National Park Service
U.S. Department of the Interior

Vicksburg National Military Park
Vicksburg, Mississippi

Vicksburg National Military Park
Cultural Landscape Report



Cultural Resources
Southeast Region

Vicksburg National Military Park

Vicksburg, Mississippi

Cultural Landscape Report

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About the front cover: View of the Illinois Monument at Vicksburg National Military Park, January 31, 2007.

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Vicksburg National Military Park
Cultural Landscape Report

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Chief, Cultural Resources — Date
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79 Maintenance land uses are focused within the maintenance complex, north of the visitor center.
80 Clay Street is a heavily utilized municipal road that bisects the park.
81 Union Avenue is the one-way asphalt-paved half of the park tour road.
82 Pemberton Avenue connects Union and Confederate Avenues.
83 A spur of the tour road follows the historic Jackson Road trace.
84 Graveyard Road connects Union and Confederate Avenues in the northern part of the park.
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109 The Mississippi State Memorial is a 75-foot obelisk.
110 The Illinois State Memorial is one of the largest and most ornate in the park.
111 The Minnesota State Monument is a 90-foot granite obelisk.
112 There are eight of the original nine Melan Arch bridges extant in the park.
113 Two contemporary bridges convey the park tour road over modern Jackson Road.
114 The Hall's Ferry Road Bridge is now on city-owned property.
115 The Memorial Arch at the entrance to Vicksburg National Cemetery.
116 The Memorial Arch is now the portal through which visitors begin the park road tour.
117 The concrete tunnel leading beneath Union Avenue to the Thayer's Approach site.
118 Park entrance fees are collected at manned booths in two locations.
119 The close juxtaposition of tablets and position markers indicate how close the two armies came.
120 The park includes hundreds of cast iron tablets and position markers.
121 The larger tablets indicate battle lines, while the smaller markers indicate troop positions.
122 Portraits of the "common soldier" are among the most prolific statuary within the park.
123 Sculpted by William Couper in 1911, the bust of Union Brig. Gen. Isaac F. Quinby.
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126 Cannon are used to mark battery sites.
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144 A concrete road circles around the base of the fortification at Louisiana Circle.
145 Vehicular parking at Louisiana Circle.
146 Pedestrians access the fortification at Louisiana Circle via a concrete stair and walk.
147 Two metal tablets flank the "Widow Blakely" rifle at Louisiana Circle.
148 The walkway at Louisiana Circle does not continue on to the summit of the fortification.
149 On the southern side of the knoll at Louisiana Circle are five granite monuments.
150 A black, chain-link fence guards visitors to Louisiana Circle from the steep western slope.
151 The concrete paving at Louisiana Circle has been patched with a black asphaltic material.
152 The upper walkway at Louisiana Circle includes a trip hazard near the approach to the cannon.
153 There are bald spots in the turf grass on the earthen fortification at Louisiana Circle.
154 The bronze plaques at Louisiana Circle set within the granite markers are stained.
155 Views from the fortification are affected by non-historic commercial developments.
156 Map of South Fort.
157 There is currently no public access to South Fort.
158 Two artillery pieces have been placed on the edge of the fortification's parapet wall.
159 Commercial development along South Washington Street is visible from South Fort.
160 A bronze marker commemorating the role of Iowa brigades in the Civil War siege.
161 A social trail runs along the top of the rise at South Fort.
162 The parapet walls of the fortification at South Fort remain in good condition.

163 A metal position marker tablet locating Company G of the 1st Louisiana Heavy Artillery.
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178 There is a metal War Department-era tablet located near the cannon at Navy Circle.
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Analysis and Evaluation

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OCOKA Military Terrain Analysis

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Figure Credits

Except as noted below, maps and photographs in this document were prepared by the authors in 2007.

Introduction

1 VNMP archives, copy included in Kevin Risk, *Draft Cultural Landscape Report, Vicksburg National Military Park* (Atlanta, Georgia: National Park Service, Southeast Region, n.d. [2000]).
2 VNMP archives, copy included in Risk, *Draft Cultural Landscape Report.*
3 VNMP archives, box 22, image 244.1.

Site History

9 Plate from *A Journey in North America, containing a Survey of the Countries watered by the Mississippi, Ohio, Missouri, and other Affluing Rivers . . .* (Paris: Arthus Bertrand, 1796). Engraved by P. F. Tardieu.
10 Lithograph by Adolphus F. Forbriger, printed by Onken's Lith, Cincinnati, Ohio, [1851]. From John W. Reps, *Cities of the Mississippi: Nineteenth-Century Images of Urban Development* (Columbia: University of Missouri Press,1994), 140.
11 VNMP archives, box 7.
12 Surveyed by Lt. L. A. Wrotnowski, Top. Eng., drawn and lithographed by A. F. Wrotnowski, C.E., 1863.
14 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. 99614196. Illustration from *Harper's Weekly* 7 (March 7, 1863), 149.
15 from Illinois Infantry, 13th Regiment, Military History, 1892.
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20 VNMP archives map collection.
21 Library of Congress Prints and Photographs Division, Washington, D.C., Detroit Publishing Company Photograph Collection, Card No. det1994004474/PP.
22 VNMP archives, box 19.
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25 VNMP archives, copy included in Risk, *Draft Cultural Landscape Report.*
26 Library of Congress Geography and Map Division, Washington, D.C. (Map created by U.S. Geological Survey, 1935).
27 VNMP archives, box 22, image 461.1.
28 VNMP archives, box 22, image D-474.
29 VNMP archives, box 22, image D-474.1.
30 VNMP archives, box 22, image D-474.2.
31 VNMP archives, box 22, image D-474.3.
32 VNMP archives, box 22, image D-474.4.
33 VNMP archives, box 2, image 156.
34 VNMP archives, box 16, image 45, J. B. Unglaub, Photographer, Vicksburg, Mississippi.
35 VNMP archives, box 16, image 46, J. B. Unglaub, Photographer, Vicksburg, Mississippi.
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37 VNMP archives, box 16, image 108, J. B. Unglaub, Photographer, Vicksburg, Mississippi.
38 VNMP archives, box 16, image 117, J. B. Unglaub, Photographer, Vicksburg, Mississippi.
39 VNMP archives, box 22, image PW-1226.3.
40 VNMP archives, box 22, folder 7.
41 VNMP archives, box 22, image PW-1224.4.
42 VNMP archives, box 7.
44 VNMP archives, box 22, folder 20.
45 VNMP archives, box 22, folder 21.
46 VNMP archives, box 22, folder 16.

47 VNMP archives, box 22, folder 16.
48 National Park Service, Denver Service Center, drawing 306-41005A.
50 National Park Service, Southeast Regional Office.
51 National Park Service, Southeast Regional Office.
52 NPS photograph.
54 Based on Historic American Engineering Record, "Vicksburg Military Park Tour Roads," 1997.

Existing Conditions

93 VNMP.
94 VNMP.
115 National Park Service photograph, 2006.

Analysis and Evaluation

184 VNMP archives, box 9.
185 VNMP archives, box 2.
187 VNMP archives, box 22, image D-474.
188 VNMP archives, box 22, image D-474.2.
189 VNMP archives, box 22, image D-474.4.
190 VNMP archives.
191 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, A-3180.
194 VNMP archives, copy included in Risk, *Draft Cultural Landscape Report.*
196 VNMP archives, box 22, folder 16.
198 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001994/PP Photograph by Haines Photo Co., Conneaut, Ohio.
200 VNMP archives, box 18, image 164.
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202 VNMP archives, box 2.
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206 VNMP archives, box 2, image H-33.1.
208 VNMP archives, box 18, image 145.
210 VNMP archives.
212 Historic postcard, printed by E. C. Kropp Co., Milwaukee, Wisconsin, No. 6727, JMA collection.
214 VNMP archives, box 18, image 142.
216 VNMP archives, box 2, image P-2119.
218 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. det1994020097/PP, Detroit Publishing Co. No. 073329.
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235 VNMP archives.
236 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, 14182.
238 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, A-3173.
240 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, A-2180.
242 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, A-3184.
244 Historic postcard, printed by E. C. Kropp Co., Milwaukee, Wisconsin, No. 17354, JMA collection.
246 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, 14199.
248 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, A-25254
250 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, A-64170.

252 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. det1994000240/PP, Detroit Photographic Co. No. 53527.
254 Curt Teich Postcard Archive, Lake County Discovery Museum, Wauconda, Illinois, A-3178.
256 VNMP archives.
257 Based on the 1902 Park Commission maps.
258 Library of Congress Prints and Photographs Division, Washington, D.C., Call No. G3984.V8:2V5 1925 .P6 CW 282.5, illustration by Poole Brothers, Chicago, for Illinois Central System pamphlet entitled "Vicksburg for the Tourist," 1925.
259 Library of Congress Geography and Map Division, Washington, D.C. (Map created by U.S. Geological Survey, 1935).
260 VNMP archives.
261 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001988/PP Photograph by Haines Photo Co., Conneaut, Ohio.
263 Historic postcard, private collection.
265 VNMP archives, box 18, image 168.
267 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001989/PP Photograph by Haines Photo Co., Conneaut, Ohio.
268 Historic postcard, private collection.

Treatment

301 Library of Congress, Prints and Photographs Division, Washington, D.C., Card No. 89706344, illustration from *Harper's Weekly* (August 1, 1863), 488–489.
302 Library of Congress, Prints and Photographs Division, Washington, D.C., Card No. 89706344, illustration from *Harper's Weekly* (August 1, 1863), 488–489.
309 Library of Congress, Prints and Photographs Division, Washington, D.C., Card No. 2003665216, Middleton, Strobridge & Co., 1863.
310 Library of Congress, Prints and Photographs Division, Washington, D.C., Card No. 2003664897, Middleton, Strobridge & Co., 1863.
311 Library of Congress, Prints and Photographs Division, Washington, D.C., Card No. 2003665218, Middleton, Strobridge & Co., 1863.
312 Library of Congress, Prints and Photographs Division, Washington, D.C., Card No. 2003665217, Middleton, Strobridge & Co., 1863.
313 Library of Congress, Prints and Photographs Division, Washington, D.C., Card No. 2002736816, wood engraving after Theo. R. Davis, illustration from *Harper's Weekly* (July 11, 1863).
316 VNMP archives, box 19.
317 VNMP archives, box 9.
318 VNMP archives, box 18, image 139.

Appendix E

E1 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001984/PP Photograph by Haines Photo Co., Conneaut, Ohio.
E2 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001989/PP Photograph by Haines Photo Co., Conneaut, Ohio.
E3 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001990/PP Photograph by Haines Photo Co., Conneaut, Ohio.
E4 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001991/PP Photograph by Haines Photo Co., Conneaut, Ohio.
E5 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001992/PP Photograph by Haines Photo Co., Conneaut, Ohio.
E6 Library of Congress Prints and Photographs Division, Washington, D.C., Card No. pan1993001994/PP Photograph by Haines Photo Co., Conneaut, Ohio.
E7 Library of Congress Prints and Photographs Division, Washington, D.C., Call No. G3984.V8:2V5 1925 .P6 CW 282.5, illustration by Poole Brothers, Chicago, for Illinois Central System pamphlet entitled "Vicksburg for the Tourist," 1925.

E8 University of Illinois at Urbana-Champaign, Map and Geography Library, Urbana, Illinois. VNMP archives has an annotated copy of this map set.
E9 Library of Congress Geography and Map Division, Washington, D.C. (Map created by U.S. Geological Survey, 1935).

Foreword

To be prepared by Southeast Regional Office.

Acknowledgements

The authors wish to thank the following for their assistance in the preparation of this report: staff of the Vicksburg National Military Park, including Superintendent Monika Mayr, Chief of Maintenance Jerrel Cooper, Natural Resources Program Manager Virginia DuBowy, Chief of Interpretation Tim Kavanaugh, Chief of Operations Rick Martin, Supervisory Park Ranger Patricia Montague, Assistant Chief of Maintenance Jehu Walker, and Park Historian Terry Winschel; staff of the NPS Southeast Regional Office, including J. Tracy Stakely, Tommy Jones, Mark Kinzer, Tim Pinion, and Dan Scheidt; and staff of the NPS Denver Service Center, including Melissa Stedeford, Michael Edwards, and Michelle Schneider; and Jonathan Bourdeau and Josh Jenkins of Mactec.

Introduction

Vicksburg National Military Park was established on February 21, 1899, "to commemorate the campaign, siege, and defense of Vicksburg, Mississippi, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and carried on."[1] With Antietam, Chickamauga/Chattanooga, Gettysburg, and Shiloh, Vicksburg was one of the first five national military parks established by the federal government in the 1890s to protect the sites of decisive battles for military education, to commemorate the battles, and to support national reunification. These parks were initially administered by the War Department. In 1933, they were transferred to the National Park Service and have since been managed as part of the National Park System.

Today, Vicksburg National Military Park and the contiguous Vicksburg National Cemetery together encompass more than 1,800 acres over six noncontiguous park units. The park includes more than 1,340 monuments, sixteen miles of tour roads, and numerous examples of earthen fortifications depicting the primary components of the Union and Confederate armies during the siege.[2] Vicksburg's natural and cultural resources vary in their character and management needs. The NPS currently faces numerous challenges associated with the management and maintenance of this national treasure. As part of a broader planning process intended to support decisions regarding management of the park, the NPS engaged Wiss, Janney, Elstner Associates, Inc., of Northbrook, Illinois, (WJE), and their subconsultant John Milner Associates, Inc., of Charlottesville, Virginia, (JMA), to prepare a Cultural Landscape Report (CLR) for Vicksburg National Military Park. The CLR is intended to provide the NPS with an assessment of the character-defining features of the Vicksburg National Military Park landscape, document historic and existing conditions, and develop specific treatment recommendations to ensure the future protection of the park and its natural and cultural resources.

As noted in the project scope of work:

> Vicksburg Battlefield, as it exists today, bears little resemblance to the landscape at the time of the siege and defense of Vicksburg. The once-cleared topography is now densely forested due in part to nearly eighty years of growth from the 1930s Civilian Conservation Corps plantings to minimize soil erosion. Subsequent NPS management allowed additional lands to be reclaimed by forest growth as a means of reducing operating expenses. Today, these areas serve as important wildlife habitat in a unique loess bluff environment. Failure to complete this CLR and implement informed landscape treatment will result in continued misrepresentation of the historic battlefield condition, inhibit visitor understanding of park resources and the events which the park commemorates, and potentially impact natural resources and habitat through battlefield restoration efforts that do not adequately consider environmental consequences. The ultimate goal of work at the Vicksburg Battlefield is to restore portions of the battlefield to the historic battle-era condition,

1. Hosea W. Rood, comp., *Wisconsin at Vicksburg: Report of the Wisconsin Vicksburg Monument Commission Including the Story of the Campaign and Siege of Vicksburg in 1863 with especial Reference to the Activities therein of Wisconsin Troops* (Madison, Wisconsin: Wisconsin State Printer, 1914), 21.
2. The figure of 1,340 monuments was provided by Virginia DuBowy at Vicksburg National Military Park via e-mail, March 24, 2009.

while preserving later historic additions from the commemorative era and minimizing potential impacts to park natural resources and contemporary operational needs. Thus, it is not anticipated that the entire battlefield will undergo a true landscape "restoration" as defined by the Secretary of the Interior's *Standards for the Treatment of Historic Properties*. However, for clarity, the term "restoration" will be used throughout this document in referring to proposed landscape work at Vicksburg Battlefield. This CLR will provide needed documentation of the cultural landscape and facilitate development of appropriate treatment alternatives to guide future battlefield restoration.[3]

The scope also notes that the CLR is intended to support future completion of a General Management Plan, a Comprehensive Long-Range Interpretive Plan, and compliance documentation for implementation of recommended CLR landscape treatment as required by the National Environmental Policy Act. These documents are essential tools that will guide future management of the park's unique and complex resources on the eve of the sesquicentennial of the Civil War.

Historical Summary

Union Maj. Gen. Ulysses S. Grant understood the strategic role that the Mississippi River played in Confederate transportation and supply operations, as well as its pivotal geographic role in the cohesion of the Confederate block. His decision in March 1863 to seek control of this waterway was dictated by the general-in-chief of the Union armies, who noted: "The great objective on your line now is the opening of the Mississippi River, and everything else must tend to that purpose. The eyes and hopes of the whole country are now directed at your army. In my opinion, the opening of the Mississippi River will be to us of more advantage than the capture of forty Richmonds."[4] The Confederacy also understood the potential value of the river to meeting Union objectives. To protect this vital lifeline, the Confederacy "erected a series of fortifications at readily defensible locations along the river from which the Union advance could be checked."[5]

Located high on the bluffs overlooking the Mississippi River, the Confederate earthworks formed a crescent-shaped ring of manned gun emplacements aimed at all potential Union avenues of approach to the city by land and by river. The earthworks were initiated in September 1862, and remained untested until the spring of 1863, when "pushing southward from Illinois by land and northward from the Gulf of Mexico by river, the Union army and naval units attacked the Confederate strongpoints from both ends of the line. They captured post by post and city by city until. . . . Vicksburg alone barred complete Union possession of the Mississippi River."[6] Then began the Union campaign for Vicksburg. Waged between March 29 and July 4, 1863, the campaign included battles in west-central Mississippi at Port Gibson, Raymond, Jackson, Champion Hill, and Big Black River Bridge, as well as forty-seven days of Union siege operations against the Confederate forces defending the city of Vicksburg before victory was achieved (Fig. 1). The surrender of Vicksburg on July 4, 1863, effectively left the Confederacy split in two and vulnerable to Union attack in the Western Theatre. This decisive campaign, coupled with the fall of Port Hudson, Louisiana, five days later, divided the South and gave the North undisputed control of the river.

After the Civil War, various entities, including veterans groups, states, and the federal government, initiated efforts to honor, commemorate, and protect for military training purposes some of the most decisive battlegrounds. Between 1890 and 1899, the U.S. government established five National Military Parks—

3. National Park Service, "Scope of Work: Cultural Landscape Report for Vicksburg Battlefield, Vicksburg National Military Park" (Atlanta, Georgia: Southeast Regional Office, July 2006), 1–2.
4. William C. Everhart, "Vicksburg National Military Park, Mississippi" (Washington, D.C.: U.S. Government Printing Office, 1954), 2.
5. Ibid., 2–3.
6. Ibid., 2–3.

Chickagmauga and Chattanooga, Antietam, Gettysburg, Shiloh, and Vicksburg—where they set aside land for teaching military tactics and strategies, and marking the events of these important battles. Vicksburg National Military Park was authorized on February 21, 1899, "to commemorate the campaign, siege, and defense of Vicksburg, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and carried on."[7] The input of veterans in identifying and marking the events of the battles in their proper locations played a crucial and significant role in this effort. At Vicksburg, in addition to the marking of important siege and battle events through the placing of metal tablets and monumentation (Fig. 2), including significant testimonials by representatives from each state present during the siege, a tour road was established in the early 1900s to allow access to the opposing lines of fortifications. These National Military Parks were managed by the War Department until transferred to the National Park Service in 1933.

During the 1930s, through make-work programs developed by the federal government to provide employment during the Great Depression, four Civilian Conservation Corps (CCC) camps were established at Vicksburg. Severe erosion of the local loess soil had led to the collapse of portions of the tour road corridors and threatened the stability of some monuments and markers. The CCC addressed these problems through massive regrading efforts, ditching and terracing of steep slopes, and planting of turfgrass to hold the soil in place (Fig. 3).[8] The park underwent further important physical changes during the 1960s. In 1963, Vicksburg gained a large area of battlefield along the northern boundary. To acquire this land,

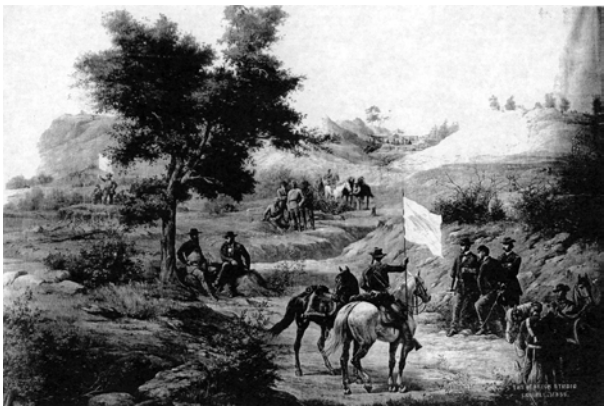


FIGURE 1. A nineteenth-century engraving of the surrender interview between Union Maj. Gen. U.S. Grant and Confederate Lt. Gen. John C. Pemberton, July 3, 1863.

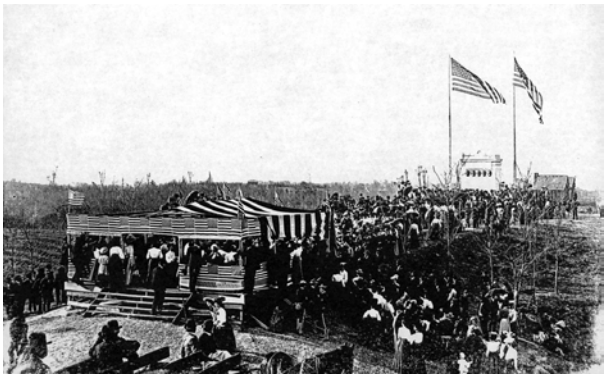


FIGURE 2. Dedication of the Pennsylvania Monument at Vicksburg National Military Park, 1906.



FIGURE 3. Regrading of the slope on the north side of Graveyard Road at Ohio Circle, July 16, 1934.

7. Rood, 21.
8. Park staff have reported that CCC work included planting of trees within the park as part of soil stabilization efforts. As noted in the Site History chapter, only limited documentation of CCC-era tree planting has been found to date. Photographic documentation reviewed for this study does not provide evidence of the location, extent, or scale of any tree planting by the CCC.

the park entered into an agreement with the city of Vicksburg, exchanging parcels extending along South Confederate Avenue from Fort Garrott south to South Fort. The city agreed to maintain the road corridor with a park-like character, while the park agreed to maintain monuments located along the corridors. This arrangement continues today.

In 1968–1970, a new visitor center was constructed to replace the previous building near the Confederate Avenue entrance and the park roads in the vicinity of the new visitor center were reconfigured. In 1956, historian Edwin C. Bearss led a successful effort to locate the sunken gunboat, the *Cairo*, which was recovered and restored. Construction of the Cairo museum, which is partially embedded in the adjacent hillside on a site within the boundaries of the National Cemetery parcel, was completed in 1980 and the restored gunboat opened to the public in 1985.

