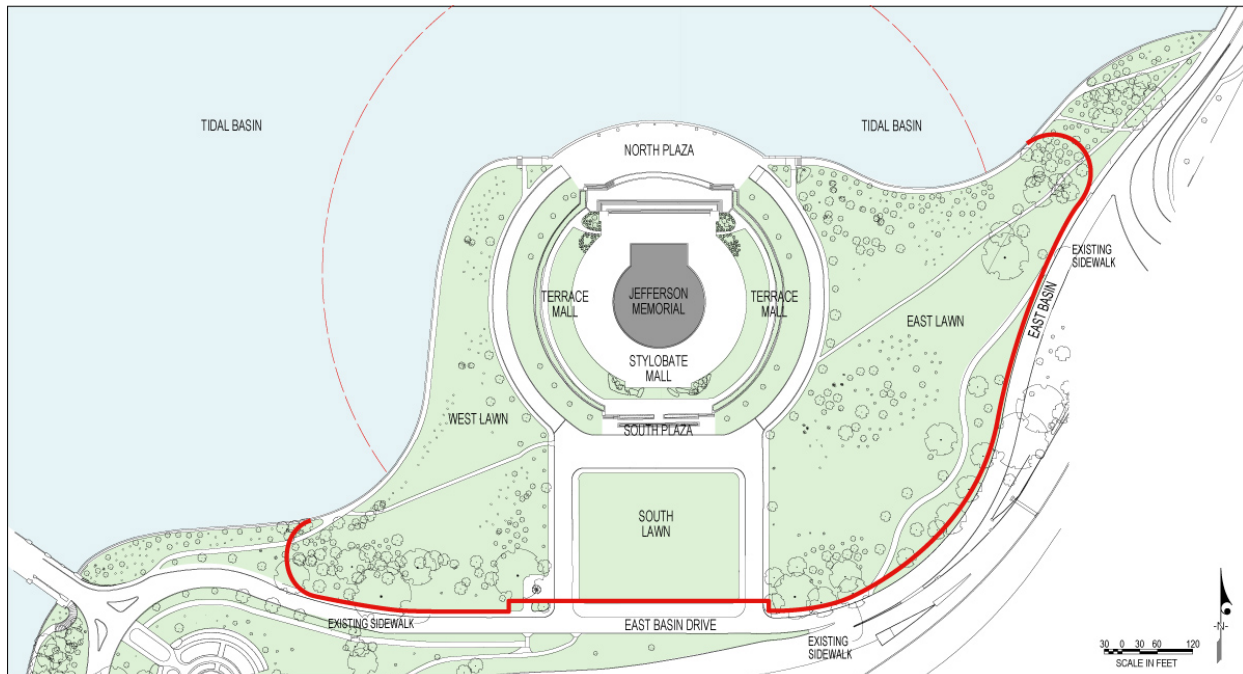


Figure 23. East Basin Drive Barrier - Option A

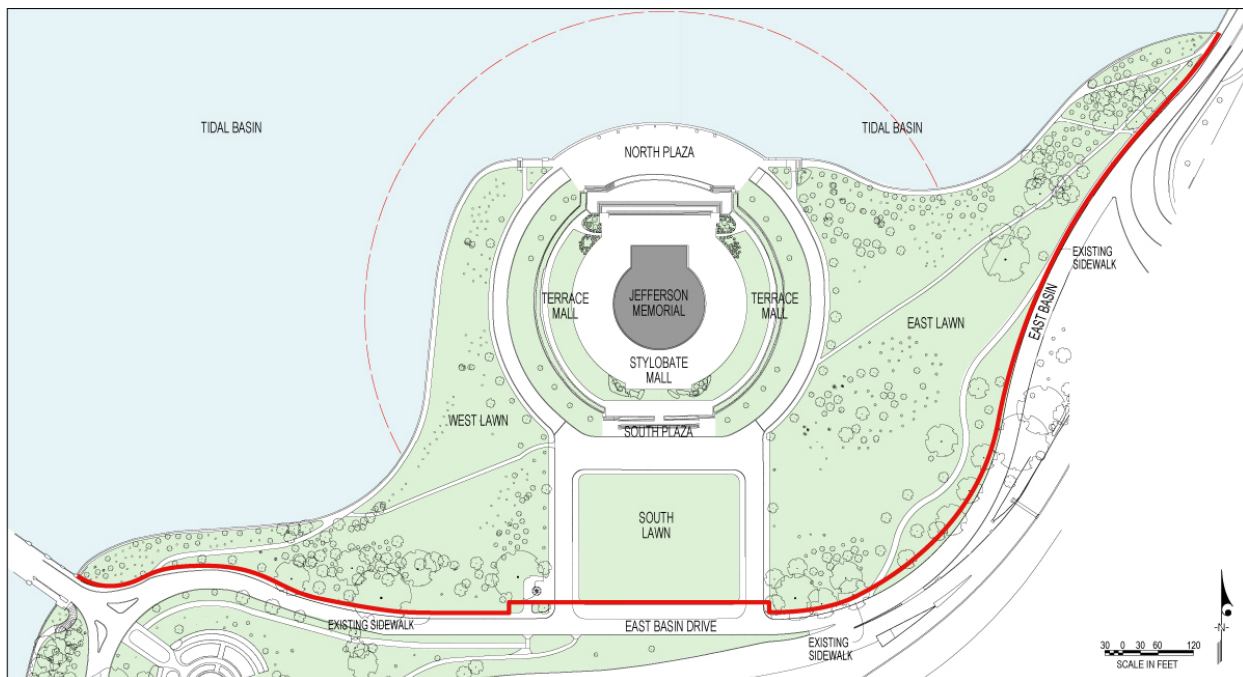


Figure 24. East Basin Drive Barrier - Option B

Environmentally Preferable Alternative

The NPS is required to identify the environmentally preferable alternative in its NEPA documents for public review and comment. The environmentally preferable alternative is defined by CEQ as the alternative that would promote the national environmental policy as expressed in NEPA Section 101. This includes:

- Fulfilling the responsibilities of each generation as trustee of the environment for succeeding generations;
- Assuring for all generations safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
- Attaining the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- Preserving important historic, cultural and natural aspects of our national heritage and maintaining, wherever possible, an environment that supports diversity and variety of individual choice;
- Achieving a balance between population and resource use that would permit high standards of living and a wide sharing of life's amenities; and
- Enhancing the quality of renewable resources and approaching the maximum attainable recycling of depletable resources (NEPA, Section 101).

In their *Forty Most Asked Questions*, CEQ further clarifies the identification of the environmentally preferable alternative, stating “Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources” (Q6a).

Based on the analysis of environmental consequences of each alternative, the NPS determined that Alternative 1: Barrier as Streetscape Feature is the environmentally preferable alternative.

Alternative 1 would best preserve the historic resources in the project area as it best maintains the integrity of the character-defining features of the cultural landscape, such as the viewsheds and vistas, historic topography. Alternative 1 would also best enhance visitor use and experience, public safety, and park operations and maintenance. Alternative 1 is preferable to the no action alternative because construction of a permanent, aesthetically pleasing security vehicle security barrier would eliminate the adverse impacts caused by the no action alternative on the cultural landscape and historic features of the Memorial. The environmentally preferable alternative is also the NPS preferred alternative.

Table 1 documents how each of the alternatives meets the project objectives.

Table 1. Alternatives and Project Objectives

Objective	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
Provide a long-term vehicle security solution	Does not meet objective. The vehicular barriers are temporary and do not meet the security goals established by NPS.	All alternatives would accomplish a long-term vehicle security solution by implementing a permanent security barrier that achieves National Mall and Memorial Parks (NAMA) security goals for the Jefferson Memorial.		
Balance historic values, security needs, and site sensitivity	Does not meet objectives defined by NPS in the security plan.	<p>The barrier would be a streetscape feature and maximizes transparency from roadway.</p> <p>The barrier would also allow for uninterrupted open spaces on the grounds in keeping with the Olmsted landscape design.</p>	The barrier would be a landscape feature that meanders through the site and is evocative of the Olmsted plan, but adds a new element.	The barrier would be a concentric arc creating a formal barrier around the Memorial. Materials would be consisted with the Memorial's architectural features.
Improve drop-off for buses and parking for visitors with disabilities	Does not meet objective. The bus drop-off and loading area is overcrowded and disabled parking is both limited and rarely available due to illegal parking.	All of the alternatives would be designed with a bus drop-off and loading zone to accommodate 10 or more tour buses. Additional accessible parking spaces are proposed for visitors with disabilities in a separate and clearly identified location that would discourage illegal parking.		

Objective	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
Protect important viewsheds	Does not meet objective. The existing jersey barriers have adverse impacts on viewsheds to and from the Memorial.	The barrier would be a streetscape feature that maximizes views into the Memorial grounds and transparency from roadway. This barrier alignment is more distant from the Memorial and may slightly affect views from the Tidal Basin and Monumental Core.	The barrier would be a landscape feature that meanders through the grounds. This barrier alignment has the potential to affect views of the Memorial from vantage points around the Tidal Basin and Monumental Core..	The barrier would be a concentric arc creating a formal barrier around the Memorial. This barrier alignment has the potential to affect views of the Memorial from vantage points around the Tidal Basin and Monumental Core.
Maintain contextual compatibility with the Memorial and National Mall	Does not meet objective. The existing jersey barriers are not compatible with the Memorial or the National Mall.	The action alternatives would use materials and design concepts consistent with other security measures installed throughout the National Mall to address the context and be compatible.		
Improve visitor experience during special events	Does not meet objective. Currently, the NPS has concrete jersey barriers in place that have a negative impact on visitors. The overcrowded bus drop-off/loading area affects access to concessions and circulation through the site.	The action alternatives would provide improved access to the Monumental Core and better security to visitors. The addition of bus drop-off and loading zone would improve circulation into the site. Wider walks along East Basin Drive would ease visitor movements during events.		

Alternatives

Objective	No Action Alternative	Alternative 1 (Preferred Alternative)	Alternative 2	Alternative 3
Reduce pedestrian / bicycle conflicts	Does not meet objective. Currently, pedestrians and bicyclists share the internal and perimeter paths, conflicts often occur.	Paths would be constructed inside the barrier, with alignments that reflect Olmsted's design intent and the sidewalk would be widened along East Basin Drive to help in separating pedestrians visiting the Memorial from cyclists traveling through the area.		
Improve access to concessions	Does not meet objective. The current location of the concession stand is crowded from bus drop off locations.	Under the action alternatives, the relocation of the concession kiosk would place the kiosk closer to the bus drop-off and loading zone where large numbers of visitors congregate.		
Improve site furnishings integration	Does not meet objective. Currently, the NPS has concrete jersey barriers in place.	The action alternatives would add benches along vehicular barriers for visitor seating throughout the site and near bus drop-off and loading zone.		

A summary of the environmental consequences of each of the alternatives follows in Table 2.

Table 2. Summary of Environmental Consequences

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
Soils	The no action alternative would result in minor, long-term, adverse impacts from the continued use of social paths and the compaction of soils. The no action alternative would only slightly lessen the overall beneficial cumulative impacts to soils of present and future projects on the National Mall.	Alternative 1 would result in short-term, minor, adverse impacts to soils during construction activities. Long-term, beneficial impacts to soils would occur by deterring visitors from creating social paths. Construction of past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial, along with Alternative 1, would result in short-term, minor, adverse cumulative impacts, with net long-term, beneficial cumulative impacts.	Alternative 2 would result in short-term, minor, adverse impacts to soils during construction activities. Long-term, beneficial impacts to soils would occur by deterring visitors from creating social paths. Construction of past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial, along with Alternative 1, would result in short-term, minor, adverse cumulative impacts, with net long-term, beneficial cumulative impacts.	Alternative 3 would result in short-term, minor, adverse impacts to soils during construction activities. Long-term, beneficial impacts to soils would occur by deterring visitors from creating social paths. Construction of past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial, along with Alternative 1, would result in short-term, minor, adverse cumulative impacts, with net long-term, beneficial cumulative impacts.
Vegetation	Under the no action alternative, the use of social paths would continue to inhibit the growth of lawn resulting in minor, long-term, adverse impacts to vegetation. The no action alternative would lessen the	Alternative 1 would have negligible short-term adverse impacts to vegetation from construction activities and minor, long-term, adverse impacts as less than 10 percent of the existing trees	Alternative 2 would have negligible short-term adverse impacts to vegetation from construction activities and moderate, long-term adverse impacts as more than 10 percent of	Alternative 3 would have negligible short-term adverse impacts to vegetation from construction activities and minor, long-term, adverse impacts as less than 10 percent of the existing trees

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
	overall beneficial cumulative impacts of other projects on the National Mall.	would be removed. Moderate, adverse cumulative impacts would occur from the removal of vegetation, while beneficial cumulative impacts would occur from the reduction in social paths.	the existing trees would be removed. Moderate, adverse cumulative impacts would occur from the removal of vegetation, while beneficial cumulative impacts would occur from the reduction in social paths.	would be removed. Moderate, adverse cumulative impacts would occur from the removal of vegetation, while beneficial cumulative impacts would occur from the reduction in social paths.
Scenic Resources	The no action alternative would result in minor, long-term, adverse impacts on scenic resources in the project area. The incremental adverse impact, when added to the beneficial impacts of other projects, would still result in an overall beneficial cumulative impact.	Alternative 1 would have moderate, short-term, adverse impacts on scenic resources and minor, long-term, adverse impacts once construction is complete. Relocation of concession kiosk would have beneficial impacts to scenic resources. Short-term cumulative impacts would be minor to moderate if construction with other projects overlapped, and long-term cumulative impacts would be beneficial when added to the long-term impacts of other projects.	Alternative 2 would have moderate, short-term, adverse impacts on scenic resources and moderate, long-term, adverse impacts once construction is complete. Relocation of concession kiosk would have beneficial impacts to scenic resources. Short-term cumulative impacts would be minor to moderate if construction with other projects overlapped, and long-term cumulative impacts would be beneficial when added to the long-term impacts of other projects.	Alternative 3 would have moderate, short-term, adverse impacts on scenic resources and moderate, long-term, adverse impacts once construction is complete. Relocation of concession kiosk would have beneficial impacts to scenic resources. Short-term cumulative impacts would be minor to moderate if construction with other projects overlapped, and long-term cumulative impacts would be beneficial when added to the long-term impacts of other projects.

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
Cultural Resources	The no action alternative would have direct, moderate, long-term, adverse impacts on cultural resources, including the Jefferson Memorial, its cultural landscape, and views around the Tidal Basin, West Potomac Park, and to the east and west of the Memorial. The no action alternative, when added to other past present and future projects, would have a moderate, long-term adverse cumulative impact.	<p>Alternative 1 would have moderate, short-term, adverse impacts during construction. There would be no direct effects on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington, but there would be minor, long-term, adverse impacts on the contributing Inlet and Outlet Bridge structures and Tidal Basin views of the East and West Potomac Parks Historic District. The Alternative 1 barrier placement would have a minor, long-term, adverse impact on the Jefferson Memorial and West Potomac Park cultural landscapes.</p> <p>The relocation of the bus drop-off/loading zone and the accessible parking, planting of trees to buffer views of the interstate, and restoration of the</p>	<p>Alternative 2 would have moderate, short-term, adverse impacts during construction. There would be no direct effects on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington, but there would be a moderate, long-term, adverse impact on the Jefferson Memorial and West Potomac Park cultural landscapes, specifically affecting the Tidal Basin walkway, the Tidal Basin views, the views to the east from the Memorial, and the internal site circulation.</p> <p>The relocation of the bus drop-off/loading zone and the accessible parking, planting of trees to buffer views of the interstate, and restoration of the historic pedestrian circulation would have a long-term, beneficial impact</p>	<p>Alternative 3 would have moderate, short-term, adverse impacts during construction. There would be no direct effects on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington, but there would be a moderate, long term, adverse impact on the Jefferson Memorial and West Potomac Park cultural landscapes, specifically affecting the Tidal Basin walkway, the Tidal Basin views, the views to the east and west from the Memorial, and the internal site circulation.</p> <p>The relocation of the bus drop-off/loading zone and the accessible parking, planting of trees to buffer views of the interstate and restoration of the historic pedestrian circulation would have a long-term,</p>

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
		<p>historic pedestrian circulation would have a long-term beneficial impact on the spatial organization of the site. The barrier would result in a long-term, beneficial effect due to the protection against physical damage it would provide</p> <p>The overall cumulative impact of past, present, and future projects would be a range of long-term beneficial to minor adverse impacts to cultural resources.</p>	<p>on the spatial organization of the site. The barrier would result in a long-term, beneficial effect due to the protection against physical damage it would provide</p> <p>The overall cumulative impact of past, present, and future projects would be a range of long-term, beneficial to moderate, adverse impacts to cultural resources.</p>	<p>beneficial impact on the spatial organization of the site. The barrier would result in a long-term, beneficial effect due to the protection against physical damage it would provide.</p> <p>The overall cumulative impact of past, present, and future projects would be a range of long-term, beneficial to moderate, adverse impacts to cultural resources.</p>
Visitor Use and Experience	<p>Visitor use and experience would continue to be impacted under the no action alternative. Moderate long-term adverse impacts would occur because security measures currently being used would continue to detract from visitor experience and impede pedestrian flow. In addition, minor, long-term,</p>	<p>Alternative 1 would provide beneficial impacts to visitor use and experience by providing a safer and more aesthetically pleasing environment. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. However, the</p>	<p>Alternative 2 would provide beneficial impacts to visitor use and experience by providing a safer and more aesthetically pleasing environment. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. However, the</p>	<p>Alternative 3 would provide beneficial impacts to visitor use and experience by providing a safer and more aesthetically pleasing environment. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. However, the</p>

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
	adverse impacts from the crowded bus drop-off area would occur. The no action alternative would lessen the overall beneficial cumulative impacts on visitor use and experience.	<p>addition of parking spaces for persons with disabilities would have a moderate, long-term, benefit to visitor use.</p> <p>Minor, short-term, adverse impacts would result from construction and from the placement of staging areas and construction materials.</p> <p>Alternative 1 would result in beneficial cumulative impacts to the study area and surroundings.</p>	<p>addition of parking spaces for persons with disabilities would have a moderate, long-term, benefit to visitor use.</p> <p>Minor, short-term, adverse impacts would result from construction and from the placement of staging areas and construction materials.</p> <p>Alternative 2 would result in beneficial cumulative impacts to the study area and surroundings.</p>	<p>addition of parking spaces for persons with disabilities would have a moderate, long-term, benefit to visitor use.</p> <p>Minor, short-term, adverse impacts would result from construction and from the placement of staging areas and construction materials.</p> <p>Alternative 3 would result in beneficial cumulative impacts to the study area and surroundings.</p>
Human Health and Safety	Impacts to the security and safety of the Jefferson Memorial and its visitors under the no action alternative would be minor, adverse, and long-term. The no action alternative with the continued use of jersey barriers would contribute to the cumulative beneficial impacts on safety and security on the National Mall.	Alternative 1 would provide beneficial impacts to safety and security from installation of the security barrier and improvements to the bus drop-off/loading zone. Moving the parking for persons with disabilities to the south side of East Basin Drive would have a minor, long-term, adverse impact to safety because visitors with disabilities would have to cross	Alternative 2 would provide beneficial impacts to safety and security from installation of the security barrier and improvements to the bus drop-off/loading zone. Moving the parking for persons with disabilities to the south side of East Basin Drive would have a minor, long-term, adverse impact to safety because visitors with disabilities would have to cross	Alternative 3 would provide beneficial impacts to safety and security from installation of the security barrier and improvements to the bus drop-off/loading zone. Moving the parking for persons with disabilities to the south side of East Basin Drive would have a minor, long-term, adverse impact to safety because visitors with disabilities would have to cross

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
		<p>East Basin Drive in order to access the Memorial.</p> <p>Minor, short-term, adverse impacts would occur from construction. Reasonably foreseeable future actions along with Alternative 1 would have beneficial cumulative impacts on safety and security in the Monumental Core. Minor, short-term, adverse cumulative impacts would result from construction activities.</p>	<p>East Basin Drive in order to access the Memorial.</p> <p>Minor, short-term, adverse impacts would occur from construction. Reasonably foreseeable future actions along with Alternative 1 would have beneficial cumulative impacts on safety and security in the Monumental Core. Minor, short-term, adverse cumulative impacts would result from construction activities.</p>	<p>East Basin Drive in order to access the Memorial.</p> <p>Minor, short-term, adverse impacts would occur from construction. Reasonably foreseeable future actions along with Alternative 1 would have beneficial cumulative impacts on safety and security in the Monumental Core. Minor, short-term, adverse cumulative impacts would result from construction activities.</p>
Park Operations and Management	<p>The no action alternative would result in minor, long-term, and adverse impacts on Park operations and management as it would not meet long-term security objectives. When combined with the long-term impacts of other past, present, and reasonably foreseeable future actions, the no action alternative would result in</p>	<p>Alternative 1 would have beneficial impacts on Park operations as a result of security improvements at the Memorial by meeting long-term objectives for security. Minor, long-term, adverse impacts would result from additional maintenance activities. Minor, short-term, adverse impacts to Park operations would</p>	<p>Alternative 2 would have beneficial impacts on Park operations as a result of security improvements at the Memorial by meeting long-term objectives for security. Negligible to minor, long-term, adverse impacts would result from additional maintenance activities. Minor, short-term, adverse impacts to Park</p>	<p>Alternative 3 would have beneficial impacts on Park operations as a result of security improvements at the Memorial by meeting long-term objectives for security. Negligible to minor, long-term, adverse impacts would result from additional maintenance activities. Minor, short-term, adverse impacts to Park</p>

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
	long-term minor adverse cumulative impacts.	occur from construction. Alternative 1 would result in beneficial cumulative impacts. There may also be short-term, minor to moderate adverse cumulative impacts Park operations and management during construction of projects on the National Mall.	operations would occur from construction. Alternative 2 would result in beneficial cumulative impacts to Park operations and management. There may also be short-term, minor to moderate adverse cumulative impacts Park operations and management during construction of projects on the National Mall.	operations would occur from construction. Alternative 3 would result in beneficial cumulative impacts to Park operations and management. There may also be short-term, minor to moderate adverse cumulative impacts Park operations and management during construction of projects on the National Mall.
Transportation and Traffic	Under the no action alternative, minor, long-term, adverse impacts would occur as potential back-ups may result from conflicts between buses, cars dropping off visitors, and through traffic. The no action alternative would not add to or negate these cumulative impacts.	<p>Providing an adequate bus drop-off/loading zone and widening sidewalk areas would have a beneficial impact to traffic. Relocating parking for persons with disabilities would result in a minor, long-term, adverse impact. Additional parking spaces for persons with disabilities would result in a beneficial impact. There would be short-term, minor, adverse impacts during construction.</p> <p>Alternative 1 would add to the overall</p>	<p>Providing an adequate bus drop-off/loading zone and widening sidewalk areas would have a beneficial impact to traffic. Relocating parking for persons with disabilities would result in a minor, long-term, adverse impact. Additional parking spaces for persons with disabilities would result in a beneficial impact. There would be short-term, minor, adverse impacts during construction.</p> <p>Alternative 2 would add to the overall</p>	<p>Providing an adequate bus drop-off/loading zone and widening sidewalk areas would have a beneficial impact to traffic. Relocating parking for persons with disabilities would result in a minor, long-term, adverse impact. Additional parking spaces for persons with disabilities would result in a beneficial impact. There would be short-term, minor, adverse impacts during construction.</p> <p>Alternative 3 would add to the overall</p>

Alternatives

Impacted Resource	No Action Alternative	Alternative 1: Barrier as Streetscape Feature (Preferred Alternative)	Alternative 2: Barrier as Landscape Feature	Alternative 3: Barrier as Formal Feature
		beneficial cumulative impacts. Alternative 1 could contribute a minor amount to the short-term, adverse cumulative impacts associated with construction of transportation projects.	beneficial cumulative impacts. Alternative 1 could contribute a minor amount to the short-term, adverse cumulative impacts associated with construction of transportation projects.	beneficial cumulative impacts. Alternative 1 could contribute a minor amount to the short-term, adverse cumulative impacts associated with construction of transportation projects.

CHAPTER 3: AFFECTED ENVIRONMENT

This “Affected Environment” chapter describes existing environmental conditions in the vicinity of the Jefferson Memorial. These conditions serve as a baseline for understanding the resources that could be impacted by implementation of the proposed action. The resource topics presented in this chapter, and the organization of the topics, correspond to the resource discussions contained in “Chapter 4: Environmental Consequences.”

Soils

The 19.2-acre Jefferson Memorial sits on land created from dredge material. In 1882, the Potomac River was dredged to improve navigation, and the dredged sediments and other fill were used to transform the adjacent marshes and tidal flats into 600 acres of riverside recreational areas (USDA, 1976). Today, mapped soils within the project area include linside loam (Ld), urban land (Ub), and udorthents (U1) (USDA, 1976) (see Figure 25).

The linside loam (Ld) soil series are nearly level, moderately well drained soils occurring along the Potomac River. The soil is characterized by moderate permeability with slow runoff and little to no hazard for erosion. Periodic flooding may occur in winter and early spring. Due to the wetness and flooding hazards, the soil has poor potential for use at building sites, with fair potential for use in lawns, landscaping, vegetable gardens, and for most recreational activities sites (SCS, 1976).

The urban land (Ub) mapping unit is characterized by areas where more than 80 percent of the surface is covered by asphalt, concrete, buildings, or other impervious surfaces. The non-impervious surfaces typically consist of variable fill material.

The udorthents (U1) mapping unit is characterized by earthy fill material that has been placed in poorly drained to somewhat excessively drained soils on uplands, terraces, and floodplains of the Coastal Plain and Piedmont. The thickness of the fill is variable, but typically is more than 20 inches. Permeability, runoff, and internal drainage tend to be quite variable.

The existing conditions of the soil at the Thomas Jefferson Memorial site and the surrounding National Mall area are poor. The poor soil conditions occur due to compaction as a result of heavy foot traffic from visitors and the creation of “social” paths in lawn areas. These paths are narrow (approximately 2 feet wide) and well defined.

