



National Park Service  
U.S. Department of the Interior

Vicksburg National Military Park  
Mississippi

**FINDING OF NO SIGNIFICANT IMPACT**  
**Stabilize Railroad Redoubt Earthworks and Texas Memorial**  
**Environmental Assessment**

Recommended:

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11/2/2017

Date

Approved:

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11/14/17

Date

## INTRODUCTION

In compliance with the National Environmental Policy Act of 1969 (NEPA), the National Park Service (NPS) prepared an Environmental Assessment (EA) to examine alternative actions and environmental impacts associated with the proposed project to mitigate continuing erosion and stabilize the bluff adjacent to the Texas Memorial (memorial) and Railroad Redoubt earthworks in Vicksburg National Military Park (the park).

The purpose of the EA was to evaluate stabilization of the bluff to prevent further erosion and protect the memorial and adjacent fortification. Stabilization is needed because of the ongoing loss of highly erodible soils. The bluff has eroded such that it is now dangerously close to the historic structures. Further erosion could damage historic resources and affect visitor safety and the operation of the Kansas City Southern rail line adjacent to the project area.

The statements and conclusions reached in this Finding of No Significant Impact (FONSI) are based on documentation and analysis provided in the EA. To the extent necessary, relevant sections of the EA are incorporated by reference below.

## SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION

Based on the analysis presented in the EA, the NPS selected Alternative 2: Stabilization with a Soldier Pile Wall (Preferred Alternative) for implementation.

The Texas Memorial is one of the 22 state memorials inside the park. It is located above an eroding bluff, adjacent to the Kansas City Southern rail line. The Railroad Redoubt was a Confederate earthen fortification built to protect the Southern Railroad of Mississippi, a vital entrance to the city. The fortification and the memorial are threatened by chronic erosion of the bluff, located just north of the two features. The bluff face has been steadily lost through the years. The area's unique loess soils are particularly erodible whenever disturbed, and erosion in the project area is exacerbated by tree fall along the bluff line. Park staff estimate an average loss of up to 6 inches of bluff face annually. The bluff line is currently between 15 and 17 feet from the Railroad Redoubt and the memorial, and park officials are concerned about the possibility of the earthwork and memorial collapsing onto the railroad tracks.

Under the selected alternative, NPS will stabilize the slope through construction of a soldier pile wall and installation of H-piles. The project area is approximately 316 feet long and ranges from between 15 and 24 feet tall. Construction of the soldier pile wall will occur over a four-month period. Construction equipment will access the bottom of the slope to the south of the memorial off Park Confederate Avenue, along an existing concrete swale. For work along the top of the slope, equipment will access the project area from Melbourne Place. Construction matting will be used along the construction equipment access route to protect wetlands in the project area. Materials and equipment will be staged in four potential locations: (1) the parking lot of the memorial and Railroad Redoubt, (2) the grassy area to the west of the memorial, accessible from Melbourne Place, (3) the grassy area east of the monument, outside the wetlands that are downslope from the memorial, and (4) a grassy location off Melbourne Place north of railroad tracks. The selected alternative was identified in the EA as the NPS preferred alternative and is described in more detail below and on pages 9–11 of the EA.

NPS will stabilize the slope using soldier piles. Soldier piles are an earth retention technique to retain soil that use vertical steel piles with horizontal lagging or concrete panels. A soldier pile wall will be built at approximately mid slope to provide permanent protection for cultural resources and the monument located at the top of the slope. Construction of a soldier pile wall will occur from the top of the slope down toward the bottom and will not require excavation of the slope itself. It will, however, require minor excavation at the bottom of the slope, or toe

slope. Use of a soldier pile wall will minimize work in the right-of-way of the railroad and reduce the slope angle below the wall, making it more stable and less erodible. The soldier piles will be about 30 to 40 feet long and be installed with 6-foot intervals along the top of the slope. Anchors will be about 60 feet long, with one anchor per soldier pile. Each anchor will be installed 10 feet below the top of the wall. The toe slope will need minor excavation to promote erosion control and allow permanent vegetation.