Scope of Work

As discussed in the project scope of work developed by the NPS,

> A CLR must establish preservation goals for a cultural landscape. The goals must be grounded in research, inventory, documentation, and analysis and evaluation of a landscape's characteristics and associated features. The content of a CLR provides the basis for making sound decisions about management, treatment, and use. Information about the historical development, significance, and existing character of a cultural landscape is also valuable for enhancing interpretation and maintenance.[9]

Given the above-referenced goals for a CLR, the specific scope of work for this project as identified by the NPS includes the following tasks:

1. Describe the historical development of the landscape;

2. Identify historic character-defining features, including historic military terrain features (observation and fields of fire, cover and concealment, obstacles, key terrain, and avenues of approach—collectively referred to by the military acronym OCOKA) and other features as appropriate, including but not limited to the environmental setting, physical layout, spatial organization, pedestrian and vehicular circulation, land use practices and patterns, cultural or ethnographic expressions, views and vistas, vegetation, structures, small-scale features, and significant natural resources;

3. Document the existing site conditions;

4. Provide analysis of the landscape's National Register significance and integrity;

5. Confirm the primary period of significance and identify other potential periods of significance; and

6. Identify the preferred treatment alternative, including mitigation for potential environmental impacts from treatment, and develop a strategy for battlefield restoration.

The project statement of work divides the CLR into two parts. Part 1 includes the Site History, Existing Conditions Documentation, and Analysis and Evaluation portions of the study. Part 2 contains the Treatment component of the project. The two parts together comprise the final CLR.

The primary focus of this CLR is the main battlefield unit of Vicksburg National Military Park, which was the site of confrontations related to the siege of the city from May 18 to its surrender on July 4, 1863, and the three parcels that protect fortifications overlooking the river along Washington Avenue—South Fort, Louisiana

9. National Park Service, 2007. "Scope of Work: Cultural Landscape Report for Vicksburg Battlefield," 4.

Circle, and Navy Circle. Also considered to a lesser degree of detail are the Grant's Canal and Pemberton's Headquarters park parcels, the city-managed road corridors that extend south from the park, and the parcel quitclaimed to Warren County along the park's northern boundary.

Prepared concurrently with the CLR was an Environmental Assessment (EA) of proposed rehabilitation treatments. CLR team members participated in the preparation of the EA report and its attendant workshops and public meetings to ensure a unified product.

Project Methodology

This Vicksburg National Military Park CLR was prepared in accordance with the guidance offered in the most recent versions of various federal standards documents, including:

- *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques*
- *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*
- NPS Director's Order 10A: *Design and Construction Drawings*
- NPS Director's Order 12: Environmental Impact Analysis
- NPS Director's Order 28: *Cultural Resources Management*
- NPS Director's Order 77—Reference Manual 77: *Natural Resource Management*
- *NPS-SER-82: Biotic Cultural Resources: Management Considerations for Historic Districts in the National Park System, Southeast Region*
- *The Uniform Federal Accessibility Standard* (UFAS) *and Americans with Disabilities Act Accessibility Guidelines* (ADAAG)
- *The National Park Service's Guiding Principles of Sustainable Design*
- National Register Bulletin 15*: How to Apply the National Register Criteria for Evaluation*
- National Register Bulletin 30*: Guidelines for Documenting and Evaluating Rural Historic Landscapes*
- National Register Bulletin 40: *Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields*

In addition, the methodology used by the project team members in preparing each component of this study is described in detail below.

Background Research and Data Collection

To initiate work on the project, CLR team members collected documents and materials pertaining to the project and site. These included photographs from the on-line collection of the Library of Congress, HABS/HAER documentation, and the List of Classified Structures data available on-line. Also available for review, as provided by the Southeast Regional Office of the NPS, was a draft CLR initiated in 2003 and associated AutoCAD base mapping, which was printed for use during field investigations at the park.

Start-up Meeting

On January 30, 2007, project team members from WJE and JMA met with park and regional NPS personnel at the Vicksburg National Military Park Visitor Center to initiate the project. Those participating in the meeting included:

National Park Service, Vicksburg National Military Park

- Monika Mayr, Superintendent
- Jerrel Cooper, Chief of Maintenance
- Virginia DuBowy, Natural Resources Program Manager

- Patricia Montague, Supervisory Park Ranger
- Jehu Walker, Assistant Chief of Maintenance
- Terry Winschel, Park Historian

National Park Service, Southeast Regional Office

- J. Tracy Stakely, Historical Landscape Architect and Contracting Officer's Technical Representative

Wiss, Janney, Elstner Associates, Inc.

- Deborah Slaton, Project Manager and Architectural Historian
- Kenneth Itle, Architectural Historian

John Milner Associates, Inc.

- Liz Sargent, Project Manager and Historical Landscape Architect
- Jenny Mikulski, Project Landscape Architectural Designer

At the meeting, the project team discussed the purpose, goals, and methodology of a CLR, as well as the mission, purpose, and significance of Vicksburg National Military Park. Park staff described the events of the battle, the history of commemoration at the park, and the value of the site to the public today. The group discussed the role and value of the OCOKA military terrain analysis to be prepared as part of the study, as well as a comparable analysis of natural resources. Finally, the NPS provided an overview of the various management issues and concerns to be addressed in the study. The team also discussed the documentation available to the project team, including inventories and mapping data.

Team members later met individually with park staff to gain more detailed information about their respective areas of expertise, including Jerrel Cooper, Chief of Maintenance, who provided observations on maintenance issues, such as the application of various vegetative cover types and mowing regimes; Rick Martin, Chief of Operations, who provided valuable input about the nature of interpretive services and exhibits, the natural resource studies being prepared for the park, and the threat that relic hunters represent; and Terry Winschel, Park Historian, who accompanied the team on an initial site tour and afforded access and insight into the park's archival collections.

Field Investigations

Between January 30 and February 1, 2007, WJE and JMA personnel conducted field investigations to document the existing landscape conditions associated with Vicksburg National Military Park (Fig. 4). Team members systematically recorded the park's landscape features by traversing the tour roads and trails. The team photographed primary and representative landscape features and annotated base maps with information about the features and their condition. The location and orientation of the photographs were noted on the field maps, as were observations to be included in the existing conditions documentation chapter of the CLR. The team also conducted a windshield survey of city-owned parcels that follow the historic Confederate siege line and of the park's noncontiguous parcels.

Historical Landscape Documentation/Site Physical History

Research for the site history was conducted by the project team at the library and archives of Vicksburg National Military Park. Maps and written documents were photocopied, and historic photographs in the archival collection of the park were scanned. Other documents and contemporary photographs by park staff were provided electronically on CD-ROM. Copies of research documents were obtained from the NPS Denver Service Center, which included primarily previous studies and reports prepared by NPS, project completion reports, and drawings for previous work at the park. Additional historic context materials were obtained on the internet and from the Library of Congress.



FIGURE 4. National Park Service personnel accompanied project team members on a tour of the park at the start of field work.



FIGURE 5. Views and vistas, such as this view from Fort Hill overlooking the national cemetery and Yazoo River Diversion Canal, were among the existing conditions documented in the park.



FIGURE 6. The recommendations of the CLR and EA studies were reviewed during public meetings.

Base Mapping

An AutoCAD base map was developed for the project utilizing files afforded by the NPS from the 2003 draft CLR. The files were updated with information collected during field investigations at the park.

Historic Period Plan Preparation

Historic period plans of Vicksburg National Military Park were prepared to represent the site during various key phases of its evolution, including the Civil War, CCC, and Mission 66 eras. The team developed the historic period plans through comparison of historic mapping sources with existing conditions information, so preparation of the existing conditions base map preceded work on the period plans. Once this information was developed, the project team utilized primary source materials to create a skeletal historical base map. Examples of the primary sources consulted to prepare the base map included historic maps depicting the siege of Vicksburg and the placement of troops, USGS mapping, and historic aerial photographs. Secondary sources included historic base maps prepared by park historian Ed Bearss in 1958 and various NPS-generated studies. Secondary sources were typically evaluated for their credibility prior to being employed and were utilized with caution.

The team augmented the skeletal historical base map using historic photographs, postcards, and written descriptions of the landscape found in research materials collected for the project. Written sources were used to identify potential features and elements within the landscape for which no graphic information was available.

Existing Conditions Documentation

The documentation of existing conditions was developed through cross-referenced narrative, graphic, and photographic materials, organized in accordance with the framework established in National Register Bulletin 30: *Guidelines for Documenting and Evaluating Rural Historic Landscapes*. This bulletin identifies various landscape characteristics for presenting existing conditions documentation information. Landscape characteristics utilized to describe the Vicksburg National Military Park landscape include:

- Natural Systems and Features
- Responses to Natural Resources
- Topography and Topographic Modifications
- Patterns of Spatial Organization
- Land Uses and Activities
- Circulation Patterns and Features
- Cultural Vegetation
- Views and Vistas
- Buildings
- Structures
- Small-scale Features
- Archeological Resources

Existing conditions documentation was prepared using information derived from base mapping, field investigations, review of photographs taken in the field, examination of park planning documents and files, and other relevant cultural and natural resource documents received from NPS or acquired through research.

The existing conditions chapter includes photographs of representative landscape features (Fig. 5). These photographs are referenced in the text. A documentation notebook containing all existing conditions documentation photographs and a set of maps indicating photographic station points will be provided to NPS at the end of the project to supplement the representative photographic coverage included in this report.

The team also prepared an inventory of existing landscape features based on documentation of the site and an understanding of historic conditions. Because the size, topographic complexity, and heavily monumented character of the park prohibit a comprehensive description of the park in its entirety, documentation focuses on those key features that represent the range and scope of management issues to be addressed in the treatment plan. These key features are associated with the battlefield and commemorative landscapes, as well as the natural environment. Introductory paragraphs present an overview of the key features described under each landscape characteristic. This framework is also used to convey feature condition assessments. The assessments are based on the methodology presented in the *Cultural Landscapes Inventory Professional Procedures Guide*. Ratings of Good, Fair, Poor, and Unknown are assigned to each key feature or feature type. Categories are defined as follows:

Good. Indicates the inventory unit shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The inventory unit's cultural and natural values are as well preserved as can be expected under the given environmental conditions.

Fair. Indicates the inventory unit shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within three to five years to prevent further harm to its cultural and/or natural values. If left to continue without appropriate corrective action, the cumulative effect of the deterioration of many of the character defining elements will cause the inventory unit to degrade to a poor condition.

Poor. Indicates the inventory unit shows clear evidence of major disturbance and rapid

deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

Unknown. Not enough information is available to make an evaluation.

The condition ratings were annotated to include specific condition-related observations made in the field that help justify the ratings.

Evaluation of Significance

A 1977 draft National Register nomination for the park served as the preliminary basis for evaluating site significance. This information, as well as the National Register Criteria and National Register Bulletins 15, 30, and 40, were taken into consideration in developing the CLR evaluation of significance. Several areas of significance were identified, including the events of the siege and defense of Vicksburg, association with the lives of persons important in American history, efforts to commemorate, and other themes. Once the various themes were identified, two periods of significance—primary and secondary—were defined based on the time during which those themes had impacts on the park landscape.

Comparative Analysis of Historic and Existing Conditions

To better understand the relationship between the existing park landscape and the character of the landscape during either of the identified periods of significance, the project team prepared a comparative analysis of historic and existing landscape conditions. The analysis focused on extant primary features and their dates of origin. The three primary goals of the comparative analysis were to:

1. understand which features survive from the period of significance;

2. establish the basis for an integrity assessment; and

3. provide an understanding of the similarities and differences between historic and existing conditions that would contribute to the development of a well-grounded treatment plan for the cultural landscape.

Identification of Contributing and Non-Contributing Resources

Through the development of the comparative analysis of historic and existing landscape conditions, three lists were prepared identifying contributing, non-contributing, and missing features. Contributing features survive from the period of significance; non-contributing features originated after the period of significance; and missing features are resources known or thought to have existed during the period of significance that are no longer evident, except possibly in the archeological record. Conjectural information was indicated as such within the lists.

Assessment of Integrity

Based on the comparative analysis, significance evaluation, and the guidance offered in National Register Bulletins 15, 30, and 40, the CLR team prepared an assessment of park integrity. The assessment focused on the existence and condition of physical features dating from the periods of significance and the degree to which the seven aspects of integrity—location, design, setting, materials, workmanship, feeling, and association—were present. Special consideration was paid to the recommendation in Bulletin 40 that notes "the most important aspects of integrity for battlefields are location, setting, feeling, and association."[10] For this reason, the integrity of the Civil War-era landscape was assessed slightly differently than the commemorative-era landscape.

10. Patrick Andrus, 1999. National Register Bulletin 40: *Guidelines for Identifying, Evaluating and Registering America's Historic Battlefields* (Washington, D.C.: U.S. Government Printing Office, 1992, rev. 1999), http://www.cr.nps.gov/nr/publications/bulletins/nrb40/nrb40_5.htm, 10, para. 2. (accessed June 6, 2007).

OCOKA Analysis

The CLR project team conducted an OCOKA analysis of the military terrain of Vicksburg battlefield as part of this study. The analysis was guided by the approach recommended by the American Battlefield Protection Program, which notes: "The U.S. military has developed a process for analyzing the significance of terrain called OCOKA. By studying the military significance of the terrain, a surveyor can identify the battlefield terrain 'hidden' in the modern landscape and view it through the soldiers' eyes."[11] Military terrain is analyzed using the five aspects of OCOKA:

- Observation and Fields of Fire
- Cover and Concealment
- Obstacles
- Key Terrain/Decisive Terrain
- Avenues of Approach/Withdrawal

To conduct the analysis, the project team utilized the guidance afforded by the American Battlefield Protection Program to identify the features associated with each of the five aspects of OCOKA. Of particular interest, was Walter Grabau's exploration of the connection between the site's geology, geomorphology, and military events depicted in *Ninety-Eight Days*. Descriptions of the events of the siege as provided by military personnel in the Official Records were also reviewed as time allowed to understand the role of terrain features in the siege and associated combat events. The locations and configurations of features associated with the Civil War-era siege were also identified through review of the historic base maps prepared by former park historian Ed Bearss in 1958. The integrity of historic military terrain features as compared with current park conditions was assessed to support treatment and interpretation recommendations elucidating the connections between terrain and military history, the maneuvers of both armies, and their engagement at Vicksburg.

11. National Park Service, American Battlefield Protection Program, "Mapping Battlefields: Survey and Inventory." PowerPoint presentation accessed April 2007.

Treatment Plan

Development of the CLR treatment plan was based upon the guidance provided in the NPS project scope of work, the findings of each of the chapters included in the CLR, and additional specific guidance conveyed by park and regional NPS personnel during meetings and conference calls. The management goals, issues, and concerns to be addressed by the CLR's treatment plan were identified in two ways. The majority were conveyed during a CLR kick-off meeting held at the park on January 30, 2007, which was attended by NPS park and regional personnel and members of the WJE/JMA consultant team. Other goals, issues, and concerns were gleaned from Environmental Assessment (EA) scoping sessions conducted by representatives of the NPS and Mactec (the professional consulting firm performing the EA study) to develop purpose, need, and issues statements for the project (see below).

Based on an understanding of the site and the park's management goals, the CLR team facilitated the development of six conceptual treatment alternatives for the Vicksburg NMP cultural landscape during a CLR/EA Workshop, held on November 13–14, 2007. The conceptual alternatives were later refined and revised based on comments received from reviewers comprised of NPS regional, park, and EA project team members. These concepts were evaluated as part of the EA process, which considered the input of the public through a series of meetings, as well as the results of a June 2008 Choosing by Advantage workshop (see below).[12] Based on the results of the Choosing by Advantage workshop, which identified the preferred and environmentally preferred

12. *Choosing by Advantage* is a decision-making process that ranks alternatives based on the advantages they provide for the park. The process results in the identification of a preferred alternative and an environmentally preferred alternative.

treatment alternatives, the CLR team prepared a treatment concept statement that would direct the development of treatment guidelines and recommendations. The guidelines and recommendations that were then developed further delineated the preferred alternative while responding to the NPS management issues and concerns, the condition assessments of site resources, and the results of the comparative analyses and integrity evaluations.

Environmental Assessment

An EA was prepared concurrently with the CLR by a team comprised of NPS personnel and representatives of Mactec. The EA and CLR project teams worked closely together to ensure that the two studies informed each other throughout the process. Members of the CLR team also participated in the workshops and public meetings conducted on behalf of the EA (Fig 6). The CLR reflects the input of a broad range of professionals as well as the public in its approach and findings. See the Environmental Assessment report for more information about the methodology for the project.

Addition of the Three Riverfront Parcels to the CLR

In April 2008, the park requested that the CLR team revise the scope of work for the project by including the three riverfront fortification parcels in the document. During an already-scheduled visit to the park for a public meeting, the team conducted research and site documentation of the parcels. Site physical history information, existing conditions documentation, comparative analysis, and OCOKA analysis relating to these parcels was included in the Part 2 CLR 75 percent draft. Due to the relatively small size of the parcels, documentation was completed at a high level of detail. While the site history information relating to the parcels has been integrated into the existing site history narrative, the existing conditions documentation, comparative analysis, and OCOKA analysis for these parcels have been included as separate sections that follow the narrative addressing the main battlefield unit.

Description of Study Boundaries

Refer to Fig. 7 and Fig. 8, location and context, and study boundary maps. Vicksburg National Military Park consists of six noncontiguous parcels. These include the main battlefield unit, Louisiana Circle, South Fort, Navy Circle, Grant's Canal, and Pemberton's Headquarters. Vicksburg National Cemetery abuts the park and is also administered by the National Park Service. Two areas of former parkland are located to the north and south of the main battlefield unit. These include land quitclaimed to the city of Vicksburg (to the south) in 1963 and Warren County (to the north) in 1964.

The CLR primarily focuses on the main battlefield unit and the three fort parcels located along the river: Louisiana Circle, South Fort, and Navy Circle. Documentation of the park's other two parcels—Grant's Canal in Louisiana and Pemberton's Headquarters in downtown Vicksburg—and city- and county-owned parcels was conducted to a lesser degree of detail. Vicksburg National Cemetery was not addressed as part of this CLR.

The park's main battlefield unit, which encompasses the majority of the earthen fortifications and areas of engagement, edges the city of Vicksburg to its north and east. A small portion of the park extends into the Yazoo River Diversion Canal, located on the site of the former channel of the Mississippi River. From here, the park boundary generally heads northeast, paralleling U.S. Business Route 61 to its west for 1/3-mile before turning east, and then continuing in a northeasterly direction to the east of the highway past the Union Navy Memorial and Union Avenue. The park's northwestern boundary is located another 1/2-mile northeast of the Navy Memorial. At this point, the boundary turns east, forming an irregular edge along the park to the north, encompassing Union Avenue in its entirety. The northeastern corner of the park encompasses Sherman Circle and the Grant's Headquarters Area, including Grant Avenue to its east. This area includes numerous state monuments but is

relatively isolated visually from the rest of the park. The park boundary subsequently turns to the southeast, edging Grant Avenue, and then continues in a southwesterly direction toward Graveyard Road. The park boundary then follows a southerly orientation, encompassing and paralleling Union Avenue to the east. Near Battery DeGolyer, the boundary begins to follow a southwesterly orientation, which it continues until reaching U.S. Highway 80.

The park entrance and Visitor Center are located along U.S. Highway 80, locally known as Clay Street, within a quarter mile of Exit 4B along Interstate Highway 20. Clay Street bisects the city along an east/west axis, and passes through the park about a mile north of its southern boundary.

After intersecting U.S. Highway 80, the boundary bows to the southeast to encompass part of the rail line associated with the historic Southern Railroad of Mississippi (now known as the Kansas City Southern Railroad), before turning southwest, west, and northeast to encompass the park's South Loop. The boundary again crosses the rail line and U.S. Highway 80. Thereafter, it parallels Confederate Avenue to the west following a crescent orientation until it nears Fort Hill. Here, the boundary jogs west until returning to the Yazoo River Diversion Canal margin.

The park includes three noncontiguous parcels along the Mississippi River, marking the southern end of the Confederate and Union lines. From north to south, these parcels are known today as Louisiana Circle, South Fort, and Navy Circle. Louisiana Circle is a 1.3-acre parcel featuring a remnant Confederate earthen fortification sited on a bluff overlooking the Mississippi River. The South Fort parcel contains an earthwork where Confederate guns commanded the river approach to the city as well as the former Warrenton Road (contemporary South Washington Street). Navy Circle is the southernmost of the park's three noncontiguous parcels along the Mississippi River. The approximately 2.75-acre parcel protects the surviving evidence of a Union fortification and gun emplacement sited to attack Confederate defensive positions during the spring and summer of 1863.

Former park lands to the north of the existing boundary quitclaimed to Warren County in 1963 included 24.4 acres along Sheridan Avenue. Most of the monuments along the road were moved onto other park land at the time. Five monuments remained on private land until 2008, when three were moved into the park.

Former park lands to the south of the existing boundary quitclaimed to the city of Vicksburg included 154 acres that protect the remains of the historic Confederate line along South Confederate Avenue and a series of roads leading off of this corridor. These corridors are lined with numerous commemorative monuments, markers, and tablets. While this land is maintained by the city of Vicksburg, the monuments are maintained by the NPS.

The city-owned parcels begin at the western edge of the main battlefield unit along the South Loop. To the north, this road is known as Mission 66 Road; to the south, the road is known as South Confederate Avenue. South Confederate Avenue is edged along much of its length by monuments maintained in a park like setting of mown turf. Several road corridors intersect South Confederate Avenue and are also edged by monuments and markers, and other evidence of the Civil War siege. These include portions of Indiana Avenue, Wisconsin Avenue, Halls Ferry Road, Iowa Avenue, and North Frontage Road, which leads to the Louisiana Circle parcel.

Two other noncontiguous parcels are included within the national park. The Grant's Canal parcel is located across the Mississippi River in Louisiana. It protects the remains of canal-building efforts conducted in 1862 by Union Gen. Thomas Williams and in 1863 by Union Gen. Ulysses S. Grant in an attempt to bypass the city of Vicksburg by water, prior to the siege. The park also includes Confederate Lt. Gen. John C. Pemberton's Headquarters. This is an extant dwelling located in downtown Vicksburg.