Vegetation

The vegetated areas around the Memorial currently consist of a maintained park-like landscape planted with lawn and various trees and shrubs. The selection of species used for landscaping has been based primarily on aesthetics and growth characteristics and includes native species as well as non-native species. The Jefferson Memorial landscape was constructed from the plan designed by Frederick Law Olmsted, Jr., Landscape Architect. Changes over time have altered the vegetation. To the north and south of the memorial within the circular driveway surrounding the memorial are clustered groups of trees and shrubs. Plants in this area include yew (*Taxus spp.*), American hollies (*Ilex opaca*), Japanese hollies (*Ilex crenata*), abelia (*Abelia graniflora*), osmanthus (*Osmanthus spp.*), firethorn (*Pyracantha coccinea*), cotoneaster (*Cotoneaster horizontalis* and the *Cotoneaster horizontalis dammeri*), white pines (*Pinus strobus*), dogwoods (*Cornus florida*), and Zelkova (*Zelkova serrata*).

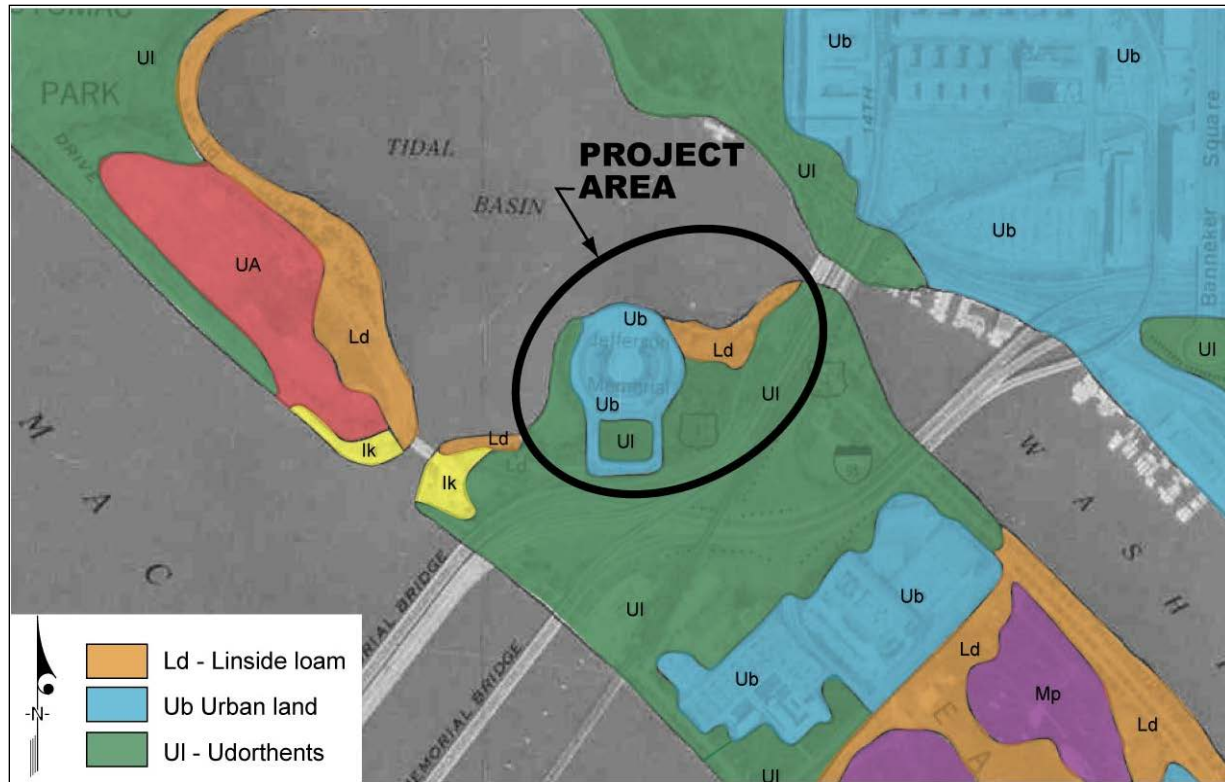


Figure 25. Soils Map

The area outside of the U-shaped driveway was designed with formal rows of American elm (*Ulmus americana*), with view openings, and informally shaped lawn panels and plantings groupings of flowering trees and shade trees underlain with lawn. Limited shrub and ground cover were planned in this area.

While some aspects of the Olmsted original layout and location of plantings are visible today, changes are also evident. Time, weather events, and poor soil conditions have contributed to the loss of original plants and many more recent plantings have been carried out without respect to the original planting design. Primary modifications to planting over time include:

- Addition of white pines near the Memorial
- Additional understory trees that diminish the integrity of the spaces defined in the original plan
- Loss of grand American elms
- Loss of shrub beds
- Zelkova trees planted along the internal ring road in the 1970s
- Cherry trees added throughout the site, not only along the Tidal Basin

Scenic Resources (Aesthetics and Viewsheds)

In 1937, the Thomas Jefferson Memorial Commission adopted a resolution selecting the location for the Memorial and this final memorial was constructed on this site to complete the kite-shaped plan of the McMillan Commission. The location is a visually prominent site on the Tidal Basin aligned to the White House and Washington Memorial to the north.

The visual and aesthetic quality of a certain place is affected by its overall visual character as well as the associated views and vistas within and around the area. Views and vistas capture the range of the eye and frame the visual character of a site. Views and vistas are composed of foreground, midground, and background elements and are achieved from a certain point of view or a series of points in an uninterrupted cohesive visual space. The term vista is often used to define an important planned and implemented viewpoint. View is used to describe unplanned views that result from the construction of other features. Visual space is a term that applies to an uninterrupted series of views that, in the case of the Jefferson Memorial, occur around the northern perimeter of the Tidal Basin, from the Inlet to Outlet bridges. From anywhere in this area, the Jefferson Memorial structure and landscape are visible.

The visual character of the Jefferson Memorial is defined by open lawn with informal tree plantings at the perimeter, progressing to more formal geometric terraces and planting nearer the Memorial. Circulation paths are both formal at the south entry and informal and meandering at the perimeter of the site and become linear and regularized adjacent to the Memorial.

L'Enfant first conceived of the axial arrangement of buildings of primary importance around the core of Washington, and the formal vistas between them, in his 1792 plan for the Capital City. Departures from the L'Enfant Plan, together with the newly created lands reclaimed from the dredging of the river, influenced the McMillan Commission, appointed in 1901, to redesign the core area reinforcing the axes and vistas. The McMillan Commission Plan displayed the now familiar five-point composition and regulated the formal linkage and views between the cardinal points of the Capitol, White House, Lincoln Memorial, Washington Monument, and the then vacant site of the Jefferson Memorial. The designation of the north-south axis terminating in a then unnamed monument site on the south shore of the Tidal Basin no doubt was significant in the choice of the site for the Jefferson Memorial, 30 years later.

The Thomas Jefferson Memorial Commission, which was established by Congress in 1934, adopted a resolution in 1937 selecting the location for the Memorial:

“The site on the south bank of the Tidal basin, on a line south through the White House, has been regarded ever since 1901 as the proper site for a memorial of major importance. In relation to the Washington Monument, it gives the Jefferson Memorial a position on the south similar to the position of the Lincoln Memorial on the west, and completes the grand central plan of the city, in which the Capitol and White House occupy the other two cardinal points on the east and north of the Monument. From the Washington Monument grounds the Jefferson Memorial will be seen across the Tidal Basin, which will retain its irregular outline and natural beauty and in which the memorial and the cherry trees flanking it will be mirrored.” (Report of the Thomas Jefferson Memorial Commission to the 75th Congress 3rd Session House of Representatives, Document No. 699, May 31, 1938)

Once the site for the Jefferson Memorial was chosen, the visual relationship between the White House and the Jefferson Memorial site was firmly established and was later reinforced by President Roosevelt, who ordered trees to be cut so the view of the Memorial from the White House would be enhanced.

The visual relationship between the Jefferson Memorial and the Lincoln Memorial was the subject of much discussion between the Thomas Jefferson Memorial Commission and the Commission of Fine Arts in 1943. Those discussions resulted in the vista between the Memorials being opened up through pruning of trees, creating a narrow view from one memorial to the other. The view between the Lincoln and Jefferson Memorials today is limited due to growth of plantings, with only the very top of the structures visible. The vista to the Washington Monument and the White House beyond, however, remains intact with both structures clearly visible from the plaza and steps of the Jefferson Memorial.

The views to the Jefferson Memorial from the perimeter of the Tidal Basin also remain, with the view from the west improved with the removal of trees in 1997 for the construction of the Franklin Delano Roosevelt Memorial. The open view to and from the Jefferson Memorial north across the Tidal Basin remains largely the same as it was in the 1940s.

Views to the south of the Jefferson Memorial site have been obstructed by the railroad bridge since it was constructed in 1901, although portions of East Potomac Park were visible until the elevated ramps and roadways to the south were constructed in the mid-20th century.

The vista from the White House across the Ellipse to the Jefferson Memorial and the southern horizon is identified as a primary contributing vista to the L'Enfant Plan of the City of Washington, listed in the NRHP in 1997. The *NPS Cultural Landscapes Inventory, Thomas Jefferson Memorial*, 2003, identifies the view across the Tidal Basin to the cherry trees, the view west to the Potomac River past the Franklin Delano Roosevelt Memorial, the vista north to the White House and Washington Monument, the vista to the Lincoln Memorial, and the vistas to the east and west of the Jefferson Memorial as contributing to the significance of the Jefferson Memorial cultural landscape. The view south from the Memorial structure over the open south lawn is significant particularly for the foreground. However the mid and background view lacks integrity due to the construction of the roadways, ramps, bridge abutment walls, and bridges associated with I-395 within this view. There are also views to the Jefferson Memorial structure and landscape from these roads and bridges, and, as the topography and bridge structures ascend, these views are above the proposed security barrier.

The East and West Potomac Parks Historic District nomination identifies the views around the Tidal Basin and the Seventeenth Street Vista from Constitution Avenue to the south as contributing views and vistas to the historic district. Views of the Jefferson Memorial are continuous throughout the visually open spaces of the Tidal Basin landscape along the north side within the historic district extending from the Inlet Bridge to the Outlet Bridge.

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 of 1966, 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 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 would have an adverse effect on a cultural resource that is eligible or listed in the NRHP, and must consult with the State Historic Preservation Officer (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 (36 CFR 60.4) issued by the Department of the Interior (CFR 2005a). The criteria relate to the following:

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 to prehistory or history.

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 this way: archeological resources, cultural landscapes, historic districts and structures, museum objects and ethnographic resources.

A draft Area of Potential Affect (APE) for this undertaking was delineated by the NPS in 2011, as is shown in Figure 26. The overall APE has been delineated into primary and secondary areas. The primary APE, outlined in red, includes the cultural resources that could potentially be directly affected by the undertaking: the Jefferson Memorial and the Jefferson Memorial grounds. The secondary APE includes the cultural resources that could potentially be indirectly affected by the undertaking. Important primary views, indicated with blue view lines, include vistas to and from the Lincoln Memorial, White House, and Washington Monument. The Tidal Basin landscape, with the Inlet, Outlet, and Kutz Bridges and views to and from paths and the landscape along the water's edge, are also important cultural resources within the secondary APE, as labeled and indicated with green squares. The visual corridor between the Jefferson Memorial and the U. S. Capitol, extending along the diagonal alignment of Maryland Avenue, is also included in the secondary APE, although clear views between these sites do not exist. The South Jefferson Memorial landscape, as labeled and indicated with an orange square, includes East Basin Drive, the George Mason Memorial, and the 14th Street Bridge corridor with highway lanes, ramps, and walls. As indicated, a number of cultural resources are located within both the primary and secondary APEs, including historic districts, historic structures, and cultural landscapes. The APE is composed principally of reclaimed land constructed of fill and as such does not contain prehistoric or historic archeological resources.

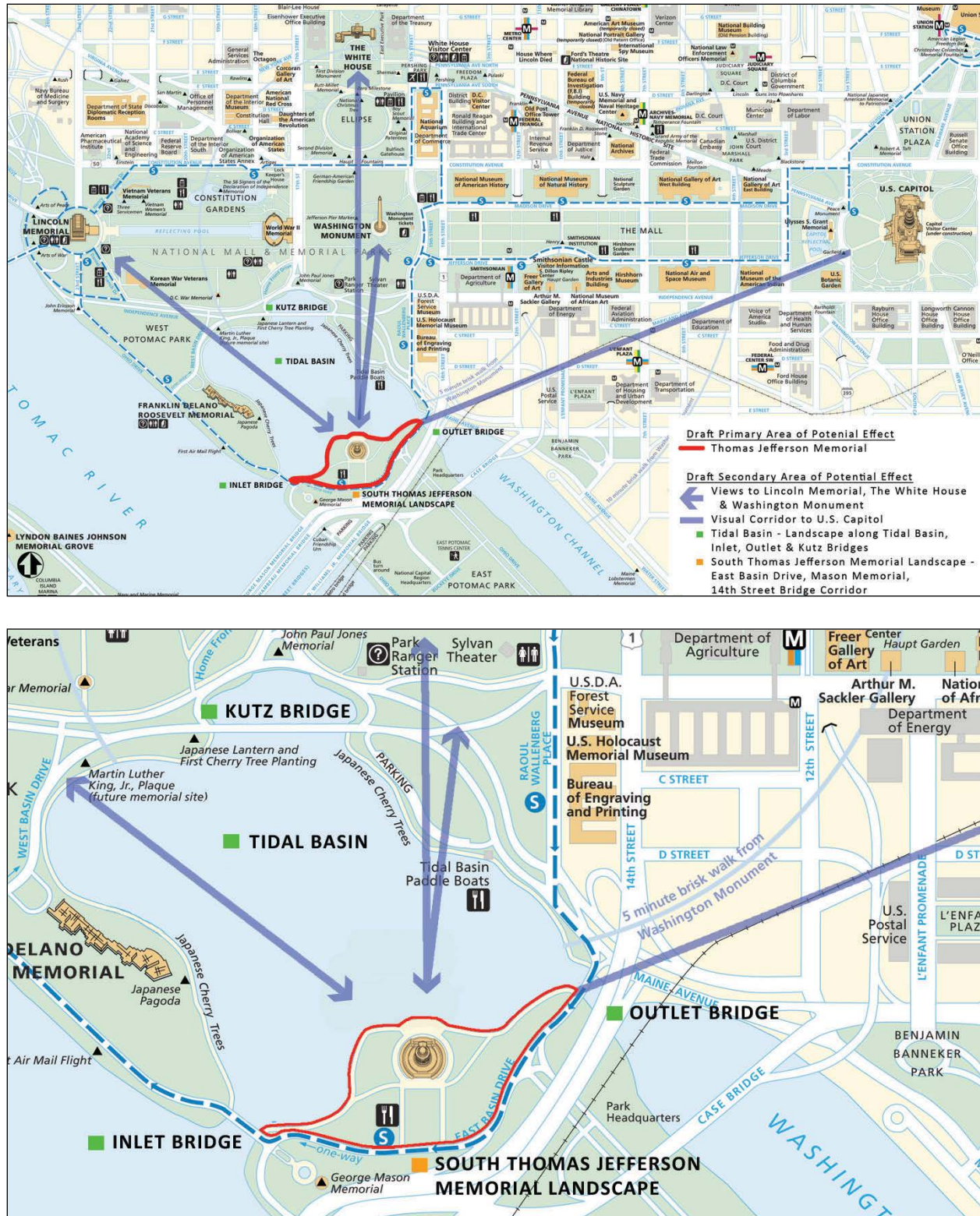


Figure 26. Thomas Jefferson Memorial Draft Area of Potential Effect, Overall and Detail

CULTURAL RESOURCES AND POTENTIAL EFFECTS

This section addresses historic properties present within the APE that have been included in or have been determined eligible for the NRHP, including buildings, structures, historic districts, and cultural landscapes. The history and significance of these cultural resources are interrelated and, therefore, discussed together in this section. Cultural landscapes, as defined by NPS Preservation Brief 36: *Protecting Cultural Landscapes: Planning, Treatment, and Management of Historic Landscapes*, consist of “a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values.” They are, in the case of the Jefferson Memorial and the Monumental Core of Washington, both designed landscapes and historic sites. Because the Monumental Core of Washington has been the focus of preservation activity since the initial passage of the NHPA in 1966 and before, the documentation of the historic resources in the Monumental Core has been done in numerous studies that are sometimes overlapping or vary due to changing technical standards. The Thomas Jefferson Memorial is an individually listed property, and a number of other listed properties, historic districts, and contributing structures are potentially affected by the proposed undertaking at the Jefferson Memorial. Those resources that may potentially be affected by this undertaking are described in detail in the following sections.

THOMAS JEFFERSON MEMORIAL

The Thomas Jefferson Memorial is the foremost memorial to America’s third president and is a key landmark in the Monumental Core of Washington. Pierre L’Enfant conceived of the axial arrangement of buildings of primary importance around the Mall, and the formal vistas between them, in his 1792 plan for the Capital City. Departures from the L’Enfant plan, together with the newly created lands reclaimed from the dredging of the river, influenced the McMillan Commission, appointed in 1901, to redesign the core area, reinforcing and extending its axes and vistas. The McMillan Commission Plan displayed the now familiar five point composition and regulated the formal linkage and views between the cardinal points of the Capitol, White House, Lincoln Memorial, Washington Monument, and the then vacant site of the Jefferson Memorial. The designation of the north-south axis terminating in a then unnamed monument site on the south shore of the Tidal Basin, no doubt was significant in the choice of the site for the Jefferson Memorial, 30 years later.

The Thomas Jefferson Memorial Commission, which was established by Congress in 1934, adopted a resolution in 1937 selecting the location for the Memorial:

“The site on the south bank of the Tidal basin, on a line south through the White House, has been regarded ever since 1901 as the proper site for a memorial of major importance. In relation to the Washington Monument, it gives the Jefferson memorial a position on the south similar to the position of the Lincoln Memorial on the west, and completes the grand central plan of the city, in which the Capitol and White House occupy the other two cardinal points on the east and north of the Monument. From the Washington Monument grounds the Jefferson Memorial will be seen across the Tidal Basin, which will retain its irregular outline and natural beauty and in which the memorial and the cherry trees flanking it will be mirrored.” (Report of the Thomas Jefferson Memorial Commission to the 75th Congress 3rd Session House of Representatives, Document No. 699, May 31, 1938)

Once the site for the Jefferson Memorial was chosen, the visual relationship between the White House and the Jefferson Memorial site was firmly established and was reinforced by President Roosevelt ordering trees to be cut so the view of the Memorial from the White House would be enhanced. The visual relationship between the Jefferson Memorial and the Lincoln Memorial was the subject of much discussion between the Thomas Jefferson Memorial Commission and the Commission of Fine Arts in

1943. Those discussions resulted in the vista between the memorials being opened up through pruning of trees, creating a narrow view from one memorial to the other.

The Commission envisioned a grand structure at this site on the scale of the White House, Washington Monument, and Lincoln Memorial. The Jefferson Memorial was designed by John Russell Pope in 1937, but Pope's original design was later modified by his successor firm Eggers and Higgins. Modeled after the Roman Pantheon, the Jefferson Memorial was constructed between 1939 and 1943.

In the spirit of the McMillan Plan, Pope's original design called for a pantheon of large dimensions facing north toward the White House. The Tidal Basin was to be transformed into a series of reflecting pools flanked by terraces. The Commission of Fine Arts and the National Capital Parks and Planning Commission raised a number of objections: the grandeur of the structure and grounds would dominate the vista and upset the balance of the Monumental Core, the remodeling of the Tidal Basin would diminish its function, an elaborate landscape and required street redesign would cause disruption of the flow of traffic to Virginia, and the landscaping plan would require the destruction of 30 elms and the 1,200 cherry trees that surround the Tidal Basin. Revised designs called for moving the Memorial 600 feet south of the original site and abandonment of the elaborate landscape plans. Although CFA still objected to the Pantheon design, construction proceeded without revisions to the building design.

The Jefferson Memorial was designed and constructed as a circular, open air structure with a shallow dome and peripheral colonnade composed of 26 Ionic columns, a 12-column-wide north portico, and 4 columns supporting each of the Memorial's four monumental openings. The Jefferson Memorial is reached by a flight of granite steps and landings flanked by granite cheek walls that lead up from the Tidal Basin. The north portico pediment features a sculpture by Adolph A. Weinman, depicting the five members of the drafting committee of the Declaration of Independence. At the center of the Memorial is Rudolph Evan's bronze statue of Thomas Jefferson. The statue, which depicts Jefferson at mid-life holding the Declaration of Independence, faces north toward the White House along the cross-axis of the Mall.

The design of the Jefferson Memorial grounds is attributed to Frederick Law Olmsted, Jr., who was appointed the project landscape architect in 1938, Olmsted Jr., principal, and Henry V. Hubbard, project landscape architect, led the project efforts for Olmsted Brothers, Landscape Architects. The October 10, 1938 Olmsted Plan (Nov. Revision), Figure 27, reflects the preliminary layout, grading, vista framing, plant massing, tree placements, screening of the railroad, and the drive configuration. Plantings are organized scenically in five groups: evergreens, American elms, mixed evergreen and deciduous shrubs, Japanese flowering cherry trees at the Tidal Basin edge, and groups of large evergreen trees, highlighted in this color rendered study.

The Memorial was originally surrounded by a circular roadway and by 1941 Olmsted Brothers had completed two detailed planting plans, one for outside the circular roadway and one for inside the circular roadway, each of which included detailed planting lists. These plans are shown in Figures 28 and 29. Both plans were criticized by CFA, NCPC, and the Thomas Jefferson Memorial Commission as being too complicated and fussy and for using too many different species for the scale of the project. The plans were revised several times in response to the critics with a planting plan finally approved by all in 1941. The number of plant species for the area within the circular drive was reduced to 13 and were mainly evergreen. The planting plan for the area outside the roadway included a limited number of trees, shrubs, and ground cover.

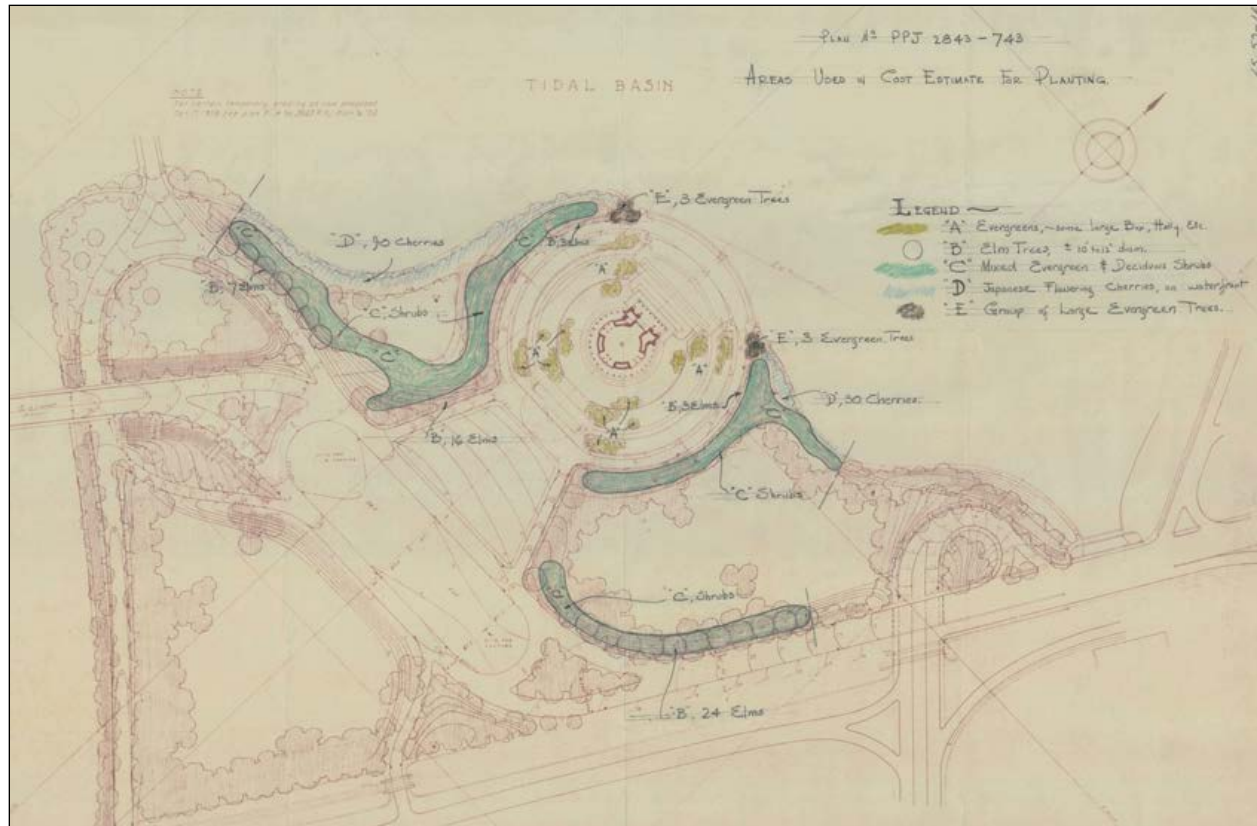


Figure 27. F. L. Olmsted Jr. Planting Design Plan, October 19, 1938 (November revision with color), National Archives

The as-built vegetation inside the circular roadway is itemized in the following quote “1800 cotoneaster, and 30 yew and thorn trees on the lower terrace and roadway levels, and 2600 small leafed Japanese hollies on the lower terrace inside the granite wall...outside the circular roadway included planting of dogwoods, thorns, crabapple and a sprinkling of maples, hollies, lindens and oaks, 47 large American elms, 11 planes. Periwinkle groundcover was planted in two, triangular spaces adjacent to the east and west ends of the granite sea wall. Fine grading and seeding of vista strip on the west area of the monument and the panel to the south of the monument was done...Planting of cherry trees by the National Park Service,” (Thomas Jefferson Memorial Commission, Monthly report for May 1942).

The Olmsted layout and planting plan around the Memorial structure, installed in the early 1940s, featured a formal, concentric, tiered layout, within the circular drive. It featured four angled planting groups of trees and shrubs at the north and south of the Memorial to both sides of the north steps and south entry that stepped down with from Memorial to drive levels. The plants material included yew, American holly, Japanese holly, abelia, osmanthus, firethorn, and cotoneaster with dogwoods and winter jasmine added for color. White pines were added to the stylobate level to introduce evergreen contrast. Curved lines of hedges framed the drive to the east and west, and hedges filled the south planter box.