Structural beams, known as H-piles, will be drilled at regular intervals along the slope. Lagging, which consists of precast concrete panels, will be inserted behind the piles. The lagging will allow the wall to resist the load of the retained soil and transfer the weight to the H-piles. The soldier piles will be installed first from the top of the slope in predrilled holes, the anchors will be installed next, and finally, permanent, pre-cast concrete lagging panels will be installed between the soldier piles.

## **RATIONALE**

The NPS selected Alternative 2 for implementation because it best meets the purpose and need for the project, which is to maintain the historic structures at the park and limit impacts on visitor safety.

The alternative will ensure that cultural resources in the park remain intact. Stabilizing the bluff will prevent soil erosion and thereby reduce the potential loss of structural stability at the memorial and loss of a portion of the Railroad Redoubt and any associated archeological deposits. In addition to preserving these two park features, additional cultural resources will be preserved as a result of implementing the selected alternative, including the Vicksburg National Military Park Historic District, a cast iron tablet for the 46th Alabama Infantry Regiment (a feature contributing to the historic district), and a possible fortification ditch. Overall, the construction of the soldier pile retaining wall will result in the preservation of five cultural resources in the park that might be lost through inaction.

Alternative 2 also improves visitor use and experience because stabilization of the bluff and long-term preservation of the memorial and Railroad Redoubt will prevent long-term impacts and ensure continued, safe visitation of these park features in the future, allowing for long-term visitor enjoyment.

## **MITIGATION MEASURES**

NPS places strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts. The selected alternative incorporates the mitigation measures below.

### **Cultural Resources**

- An archeologist will be present to monitor any ground-disturbing activities, and all construction activities will stop if intact cultural deposits of more than a few artifacts are located during construction or if other significant unanticipated discoveries are made.
- Any cultural resources removed (such as tablets) during construction will be replaced in their exact location and orientation once construction is complete.
- If instability that could potentially threaten the memorial is observed during construction, work will immediately cease, and arrangements will be made to secure the memorial until construction is completed.

- Ground-protection measures, such as the use of logging mats, will be implemented on access paths and staging areas where they cross the entrenchments of the 46th Alabama Infantry Regiment.
- The cast-iron tablet marking the position of the 46th Alabama Infantry Regiment will be temporarily removed and then reset in the same location at the conclusion of the project.

### **Wetlands**

- Best management practices will be used during construction to limit impacts on wetlands from the equipment access path to the bottom of the slope. Temporary construction matting (e.g., geotextile fabric) will be used to minimize disturbance to wetlands. A separate access point will be used to access the top of the slope to minimize construction equipment movement across the wetlands.
- Any work involving the permanent or temporary discharge of dredged or fill material into the wetlands will require a Department of the Army 10/404 permit prior to beginning work. Currently no dredged or fill material in the wetlands is anticipated.

### **Soils**

- Best management practices will be implemented consistent with the *Field Manual for Erosion and Sediment Control on Construction Sites in Mississippi*.
- Erosion containment controls, such as silt fencing and sediment traps, will be used to contain sediment on site, as feasible. If disturbance is greater than 1 acre, a Small Construction General Permit will be required and a Stormwater Pollution Prevention Plan will be developed.

### **Vegetation**

- Tree cutting will be minimized whenever possible for stabilization of the slope and access from Melbourne Place.
- Vegetation clearing limits will be clearly noted on construction documents and marked in the field to minimize the disturbance and alteration of vegetation.
- Disturbed areas will be reseeded with an NPS-approved seed mix, and vegetation will be allowed to regrow naturally after that.
- If state-listed species cannot be avoided, park staff will collect seeds from the species prior to the removal of the surface and store them in the herbarium to use at park discretion in the future.

### **Visitor Use and Experience**

- Construction during peak visitor-use periods will be avoided, if feasible.
- Closure signage and construction fencing will be placed at the parking lot and around the construction area to discourage visitors from entering an active construction site.

