

STAFF RECOMMENDATION

C. Saum

NCPC File No. 6885



WEST POTOMAC PARK LEVEE SYSTEM IMPROVEMENTS

17th Street NW and Constitution Avenue NW
Washington, DC

Submitted by National Park Service

December 31, 2008

Abstract

The NPS has submitted a design concept for improvements to the West Potomac Park Levee near the intersection of 17th Street and Constitution Avenue NW. The levee was authorized by Congress in 1936 and complete by the US Army Corps of Engineers (USACE) in 1938. The Congressional authorization was for protection against a flow of 700,000 cubic feet per second, which approximates a 185-year event. In 2007, USACE de-certified the levee system after it was determined that it did not meet stricter policies for levees adopted after hurricane Katrina. Subsequently, the Federal Emergency Management Administration (FEMA) proposed to issue new 100-year floodplain maps that would place portions of downtown Washington, including the Federal Triangle and museums along the north side of the Mall, within the floodplain. The new floodplain maps would require private property owners to purchase flood insurance and both federal and private property owners to implement costly building upgrades. FEMA has agreed to delay issuing the new floodplain maps if improvements that provide adequate protection against a 100-year flood are in place by November, 2009.

The current submission includes improvements intended to meet FEMA requirements. The existing levee system extends from 23rd Street north of the Lincoln Memorial on the west to the Washington Monument on the east. It includes a permanent earthen berm extending along the north side of the Reflecting Pool and requires NPS to install temporary barriers (consisting of a combination of sand bags, Jersey barriers and earthen dams) across 23rd and 17th Streets NW during flood events. The current submission includes improvements to the temporary barrier system at 17th Street to improve its reliability and minimize the time required for construction during flood events. Additional modifications to bring the earthen levee north of the Reflecting Pool and along 23rd Street to a uniform elevation and increase the freeboard protection will be required or full USACE certification in accordance with the Congressional Authorization, but that work is not included in this submission.

The District of Columbia has pledged \$2.5 million toward construction of improvements meeting the FEMA requirements. USACE has received authorization (but not funding) to make improvements meeting the level authorized by Congress. Levee improvements described herein will be completed as funding becomes available. Phase I will include construction of the post and panel closure system across 17th Street NW, an on-site post and panel storage facility, and concrete retaining walls. Phase II will include permanent earthwork, surface treatments and landscaping necessary to ensure that the improvements are compatible with their surroundings.

Since it would not be practical to increase the height of the post and panel and concrete walls at a later date, the post and panel and concrete walls constructed as part of Phase I will be built to a height that provides adequate protection against a 185-year event, in accordance with the Congressional authorization.

Commission Action Requested by Applicant

Comments on the concept design, pursuant to 40 U.S.C. § 8722(b)(1) and (d).

Executive Director's Recommendation

The Commission:

Comments favorably on the concept design for improvements to the Potomac Park levee near the intersection of 17th Street and Constitution Avenue NW, as shown on NCPC Map File No. 1.42(03.40)42661

Recommends that in the further development of the design, the applicant:

- develop a landscape plan that respects the intent of the 1976 Skidmore, Owings & Merrill plan for Constitution Gardens and the 2003 Olin Partnership plan for the Washington Monument grounds, and that minimizes encroachment on the World War II Memorial.
- strive to minimize, to the extent possible, the visual intrusion of masonry walls on the 17th Street view corridor by modulating the relationship of walls to earthen berm.

Commends the NPS for its extensive coordination and cooperation with District and federal agencies and with the public.