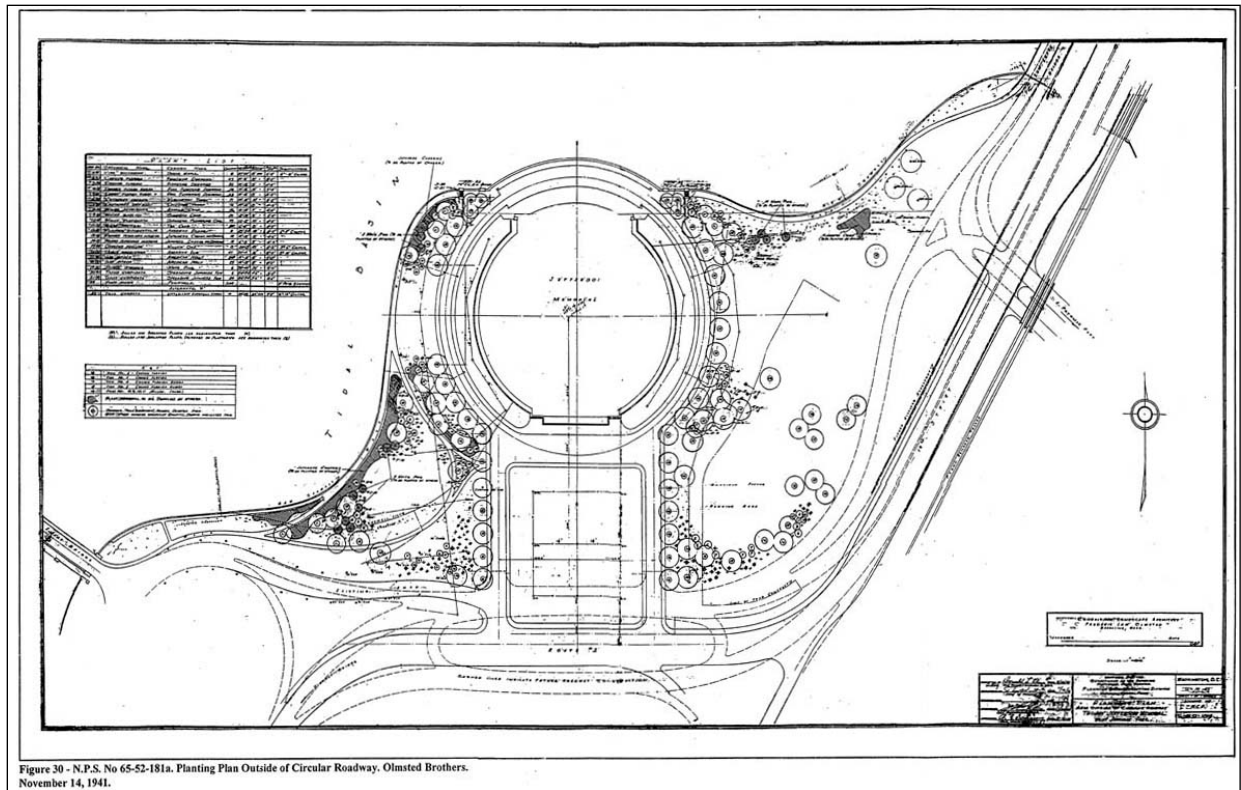


Figure 28. November 1941 Planting Outside the Circular Drive, NPS CLI 2003

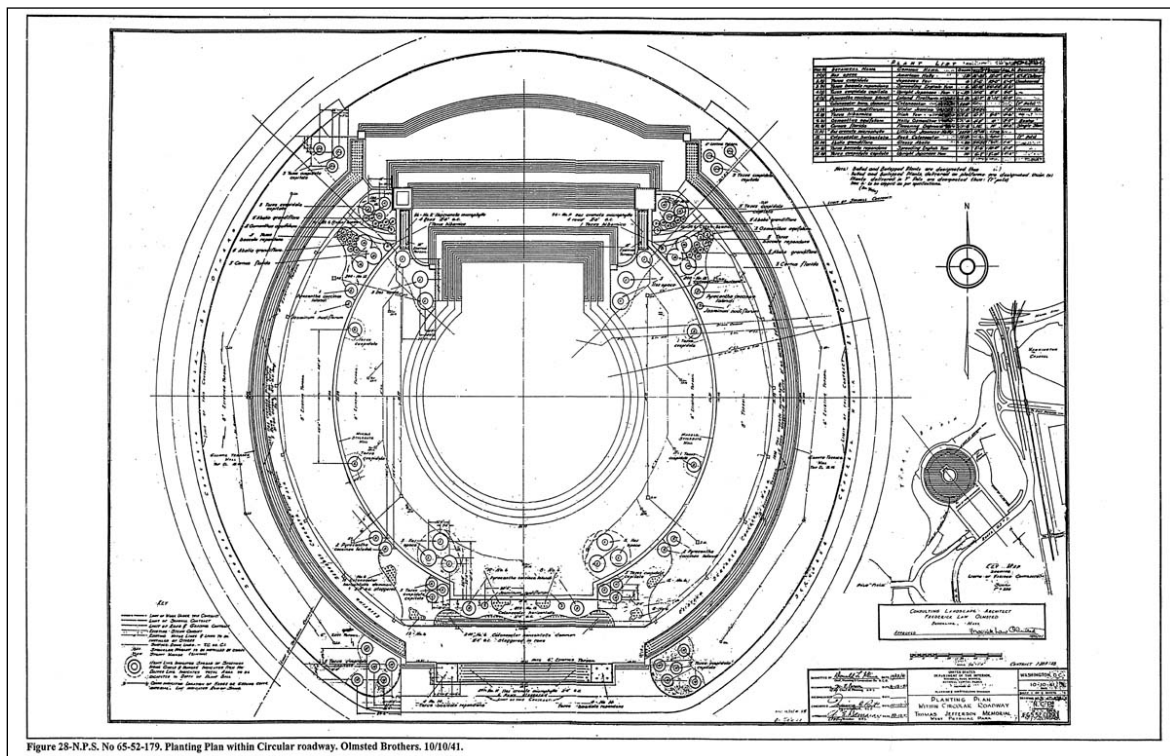


Figure 29. October 1941 Planting Inside the Circular Drive, NPS CLI 2003

Outside of the circular drive, the planting featured small flowering trees with taller shade trees underplanted with grass and limited shrubs and ground cover. The taller trees edged the circular drive and approach driveways except to the north and east vistas. The other plantings were clustered at the four cardinal points outside of the circular drive and where the approach roads intersect with East Basin Drive. The plantings focused on dogwood, crabapple, cherry, and elm and also included maple, hawthorn, plane, oak, holly, pine, yew, and periwinkle. With cherry trees featured along the seawall.

The overall as-built landscape, seen in Figures 30 to 32, expresses the Olmsted design intent in:

- Formal axially organized and symmetrically massed landscape design to frame Memorial with concentric levels of shrubs, hedges, trees, and turf
- Formal tree-lined, lawn panel framed by drives and parking to south
- Evergreens at corners added to punctuate classical architecture
- Traditional cherry trees along Tidal Basin retained and strengthened
- Informal, naturalistic organization of turf, and plantings to shape spaces and direct views/vistas to and from the Memorial

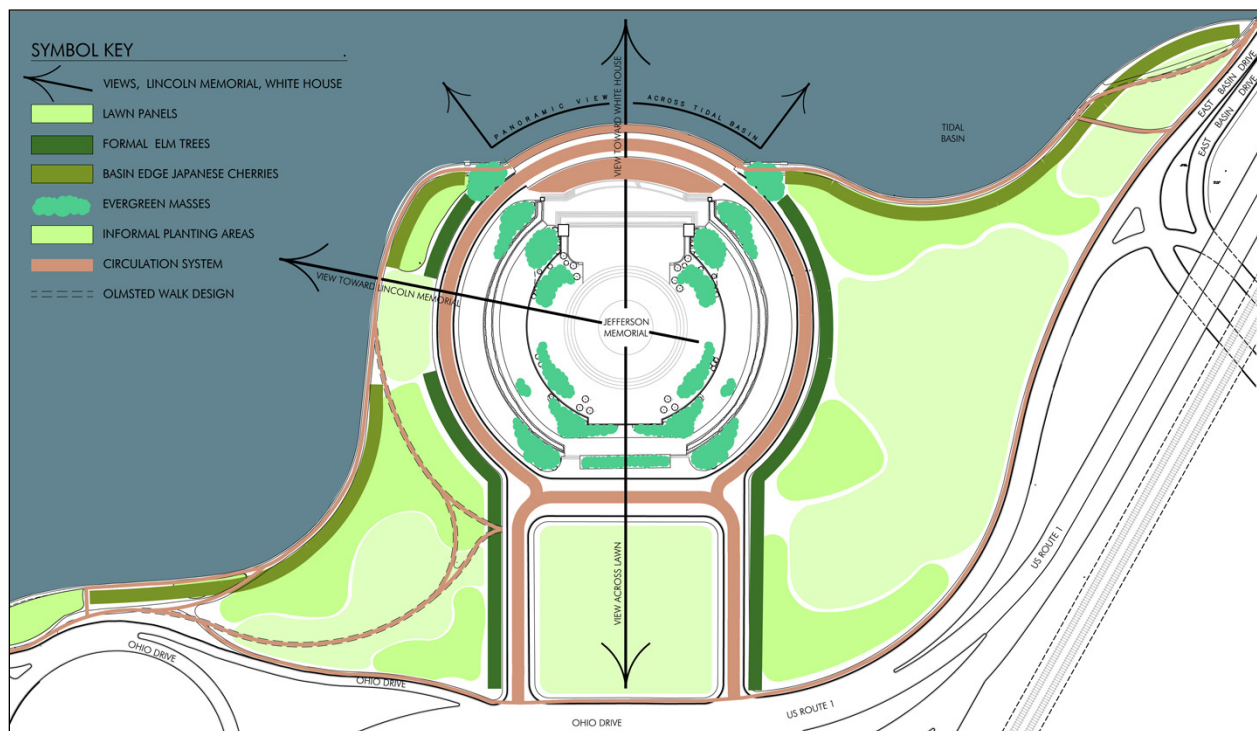


Figure 30. F. L. Olmsted, Jr. Design Landscape Design Elements

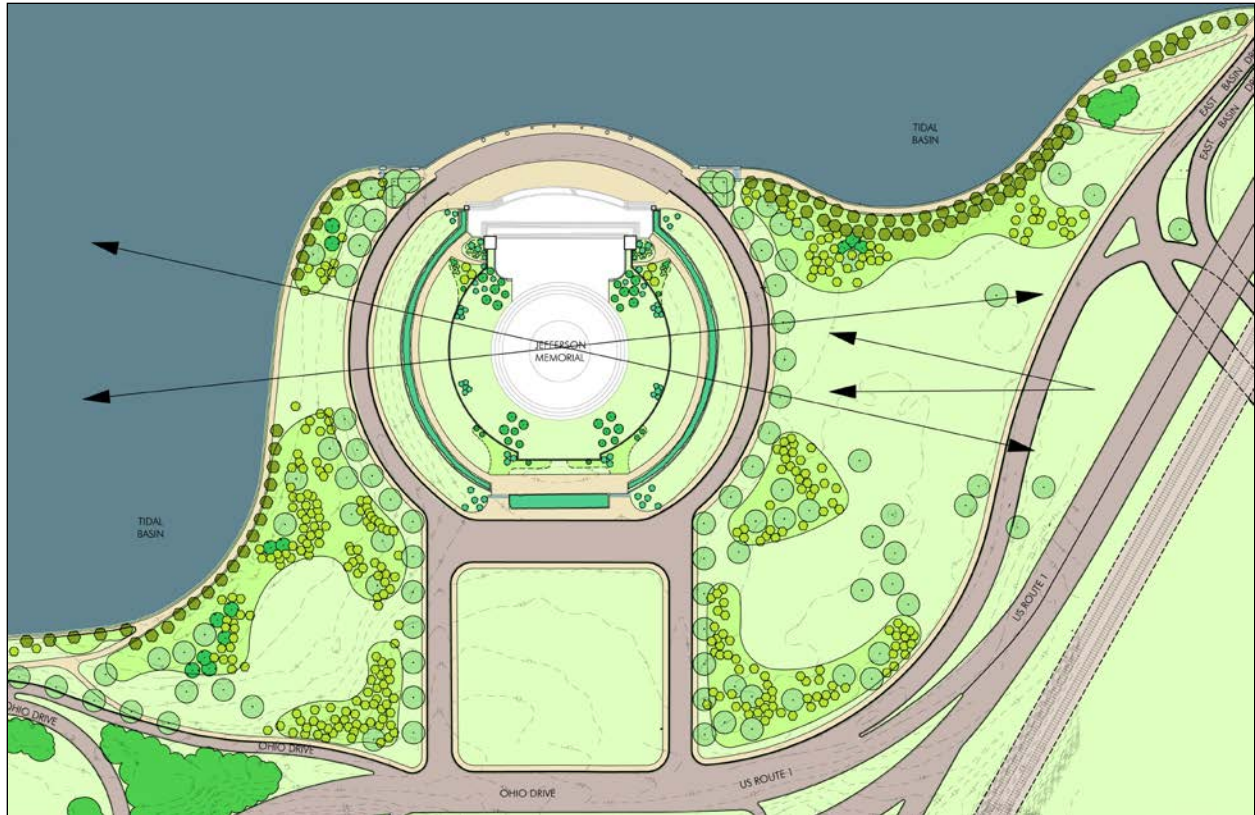


Figure 31. 1943 As-Built Core Landscape



Figure 32. Oblique Aerial of Built Landscape From the Southwest, Dated August 11, 1947, National Archives, Airscapes Collection

The Jefferson Memorial site is located along one of the two axes of the L'Enfant Plan and at one of the cardinal points of the McMillan Plan. The expanse of the Tidal Basin to the north emphasizes the distance between the Jefferson Memorial and other elements of the city, giving it a feel of openness and informality, far removed from the rigidity of the axial location of the site. The same park-like setting does not exist at the south due to the close proximity of the interstate and ramps that block the views to the Potomac and create a physical barrier. The spatial organization of the Memorial grounds today has a moderate level of integrity due to changes over time. The composition of the site plan becomes less rigid as one travels out from the Memorial. The architectural plantings of shrubs and trees within the circular roadway, together with the rectangle of grass, give way to the informal parkland composition of trees set in grass.

Limited alterations have been made to the Jefferson Memorial structure since its dedication. In 1970, a pedestrian plaza was added between the Memorial and the Tidal Basin wall, thus removing the original continuous circular roadway around the Memorial. In 1975-76, new toilet facilities, an elevator, and an accessible ramp were added along with repairs to plumbing and electrical systems and minor structural repairs. A small gift shop was installed in a former storage room. The original planter to the south was altered to accommodate a handicap access ramp under plans by A.E. Bye, landscape architect. In addition, periodic conservation work to preserve the marble structure and surfaces has been undertaken.

The original roadways were constructed of asphalt topped concrete and the paths were surfaced with "black top," a common name for asphalt. In 1969-70, the roadway on the Tidal Basin side of the Memorial was replaced with a concrete paved pedestrian plaza and was recently repaved with the seawall wall project at the base of the Memorial north steps. An exposed aggregate sidewalk parallels East Basin Drive and original curving asphalt concrete paths extend from the northeast and northwest sides of the Memorial along the Tidal Basin seawall. Paths paved in asphalt were constructed after the Memorial was completed, not in the proposed Olmsted alignment. They extend from the southeast and southwest sides of the circular drive heading to the east and west, from the Tidal Basin edge to the parking area at the west and from the Tidal Basin walkway to East Basin Drive near the Outlet Bridge to the east. Except for the social paths at the east side of the Memorial and the ramps adjacent to the steps in the Tidal Basin edge walkway, all existing roadways, the south parking lot, the north plaza, and all pedestrian paths have been identified as contributing features of the landscape. Much of the existing paving, a combination of concrete and asphalt, is in fair to poor condition, with notable repairs and patching. The circular roadway is now a pedestrian path, redesigned in modular paving, to show the road form and edges, with the curb removed.

Much of what is planted on the grounds of the Jefferson Memorial today is not the original Olmsted designed plant material. In the 1970s, a mass of yews was planted on the stylobate. A ring of zelkovas was planted inside the circular roadway, as an offset replacement for the declining American elms on the outside edge. In 1986, three mature white pines were removed and replaced with smaller trees and the hollies hedge on the stylobate was replaced with a different species of holly. The yews planted in the 1970s were removed in 1993 and several original yews, a holly, and a white pine were replaced. In 1998, the plantings that had been installed for the Bicentennial were removed in an effort to restore the integrity of the historic landscape. Many of the original dogwoods, cotoneaster, and glossy abelia no longer exist. Flowering trees, including cherry trees, have been planted throughout the landscape over recent decades in areas that were open originally. Areas of the original periwinkle, *Vinca minor*, ground cover were replaced with grass soon after the Memorial's completion. The elm trees that existed to the southwest of the Memorial failed due to re-grading that took place to correct settlement. The existing plant materials that remain from the Olmsted era are considered to be contributing features to the cultural landscape, as are the cherry trees around the tidal basin that were originally planted in 1912, and have been periodically replaced. The existing 2011 landscape is presented in Figure 33.



Figure 33. Existing 2011 Landscape

WASHINGTON MONUMENT

The Washington Monument was listed in the NRHP in 1966 with updated documentation accepted in 1981. The Monument was listed for its and the site's significance as the primary memorial to the first president, George Washington; as an example of Egyptian Revival architecture; and for accomplishments in structural engineering. The Monument is also a contributing structure to the L'Enfant Plan of the City of Washington as part of Reservations Nos.2-6 National Mall and Monument Grounds and is listed as a National Civil Engineering Landmark (1981).

Plans for a national monument began as early as 1783 when L'Enfant proposed to Congress that an equestrian statue of General Washington be erected. Although authorized by Congress, no action was taken until 1833 when John Marshall and James Madison formed the Washington National Monument Society. After raising funds and holding a competition for the design of the Monument, construction began when the cornerstone was laid on July 4, 1848. Construction was not completed until 36 years later, in 1884. Located on the Washington Monument grounds and approximately 750 feet southwest of the Monument is the Boiler House, which was constructed to house the steam generating plant for the Washington Monument elevator. Now referred to as the Survey Lodge, the one-story Boiler House was constructed in 1886 using marble and granite leftover from the Monument construction. The Survey Lodge, a contributing resource to the Washington Monument site, now houses offices for the NPS interpretive staff. The Jefferson Pier Marker, a small monument north and west of the Monument that marks the intersection of the east-west axis of the Capitol with the north-south axis of the White House, is also a contributing resource to the Washington Monument site. The other contributing resources on the Washington Monument site fall outside of the APE. The grounds surrounding the Washington Monument were initially listed in the NRHP in 1966 under the provisions of the National Historic Preservation Act and were included as a significant contributing feature of the 1981 nomination

documentation. Further, the Washington Monument grounds, as part of the Monumental Core of Washington, were found to be of national significance as part of the 1997 NRHP nomination for the L'Enfant Plan for the city of Washington. The NPS completed a Cultural Landscape Inventory (CLI) in 2009 that further documented the contributing features and characteristics of the Monument grounds.

The grounds have been significantly altered since the time the Monument was constructed. When dedicated in the 1884, the Monument was bordered on the south and west by marshland. The earliest landscaping project deposited 250,000 cubic yards of fill around the Monument, graded so that the earth gradually sloped away from the Monument on all sides. Trees and shrubs were planted and paths installed. Since 1901, the grounds have accommodated baseball diamonds, and tennis courts, temporary military installations and multiple configurations of roads and paths. Most recently the grounds were altered in 2005 to install non-intrusive security barriers. The site set aside by L'Enfant for a monument to George Washington as part of his plan for the city of Washington was then at the edge of the Potomac River. That spot today is marked by the Jefferson Pier, a small monument located on the Washington Monument grounds at the location where the east-west axis of the Capitol intersects the north-south axis of the White House. The original stone marker was placed in 1804, but was later removed and forgotten. In 1889, the current stone, a 2-foot x 2-foot block of granite was erected over the foundation of the earlier marker.

The 2009 CLI re-evaluated the significance of individual features of the Washington Monument grounds and determined that elements in the categories of views and vistas, buildings and structures, circulation, vegetation, topography, land use, and spatial organization contribute to the landscape's significance. The proposed project at the Jefferson Memorial would not physically impact the Washington Monument grounds or its contributing features; impacts of the proposed project are limited to the views and vistas. The CLI identified contributing vistas from the Jefferson Memorial to the Washington Monument and the contributing view from the top of the Washington Monument to the Jefferson Memorial remains intact. The contributing view from the Washington Monument site to the Jefferson Memorial, however, is partially obstructed by maturing vegetation on the Monument grounds and the surrounding street trees that are in place today.

EAST AND WEST POTOMAC PARKS

The East and West Potomac Parks Historic District was initially listed in the NRHP in 1973 with a revised nomination accepted in 2001. The two parks included in the historic district have a combined land area of approximately 730 acres and comprise a large portion of the Monumental Core of the City of Washington. The parks are characterized by broad expanses of open space framed by mature plantings and by views of major memorials. West Potomac Park is generally bounded by Constitution Avenue to the north, the banks of the Tidal Basin and 17th Street to the east, the Potomac Railroad Bridge to the south, and the Potomac River to the west. It contains nearly 400 acres and encompasses numerous contributing elements of historical, landscape and architectural significance. As an integral part of the of the Monumental Core of Washington, the physical shape of West Potomac Park was molded by the concept of the L'Enfant Plan, but was not created until nearly a century later by the 1902 McMillan Plan.

West Potomac Park was, prior to the 1890, a shallow area of the Potomac River. A program of channel dredging between 1882 and 1913 produced sufficient fill to create both the West and East Potomac Parks. It has become one of the nation's most important designed landscapes. Many of the landscape features can be attributed to Frederick Law Olmsted, Jr., one of the most well-known and highly regarded American landscape architects. As a member of the McMillan Commission, the Commission of Fine Arts and the National Capitol Planning Commission, Olmsted Jr., was intimately involved in shaping the landscape of West Potomac Park. Other federally employed landscape architects and private sector landscape architects and firms such as James Langdon, James Greenleaf, Irving Payne, EDAW, and

Lawrence Halprin have also influenced the landscape of the park in specific areas of their work. It is a designed landscape that contains memorials and related paving, walls, water features, and plantings, as well as more open numerous turf expanses, shrubs, trees, or other vegetation and views to the tidal basin and Potomac River.

L'ENFANT PLAN OF THE CITY OF WASHINGTON

The L'Enfant Plan was listed in the NRHP in 1997 for its relationship with the creation of the new United States, the creation of the Capital City, and the Baroque Plan with Beaux Arts modifications. The nomination encompasses both the 1791 L'Enfant Plan and the 1902 McMillan Plan. Contributing features of the 3,565-acre nominated area include the diagonal and gridded streets and avenues, the parks, reservations, and vistas between monuments and sites.

CONTRIBUTING RESOURCES IN APE

A number of contributing cultural resources are positioned within the draft Area of Potential Effect (APE), shown on Figure 26. This section summarizes these resources, with a focus on the Thomas Jefferson Memorial, Washington Monument, East and West Potomac Park landscapes and views, and the L'Enfant Plan of the city of Washington.

Thomas Jefferson Memorial

The Thomas Jefferson Memorial was listed in the NRHP in 1966 (documentation was updated in 1981). The Jefferson Memorial is a contributing resource to the 1997 NRHP listing of the L'Enfant Plan of the city of Washington as part of Reservation No. 332, West Potomac Park, and is a contributing resource to the 1973 (revised 1998) NRHP listed East and West Potomac Parks Historic District. The 1981 Jefferson Memorial NRHP documentation is focused on the building and does not identify the grounds as a contributing resource. The East and West Potomac Parks Historic District nomination, however, identifies the Jefferson Memorial grounds as a contributing site. The Jefferson Memorial site and landscape has also been documented and evaluated in the NPS Cultural Landscape Inventory, Thomas Jefferson Memorial, 2003.