## **PUBLIC INVOLVEMENT/AGENCY CONSULTATION**

### **Public Scoping**

From January 24, 2017, through February 25, 2017, the public scoping newsletter announcing the proposed action and preliminary alternative was available for comment on the NPS Planning, Environment, and Public Comment (PEPC) website. A public scoping letter and copies of the newsletter were also mailed out to the park's mailing list. During the public scoping period, one piece of correspondence was received on the project. The commenter asked if an archeological investigation would be completed before work was conducted and if the Texas State Historic Preservation had been contacted. As noted in "Cultural Resources" section of the EA, no archeological survey is required; however, a monitor will be on-site during the construction period. Additionally, the Mississippi Department of Archives and History (MDAH) has jurisdiction over the Texas Memorial, so the Texas State Historic Preservation Office has not been contacted. However, the Texas entity that maintains the memorial is aware of the proposed project and supports the proposed stabilization efforts.

### **Comments on the Environmental Assessment**

The EA was made available for public review during a 30-day comment period ending August 30, 2017. The EA was posted on the PEPC website, and NPS notified individuals; organizations; businesses; state, county and local governments; federal agencies; elected officials; and American Indian tribes via email and conventional mail that the EA was available for review and comment. A news release was distributed to media outlets and posted on the park's website.

One individual correspondence was received in general support of the project.

### **Agency Consultation**

In accordance with section 7 of the Endangered Species Act of 1973, on January 20, 2017, NPS sent a letter to solicit comments from the US Fish and Wildlife Service (USFWS) regarding the existence of federally listed threatened or endangered species in the project area. In a letter dated February 17, 2017, USFWS confirmed that while the project area is within the range of the northern long-eared bat, no known northern long-eared bat hibernacula or maternity roost trees are located in Warren County. USFWS concluded that the proposed project may affect the northern long-eared bat but would not result in an incidental take. No further consultation with USFWS is required.

In January 2017, NPS sent a letter to the Mississippi Department of Environmental Quality (MDEQ) to request information on state-listed rare, threatened, and endangered species in the project area. No response was received; however, one state-listed plant species is known to exist in the project area and is analyzed in the EA.

On January 20, 2017, NPS sent consultation letters to MDAH and the Advisory Council on Historic Preservation (ACHP) in accordance with Section 106 of the National Historic Preservation Act. On February 22, 2017, MDAH responded and determined the proposed action would have no adverse effect on cultural resources. MDAH concurred with the recommendation for archeological monitoring during the removal of any trees or vegetation. If unrecorded cultural resources are encountered during construction, MDAH requested that NPS contact the local MDAH point of contact.

On August 17, 2017, the US Army Corps of Engineers (USACE) replied to the NPS consultation letter and noted that jurisdictional wetlands and/or waters of the United States are located in the project area. USACE indicated that any work involving permanent or temporary discharge of

dredged or fill material into jurisdictional waters of the United States will require a Department of the Army Section 10/404 permit. Current designs will not discharge dredged or fill material into the wetland location. NPS will continue consultation with USACE, including a pre-construction notice at least 60 days in advance of the proposed start date and will provide detailed project maps and plans.

On July 28, 2017, letters and copies of the EA were sent to USFWS, MDEQ, MDAH and ACHP to notify recipients of the opportunity to review and comment. No responses were received.

### **Native American Tribes Consultation**

On January 20, 2017, government-to-government consultation letters were sent to all Tribes affiliated with the park, including the Tunica-Biloxi Tribe, Chickasaw Nation, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Choctaw Nation of Oklahoma, and the United Houma Nation. On February 27, 2017, the Choctaw Nation of Oklahoma replied via email requesting information on any potential effects on pre-contact Native American settlements that may have been located on the bluff and any archeological remains that may be associated with Native American activity. On June 1, 2017, the park replied, noting that no Native American sites are documented near the project area but stated that an archeologist would be on-site for the duration of any construction activities. If any Native American artifacts are found, the park will immediately contact the Choctaw Nation of Oklahoma and other tribes that may have an interest in the findings.