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PROJECT DESCRIPTION

Site



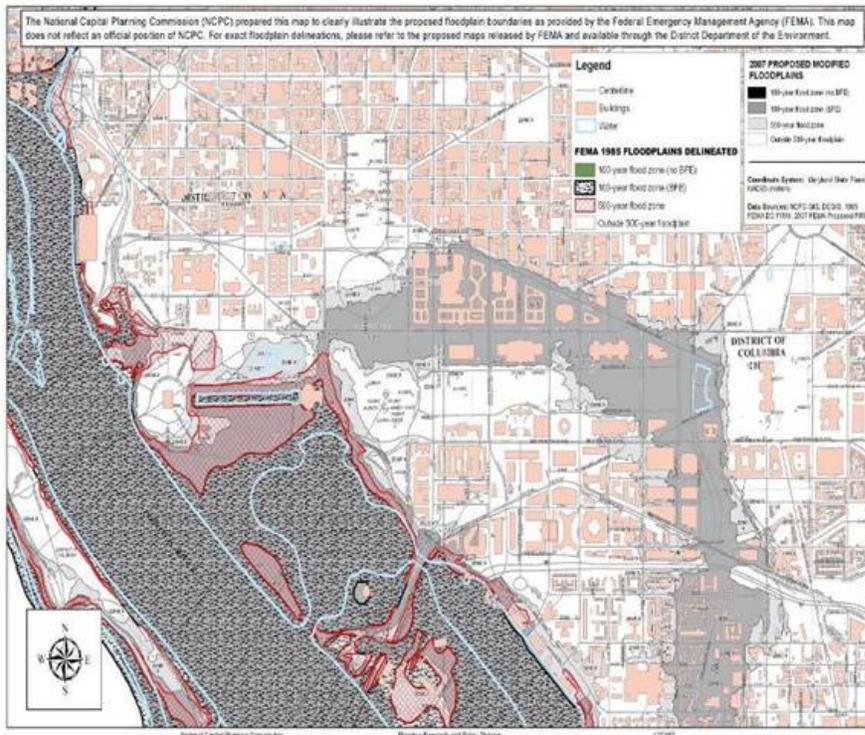
Aerial photograph showing project site (in circle) and vicinity

The existing levee system is designed to protect downtown Washington from Potomac River Flooding. It extends from 23rd Street NW, north of the Lincoln Memorial, east to the raised mound on which the Washington Monument stands. It includes an earthen levee that extends from 23rd Street on the west to 17th Street on the east, between Constitution Gardens and the Reflecting Pool, and requires temporary measures (currently consisting of sandbags, Jersey barriers and an earthen dam) across 23rd and 17th Streets during flood events. The proposed project will provide a more secure closure system across 17th Street, consisting of a post-and-panel barrier connected to masonry walls and an on-site storage vault for the post and panel members when not in use. The construction boundaries of the proposed project include portions of West Potomac Park and the Washington Monument grounds adjacent to 17th Street south of Constitution Avenue.

Background

In 1936, the Potomac River flooded and damaged large areas of downtown Washington and Southwest DC. In response, Congress enacted the Flood Control Act of 1936 authorizing the construction of flood control measures and directing the U.S. Army Corps of Engineers (USACE) to design and construct systems to protect the city from a flood event equivalent to 700,000 cubic feet per second. This is roughly equivalent to a 185-year flood event. In 1938, USACE completed a levee system consisting of substantial earthworks extending from 23rd Street NW to the earthen mound on which the Washington Monument stands. The system is designed to require temporary measures, including sandbags and an earthen berm, across 17th and 23rd Streets NW in the event of a flood.

In 2007, as a result of new policies adopted following Hurricane Katrina, USACE determined that the levee system no longer met the standard of protection authorized by Congress and de-certified it. As a result of the USACE de-certification, FEMA proposed to issue new 100-year floodplain maps reflecting conditions as if the levee did not exist. Those conditions would place portions of downtown Washington, including the Federal Triangle and museums along the north side of the Mall, as well as private property extending through Southwest DC to Ft. McNair, within the floodplain. If implemented, the new maps would require flood insurance for private property owners and extensive building upgrades for existing and proposed federal facilities.



Proposed FEMA flood map

In order to meet FEMA's 100-year flood standard, a more secure closure system for the 17th Street area will be required. In order to meet more stringent 185-year standard authorized by Congress, further improvements will be required to earthen levees north of the Reflecting Pool and along 23rd Street between Constitution Avenue and the Lincoln Memorial. Congress has authorized USACE to make these improvements but has not provided the necessary funding. In late 2007, the District approached FEMA with a proposal to use \$2.5 million in District funds to provide an interim solution that would satisfy FEMA requirements if FEMA would delay issuance of the new flood maps. In April, 2008, FEMA agreed on the condition that the interim solution be in place by November 2009. A permanent solution meeting the more stringent level of protection authorized by Congress will require additional federal funding.