Contributing Resources within the Primary APE, as based on resources enumerated in the Thomas Jefferson Memorial CLI, include:

- Seawall, two vintages
- Stylobate wall and terrace walls that create stylobate and terrace mall levels
- Jefferson Memorial
- Stylobate mall and terrace mall levels, created by retaining walls in wedding-cake arrangement
- North steps to Memorial
- North plaza, with recent raising of seawall and new paving
- Approach roadways and former parking lot to south
- Circular drive around Memorial roadway and sidewalks
- Pedestrian walk along Tidal Basin edge, partially under surface of Tidal Basin in 2011
- Pedestrian walk around Memorial on terrace mall level
- Existing plantings remaining from original Olmsted Plans, including evergreens, dogwoods, and winter jasmine inside circular drive, and dogwoods, crabapples, cherries, elms, and other shade trees outside of drive (see Figures 34)

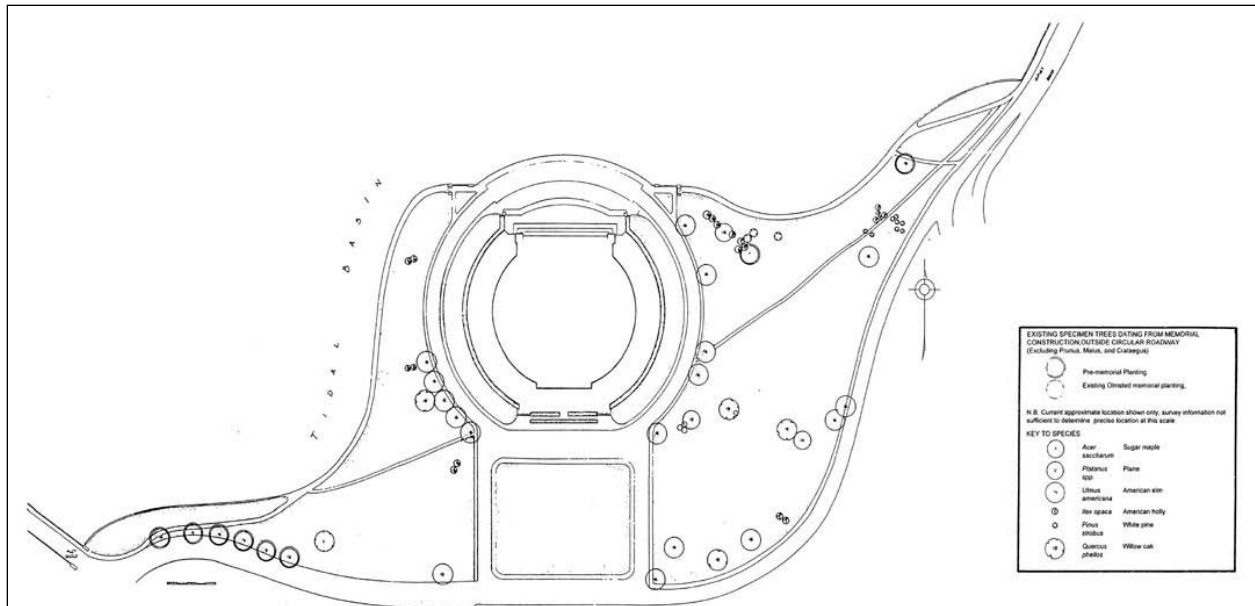


Figure 34. Existing Specimen Trees Dating From Memorial Construction Outside Circular Roadway, as shown in the NPS CLI, 2003. (Along the roadway, margins two of these have since been lost to storms and age, with seven remaining in close alignment to the roadway)

Contributing Resources within the Secondary APE, as based on resources enumerated in the CLI, include:

- Vista northwest to Lincoln Memorial: limited, with only the very top of the structures visible
- Vista north to White House and Washington Monument: clearly visible from the plaza and steps of the Memorial. Vista from the White House across the Ellipse to the Jefferson Memorial and the southern horizon is identified as a primary contributing vista to the L'Enfant Plan of the city of Washington, listed in the NRHP in 1997
- Visual corridor northeast toward Capitol, generally along the diagonal alignment of Maryland Avenue
- Open panoramic view to and from the north across the Tidal Basin: remains largely intact, the same as it was in the 1940s
- Cherry trees at the edge around Tidal Basin beyond the Jefferson Memorial, originally planted in 1912, few original trees remain though the organization and use of cherry trees along the basin edge persists

Washington Monument

Contributing Resources within the Secondary APE include:

- Washington Monument
- Views from the site to the Thomas Jefferson Memorial
- Independence Avenue overpass
- Independence and Maine Avenue corridors
- Tidal Basin parking lot corridor
- Tidal Basin walk
- Street trees along Tidal Basin parking (in the view)
- Cherry groves along Tidal Basin

Affected Environment

- Open groves
- Elms along Tidal Basin parking lot
- Large elm along Tidal Basin, near intersection of Raoul Wallenberg Place and Maine Avenue
- Pipe handrail - Tidal Basin

East Potomac Park

Contributing Resources within the Secondary APE, based on the NRHP nomination, include:

- Stone seawalls
- Potomac River Bridge
- Japanese cherry trees at Tidal Basin edge

West Potomac Park

Contributing Resources within the Secondary APE, based on the NRHP nomination, include:

- Stone seawalls
- Tidal Basin
- Tidal reservoir outlet bridge
- Tidal reservoir inlet bridge
- Commodore John Paul Jones statue
- Japanese cherry trees at Tidal Basin edge
- Dutch elm trees
- District of Columbia World War I Memorial
- Jefferson Memorial
- Independence Avenue extension
- Jefferson Memorial grounds
- Kutz Bridge
- Japanese pagoda
- Franklin Delano Roosevelt Memorial
- Views from the site to the Lincoln Memorial

L'Enfant Plan

Contributing Resources of the L'Enfant Plan located within the secondary APE and relevant to this project are:

- Reservation 332: West Potomac Park, which includes the Jefferson Memorial, Tidal Basin, Inlet Bridge, Kutz Memorial Bridge, Japanese pagoda and lantern, cherry trees, and the John Paul Jones Statue
- Reservations Nos. 2-6: National Mall and Monument Grounds, which includes the Washington Monument Grounds, the Washington Monument, the Boiler House/Survey Lodge, and the Jefferson Pier Marker
- Vista from the White House across the Ellipse to the Jefferson Memorial and southern horizon

Visitor Use and Experience

The Jefferson Memorial is part of the Monumental Core of Washington, DC. The Memorial site comprises approximately 19.2 acres (NPS, 2010b). Other memorials located in the Monumental Core

include the Franklin Delano Roosevelt Memorial, the Lincoln Memorial, the Korean War Veterans Memorial, the Vietnam Veterans Memorial, the Washington Monument, President's Park (White House), and the World War II Memorial. Of the approximate 24 million visitors in the Monumental Core in a given year, approximately 2 million visit the Jefferson Memorial (NPS, 2008a; 2010b).

Visitors come to the Memorial to commemorate the legacy of the Nation's third president and also to enjoy the landscape features and vistas. In 2009, there were 2,337,868 visitors to the Thomas Jefferson Memorial. The park sees the majority of visitors in the spring and summer months, with April, May, and June being the most popular months to visit the monument (NPS, 2011). Table 3 displays monthly visitation numbers for the years 2005 through September 2010.

Table 3. Thomas Jefferson Memorial Monthly Visitation

	2010	2009	2008	2007	2006	2005
January	58,731	94,997	65,269	63,605	57,035	95,808
February	54,656	88,907	89,728	61,344	72,459	87,093
March	216,117	241,835	326,677	231,872	245,995	225,024
April	484,565	384,331	396,949	354,443	368,363	392,864
May	301,312	305,856	267,179	336,427	330,592	321,163
June	250,229	263,701	290,965	280,576	247,723	292,661
July	248,554	249,856	254,155	275,435	231,499	258,763
August	237,632	242,283	191,189	181,397	170,763	164,832
September	131,616	138,251	121,333	139,349	137,611	125,643
October	170,635	175,499	190,709	181,963	147,381	155,403
November	104,736	107,712	102,187	137,963	127,413	120,704
December	47,072	44,640	66,923	82,880	82,421	72,768
Total	2,307,865	2,337,868	2,363,263	2,327,254	2,219,255	2,312,726

Access to the Jefferson Memorial is primarily by vehicle, either by car or tour bus. Public bus service to the site does not exist and the nearest Metro stop is approximately 1 mile away. The Jefferson Memorial is accessed by vehicle from East Basin Drive, which is a one-way road heading from east to west. Pedestrians and cyclists can also access the Memorial from the east, or from the Franklin Delano Roosevelt Memorial to the west. Concrete barriers have been installed at the site as a temporary security measure to block access to the Memorial from the social paths to the east and west, forcing pedestrian traffic onto the sidewalk of East Basin Drive. All visitors access the Memorial from the west branch of the U-shaped driveway (the east branch is also blocked by concrete barriers).

Tour buses drop off and pick up passengers along East Basin Drive, to the south of the Memorial. There is currently no dedicated bus drop-off area. Buses currently load and unload passengers in the right lane of East Basin Drive, blocking the traffic lane and creating conflicts between buses and through traffic. This also creates congestion for pedestrians, as tourists queuing for buses crowd the narrow sidewalk.

Visitors driving their own vehicles can park at the lots off of Ohio Drive (NPS, 2008b). Existing parking for visitors with disabilities is located near the existing concession kiosk. However, spaces are limited and are often occupied by unauthorized vehicles. There is a Capital Bikeshare Station located on the south side of East Basin Drive across from the Memorial. This Bikeshare station will be relocated in the future; however the final location of the station has not yet been determined.

All interior roads inside of the existing jersey barriers are now designated for pedestrian use only with the exception of emergency and maintenance vehicles. Access of these vehicles is controlled by Park Police at a gate on the west access road. Internal and perimeter pedestrian paths are currently shared with bicyclists, and conflicts are known to occur. A number of “social” paths have developed within the lawn areas from pedestrians walking off of the sidewalks.

Once visitors arrive at the Jefferson Memorial, they can easily acquaint themselves to the site and find information on Thomas Jefferson and the Memorial via site brochures, ranger staff, and a visitor information kiosk located inside the Memorial building. Restrooms and gift shops are also located underground on the northwest section of the Memorial. A concession kiosk is located on the southwest entrance of the Memorial at East Basin Drive.

The site is used informally for strolling, picnicking, and other recreation. More active recreation includes jogging and bicycling, which is allowed on the ground level paths surrounding the Memorial, but not within the Memorial or on the Memorial steps.

Many events and ceremonies are held at the Jefferson Memorial throughout the year including the annual National Cherry Blossom Festival held every spring. This event is a two-week long festival celebrating spring and the blooming of the Yoshino cherry trees. The annual Cherry Blossom 10-Miler is often routed around the Memorial. Other events held at or near the Jefferson Memorial include an annual Easter sunrise service held at the Memorial, the Marine Corps Marathon that goes past the Memorial in October, and various commemorating ceremonies including Thomas Jefferson birthday celebrations and the launch of the Thomas Jefferson \$1 coin in 2007.

The Memorial also sees increased traffic during Memorial Day and Independence Day celebrations. The Jefferson Memorial is known as one of the best of places in DC to view the annual 4th of July fireworks display.

Visitors to the Jefferson Memorial often visit other nearby memorials, monuments, and museums prior to or after visiting the Memorial. Visitors may explore the National Mall on their own or participate in guided tours of the various memorials and monuments that make up the National Mall.

Human Health and Safety

In order to provide adequate security to the National Mall and its visitors, many makeshift security measures have been implemented. After the 1995 bombing of the Alfred P. Murrah Federal Building in Oklahoma City, and the bombings of the American embassies overseas, security measures were enhanced in and around the Nation’s Capital. In 1998, the parking lot to the south of the Jefferson Memorial was temporarily closed in 1998. After September 11, 2001, the U-shaped drive was closed on the east side except for exiting traffic. Concrete jersey barriers were installed along the west side of the inner circle to

prevent possible terrorist attacks. In January 2003, the parking lot was permanently closed to all vehicle traffic. Currently, jersey barriers form a barricade around the site, beginning to the west of the Memorial at the Tidal Basin and following the sidewalk along East Basin Drive to connect to the Tidal Basin to the east of the Memorial. These temporary vehicle security barriers are spaced to allow pedestrians to pass between them; however, they do not comply with NPS-developed security objectives for the site.

With the closure of the U-shaped drive, visitors who drive to the Jefferson Memorial park in existing lots located along Ohio Drive. To access the parking lots, visitors must drive through the intersection of East Basin Drive and Ohio Drive.

The Memorial is accessible for persons with disabilities. A ramp at the south entrance provides access to the lower pedestal. The lower lobby can be entered from the lower pedestal and an elevator can be taken up to the second level, where the statue of Jefferson stands.

Park Operations and Management

The Jefferson Memorial falls within the jurisdiction of the NAMA (NPS, 2010b). The NAMA has a staff of approximately 300, who are responsible for the National Mall's historic landscape and commemorative works, as well as the additional 156 reservations, parks, circle, square, and triangles under the jurisdiction of National Mall and Memorial Parks. In addition, this administrative unit of the NPS manages the National Mall, the Washington Monument, the Lincoln Memorial, the Franklin Delano Roosevelt Memorial, the World War II Memorial, the Korean War Veterans Memorial, the Vietnam Veterans Memorial, and several other historic sites, memorials, and parklands within the District of Columbia (NPS, 2009b). NAMA is managed by the Office of the Superintendent and has five divisions: park programs, administration, resource management, maintenance, and interpretation and education.

The Jefferson Memorial is open 24 hours a day, 7 days a week, and is closed only on Christmas Day (CFR Title 36 Chapter 1). NPS Rangers are available for questions from 9:30 am to 12:00 pm. Between midnight to 9:30 am, the Memorial is monitored by U.S. Park Police and no restrooms or other visitor services are available. Restrooms are closed from 10 pm to 8 am. Eating, drinking, and smoking are prohibited within the Memorial, including the stairways to the chamber. Bus loading/unloading is restricted to drop-off and pick-up zones indicated by signage. The Memorial is host to various annual events, including Easter Sunrise Services, the National Cherry Blossom Festival, and a wreath laying ceremony on Thomas Jefferson's birthday.

The grounds are maintained by maintenance crews who maintain the lawns and hedges and remove trash and snow. Trash receptacles are provided along sidewalks to and from the Memorial and on the Memorial grounds.

Transportation and Traffic

Access to the Jefferson Memorial is primarily by vehicle, either by car or tour bus. The Jefferson Memorial is located off of East Basin Drive, which is a one-way road heading from east to west. Parking is available at three parking lots along Ohio Drive (see Figure 35). Public bus service to the site does not exist and the nearest Metro station, for the Smithsonian, is approximately 1.5 miles away. Pedestrians and cyclists can access the memorial from the east, from the Franklin Delano Roosevelt Memorial to the west, and Ohio Drive to the south. The Jefferson Memorial was made accessible to visitors with disabilities in 1975.

Prior to September 11, 2001, one-way traffic would enter the Jefferson Memorial from the U-shaped driveway on the west and exit along the east. However, the U-shaped driveway was closed for vehicular access and parking after the September 11th attacks and was closed completely in January 2003 due to heightened security within our Nation's Capital. Three additional parking lots are located along Ohio Drive and are approximately 300 to 400 feet from the Jefferson Memorial. Pedestrians must cross East Basin Drive to reach the Memorial from these parking lots.

Tour buses load and unload passengers on East Basin Drive along the west frontage of the Memorial. U.S. Park Police are charged with keeping traffic flow moving and keeping cars and taxis from stopping along East Basin Drive.



Figure 35. Parking Within the Vicinity of the Jefferson Memorial

There is a Capital Bikeshare Station located on the south side of East Basin Drive across from the Memorial. This Bikeshare station will be relocated in the future; however the final location of the station has not yet been determined.

Pedestrians may access the Memorial utilizing sidewalks along East Basin Drive. Bicyclists may access the Memorial via East Basin Drive, and bike racks are located near the Memorial along the Tidal Basin

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 the Council on Environmental Quality (CEQ) regulations implementing the NEPA, a summary of the environmental consequences for each alternative is provided in Table 2, which can be found 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.”

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; and
- Methods and thresholds used to determine if impairment of specific resources would occur under any alternative.

These elements are described in the following sections.

GENERAL ANALYSIS METHODS

The analysis of impacts follows CEQ guidelines and Director’s Order 12 procedures (NPS 2001). This analysis incorporates the best available scientific literature applicable to the region and setting, the species being evaluated, and the actions being considered in the alternatives.

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

IMPACT THRESHOLDS

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

Potential impacts of all alternatives are described in terms of type (beneficial or adverse); context; duration (short- or long-term); and intensity (negligible, minor, moderate, 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: Context is 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, and major) vary by impact topic, intensity definitions are provided separately for each impact topic analyzed.

CUMULATIVE IMPACTS ANALYSIS METHOD

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

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

The analysis of cumulative impacts was accomplished using four steps:

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

Step 2 — Set Boundaries - Identify an appropriate spatial and temporal boundary for each resource.

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

Step 4 — Cumulative Impact Analysis - Summarize impacts of these 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 in Chapter 4.

Table 4. Cumulative Impacts Projects

Type of Action	Cumulative Impacts Project	Description	Status
Perimeter Security	Jefferson Memorial Security Improvements	Vehicle security barriers have been added to the Jefferson Memorial. Affected Resources: Scenic Resources (aesthetics and viewsheds), Cultural Resources, Human Health and Safety, Visitor Use and Experience and Park Operations	Past
	Washington Monument	Security barriers have been added to the Washington Monument and a new visitor screening center is proposed for the Monument. Affected Resources: Scenic Resources (aesthetics and viewsheds), Cultural Resources, Human Health and Safety, Visitor Use and Experience, and Park Operations	Past, Future
Plans	National Mall Plan	The goal of this plan is to establish a sustainable National Mall where visitors feel welcomed into the space that symbolizes our nation. Portions of the Plan are underway including design competitions for Union Square, Constitution Gardens, and the Sylvan Theater areas. Affected Resources: Soils, Vegetation, Cultural Resources, Visitor Use and Experience, and Park Operations	Present

Type of Action	Cumulative Impacts Project	Description	Status
New Museums and Memorials	Martin Luther King, Jr. Memorial	<p>The Memorial, located on the northeast corner of the Tidal Basin near the Jefferson Memorial, was dedicated on October 16, 2011 to commemorate Dr. Martin Luther King, Jr.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, Park Operations and Management, and Traffic and Transportation</p>	Past
	National Museum for African American History and Culture	<p>The museum is to be constructed on the grounds of the Washington Monument.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, and Park Operations and Management</p>	Future
	Vietnam Veterans Memorial Center	<p>An education and visitor center is proposed at the Vietnam Veterans Memorial.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, and Park Operations and Management</p>	Future
	Dwight D. Eisenhower Memorial	<p>The Memorial is proposed on Independence Avenue between 4th and 5th Streets to commemorate President Dwight D. Eisenhower.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience and Park Operations and Management, Traffic and Transportation</p>	Future

Type of Action	Cumulative Impacts Project	Description	Status
	American Veterans Disabled for Life Memorial	<p>The Memorial is proposed between Washington Avenue, C Street, and 2nd Street within full view of the Capitol.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, Park Operations and Management, and Traffic and Transportation</p>	Future
Civil Works Projects	Jefferson Seawall Rehabilitation	<p>The seawall at the Jefferson Memorial Plaza was rehabilitated and pedestrian circulation and visitor safety improved.</p> <p>Affected Resources: Cultural Resources and Visitor Use and Experience</p>	Past
	Lincoln Memorial Reflecting Pool Rehabilitation	<p>The project improved structural deficiencies in the Reflecting Pool and enhanced infrastructure, security, and pedestrian circulation.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, Human Health and Safety, and Park Operations and Management</p>	Past
	DC War Memorial	<p>The project, to restore the Memorial, replace walks, restore landscaping, and improve site drainage and lighting, is completed and open to the public.</p> <p>Affected Resources: Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, and Park Operations and Management</p>	Past

Type of Action	Cumulative Impacts Project	Description	Status
	Madison Drive Streetscape Improvements	<p>Madison Avenue was rehabilitated with streetscape improvements.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, Human Health and Safety, and Park Operations and Management</p>	Past
	Constitution Avenue Street Improvements	<p>Constitution Avenue was rehabilitated between 16th and 23rd Streets with streetscape improvements and storm sewer upgrades.</p> <p>Affected Resources: Visitor Use and Experience, Park Operations and Management, and Transportation and Traffic</p>	Past
	Washington Monument	Repairs are being undertaken to repair damage to the Washington Monument caused by a 5.8 magnitude earthquake that struck the Washington D.C. area in August 2011.	Present
	Potomac Park Levee Project	<p>This project is being constructed to improve the flood protection in a manner that respects the functions and values of the National Mall.</p> <p>Affected Resources: Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, Visitor Use and Experience, Human Health and Safety, and Park Operations and Management</p>	Present
	National Mall Turf and Soil Reconstruction	<p>This project is designed to alleviate soil compaction and worn turf, minimize future compaction, and ensure proper drainage and stormwater management.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, and Park Operations and Management</p>	Present

Type of Action	Cumulative Impacts Project	Description	Status
	Arlington Memorial Bridge Rehabilitation and Repair	<p>This project would restore the structural integrity of Arlington Memorial Bridge while protecting and preserving, to the extent feasible, its memorial character and design elements.</p> <p>Affected Resources: Soils, Water Quality, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, and Transportation and Traffic</p>	Future
	14 th Street Bridge Corridor	<p>The roadway network in the 14th Street bridge corridor between Arlington, Virginia and Washington, DC would be modified to reduce congestion, enhance safety, and improve traffic operations.</p> <p>Affected Resources: Soils, Vegetation, Scenic Resources (aesthetics and viewsheds), Cultural Resources, and Transportation and Traffic</p>	Future

Soils

METHODOLOGY AND ASSUMPTIONS

Existing soil maps and related documents were reviewed in order to analyze potential impacts on soils from the construction of proposed vehicle security barriers, and improvements to concession, tour bus drop-off, and parking for persons with disabilities. It is assumed that the soils in the vicinity of the Thomas Jefferson Memorial and the National Mall are highly disturbed in nature.

STUDY AREA

The study area for soil resource impacts is the limits of disturbance required for the construction of the vehicle security barrier at the Jefferson Memorial, and any necessary staging areas for stockpile material and construction equipment. For cumulative impacts, the study area is the National Mall and Memorials Park.

IMPACT THRESHOLDS

The following thresholds were used to determine the magnitude of impacts to soils:

Negligible—The action would result in a change to a soil resource, but the change would be so small it would not be of any measurable or perceptible consequence.

Minor—The action would result in impacts to a soil resource, but the change would be small and localized and of little consequence. Mitigation would be needed to offset adverse impacts and would be relatively simple to implement and would likely be successful.

Moderate—The action could result in a change to soil resources; the change would be measurable and of consequence. Mitigation measures would be necessary to offset adverse impacts and would likely be successful.

Major—The action would result in a noticeable change to soil resources; the change would be measurable and result in a severely adverse impact. Mitigation measures necessary to offset adverse impacts would be needed and extensive, and their success would not be guaranteed.

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

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, a vehicle security barrier would not be constructed and the current use of concrete jersey barriers would continue. Visitors with disabilities would continue to park in existing parking spaces situated along East Basin Drive and tour buses would continue to use existing bus drop-off areas for loading and unloading passengers. The concession kiosk would remain in its current location near the south lawn. The no action alternative would continue to result in impacts on soil from overuse of social paths. Visitor crossing through the landscape, rather than using designated paths, would continue to destroy vegetation, exposing and compacting soils. This would continue to result in a minor, long-term, adverse impact to soils.

Cumulative Impacts

Past actions, including construction of the Jefferson Memorial, have affected the soils in the vicinity of the National Mall. Historically, large portions of this area have been filled with dredged material from the Potomac River. Temporary security measures at the various memorials in the Monumental Core (National Mall) have had minor impacts to soils due to the placement of jersey barriers on lawn areas. In addition, soils at the National Mall are impacted from daily foot traffic where social paths have been created. The no action alternative would not deter the use and formation of social paths and thus would result in moderate adverse cumulative impacts to soils.

Present and future projects in the vicinity of the National Mall and the Jefferson Memorial would have moderate adverse impacts from the disturbance and removal of soils during construction activities. Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of soils, but also encourage visitors to use designated paths and deter the creation of social paths, leading to beneficial cumulative impacts to soils. The National Mall turf and soil reconstruction project is expected to alleviate soil compactions within the turf panels on the National Mall and result in beneficial impacts to soils. Under the no action alternative, compaction and loss of soils from social paths would continue, and, thus, the no action alternative would lessen the overall beneficial cumulative impacts of other projects.

Conclusion

The no action alternative would result in minor, long-term, adverse impacts from the continued use of social paths and the compaction of soils. The no action alternative would only slightly lessen the overall beneficial cumulative impacts to soils of present and future projects on the National Mall.

IMPACTS OF ALTERNATIVE 1: BARRIER AS A STREETScape FEATURE (PREFERRED ALTERNATIVE)

Under Alternative 1, urban soil would be disturbed for the construction of the piers, walls, horizontal bars, and bench segments that would make up the vehicular barrier. The existing interior paths would be removed and backfilled with top soil. Widening the sidewalk along East Basin Drive, constructing the concession kiosk, and adding new paths around the Memorial would also require the disturbance of urban soils. During construction, vegetation, including 53 trees, would be removed, and soils previously surrounding the roots would be disturbed and exposed. All of these activities would disturb a total of approximately 45,000 square feet of urban soil. Erosion and sediment control measures such as silt fencing, straw, and other suitable cover material would be used during construction to control erosion and to prevent soil from leaving the project area. Fine grading would occur to match the existing area topography and the area would be seeded or sodded to restore the grass areas upon completion. Thus, for Alternative 1, construction activities would result in short-term, minor, adverse impacts to soils.

Alternative 1 would also have beneficial impacts by redirecting pedestrian traffic away from the grass areas and encouraging visitors to use designated paths rather than crossing through the landscape and creating social paths. Such social paths destroy vegetation and expose and compact soils. These compacted soils act as an impervious surface creating reduced space between individual soil particles and diminish the infiltration of stormwater.

Cumulative Impacts

Past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial have and would continue to have minor, adverse impacts from the disturbance and removal of soils during construction activities. Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of soils, but also encourage visitors to use designated paths and deter the creation of social paths leading to beneficial cumulative impacts to soils. The National Mall turf and soil reconstruction project is expected to alleviate soil compactions within the turf panels on the National Mall and result in beneficial impacts to soils. The impacts from Alternative 1, when combined with the impacts of the other past, present, and future actions would result in short-term, minor, adverse cumulative impacts, with net long-term beneficial cumulative impacts.

Conclusion

Alternative 1 would result in short-term, minor, adverse impacts to soils during construction activities. Following construction, beneficial impacts to soils would occur by deterring visitors from creating social paths. Construction of past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial, along with Alternative 1, would result in short-term, minor, adverse cumulative impacts, with net long-term beneficial cumulative impacts.

IMPACTS OF ALTERNATIVE 2: BARRIER AS A LANDSCAPE FEATURE

Under Alternative 2, urban soil would be disturbed for the construction of the piers, walls, horizontal bars, and bench segments that would make up the vehicular barrier. The existing interior paths would be removed and backfilled with top soil. Widening the sidewalk along East Basin Drive, constructing the concession kiosk, and adding new paths around the Memorial would also require the disturbance of urban soils. During construction, vegetation, including 69 trees would be removed, and soils previously surrounding the roots would be disturbed and exposed. These activities would disturb approximately 33,000 square feet of urban soil in the project area. Erosion and sediment control measures such as silt fencing, straw, and other suitable cover material would be used during construction to control erosion and to prevent soil from leaving the project area. The overall site disturbance would include fine grading to

match the existing area topography; and the disturbed area would be seeded or sodded to restore the grass areas upon completion. Therefore, the Alternative 2 construction activities would result in short-term, minor, adverse impacts to soils.

Alternative 2 would also have beneficial impacts by redirecting pedestrian traffic away from the grass areas and encouraging visitors to use designated paths rather than crossing through the landscape and creating social paths. Such social paths destroy vegetation and expose and compact soils. These compacted soils act as an impervious surface creating reduced space between individual soil particles and diminish the infiltration of stormwater.

Cumulative Impacts

Past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial have and would continue to have minor adverse impacts from the disturbance and removal of soils during construction activities. Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of soils, but also encourage visitors to use designated paths and deter the creation of social paths leading to beneficial cumulative impacts to soils. The National Mall turf and soil reconstruction project is expected to alleviate soil compactions within the turf panels on the National Mall and result in beneficial impacts to soils. The impacts from Alternative 2, when combined with the impacts of the other past, present, and future actions would result in short-term, minor, adverse cumulative impacts, with net long-term beneficial cumulative impacts.

Conclusion

Alternative 2 would result in short-term, minor, adverse impacts to soils during construction activities. Following construction, beneficial impacts to soils would occur by deterring visitors from creating social paths. Construction of past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial, along with the action alternatives, would result in short-term, minor, adverse cumulative impacts, with net long-term beneficial cumulative impacts.