On July 28, 2017, letters and copies of the EA were sent to the tribes to notify recipients of the opportunity to review and comment. On August 30, 2017, the Choctaw Nation emailed a response concurring with the finding of no adverse effect and reiterating the request to be contacted if intact Native American archeological deposits are encountered during ground-disturbing activities.

### **FINDING OF NO SIGNIFICANT IMPACT**

As described in the EA, the selected alternative has potential for adverse impacts on cultural resources, wetlands, vegetation, soils, and visitor use and experience; however, no potential for significant adverse impacts was identified.

Implementing the selected alternative will result in adverse impacts on cultural resources from the construction of the soldier pile wall within the footprint of the memorial and Railroad Redoubt historic structures and its presence as a new, non-historic visual element. However, a monitoring program will be implemented to ensure protection of existing or newly identified cultural resources during construction activities, and the construction of the soldier pile wall will stabilize the bluff and preserve historic structures. As a result, the adverse effects will not be significant. The selected alternative will also have a beneficial impact by eliminating of the risk of bluff failure that could adversely affect several other cultural resources in the project area in addition to the memorial and Railroad Redoubt.

Construction-related activities may adversely affect NPS and USACE-defined wetlands (disturbing an area up to 0.03 acre) and vegetation from soil compaction, vegetation trampling, and vegetative clearing during the four-month construction period. However, best management practices will be implemented to minimize these effects. Construction matting will be used to minimize trampling in wetland areas and disturbed sections of wetlands and vegetation will be restored and/or reseeded after construction. Avoidance techniques will be employed to prevent impacts on the state-listed prairie nymph to the extent possible; otherwise, the park will implement a plan for seed transplanting to other suitable habitats. Following construction, no adverse impacts on wetlands are anticipated, and, while loss of vegetation will result in some

adverse impacts, the overall loss in the park will be minimal given the extent of the impact within the small project area when compared to the amount of vegetation present throughout the entire park.

Soils may be adversely affected during construction activities from compaction and disturbance from heavy construction equipment in the project area adjacent to steep slopes; however, adherence to required local, state, and federal regulations; implementation of sediment and erosion control plans and stormwater pollution prevention plans; and permitting requirements will minimize such impacts. Overall soil disturbance from construction will be minimal compared to the long-term, beneficial impacts from the soil stabilization along the slope. Impacts will not be significant.

Stabilization of the bluff will require closure of the memorial and Railroad Redoubt and will have short-term, adverse impacts on visitor use and experience; however, these impacts will be limited to the four-month construction period. During construction, while the area containing the Railroad Redoubt will be closed, visitors will still be able to view the memorial from the loop road and have access to the remainder of the memorials and park features. Following construction, there will be no adverse impacts on visitor use and experience. Once construction of the soldier pile wall is complete, the stabilization of the bluff will result in beneficial impacts from improved stability and preservation of the memorial and Railroad Redoubt, allowing for safe and continued visitor enjoyment.

NPS analyzed other past, present, or reasonably foreseeable future actions for their potential to contribute to cumulative impacts associated with the implementation of the selected alternative. No projects are planned that would affect wetlands, vegetation, or soils; therefore, no cumulative impacts are expected. For cultural resources and visitor use and experience, the selected alternative will contribute a noticeable beneficial impact from the increased long-term stabilization and continued preservation of the memorial. None of the cumulative impacts will be adverse.

There will be no significant impacts on public health, safety, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative impacts, or elements of precedence were identified. Implementation of the NPS selected alternative will not violate any federal, state, or local environmental protection law.

## **CONCLUSION**

As described above, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an Environmental Impact Statement (EIS). The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA.

Based on the foregoing, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

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Attachment A – Non-impairment Determination

1 **ATTACHMENT A: NON-IMPAIRMENT DETERMINATION**

2 **WHY IS A NON-IMPAIRMENT DETERMINATION REQUIRED?**

3 Section 1.4.7 of National Park Service (NPS) *Management Policies 2006* states that:

4 [b]efore approving a proposed action that could lead to an impairment of park resources  
5 and values, an NPS decision-maker must consider the impacts of the proposed action  
6 and determine, in writing, that the activity will not lead to an impairment of park  
7 resources and values.