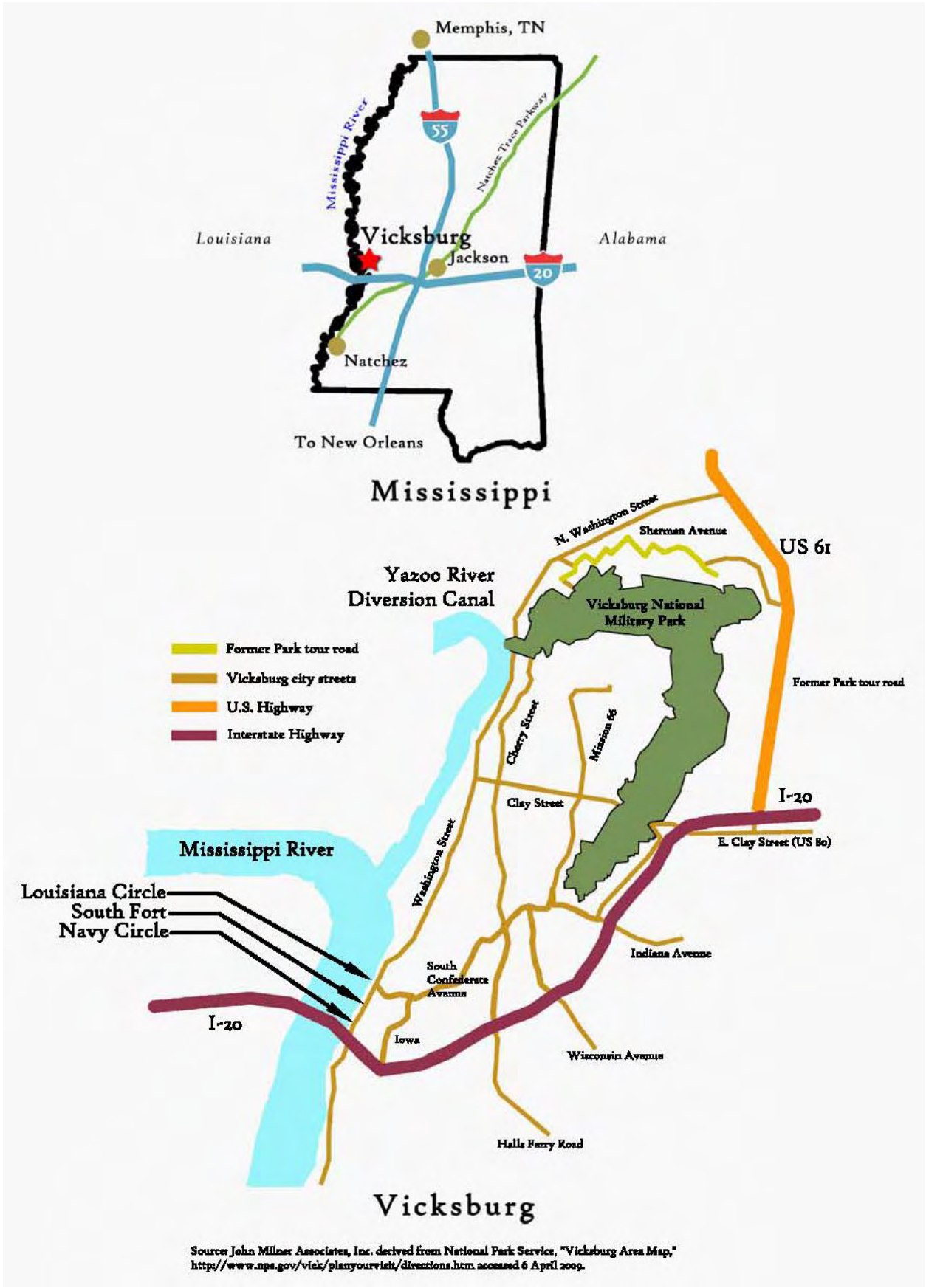


Figure 7. Site Location and Context.

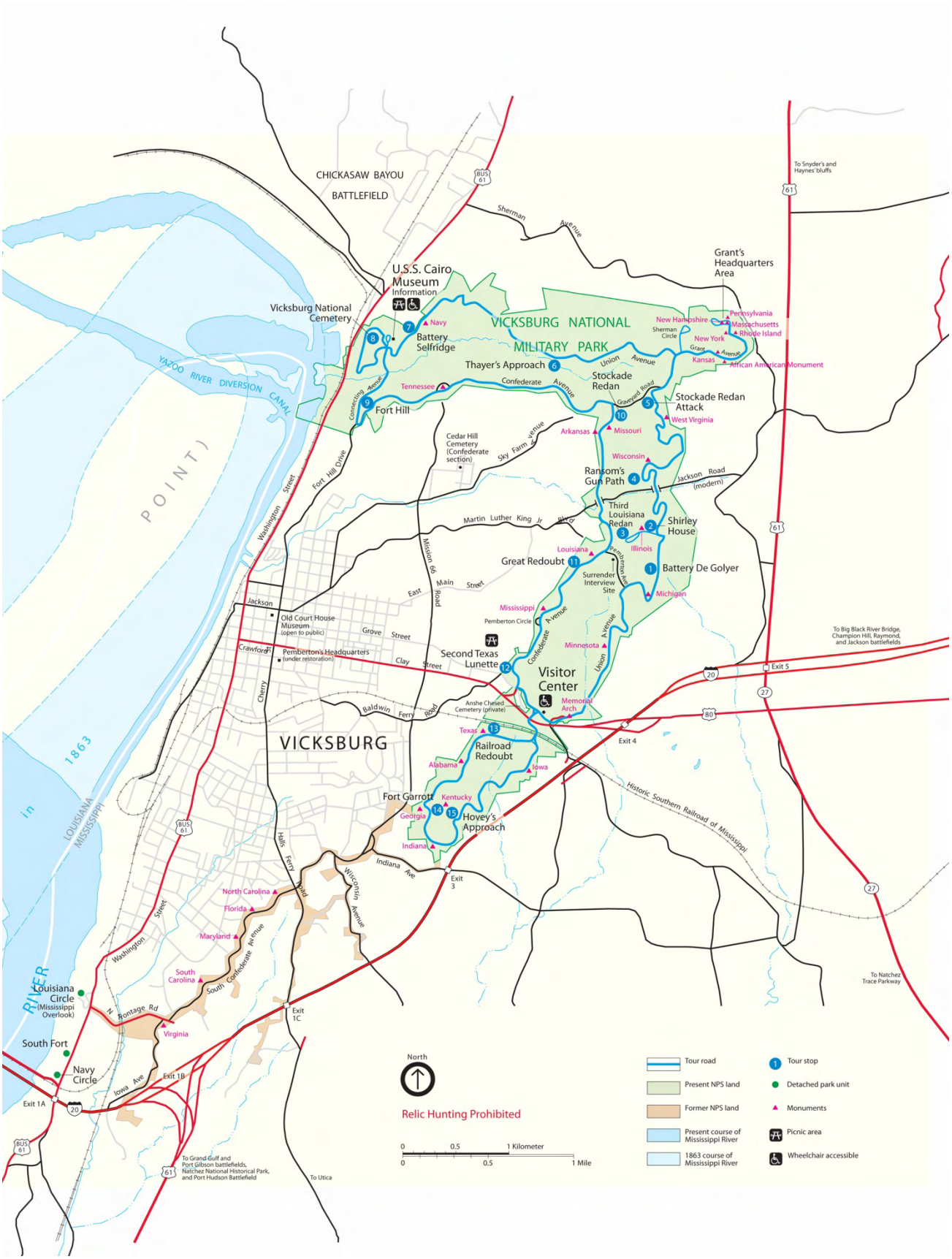


Figure 8. Study Area Boundary Map.

Summary of Findings

Vicksburg National Military Park is a memorial to the soldiers and civilians who participated in the campaign, defense, and siege of Vicksburg in 1863. The park is listed in the National Register of Historic Places (NRHP) for its national significance as the site of a decisive event in a military campaign, for its association with the lives of many persons significant in our past, including Union Maj. Gen. Ulysses S. Grant and Confederate Lt. Gen. John C. Pemberton, for examples of commemorative sculpture of high artistic value, and for its information potential.

While the existing 1977 National Register nomination defines the period of significance broadly as the nineteenth century, research performed for this study suggests that a more definitive period of significance be identified. The CLR suggests a primary or establishing period of significance of the Vicksburg Campaign extending from March 29 through July 4, 1863, and within that the siege and associated engagements of Vicksburg extending from May 18 through July 4, 1863. The CLR also suggests a secondary period of significance be considered that encompasses commemoration of the battle including the placing of monuments and memorials, veterans' reunions, and the establishment of Vicksburg National Military Park in 1899. As one of five national military parks established by the federal government in the 1890s, Vicksburg falls within a national context of an unprecedented act of conservation and commemoration. The secondary period of significance extends from the placement of the first monument on the battlefield at the surrender site in 1864 through 1957, the fifty year age consideration for listing in the NRHP at the time this report was initiated. The closing date of 1957 provides an opportunity to encompass the ongoing process of commemoration that has included the erection of carefully designed and constructed monuments and memorials.

Comparison of the park today with conditions present during the primary and secondary periods of significance was conducted as part of a CLR integrity assessment. Based upon a comparative analysis of historic and existing conditions, the park's cultural landscape was found to possess sufficient integrity for both periods of significance to continue to convey its important historic associations to the visitor, including the Civil War siege as well as development of the park by veterans and others to commemorate the siege. Many cultural landscape features survive from key moments in the site's history, including physical evidence of the 1863 siege in the form of landform and topography, patterns of spatial organization, natural resources, the Shirley House, and remnants of the earthen fortifications and batteries established by the opposing armies; and resources associated with early park establishment and the work of the Civilian Conservation Corps that stabilized the park landscape in the 1930s and early 1940s. These resources include park roads and bridges, monuments, tablets, busts, reliefs, signage, rehabilitated earthworks, the Old Administration Building, and the maintenance complex. Throughout the site's history, there remains a strong connection between natural features and processes and cultural events, activities, and resource development. This connection remains clear and in evidence today.

Conditions that have served to diminish this integrity include alterations to the original tour road system, construction of the Visitor Center complex, removal of early park observation towers, land exchanges with the city of Vicksburg and Warren County, and extensive growth of woody vegetation over formerly open areas.

The treatment plan prepared for the park's cultural landscape considers the findings of the significance evaluation and integrity assessment. It also considers the various management issues identified by NPS park and regional personnel for consideration in the project, some of which were concerned with enhancing the park's historic integrity.

Taking these factors into consideration, the CLR recommends that the park adopt a rehabilitation approach to future management of the Vicksburg NMP cultural landscape. Because rehabilitation is defined in the Secretary of the Interior's Standards for Treatment of Historic Properties as the act or

process of making possible a compatible use for a property, this approach allows for protection of the site's historic character and resources while carefully addressing the park's interest in limited scene restoration, enhancement of interpretive opportunities and circulation routes, ecological maintenance and restoration, and the improvement of visitor amenities, thereby affording the park the opportunity to meet their current and projected future interpretive, functional, and management goals.

As part of the rehabilitation approach, stabilization, protection, and preservation of historic and natural resources are recommended as taking precedence, while new uses are accommodated. As part of the CLR treatment plan, those resources and systems within the park that are to be the focus of stabilization, protection, and preservation, such as water resources, important plant communities and wildlife habitats, soil profiles, and archeological resources, are noted. Sensitive habitats and biotic resources, as well as sites of known and potential archeological resources, for example, should be treated with great care. In general, the CLR recommends preservation of archeological resources unless a compelling research question or informational need justifies disturbance or excavation, or mitigation to accommodate unavoidable change is necessary.

The other key element of the rehabilitation treatment plan is removal of non-contributing woodland to more closely approximate historic patterns of open landcover within areas of key military engagement. As part of this action, the CLR recommends enhancing interpretation of the resulting improved visual connections to and between battlefield resources. To assist the park in these goals, the CLR treatment plan concept is as follows:

The overarching concept for cultural landscape treatment at Vicksburg NMP is to better convey the story of the battles and the siege leading to the surrender of the Confederate forces, and the establishment of a park on this important ground, by reinstating historic conditions in carefully chosen locations and establishing aids to interpreting missing landscape features. Contemporary park visitor access and interpretation needs are accommodated in the least intrusive manner possible, and landscape management is guided by the principles of sustainability to diminish the financial and environmental costs associated with maintenance and management.

Vegetation and natural resource management, interpretation, and consideration of the overall visitor experience are of the highest-priority based on the park's purpose and need statement for the CLR. The recommended approach to vegetation management, including selective tree clearing, supports a crucial interpretive goal at the park: enhancement of visual accessibility. Removal of specific non-contributing woodland areas, control of invasive alien plants, and restoration of the historic character of areas of key military engagements will help visitors better understand the events of the siege. The plan considers the highly-erodible nature of the park's loess soils in the approach to converting woodland to a more open vegetative cover, and includes numerous mitigation strategies for protecting existing landform and topography.

In addition to vegetation management, the treatment plan recommends the development of new exhibits and interpretive features that connect the visitor to key physical resources and the historic use of the landscape. The park is currently in the process of developing a long-range interpretive plan, which will establish the specific goals and vehicles for park interpretive programs. The treatment plan provides numerous items for consideration within the interpretive plan based on the link between landscape management and interpretation. In particular, the treatment plan suggests assisting visitors with understanding the extent and character of the numerous military landscape features that are no longer present within the park such as abatis, cheveaux-de-frise, fascines, gabions, headlogs, gun platforms, military roads, pickets, rifle pits, approach tunnels, scaling ladders, etc.

Interpretation of the work of the veterans, park commissioners, and later the CCC to protect,

preserve, and manage this significant historic landscape is recommended herein. The treatment plan recommends that information about these endeavors be presented to the public to instill a sense of stewardship and appreciation of this fragile site, and to inspire the public. At a minimum, these recommendations will help visitors to distinguish between existing layers of history that frequently occupy the same site, for example earthworks, commemorative markers, and tablets. To guide implementation of the treatment plan recommendations, the CLR includes more detailed guidance relating to implementation of eight projects, ranging from clearing non-contributing woodland using best management practices, to enhancing interpretation within the park emphasizing the cultural landscape.

Recommendations for Further Research

The following subject areas are recommended for further research:

- Consider including additional features on the List of Classified Structures. For example, many of the bridges and earthen fortifications are not currently included in the federal list. The LCS affords special protection for historic resources located on national park property, and the park will ultimately benefit from their inclusion on the list. In addition, correct existing entries that indicate that many of the major Confederate earthworks were reconstructed by the Civilian Conservation Corps if further investigation indicates that this is incorrect.

- Conduct additional research to determine whether a cyclorama painting of the battlefield ever existed. Investigate the painter Phillipoteaux. Consider monitoring sources such as EBay for any related memorabilia that might be available for sale.

- Update the existing National Register nomination, which includes outdated information as well as inaccuracies. Include the recently-acquired Pemberton's Headquarters in downtown Vicksburg in the nomination.

- Prepare a General Management Plan for the park.

- Prepare a Historic Resources Study for the park.

- Complete a Long-Range Interpretive Plan for the park that considers the information provided herein.

- Conduct an Archeological Overview and Assessment of the park.

- Conduct additional research to locate the remaining sections of an early park era survey of the original national military park. Copies of a six-sheet master plan that indicates the final configuration of park features, completed from the survey, have been located. However, only one of the six sheets has been found of the survey, which provides otherwise undocumented information about the character of the landscape circa 1900.

- Conduct additional research into the specific history of CCC efforts to stabilize areas of soil erosion and provide plantings, to determine the exact locations of the projects and their scopes. Further research to attempt to identify site plans, aerial photographs, or written descriptions confirming the nature, location, and extent of plantings by CCC would also be extremely valuable.

Site History

Development of the Site prior to the Siege

Earliest Human Occupation and Early Settlement

Vicksburg's location along the bluffs provided natural advantages for early human occupation: prospect, natural springs, relatively fertile soils in the bottomlands, and access to the river. The site may have been occupied as early as A.D. 200.[13] Prehistoric artifacts found on the loess ridges rising above the creek beds that wind their way through the park suggest that the sites were periodically occupied by hunting or gathering camps. The bluffs and creek bottoms were probably used intermittently for low level horticulture, since the slopes within the park are generally too steep and erodible for extensive agriculture.[14]

Beginning in the mid-sixteenth century, Spanish, French, and British expeditions explored the area that was to become Mississippi. In 1540–1541, Spanish explorer Hernando De Soto became the first known European to enter the region. De Soto spent the winter with the Chickasaws and reached the Mississippi River in the spring.

On May 17, 1673, Father Jacques Marquette, a French missionary, and Louis Joliette, a fur trapper, began an expedition to explore the Mississippi River. They reached the area that is now Mississippi in July and traveled as far south as the mouth of the Arkansas River. Two years later, Robert Cavalier de La Salle navigated the Mississippi River to its mouth and claimed for France all lands drained by the river. In 1699, an expeditionary French and French-Canadian force established Fort Maurepas near present-day Ocean Springs, Mississippi. The purpose of the fort was to discourage Spanish and English incursions into the area claimed by France and to help protect French commerce and fur trading in North America.

In the early eighteenth century, as European settlers began to arrive in the area that is now western Mississippi, its inhabitants included the Natchez, Chickasaws, Choctaws, and Houmas. Early trappers and traders used existing native trade routes such as the Natchez Trace for exploration and commerce, and initial contact between French settlers and trappers and the native inhabitants was generally friendly.

In 1716, Fort Rosalie was established near the site of the future town of Natchez, Mississippi, and in 1719, Fort St. Pierre was established near the mouth of Yazoo River, approximately 12 miles north of Vicksburg. A small French settlement developed along the river. By 1729, ". . . a few extensive and many large plantations existed. . . ."[15] At that time

13. Kevin Risk, *Draft Cultural Landscape Report, Vicksburg National Military Park* (Atlanta, Georgia: National Park Service, Southeast Region), undated [status report dated March 16, 2000], citing Crawford H. Blakeman, Jr., and Michael K. Collins, *Archeological Site Survey in the Vicksburg National Military Park: 1975.* (Mississippi State University, Department of Anthropology, 1975), 21.
14. Ibid., 22.
15. *Biographical and Historical Memoirs of Mississippi* (Chicago: Goodspeed Publishing Co., 1891), 64, quoted in M. J. Mulvihill, Sr., *Vicksburg and Warren County Mississippi: Tunica Indians, Quebec Missionaries, Civil War Veterans* (City of Vicksburg, 1931).

settlement in the region occupied by the Natchez Indians, which comprised most of what would become the State of Mississippi, included approximately 750 French settlers, soldiers, and black slaves. The commandant at Fort Rosalie demanded that the Natchez Indians vacate one of their villages, including the site of a sacred mound, to make way for a new French farm. On November 28, 1729, Natchez warriors retaliated by killing French settlers with guns borrowed from the settlers for hunting. The Natchez promised freedom to the slaves who joined them in the uprising. Following the massacres, surviving settlers abandoned their claims at Fort St. Pierre and on the outlying plantations. Over the next few years, the French, aided by the Choctaw, struck back and by 1732 the Natchez ceased to exist as a tribe. In 1736, the governor of Louisiana, Jean-Baptiste Le Moyne de Bienville, led a force in two battles against the Chickasaw and their fortified villages in what is now northeastern Mississippi. The French and their allies were repulsed.

In 1754 the French and Indian War, known as the Seven Years War in Europe, began in North America. Lasting for nine years, this conflict was the last major colonial war between the British, the French, and their Native American allies. As a result of this war, Mississippi and all other French territory east of the Mississippi River passed into British control. In addition, to compensate its ally, Spain, for the loss of Florida, France ceded control of French Louisiana west of the Mississippi to Spain.

In 1779, Mississippi came under the control of Spain when Bernardo Galvez, the governor of Spanish Louisiana, captured Natchez. Following the end of the Revolutionary War in 1781, and under the provisions of the Treaty of Paris of 1783, West Florida, which included the southern half of Mississippi, came under Spanish control, while the United States gained possession of Mississippi north of the 32 degree 28 minute parallel.

In the 1790s, the Nogales fortifications were built by the Spanish along the bluffs and lower land overlooking the bend in the Mississippi River north of present-day Vicksburg. Fort Mount Vigio, one of the smaller fortifications, occupied the site of present-day Fort Hill. The largest battery, Fort Nogales, was located across Mint Springs Bayou from the present-day national cemetery site. Fort Sugar-loaf was located on the misnamed "Indian Mound" inside the cemetery (Fig. 9). In 1797, Francis Bailey described the Spanish forts as observed during a trip down the Mississippi River:

> About five o'clock we came to the Walnut Hills. . . . Here there is a strong fort kept up by the Spaniards. It is an irregular fortification, occupying a great part of the hill on which it stands, which is very high and steep. . . .
>
> Walnut Hills is a beautiful situation for a town, and an advantageous one for a fort. There are two forts at this place, one of them commands the other, being situated upon an eminence behind it. The few houses which are scattered around it, and the green bank on which they stand, surround[ed] with flowering, verdant, and lofty trees, presented at once a picturesque and romantic appearance to our eyes, fatigued with the uniformity of the prospect to which we had for so many miles been witness.[16]

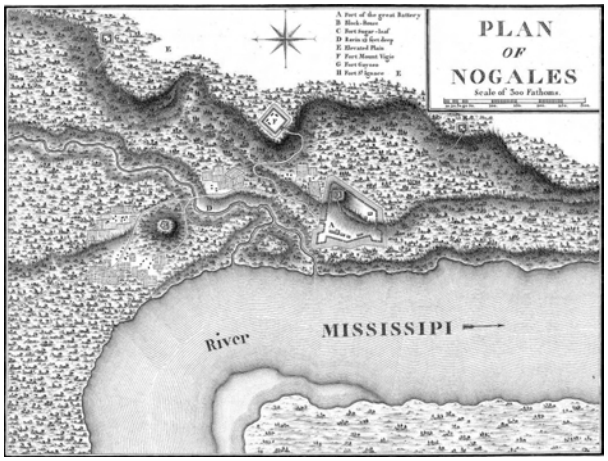


FIGURE 9. 1796 map of Nogales by French General George Henri Victor Collot.

16. Bailey, *Journal of a Tour in Unsettled Parts of North America in 1796 & 1797*, 146–147, quoted in John W. Reps, *Cities of the Mississippi* (Columbia, Missouri: University of Missouri Press, 1994), 138.

In 1797, Spain yielded all land in Mississippi north of the thirty-first parallel to the United States, and in the following year Spanish withdrawal from Mississippi was completed. The region was organized as an American territory, with the first territorial governor, Winthrop Sargent, appointed by President Thomas Jefferson. Fort Mont Vigio was renamed Fort McHenry, and Fort Snyder was established on the site of the former Fort St. Pierre. During the Civil War, Fort McHenry was replaced by the Confederate fortifications known as Fort Hill.[17]

Early Development of Mississippi and Vicksburg

In 1801, a treaty with the Indians allowed the Natchez Trace to be developed as a mail route and major road. The territorial capital was moved from Natchez to Washington, a small town near the Natchez Trace. In 1803, the Louisiana Purchase opened the Mississippi River to commerce. By a treaty signed on April 30 of that year, the United States purchased from France more than 800,000 square miles of land extending from the Mississippi River to the Rocky Mountains. The Spanish, who had never given up physical possession of Louisiana to the French, did so in a ceremony at New Orleans on November 30, 1803. In a second ceremony, on December 20, 1803, the French turned the Louisiana Territory over to the United States.

In 1805, by the Treaty of Mount Dexter, the Choctaws sold 4.5 million acres of land to the U.S. government, including the Piney Woods region of Mississippi. In 1810, following the West Florida rebellion, the United States gained control of Spanish West Florida.