IMPACTS OF ALTERNATIVE 3: BARRIER AS A FORMAL FEATURE

Under Alternative 3 approximately 36,000 square feet of urban soil would be disturbed for the construction of the piers, walls, horizontal bars, and bench segments that would make up the vehicular barrier. Widening the sidewalk along East Basin Drive, constructing the concession kiosk, and adding new paths around the Memorial would also require the disturbance of urban soils. During construction, vegetation, including 44 trees would be removed, and soils previously surrounding the roots would be disturbed and exposed. The existing interior paths would be removed and backfilled with top soil, which is also included in the 36,000 square feet of soil disturbance. Erosion and sediment control measures such as silt fencing, straw, and other suitable cover material would be used during construction to control erosion and to prevent soil from leaving the project area. The site disturbance would include fine grading to match the existing area topography and the area would be seeded or sodded to restore the grass areas upon completion. Thus, for Alternative 3, construction activities would result in short-term, minor, adverse impacts to soils.

Alternative 3 would also have beneficial impacts by redirecting pedestrian traffic away from the grass areas and encouraging visitors to use designated paths rather than crossing through the landscape and creating social paths. Such social paths destroy vegetation and expose and compact soils. These compacted soils act as an impervious surface creating reduced space between individual soil particles and diminish the infiltration of stormwater.

Cumulative Impacts

Past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial have and would continue to have minor adverse impacts from the disturbance and removal of soils during construction activities. Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of soils, but also encourage visitors to use designated paths and deter the creation of social paths leading to beneficial cumulative impacts to soils. The National Mall turf and soil reconstruction project is expected to alleviate soil compactions within the turf panels on the National Mall and result in beneficial impacts to soils. The impacts from Alternative 3, when combined with the impacts of the other past, present, and future actions would result in short-term, minor, adverse cumulative impacts, with net long-term beneficial cumulative impacts.

Conclusion

Alternative 3 would result in short-term, minor, adverse impacts to soils during construction activities. Following construction, beneficial impacts to soils would occur by deterring visitors from creating social paths. Construction of past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial, along with the action alternatives, would result in short-term, minor, adverse cumulative impacts, with net long-term beneficial cumulative impacts.

Vegetation

METHODOLOGY AND ASSUMPTIONS

Available information on vegetation and vegetative communities potentially impacted by the proposed alternatives was compiled. To the extent possible, the location of sensitive vegetation species, populations, and communities were identified. Predictions about short-term and long-term impacts to vegetation were based on previous experience of projects of similar scope and vegetative characteristics. Analyses of the potential intensity of impacts on vegetation were derived from the available information on the Jefferson Memorial and the professional judgment of the park staff.

STUDY AREA

The study area for vegetation includes the grounds of the Jefferson Memorial between East Basin Drive and the Tidal Basin.

IMPACT THRESHOLDS

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

Negligible—Very few individual trees, mature landscape plantings, or turf within the Jefferson Memorial landscape would be affected.

Minor—Less than 10 percent of the individual trees and mature landscape plantings, or a small amount of turf within the Jefferson Memorial landscape would be affected; however, mitigation measures such as replanting to avoid or offset impacts on trees could be implemented that would be effective in replacing or reducing losses of vegetation in a short time.

Moderate—Between 10 and 30 percent of the individual trees, mature landscape plantings, or turf within the Jefferson Memorial landscape would be affected. Mitigation measures such as replanting to avoid or offset impacts on trees and other landscaping of greater concern could be implemented and would be

effective in replacing or reducing losses of vegetation, but extended time may be needed for the regeneration of lost mature vegetation.

Major— More than 30 percent of the individual trees, mature landscape plantings, and turf within the Jefferson Memorial landscape would be affected, and numerous older mature trees would also be impacted, either directly or indirectly. Actions would substantially change the vegetation over a large area in the study area. Extensive mitigation would be needed to offset adverse impacts, and its success would not be assured.

Duration—Short-term impacts last less than 1 year; long-term impacts last longer than 1 year.

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, current security measures would remain in place and site improvements would not be made at the Jefferson Memorial. The no action alternative does not involve vegetation removal or changes to the land cover. The use of social paths would continue to inhibit the growth of lawn resulting in minor, long-term, adverse impacts to vegetation.

Cumulative Impacts

Past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial have and would continue to have cumulative impacts to vegetation, including the removal of lawn and landscaping for construction, as well as the addition of new landscaping.

Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of vegetation where the paths are constructed, but also encourage visitors to use designated paths and deter the creation of social paths, leading to beneficial cumulative impacts to grass and other vegetation. The no action alternative would lessen the overall beneficial cumulative impacts.

Conclusion

Under the no action alternative, the use of social paths would continue to inhibit the growth of lawn resulting in minor, long-term, adverse impacts to vegetation. The no action alternative would lessen the overall beneficial cumulative impacts of other projects on the National Mall.

IMPACTS OF ALTERNATIVE 1: BARRIER AS A STREETScape FEATURE (PREFERRED ALTERNATIVE)

Alternative 1 would affect vegetation in the project area as a result of the installation of a vehicle security barrier and the realignment of the existing pedestrian paths. There is the potential for negligible, short-term, adverse impacts to mature trees and grass areas from placement of the construction staging area.

The installation of the vehicle security barrier, reconfiguring of pedestrian paths, and relocation of the concession kiosk would require the removal of trees and lawn. The construction of Alternative 1 would result in the removal of 53 trees, including evergreens, deciduous trees, and flowering Japanese cherry trees (see Figure 36). The majority of these impacted trees are located along East Basin Drive. The use of a modular system of piers, wall segments, horizontal bars, and benches in the vehicle security barrier would allow designers to avoid removal of some existing trees and landscaping versus the use of a solid vehicular barrier system that would require the removal of all vegetation within the barrier footprint.

Alternative 1 would retain portions of the existing pedestrian paths and would minimize the overall impact on vegetation. Additionally, to the greatest extent possible, the vehicle security barrier would be designed to span root zones and/or the area would be hand dug to minimize the impact to the trees. The

project area would also be revegetated with new turf and trees in areas impacted by construction activities and existing “social” paths. As with each of the action alternatives, trees would be planted along the south side of East Basin Drive, across from the South Lawn to buffer road noise and views of Interstate 395 (I-395).

The impact to vegetation under Alternative 1 would be minor, long-term, and adverse as some of the trees that would be removed are large mature trees and it would take some time for replacement trees to mature.

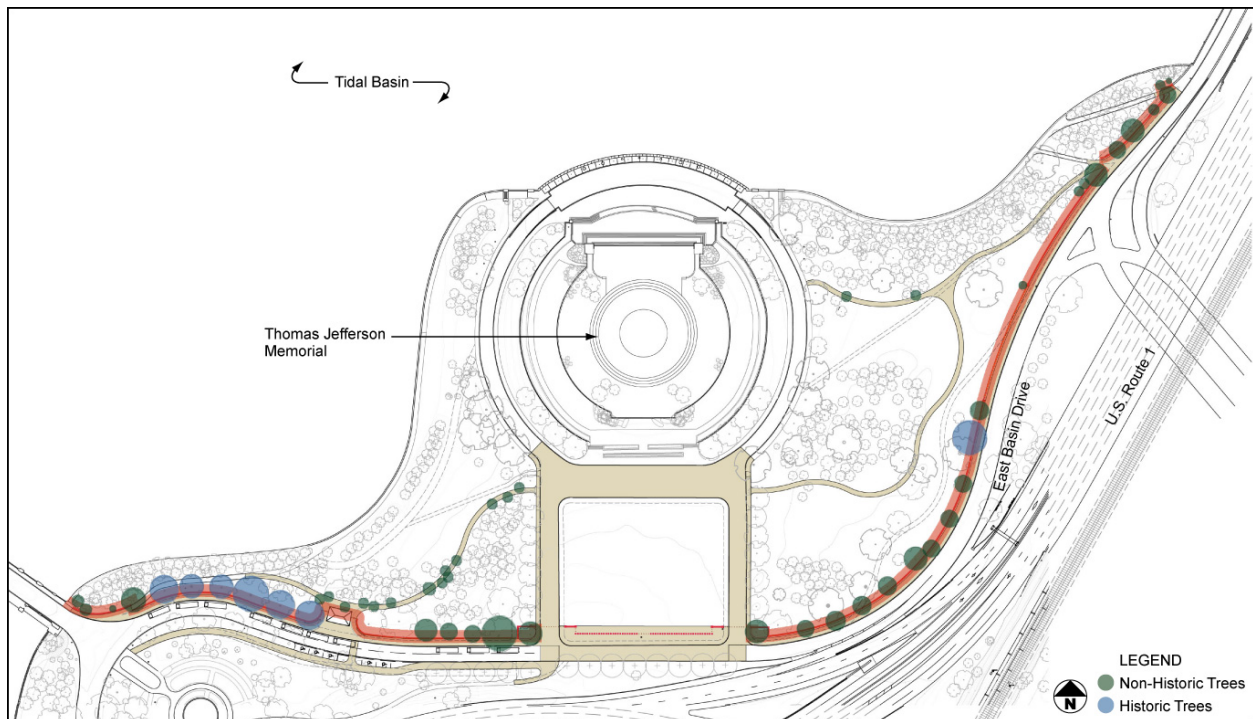


Figure 36. Trees Impacted by Alternative 1

Cumulative Impacts

Past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial have and would continue to have cumulative impacts to vegetation, including the removal of lawn and landscaping, as well as the addition of new landscaping. Security improvements at the Washington Monument and the Lincoln Memorial, implementation of the National Mall Plan, construction of the MLK Memorial, the National Museum for African American History and Culture, the Vietnam Veterans Memorial Center, the Eisenhower Memorial, and the American Veterans Disabled for Life Memorial, along with civil works projects such as the Potomac Park Levee Project, the Lincoln Memorial Reflecting Pool Rehabilitation, the National Mall Turf and Soil Reconstruction, and the 14th Street Bridge Corridor all have required or will require the removal of vegetation to accommodate construction. However, as part of these projects, new landscaping would be installed to mitigate the adverse impacts associated with vegetation removal. Like these projects, Alternative 1 would result in removal of trees, grasses, and other vegetation and thus add to the moderate, long-term, adverse cumulative impacts of past, present, and future actions.

Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of vegetation where the paths are constructed, but also encourage visitors to use designated paths and

deter the creation of social paths leading to beneficial cumulative impacts to grass and other vegetation. The Mall Turf project is expected to have beneficial impacts on vegetation by reducing the compaction of soils, allowing for healthier grasses and other landscaping. The reduction in use of social paths under Alternative 1 would add to the benefits of these projects.

Conclusion

Alternative 1 would have negligible short-term adverse impacts to vegetation from construction activities and minor, long-term, adverse impacts as less than 10 percent of the existing trees would be removed. Moderate, adverse cumulative impacts would occur from the removal of vegetation, while beneficial cumulative impacts would occur from the reduction in social paths.

IMPACTS OF ALTERNATIVE 2: BARRIER AS A LANDSCAPE FEATURE

Similar to Alternative 1, Alternative 2 would affect vegetation in the project area due to the installation of a vehicle security barrier and the realignment of the existing pedestrian paths. There is the potential for negligible, short-term, adverse impacts to vegetation from placement of the construction staging area on grass areas.

The installation of the vehicle security barrier, reconfiguring of pedestrian paths, and relocation of the concession kiosk would require the removal of trees and lawn. The construction of Alternative 2 would result in the removal of 69 trees, including evergreens, deciduous trees, and flowering Japanese cherry trees (see Figure 37). Under this alternative, the proposed barrier alignment would meander through the Memorial grounds. This style would serve to reflect the landscape design of Frederick Law Olmsted, Jr. while minimizing the damage and loss of trees.

To the greatest extent possible, the vehicle security barrier would be designed to span root zones and/or the area would be hand dug to minimize the impact to the trees. The project area would also be re-vegetated with new turf and trees in areas impacted by construction activities and existing “social” paths. As described for Alternative 1, new trees would be planted along the south side of East Basin Drive, across from the South Lawn to buffer road noise and views of Interstate 395 (I-395).

The impact to vegetation under Alternative 2 would be moderate, long-term, and adverse as more than 10 percent of the existing trees would be removed and some of the trees that would be removed are large mature trees and it would take some time for replacement trees to mature.

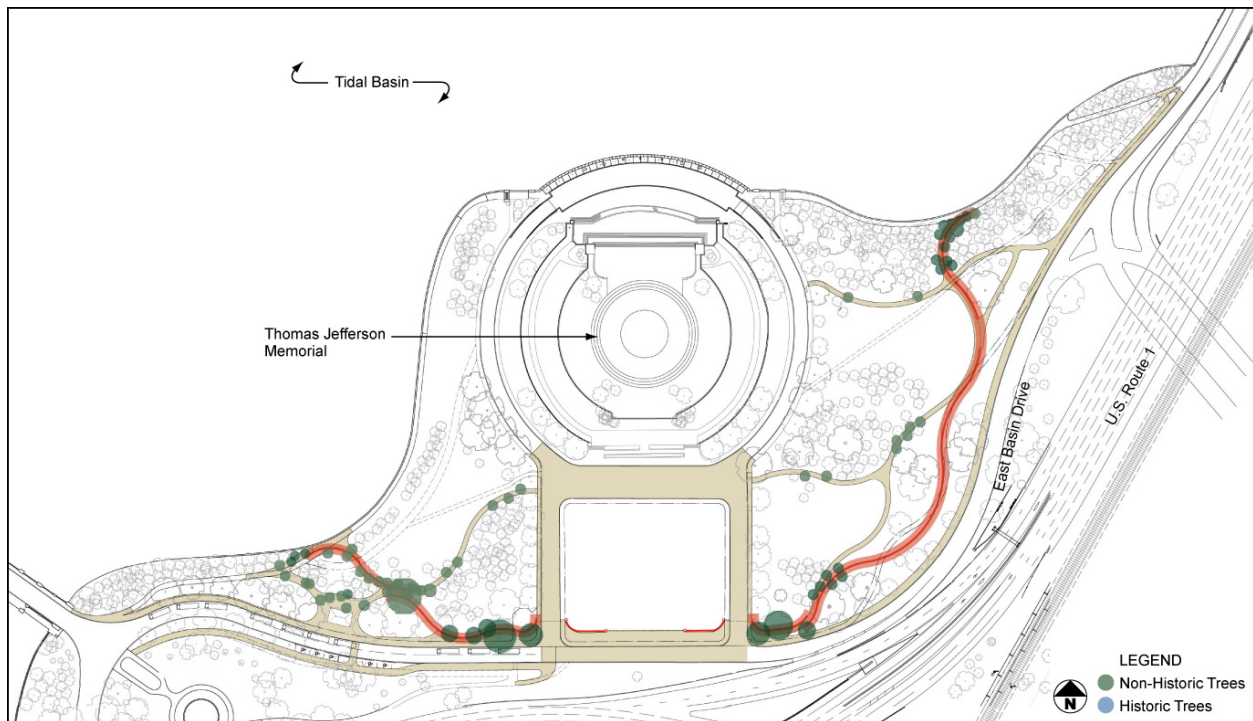


Figure 37. Trees Impacted by Alternative 2

Cumulative Impacts

Past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial have and would continue to have cumulative impacts to vegetation, including the removal of lawn and landscaping, as well as the addition of new landscaping. Like these projects, Alternative 2 would result in removal of trees, grasses, and other vegetation and thus add to the moderate, long-term, adverse cumulative impacts of past, present, and future actions.

Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of vegetation where the paths are constructed, but also encourage visitors to use designated paths and deter the creation of social paths, leading to beneficial cumulative impacts to grass and other vegetation. The Mall Turf project is expected to have future beneficial impacts on vegetation by reducing the compaction of soils, allowing for healthier grasses and other landscaping. The reduction in use of social paths under Alternative 2 would add to the benefits of these projects.

Conclusion

Alternative 2 would have negligible short-term adverse impacts to vegetation from construction activities and moderate, long-term adverse impacts as more than 10 percent of the existing trees would be removed and some of the trees that would be removed are large mature trees and it would take some time for replacement trees to mature. Moderate, adverse cumulative impacts would occur from the removal of vegetation, while beneficial cumulative impacts would occur from the reduction in social paths.

IMPACTS OF ALTERNATIVE 3: BARRIER AS A FORMAL FEATURE

Similar to Alternative 1, Alternative 2 would affect vegetation in the project area due to the installation of a vehicle security barrier and the realignment of the existing pedestrian paths. There is the potential for

negligible, short-term, adverse impacts to vegetation from placement of the construction staging area on grass areas.

The installation of the vehicle security barrier, reconfiguring of pedestrian paths, and relocation of the concession kiosk would require the removal of trees and lawn. The construction of Alternative 3 would result in the removal of 44 trees, including evergreens, deciduous trees, and flowering Japanese cherry trees (see Figure 38). Under this alternative, the proposed barrier would form a concentric arc around the center point of the Memorial, irrespective of tree locations and open spaces. However, consideration would be given to determining the radius of the barrier to minimize tree impacts.

To the greatest extent possible, the vehicle security barrier would be designed to span root zones and/or the area would be hand dug to minimize the impact to the trees. The project area would also be re-vegetated with new turf and trees in areas impacted by construction activities and existing “social” paths. As with each of the action alternatives, trees would be planted along the south side of East Basin Drive, across from the South Lawn to buffer road noise and views of Interstate 395 (I-395).

The impact to vegetation under Alternative 3 would be minor, long-term, and adverse less than 10 percent of the existing trees would be removed.

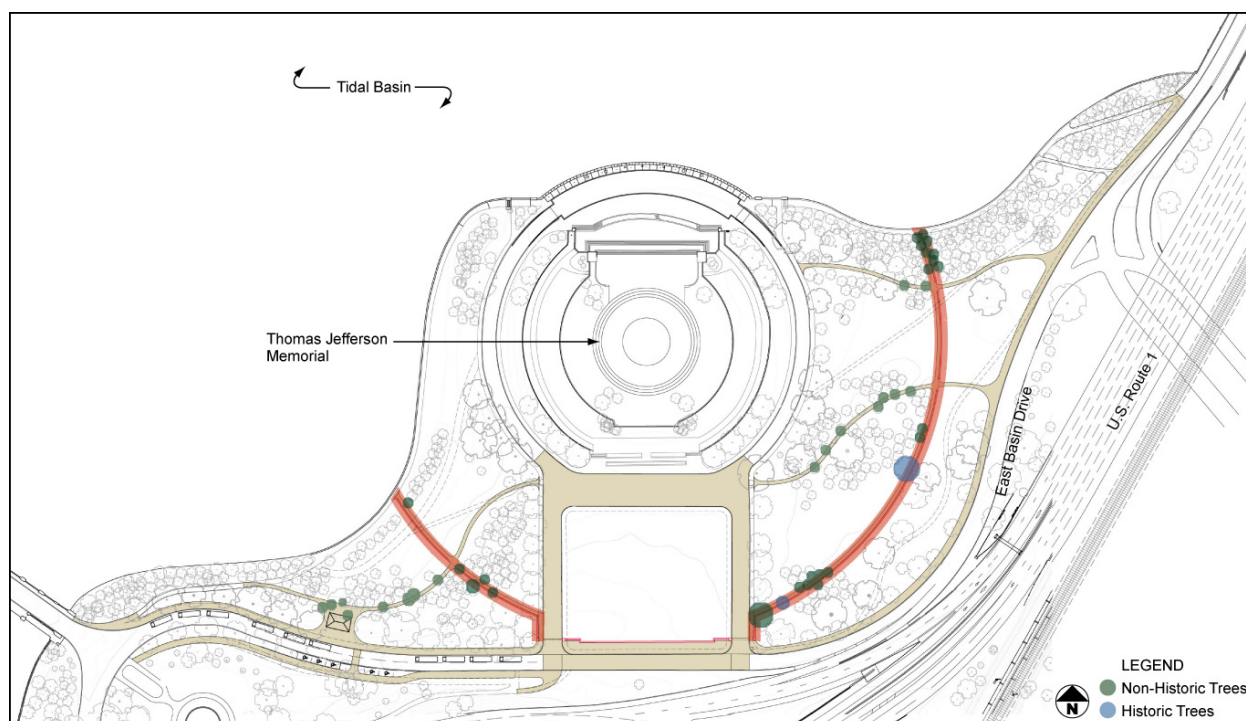


Figure 38. Trees Impacted by Alternative 3

Cumulative Impacts

Past, present, and future projects in the vicinity of the National Mall and the Jefferson Memorial have and would continue to have cumulative impacts to vegetation, including the removal of lawn and landscaping, as well as the addition of new landscaping. Like these projects, Alternative 3 would result in removal of trees, grasses, and other vegetation and thus add to the moderate, long-term, adverse cumulative impacts of past, present, and future actions.

Projects with improvements to paths such as the Lincoln Memorial Reflecting Pool result in the long-term loss of vegetation where the paths are constructed, but also encourage visitors to use designated paths and deter the creation of social paths, leading to beneficial cumulative impacts to grass and other vegetation. The Mall Turf project is expected to have future beneficial impacts on vegetation by reducing the compaction of soils, allowing for healthier grasses and other landscaping. The reduction in use of social paths under Alternative 3 would add to the benefits of these projects.

Conclusion

Alternative 3 would have negligible short-term adverse impacts to vegetation from construction activities and minor, long-term, adverse impacts as less than 10 percent of the existing trees would be removed. Moderate, adverse cumulative impacts would occur from the removal of vegetation, while beneficial cumulative impacts would occur from the reduction in social paths.

Scenic Resources (Aesthetics and Viewsheds)

METHODOLOGY AND ASSUMPTIONS

The visual impact assessment addresses potential changes to the visual character, views, and vistas that would result from the implementation of the proposed alternatives. Photographs of the site, views, and vistas and the drawings of the alternatives prepared by the design team were used for this analysis.

PROJECT AREA

The study area for the visual resources includes the visual character of the Jefferson Memorial and grounds, the vistas to and from the Jefferson Memorial to the White House and Washington Monument, the views and vistas to and from the Lincoln Memorial and the Tidal Basin, the views and vistas to the east and west, and the vista along 17th Street to the south.

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 visual character, views, or vistas of the proposed project area.

Minor: The proposed action would not substantially change the visual resources. The impact would be detectable, but slight, and would minimally diminish the overall integrity or minimally affect the character defining features of the visual resources.

Moderate: The proposed action would result in noticeable impact on a visual resource, including but not limited to, the visual character or quality of the site. The impact would diminish overall integrity or alter the character of a view or vista.

Major: The proposed action would result in substantial impact on a visual resource, including but not limited to, the visual character of the site and would significantly alter the views or vistas.

Duration: In the short-term, the most negative impacts would be related to construction activity and disruption. The long-term impacts would permanently compromise, obscure, or disrupt the visual resources.

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, the existing concrete jersey security barriers would remain at the perimeter of the Memorial circular roadway and within the landscape; the mix of original and non-original concrete and asphalt paths would remain; the current conflicting vehicular, pedestrian, and bicycle circulation would remain; and the mixture of various types and styles of site furnishings would remain. The total amount of accessible parking would be unchanged, buses would continue to park at the south face of the Memorial, and the buses and concession kiosk would continue to impact the views to and from the Memorial. The visual impacts of the I-395 roadway to the south would also be unchanged.

The visual intrusion of the concrete barriers, bus parking immediately south of the Jefferson Memorial, and the mix of paving and site furnishings would remain and continue to detract from the overall appearance of the site. The current barriers are aligned through the landscape.

The concrete barriers in the East Lawn area are, and would continue to be, visible from the Tidal Basin walkways south of Kutz Bridge, but would not impact the views to/from the Lincoln Memorial, the Washington Monument, the White House, or 17th Street. The views and vistas to and from the Jefferson Memorial around the Tidal Basin would continue to be impacted by the current concrete security barriers. The barriers although intrusive, are clearly intended to be temporary and could be easily removed. The no action alternative would have minor, long-term, adverse impacts on the views and vistas to and from the Jefferson Memorial.

Cumulative Impacts

Completed projects including security improvements at the Washington Monument, improvements at the District of Columbia War Memorial, the MLK Memorial, the Jefferson Memorial seawall and pedestrian plaza have had negligible impacts on the visual resources of the Jefferson Memorial, but have creating new visual elements that affect key views in the Monumental Core. Vegetation removals associated with the DC War Memorial restoration, including minimal replanting, are an impact. The removal of trees for construction of the MLK Memorial has improved the views between the Jefferson Memorial and the Lincoln Memorial and views have been mitigated by significant plantings as part of the design for the Memorial. The reconstruction of Jefferson Memorial seawalls would have a long-term positive impact on the visual character of the site by eliminating the subsidence of the balance of the seawall and walkways along the Tidal Basin. Repairs to the Washington Monument earthquake damage would have a long-term beneficial impact. During construction of these projects, there will be a short-term adverse impact on the views and vistas to and from the Jefferson Memorial. The planned Potomac Park Levee adjacent to the Washington Monument would have a temporary adverse impact of scenic resources. The planned 14th Street Bridge Corridor project may alter views to the south from the Memorial; however, these views are considered non-contributing. The no action alternative would result in long-term minor, adverse impacts on the visual resources in the project area. The incremental adverse impact, when added to the beneficial impacts of other projects, would result in an overall beneficial cumulative impact.

Conclusion

The no action alternative would result in minor, long-term, adverse impacts on scenic resources in the project area. The incremental adverse impact, when added to the beneficial impacts of other projects, would still result in an overall beneficial cumulative impact.

IMPACTS OF ALTERNATIVE 1: BARRIER AS STREETScape FEATURE (PREFERRED ALTERNATIVE)

Under Alternative 1, the proposed barrier would be located along the southern edge of the site following the line of a widened sidewalk adjacent to East Basin Drive. Construction activities for the barrier, the bus drop off/loading zone, the new accessible parking spaces, and the new concession kiosk would have moderate, short-term, adverse impacts on the views and vistas to and from the Jefferson Memorial.

A bus drop-off and loading zone would be provided for approximately 10 buses to the west of the Memorial along East Basin Drive, sidewalks at the bus drop-off/loading zone would be widened to ease congestion, new accessible parking spaces would be added to the south side of East Basin Drive west of the Memorial, trees would be planted along the south side of East Basin Drive to screen the elevated highway, and the concessions kiosk would be moved further west adjacent to the bus drop-off/loading zone. Changes to the bus drop-off/loading zone and the new accessible parking spaces would result in minor, long-term, adverse impacts to the Memorial, while the new concession kiosk would result in beneficial impacts as it would be moved out of the site lines of the Memorial.