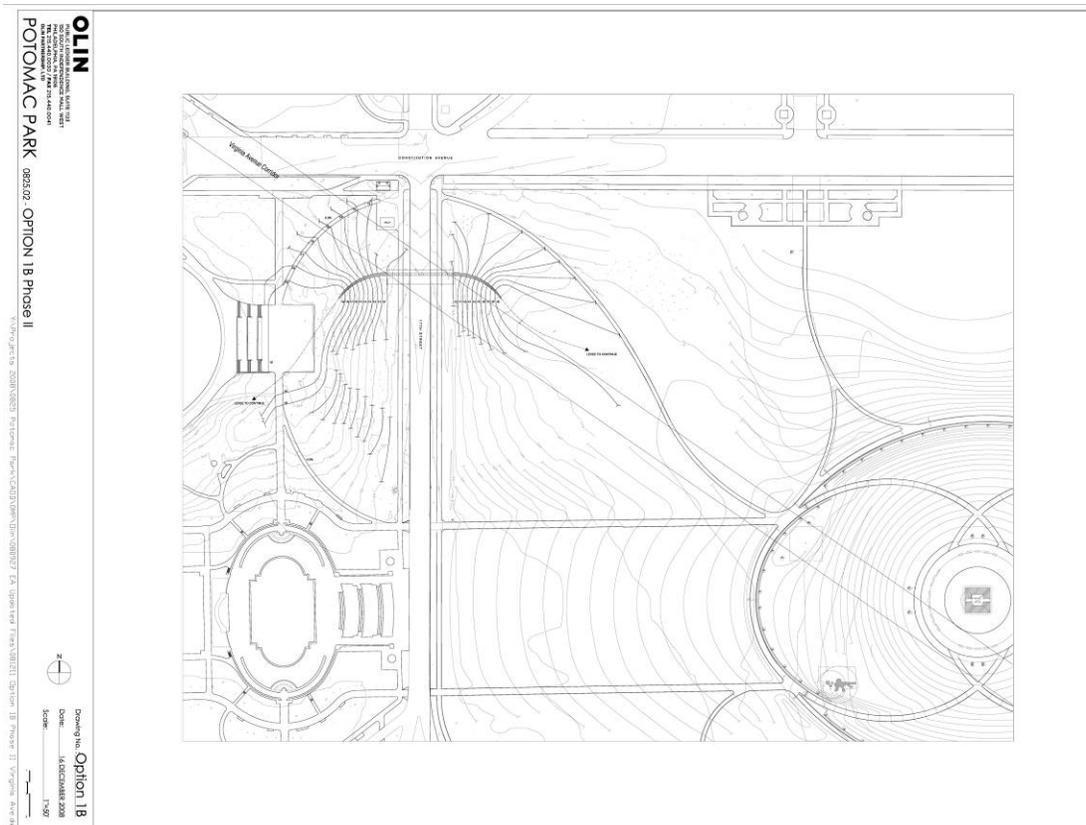
Proposal

The current proposal includes improvements necessary to meet or exceed FEMA's 100-year flood standard. The proposed design will provide a more reliable and effective means of securing the gap in the levee system along 17th Street. The height of protection required at 17th Street is

approximately ten feet above the road surface—too high to be effectively secured by sandbags. The design is based, therefore, on a post and panel system to secure the roadway during a flood, and a system of concrete walls and earthen berms to secure the flanks of the post and panel system permanently in the landscape.

The levee improvements will be implemented in multiple phases as funds become available. Phase I is intended as the minimum necessary to meet FEMA requirements and will include the post and panel system, concrete walls and vault for storage of the post and panel system when not in use. Phase II will require additional federal funds, and will include permanent earthwork, surface treatments and landscaping necessary to ensure that the improvements are compatible with their surroundings. Since it would be impractical to increase the height of the post and panel and concrete walls at a later date, the post and panel and concrete walls in Phase I will be built to conform to the higher standard of protection authorized by Congress. Addition repairs and improvements to the existing earthen levee system north of the Reflecting Pool and along 23rd Street between Constitution Avenue and the Lincoln Memorial will be required to bring the entire levee system up to the 185-year standard authorized by Congress. This work was not included in the submission and requires additional funding for design and construction.

The post and panel system will cross 17th Street at the approximate intersection of the 17th Street and Virginia Avenue rights-of-way. The ends of the proposed post and panel system are defined by the limits of the north and south boundaries of the Virginia Avenue right of way. The storage vault is near the southwest corner of the intersection of 17th Street and Virginia Avenue.



Proposed site plan, showing the Virginia Avenue rights-of-way extended across the site

A landscape plan for Phase II will include the relocation and realignment of walkways approaching the Constitution Gardens overlook site and new planting and grading plans.