On June 12, 1812, the United States declared war on Great Britain as a result of disputes related to the impressment of American soldiers by the British and disagreements over the Northwest Territories and the border with Canada. Offensive actions by the United States failed to capture Canada, and the British army in turn failed to capture Baltimore and New Orleans. The war, which lasted for two years, was noteworthy primarily for American naval victories over the British and because it essentially ended in a stalemate. On December 24, 1814, the Treaty of Ghent was signed, ending the war. Fighting continued, however, until the following February. On January 8, 1815, American forces under Gen. Andrew Jackson decisively defeated British forces trying to capture New Orleans. Following the war, the United States gained West Florida territory east of the Pearl River and south to the Gulf of Mexico, which became part of Mississippi. In 1816, the Treaty of Fort Stephens with the Choctaw opened the area around the Tombigbee Prairie for settlement. On December 10, 1817, Mississippi was admitted to the Union as the twentieth state. Treaties with the Choctaws and Chickasaws between 1805 and 1834 opened Indian lands in Mississippi to settlement.

In 1822, the state capital was moved to Jackson, a planned city named for Andrew Jackson. In 1830, by the Treaty of Dancing Rabbit Creek, all Choctaw territory east of the Mississippi River was ceded to the U.S. government and most of the Choctaws left the state. In the same year, in the Treaty of Pontotoc Creek, north Mississippi Indian territory was also ceded to the government, and the Chickasaws left the state as well. A state constitutional convention in 1830 resulted in the Constitution of 1832.

In 1812, Reverend Newett Vick and his family settled on the bluffs just south of the Walnut Hills. The new settlement of Vicksburg grew rapidly and was incorporated as a town on January 29, 1825. Vicksburg became the seat of Warren County and was incorporated as a city in 1836. Its location near the juncture of the Mississippi and Yazoo Rivers helped the city develop into a commercial and agricultural center (Fig. 10).

17. Risk, in the *Draft Cultural Landscape Report,* notes that no evidence of the earlier forts Nogales and Mount Vigio was identified in the 1975 archeological survey, but also notes the significance of these pre-Civil War fortifications to the park's broader history.



FIGURE 10. Lithographic view of Vicksburg, circa 1851.

An 1835 account described the prosperous town as follows:

> There is no town in the south-west more flourishing than Vicksburg. It is surrounded by rich plantations, and contains many public-spirited individuals; whose co-operation in public enterprises is opening new avenues of wealth for the citizens, and laying a broad and secure foundation for the future importance of the town. It is already a powerful rival of Natchez: but the two places are so distant from each other, that their interests will always revolve in different circles. The situation of this town, on the shelving declivity of a cluster of precipitous hills, which rise abruptly from the river, is highly romantic. The houses are scattered in picturesque groups on natural terraces along the river, the balcony or portico of one often overhanging the roof of another. . . . Cotton is often conveyed to Vicksburg . . . from a distance of one hundred miles in the interior.[18]

The location of Vicksburg adjacent the Mississippi River between the commercial ports of Memphis and New Orleans, near developing rail lines, and in the midst of the cotton-growing region, made the city, together with Natchez and Grand Gulf, an important export center for transport of this crop. Commercial river transport between Vicksburg and New Orleans expanded with the development of the steamboat industry after 1816 and the clearing of the Mississippi River channel by the Corps of Engineers after 1824, which made possible efficient river-based transport between Vicksburg and New Orleans.[19] Transport from Vicksburg to the state capitol at Jackson was provided by the Vicksburg & Meridian Railroad (also referred to as the Southern Railroad), the only east-west rail line located between New Orleans and Memphis. The combination of river and rail access made Vicksburg a particularly strategic location for supply and transportation. North-south railroad lines connected from

18. Ingraham, *The South-West. By a Yankee*, 2:169-170, quoted in Reps, *Cities of the Mississippi*, 138.

19. Risk, *Draft Cultural Landscape Report*, citing Mark Morgan, *Vicksburg Riverfront and Cultural Landscape Study* (National Park Service, 1992), 21.

Jackson to New Orleans and to Grand Junction, Tennessee, where the Mississippi Central line met the Memphis and Charleston line. A second railroad, the Vicksburg, Shreveport, and Texas line, traversed De Soto Point in the bend of the Mississippi River, to a railhead at De Soto Landing just opposite the port of Vicksburg.[20] The De Soto Ferry crossed the Mississippi River from Vicksburg to the railhead at De Soto Landing, providing supplies such as beef and arms imported from Europe by way of Mexico and Texas.[21] Both the railroad supply lines and the Mississippi River corridor were to be of paramount strategic importance during the Civil War siege.

Although Vicksburg was ideally suited for river and rail transport, the landscape immediately surrounding the city was not well-suited for intensive agriculture due to the steep slopes and highly erodible soils. The ridgelines that encircled the city were bisected by spring channels and meandering bayous that had cut nearly impassable ravines in the loess. The landscape around the city evolved into "a mosaic of small farms, pastures, wooded ravines, and deeply cut springs."[22] Roads were built along ridge spurs and following stream channels. Jackson Road, leading to the capital, followed a ridgeline extending northeast from the city and would become important in the campaign and siege.

Many homes were built by well to do citizens in the decades preceding the war. Of particular interest due to its location on what would become the battlefield is the Shirley House, constructed circa 1837–1838 about two and one-half miles east of Vicksburg along the Jackson Road. The house was built by Nicholas Gray, an immigrant who originally named the house "Wexford Lodge" after his native Wexford County in Ireland. In 1849 the house was sold to Ben Johnson, and on January 1, 1851, it was purchased by Judge James Shirley, a lawyer and Union sympathizer who had moved to Vicksburg with his family from Alabama. The notice of sale prior to Judge Shirley's purchase of the property described the house and site as follows:

> A most desirable residence in a healthy location, 2-1/2 miles from town. The dwelling is 40 by 60 feet, containing nine rooms, seven large ones and a wide passage. There is on the premises a cistern, a spring of never failing water, stable, hen-house, etc. Attached 14 acres of good rich land, a variety of fruit trees, fine range for cattle, winter and summer. Also a 16 acre lot adjoining and well suited for building and gardening.[23]

In 1900, Alice [Shirley] Eaton, daughter of James Shirley, described the house as it appeared before the fighting (Fig. 11):

> The house was built after the southern fashion, a story and a half in height, a wide hall in the



FIGURE 11. View of the Shirley House, circa 1863.

20. Ibid., 21–23. The *Draft Cultural Landscape Report* also notes that the Vicksburg and Clinton Railroad was organized in 1831 to transport cotton and other goods to Vicksburg from inland Mississippi. By 1846, the line was completed across the entire state and renamed the Vicksburg and Meridian Railroad. The Vicksburg, Shreveport, and Texas line, which started at De Soto Point, had only been constructed as far west as Monroe, Louisiana at the time of the Vicksburg campaign.
21. Risk, *Draft Cultural Landscape Report*, citing Jim Miles, *A River Unvexed: A History and Tour Guide to the Campaign for the Mississippi River* (Nashville, Tennessee: Rutledge Hill Press, 1994), 190.
22. Ibid.
23. An 1849 notice of sale from the *Vicksburg Weekly Whig.* Cited in Francis F. Wilshin, *The Shirley House* (Washington, D.C.: National Park Service, 1939), 2. The notice of sale appeared on December 5, 1849.

> center, large rooms on each side, ceiling high, upper and lower porch in front and veranda in rear. A driveway describing a semi-circle passed the door, and a wide walk ran from the front porch to the road, which was reached from that point by a flight of steps. This walk was bordered with red flowering quinces, fragrant syringas [lilacs] and roses, while close to the edge bloomed violets, jonquils and hyacinths. On one side of the porch was a beautiful crape-myrtle and on the other an althea [Rose-of-Sharon] tree. The rustic summer house made of green grape vines and roots, with beds of flowers all around it, was a great delight to me, as was also a little vegetable garden where my brother Quincy and I planted our names in peas, lettuce and radishes.[24]

Prelude to the War

In 1850, the U.S. Congress gave the state title to more than 3 million acres of swamp and overflow land. By this time, 310 miles of levees had been built along the banks of the Mississippi River, and the Delta was drained, cleared, and available for cultivation. According to the 1860 census, the population of Vicksburg was approximately 4,500 at the time of the Civil War.

The Compromise of 1850 was composed of five statutes enacted in September of 1850 in an attempt to resolve controversies primarily arising from the Mexican-American War of 1846–1848, and to balance the interests of the slave states and the free states. The Compromise resulted in admission of California to the Union as a free state; organization of the territory of New Mexico (including present-day Arizona and Utah) without any specific prohibition of slavery; and fixed the boundary of the state of Texas. The Compromise also called for the abolition of the slave trade (but not slavery itself) in Washington, D.C., and amended the Fugitive Slave Act to require that all citizens assist in the return of runaway slaves regardless of the legality of slavery in the specific states. The strengthening of the Fugitive Slave Act increased the determination of abolitionists to end slavery in the United States. Although the Compromise provided a means to keep the nation united it was only a temporary solution. On January 9, 1861, Mississippi became the second state to secede from the Union.

Vicksburg Landscape: 1863

Before European settlement, the area around Vicksburg was covered by tall hardwood forest. Settlers cut down forest and planted crops, and with hilltops under cultivation, houses and roads followed ridgelines. The location of Vicksburg was suitable for settlement because the city could be located on the river but was protected from flooding by the steep bluffs. Railroads to the west could transfer from rail to boat, to transport goods across the river (Fig. 12).

The city was surrounded by prime cropland. By the decade of the Civil War, much of the tall hardwood forest had been cut down for farming—primarily cotton but also grains, fruits, and vegetables. By 1863, plantation owners had constructed artificial levees to protect their lands from flooding.

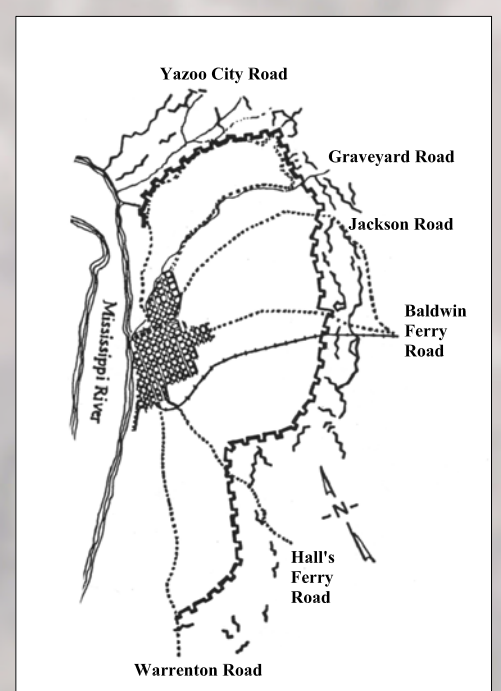
Primary routes of transportation included rail lines and river transport, including barges, steamboats, and ferries. During rain the dirt roads of Mississippi turned to mud, making passage difficult. The Union forces benefited from dry weather during the final weeks of the campaign in the spring and summer of 1863.

The Confederate defenses surrounding the city on the north, east, and south were erected on a nearly continuous ridgeline (Fig. 13). The Union forces encamped on a parallel ridgeline, separated from the defenses by steep ravines. These valleys include several bayous that flow into the Mississippi River: Mint Spring Bayou, Glass Bayou, and Stouts Bayou. At a limited number of points, perpendicular ridgelines connected between the parallel lines. These perpendicular ridges formed the primary land access points to the city prior to the war and became the scene of heavy fighting as the attacking armies attempted to breach the defenses.

24. *Fredonia N.Y. Censor*, May 30, 1900, cited in Wilshin, *The Shirley House*, 3.

Mississippi River
Battery Selfridge
Edwards House
Mint Spring Bayou
Yazoo City Road
Thayer's Approach
27th La. Lunette
26th La. Redan
Lightburn's Approach
Riddle House
Water Battery
Fort Hill
Stockade Redan
Rock House
Graveyard Road
Buckland's and Ewing's Approach
Green's Redan
G.A.Smith's Approach
Ransom's Gunpath
Glass Bayou
Coonskin Tower
Jackson Road
Shirley House
Mt. Ararat
Shebangs
Logan's Approach
3rd Louisiana Redan
Great Redoubt
Battery De Golyer
City of Vicksburg
Stouts Bayou
Baldwin Ferry Road
Alabama-Vicksburg Railroad
South Texas Lunette
A.J. Smith's Approach
Railroad Redoubt
Carr's Approach
Fort Garrott (Square Fort)
Durden Creek (Big Bayou)
Slack's Approach
Hovey's Approach
Earthworks and fortifications extended to south to river.

Legend
- Current Park Boundary
- Roads
- Railroad
- Stream Corridor
- Confederate Earthworks
- Union Earthworks
- Buildings
- City blocks
- Vegetation
- Abatis



Seige Lines Surrounding Vicksburg, ca. 1863

Source:
Historic American Engineering Record (HAER)
"Vicksburg Military Park Tour Roads," 1997.

Sources:
Autocad Base Map
War Department Park Commission Maps
NPS "Historic Map Showing Conditions at the End of Seige" 1938
Approaches to Vicksburg, Miss. & Rebel defences / traced by James H. Logan, Oct. 14, 1863

0 700′ 1400′
SCALE IN FEET
FOR PLANNING PURPOSES ONLY
NOT FOR CONSTRUCTION

Notes:

Darker modeling represents areas of low and steep topography.

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Cultural Landscape Report
Vicksburg National Military Park

Historic Period Plan - 1863
Figure 13

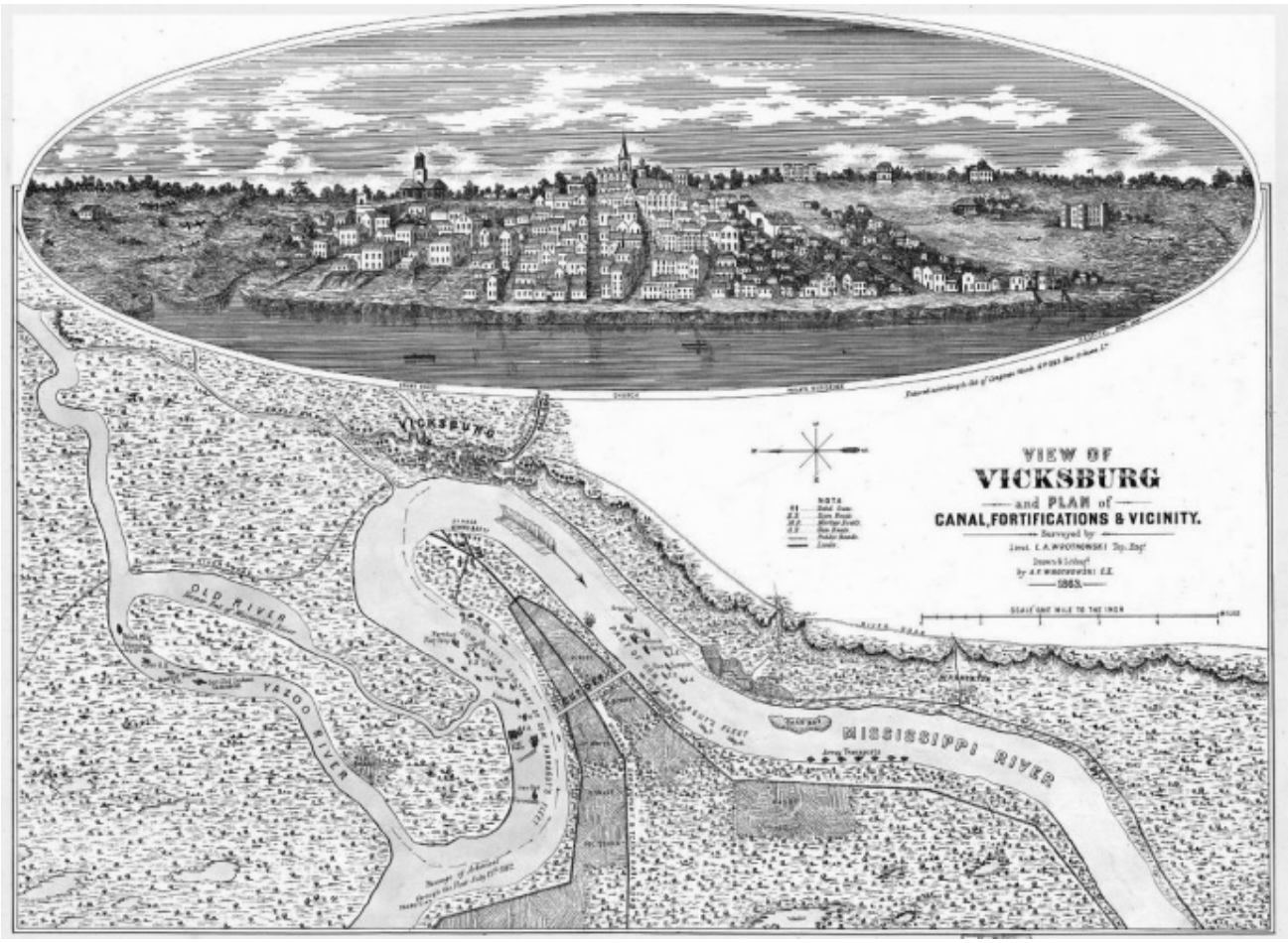


FIGURE 12. Bird's eye view and map of Vicksburg, 1863.

The topography of Vicksburg and its relationship to the Mississippi River made it a strategic location; and the specific topographic features around the city affected the position of the defenses and avenues of attack during the siege. In 1935, one author gave primary importance to the topography in determining the course of the siege:

> Notwithstanding the minor distribution of the Confederate and Federal armies at Vicksburg by Pemberton and Grant during the siege of the City from May 18 to July 4, 1863, the fact, nevertheless, remains that the major disposition of the forces was determined untold ages before by the Creator working through the agency of one of the Continental glaciers in Canada and northern United States. This particular glacier, in passing over the bed rock of the region, ground some of it, as well as some of the rock material the ice was transporting, into a fine rock flour, which the flood waters from the melting glacier carried down the Mississippi and deposited as flood plain material. The westerly winds picked up this rock flour, after it had dried, carried it on to the east bluffs and uplands, and deposited it as a mantle rock that forms steep-sided valleys where streams cut into it. These valleys were the controlling factors in the distribution of the armies.[25]

25. William Clifford Morse, *Geologic History of the Vicksburg National Military Park Area,* Mississippi State Geological Survey, Bulletin 28 (University of Mississippi, 1935), 7.

The Vicksburg Campaign and the Siege of Vicksburg, 1863

The Vicksburg Campaign

Rapid growth in the Mississippi River Valley, once the far west, made the Mississippi River more important as the transportation artery that linked the West with ports on the Gulf and the Atlantic seaboard. In response to a Union blockade of Southern ports, including the mouth of the Mississippi River where it entered the gulf south of New Orleans, the Confederacy began to fortify strategic points along the river where it bordered the Confederate states of Arkansas, Tennessee, and Mississippi, and where the river extended through lower Louisiana (Fig. 14). Vicksburg was recognized as the key to control of the Mississippi River, as well as to the Red River in Louisiana and the Arkansas and White Rivers in Arkansas. These rivers provided access for shipping as well as to the rich farmland of the Mississippi delta region.

In September 1862, Confederate engineers begin to construct fortifications at Vicksburg. Most of the available trees in the vicinity of the eight-mile defensive line were cut to provide lumber for construction or to provide clear fields of fire, leaving the area around the defensive line relatively free of dense tree cover. The Confederate defenses included log parapets reinforced with cylindrical baskets of native cane called gabions. Tightly-bound bundles of brush, called fascines, were used as foundations or reinforcement for the earthworks, to maintain the slope of the unstable loess soil. Larger trees were also sharpened into spikes, called abatis, or laid horizontally with intersecting diagonal rows of sharpened spikes, called chevaux-de-frise. The dense vegetative thickets in the ravines and bayous were maintained as an obstacle to attacking forces. Other obstacles were created by tying vines and wire between tree stumps or pickets.

An example of the fortifications constructed by Confederate engineers as part of this effort is Battery Barnes at the present-day Louisiana Circle unit of the park. Battery Barnes was one of several river batteries located on over four miles of bluffs

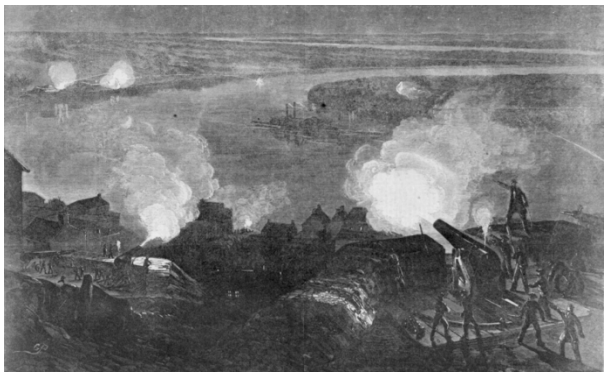


FIGURE 14. The U.S. ironclad gunboat *Indianola* running the Confederate blockade at Vicksburg on February 13, 1863.

along the Mississippi River. These batteries were designed to protect the land between the bluffs and the river from an infantry attack. Situated to command the southern approaches, Battery Barnes was comprised of thick earthen parapet walls as well as a wide, deep ditch intended to further slow assaulting troops who managed to reach the battery.

Another example of defensive construction was South Fort, which formed the southern anchor of the nine mile Confederate defensive line that encircled the city of Vicksburg. Positioned three miles south of the city atop a knoll overlooking the Mississippi River, South Fort was a U-shaped earthwork with thick parapet walls that supported four guns and an infantry brigade. This fortification was originally intended to guard against any approach by federal forces on the river and was modified to also defend against land-based attacks from the south along Warrenton Road. Battery Barnes and South Fort provided an anchor to the Confederate defensive line's southern end.

North of Vicksburg, the Confederates had fortified Island No. 10 and New Madrid, Missouri, across the river from the Tennessee-Kentucky state line, as defensive positions. On April 7, 1862, both sites fell to Union forces led by Brigadier Gen. John Pope, which defeated Confederate forces led by Brig. Gen. William Mackall. This defeat opened the river to Union shipping as far south as Fort Pillow near Memphis, Tennessee.

To the south of Vicksburg, New Orleans was defended by Confederate Fort Jackson and Fort St. Philip, about ninety miles downriver from the city, and by several smaller Confederate forts. Federal river forces, led by Flag Officer David G. Farragut and Commodore David Dixon Porter, overcame the Confederate defenses between April 25 and 28, 1862, and Confederate troops led by Mansfield Lovell evacuated New Orleans. Following this victory, Farragut took several cruisers and gunboats upriver to Vicksburg, Brig. Gen. Martin L. Smith refused to surrender the city. Farragut ordered a bombardment that lasted from mid-May through July of 1862.