Placement of the vehicle barrier at the perimeter of the site would result in limited impact on the open lawn visual character of the site and would require limited removal of site trees. Use of piers and rails for the majority of the barrier would further reduce the visual impact on the site and integration of benches into the barrier and replacement of the other site furnishing would improve the visual character. The placement and design of the barrier would have a minor, long-term impact on the visual character of the site. The proposed new planting on the south side of East Basin Drive to screen the views of the interstate would further improve the visual character of the site as would moving the concession kiosk further west out of the line of sight from the Memorial.

The barrier would be visible from the Jefferson Memorial looking to the east, south, south west and southeast and looking toward the Memorial from the Tidal Basin walkways south of the Kutz Bridge. The barrier design includes openings that reduce the visual impact, and it is below eye level. The barrier would not be visible in the views and vistas west to the Potomac River, to the Lincoln Memorial, or in the views and vistas north across the Tidal Basin and to the Washington Monument and White House. The open design of the barrier would minimize the impact of the barrier where it would be visible within the significant views and vistas. The Alternative 1 barrier placement and design would result in a minor, long-term, adverse impact on the views and vistas associated with the site.

Cumulative Impacts

Impacts to visual resources from cumulative actions would be similar to those under the no action alternative, resulting in primarily long-term beneficial impacts. Alternative 1 would add a small increment of minor, long-term, adverse impact on views and vistas. If there are overlaps in the construction period of the proposed vehicular security barrier site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts on scenic resources, but long-term cumulative impacts will be beneficial.

Conclusion

The proposed Alternative 1 barrier placement and design would have moderate, short-term, adverse impacts on the visual resources of the Jefferson Memorial during construction and would result in minor, long-term, adverse impacts once construction is complete. Relocation of concession kiosk would have beneficial impacts to scenic resources. Short-term cumulative impacts would be minor to moderate if construction with other projects overlapped, and long-term cumulative impacts would be beneficial.

IMPACTS OF ALTERNATIVE 2: BARRIER AS LANDSCAPE FEATURE

The Alternative 2 barrier meanders through the Jefferson Memorial grounds to reinforce the informal quality of the pedestrian circulation and landscape and to minimize existing tree damage and loss. Construction activities for the barrier, the bus drop off/loading zone, the new accessible parking spaces, and the new concession kiosk would have moderate, short-term, adverse impacts on the views and vistas to and from the Jefferson Memorial.

A bus drop-off and loading zone would be provided for approximately 10 buses to the west of the Memorial along East Basin Drive, sidewalks at the bus drop-off/loading zone would be widened to ease congestion, new accessible parking spaces would be added to the south side of East Basin Drive west of the Memorial, trees would be planted along the south side of East Basin Drive to screen the elevated highway, and the concessions kiosk would be moved further west adjacent to the bus drop-off/loading zone. Changes to the bus drop-off/loading zone and the new accessible parking spaces would result in minor, long-term, adverse impacts to the Memorial, while the new concession kiosk would result in beneficial impacts as it would be moved out of the site lines of the Memorial.

The design of the vehicle barrier would consist of a simplified textured stone wall with integrated seating and modest articulation at the wall openings. Precedents for the design are the materials, textures, and forms of walls designed by John Russell Pope, the designer of the Jefferson Memorial, at Frick Park, Pittsburgh. Circulation and planting would be reorganized to reinforce the character of the original Olmsted, Jr. design.

Although designed to be consistent with the informal character of the perimeter paths and landscape, the Alternative 2 barrier placement and the solid wall design would interrupt and divide the open lawn character of the site, cross pedestrian paths, and limit opportunities for future restoration of the original paths.

The Alternative 2 barrier placement would result in the barrier being closer to the Memorial and it would directly intersect with the east and west Tidal Basin walkways along the north edge of the memorial site rather than at the Inlet and Outlet Bridges to the east and west. The Alternative 2 barrier would have visibility from the Tidal Basin and would be visible in the views to both east and west from the Memorial. The barrier would be visible in the views from the Jefferson Memorial south to the Potomac River. Because of the distance from the Jefferson Memorial and the position of the barrier along the drive edges east and south, the barrier would not be visible in views to the Lincoln Memorial, views north across the Tidal Basin, views to the Washington Monument and White House, or the line of sight to the northeast along the alignment of Maryland Avenue.

The Alternative 2 barrier would result in a moderate, long-term, adverse impact on the visual character of the site. Relocation of concession kiosk would have the same beneficial impact as Alternative 1.

Cumulative Impacts

Impacts to visual resources from cumulative actions would be similar to those under the no action alternative, resulting in primarily long-term beneficial impacts. Alternative 2 would add a small increment of moderate, long-term, adverse impact on views and vistas. If there are overlaps in the construction period of the proposed vehicular security barrier site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts on scenic resources, but long-term cumulative impacts will be beneficial.

Conclusion

The proposed Alternative 2 barrier placement and design would have moderate, short-term, adverse impacts on the visual resources of the Jefferson Memorial and other resources within the APE during construction and would result in moderate, long-term, adverse impacts once construction is complete. Relocation of concession kiosk would have beneficial impacts to scenic resources. Short-term cumulative impacts would be minor to moderate if construction with other projects overlapped, and long term cumulative impacts would be beneficial.

IMPACTS OF ALTERNATIVE 3: BARRIER AS FORMAL FEATURE

The Alternative 3 barrier encircles the Memorial as a continuous arc with the center point at the center of the Memorial. Construction activities for the barrier, the bus drop off/loading zone, the new accessible parking spaces, and the new concession kiosk would have moderate, short-term, adverse impacts on the views and vistas to and from the Jefferson Memorial.

A bus drop-off and loading zone would be provided for approximately 10 buses to the west of the Memorial along East Basin Drive, sidewalks at the bus drop-off/loading zone would be widened to ease congestion, new accessible parking spaces would be added to the south side of East Basin Drive west of the Memorial, trees would be planted along the south side of East Basin Drive to screen the elevated highway, and the concessions kiosk would be moved further west adjacent to the bus drop-off/loading zone. Changes to the bus drop-off/loading zone and the new accessible parking spaces would result in minor, long-term, adverse impacts to the Memorial, while the new concession kiosk would result in beneficial impacts as it would be moved out of the site lines of the Memorial.

The Alternative 3 barrier design inserts a formal circular element in the informal landscape of the Jefferson Memorial site and would form a solid wall along the south lawn edge. The placement and the solid wall design would interrupt and divide the open lawn character, cross pedestrian paths, and limit opportunities for future restoration of the original paths.

The Alternative 3 barrier placement would result in the barrier being even closer to the Memorial than for Alternative 2. The barrier would directly intersect with the east and west Tidal Basin walkways along the north edge of the memorial site rather than the Inlet and Outlet Bridges to the east and west as for Alternative 1. The barrier would have greater visibility from the perimeter of the Tidal Basin and would be more visible in the views to the east and west from the Memorial than Alternatives 1 and 2. The barrier would not be visible in the views and vistas from the Jefferson Memorial west to the Potomac River, to the Lincoln Memorial, in the views and vistas north across the Tidal Basin, nor to the Washington Monument and White House. The barriers would be slightly visible in the views and vistas from the White House, Washington Monument, or 17th Street.

The Alternative 3 barrier would result in a moderate, long-term, adverse impact on the visual character of the site. Relocation of concession kiosk would have the same beneficial impact as Alternative 1.

Cumulative Impacts

Impacts to visual resources from cumulative actions would be similar to those under the no action alternative, resulting in primarily long-term beneficial impacts. Alternative 3 would add a small increment of long-term, moderate, adverse impact on views and vistas. If there are overlaps in the construction period of the proposed vehicular security barrier site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts on scenic resources, but long-term cumulative impacts will be beneficial.

Conclusion

The proposed Alternative 3 barrier placement and design would have moderate short-term impacts on the visual resources of the Jefferson Memorial and other resources within the APE during construction and would result in moderate, long-term adverse impacts once construction is complete. Relocation of concession kiosk would have beneficial impacts to scenic resources. Short-term cumulative impacts would be minor to moderate if construction with other projects overlapped, and long term cumulative impacts would be beneficial.

Cultural Resources

GUIDING REGULATIONS AND POLICIES

The National Historic Preservation Act (NHPA) of 1966 governs Federal agencies in their handling of historic properties. Section 106 of the Act requires that Federal agencies take into account the effects of their actions on cultural resources. Under this provision, the NPS must evaluate impacts to any district, site, building, structure, or object listed in or eligible for listing in the National Register of Historic Places (NRHP). Cultural resources are characterized as archeological resources, historic structures, and cultural landscapes. “Historic properties,” as defined by the implementing regulations of the NHPA (36 CFR 800), are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and the remains that are related to and located within such properties, as well as traditional and culturally significant Native American sites and historic landscapes. Agencies must consult with the State Historic Preservation Officer (SHPO), the Tribal Historic Preservation Officer (THPO) if applicable and the Advisory Council on Historic Preservation (ACHP) as required, and other interested parties in an effort to avoid, minimize, or mitigate adverse effects. There are no federally recognized Indian tribes present in the District of Columbia; therefore consultation with the THPO is not required for this project.

In addition to the NHPA, protection and management of cultural resources held by the NPS is governed by Directors Order #28: *Cultural Resource Management Guideline* (NPS 1988), *NPS Management Policies* (NPS 2002a), and the 2008 NPS-wide Programmatic Agreement with the ACHP and the National Conference of State Historic Preservation Officers. These documents require that NPS managers avoid or minimize adverse impacts on Park resources to the greatest extent possible.

GENERAL METHODOLOGY AND ASSUMPTIONS

The NPS categorizes their cultural resources as archeological resources, cultural landscapes, historic districts and structures, museum objects, and ethnographic resources. Only potential impacts on cultural landscapes and historic districts and structures are of concern for this project. There would be no impacts to archeological resources (the project site is located on made land or fill), museum collections, or ethnographic resources.

The analyses of effects on cultural resources that follow respond to the requirements of both NEPA and Section 106 of the NHPA. Under the regulations for implementing Section 106, impacts on cultural resources were identified and evaluated by determining the APE, identifying cultural resources present in the APE that are either listed in or eligible to be listed on the NRHP, applying the criteria of adverse effect to the affected properties, and 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 be made for the affected historic properties. An adverse effect occurs when an action alters, directly or indirectly, any characteristic of a cultural resource that qualifies it for inclusion on the

NRHP. Adverse effects also include reasonably foreseeable effects that would occur later, be farther removed in distance, or be cumulative. A determination of no adverse effect means there is no effect or that the effect would not diminish, in any way, the characteristics of the resource that qualify it for inclusion on the NRHP.

The NPS guide for evaluating impacts, DO-12 (NPS2001), requires that impact assessment be scientific, accurate, and quantified to the extent possible. For cultural resources, it is rarely possible to measure impacts in quantifiable terms; therefore, impact thresholds must rely on the professional judgment of resource experts. The following impact analysis is an assessment of the effect of the undertaking on the NRHP eligible or listed cultural resources only and is based upon the ACHP criteria of adverse effect.

AREA OF POTENTIAL EFFECT

A draft Area of Potential Effect (APE) for this undertaking was delineated by the NPS in 2011, in consultation with the District of Columbia State Historic Preservation Office (DCSHPO) (see Figure 39). The overall APE has been delineated into primary and secondary areas. The Primary APE includes the cultural resources that could potentially be directly affected by the undertaking, namely the Jefferson Memorial and the Jefferson Memorial grounds, indicated in red. Important primary views, indicated with blue view lines, include vistas to and from the Lincoln Memorial, White House, and Washington Monument. The Tidal Basin landscape, with the Inlet, Outlet, and Kutz Bridges and views to and from the water's edge, are also important cultural resources within the secondary APE, indicated with green squares. The visual corridor between the Jefferson Memorial and the U.S. Capitol, extending along the diagonal alignment of Maryland Avenue, is also included in the Secondary APE, although clear views between these sites so not exist. The South Jefferson Memorial landscape, indicated with an orange square, includes a number of resources, such as East Basin Drive, the George Mason Memorial, and the 14th Street Bridge corridor with highway lanes, ramps, and walls. For greater detail on the APE, see Chapter 3.



Figure 39. Draft Primary and Secondary Areas of Potential Effect

CULTURAL RESOURCES

Project Area

The project area for cultural resources is the APE. Within the APE, there are three individually listed structures: the Jefferson Memorial, the Washington Monument, and the L'Enfant Plan of the City of Washington, but only the Jefferson Memorial has the potential to be directly affected. The project area also includes contributing resources on the Washington Monument grounds and in the East and West Potomac Park Historic District, which have the potential to be indirectly affected.

Impact Thresholds

For an historic district or structure to be listed on the NRHP, it must possess significance and the features necessary to convey its significance must have integrity. In order for a cultural landscape to be listed on the NRHP, it must possess significance and the features that convey its significance must have integrity. Character defining features of a cultural landscape may include spatial organization and land patterns, topography, vegetation, circulation patterns, water features, structure/buildings, and small scale objects. For purposes of evaluating potential impacts on historic districts and structures, the thresholds of change for the intensity of an impact are defined as follows:

Beneficial Impact - The character-defining features would be stabilized, preserved, rehabilitated, or restored in accordance with the *Secretary of the Interior's Standards for Treatment of Historic Properties*. For purposes of Section 106, the determination of effect would be "no adverse effect."

Negligible: The impact is at the lowest level of detection with neither adverse nor beneficial consequences. For Section 106 of the NHPA, the determination of effect would be "no adverse effect."

Minor Adverse Impact - Alteration of the patterns or features of a historic structure or cultural landscape would not diminish the integrity of the character defining features or the overall integrity of the historic property. For Section 106, the determination would be "no adverse effect."

Moderate Adverse Impact - The project would alter the character defining features of the historic district or structure and diminish the integrity of the features of the historic property. The determination of effect for Section 106 would be an adverse effect, but one that could be avoided, minimized, or mitigated.

Major Adverse Impact - The project would alter the character defining features of the historic structure or cultural landscape and severely diminish the integrity of the features and the overall integrity of the historic property. For purposes of Section 106, the determination of effect would be "adverse effect" and the effects would be difficult to avoid, minimize, or mitigate.

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, the existing concrete security barriers would remain at the perimeter of the Jefferson Memorial circular roadway and within the landscape, the mix of original and non-original asphalt concrete and asphalt paths would remain, and the current conflicting vehicular, pedestrian and bicycle circulation would remain, as would the mixture of various types and styles of site furnishings. No work would be done to restore the site to the original conditions. The limited disabled parking would be unchanged, buses would continue to park at the south face of the Memorial, and the buses would continue to impact the views to and from the Memorial. The current noise and visual impacts of the I-395 roadway would also be unaltered. There would be no alteration of the Jefferson Memorial structure. The visibility of the existing concrete barriers on the Jefferson Memorial site would continue to moderately impact the

views around the Tidal Basin, a contributing resource to the East and West Potomac Parks Historic District, and the vistas to the east and west of the Jefferson Memorial, which are contributing resources to the Jefferson Memorial grounds cultural landscape.

The no action alternative would have a moderate, long-term adverse effect on the Jefferson Memorial related to potential damage. The continuing physical deterioration and thus erosion of the character of the original site features and landscape elements would result in a moderate, long-term impact on the Jefferson Memorial cultural landscape. The no action alternative would have no adverse impacts on the Washington Monument, the L'Enfant Plan of the City of Washington and its contributing vistas, or to the contributing features of the East and West Potomac Parks Historic District. The no action alternative would have no adverse or beneficial effects on the Washington Monument cultural landscape and contributing vistas. The concrete security barriers would have a moderate, long-term, adverse impact on the contributing views around the Tidal Basin in West Potomac Park and to the vistas to the east and west from the Jefferson Memorial, which are contributing features of the Jefferson Memorial cultural landscape. The no action alternative does diminish the integrity of the cultural landscape of the Jefferson Memorial and has a moderate, long-term, adverse impact on cultural resources.

Cumulative Impacts

The planned or ongoing projects within or immediately adjacent to the APE, including the Thomas Jefferson Memorial seawall improvements and the Potomac Park Levee adjacent to the Washington Monument, along with prior projects such as the security improvements to the Washington Monument, the MLK Memorial, and the DC War Memorial and the proposed undertaking have been considered for assessment of cumulative impacts on the historic structures and cultural landscapes. Construction of the MLK Memorial and the planned Vietnam Veterans Memorial Center would result in moderate, adverse cumulative impacts to the East and West Potomac Parks Historic District through the alteration of the site features, removal of trees, modification to pedestrian circulation and the addition of new structures. The repairs to the Jefferson Memorial seawall would have a long-term, beneficial impact to the Jefferson Memorial and the Tidal Basin. Repairs to the Washington Monument earthquake damage would have a long-term beneficial impact. If construction of these projects overlaps, there will be short-term adverse impacts from construction activities. The no action alternative when added to these past and future projects would have moderate long-term, adverse, cumulative impacts to cultural resources.

Conclusion

The no action alternative would have moderate, long-term, adverse impacts on cultural resources, including the Jefferson Memorial, its cultural landscape, and views around the Tidal Basin, West Potomac Park, and to the east and west of the Memorial. The no action alternative, when added to other past present and future projects, would have a moderate, long-term adverse cumulative impact.

IMPACTS OF ALTERNATIVE 1: BARRIER AS A STREETScape FEATURE (PREFERRED ALTERNATIVE)

Under Alternative 1, construction activities for the barrier, the bus drop off/loading zone, the new accessible parking spaces, and the new concession kiosk would have moderate, short-term, adverse impacts on the cultural landscape of the Jefferson Memorial.

The Alternative 1 barrier design and placement would have no direct adverse effect on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington and contributing views and vistas, but would have minor, long-term, adverse impacts on other contributing resources of the East and West Potomac Parks Historic District. The barriers would terminate at the stone abutments of the Inlet and Outlet Bridges. To mitigate the adjacency of the barriers to the historic bridges, the barriers

have been designed to stand off and not engage the bridge abutments, and would be constructed using materials and detailing compatible with those of the bridges. The new barriers are also lower than the bridge walls and would be secondary to them in scale.

The Alternative 1 barrier placement would not directly affect other contributing buildings, structures, objects, or landscape features in the East and West Potomac Parks Historic District, but the new barrier would be visible in the views around the Tidal Basin. These views are a contributing element of the historic district. The open character of the barrier piers and railing would reduce the visual impact on the views. Placing the barrier at the south perimeter of the Jefferson Memorial landscape minimizes the intrusion into the cultural landscape and the impacts on the circulation features of the memorial site. Widening and replacement of the East Basin Drive sidewalk for multiple uses alters the curb line. The required removal of seven historic trees would impact those contributing features of the landscape. They would be replaced, offset slightly inward, with small trees. Placement of the barriers along the south edge of the site and the open design of the barriers mitigates the potential impact on the contributing views of the Jefferson Memorial landscape and retains the opportunity to restore the Olmsted landscape in the future. Only the far vistas to the east and west from the Memorial would be impacted. Moving the bus drop-off/loading zone and the accessible parking to the west removes them from view from the Memorial, and planting new vegetation to screen the interstate to the south and east would have long-term beneficial impacts on the spatial characteristics of the site. Alternative 1 would not affect the Memorial itself or its terrace and stylobate walls.

Overall, the Alternative 1 barrier design and placement would have a minor, long-term, adverse effect on the Jefferson Memorial cultural landscape.

Cumulative Impacts

Impacts to cultural resources from cumulative actions would be similar to those described under the no action alternative. Alternative 1 would have minor long-term adverse impacts from the position of the security barriers within and adjacent to contributing resources in the East and West Potomac Parks Historic District and a minor long-term impact on the Jefferson Memorial cultural landscape. Therefore, the overall cumulative impact of past, present, and future projects would be a range of long-term beneficial to minor adverse impacts to cultural resources.

Conclusion

Alternative 1 would have moderate, short-term, adverse impacts on the cultural landscape of the Jefferson Memorial during construction.

The Alternative 1 barrier design and placement would have no direct adverse effect on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington, but would have minor, long-term, adverse impacts on the contributing Inlet and Outlet Bridge structures and Tidal Basin views of the East and West Potomac Parks Historic District. Additionally, the Alternative 1 barrier placement would have a minor, long-term, adverse impact on the Jefferson Memorial and West Potomac Park cultural landscapes. Alternative 1 would have the greatest impact on the historic plant materials; seven historic trees along East Basin Drive would be removed.

The relocation of the bus drop-off/loading zone and the accessible parking, planting of trees to buffer views of the interstate, and restoration of the historic pedestrian circulation would have a long-term beneficial impact on the spatial organization of the site. The barrier would result in a long-term, beneficial effect due to the protection against physical damage it would provide

The overall cumulative impact of past, present, and future projects would be a range of long-term beneficial to minor adverse impacts to cultural resources.

IMPACTS OF ALTERNATIVE 2: BARRIER AS A LANDSCAPE FEATURE

Under Alternative 2, construction activities for the barrier, the bus drop off/loading zone, the new accessible parking spaces, and the new concession kiosk would have moderate, short-term, adverse impacts on the cultural landscape of the Jefferson Memorial.

The Alternative 2 barrier design and location would penetrate the landscape of the Jefferson Memorial site and terminate closer to the Memorial than for Alternative 1, but would not affect the Memorial itself. The barrier would not directly affect other contributing buildings, structures, or objects in the East and West Potomac Parks Historic District, but the new barrier would be visible in the views around the Tidal Basin. These views are a contributing element of the historic district.

The solid wall design character of the barrier and the placement within the historic landscape would physically alter the landscape features and the internal paths. Although the meandering shape of the barrier is compatible with the informal character of the site, the barrier would result in alteration of the historic pedestrian circulation paths on the site, and would limit possible future restoration to the Olmsted Jr. design. Alternative 2 would have a moderate, long-term, adverse impact on the site circulation.

The termination of the barrier at the Tidal Basin walkway would result in greater visibility of the barrier in the views around the Tidal Basin and would result in alteration and widening of the pavement at the intersection. The placement of the barrier would result in greater visibility in the near vista to the east from the Memorial. The solid wall design of the barrier would further increase its visibility. The Alternative 2 barrier would have a moderate, long-term, adverse impact on the views around the Tidal Basin and to the east from the Jefferson Memorial. The other contributing views and vistas of the Jefferson Memorial cultural landscape and West Potomac Park would not be affected.

As with Alternative 1, moving the bus drop-off/loading zone and the accessible parking and the concession kiosk out of the views from the Memorial and planting new vegetation to screen the interstate to the south would have long-term, beneficial impacts on the spatial characteristics of the site. Alternative 2 would not affect the Memorial itself or the terrace and stylobate walls, nor would significant trees be removed.

Cumulative Impacts

Impacts to cultural resources from cumulative actions would be similar to those described under the no action alternative. Alternative 2 would have moderate long-term adverse impacts on the views of the West Potomac Park landscape and a moderate long-term adverse impact on the Jefferson Memorial cultural landscape. Therefore, the overall cumulative impact of past, present, and future projects would be a range of long-term beneficial to moderate adverse impacts to cultural resources.

Conclusion

Alternative 2 would have moderate, short-term, adverse impacts on the cultural landscape of the Jefferson Memorial during construction.

The Alternative 2 barrier design and placement would have no direct adverse effect on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington, but would have a moderate, long-term, adverse impact on the Jefferson Memorial and West Potomac Park cultural

landscapes, specifically affecting the Tidal Basin walkway, the Tidal Basin views, the views to the east from the Memorial, and the internal site circulation. Alternative 2 would have the least impact on the historic plant materials; no significant trees would be removed.

The relocation of the bus drop-off/loading zone and the accessible parking, planting of trees to buffer views of the interstate, and restoration of the historic pedestrian circulation would have a long-term, beneficial impact on the spatial organization of the site. The barrier would result in a long-term, beneficial effect due to the protection against physical damage it would provide

The overall cumulative impact of past, present, and future projects would be a range of long-term, beneficial to moderate, adverse impacts to cultural resources.

IMPACTS OF ALTERNATIVE 3: BARRIER AS A FORMAL FEATURE

Under Alternative 3, construction activities for the barrier, the bus drop off/loading zone, the new accessible parking spaces, and the new concession kiosk would have moderate, short-term, adverse impacts on the cultural landscape of the Jefferson Memorial.

The Alternative 3 barrier design and location would have no direct impacts on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington, but would have a moderate, long-term, adverse impact on the Jefferson Memorial cultural landscape and moderate, long-term, adverse impacts on other contributing resources of the East and West Potomac Parks Historic District. The barriers would penetrate the landscape of the Jefferson Memorial site and terminate closer to the Memorial than for either Alternative 1 or 2. The solid wall design character of the barrier and the placement within the historic landscape would physically alter the landscape features and the internal paths. The geometric arc shape of the barrier, although consistent with the geometry of the Jefferson Memorial terraces, is incompatible with the informal character of the perimeter landscape. The placement of the barrier would result in alteration of the historic pedestrian circulation paths on the site, and would limit possible future restoration to the Olmsted, Jr. design. Alternative 3 would have a moderate, long-term, adverse impact on the site special character and circulation.

The termination of the Alternative 3 barrier at the Tidal Basin walkway would be closer to the Memorial than in the other two alternatives and would result in greater visibility of the barrier in the views around the Tidal Basin. Termination points at the Tidal Basin walkway would result in alteration and widening of the pavement at those locations. The placement of the barrier would result in greater visibility in both the east and west vistas from the Memorial. The solid wall design of the barrier would further increase its visibility. The Alternative 3 barrier would have a moderate, long-term, adverse impact on the views around the Tidal Basin and from the Jefferson Memorial. The other contributing views and vistas of the Jefferson Memorial cultural landscape and West Potomac Park would not be affected.

As with Alternative 1, moving the bus drop-off/loading zone and the accessible parking and the concession kiosk out of the views from the Memorial and planting new vegetation to screen the interstate to the south would have long-term beneficial impacts on the spatial characteristics of the site. Alternative 3 would not affect the Memorial itself or the terrace and stylobate walls. Only two significant trees would be removed resulting in a minor, long-term, adverse impact on the historic plant materials. Overall, the Alternative 3 barrier design and placement would have a moderate, long-term, adverse effect on the Jefferson Memorial cultural landscape.

Cumulative Impacts

Impacts to cultural resources from cumulative actions would be similar to those described under the no action alternative. Alternative 3 would have moderate, long-term, adverse impacts on the views of the West Potomac Park landscape and a moderate, long-term, adverse impact on the Jefferson Memorial cultural landscape. Therefore, the overall cumulative impact of past, present, and future projects would be a range of long-term, beneficial to moderate, adverse impacts to cultural resources.