Development Program

The applicant hopes to obtain the necessary approvals and secure funding so that construction can begin in March or April, 2009, and Phase I can be completed by November, 2009. Construction costs for phase I are estimated at between \$4.1 and \$4.5 million. Construction costs for all subsequent phases are estimated at approximately \$20 million.

PROJECT ANALYSIS

Evaluation of the Design

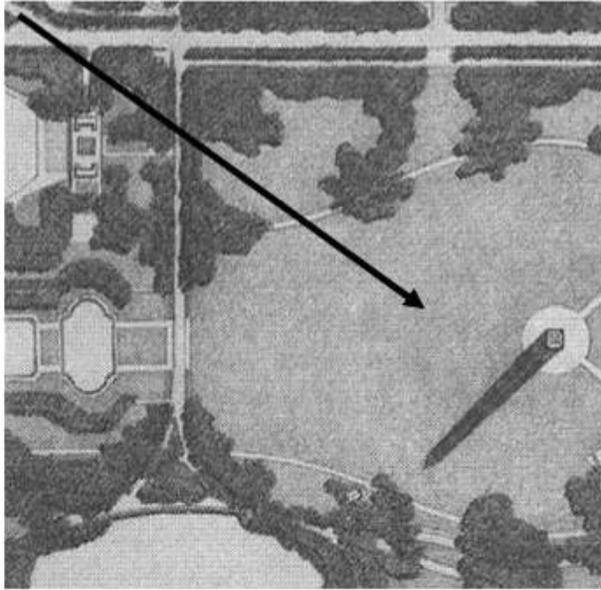
The proposed design concept has been developed through extensive consultation among NPS, NCPC, the Commission of Fine Arts (CFA), the District of Columbia Historic Preservation Officer (SHPO), the District of Columbia Office of Planning (OP) and others. There has been general consensus on design goals and objectives, and the proposed design concept is responsive to all of them. **Staff recommends that the Commission comment favorably on the design.**



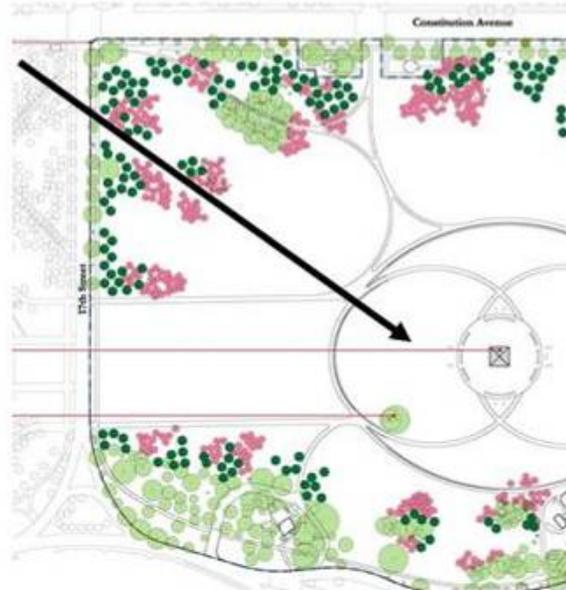
Participants at a design workshop held on June 26 and 27, 2008 agreed that the design should represent a simple engineering solution. The Commission of Fine Arts concurred when it reviewed the project in November, 2008. A number of more complex alternatives have been considered, but the current design's simple symmetry and lack of unnecessary detail bring it closest to meeting this goal. In fact, it is similar to one of the first designs developed at the charrette.

Construction will result in the loss of a significant number of trees, including two mature elms and two mature walnuts. Most of the tree loss, however, will occur in the area around the Constitution Gardens overlook, where the existing trees are either immature or stunted due to poor soil conditions. This project will create an opportunity for the NPS to improve the soil conditions and replant with new, healthy trees. This will be a particular asset when the NPS

establishes a food service facility at the Overlook site, as planned in the Mall Management Plan currently under development.