East of the Mississippi River in western Tennessee, Union forces led by Brig. Gen. Ulysses Simpson Grant and Flag Officer Andrew Foote captured Fort Henry on the Tennessee River and Fort Donelson on the Cumberland River by mid-February 1862. Confederate Gen. Albert Sidney Johnston evacuated the state capital of Nashville and concentrated his forces at Corinth in the northeast corner of Mississippi, in an effort to protect rail communications along the Memphis & Charleston and Mobile & Ohio railroads. Union forces led by Major Generals Henry W. Halleck, Ulysses S. Grant, and Don Carlos Buell, attempted to sever the Southern railroads. Grant's army traveled along the Tennessee River by steamboat, disembarking at Pittsburg Landing, northeast of Corinth. There Grant established a base of operations on a plateau west of the river, setting the stage for the Battle of Shiloh, with Union forward camps posted two miles inland around a log church called Shiloh Meeting House. Buell's Army of the Ohio, marching overland from Nashville, moved to join Grant's forces to advance on Corinth and permanently break western Confederate railroad communications.

Johnston determined to attack Grant's army at Pittsburg Landing before Buell arrived, and on April 6, the Confederate forces attacked the forward Federal camps around Shiloh Church. Although the Confederates gained ground against the surprised Union forces, Albert Johnston's forces became disorganized and Johnston himself was killed in the fighting, leaving Gen. P. G. T. Beauregard in command of the Confederate army. Fighting ended at nightfall, and Buell's army reached Pittsburg Landing overnight. At dawn on April 7, the combined Union armies attacked the outnumbered Confederates, who withdrew to Corinth. The battle resulted in 23,746 casualties, and control of Corinth's railroad junction was not resolved.[26]

By late May, three Federal armies were entrenched within range of Confederate fortifications at Corinth. Beauregard withdrew his army south to Tupelo, abandoning the east-west rail communications lines. On June 6, 1862, Memphis surrendered to a naval Federal force led by Commodore Charles Davis, opening the way to a land campaign against Vicksburg.

In the late summer of 1862, Confederate forces launched counteroffensives including an attack by troops led by Gen. Earl Van Dorn against the Union garrison at Corinth. On August 5, a Confederate army led by Gen. John C. Breckinridge attacked the Louisiana capital of Baton Rouge but was defeated by Federal forces led by Gen. Thomas Williams. Although the Confederates lost the Arkansas River, they occupied Port Hudson on the eastern bluffs of the Mississippi River south of the Vicksburg, providing a defensive barrier against southern approaches to the city.

On September 19, 1862, fighting ensued at Iuka between Federal forces led by Grant and Maj. Gen. William Rosecrans and Confederates led by Maj. Gen. Sterling Price. Each general tried to prevent the other from sending reinforcements to Tennessee. Price united his retreating troops with those of General Van Dorn, who attacked Rosecrans's Federal garrison at Corinth on

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26. The following synopsis of the Vicksburg campaign is based primarily on several sources, including Michael B. Ballard, *Vicksburg: The Campaign that Opened the Mississippi,* Civil War America Series (Chapel Hill, North Carolina: University of North Carolina Press, 2003) and Ballard, *The Campaign for Vicksburg* (Fort Washington, Pennsylvania: Eastern National, 1996).

October 3. In heavy fighting on October 3–4, the Confederates were repulsed. The fighting at Corinth, the last Confederate offensive in Mississippi, weakened the only mobile Southern army defending the Mississippi Valley and permitted Ulysses S. Grant to launch his campaign to capture Vicksburg.

During the Vicksburg campaign, Grant led the Federal forces, closely assisted by Maj. Gen. William Tecumseh Sherman, Maj. Gen. John A. McClernand, and Gen. James B. McPherson. Lt. Gen. John Clifford Pemberton led the Confederate forces. Pemberton, a Pennsylvania native who sided with the South because of influence of his Virginia-born wife, arrived in Jackson, Mississippi, on October 9, 1862, to take command of the newly created Department of Mississippi and East Louisiana.

On October 20, 1862, General McClernand won permission from President Lincoln and Secretary of War Edwin M. Stanton to organize volunteer troops in the Midwest for an amphibious operation against Vicksburg. McClernand, interested in promoting his career and political aspirations, did not realize that Gen. Henry Halleck opposed his plans. As McClernand organized his companies and regiments, Halleck gave them immediate assignments in the Vicksburg theater, thus moving them out of McClernand's reach.

Grant began to assemble an invading force at Grand Junction, Tennessee, where the Mississippi Central Railroad intersected the Memphis and Charleston line, which connected Memphis and Corinth. Grant intended to have two Federal wings invade Mississippi, Grant leading forces from Grand Junction and Sherman leading forces from Memphis. After delays caused by supply problems and Confederate cavalry raids, the Federal forces moved southward, occupying Holly Springs, Mississippi, and continued moving toward the Tallahatchie River. The Federal approach caused the Confederates to move southward and dig in behind the Yalobusha River at Grenada, Mississippi. Grant reorganized his army for an advance on Grenada, and to keep Pemberton pinned down in north Mississippi. Sherman and one division were sent back to Memphis to organize an amphibious expedition against Vicksburg. Sherman's forces included 40,000 men and the support of the Union navy. On December 20, 1862, Federal transports began ferrying troops downriver.

In December, Confederate raids, including Brig. Gen. Nathan Bedford Forrest's attacks on Grant's supply line and Maj. Gen. Earl Van Dorn's raid on Grant's supply base at Holly Springs on December 20, caused Grant to pull his army back to Memphis. Union gunboats moving up the Yazoo River withdrew after the USS *Cairo* hit a Confederate torpedo/mine and sank. However, when Pemberton learned that Sherman's forces were moving toward Vicksburg, he ordered reinforcements for Martin Smith's garrison and traveled there himself.

Sherman's army landed and marched toward the Walnut Hills north and northeast of the city. Although Grant had retreated, Sherman attacked on December 27–29. In the ensuing Battle of Chickasaw Bayou, the Federal troops outnumbered the Confederates, but the swamps and bayous at the confluence of the Yazoo and Mississippi rivers made movement extremely difficult and Gen. Martin Smith's Confederate forces held well-fortified high ground (Fig. 15). On January 1, 1863, the defeated Sherman returned to Milliken's Bend, Louisiana.

From January 4 to 12, 1863, McClernand, who by seniority in rank took command of Sherman's force, attacked Arkansas Post (Fort Hindman) fifty miles up the Arkansas River from where it emptied into the Mississippi River. Union capture of the fort meant that it could no longer be used as a refuge from which Confederate gunboats could attack Union shipping.

After the failure of Sherman's December offensive, Grant moved his troops to the west bank of the Mississippi River and proceeded down the Louisiana side of the river, intending to cross the river south of Vicksburg. In January and February 1863, Grant renewed an attempt to build a bypass canal at De Soto Point, at the hairpin curve in the Mississippi River in front of Vicksburg (Fig. 16).

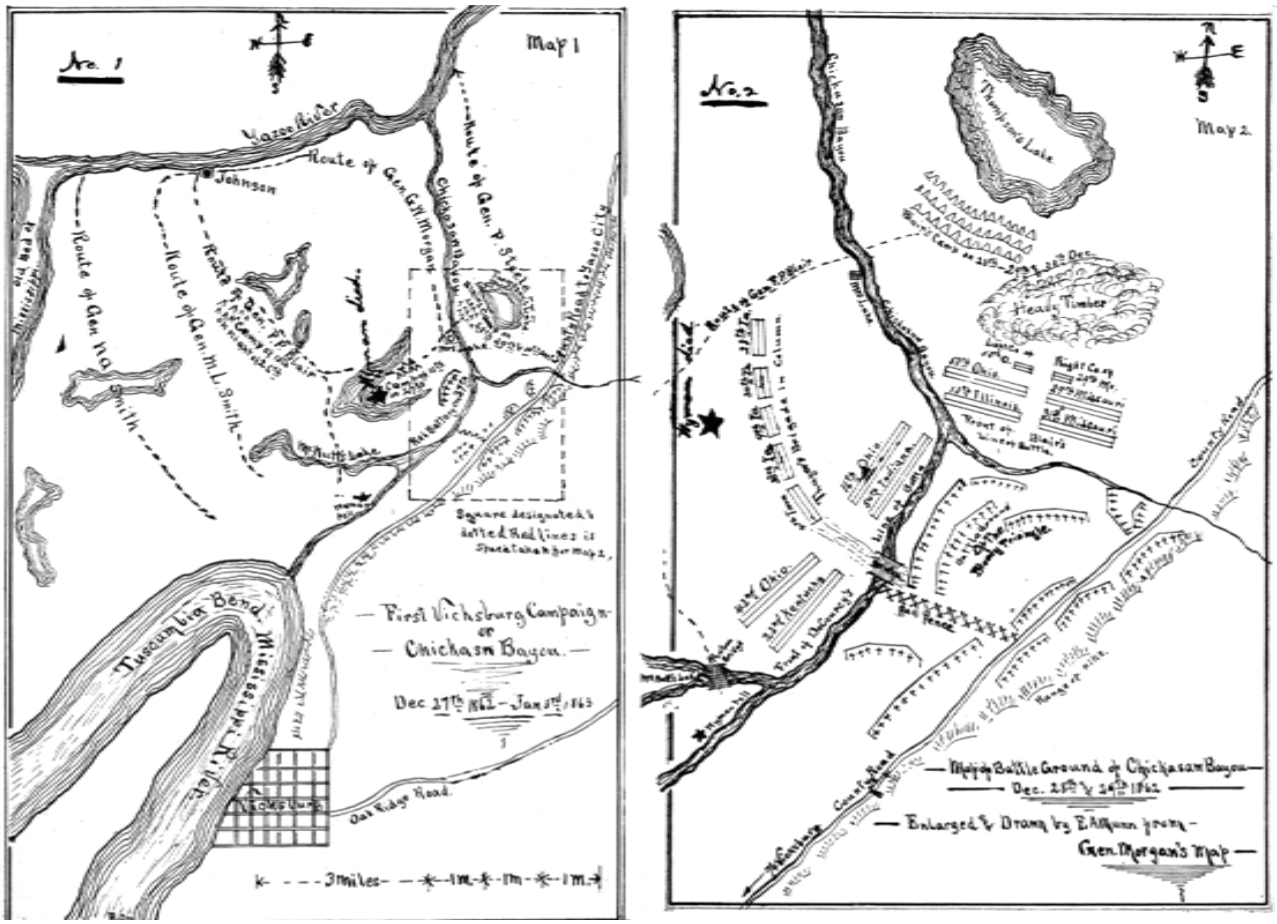


FIGURE 15. Map of the Battle of Chickasaw Bayou.

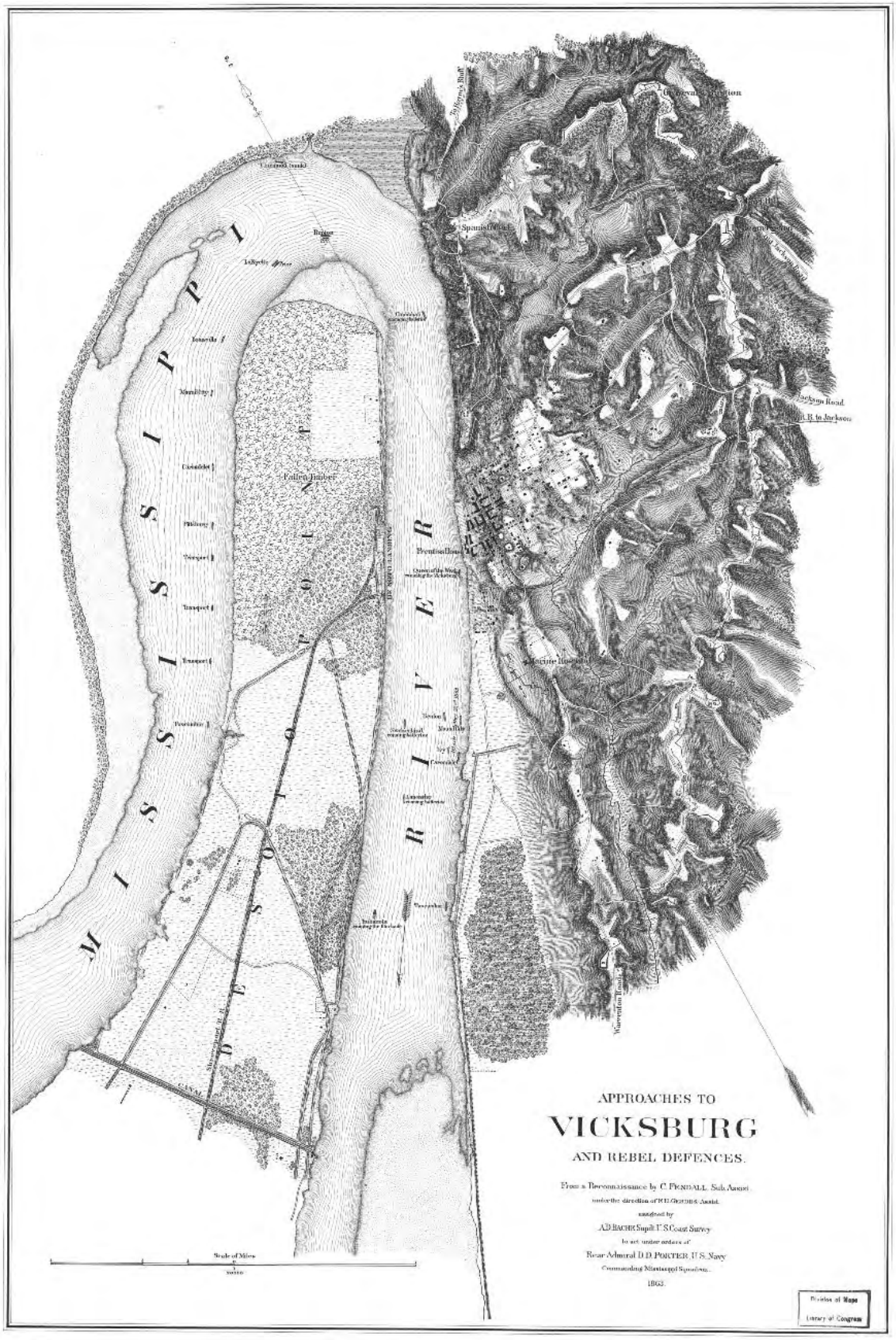


FIGURE 16. U.S. Coast Survey map of Vicksburg and vicinity, 1863, showing gunboats and the canal across the De Soto Peninsula.

A previous attempt by Gen. Thomas Williams to dig a canal at this location in 1862 failed due to low water and disease. In a letter to General Halleck of February 18, 1863, Grant described the canal work (Fig. 17):

> The work upon the canal here is progressing as well as possible, with the excessively bad weather and high water we have had to contend against. Most of the time that troops could be out at all has been expended in keeping water out of our camps. Five good working days would enable the force here to complete the canal 60 feet wide, and of sufficient depth to admit any vessel here. Judging from the past, it is fair to calculate that it will take from ten to twelve days to get those five days. [27]

A canal would have allowed Federal troops to bypass the bend in the river and the Confederate batteries above, and thus to approach Vicksburg from the south. By late March, however, the work was abandoned, due in part to fluctuations in the water level. Instead, the Federal gunboat fleet, under the command of Rear Admiral David Dixon Porter, was forced to run the batteries at Vicksburg on the night of April 16, 1863.

Despite losses and problems with the canal efforts, Grant persevered, either for diversionary purposes or in a genuine attempt to find a route for movement of troops by water. Grant's engineers also attempted to provide access from Lake Providence, seventy-five miles above Vicksburg on the Louisiana side of the river, to streams leading into the Red River, and then to the Mississippi River south of Vicksburg. This effort, which offered the possibility of moving troops south, and then north to attack Vicksburg, also did not succeed. From March 14–21, Rear Admiral David D. Porter led an amphibious expedition up Steele's Bayou in an attempt to gain the Sunflower River, which led to the Yazoo River above Vicksburg. Porter's flotilla included ironclad gunboats, mortar boats, and tugboats. The expedition had great difficulty with obstructions constructed by

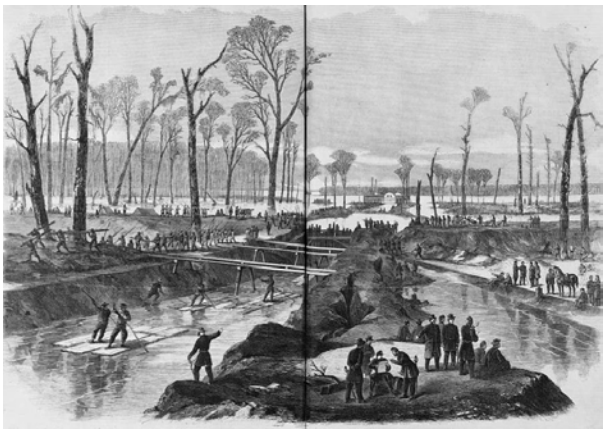


FIGURE 17. Construction of Grant's canal, 1863.

the Confederates as well as trees growing in the bayou, and the fleet eventually had to be rescued.

On March 31, Grant's army began to march down the west side of the Mississippi River to a point below Vicksburg, with the intent of having river transports ferry the men across, despite the Union boats having to run the gauntlet of Confederate defenses at Vicksburg. Grant organized a diversion by Federal troops destroying Confederate supplies at Greenville, Mississippi, to give the impression of action upriver. A further diversion was a successful Union cavalry raid from La Grange, Tennessee, on April 17, to Baton Rouge, Louisiana, on May 2, led by Col. Benjamin Henry Grierson.[28] Federal steamers returning north to Memphis suggested to the Confederates that Grant was pulling back; instead, boats were being moved away from the city to relieve river traffic congestion.

Pemberton doubted rumors that McClernand's corps was moving down the west side of the river, and ignored warnings from John Bowen that the Grand Gulf defenses needed to be protected. By April 17, Pemberton learned that several empty enemy vessels had successfully run the gauntlet of

27. *Official Records of the Union and Confederate Armies*, series I, vol. 14, part I, 18.

28. Pemberton was hampered by a shortage of cavalry and Grierson's raid was extremely successful, capturing more than 3,000 stand of arms, destroying fifty to sixty miles of railroad track as well as Confederate property, and capturing 1,000 horses and mules. See Ballard, *The Campaign for Vicksburg*, 23.

the Vicksburg batteries, but was distracted by Grierson's diversionary raids.

Sherman attacked Snyder's Bluff north of Vicksburg, diverting Pemberton's attention from Grand Gulf, where Union gunboats began an attack on April 29. However, Bowen successfully defended Grand Gulf and Grant had to look farther downriver for a crossing. On April 30, 1863, Union boats began ferrying the 17,000 troops of the XIII Corps ashore at Bruinsburg. The Union troops began marching toward Port Gibson through difficult terrain marked by steep ravines and high ridges. Troops of John Logan's division of James McPherson's XVII Corps were ferried across the river, swelling Grant's force to 25,000 men.

Bowen sent a detachment under Martin Green to Port Gibson to set up roadblocks west of the town, near where roads from Rodney and Bruinsburg converged. At the Battle of Port Gibson, the Confederates were outnumbered more than three to one. Led by Bowen, they fought the larger Union forces and although defeated bought Pemberton valuable time.

Pemberton, shaken by the loss of Port Gibson and Grand Gulf, decided to abandon Port Hudson and move his forces to Vicksburg. However, he received an order from President Jefferson Davis to hold both Vicksburg and Port Hudson. Pemberton wired Franklin Gardner to remain at Port Hudson with 2,000 men, who were later joined by 5,000 reinforcements. On May 21, Nathaniel Banks began siege operations against Port Hudson, with assaults by Federal troops on May 27 and June 11. The federal troops included Louisiana blacks fighting for the Union. The Confederate defenders at Port Hudson did not surrender until July 9, five days after the surrender of Vicksburg.

Grant marched his forces north-northeast, apparently moving toward the Big Black River but actually intending to straddle the Southern Railroad that connected Jackson and Vicksburg. Union forces were followed by supply wagon trains from a beachhead established at Grand Gulf. In response to this movement by Union troops, Pemberton decided to consolidated Confederate troops west of the Big Black River to protect Vicksburg. Despite urging by his officers, he decided not to take offensive action.

William Loring led a retreat from above Port Gibson to the Big Black River at Hankinson's Ferry and, despite the arrival of reinforcements, did not attack McPherson's corps. Anticipating a possible Federal attack on the capital at Jackson, Pemberton sent 3,000 men under Brig. Gen. John Gregg to Raymond. Gregg attacked the vanguard of McPherson's corps, mistakenly thinking that it was a rear guard or screening movement, but was outnumbered and retreated to Jackson. Resistance by Gregg's forces and reports that Joseph Johnston had come to Jackson to assemble an army to aid Pemberton convinced Grant not to turn his army west. Grant decided instead to attack Jackson first before turning to meet Pemberton. Not realizing that reinforcements would have enabled him to hold off Grant until Pemberton could attack the Federal rear, Johnston decided to evacuate Jackson. The Federal assault on Jackson began on May 14, 1863, and with limited Confederate resistance, the city was soon in Federal control.

On May 16, Pemberton received an order to march for Clinton and meet the Confederate forces in Jackson. However, this message was intercepted by a spy and Grant had the opportunity to converge his three corps on Pemberton. Pemberton was concerned about leaving Vicksburg without proper defenses and decided to march southeast toward Grant's supply line. This movement kept the main Confederate army between Vicksburg and McClernand's forces and also allowed Pemberton's forces to move back to Edwards if necessary to block any advance from Jackson.

On the morning of May 15, Pemberton attempted to move his forces but supply problems and a flooded creek interfered, and his three divisions made little progress. At dawn on May 16, he received Johnston's message that Jackson had fallen and ordering him to move toward Clinton. Attempting to move his army northwest, Pemberton had to fight with the advancing Union

forces on his front. Bowen's division, led by Francis Cockrell and his Missouri troops, rushed to Champion Hill on May 16, and successfully crashed through Hovey's brigades, threatening the right wing of Grant's army. Having no reserves, Bowen had to retreat, while pressure from McClernand's troops caused Pemberton to retreat. Loring's division held long enough for Bowen's and Stevenson's divisions to escape across Bakers Creek to their Big Black River entrenchments. Loring, concerned that he might be cut off by advancing Union troops, led his division south and then northeast toward Jackson, where he met Johnston. Pemberton's troops numbered 23,000, Grant's 32,000; Confederate losses were 3,800 and Union losses 2,400 in this fighting.

Champion Hill was the decisive battle of the Vicksburg campaign and one of the most significant of the war. Had Grant lost, he would have been cut off from his base at Grand Gulf and the continued existence of his army would have been threatened. Grant's victory at Champion Hill was critical to his eventual capture of Vicksburg.