Conclusion

Alternative 3 would have moderate, short-term, adverse impacts on the cultural landscape of the Jefferson Memorial during construction.

The Alternative 3 barrier design and location would have no direct impacts on the Jefferson Memorial, the Washington Monument, or the L'Enfant Plan of the City of Washington, but would have a moderate, long term, adverse impact on the Jefferson Memorial and West Potomac Park cultural landscapes, specifically affecting the Tidal Basin walkway, the Tidal Basin views, the views to the east and west from the Memorial, and the internal site circulation. Alternative 3 would have minor, long-term, adverse impact on the historic plant materials; two significant trees would be removed.

The relocation of the bus drop-off/loading zone and the accessible parking, planting of trees to buffer views of the interstate and restoration of the historic pedestrian circulation would have a long-term, beneficial impact on the spatial organization of the site. The barrier would result in a long-term, beneficial effect due to the protection against physical damage it would provide.

The overall cumulative impact of past, present, and future projects would be a range of long-term, beneficial to moderate, adverse impacts to cultural resources.

Visitor Use and Experience

METHODOLOGY AND ASSUMPTIONS

Analyses of the potential intensity of impacts on visitor use and experience were derived from the professional judgment of the Park staff and their understanding of visitation patterns, combined with the assessment of what activities are currently available to visitors at the Jefferson Memorial. The impacts on the visitor's ability to experience a full range of park resources were analyzed by examining resources and objectives presented in the Park's significance statement. The potential change in visitor use and experience proposed by the alternatives was evaluated by identifying projected increases or decreases in recreational uses, access to the site, and whether or how these projected changes would affect the desired visitor experience, to what degree, and for how long.

STUDY AREA

The study area for visitor use and experience is the project area surrounding the Jefferson Memorial.

IMPACT THRESHOLDS

The thresholds of change for the intensity of impacts on visitor use and experience are defined as follows:

Negligible: Visitors would likely be unaware of any impacts associated with implementation of the alternative. There would be no noticeable change in visitor use and experience or in any defined indicators of visitor satisfaction or behavior.

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

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

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

Duration: Short-term impacts would occur sporadically throughout the course of a year. Long-term impacts would last more than 1 year.

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, the existing security measures consisting of concrete jersey barriers would remain in place. The barriers would continue to impact important characteristics of the visitor experience at the Memorial, including diminishing visitors' views of the Memorial and impeding visitors' movement through the Memorial's grounds. Therefore, the current security measures would continue to cause moderate, long-term, adverse impacts to visitor use and experience.

Buses would continue to stop in the right lane of East Basin Drive, blocking that lane of traffic. The bus drop-off area would remain crowded due to the narrow sidewalk near the bus drop-off area. This would result in a minor, long-term, adverse impact.

No changes would occur to the location of parking for persons with disabilities or to the location of the concession kiosk, and no impacts would occur to visitor use and experience.

Cumulative Impacts

Past, present, and future projects at the National Mall and surrounding areas, including security improvements at the Washington Monument and the Lincoln Memorial; implementation of the National Mall Plan; construction of the MLK Memorial, the National Museum for African American History and Culture, the Vietnam Veterans Memorial Center, the Eisenhower Memorial, and the American Veterans Disabled for Life Memorial; civil works projects such as the Potomac Park Levee Project, the Lincoln Memorial Reflecting Pool Rehabilitation, and the National Mall Turf and Soil Reconstruction, and improvements to the DC War Memorial, Constitution Avenue, and Madison Drive contribute cumulatively to the visitor experience by enhancing existing Park resources and adding new visitor destinations. However, additional visitation results in more intensive use within the project area.

Construction activities for these projects result in temporary disruptions to visitors, inconveniencing them and detracting from their experience. The adverse impacts from construction activities would be short-term.

Despite the disruption from construction activities and the increase in visitation and more intensive use of Park resources, the overall cumulative impact of these past, present, and reasonably foreseeable future

action would be a long-term, beneficial impact. The no action alternative would lessen the overall beneficial cumulative impacts on visitor use and experience.

Conclusion

Visitor use and experience would continue to be impacted under the no action alternative. Moderate long-term adverse impacts would occur because security measures currently being used would continue to detract from visitor experience and impede pedestrian flow. In addition, minor, long-term, adverse impacts from the crowded bus drop-off area would occur. The no action alternative would lessen the overall beneficial cumulative impacts on visitor use and experience.

IMPACTS OF ALTERNATIVE 1: BARRIER AS A STREETScape FEATURE (PREFERRED ALTERNATIVE)

Under Alternative 1, the vehicle security barrier would be aligned with the edge of East Basin Drive. Visitors would see a noticeable change in the setting of the Memorial from the removal of the existing jersey barriers and the introduction of the new permanent, aesthetically pleasing barrier. Because the barrier would be located at the edge of the Memorial grounds, visitor experience would not be adversely affected after they pass the barrier and enter the Memorial grounds. New paths through the Memorial grounds would allow visitors to enjoy the Memorial's landscape as they approach the Memorial resulting in a beneficial impact on visitor experience. Use of the Memorial grounds by those with disabilities would not be impeded by the proposed barrier as openings in the barrier and paths would meet ADA requirements.

Alternative 1 includes a bus drop-off and loading zone for approximately ten tour buses. Sidewalks along East Basin Drive including along the bus drop-off/loading zone would be widened for visitor safety and to ease congestion. The concession kiosk would be relocated closer to the bus drop-off/loading zone. These improvements would provide a beneficial impact on visitor use and experience.

Parking for persons with disabilities would be relocated to the south side of East Basin Drive across the street from the current disability parking, and additional parking spaces for persons with disabilities would be added, resulting in a beneficial impact to visitor use and experience. However, there would be a minor, long-term, adverse impact to visitor use because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial, which is a heavily traveled road with a speed limit of 25 miles per hour.

During construction, staging areas and construction zones would be cordoned by construction fencing and cones, temporarily impeding visitor access to these locations. Certain construction activities could also result in an elevation of noise levels. Minor, short-term, adverse impacts to visitor use and experience would result.

Cumulative Impacts

Past, present, and future projects at the National Mall and surrounding areas, including security improvements at the Washington Monument and the Lincoln Memorial; implementation of the National Mall Plan; construction of the MLK Memorial, the National Museum for African American History and Culture, the Vietnam Veterans Memorial Center, the Eisenhower Memorial, and the American Veterans Disabled for Life Memorial; civil works projects such as the Potomac Park Levee Project, the Lincoln Memorial Reflecting Pool Rehabilitation, and the National Mall Turf and Soil Reconstruction, and improvements to the DC War Memorial, Constitution Avenue, and Madison Drive contribute cumulatively to the visitor experience by enhancing existing Park resources and adding new visitor destinations. However, additional visitation results in more intensive use within the project area.

Construction activities for these projects result in temporary disruptions to visitors, inconveniencing them and detracting from their experience. The adverse impacts from construction activities would be short-term.

Despite the disruption from construction activities and the increase in visitation and more intensive use of Park resources, the overall cumulative impact of these past, present, and reasonably foreseeable future action would be a long-term, beneficial impact.

Alternative 1 would result in beneficial impacts to visitor use due to the construction of the vehicle security barrier, the improvements to the bus drop-off/loading zone, and to the improvements to parking for persons with disabilities. The impacts of Alternative 1 when added to the other past, present, and reasonably foreseeable future actions discussed above would result in an overall beneficial cumulative impact to the study area and surroundings.

If there are overlaps in the construction period of the proposed vehicular security barrier and site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts on visitor use and experience.

Conclusion

Installation of a permanent vehicle security barrier under the Alternative 1 would provide beneficial impacts to visitor use and experience by providing a safer and more aesthetically pleasing environment in which to experience the Memorial.

Providing a bus drop-off/loading zone, widening sidewalks, and constructing a new concession kiosk would provide a long-term, beneficial impact to visitor use. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. However, the addition of parking spaces for persons with disabilities would have a long-term, beneficial impact on visitor use.

Minor, short-term, adverse impacts would result from construction and from the placement of staging areas and construction materials.

The impacts of the Alternative 1 when added to the other past, present, and reasonably foreseeable future actions discussed above would result in beneficial cumulative impacts to the study area and surroundings.

IMPACTS OF ALTERNATIVE 2: BARRIER AS A LANDSCAPE FEATURE

Under Alternative 2, the vehicle security barrier would meander through the Memorial grounds in a manner that would reinforce the character of the original Olmsted, Jr. landscape plan. The design for Alternative 2 would provide framed openings at key view points of the Memorial. Visitors would see a noticeable change in the setting of the Memorial from the removal of the existing jersey barriers and the introduction of the new permanent, aesthetically pleasing barrier. Because the barrier would meander through the Memorial grounds, visitors would be able to see the barrier as they walk along the Memorial's paths.

New internal paths through the Memorial grounds with alignments that reflect the curvilinear aesthetics of paths and plantings designed by Olmsted, Jr., would result in a beneficial impact on visitor experience. Use of the Memorial grounds by those with disabilities would not be impeded by the proposed barrier as openings in the barrier and paths would meet ADA requirements.

Alternative 2 includes the same improvements to the bus drop-off/loading zone, sidewalks along East Basin Drive, concession, and parking for persons with disabilities as Alternative 1. With the exception of the parking for persons with disabilities, these improvements would provide a beneficial impact to visitor use and experience. There would be a minor, long-term, adverse impact to visitor use because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial, which is a heavily traveled road with a speed limit of 25 miles per hour. The additional parking spaces for persons with disabilities would have a beneficial impact to visitor use and experience.

During construction, staging areas and construction zones would be cordoned by construction fencing and cones, temporarily impeding visitor access to these locations. Certain construction activities could also result in an elevation of noise levels. Minor, short-term, adverse impacts to visitor use and experience would result.

Cumulative Impacts

Impacts to visitor use and experience from past, present, and future actions would be similar to those described under Alternative 1 resulting in primarily long-term, beneficial impacts. The impacts of Alternative 2, when added to the other past, present, and reasonably foreseeable future actions, would result in an overall beneficial cumulative impact to the study area and surroundings. If there are overlaps in the construction period of the proposed vehicular security barrier and site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts on visitor use and experience.

Conclusion

Installation of a permanent vehicle security barrier under the Alternative 2 would provide beneficial impacts to visitor use and experience by providing a safer and more aesthetically pleasing environment in which to experience the Memorial.

Providing a bus drop-off/loading zone, widening sidewalks, and constructing a new concession kiosk would provide long-term, beneficial impact on visitor use. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. However, the addition of parking spaces for persons with disabilities would have a long-term, beneficial impact on visitor use.

Minor, short-term, adverse impacts would result from construction and from the placement of staging areas and construction materials.

The impacts of the Alternative 2 when added to the other past, present, and reasonably foreseeable future actions discussed above would result in beneficial cumulative impacts to the study area and surroundings.

IMPACTS OF ALTERNATIVE 3: BARRIER AS A FORMAL FEATURE

Under Alternative 3, a simplified wall located in a concentric arc alignment about the center point of the Memorial would serve as the vehicular barrier. Visitors would see a noticeable change in the setting of the Memorial from the removal of the existing jersey barriers and the introduction of the new permanent, aesthetically pleasing barrier. A new internal walkway would be added, abutting and inside the new concentric barrier. Additional new internal paths would be added to reinforce open spaces and viewsheds of the Memorial and facilitate access to the Memorial. These new paths would represent a change to the visitor experience as they would not meander through the landscape, as the existing paths do, but rather provide more direct access to the Memorial. Use of the Memorial grounds by those with disabilities

would not be impeded by the proposed barrier as openings in the barrier and paths would meet ADA requirements.

Alternative 3 includes the same improvements to the bus drop-off/loading zone, sidewalks along East Basin Drive, concession, and parking for persons with disabilities as Alternative 1. With the exception of the parking for persons with disabilities, these improvements would provide a beneficial impact to visitor use and experience. There would be a minor, long-term, adverse impact to visitor use because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial, which is a heavily traveled road with a speed limit of 25 miles per hour. The additional parking spaces for persons with disabilities would have a beneficial impact to visitor use and experience.

During construction, staging areas and construction zones would be cordoned by construction fencing and cones, temporarily impeding visitor access to these locations. Certain construction activities could also result in an elevation of noise levels. Minor, short-term, adverse impacts to visitor use and experience would result.

Cumulative Impacts

Impacts to visitor use and experience from past, present, and future actions would be similar to those described under Alternative 1 resulting in primarily long-term, beneficial impacts. The impacts of Alternative 3, when added to the other past, present, and reasonably foreseeable future actions, would result in an overall beneficial cumulative impact to the study area and surroundings. If there are overlaps in the construction period of the proposed vehicular security barrier and site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts on visitor use and experience.

Conclusion

Installation of a permanent vehicle security barrier under the Alternative 3 would provide beneficial impacts to visitor use and experience by providing a safer and more aesthetically pleasing environment in which to experience the Memorial.

Providing a bus drop-off/loading zone, widening sidewalks, and constructing a new concession kiosk would provide long-term, beneficial impact on visitor use. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. However, the addition of parking spaces for persons with disabilities would have a long-term, beneficial impact on visitor use.

Minor, short-term, adverse impacts would result from construction and from the placement of staging areas and construction materials.

The impacts of the Alternative 3 when added to the other past, present, and reasonably foreseeable future actions discussed above would result in beneficial cumulative impacts to the study area and surroundings.

Human Health and Safety

METHODOLOGY AND ASSUMPTIONS

Analyses of the potential intensity of impacts to safety and security were derived from the available information on the Jefferson Memorial and the professional judgment of the National Mall and Memorial Parks staff.

STUDY AREA

The study area for health and safety issues includes the Jefferson Memorial and surrounding area.

IMPACT THRESHOLDS

The impact intensities for the assessment of impacts on health and safety follow. Where impacts on health and 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.

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

Minor: The impact on health and safety would be measurable or perceptible, but it would be limited to a relatively small number of visitors or employees at localized areas.

Moderate: The impact on health and safety would be sufficient to cause a change in accident rates at existing low-accident locations or in areas that currently do not exhibit noticeable accident trends.

Major: The impact on health and safety would be substantial. Accident rates in areas usually limited to low accident potential are expected to substantially increase in the short- and long-term.

Duration: Short-term impacts are those lasting less than 1 year; long-term impacts are those lasting longer than 1 year.

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, the existing security measures, which consist of concrete jersey barriers, would remain in place and no site improvements would be made. The use of concrete jersey barriers as security measures were erected and anticipated to be temporary and short-term as a first response to provide security to the Memorial and to protect its visitors and staff from the threat of terrorist attacks. However, the temporary measures do not comply with NPS-developed security objectives for the site. Therefore, minor, adverse, long-term impacts to public safety would continue.

Cumulative Impacts

Past, present, and future projects at the National Mall and surrounding areas, including security improvements at the Washington Monument and the Lincoln Memorial and civil works projects such as the Jefferson Memorial Seawall Rehabilitation, the Potomac Park Levee Project, the Lincoln Memorial Reflecting Pool Rehabilitation, and the Madison Drive Streetscape Improvements would result in beneficial impacts to human health and safety. These projects reduce threats from hazards, including potential terrorist attacks and flooding, by improving site conditions. The no action alternative with the continued use of jersey barriers would contribute to the cumulative beneficial impacts on safety and security on the National Mall.

Conclusions

Impacts to the security and safety of the Jefferson Memorial and its visitors under the no action alternative would be minor, adverse, and long-term. The no action alternative with the continued use of jersey barriers would contribute to the cumulative beneficial impacts on safety and security on the National Mall.

IMPACTS OF ALTERNATIVE 1: BARRIER AS A STREETScape FEATURE (PREFERRED ALTERNATIVE)

Security improvements under Alternative 1 would provide beneficial impacts to safety and security that would be moderate and long-term. The vehicle security barrier would be the first line of defense from the potential threat of a vehicle bomb by impeding vehicular traffic. This alternative would provide protection such that if a bomb were detonated from a vehicle, there would be minimal damage to the Memorial. In addition, because the barrier would prevent vehicles from getting close to the Memorial, the barrier would serve as a deterrent to terrorists and reduces the potential for a successful attack on the Memorial.

Under Alternative 1, bus drop-off/loading zone would be provided for approximately ten tour buses. Sidewalks along the bus drop-off/loading zone would be widened for visitor safety and to ease congestion. This would provide a long-term, beneficial impact to safety and security by providing a safer bus drop-off/loading zone.

Parking for persons with disabilities would be relocated to the south side of East Basin Drive directly across the street from the U-shaped driveway. This would have a minor, long-term, adverse impact to safety because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial, which is a heavily traveled road with a speed limit of 25 miles per hour.

Implementation of Alternative 1 would result in short-term minor adverse impacts to public safety during the construction period. Construction workers and employees would follow an approved health and safety plan that would incorporate all applicable regulations. Barriers and signs would be used around the construction sites to divert the public from potentially dangerous situations. In addition, public announcements would be made on the Park website and in the media to alert the public to the construction schedule and locations.

Cumulative Impacts

Past, present, and future projects at the National Mall and surrounding areas, including security improvements at the Washington Monument and the Lincoln Memorial and civil works projects such as the Jefferson Memorial Seawall Rehabilitation, the Potomac Park Levee Project, the Lincoln Memorial Reflecting Pool Rehabilitation, the Madison Drive Streetscape Improvements, and the Arlington Memorial Bridge Rehabilitation would result in beneficial impacts to human health and safety. These projects reduce threats from hazards, including potential terrorist attacks and flooding, by improving site conditions. Alternative 1 would also improve safety by protecting from and deterring a terrorist attack. Therefore, past, present, and reasonably foreseeable future actions along with Alternative 1 would have a beneficial cumulative impact on human health and safety.

Construction activities for present and future projects would result in temporary disruptions to areas of the Park, but risks to Park staff and members of the public would be negligible. When combined with the short-term minor impacts to human health and safety resulting from construction activity of Alternative 1, there would be short-term, adverse cumulative impacts.

Conclusion

Security improvements under Alternative 1 would provide beneficial impacts to safety and security by meeting the NPS security goals as stated in the 2002 *National Capital Urban Design and Security Plan*. Improvements to the bus drop-off/loading zone would provide a long-term, beneficial impact to safety and security. Moving the parking for persons with disabilities to the south side of East Basin Drive would

have a minor, long-term, adverse impact to safety because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial.

Minor, short-term, adverse impacts would occur from construction. Reasonably foreseeable future actions along with Alternative 1 would have beneficial cumulative impacts on safety and security in the Monumental Core. Minor, short-term, adverse cumulative impacts would result from construction activities.

IMPACTS OF ALTERNATIVE 2: BARRIER AS A LANDSCAPE FEATURE

For Alternative 2, the impact of the security improvements would be the same as described under Alternative 1, but the barrier would, in many locations, provide less of a setback from the Memorial than Alternative 1, thus providing slightly less protection.

The impact of the circulation improvements would be the same as described under Alternative 1.

Cumulative Impacts

Past, present, and future projects at the National Mall and surrounding areas would result in beneficial impacts to human health and safety. These projects reduce threats from hazards, including potential terrorist attacks and flooding, by improving site conditions. Alternative 1 would also improve safety by protecting from and deterring a terrorist attack. Therefore, past, present, and reasonably foreseeable future actions along with Alternative 2 would have a beneficial cumulative impact on human health and safety.

Construction activities for present and future projects would result in temporary disruptions to areas of the Park, but risks to Park staff and members of the public would be negligible. When combined with the short-term minor impacts to human health and safety resulting from construction activity of Alternative 2, there would be short-term adverse cumulative impacts.

Conclusion

Security improvements under Alternative 2 would provide beneficial impacts to safety and security by meeting the NPS security goals as stated in the 2002 *National Capital Urban Design and Security Plan*. Improvements to the bus drop-off/loading zone would provide a long-term, beneficial impact to safety and security. Moving the parking for persons with disabilities to the south side of East Basin Drive would have a minor, long-term, adverse impact to safety because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial.

Minor, short-term, adverse impacts would occur from construction. Reasonably foreseeable future actions along with Alternative 1 would have beneficial cumulative impacts on safety and security in the Monumental Core. Minor, short-term, adverse cumulative impacts would result from construction activities.

IMPACTS OF ALTERNATIVE 3: BARRIER AS A FORMAL FEATURE

For Alternative 3, the impact of the security improvements would be the same as described under Alternative 1, but the barrier would in many locations provide less of a setback from the Memorial than Alternative 1 or Alternative 2, thus providing slightly less protection.

The impact of the circulation improvements would be the same as described under Alternative 1.

Cumulative Impacts

Past, present, and future projects at the National Mall and surrounding areas would result in beneficial impacts to human health and safety. These projects reduce threats from hazards, including potential terrorist attacks and flooding, by improving site conditions. Alternative 1 would also improve safety by protecting from and deterring a terrorist attack. Therefore, past, present, and reasonably foreseeable future actions along with Alternative 3 would have a beneficial cumulative impact on human health and safety.

Construction activities for present and future projects would result in temporary disruptions to areas of the Park, but risks to Park staff and members of the public would be negligible. When combined with the short-term minor impacts to human health and safety resulting from construction activity of Alternative 3, there would be short-term adverse cumulative impacts.

Conclusion

Security improvements under Alternative 3 would provide beneficial impacts to safety and security by meeting the NPS security goals as stated in the 2002 *National Capital Urban Design and Security Plan*. Improvements to the bus drop-off/loading zone would provide beneficial impacts to safety and security. Moving the parking for persons with disabilities to the south side of East Basin Drive would have a minor, long-term, adverse impact to safety because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial.

Minor, short-term, adverse impacts would occur from construction. Reasonably foreseeable future actions along with Alternative 1 would have beneficial cumulative impacts on safety and security in the Monumental Core. Minor, short-term, adverse cumulative impacts would result from construction activities.

Park Operations and Management

METHODOLOGY AND ASSUMPTIONS

The NPS staff's knowledge regarding operational efficiency, protection, and preservation of important resources, and providing an effective visitor experience was used to determine intensity levels of potential impacts on Memorial operations.

STUDY AREA

The study area for park operations and management includes the Jefferson Memorial and surrounding area. Park operations and management encompasses staffing, facilities, and budget.

IMPACT THRESHOLDS

Impact thresholds for Park Operations and Management 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 could 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 less than 1 year; long-term impacts are those lasting longer than 1 year.

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, a vehicle security barrier would not be constructed and the current use of concrete jersey barriers would continue. Visitors with disabilities would continue to park in existing parking spaces situated along East Basin Drive and tour buses would continue to use existing bus drop-off areas for loading and unloading passengers. The concession kiosk would remain in its current location near the south lawn.

Overall, park operations would sustain minor, long-term, adverse impacts as the continued use of the jersey barriers would not allow the NPS to meet long-term security objectives. Current and ongoing maintenance activities are not impacted by current security measures or by the existing parking and concession locations.

Cumulative Impacts

Implementation of the National Mall Plan would result in a beneficial impact to Park operations as a result of improvements to park conditions and park management (NPS, 2009a). The project to rebuild the seawall at the Thomas Jefferson Memorial would result in minor, short-term, adverse impacts during construction and long-term, beneficial impacts due to improved conditions at the site and a reduction in routine maintenance required at the seawall (NPS, 2009d). The Potomac Park Levee Project Preferred Alternative would result in short-term minor adverse impacts during construction and short-term, minor, adverse impacts as a result of the need to implement the post and panel system during a flood event (NPS, 2009c). However, because the implementation of the post and panel system would only require 12 hours, which is an improvement over the current procedure, a long-term benefit would occur. A long-term minor, adverse impact would result from annual maintenance of the post and panel system. Rehabilitation of the Lincoln Memorial Reflecting Pool and rehabilitation of the DC War Memorial would have beneficial cumulative impacts to Park operations because of a net reduction in long-term maintenance costs. Constitution Avenue and Madison Drive street improvements and the Arlington Memorial Bridge rehabilitation would enhance roadway conditions and introduce energy efficient features, which would reduce Park maintenance and operating costs.

While all of these projects would result in increases in Park staff and operating costs to support new structures and facilities, the impacts would be offset by the implementation of energy-efficient components and sustainable systems. Construction activity resulting from these projects would result in a short-term increase in responsibilities for NPS staff for supervision and oversight of contractors and construction crews.

As described above, continuation of the no action alternative would result in long-term minor adverse impacts to Park management and operations. When combined with the long-term impacts of other past, present, and reasonably foreseeable future actions, the no action alternative would result in long-term minor adverse cumulative impacts.

Conclusion

The no action alternative would result in minor, long-term, and adverse impacts on Park operations and management as it would not meet long-term security objectives. When combined with the long-term impacts of other past, present, and reasonably foreseeable future actions, the no action alternative would result in long-term minor adverse cumulative impacts.

IMPACTS OF ALTERNATIVE 1: BARRIER AS A STREETScape FEATURE (PREFERRED ALTERNATIVE)

Under Alternative 1, new features including the vehicle barrier, new paths, and a new concession kiosk, would be added to the project area which would result in higher operating expense and maintenance costs over current levels. Maintenance of these features would be required resulting in a minor, long-term, adverse impact.

The vehicular barrier would be configured to allow park maintenance and security vehicles access to the Memorial while preventing full-sized vehicles from getting close to the Memorial. Under Alternative 1, the vehicle security barrier would be aligned with the edge of East Basin Drive, and, therefore, would not interfere with maintenance of the Memorial grounds inside the barrier.

A bus drop-off/loading zone would be provided for approximately ten tour buses. The sidewalk along bus drop-off/loading zone would be widened for visitor safety and to ease congestion. These improvements would not impact park operations or maintenance.

Minor, short-term, adverse impacts to park operations would occur from construction as maintenance crews and park interpreters being required to maneuver around the construction staging areas.

Cumulative Impacts

Implementation of the National Mall Plan would result in a beneficial impact to Park operations as a result of improvements to Park conditions and Park management. The project to rebuild the seawall at the Thomas Jefferson Memorial would result in minor, short-term, adverse impacts during construction and long-term, beneficial impacts due to improved conditions at the site and a reduction in routine maintenance required at the seawall. The Potomac Park Levee Project Preferred Alternative would result in short-term minor adverse impacts during construction and short-term, minor, adverse impacts as a result of the need to implement the post and panel system during a flood event. However, because the implementation of the post and panel system would only require 12 hours, which is an improvement over the current procedure, a long-term benefit would occur. A long-term minor, adverse impact would result from annual maintenance of the post and panel system. Rehabilitation of the Lincoln Memorial Reflecting Pool and rehabilitation of the DC War Memorial would have beneficial cumulative impacts to park operations because of a net reduction in long-term maintenance costs. Constitution Avenue and Madison Drive street improvements and the Arlington Memorial Bridge rehabilitation would enhance roadway conditions and introduce energy-efficient features, which would reduce Park maintenance and operating costs.