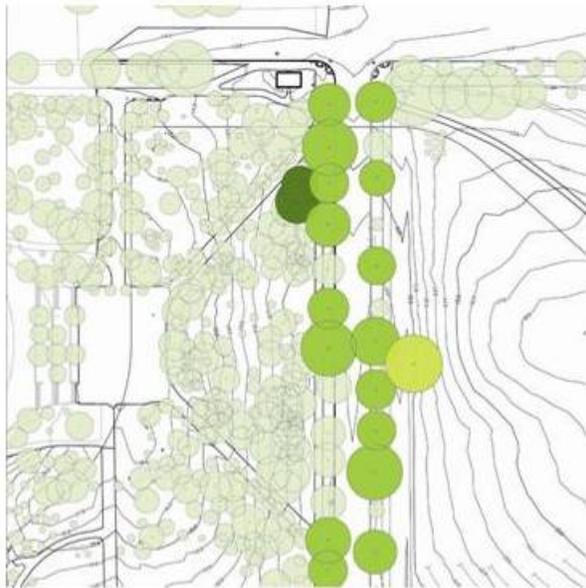
1976 SOM Plan, showing view corridor from Virginia Avenue



2003 Olin Plan, showing view corridor from Virginia Avenue

Both the plan for the National Mall by Skidmore Owings and Merrill (SOM) approved by NCPC in 1976 and the plan for the Washington Monument grounds by the Olin Partnership (Olin) approved by NCPC in 2003 use trees to frame reciprocal views between the Washington Monument and Virginia Avenue, and between the Monument Grounds and the Constitution Gardens overlook. These two plans also complement each other by creating a graceful transition between the broad, open character of the Monument Grounds and the generally forested character of Constitution Gardens. The reciprocal views between Virginia Avenue and the Monument were identified as historically significant during consultation, but the current landscaping in Constitution Gardens fails to acknowledge them. **Staff recommends that in developing a landscape plan for the disturbed area, the applicant develop a landscape plan that respects the intent of the 1976 SOM plan for Constitution Gardens and the 2003 Olin plan for the Washington Monument grounds.**

The proposal also includes modifications to the existing pathways leading to and from the Constitution Gardens Overlook site. The existing pathways are poorly aligned with each other and poorly coordinated with existing conditions such as crosswalks. Redesigning the pathways in a curvilinear pattern complements the curvilinear design of pathways on the Washington Monument grounds as well as the floodwalls themselves, while creating space around the floodwalls. But the arc of the southern walkway, to the northeast of the World War II Memorial, crowds the memorial and the Elm Walk. **Staff therefore recommends that in the revised landscape plan for Constitution Gardens, the walkways be laid out in a way that minimizes encroachment on the World War II Memorial.**



Existing conditions showing existing paths and mature trees.



Proposal showing revised paths. Revised planting plan to be developed.

Finally, a consistent concern throughout consultation has been the impact of the masonry walls on views north and south along the 17th Street right-of-way, and on views from 17th and Constitution Avenue toward the Washington Monument. The current proposal is an improvement over previous iterations in that the walls have been pulled south from the intersection and out of the Virginia Avenue right-of-way. Staff is still concerned, however, at the potential for creating a gate-like effect for pedestrians and people in vehicles passing through the area. This could be ameliorated by increasing the amount of earthen levee and reducing the amount of masonry wall required, but only if it can be done without creating slopes that are out of character with the landscape. **Staff recommends that the applicant strive to minimize, to the extent possible, the visual intrusion of the masonry walls on the 17th Street view corridor, by modulating the relationship of wall to earthen levee.**



View of levee walls looking south from the intersection of Constitution Avenue and 17th Street

During the development of the design alternatives, the National Park Service has consulted with representatives of NCPC, CFA, DC SHPO, ACHP, the District of Columbia Departments of Planning and Transportation and others through weekly working group meetings. Throughout the process, NPS and its consultants have strived to develop a design solution that addresses the concerns of all parties and achieves consensus. **Staff commends the NPS for its extensive coordination and cooperation.**

CONFORMANCE

Comprehensive Plan for the National Capital

The proposal is consistent with the Comprehensive Plan for the National Capital. Specifically, it is consistent with policies that encourage modification of existing developments to correct flood hazards and to restore floodplain values, as well as with policies stating that elements designed to provide security shall be designed in a manner that enhances and beautifies the public realm, does not excessively restrict or impede operational use of sidewalks and vehicular mobility, and minimizes impact on the health of existing mature trees.

Federal Capital Improvements Plan

Levee improvements were authorized by the Flood Control Act of 1946, the Water Resources Development Act of 1996, and the Water Resources Development Act of 1999. The 1999 Act increased the project ceiling. Funding for construction was included in the President's 2007 budget but funding was not authorized by Congress. The project first appeared in the FCIP for FY 2000-2004. The FY 2009-2014 FCIP lists the project as Recommended and Strongly Endorsed. The estimated project total cost is shown as \$9,912,000. The USACE Baltimore District has received \$3,122,000 in prior funding for engineering studies and flooding analyses.