On May 17, Grant sent Sherman north of the railroad to cut off Pemberton's retreat, while McClernand moved his troops forward to meet the Confederates where the railroad crossed the Big Black River. McClernand attacked the Confederates on May 17. Pemberton's army escaped with the help of infantry and artillery on the bluffs along the west bank of the river, and with burning of the railroad bridge and a boat that had been used as a bridge. Pemberton retreated to Vicksburg.

President Jefferson Davis had ordered Pemberton to hold Vicksburg, no matter what the cost, while Johnston had ordered Pemberton to escape to the northeast to save his army. When Pemberton reached Vicksburg, he organized his troops with Martin Smith's division on the Confederate left and John Forney's in the center, as these two divisions had been left in Vicksburg and were fresh. Stevenson's division, exhausted from fighting, was placed on the right flank as less likely to receive assault, and Bowen's division was held in reserve. As Union forces approached, Confederate troops burned most of the farmhouses and other structures to create clear lines of fire in front of their defensive lines; the Shirley House was not burned. During the fighting on May 19, 1863, Mrs. Shirley, her son, and two slaves took shelter near the brick chimney.

Grant's three corps followed in pursuit and attempted two assaults. On May 19, Frank Blair, Jr.'s division of Sherman's corps positioned on the right (north) flank of the Federal army, charged against Stockade Redan, which commanded the Graveyard Road approach. This assault was stopped by Confederate fire from Martin Smith's division and the Missourians of Cockrell's brigade. When Union soldiers appeared at the ditches at the base of the redan, defenders rolled cannon balls with timing fuses cut short down into the attackers.[29] The attack on Stockade Redan had failed, and McPherson in the center along the Jackson road and McClernand on the left on the Baldwin Ferry road also made only limited progress.

On May 22, a four-hour Federal artillery bombardment preceded a general assault in which Blair's and James Tuttle's divisions from Sherman's corps led another attack against Stockade Redan, which was unsuccessful, as were attacks against the Third Louisiana Redan and the Great Redoubt, the major Confederate fortification on the Jackson Road. On the Federal left, McClernand's troops were successful in entering the Railroad Redoubt and advanced against the Second Texas Lunette, Square Fort, and South Fort. However, later in the day, Col. Thomas Waul's Texas Legion (attached to Carter Stevenson's division on the Confederate right) retook the Railroad Redoubt and Martin Green led a successful attack to remove Federal forces from in front of the Second Texas Lunette. Union Col. Holden Putman described the effectiveness of the Confederate defenses encountered during the fighting on May 22:

> At 10 o'clock we pushed forward to the crest of the next hill, but were met by a terrible storm

29. Ballard, *The Campaign for Vicksburg*, 47.

> of grape, canister, and musketry, and the ground being almost impassable from gullies, covered by a heavy abatis of fallen trees, underbrush, vines, &c., the whole position enfiladed by the guns of the enemy, the brigade commander ordered a halt for a few moments.[30]

In the attacks of May 19, Grant lost 1,000 men and the Confederates 200, while on May 22, Grant lost 3,200 men and Pemberton less than 500.[31] Following these heavy losses, Grant decided to lay siege to Vicksburg, concluding that "they could not last always."[32]

Grant removed McClernand from command when McClernand took political advantage of the May 22 assault by providing newspapers with accounts of his success. Grant gave corps command to E. O. C. Ord; McClernand was sent back to Illinois but returned to command his corps during the Red River campaign of 1864.

The Siege of Vicksburg

On November 29, 1863, as recorded in the *Official Records of the Union and Confederate Armies*, Captains Frederick E. Prime and Cyrus B. Comstock, U.S. Corps of Engineers, Chief Engineers, Army of the Tennessee, assessed the topography of Vicksburg:

> Perhaps the best idea of the ground around Vicksburg may be obtained by supposing that originally a plateau, having from 200 to 300 feet elevation, here reached the Mississippi; that the fine soil, which, when cut vertically, will remain so for years, has gradually been washed away by rains and streams till the plateau has disappeared, leaving in its place an intricate net-work of ravines and ridges, the latter everywhere sharp, and the former only having level bottoms when their streams become of some size. It has already been said that the soil when cut vertically will remain so for years. For this reason the sides of the smaller and newer ravines were often so steep that their ascent was difficult to a footman unless he aided himself with his hands. The sides of the ravines were usually wooded, but near the enemy's line the trees had been felled, forming in many places entanglements which under fire were absolutely impassable. At Vicksburg the Mississippi runs nearly south, and the streams which enter it from the east run southwest. One such stream enters the river 5 miles below the city, and the dividing ridge which separates two of its branches was that on which the defensive line east of the city was placed. This line on the northern side of the city was on a dividing ridge between two small streams, which enter the Mississippi above Vicksburg.[33]

With the natural topography rendering much of the defensive circle impassable, the Confederate defenders were able to concentrate at key points along the ridgelines, generally at intersecting transportation routes leading to Vicksburg. These key points had been fortified with earthworks. The earthworks included Great Redoubt and Third Louisiana Redan (referred to as "Fort Hill" in Union accounts) at the Jackson Road near the Shirley House; Railroad Redoubt at the Southern Railroad of Mississippi; Stockade Redan at the Graveyard Road; Square Fort (Fort Garrott) and the Salient Work (Horn Work) on Hall's Ferry Road; the Second Texas Lunette; Confederate Fort Hill at the Mississippi River at the north end of the defensive line; and South Fort at the south end of the defensive line.

Maj. Gen. John A. McClernand described the terrain and the Confederate defenses southeast of the city as Union troops prepared for siege:

> Early on the morning of [May] 19th, accompanied by my staff, I made a personal reconnaissance to the brow of a long hill overlooking a creek 2 miles from Vicksburg. This hill runs north and south, and conforms very much to the line of Vicksburg's defenses, in plain view on a similar range a mile west. The creek is called Two-Mile Creek because it is only 2 miles from Vicksburg. Colonel Mudd came very near being shot by one of the enemy's pickets during the reconnaissance.

30 O.R., series I, vol. 14, part II, 67.
31 Ballard, *The Campaign for Vicksburg*, 47.
32 Ibid., 49.
33 O.R., series I, vol. 24, part II, 169.

> The intervening space between these two ranges consisted of a series of deep hollows separated by narrow ridges, both rising near the enemy's works, and running at angles from them until they are terminated by the narrow valley of Two-Mile Creek. The heads of the hollows were entirely open. Nearer their termination they were covered with a thicket of trees and underbrush. At this time the picket and skirmishers of the enemy were in this thicket, watchful to discover and obstruct our advance.
>
> The enemy's defenses consist of an extended line of rifle-pits occupied by infantry, covered by a multitude of strong works occupied by artillery, so arranged as to command not only the approaches by the ravines and ridges in front, but each other.[34]

Pemberton, in Vicksburg, hoped for a joint attack with Joseph Johnston; however, Johnston did not initiate an offensive operation to relieve Vicksburg. Considering his army of approximately 31,000 too small for this effort, he moved slowly toward the Big Black River on July 1, and Vicksburg had surrendered before he arrived near the city. Conversely, Federal reinforcements were sent to Vicksburg and by the time the siege ended, Union forces outnumbered Confederate by a little more than two to one.

The soldiers of Captain Washington Mark's Company, 22nd Louisiana Infantry, were stationed at Battery Barnes (at present-day Louisiana Circle) from May 26, 1863, until the end of the siege on July 4. During this time the battery was equipped with a 10-inch Columbiad, a weapon with enough power to reach the river. To facilitate observation and a clear field of fire, the landscape around the fortification was generally cleared of trees. The elevated position of the fort afforded long, expansive views of the landscape in all directions.

South Fort was manned by the 1st Louisiana Artillery and infantrymen of the 40th Georgia Infantry. Two 12-pounder howitzers were emplaced to guard Warrenton Road (current-day Washington Street), while a 10-inch Columbiad and a 10-inch mortar faced the river. In general, the guns associated with South Fort were involved in several exchanges with Federal naval vessels and land-based artillery, particularly after guns were stationed at Battery Benton by the Union forces on July 1, 1863. The 10-inch mortar is said to have "wreaked havoc on the Union siege lines, until the gun was moved to a different position within the Southern lines" in mid-June.[35] The mortar was later returned to the fort for the final five days of the siege.

During the latter part of the siege, South Fort experienced heavy artillery fire. Herron's Division of the Union army began to assault the fort in mid-June 1863, and in the coming weeks the Union army assembled guns south of South Fort along the ridge at a location that would be known as Battery Benton (present-day Navy Circle). By the beginning of July 1863, the Union army and navy had coordinated their fire against South Fort. Shortly after, the walls of the fort began to disintegrate.

Soon after the siege began, Pemberton selected one of the city's mansions to house his headquarters. Known at the time as "Mrs. Willis's House," the building was constructed by William Bobb in 1835–1836 in the Greek Revival style and owned by her son John Willis, a descendant of Vicksburg's founder, Reverend Newit Vick. The house was sited on the bluffs, close to the city's commercial and government center.[36]

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34. O.R., series I, vol. 14, part I, 153.

35. National Park Service, "South Fort," <www.nps.gov/vick/historyculture/southft.htm> (accessed April 29, 2008).
36. During the establishment of Vicksburg National Military Park, Union and Confederate veterans, who lobbied Congress from 1895–1899 for preservation of important sites of the campaign and siege sought to include the house in the park's enabling legislation. The legislation focused the park's mission on the then-rural battlefield, although it did provide for placement of a memorial plaque at the headquarters site. In 1890, the house was sold to Mary Frances Cowan, and was thereafter known as the "Willis-Cowan" house. In 1919, executors of Mrs. Cowan's estate sold the house to the Sisters of Mercy, whose educational legacy

Within the city of Vicksburg, the remaining citizens as well as Confederate soldiers coped with frequent shelling and limited rations. The federal artillery was positioned in a semicircle along the northern, eastern, and southern flanks of the city, and Union gunboats fired shells into the city from the river. Citizens cut caves into hillsides and lived there during the siege, bringing furnishings and candles to make the caves more habitable. The residents of Vicksburg attempted to carry on normal life between shellings, and a local newspaper continued to be printed, eventually on wallpaper when printing paper was no longer available. As the siege continued, yellow flags were raised over houses being used as hospitals, and many women served as nurses. Diaries of Vicksburg residents including Mary Loughborough and Emma Balfour provide a picture of life in the city. Pemberton was forced to continually cut rations as Grant's army prevented food from reaching the city. Shortages of clean water were a problem for local citizens and Confederate soldiers alike.

Siege operations conducted by Union soldiers included digging a series of protected approach trenches toward the Confederate lines, with the intent of planting mines beneath Confederate fortifications. The soldiers hid behind sap rollers and dug zigzag trenches toward the enemy works.

began in Vicksburg in 1860. Following the war, the religious order returned to its convent at the former Cobb House across from the Willis home. The former Willis home was named "St. Anthony's Hall" and used for school purposes until sold to private concerns in 1973. The house was designated a National Historic Landmark in 1977. In 1990, new Federal legislation expanded the interpretive responsibilities of Vicksburg National Military Park, " . . . to interpret the campaign and siege of Vicksburg from April 1862 to July 4, 1863, and the history of Vicksburg under Union occupation during the Civil War and Reconstruction." This compelled the park to consider acquisition of the Willis-Cowan House and its operation as a visitor contact facility, which was authorized by new legislation in 2002. On October 18, 2003, the National Park Service acquired the house (Joseph A. Oppermann - Architect, P.A., *Vicksburg National Military Park, Pemberton's Headquarters (Willis-Cowan House) Historic Structure Report*, May 2005).



FIGURE 18. Shirley House during the siege, showing Union "shebangs" or dugouts.

Federal engineers made efforts to break through the Confederate lines with thirteen approaches.

One of the offensive field positions established by the Union army during the siege was Battery Benton, now within the present-day Navy Circle parcel. Constructed and completed in June 1863 on a knoll approximately 900 yards south of South Fort, Battery Benton was part of numerous efforts by the Union army to assault South Fort at the southern end of the Confederate defensive line.

At first Union forces utilized 32-pounder smoothbore guns to attack South Fort, but later two 42-pounder rifles were employed after the original guns proved ineffective. The more powerful rifles proved successful, and the combined fire from the battery and gunboats in the river helped cause the deterioration of the walls at South Fort.

As shown in Fig. 18, the Union forces created a network of "shebangs" or dugouts on the slope southeast of the Shirley House. The term "shebang" can refer to any type of temporary shelter built by soldiers. At the Shirley House site the shebangs consisted of small pit-like excavations enhanced by wood plank walls and roofs. The approach on the Jackson Road, known as Logan's Approach, was one of the main objects of the Union commanders:

> This was the approach in front of McPherson's corps, on which most work was done. It

> followed the ridge along which the Jackson road runs, and approached a high, commanding salient, called by us Fort Hill, which, if once in our possession, would have made this part of the enemy's line untenable.[37]

On June 25, as Union soldiers dug a tunnel under the Third Louisiana Redan on Jackson Road, the sound was heard by the Confederates within; in response, Major Samuel Lockett quickly had a line of secondary trenches constructed to the rear of the redan. The Union forces exploded a mine containing 2,200 pounds of powder in the tunnel, creating a crater twelve feet deep and fifty feet across, but the Confederates successfully repulsed the Forty-fifth Illinois Infantry charge through this opening. The explosion on July 1 severely damaged the redan but no attack followed.

In response to Federal efforts, Confederate engineers maintained countermining activities. Confederate counterattacks included sinking of the Union ironclad *Cincinnati*. On June 7, Major John Walker's Texas Division attacked Milliken's Bend and Young's Point in Louisiana, in an attempt to bring relief to Vicksburg. At Milliken's Bend, Walker's forces withdrew after savage fighting with black troops, and Confederates met with defeat at Helena, Arkansas, on July 4.

The Surrender

By the beginning of July, Pemberton felt that he could do no more to save Vicksburg. Recognizing that no support would come from Jackson or from Confederate troops in the Trans-Mississippi states, Pemberton may also have been influenced by a letter signed "Many Soldiers," ostensibly written by his troops, suggesting surrender so that they would not have to desert. Pemberton met with his four division commanders: Major Generals Carter L. Stevenson, Martin Luther Smith, John H. Forney, and John S. Bowen; the commanders were unanimous in their conclusion that the exhausted troops could not be successfully evacuated. Pemberton thought that better terms could be negotiated by offering to surrender on the Fourth of July. On July 3, 1863, he told his division commanders: " . . . my own preference would be to put myself at the head of my troops and make a desperate effort to cut our way through the enemy . . . But my duty is to sacrifice myself to save the army which has so nobly done its duty to defend Vicksburg. I therefore concur with you and shall offer to surrender this army on the 4th of July."[38]

On July 3, Pemberton opened surrender negotiations with Grant, offering an armistice for several hours to arrange for the surrender. As at Fort Donelson, Grant demanded unconditional surrender; Pemberton refused and demanded terms. Gen. John Bowen, a neighbor of Grant's in St. Louis before the war, and although dying of dysentery, undertook the mission of carrying the message to Grant in hopes that his friendship would assist in the negotiations. At 3:00 p.m., Lieutenant General Pemberton, accompanied by General Bowen and Col. Louis M. Montgomery, met with General Grant, his staff, and Generals E. O. C. Ord, James McPherson, John Logan, and A. J. Smith under a tree only 200 feet from the Confederate trenches. Terms were reached in which the soldiers were required to give up their arms but were paroled, allowed to go free if they promised not to fight until exchanged on a one to one basis with Federal prisoners, while officers were allowed to retain their side arms, clothing, and one horse. Grant likely made the decision to agree to these terms based on the practical difficulties of transporting 30,000 soldiers to Cairo, Illinois, as prisoners, many of whom were from the southwest and if released, would go home or north to find work until the war ended. After midnight on the morning of July 4, 1863, Pemberton sent Grant a message accepting the terms of surrender. On July 4, Federal soldiers marched into Vicksburg along the Jackson Road to

37. O.R., series I, vol. 24, part II, 173.

38. National Park Service ". . . to catch the rabbit . . . ." <http://www.nps.gov/vick/forteachers/sitebulletins.htm> (accessed September 17, 2007).

the Warren County Courthouse, and Confederate soldiers stacked their arms.[39]

After the Vicksburg campaign, Pemberton accepted a reduction in rank in 1864 and served the rest of the war in the eastern theater. Johnston assumed command of the Army of Tennessee in 1864, was relieved by Davis during the Atlanta campaign, and returned to lead that army during the closing months of the war in North Carolina. John Bowen died of dysentery shortly after the siege. As a result of the campaign, Grant became a national hero. Following the Union victory at Chattanooga, he became commander of all Union forces and led the Federal army to triumph over Robert E. Lee in Virginia. In 1868, he was elected President. Sherman became famous following his Georgia campaign of 1864, the capture of Atlanta and the "march to the sea," and further victories in North Carolina. After the war he succeeded Grant as general of all U.S. armies.

On July 9, 1863, the Confederate defenders at Port Hudson, Louisiana, surrendered, and Union control of the Mississippi River was uncontested. In a letter to James C. Conkling on August 26, 1863, President Lincoln wrote, "The Father of Waters again goes unvexed to the sea."[40] On April 9, 1865, Gen. Robert E. Lee surrendered to Gen. Ulysses S. Grant at Appomattox, Virginia, and the Civil War ended.

Commemoration in the Nineteenth Century

In 1867, a military government was established in Mississippi after the reconstructed government of Mississippi was rejected by the U.S. Congress. In the following year, the state's first biracial constitutional convention drafted a constitution protecting the rights of freedmen (ex-slaves) and punishing ex-Confederates; this constitution was rejected by the voters. In 1869, under the leadership of James L. Alcorn, Mississippi ratified a constitution that did not require punishment of ex-Confederate soldiers. On February 23, 1870, Mississippi was readmitted to the Union and civil government was gradually restored under Governor Alcorn.

The construction of fortifications, the campaign, and the siege of Vicksburg greatly affected the landscape of the city and its surroundings. Trees were cut, buildings were burned, farmland was dug up, and even the topography of the area was altered. Immediately after the surrender, Mary Loughborough, a Vicksburg resident, described the battle-ravaged landscape:

> On the hill above us, the earth was literally covered with fragments of shell—Parrott, shrapnel, canister, besides lead in all shapes and forms, and a long kind of solid shot, shaped like a small Parrott shell. Minie balls lay in every direction, flattened, dented, and bent from the contact with trees and pieces of wood in their flight. The grass seemed deadened--the ground ploughed into furrows in many places; while scattered over all, like giants' pepper, in numberless quantity, were the shrapnel balls.[41]

For the remainder of the Civil War and into the Reconstruction period, Vicksburg was occupied by Union troops. The city began the slow process of recovery. In 1866, *Harper's Weekly* described Vicksburg:

> The sketch is made from a hill once the site of a Spanish fort, and during the siege of Vicksburg, a portion of the Confederate line of defenses. Prominent is the Court-house, still showing the marks of the peppering it got from the Yankees. Below the left facade is the house, formerly a bank, now headquarters of the Freedmen's bureau. To the right is a flag-staff and a fort, the highest in the line, and where "Whistling Dick"—a gun well known to the Union army—had its eyrie. Another flag-staff, away to the left of the picture, shows the headquarters of the commander of the Department, that fine old warrior, General Wood. Negro-huts dot the middle distance,

39. Ibid.
40. President Abraham Lincoln, letter to James C. Conkling, August 26, 1863, in *Collected Works of Abraham Lincoln* 6 (Piscataway, New Jersey: Rutgers University Press 1953, 1990), 409.
41. Risk, *Draft Cultural Landscape Report*.

> while to the right the river stretches off into the distance, showing a little of the opposite shore, where Grant camped a large portion of his army and tried to make a canal.
>
> The trees and gardens of Vicksburg give it a delightful appearance. Choice flowers and shrubs flourish almost spontaneously, blossoming even through the winter. As it rained all the time I was there I can testify to the superior capabilities of the soil in the matter of mud. At other times the inhabitants say the dust is unbearable, which, indeed, is the case in all the Mississippi towns and cities. Capacious culverts are there to carry off the water, but for all that it cuts ravines through the roads, and occasionally renders the streets impassable. One block from the Washington Hotel there was a gully cut through the street by the rain, ten or twelve feet deep. The Post-office and a number of stores and houses were flooded by leaky roofs, without, however, disturbing the equanimity of the owners to any degree.[42]

With the protective tree and vegetation cover disturbed by the fortifications and siege, ridgetop fields began to erode by water and wind. Sides of ravines were scarred with gullies, while major ravines filled with silt that remained wet and boggy. These ravines grew into dense canebrakes, with slopes between bottoms and open fields at top covered with tangled scrub.

Before the war had ended, commemorative efforts were underway on the battlefield. On July 4, 1864, on the first anniversary of the surrender, a small stone obelisk was placed to mark the site of the surrender interview between Pemberton and Grant. The oak tree that had been located on the site of the surrender was apparently lost to souvenir-seekers.[43] The monument was described in the local newspaper prior to its completion:

> At present there is simply a square base, surmounted by an ornamental ball of marble, surrounded by masonry protected by Roman cement and an iron fence of simple but appropriate design. Lying outside the fence is a square white marble obelisk about eight feet long on which is the following inscription:
>
> Place of Interview
> --Between--
> Maj. Gen. U. S. Grant, U. S. A.
> --And--
> General Pemberton,
> July 3d, 1863
>
> When the obelisk is placed on its base, surmounted by the ornamental ball, it will present a very neat appearance, and will be about fourteen feet high.[44]

The stone obelisk marker was surrounded by a low decorative iron fence (Fig. 19). The obelisk was damaged by visitors who removed pieces of stone from its shaft; consequently, it was removed to the Cherry Street Railroad Station in 1867; to the "Indian mound" in the Vicksburg National Cemetery in 1868; and finally to the visitor center after 1970. An upright cannon tube engraved with a commemorative inscription was erected in the late 1860s to mark the site of the surrender interview.



FIGURE 19. The Surrender Interview Site Monument in 1865.

42 Alfred R. Waud, "Pictures of the South: Vicksburg."
43 Risk, *Draft Cultural Landscape Report*.
44 *Vicksburg Daily Herald*, June 15, 1864.

A significant change to the postwar landscape occurred in 1876, when a flood diverted the Mississippi River from its channel. The river had curved in a sharp bend at the northern edge of the city, but the new course cut off the northern portion of De Soto Point and met the bluffs south of the city. As a result, Vicksburg was no longer located adjacent the main channel of the river. A diversionary canal was built in the early 1900s from the Yazoo River into the former channel of the Mississippi River to reestablish Vicksburg as a port. The abandoned oxbow bend was named Lake Centennial.[45]

The National Cemetery

The first national cemeteries established by Congress in 1862 were created to provide a burial place for soldiers who died in the service of the country, a provision applicable only to Union war dead. The first established unit of what would become the national cemetery system was the soldiers' cemetery at Gettysburg, laid out by the State of Pennsylvania in 1863. On Christmas Day 1863, Maj. Gen. George H. Thomas ordered the establishment of a national cemetery at Chattanooga. Orders to establish a national cemetery at Stones River were issued in 1864. Beginning in 1867, the federal government established twenty-six national cemeteries on or near Civil War battlefields. The national cemeteries became central to memorial services, first with the holiday known as Decoration Day, which initially recognized the Union dead, and later became Memorial Day.