While all of these projects would result in increases in Park staff and operating costs to support new structures and facilities, the impacts would be offset by the implementation of energy-efficient components and sustainable systems.

If there are overlaps in the construction period of the proposed vehicular security barrier and site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts Park operations and management. Construction

activity resulting from these projects would result in a short-term increase in responsibilities for NPS staff for supervision and oversight of contractors and construction crews.

Alternative 1, when added to the other past, present, and reasonably foreseeable future actions discussed above, would result in beneficial cumulative impacts to Park operations and management.

Conclusion

Alternative 1 would have beneficial impacts on Park operations as a result of security improvements at the Memorial by meeting long-term objectives for security. Minor, long-term, adverse impacts would result from additional maintenance activities. Minor, short-term, adverse impacts to Park operations would occur from construction as maintenance crews and Park interpreters maneuver around the construction staging areas. Alternative 1 when added to the other past, present, and reasonably foreseeable future actions discussed above would result in beneficial cumulative impacts to Park operations and management. There may also be short-term, minor to moderate adverse cumulative impacts Park operations and management during construction of projects on the National Mall.

IMPACTS OF ALTERNATIVE 2: BARRIER AS A LANDSCAPE FEATURE

Under Alternative 2, new features including the vehicle barrier, new paths, and a new concession kiosk, would be added to the project area which would result in higher operating expense and maintenance costs over current levels. Maintenance of these features would be required resulting in a minor, long-term, adverse impact.

The vehicular barrier would be configured to allow park maintenance and security vehicles access to the Memorial while preventing full-sized vehicles from getting close to the Memorial. Under Alternative 2, the vehicle barrier would meander through the Memorial grounds, and Park maintenance would have to care for the Memorial grounds both inside and outside of the barrier. This would have a negligible, long-term, adverse impact on Park operations and maintenance.

The bus drop-off/loading zone would be provided for approximately ten tour buses. Sidewalks along the bus drop-off/loading zone would be widened for visitor safety and to ease congestion. These improvements would not impact park operations or maintenance.

Minor, short-term, adverse impacts to park operations would occur from construction as maintenance crews and park interpreters being required to maneuver around the construction staging areas.

Cumulative Impacts

Impacts to visitor use and experience from past, present, and future actions would be similar to those described under Alternative 1 resulting in primarily long-term beneficial impacts. The impacts of Alternative 2, when added to the other past, present, and reasonably foreseeable future actions, would result in an overall beneficial cumulative impact to Park operations and management. If there are overlaps in the construction period of the proposed vehicular security barrier and site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts Park operations and management.

Conclusion

Alternative 2 would have beneficial impacts on Park operations as a result of security improvements at the Memorial by meeting long-term objectives for security. Negligible to minor, long-term, adverse

impacts would result from additional maintenance activities. Minor, short-term, adverse impacts to Park operations would occur from construction as maintenance crews and Park interpreters maneuver around the construction staging areas. Alternative 2 when added to the other past, present, and reasonably foreseeable future actions discussed above would result in beneficial cumulative impacts to Park operations and management. There may also be short-term, minor to moderate adverse cumulative impacts Park operations and management during construction of projects on the National Mall.

IMPACTS OF ALTERNATIVE 3: BARRIER AS A FORMAL FEATURE

Under Alternative 3, new features including the vehicle barrier, new paths, and a new concession kiosk, would be added to the project area which would result in higher operating expense and maintenance costs over current levels. Maintenance of these features would be required resulting in a minor, long-term, adverse impact.

The vehicular barrier would be configured to allow park maintenance and security vehicles access to the Memorial while preventing full-sized vehicles from getting close to the Memorial. Under Alternative 3, the vehicle barrier would be located in a concentric arc, and Park maintenance would have to care for the Memorial grounds both inside and outside of the barrier. This would have a negligible, long-term, adverse impact on Park operations and maintenance.

A bus drop-off/loading zone would be provided for approximately ten tour buses. Sidewalks along bus queuing areas would be widened for visitor safety and to ease congestion. These improvements would not impact park operations or maintenance.

Minor, short-term, adverse impacts to park operations would occur from construction as maintenance crews and park interpreters being required to maneuver around the construction staging areas.

Cumulative Impacts

Impacts to visitor use and experience from past, present, and future actions would be similar to those described under Alternative 1 resulting in primarily long-term beneficial impacts. The impacts of Alternative 3, when added to the other past, present, and reasonably foreseeable future actions, would result in an overall beneficial cumulative impact to Park operations and management. If there are overlaps in the construction period of the proposed vehicular security barrier and site improvements at the Jefferson Memorial and other projects on the National Mall, there would be short-term, minor to moderate adverse cumulative impacts Park operations and management.

Conclusion

Alternative 3 would have beneficial impacts on Park operations as a result of security improvements at the Memorial by meeting long-term objectives for security. Minor, long-term, adverse impacts would result from additional maintenance activities. Negligible to minor, short-term, adverse impacts to Park operations would occur from construction as maintenance crews and Park interpreters maneuver around the construction staging areas. Alternative 3 when added to the other past, present, and reasonably foreseeable future actions discussed above would result in beneficial cumulative impacts to Park operations and management. There may also be short-term, minor to moderate adverse cumulative impacts Park operations and management during construction of projects on the National Mall.

Transportation and Traffic

METHODOLOGY AND ASSUMPTIONS

This section assesses the potential traffic and transportation impacts of the alternatives. Sources of information for this environmental consequences description include analysis of current traffic in the study area and comparison of current traffic patterns to proposed post construction conditions.

STUDY AREA

The study area for traffic and transportation impacts includes East Basin Drive within the vicinity of the Jefferson Memorial.

IMPACT THRESHOLDS

The following thresholds were used to determine the magnitude of impacts on traffic.

Negligible: The impact would be a change that would not be perceptible or would be barely perceptible by transportation system users.

Minor: The impact would cause a change to travel times or transportation system utility. The impact would be noticeable, but would result in little inconvenience to transportation system users.

Moderate: The impact would result in a change to the travel time or system utility of a large number of transportation system users and would also result in a noticeable change in travel time or convenience. A moderate increase in delay may be anticipated, but it is not expected to cause failure of nearby transportation facilities that cannot be mitigated through proactive management.

Major: There would be a substantial impact on the travel time or system utility of a large number of transportation system users, and this would result in a highly noticeable change in travel times or convenience, leading to failure or near-failure of nearby transportation facilities, with little or no potential for mitigation

Duration: Short-term impacts would be immediate during construction of the alternative; long-term impacts would be those persisting or resulting after construction of the alternative.

IMPACTS OF THE NO ACTION ALTERNATIVE

Under the no action alternative, the existing security measures consisting of concrete jersey barriers would remain in place. A permanent vehicle security barrier would not be constructed at the Jefferson Memorial. The existing security improvements would not impact transportation or traffic flow.

The existing U-shaped driveway would remain closed. Visitors with disabilities would continue to park in existing parking spaces situated along East Basin Drive and tour buses would continue to use existing bus drop-off areas for loading and unloading. The existing parking for visitors with disabilities does not affect traffic and no impacts are anticipated in the future. However, because of the limited spaces for buses, conflicts would continue between buses loading and unloading passengers, other cars and taxis dropping off passengers, and through traffic. This would result in a minor, long-term, adverse impact to traffic flow.

Cumulative Impacts

Other projects in the Monumental Core, including transportation improvements at the Lincoln Memorial and the Madison Drive Streetscape Improvements, have had beneficial impacts to traffic flow in the Monumental Core. Present and future projects, including Constitution Avenue street improvements, the Eisenhower Memorial, the Arlington Memorial Bridge, and the 14th Street Bridge Corridor projects, would also improve traffic flow and improve access to the National Mall and surrounding areas. These projects would result in beneficial cumulative impacts to traffic and transportation. The no action alternative would result in minor adverse impacts to traffic and transportation and would slightly lessen the overall beneficial cumulative impacts of other past, present, and future projects.

Minor, short-term, adverse impacts on traffic would result from construction and the placement of staging areas and construction materials for future transportation projects. The no action alternative would not add to or negate these cumulative impacts.

Conclusion

Under the no action alternative, minor, long-term, adverse impacts would occur as potential back-ups may result from conflicts between buses, cars dropping off visitors, and through traffic. The no action alternative would not add to or negate these cumulative impacts.

IMPACTS OF ALTERNATIVE 1: BARRIER AS A STREETSCAPE FEATURE (PREFERRED ALTERNATIVE)

Under Alternative 1, there is the potential for minor, short-term, adverse impacts to traffic from construction of the vehicle security barrier, the new concession kiosk, and the widened sidewalks along East Basin Drive; however, this would be mitigated through restricted hours for construction. Construction deliveries would only occur during non-rush hour hours (9:30 am to 3:30 pm), Monday through Friday. The existing parking directly along the U-shaped driveway has been closed to through traffic, and parking has been relocated to existing parking areas along Ohio Drive. Under this alternative, the existing parking area would be permanently closed and parking would continue in existing parking areas along Ohio Drive.

Under Alternative 1, a bus drop-off/loading zone would be provided for approximately ten tour buses. Sidewalks along East Basin Drive, including along the bus drop-off/loading zone, would be widened for visitor safety and to ease congestion. This would provide a long-term, beneficial impact to traffic by relieving congestion at the bus drop-off/loading zone.

Parking for persons with disabilities would be relocated to the south side of East Basin Drive directly across the street from the U-shaped driveway. This would have a minor, long-term, adverse impact to traffic because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial, which is a heavily traveled road with a speed limit of 25 miles per hour. Additional parking spaces for persons with disabilities would be added, resulting in a beneficial impact to transportation.

During construction, there may be temporary lane blockages on East Basin Drive which would disrupt through traffic flow, bus drop-off and loading, and parking for persons with disabilities. Closures of sidewalks during construction would require visitors to take longer routes to their destinations. This would result in a short-term, minor, adverse impact.

Cumulative Impacts

Other projects in the Monumental Core, including transportation improvements at the Lincoln Memorial and the Madison Drive Streetscape Improvements, have had beneficial impacts to traffic flow in the Monumental Core. Present and future projects, including Constitution Avenue street improvements, the Eisenhower Memorial, the Arlington Memorial Bridge and the 14th Street Bridge Corridor projects, would also improve traffic flow and improve access to the National Mall and surrounding areas. These projects would result in beneficial cumulative impacts to traffic and transportation. Alternative 1 would also result in beneficial impacts by improving bus drop-off and loading and by improving the streetscape, adding to the overall beneficial cumulative impacts.

If there are overlaps in the construction period of the Jefferson Memorial project and other planned transportation projects in the Monumental Core, there would be short-term, minor to moderate adverse cumulative impacts on transportation and traffic.

Conclusion

Providing an adequate bus drop-off/loading zone and widening sidewalk areas would have a beneficial impact to traffic by easing vehicular and pedestrian congestion. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. Additional parking spaces for persons with disabilities would result in a beneficial impact to transportation. There would be short-term, minor, adverse impacts during construction.

Alternative 1 would add to the overall beneficial cumulative impacts of other present and future transportation improvements in the vicinity of the National Mall. Alternative 1 could contribute a minor amount to the short-term, adverse cumulative impacts associated with construction of transportation projects.

IMPACTS OF ALTERNATIVE 2: BARRIER AS A LANDSCAPE FEATURE

Alternative 2 contains the same improvements to sidewalks, the bus drop-off/loading zone, and parking for persons with disabilities as Alternative 1.

As with Alternative 1, under Alternative 2 there is the potential for minor, short-term, adverse impacts to traffic from construction of the vehicle security barrier, the new concession kiosk, and the widened sidewalks along East Basin Drive; however, this would be mitigated through restricted hours for construction. Construction deliveries would only occur during non-rush hour hours (9:30 am to 3:30 pm), Monday through Friday. The existing parking directly along the U-shaped driveway has been closed to through traffic, and parking has been relocated to existing parking areas along Ohio Drive. Under this alternative, the existing parking area would be permanently closed and parking would continue in existing parking areas along Ohio Drive.

A bus drop-off/loading zone would be provided for approximately ten tour buses. Sidewalks along East Basin Drive, including along the bus drop-off/loading zone, would be widened for visitor safety and to ease congestion. This would provide a long-term, beneficial impact to traffic by relieving congestion at the bus drop-off/loading zone.

Parking for persons with disabilities would be relocated to the south side of East Basin Drive directly across the street from the U-shaped driveway. This would have a minor, long-term, adverse impact to traffic because visitors with disabilities would have to cross East Basin Drive in order to access the

Memorial, which is a heavily traveled road with a speed limit of 25 miles per hour. Additional parking spaces for persons with disabilities would be added, resulting in a beneficial impact to transportation.

During construction, there may be temporary lane blockages on East Basin Drive which would disrupt through traffic flow, bus drop-off and loading, and parking for persons with disabilities. Closures of sidewalks during construction would require visitors to take longer routes to their destinations. This would result in a short-term, minor, adverse impact.

Cumulative Impacts

Other projects in the Monumental Core, including transportation improvements at the Lincoln Memorial and the Madison Drive Streetscape Improvements, have had beneficial impacts to traffic flow in the Monumental Core. Present and future projects, including Constitution Avenue street improvements, the Eisenhower Memorial, the Arlington Memorial Bridge, and the 14th Street Bridge Corridor projects, would also improve traffic flow and improve access to the National Mall and surrounding areas. These projects would result in beneficial cumulative impacts to traffic and transportation. Alternative 2 would also result in beneficial impacts by improving bus drop-off and loading and by improving the streetscape, adding to the overall beneficial cumulative impacts.

If there are overlaps in the construction period of the Jefferson Memorial project and other planned transportation projects in the Monumental Core, there would be short-term, minor to moderate adverse cumulative impacts on transportation and traffic.

Conclusion

Providing an adequate bus drop-off/loading zone and widening sidewalk areas would have a beneficial impact to traffic by easing vehicular and pedestrian congestion. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. Additional parking spaces for persons with disabilities would result in a beneficial impact to transportation. There would be short-term, minor, adverse impacts during construction.

Alternative 2 would add to the overall beneficial cumulative impacts of other present and future transportation improvements in the vicinity of the National Mall. Alternative 2 could contribute a minor amount to the short-term, adverse cumulative impacts associated with construction of transportation projects.

IMPACTS OF ALTERNATIVE 3: BARRIER AS A FORMAL FEATURE

Alternative 3 contains the same improvements to sidewalks, the bus drop-off/loading zone, and parking for persons with disabilities as Alternative 1.

As with Alternative 1, under Alternative 3 there is the potential for minor, short-term, adverse impacts to traffic from construction of the vehicle security barrier, the new concession kiosk, and the widened sidewalks along East Basin Drive; however, this would be mitigated through restricted hours for construction. Construction deliveries would only occur during non-rush hour hours (9:30 am to 3:30 pm), Monday through Friday. The existing parking directly along the U-shaped driveway has been closed to through traffic, and parking has been relocated to existing parking areas along Ohio Drive. Under this alternative, the existing parking area would be permanently closed and parking would continue in existing parking areas along Ohio Drive.

A bus drop-off/loading zone would be provided for approximately ten tour buses. Sidewalks along East Basin Drive, including along the bus drop-off/loading zone, would be widened for visitor safety and to ease congestion. This would provide a long-term, beneficial impact to traffic by relieving congestion at the bus drop-off/loading zone.

Parking for persons with disabilities would be relocated to the south side of East Basin Drive directly across the street from the U-shaped driveway. This would have a minor, long-term, adverse impact to traffic because visitors with disabilities would have to cross East Basin Drive in order to access the Memorial, which is a heavily traveled road with a speed limit of 25 miles per hour. Additional parking spaces for persons with disabilities would be added, resulting in a beneficial impact to transportation.

During construction, there may be temporary lane blockages on East Basin Drive which would disrupt through traffic flow, bus drop-off and loading, and parking for persons with disabilities. Closures of sidewalks during construction would require visitors to take longer routes to their destinations. This would result in a short-term, minor, adverse impact.

Cumulative Impacts

Other projects in the Monumental Core, including transportation improvements at the Lincoln Memorial and the Madison Drive Streetscape Improvements, have had beneficial impacts to traffic flow in the Monumental Core. Present and future projects, including Constitution Avenue street improvements, the Eisenhower Memorial, the Arlington Memorial Bridge, and the 14th Street Bridge Corridor projects, would also improve traffic flow and improve access to the National Mall and surrounding areas. These projects would result in beneficial cumulative impacts to traffic and transportation. Alternative 3 would also result in beneficial impacts by improving bus drop-off and loading and by improving the streetscape, adding to the overall beneficial cumulative impacts.

If there are overlaps in the construction period of the Jefferson Memorial project and other planned transportation projects in the Monumental Core, there would be short-term, minor to moderate adverse cumulative impacts on transportation and traffic.

Conclusion

Providing an adequate bus drop-off/loading zone and widening sidewalk areas would have a beneficial impact to traffic by easing vehicular and pedestrian congestion. Parking for persons with disabilities would be relocated to the south side of East Basin Drive, resulting in a minor, long-term, adverse impact. Additional parking spaces for persons with disabilities would result in a beneficial impact to transportation. There would be short-term, minor, adverse impacts during construction.

Alternative 3 would add to the overall beneficial cumulative impacts of other present and future transportation improvements in the vicinity of the National Mall. Alternative 3 could contribute a minor amount to the short-term, adverse cumulative impacts associated with construction of transportation projects.

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CHAPTER 5: CONSULTATION AND COORDINATION

The NPS places a high priority on public involvement in the NEPA and Section 106 processes and on providing the public an opportunity to comment on proposed actions. The NPS has entered into Section 106 consultation with the DCSHPO, the Advisory Council on Historic Preservation, and other interested parties, and has incorporated Section 106 consultation into all of the public and agency coordination undertaken for the project.

As part of the NPS NEPA 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. The NPS held a public scoping meeting on December 2, 2009 to seek input on the scope of the environmental studies and Section 106 compliance, alternatives to the proposed action, and potential impacts. Approximately a dozen people attended the meeting, including representatives from the National Coalition to Save Our Mall, Guild of Professional Tour Guides, and the Committee of 100. Comments received at the meeting included concerns about whether security measures are needed, impacts to viewsheds, impacts to the Memorial's landscape (including impacts to cherry trees), and adequate areas for tour bus drop-off and loading.

A second public meeting was held in August 2010 to provide interested parties with an update on the alternatives under consideration. This meeting provided the public with another opportunity to learn about the project and to provide input on the alternative and potential impacts. The meeting was also used to consult with the public on cultural resource issues under Section 106 of the NHPA. Comments received at this meeting included the cost differences of the alternatives, effectiveness of the proposed security measures, impacts to viewsheds and landscapes, potential use of temporary bollards, adequate areas for tour bus drop-off and loading, and potential for bus drop-off and loading on the Memorial's south lawn.

The NPS has met with the NCPC, CFA, and the DCSHPO on several occasions to solicit their input on the design criteria and alternatives for this project as well as cultural resource issues under Section 106 of the NHPA. Meetings were held with NCPC and CFA staffs on October 6, 2009, and with CFA and DC SHPO staffs on February 24, 2010 and July 23, 2010. At each of these meetings, preliminary alternatives were reviewed and discussions were held on the appropriateness of barrier location, type, and materials as well as the placement and attributes of other improvements, including concession kiosks, bus drop-off and loading areas, and accessible parking.

The NPS formally presented preliminary design concepts to the full NCPC in November 2009. In April 2010, the NPS presented preliminary design concepts to the CFA. Based on comments received from these meetings, as well as input received from agency staff and the public, NPS revised the alternatives and presented the revised concepts to CFA and the full NCPC and CFA in September and October 2010, respectively. CFA approved the Alternative 1, Barrier as a Streetscape Feature, and asked that NPS continue to explore and develop the features shown with the other alternatives, particularly at the South Lawn. NCPC provided favorable comments on Alternative 1 and asked NPS to consider some of the design concepts for the walls and benches from Alternative 2, Barrier as a Landscape Feature, and Alternative 3, Barrier as a Formal Feature.

In December 2012, NPS met with the CFA and NCPC Staff to review design options for the vehicle barrier. The staff agreed the NPS should continue with design of a single cable barrier with a 12-inch high wall. Staff requested that the design team look into solutions for reducing the diameter of cable and intermediate bollards to keep the security barrier as transparent as possible. It was also agreed that the NPS would continue to study a rod system for the barrier. The design team will study minimizing the diameter of the horizontal railing by using exposed cable.

Comment Period

To comment on this EA, you may mail comments or submit them online within 30 days of the publication of this EA. Please be aware that your comments and personal identifying information may be made publicly available at any time. While you may request that the NPS withhold your personal information, we cannot guarantee that we will be able to do so. Preferred method: Online at <http://parkplanning.nps.gov/NAMA> and follow the appropriate links. Comments may be submitted via mail addressed to:

Terri Urbanowski
Attn: Thomas Jefferson Memorial Vehicle Security Barrier
National Park Service – DSC
12795 West Alameda Parkway
Lakewood, CO 80288-2838

LIST OF PREPARERS

Wallace Roberts and Todd

Loren Shaw
Landscape Architect / Associate

Kent L. Sundberg
Senior Associate

Ignacio Bunster
Principal

Elisabeth Hamill
Associate

H. Misa Chen
Landscape Designer

DHM Design

Robert Smith
Principal

Greenhorne & O'Mara, Inc.

Joan Glynn, Project Manager
Environmental Planner
B.A. Communications
Overall Document Support, Public Involvement

Elizabeth Estes
Environmental Planner
M.S. Environmental Management
Quality Assurance

Nasrin Dahlgren
Environmental Scientist
M.S. Geographic Sciences
Vegetation, Soils

Julie Liptak
Graphic Artist
Graphics

Sheila Mahoney
Environmental Scientist
M.S. Environmental Science and Policy
Visitor Use, Public Safety

Duncan Simpson
Environmental Scientist
M.S. Biology
Park Management and Operations,
Transportation

Heritage Landscapes

Patricia O'Donnell, FASLA, AICP
Principal
Master of Landscape Architecture
Master of Urban Planning
B.S. Design
Scenic Resources, Cultural Resources

Sarah LeVaun Gaulty
Project Manager
M.S. Historic Preservation
B.A. Art History
Scenic Resources, Cultural Resources

Oehrlein and Associates, Architects

Mary Oehrlein
Principal
Scenic Resources, Cultural Resources

Contributors

U.S. Department of the Interior

NPS, Denver Service Center

Terri Urbanowski, Project Manager

Andrea Lind, Project Specialist

NPS, National Mall and Memorial Parks

Robert Vogel, Superintendent

John Piltzecker, Superintendent (previous)

Stephen Lorenzetti, Deputy Superintendent

Jennifer Talken Spaulding, Cultural Resource Program Manager

NPS, National Capital Region

Perry Wheelock, Chief of Cultural Resources

Doug Jacobs, Deputy Associate Director of Lands, Resources, and Planning

Joel Gorder Regional Environmental Coordinator

GLOSSARY AND ACRONYMS

Glossary of Terms

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.

Bollard— A short vertical post designed to obstruct the passage of motor vehicles.

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 *National Environmental Policy Act* of 1969. CEQ coordinates federal environmental efforts and works closely with agencies and other White House offices in the development of environmental policies and initiatives.

Cultural 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 Part 1508.7).

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

Endangered Species Act (16 U.S.C. 1531 et seq.) — An Act which provides a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved and which provides a program for the conservation of such endangered species and threatened species.

Environmental Assessment — An environmental analysis prepared pursuant to the *National Environmental Policy Act* to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement (EIS).

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— Within this document, the term impairment has two separate definitions. The NPS requires an analysis of potential impacts to determine whether actions would impact or impair Park resources. 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. Impairment is also a classification of poor water quality for a surface water body under the U.S. Clean Water Act.

Jersey barrier — A 3-foot-tall concrete structure that ranges in length, most commonly used as a barrier to separate or stop moving vehicles.

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 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 (NEPA) — 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 build” 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 U.S.C. 470 et seq.) — An Act to establish a program for the preservation of historic properties throughout the nation, and for other purposes, approved October 15, 1966 [Public Law 89-665; 80 STAT. 915; 16 U.S.C. 470 as amended by Public Law 91-243, Public Law 93-54, Public Law 94-422, Public Law 94-458, Public Law 96-199, Public Law 96-244, Public Law 96-515, Public Law 98-483, Public Law 99-514, Public Law 100-127, and Public Law 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 (NRHP) — A register of districts, sites, buildings, structures, and objects important in American history, architecture, archeology, and culture, maintained by the Secretary of the Interior under authority of Section 2(b) of the *Historic Sites Act* of 1935 and Section 101(a)(1) of the *National Historic Preservation Act* of 1966, as amended.

Scoping — Scoping, as part of NEPA, requires examining a proposed action and its possible impacts; 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.

Social Trail— An unofficial trail that diverges from an existing trail, as a shortcut to the destination. A social trail usually cuts through a vegetative or natural barrier, such as woods, scrubs, grass fields, or berms.

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.

Acronyms

ABA	Architectural Barriers Act of 1968
ABAAS	Architectural Barriers Act Accessibility Standard
ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
APE	Area of Potential Effect
CFR	Code of Federal Regulation
CFA	U. S. Commission of Fine Arts
CEQ	Council on Environmental Quality
CWA	Clean Water Act
DCSHPO	District of Columbia State Historic Preservation Office
DO-12	Director's Order 12
EA	Environmental Assessment
EO	Executive Order
ESF	Environmental Screening Form
FEMA	Federal Emergency Management Agency
FWS	Fish and Wildlife Service
MLK	Martin Luther King, Jr.
MOU	Memorandum of Understanding
MWAQC	Metropolitan Washington Air Quality Committee
NAAQS	National Ambient Air Quality Standards
NAMA	National Mall and Memorial Parks
NCPC	National Capital Planning Commission
NCUDSP	National Capital Urban Design and Security Plan
NEPA	National Environmental Policy Act
NHL	National Historic Landmark

Glossary and Acronyms

NHPA	National Historic Preservation Act
NMP	National Mall Plan
NPOMA	National Parks Omnibus Management Act
NPPC	National Parks and Planning Commission
NPS	National Park Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
PA	Program Analyst
PEPC	Planning, Environment, and Public Comment website
SCS	Soil Conservation Service
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SOF	Statement of Findings
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Officer
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture

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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.

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