8 Actions that require preparation of Environmental Assessments (EAs) and Environmental  
9 Impact Statements (EISs) constitute actions that may have the potential to impair park  
10 resources or values. Therefore, a non-impairment determination must be made for any action  
11 selected in a Finding of No Significant Impact (FONSI) or Record of Decision (ROD) that could  
12 affect park resources and values and to which the NPS is a signatory. The non-impairment  
13 determination is completed only for the selected alternative.

14 **WHAT IS IMPAIRMENT?**

15 Sections 1.4.5 and 1.4.6 of *Management Policies 2006* provide an explanation of impairment.  
16 Section 1.4.5 defines impairment as:

17 an impact that, in the professional judgment of the responsible NPS manager, would  
18 harm the integrity of park resources or values, including the opportunities that otherwise  
19 would be present for the enjoyment of those resources or values.

20 Section 1.4.5 goes on to state that:

21 [a]n impact to any park resource or value may, but does not necessarily, constitute  
22 impairment. An impact would be more likely to constitute impairment to the extent that it  
23 affects a resource or value whose conservation is:

- 24 • Necessary to fulfill specific purposes identified in the establishing legislation or  
25 proclamation of the park,
- 26 • Key to the natural or cultural integrity of the park or to opportunities for enjoyment of  
27 the park, or
- 28 • Identified as a goal in the park's general management plan or other relevant NPS  
29 planning documents as being of significance.

30 An impact would be less likely to constitute an impairment if it is an unavoidable result of an  
31 action necessary to preserve or restore the integrity of park resources or values and it cannot be  
32 further mitigated.

33 Section 1.4.6 of *Management Policies 2006* identifies the park resources and values that are  
34 subject to the no-impairment standard:

35 The "park resources and values" that are subject to the no-impairment standard include:

- 36 • the park's scenery, natural and historic objects, and wildlife, and the processes and  
37 condition that sustain them, including, to the extent present in the park: the  
38 ecological, biological, and physical processes that created the park and continue to  
39 act upon it; scenic features; natural visibility, both in daytime and at night; natural  
40 landscapes; natural soundscapes an smells; water and air resources; soils;

- 1 geological resources; paleontological resources; archeological resources; cultural  
2 landscapes; ethnographic resources; historic and prehistoric sites, structure, and  
3 objects; museum collections; and native plants and animals;
- 4 • appropriate opportunities to experience enjoyment of the above resources, to the  
5 extent that can be done without impairing them;
  - 6 • the park's role in contributing to the national dignity, the high public value and  
7 integrity, and the superlative environmental quality of the national park system, and  
8 the benefit and inspiration provided to the American people by the national park  
9 system; and
  - 10 • any additional attributes encompassed by the specific values and purposes for which  
11 the park was established.

## 12 **HOW IS A NON-IMPAIRMENT DETERMINATION MADE?**

13 Section 1.4.7 of *Management Policies 2006* states that

14 [I]n making a determination of whether there would be an impairment, an NPS decision  
15 maker must use his or her professional judgment. This means that the decision-maker  
16 must consider any environmental assessments or environmental impact statements  
17 required by the National Environmental Policy Act of 1969 (NEPA); consultations  
18 required under Section 106 of the National Historic Preservation Act (NHPA); relevant  
19 scientific and scholarly studies; advice or insights offered by subject matter experts and  
20 others who have relevant knowledge or experience; and the results of civic engagement  
21 and public involvement activities relating to the decision.

22 *Management Policies 2006* further define "professional judgment" as

23 a decision or opinion that is shaped by study and analysis and full consideration of all  
24 the relevant facts, and that takes into account the decision-maker's education, training,  
25 and experience; advice or insights offered by subject matter experts and others who  
26 have relevant knowledge and experience; good science and scholarship; and, whenever  
27 appropriate, the results of civic engagement and public involvement activities relation to  
28 the decision.