On April 12, 1866, the Vicksburg National Cemetery was established by Congress. Land for the cemetery was acquired on August 27, 1866, and interments had begun by February 1867.[46] As lands on which fighting occurred were put back into cultivation, bodies of soldiers were discovered and public outcry helped hasten establishment of the cemetery. Covering 110 acres, the cemetery at Vicksburg was constructed on land that was occupied by Union forces during the siege. It was constructed in descending terraces to accommodate the sloping site and the unstable loess soils.

During the Civil War, soldiers who died from wounds or disease were typically buried close to where they died, with their graves marked with a name etched on a wooden board. After the creation of Vicksburg National Cemetery, extensive efforts were made by the War Department to locate the remains of Union soldiers originally buried in Arkansas, Louisiana, and Mississippi in areas occupied by Federal forces during the campaign and siege. By the time of these re-interments many of the wooden markers had been lost to the elements and it was impossible to identify the soldiers. Following the Civil War, the U.S. Army re-interred the remains of 300,000 Union soldiers buried in the South in national cemeteries throughout the country.[47] The cemetery at Vicksburg holds the remains of 17,000 Union soldiers, the largest number of any national cemetery, of whom almost 13,000 are unidentified. The original entrance to the cemetery was from the riverfront road (Washington Street/Old U.S. Highway 61), which led to the southwest corner of the cemetery. At this entrance, a masonry archway was constructed. This archway still exists but is closed to vehicular access. Other burials in the cemetery include 1,300 veterans of later conflicts, veterans who served during peace time, former cemetery superintendents and their families, wives and children of veterans, government workers, and a few civilians.

Confederate dead from the siege of Vicksburg were buried behind Confederate lines, mostly in the Vicksburg City Cemetery (Cedar Hill Cemetery), in an area called "Soldiers' Rest." Approximately 5,000 Confederates soldiers are believed to be buried there, of whom 1,600 are identified.

45. Risk, *Draft Cultural Landscape Report*.
46. National Park Service, Statement for Management: Vicksburg National Military Park (1990), 4.
47. National Park Service, "Cemetery History" <http://www.nps.gov/vick/historyculture/cemhistory.htm> (accessed September 17,2007).

A permanent enclosing wall was constructed around the cemetery in 1874, with work completed within one year.[48] In 1883, the Gardener's Cottage was constructed in the Vicksburg National Cemetery.[49] The maintenance building was constructed in the 1930s.

Vicksburg National Cemetery was under the jurisdiction of the War Department until 1933, when administration was turned over to the National Park Service. When the last cemetery superintendent, Randolph G. Anderson, retired in 1947, supervision of the cemetery became the responsibility of the superintendent of Vicksburg National Military Park.

Vicksburg National Cemetery has been closed for burials since May 1961, except to those individuals who had reserved space for interment prior to that time.

The Hebrew Cemetery

The "Hebrew" Cemetery, also known as Anshe Chesed Cemetery, is located adjacent to Temple Anshe Chesed at the eastern end of Grove Street, where the street ends in the battlefield near the visitor center. The cemetery was established in 1864, when on August 23, the parcel of land was deeded to the Board of Trustees of Anshe Chesed Congregation for the purpose of establishing a burying ground. Shortly thereafter, bodies were removed from the old cemetery, the site of which is unknown, and re-interred in the cemetery. The first burial in the present cemetery most likely took place in May 1865, when a man named Mayer was buried in grave No. 1.[50] The land for the cemetery was sold to the Jewish community by the Kiersky family. The cemetery is sited where the Second Texas Lunette fought Union forces during the siege of Vicksburg.[51] Two rabbis are buried in the cemetery, one of whom is Bernard Gotthelf, a chaplain for Union soldiers, who died in the 1878 Yellow Fever epidemic while ministering to the community. Six Jewish Confederate veterans are buried there, including Philip Sartorious, the first Confederate soldier wounded in the siege.[52]

Commemoration prior to Establishment of the Park

In 1887, the Louisiana Monument on Monroe Street was dedicated in a ceremony during a reunion of veterans of Louisiana and Mississippi. In a speech during the dedication, the Honorable Thomas Martin Marshall revealed the strong impulse toward forgetfulness and redemptive commemoration:

> Let the name of those who fell be inscribed on the honor roll of those devoted men, who, in all ages and in every clime regardless of selfish considerations, untrammelled by custom, have burst the shackles of political law and immolated themselves upon the altar of liberty, of those who succeeding, are hailed as heroes failing are mourned as martyrs.
>
> Their gallantry told in story and sung in song shall animate rising generations in time of our country's need (which may kind Heaven long avert) to emulation in a happier cause. Their bravery, imperishably linked with that of their more fortunate foes, shall be, to succeeding ages, a common heritage of pride.[53]

The movement toward sectional reconciliation that marked the 1880s and 1890s, as expressed in joint reunions of Union and Confederate veterans, focused on battlefield bravery and sacrifice. These

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48. Richard Meyers. *The Vicksburg National Cemetery: An Administrative History,* 1968.
49. Statement for Management, 14.
50. Information provided by Virginia DuBowy, Vicksburg National Military Park. The old cemetery may have been located on the site of the present-day Grove Street School.
51. International Association of Jewish Genealogical Societies - Cemetery Project, <http://www.jewishgen.org/cemetery/northamerica/miss.html>. This web site lists sources for information about the cemetery, including a listing of burials for the 500 to 1,000 graves. Also, the web site notes that Congregation Anshe Chesed documents exist in the American Jewish Archives, 3101 Clifton Avenue, Cincinnati, Ohio 45220-2488; telephone 513-221-1875. Anshe Chesed is listed as dating from 1841 in the National Register of Historic Places.
52. Source: Larry Brook, editor, deepsouthjewishvoice.com [May 2005]
53. Meyers, Chapter 2, page 6.

memorials did not recognize the contributions of black Americans during the war.[54] Confederates participated in reunions after 1880, and in 1888, a watershed gathering of both Union and Confederate veterans occurred at the twenty-fifth anniversary of the Battle of Gettysburg.

In May 1890, a week-long reunion of Union and Confederate troops occurred at Vicksburg, with a parade, fireworks, concerts, and visits to various battlefield sites and the national cemetery. The veterans also attended the decoration of Confederate graves in the city cemetery at Cedar Hill. No monument to the Confederate dead had yet been established at Cedar Hill, and the battlefield was unmarked, encouraging support among the veterans to preserve and mark the important battlefield sites.

Creation of the Park

In the North, several veterans' organizations formed in the wake of the national cemetery movement. The largest and most influential of these was the Grand Army of the Republic (GAR), founded in Springfield, Illinois, in 1866. From 25,000 members in 1877, the organization grew to 409,000 members by 1890 and offered benefits including funeral services for members and admission to old soldiers' homes run by the organization.[55] Numerous other veterans' groups consisting of Union and Confederate veterans also appeared in the decades following the war. In the South, these included the Southern Historical Society, founded in 1869 by veterans including Gen. Braxton Bragg; the Association of the Army of Northern Virginia (AANV), founded in 1870; and the Association of the Army of Tennessee, founded in 1871. Several local women's groups banded together to form the United Daughters of the Confederacy (UDC) in September 1894.

The GAR was involved in preservation of the Gettysburg battlefield as a memorial to the men who fought in the battle, and also in preserving the battlefield of Vicksburg.[56] The Societies of the Army of the Cumberland and the Army of the Tennessee also urged the creation of parks, the former to preserve the battlefields of Chickamauga and Chattanooga and the latter to preserve the battlefield of Shiloh. A bill was submitted in early 1890 to create a national park at Chickamauga and Chattanooga that would mark the lines of both sides and interpret the tactical aspects of the battles with strategically placed observation towers. These two clashes engaged troops from every Southern state, eighteen Northern states, and involved famous generals as commanders on both sides. Realizing the national significance of the battlefield, Congress established a national military park at Chickamauga and Chattanooga on August 18, 1890, two years after the Gettysburg reunion. Congress later passed legislation that created national military parks at Antietam in 1890, Shiloh in 1894, and Gettysburg in 1895.[57]

In 1895, the Vicksburg National Military Park Association was formed to promote congressional designation of a park at Vicksburg. Initial association members included John F. Merry, Lt. Gen. Stephen D. Lee, Maj. L. C. Davidson, Capt. William T. Rigby, and Col. Charles C. Flowerree. All except Flowerree were veterans of the Vicksburg campaign.[58] On February 21, 1899, President William McKinley signed into law an Act to establish a national military park to commemorate the campaign, siege, and defense of Vicksburg.

54 James M. Mayo, *War Memorials as Political Landscape* (New York: Preager Publishers, 1988), 256.

55. Wallace E. Davies, *Patriotism on Parade: the Story of Veterans' and Hereditary Organizations in America, 1783 –1900* (Cambridge, Massachusetts: Harvard University Press, 1955), 31 –35.

56. Ibid.

57. Sean M. Styles, *Stones River National Battlefield Historic Resource Study* (Atlanta, Georgia: Cultural Resources Division, Southeast Regional Office, National Park Service, 2004), 62, citing John C. Paige and Jerome A. Greene, *Administrative History of Chickamauga and Chattanooga National Military Park* (Denver: National Park Service, Denver Service Center, 1983), 9–10.

58. Risk, *Draft Cultural Landscape Report*.

The enabling legislation for a national military park at Vicksburg states:

> . . . in order to commemorate the campaign and siege and defense of Vicksburg, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and were carried on, the battlefield of Vicksburg, in the State of Mississippi, is hereby declared to be a national military park whenever the title to the same shall have been acquired by the United States and the usual jurisdiction over the lands and roads of the same shall have been granted to the United States by the State of Mississippi; . . . that is to say, the area enclosed by the following lines, or so much thereof as the commissioners of the park may deem necessary, to wit: Beginning near the point where the graveyard road, now known as the City Cemetery road, crosses the line of the Confederate earthworks, thence north about eighty rods, thence in an easterly direction about one hundred and twenty rods, thence in a southerly direction, and keeping as far from the line of the Confederate earthworks as the purposes of the park may require and as the park commission, to be hereinafter named, may determine, but not distant from the nearest point on said line of Confederate earthworks more than one hundred and sixty rods at any part, to a point about forty rods south and from eighty to one hundred and sixty rods east of Fort Garrott, also known as the "Square Fort;" thence in a westerly direction to a point in the rear of said Fort Garrott, thence in a northerly direction across the line of the Confederate earthworks and to a point about two hundred feet in the rear of the said line of Confederate earthworks, thence in a general northerly direction, and at an approximate distance of about two hundred feet in the rear of the line of Confederate earthworks as the conformation of the ground may require, to the place of beginning. This to constitute the main body of the park. In addition thereto a strip of land about two hundred and sixty-four feet in width along and including the remaining parts of the Confederate earthworks, namely, from the north part of said main body of the park to and including Fort Hill or Fort Nogales on the high hill over looking the national cemetery, and from the south part of said main body of the park to the edge of the bluff at the river below the city of Vicksburg; and also in addition thereto a strip of land about two hundred and sixty-four feet in width, as near as may be, along and including the Federal lines opposed to the Confederate lines here-in and above named and not included in the main body of the park; and in further addition thereto such points of interest as the commission may deem necessary, for the purposes of the park and the Secretary of War may approve; . . . the whole containing about one thousand two hundred acres, and costing not to exceed forty thousand dollars.[59]

The enabling legislation called for the restoration of the forts and lines of fortifications, and marking of the lines of battles and other points of interest with tablets. The legislation also gave authority to any State that had troops engaged in the campaign, siege, or defense of the city of Vicksburg from March 29 to July 4, 1863, to erect monuments and markers in memory of its soldiers. The legislation further specified that the Secretary must approve the location, design, and inscription of all memorials placed upon the battlefield.

The Secretary of War was authorized to acquire title to land through purchase or leasing, and to detail an officer of the Engineer Corps of the army to assist the commissioners in establishing the Park. Lessees were required to "cultivate their present holdings upon condition that they will preserve the present buildings and roads and the present outlines of field and forest, and that they will only cut trees or underbrush under such regulations as the Secretary of War may prescribe, and that they will assist in caring for and protecting all tablets, monuments, or such other artificial works . . . ."[60]

Further, the Act established a commission of three members, to be appointed by the Secretary of War, each of whom had served at the time of the siege and defense. Two of the commissioners were to have served in the Union army and one in the Confederate army. The commissioners were to elect a chairman as well as a secretary/historian, to

59. 30 Stat. 841.
60. Ibid.

have offices in Vicksburg or within the park. The duties of the commissioners were outlined as follows:

> . . . to restore the forts and the lines of fortification, the parallels and the approaches of the two armies, or so much thereof as may be necessary to the purposes of this park; to open and construct and to repair such roads as may be necessary to said purposes, and to ascertain and mark with historical tablets, or otherwise as the Secretary of War may determine, the lines of battle of the troops engaged in the assaults, and the lines held by the troops during the siege and defense of Vicksburg the headquarters of General Grant and of General Pemberton, and other historical points of interest pertaining to the siege and defense of Vicksburg within the park or its vicinity; . . . [61]

The 1,200-acre park as established in 1899 encompassed the entire area of the siege and defense lines around the city and included the headquarters site of Union commander Maj. Gen. Ulysses S. Grant. Private property owners within the area to be incorporated into the park were offered life leases and required to "cultivate their present holdings upon condition that they will preserve the present buildings and roads and the present outlines of field and forest, and they will only cut trees or underbrush under such regulations as the Secretary of War may prescribe, and they will assist in caring for and protecting all tablets, monuments, or such other artificial works. . . ."[62]

In 1899, the Secretary of War appointed a commission to oversee the acquisition of land for the park and the placement of roads, monuments, and battle line markers. As required by the enabling legislation, the commission included two Union and one Confederate veterans: Lt. Gen. Stephen D. Lee of Columbus, Mississippi, Capt. William T. Rigby of Mt. Vernon, Iowa, and James G. Everest of Chicago, Illinois. The group chose Lee as the chair of the commission. In the commission's first annual report, prepared in September 1899, the cost for continuing work at the park was estimated:

> . . . for the compensation of three civilian Commissioners, the Secretary, assistant Secretary and assistant to the Commissioner; for clerical and other services, labor, iron gun carriages, monuments, markers and historical tablets, maps and surveys, roads, bridges, restoration of earthworks, purchase and transportation of supplies and materials . . . , Two Hundred and Fifty Thousand Dollars. . . .[63]

An army engineer was appointed to prepare a topographical survey of the park property. The survey work began at South Fort in June 1899. Existing local roadways such as Graveyard Road and Jackson Road were used to define the tour routes to the extent possible. Two new roadways, Union Avenue and Confederate Avenue, were defined, generally following the battle lines during the siege. Re-grading was required to create level roadbeds for these two new routes, and new bridges were built to carry these roadways over the ravines and bayous of the park. With input from veterans, markers and tablets were placed along the battle lines indicating the location of various regiments. A 1903 park plan (Fig. 20) shows the proposed routes for the avenues, as well as the proposed locations of state monuments.

In January 1900, the federal government acquired from the Refuge Oil Company the 1.3 acre site including the remnant fortification that currently makes up the Louisiana Circle parcel. Soon thereafter, the site was developed to accommodate visitors through the construction of a road encircling the remnant fortification and the placing of a tablet, granite monuments, and an artillery piece. In January 1900, the federal government also acquired the 3.7 acre parcel associated with South Fort from Thomasene Woolsey and Mary Hughes. In January 1901, the Federal government purchased a 4.9 acre parcel

61. Ibid.
62. Ibid.
63. Vicksburg National Military Park Commission, first annual report (September 1899), as cited in Risk, *Draft Cultural Landscape Report*.

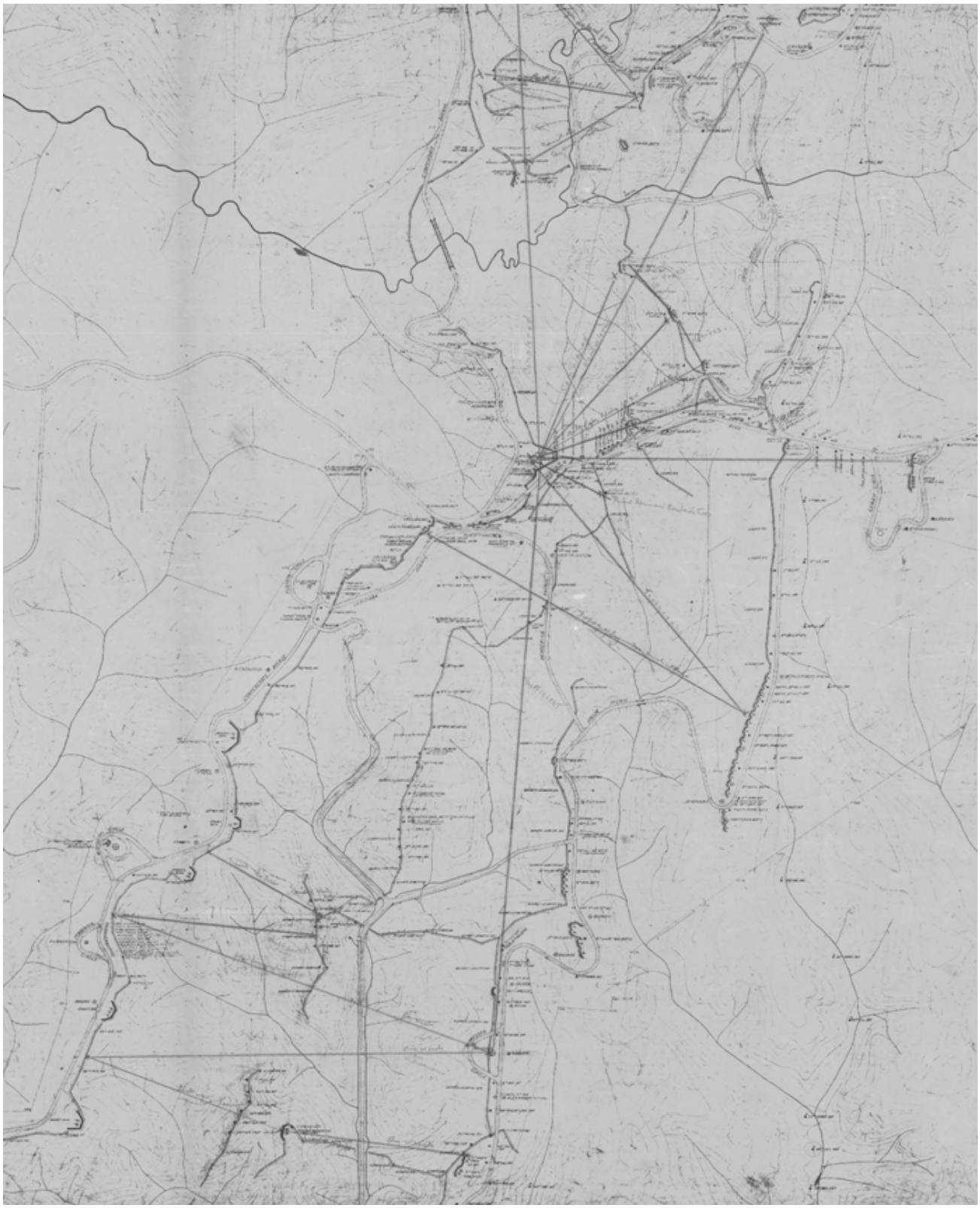


FIGURE 20. An excerpt from one sheet of the 1903 park plan, annotated to show marker locations and sightlines. Refer also to sheet no. 3 in Appendix E.

that included the surviving fortification at present-day Navy Circle from Woolsey and Hughes. At that time, improvements were made to the site and it became a unit of the Vicksburg National Military Park.[64] Soon thereafter, the parcel was developed similarly to Louisiana Circle, with the emplacement of a 42-pounder cannon and a cast iron tablet within the center of a circular hard-packed access road edged by curbing on the uphill side.

One of the few Civil War-era structures to survive in the park was the Shirley House (Fig. 21). During the siege of Vicksburg, the Shirley House (known as the "White House") was used as headquarters for an Illinois regiment. The house served as a smallpox hospital for the Union army during 1864, and fell into disrepair after the Civil War. Alice Shirley Eaton sold the house to the U.S. government in May 1900, on the condition that her parents would be buried in the back yard and that the home would be fully restored. In 1902, restoration work was initiated at the Shirley House. The house later served as a visitor center and residence for park employees, the last of whom left the house in the mid-1960s.

By 1903, the tour roads and bridges were constructed.[65] Also in the early 1900s, three concrete observation towers were built to provide views over the battlefield. The towers were located at Logan Circle, just southeast of the intersection of Union Avenue and Old Jackson Road; on a high mound along Confederate Avenue to the east of Fort Hill; and near the southern end of the Confederate Avenue extension (Fig. 22).

Beginning in 1903, monuments were constructed by states from which troops had served in the battle and siege of Vicksburg (Fig. 23). These included Massachusetts (1903); New Hampshire (1904); Ohio (1905); Pennsylvania, Iowa, and



FIGURE 21. View of the Shirley House, undated photograph, circa 1890s.



FIGURE 22. One of the observation towers erected in the park in the early 1900s.



FIGURE 23. View from the top of the observation tower at Logan Circle, showing the Illinois Monument and the Shirley House, circa 1906.

64. United States Military Reservations, General Act of Cession, copied in *Vicksburg National Military Park: Jurisdictional Compendium* (January 2001). Louisiana Circle is parcel 48, South Fort is parcel 51, and Navy Circle is parcel 107.
65. Statement for Management, 7.