Relevant Federal Facility Master Plan

The National Park Service is currently developing a Mall Management Plan that will include this area. NPS has confirmed that the proposal is consistent with its plans for the area, though that plan has not yet been published.

National Environmental Policy Act (NEPA)

NPS issued a Notice of Intent to develop an Environmental Assessment for modifications to the Potomac Park levee system on May 23, 2008 and held a public scoping meeting on June 10, 2008. Following substantial formal and informal consultation with NCPC, CFA, DC SHPO, ACHP and the public, an Environmental Assessment was developed and will be released for a 30-day public comment period on or about January 5, 2009. The EA includes analyses of five action alternatives and a no-action alternative. All of the action alternatives are presented in two phases. Phase 1 satisfies the FEMA 100-year floodplain requirement and Phase 2 satisfies the Congressionally authorized level of protection against a flow of 700,000 cubic feet per second, which is the equivalent of a 185-year event. The current proposal is identified as Alternative 1B.

National Historic Preservation Act (NHPA)

The DC Historic Preservation Officer (SHPO) acknowledged the formal initiation of the Section 106 process on July 29, 2008, and confirmed NPS's determination that the levee project had the potential to constitute an adverse affect on historic properties, including the historic landscapes of the Washington Monument Grounds, the National Mall, and West Potomac Park. The Advisory Council on Historic Preservation (ACHP) subsequently accepted an invitation to participate in consultation, as well. The SHPO has been actively involved in consultation with NPS and the consulting parties since the earliest stages of the project, and hosted invited consulting parties at a meeting to discuss the need for the undertaking in May 2008.

NPS has engaged in ongoing consultation with identified consulting parties, including meetings at the site, through 2008 and will continue into 2009. Agencies and parties include the Smithsonian Institution, the General Services Administration, the National Trust for Historic Preservation, the D.C. Preservation League, the Committee of 100 on the Federal City, the National Coalition to Save Our Mall, and individual citizens with an interest in and knowledge about the levee and the setting.

On November 20, 2008 the Historic Preservation Review Board (HPRB) reviewed two alternatives identified in the EA as Alternatives 4 and 5. The HPRB concurred with the findings of its staff report and recommendation prepared by the SHPO that of the two alternatives, the alternative farther from Constitution Avenue would have lesser consequential adverse effects. The current proposal, which was designed following further consultation between NPS and the SHPO, minimizes adverse effects to the landscape and views as identified by the HPRB by avoiding new structures in the extension of the Virginia Avenue right-of-way vista toward the Washington Monument and by preserving the visually and physically open character of the northwest corner of the Washington Monument Grounds as they relate to Constitution Avenue, NW and the Ellipse. A copy of the report from the SHPO to the HPRB is attached.

NPS has provided numerous opportunities for review and comment on the undertaking through postings on the NPS Planning, Environment and Public Comment (PEPC) website, regular inter-governmental agency working group sessions, public meetings and/or site visits, and public meetings of the DC Historic Preservation Review Board (HPRB), the CFA, and NCPC. While the design has been developed to minimize adverse effects, a Programmatic Agreement containing further measures to mitigate the adverse effects is being prepared and will be circulated for comment. NPS anticipates that Section 106 review will conclude in early 2009.

CONSULTATION

Coordinating Committee

The Coordinating Committee reviewed the proposal on December 17, 2008, and forwarded the proposal to the Commission with the statement that the project has been coordinated with all agencies represented. The participating agencies were NCPC, the General Services Administration, the National Park Service, the Washington Metropolitan Area Transit Authority,

and the District of Columbia Departments of Transportation, of Housing and Community Development, and of Fire and Emergency Medical Services.

Commission of Fine Arts

The two alternatives identified in the EA as Alternatives 4 and 5 were reviewed on November 20 by the Commission of Fine Arts. While expressing concern that uncertain funding could result in “an unfinished concrete barrier in the historic landscape of the National Mall,” the Commission approved both concepts and encouraged further consultation in developing a preferred alternative. CFA will review the current proposal on January 22, 2009. A copy of a letter from the Commission to NPS dated November 28, 2008 is attached.



Oblique view of proposed levee improvements looking southwest



Oblique view of levee improvements looking southwest, without trees



Oblique view of levee improvements looking southwest, without trees and with post and panel system in place