## 29 **NON-IMPAIRMENT DETERMINATION FOR THE SELECTED ALTERNATIVE**

30 This determination on impairment has been prepared for the selected alternative described in  
31 the FONSI – Alternative 2: Stabilization with a Soldier Pile Wall. An impairment determination is  
32 made for all resource impact topics analyzed for the selected alternative. An impairment  
33 determination is not made for visitor use and experience because impairment findings relate  
34 back to park resources and values, and this impact topic is not generally considered a park  
35 resource or value according to the Organic Act and cannot be impaired in the same way that an  
36 action can impair park resources and values.

### 37 **Cultural Resources**

38 The significance of the park is that it preserves areas associated with the siege and defense of  
39 Vicksburg, Mississippi, and provides interpretive exhibits to help visitors understand the  
40 significance and historic context of the Vicksburg Campaign.

41 Construction will impact cultural resources, including the Vicksburg National Military Park  
42 Historic District, the Texas Memorial (memorial) and the Railroad Redoubt historic structures, a

1 cast iron tablet for the 46th Alabama Infantry Regiment (a feature contributing to the historic  
2 district), and a possible fortification ditch. The soldier pile wall will also contribute a new visual  
3 element within the historic district that will be incongruous with the historic character of the park  
4 but will not be visible to visitors. The potential for the soldier pile wall to affect archeological  
5 resources exists, but ground disturbance will be minimal and a construction monitoring program  
6 will ensure protection of any cultural resources identified in the disturbed area. Cultural  
7 resources will benefit from the selected alternative in the long-term because stabilizing the bluff  
8 will prevent soil erosion and potential loss of structural stability at the memorial. It will also  
9 prevent loss of a portion of the Railroad Redoubt and any associated archeological deposits,  
10 ensuring the park can continue to view and understand these historic markers as part of the  
11 larger interpreted experience at the park. Because impacts will generally not be visible and will  
12 ensure the protection of cultural resources, the selected alternative will not result in impairment  
13 to cultural resources.

#### 14 **Wetlands**

15 Implementing the selected alternative will not result in any long-term, adverse impact on  
16 wetlands. While short-term, adverse impacts will result from soil compaction and vegetation  
17 trampling from construction equipment, construction matting will be used to minimize trampling,  
18 and disturbed areas will be restored after construction is complete. The total area of temporary  
19 disturbance will not exceed 0.03 acre.

20 Because impacts will be limited in scope and duration and no long-term changes to wetland  
21 functions or values will occur from implementation of the selected alternative, park wetlands will  
22 not be impaired.

#### 23 **Soils**

24 Implementing the selected alternative will not result in any long-term, adverse impacts on soils.  
25 Short-term, adverse impacts on soils in the work zone will occur from compaction and  
26 disturbance near steep slopes. Long-term impacts for soils will be beneficial as a result of the  
27 stabilization work and reduced soil erosion through the construction of the soldier pile wall,  
28 which will hold soils in place and decrease the potential for future erosion. Given the limited  
29 adverse effects on soils and the fact that soils will be stabilized in the long term, decreasing  
30 erosion, no impairment to the park's soil resources is expected, and increased stability will  
31 protect cultural resources that are significant to the park's purpose.

#### 32 **Vegetation**

33 Part of the significance of the park is that it preserves the original context, including topography  
34 and vegetative cover when possible, of the Battle of Vicksburg.

35 Construction activities associated with the selected alternative will contribute to long-term,  
36 adverse impacts by removing trees, including mature vegetation, along the slope and staging  
37 areas. Disturbed staging areas will be reseeded once construction activities are complete.  
38 Because the removal of mature trees will be limited in comparison to the trees available in the  
39 remaining area of the monument and vegetation will be reestablished with time in disturbed  
40 areas, the selected alternative will not impair park vegetation. While state-listed plant species  
41 exist in the project area and may be affected, the overall species population at the park is large  
42 and there will be no population-level impact. No impairment will occur.

43