Melan Arch Bridge No. 3
Melan Arch Bridge No. 4
Melan Arch Bridge No. 5

Pennsylvania Avenue
Grant Avenue
Sherman Circle
Union Avenue

Rhode Island
Massachusetts
Pennsylvania
New Hampshire

Yazoo River Diversion Canal

Battery Selfridge

Grant's Headquarters

Thayer's tunnel

26th La. Redan

27th La. Lunette

Fort Hill

Pennsylvania Circle
Kansas Circle
New York Circle

Water Battery

Tennessee Circle

Observation Tower No. 1

Missouri Circle

Graveyard Road

Arkansas Circle

Confederate Avenue

Connecting Avenue

Bridge

Stockade Redan

Green's Redan

Wisconsin

Steel bridge

Bridge

Jackson Road

Illinois

Shirley House

3rd Louisiana Redan

Tilghman Circle

Observation Tower No. 2

Great Redoubt

Surrender Interview Site

Battery De Golyer

Union Avenue

City of Vicksburg

Pemberton Avenue

Mississippi Circle

Mississippi

Melan Arch Bridge No. 2

Confederate Avenue

Johnston Circle

Minnesota

Baldwin Ferry Road

South Texas Lunette

Florida Circle

Alabama-Vicksburg Railroad

Railroad Redoubt

Melan Arch Bridge No. 1

Alabama Circle

Maloney Circle

Iowa

Fort Garrott (Square Fort)

Melan Arch Bridge No. 10

Melan Arch Bridge No. 9

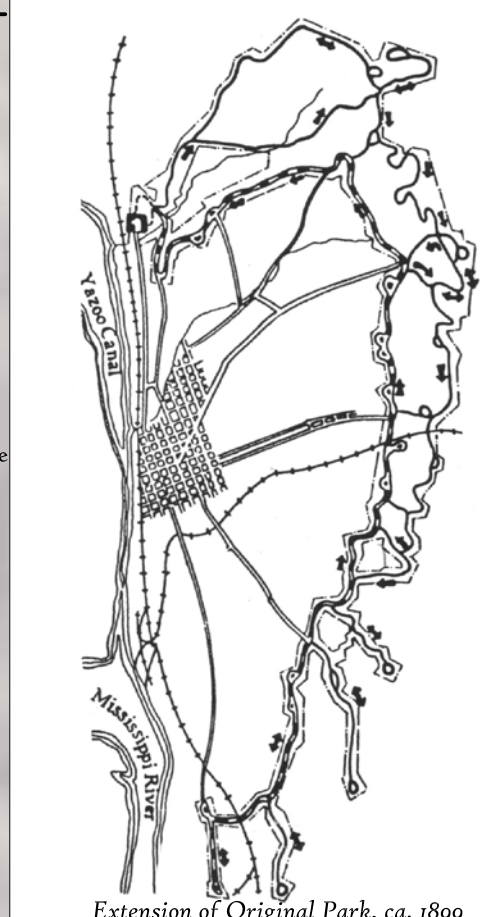
Melan Arch Bridge No. 8

Melan Arch Bridge No. 7

Park extended to river, see map inset.

Tour Stops
1 Battery De Golyer
2 Shirley House
3 Third Louisiana Redan
4 Ransom's Gun Path
5 Stockade Redan Attack
6 Thayer's Approach
7 Battery Selfridge
8 Vicksburg National Cemetery
9 Fort Hill
10 Stockade Redan
11 Great Redoubt
12 Second Texas Lunette
13 Railroad Redbout
14 Fort Garrott
15 Hovey's Approach

Legend
- Current Park Boundary
- Roads
- Railroad
- Stream Corridor
- Confederate Earthworks
- Union Earthworks
- Buildings
- City blocks
- Wetlands
- Eroded or regraded Earthworks



Extension of Original Park, ca. 1899

Source:
Historic American Engineering Record (HAER)
"Vicksburg Military Park Tour Roads," 1997.

Sources: Autocad Base Map
War Department Park Commission Maps
1902 and 1903 Topographic Surveys

Notes:
Ohio State Monuments are in thirty-nine different locations and are not identified here.

Vegetation information not currently available.

Darker modeling represents areas of low and steep topography.

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0 700′ 1400′
SCALE IN FEET

FOR PLANNING PURPOSES ONLY
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Cultural Landscape Report
Vicksburg National Military Park

Historic Period Plans - 1911
Figure 24

Illinois (1906); Minnesota and Virginia (1907); Rhode Island (1908); Mississippi (1909–1912); Wisconsin (1911); Maryland (1914); Michigan (1916); Missouri and New York (1917); Louisiana (1920); West Virginia (1922); North Carolina (1925); Indiana (1926); and South Carolina (1935). In addition, a monument to the Federal Navy was constructed in 1911. Many of these early state monuments had vertical proportions, enabling visitors to see the location marked from a great distance. Also, most if not all of the monuments included circle drives, enabling horse-drawn buggies to drive around all sides of the monument. The character of the park around 1910 is depicted in historic panoramic photographs (Appendix E, Fig. E1 through Fig. E6).

With the creation of the park, the agricultural landscape that characterized the site both before and after the Civil War began to change (Fig. 24). The local newspaper, the *Vicksburg Herald*, described the transformation of the site in September 1906:

> Yesterday General Lee drove over the park with Capt. Rigby. He says that the aspect of the park has greatly improved since last he drove over it. The new tablets and markers have added much to its appearance. General Lee says that there is no military park in the world like it. Some people have wondered why the trees in the park were cut down and others have wondered why rows of trees have been planted along the different lines. The explanation to this is that as far as possible the park is intended to reproduce the conditions and situation of things during the siege of Vicksburg. In order that history should be followed the beautiful to some extent has to be sacrificed. In having the park lines bare of trees there has also been considerable sacrifice of comfort of people who drive over the lines in hot weather.[66]

On July 11, 1920, an Act was approved to appropriate the unexpended balance of an appropriation under an Act of Congress approved September 8, 1916, for the National Memorial Reunion and Peace Jubilee, held at Vicksburg. The unexpended balance of $35,000 was designated to reimburse to Frederick A. Roziene, president of the National Association of Vicksburg Veterans, $3,000, and to provide $32,000 for the design and construction of a memorial archway to the national military park, to be erected at the intersection of Clay Street and the park entrance (Fig. 25). The Act also established a commission of three members to oversee construction of the arch, including the president of the National Association of Vicksburg Veterans, who served in the Union army; the chairman of the Vicksburg National Park Commission; and a resident of the State of Mississippi, who served in the Confederate army.[67]

In 1927, the Vicksburg National Cemetery Superintendent's House was completed, replacing an earlier structure.[68] During the 1930s, agricultural life-estates within the park came to an end. In 1931, the Shirley House was drastically altered by Maj. John T. Harris, new superintendent of the park, to serve as his family residence. Changes to the building included construction of a rear addition, various exterior and interior modifications, and installation of new interior finishes. Shortly after the completion of these modifications, the park was transferred to National Park Service jurisdiction.



FIGURE 25. Unveiling the memorial entrance arch, 1920.

66 *Vicksburg Herald*, Sept., 14, 1906, quoted in Fazio, *Historic Structure Report on the Illinois State Monument in Vicksburg National Military Park*.

67 41 Stat. 104, 129

68 Statement for Management, 14.

Early National Park Service and Civilian Conservation Core Activities

Horace M. Albright, who succeeded Stephen T. Mather as director of the National Park Service in 1929, was instrumental in getting Congress to establish three new historical parks in the east. Albright accompanied President Franklin Roosevelt on a trip to Shenandoah National Park in 1933 and encouraged Roosevelt to place all military parks under the jurisdiction of the National Park Service. On August 10, 1933, under an executive transfer order, the NPS received the War Department's parks and monuments, the fifteen national monuments then held by the Forest Service, and the national capital parks (including monuments and memorials) in Washington, D.C.[69] On August 10, 1933, President Roosevelt signed Executive Order 6166, through which the National Park Service gained jurisdiction over all historic sites, battlefields, monuments, and parks previously administered by the War Department, the Department of Agriculture, and the Office of Public Buildings and Public Parks of the National Capitol.[70]

Much of the development in the national parks in the 1930s occurred through the efforts of the new federal public works agencies established by President Roosevelt to provide unemployment relief and improve public welfare. On March 31, 1933, President Roosevelt signed the Federal Unemployment Relief Act, which provided for emergency conservation work on public lands and created the Civilian Conservation Corps (CCC) to provide work for the unemployed. In mid-May 1933, the National Park Service prepared to open sixty-three camps accommodating 12,600 men to work on national parks and monuments.[71] Projects in the National Parks involved land reclamation and park development, with $40 million allocated by the PWA from 1933 to 1937 to fund road and trail construction, campground development, museum construction, and restoration of historic structures.[72]

> As many as six or seven camps were assigned to the larger national parks at one time [Vicksburg had a total of four camps]. Each was composed of two hundred men involved in work projects that would last six months. . . . As the CCC became more firmly established, these tent colonies were replaced by sturdier wooden structures, such as temporary army barracks and other facilities, arranged in a quadrangle around a parade ground and flagpole. . . . Emergency Conservation Work in the national parks made possible work that the park service had been trying to justify under ordinary appropriations. . . . Work undertaken in the first year included forest improvement projects, construction and maintenance of firebreaks, clearing of campgrounds and trails, construction of fire and recreation-related structures, road and trail building, forest fire suppression, survey work, eradication of exotic or disease-causing plants, erosion control, tree disease control, insect control, campground construction, and general landscape work.[73]

Four Civilian Conservation Corps (CCC) camps were established at Vicksburg. The sites of at least two of these camps remain visible on the park landscape today. The CCC camp sites are indicated on a topographic survey map of the park prepared in 1935 (Fig. 26). By the 1930s, the park was experiencing significant problems from erosion of the fine loess soil. Sections of the tour road and several state monuments were apparently in imminent danger of being undermined by the unstable soil.[74] Between 1933 and 1941, the CCC regraded and planted areas within the park. Other

69. Executive Order No. 6166.
70. Styles, 69. Citing Barry Mackintosh, *The National Parks: Shaping the System* (Washington, D.C.: U.S. Department of the Interior, 1991), 24.
71. Linda Flint McClelland, *Building the National Parks* (Baltimore, Maryland: Johns Hopkins University Press, 1998), 336.
72. Arthur M. Schlesinger Jr., *The Coming of the New Deal* (Boston: Houghton Mifflin, 1959), 284–288.
73. McClelland, 338.
74. Risk, *Draft Cultural Landscape Report*.



FIGURE 26. Detail of a 1935 topographic survey of the park. CCC Camp No. 1 is at center.

CCC activities included road grading and paving, restoration of monuments (Fig. 27), and construction of a new bridge. The severity of the erosion and the degree to which CCC work altered the topography of the park are shown in progress photographs taken during the work (Fig. 28 through Fig. 32).

Typical work included the removal of "undesirable plant growth along park drives, etc., and around commemorative structures," and the "pruning of broken and diseased branches from trees along park driveways and also vista cutting to afford a better view of the historical remains in the park as well as the planting of trees and shrubs for screen and roadside beautification purposes. . . ."[75] Bulldozers were used to reshape eroded hillsides, and concrete lined diversion gutters were created to improve drainage in the park.

The extent to which CCC workers planted new trees and contributed to forestation of the park (other than ornamental tree planting at the park perimeter) is not clearly described in photographs and other documents reviewed during this study. However, 1930s records of the War Department note:

> Vicksburg's military park became the focus of CCC efforts. On April 13, Holt wrote his supervisors asking that a camp of fifty or a hundred men be assigned to Vicksburg. Holt expected the men to plant trees; he argued that since the park was "well laced up with highways," the people would "get a close up view of governmental care of this growing forest."[76]



FIGURE 27. Repairs to the Wisconsin State Memorial, November 14, 1934.



FIGURE 28. View looking west, showing erosion approximately 150 yards northeast of the Missouri State Memorial during clearing and construction of anchor dams, October 11, 1934.



FIGURE 29. The same view as Fig. 28, showing erosion that occurred immediately during and after the clearing work, February 1935.

75. Superintendent's Narrative Report, February 6, 1935, sheet 6 of 19.
76. J. B. Holt, "Reforestation for Vicksburg National Military Park," April 13, 1933, file 688, box 78, Records of the War Department Relating to National Parks, Records of the National Park Service, RG 79, National Archives, College Park, Maryland, cited in Christopher Waldrep, *Vicksburg's Long Shadow: The Civil War Legacy of Race and Remembrance* (Lanham, Maryland: Rowman & Littlefield Publishers, Inc., 2005), 263.



Figure 30. The same view as Fig. 28, showing filling operations, February 1935.



FIGURE 33. During the 1930s, trees and ornamental shrubs were planted along the park boundaries to screen views of adjacent private parcels. Photograph is dated March 17, 1938.



FIGURE 31. Earth grading operations at the same location as Fig. 28, July 18, 1935.



FIGURE 34. Fort Hill showing severe erosion of the hill face, April 1934.

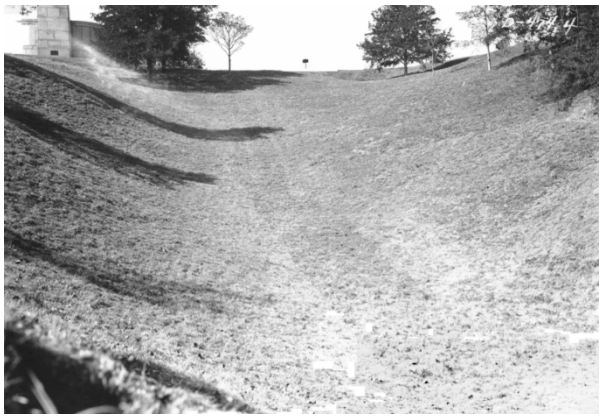


FIGURE 32. The completed filled and regraded slope, November 7, 1935.

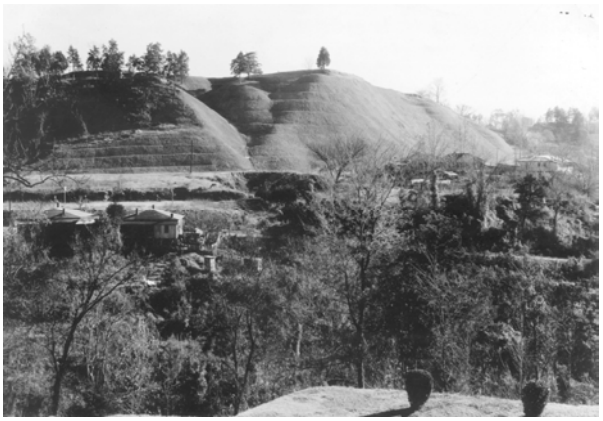


FIGURE 35. Fort Hill after completion of terracing and sodding work, 1937.

Specific CCC and PWA projects involving site work, as documented in photographs taken during the work, included:

- Trees and shrubs were planted between the park tour road and adjacent privately owned properties as screening (Fig. 33).
- In 1934–1935, CCC and PWA crews were filling and sodding at the north side of Graveyard Road near Ohio Circle; at the east side of Graveyard Redan on Confederate Avenue; on the north side of Navy Circle; and northeast of the Missouri Memorial. Crews were also performing repairs to the Wisconsin State Memorial (Fig. 27).
- Between 1934 and 1937, major erosion at Fort Hill was addressed by terracing of the hillside (Fig. 34 and Fig. 35).
- In 1936–1937, erosion control was implemented along the south side of Confederate Avenue, 200 yards west of Graveyard Road, and near Confederate Avenue at the site of the 38th and 37th Mississippi trench lines. These areas were filled and seeded with grass.



FIGURE 36. Terracing and sodding of the hillside along North Confederate Avenue, circa 1936.



FIGURE 37. Erosion of the hillside below the Navy Memorial, circa 1940.



FIGURE 38. Navy Memorial after completion of grading, filling, sodding, and construction of concrete gutters (at right), circa 1940.



FIGURE 39. CCC road grading operations, looking east from Observation Tower No. 1, showing north Confederate Avenue, October 2, 1935.

- Circa 1936, filling and sodding of the hillside was performed on North Confederate Avenue near Tower No. 1 (Fig. 36).

- Circa 1940, filling and sodding of the hillside near the Navy Memorial was performed (Fig. 37 and Fig. 38).

Road and bridge repairs and improvements were performed during the 1930s. As documented in project completion reports, road work included the following projects:

- December 1934–September 1935: Widening shoulders and related work on Confederate Avenue between Jackson Road and Baldwin Ferry Road.

- August 1934–January 1935: Reconstruction of three bridges: two on Union Avenue and one on Confederate Avenue at Glass Bayou.

- August 1935–April 1936: Grading and paving of Confederate Avenue from Graveyard Road to Connecting Avenue (Fig. 39), and paving of Pemberton Avenue to the Administration Building.

- August 1936–August 1937: Construction of the Hall's Ferry Road bridge on Confederate Avenue. This bridge still exists but is outside of the present-day park boundaries.

- June 1937–June 1938: Replacement of the viaduct over Stout's Bayou and Illinois Central Railroad on Confederate Avenue. This area is at the south end of the original park, outside of present park boundaries.

- June 1937–June 1938: Grading and concrete paving of Confederate Avenue from U.S. Highway 80 south to the General Buford Monument (beyond Florida Circle).

- April 1939–September 1939: Grading and concrete paving of Confederate Avenue from General Buford Monument south to U.S. Highway 61, as well as paving of Navy Circle, Louisiana Circle, and Virginia Circle. This area is entirely outside of the existing park.



FIGURE 40. The completed Administration Building, September 24, 1937.



FIGURE 41. The park maintenance buildings under construction, October 29, 1935.



FIGURE 42. The former Mississippi River Commission building, constructed 1929, served as a visitor center and museum for the park from 1944 to 1970.

Also, as documented in working drawings dated 1940, the pavement was removed at Tilghman Circle, New York Circle, Pennsylvania Circle, Missouri Monument, Kansas Circle, and Arkansas Circle.

From July 1935 to February 1936, the new Administration building was constructed (Fig. 40).[77] Other new buildings for park maintenance were constructed at about this same time (Fig. 41). In the late 1930s, the National Park Service made minor modifications to the Shirley House, including installation of new porch roofs and paving of the dirt floor in the basement with concrete.[78]

In 1939, the national cemetery was expanded when an additional 76.28 acres were purchased between Fort Hill and U.S. Highway 61.[79] Unfortunately, the parcel was found to be unsuitable for burials due to underground springs in the area; this land is still part of the cemetery today.

During World War II in 1942, as part of a wartime scrap metal drive, numerous cast iron markers were removed from the park. These included more than 140 of the largest cast iron tablets and markers, which were then melted down and used in the construction of military supplies and equipment. Only one of the markers has been subsequently replaced.[80] In 1944, the Administration building was converted to the Superintendent's residence. Between 1944 and 1970, the park's visitor center was the adapted headquarters for the Mississippi River Commission, which had been constructed in 1929 (Fig. 42). The building was located behind Anshe Chesed Cemetery and was torn down in 1976.

Shortly after World War II, three additional state memorials were completed: Alabama (1951), Arkansas (1954), and Florida (1954).

In 1958, two small parcels of park land were transferred. A 3.1-acre parcel was transferred to the city for construction of a school. Also, a 1.32-acre parcel, part of the Navy Circle parcel and located on the east side of South Washington Street, was transferred to the Mississippi State Highway Commission for construction of a highway weighing station. The city and state agreed to transfer lands of equivalent value to the park:

> . . . to transfer to the city of Vicksburg, Mississippi, for school purposes, a tract of park land containing three and one-tenth acres, more or less, now under revocable permit to said city, acting through its board of education, and to transfer to the Mississippi State Highway Commission a tract of park land containing one and thirty-two hundredths acres, more or less, now under revocable permit to said commission for use as a site for a weighing station. . . . city and highway commission shall transfer in exchange to the United States, for addition to Vicksburg National Military Park, such land or interests therein as may be mutually agreed upon and which are approximately equal in value to the properties being acquired in each case. [81]

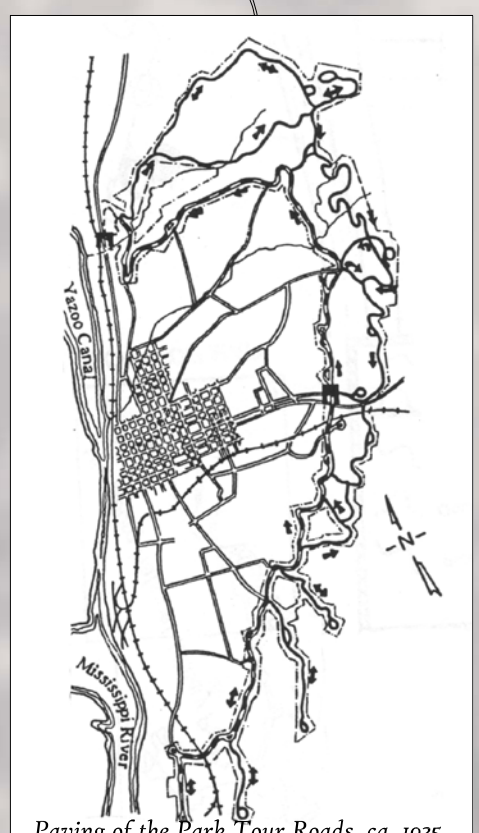
In 1959, Union Avenue was reconstructed from Graveyard Road south to Jackson Road. The work included installation of new concrete curbs, gutters, and guardrails, and regrading of the road bed. Wisconsin Circle was obliterated as part of this work, but the bridges in this section were not included.[82]

77 Albert A. Gustafson. *Final Construction Report for the Administration Building*. Washington, D.C.: Eastern Division, Branch of Plans and Design, National Park Service, January 21, 1936.
78. Buono, 26–29.
79. Statement for Management, 4.
80. Quantity "more than 140" provided by Virginia DuBowy of NPS.
81. Public Law 85-667, August 14, 1958, 72 Stat. 617.
82. Bureau of Public Roads, Drawings for "Union Avenue: Grading, Gravel Base, Surfacing, and Other Work from Graveyard Road to Jackson Road," August 1957, revised July 1958,.20 sheets. Completion Report, March 1961.

Grant Avenue
Sherman Circle
Union Avenue
Rhode Island
Massachusetts
New York
Pennsylvania
New Hampshire
Yazoo City Road
Yazoo River Diversion Canal
Vegetation data from 1940 aerial does not cover contemporary northern park areas.
Battery Selfridge
Union Avenue
Mint Spring Bayou
Grant's Headquarters
Tennessee Circle
Confederate Avenue
Connecting Avenue
26th La. Redan
27th La. Lunette
Ohio Circle
Pennsylvania Avenue
Kansas Circle
New York Circle
Graveyard Road
Garbish Avenue
Water Battery
Observation Tower No. 1
Arkansas Circle
Missouri
West Virginia
C.C.C. Camp No. 4
Missouri Circle
Stockade Redan
Green's Redan
Rigby Lane
Wisconsin
Glass Bayou
Jackson Road
Illinois
3rd Louisiana Redan
Great Redoubt
Logan Circle
Pemberton Avenue
Louisiana
Tilghman Circle
Observation Tower No. 2
C.C.C. Camp No. 3
Battery De Golyer
City of Vicksburg
Surrender Interview Site
Stouts Bayou
C.C.C. Camp No. 2
Michigan
Mississippi
Minnesota
South Texas Lunette
Clay Street
Mississippi River Commission Office (Future Visitor Center)
Memorial Arch
Baldwin Ferry Road
C.C.C. Camp No. 1
Garage
Indiana Circle
Alabama-Vicksburg Railroad
Highway No. 80
Anshe Chesed Cemetery
Railroad Redoubt
Alabama Circle
Iowa
Maloney Circle
Iowa Circle
Kentucky Avenue
Fort Garrott (Square Fort)
Indiana
Park extended to river, see map inset.
Durden Creek (Big Bayou)

Tour Stops
1 Battery De Golyer
2 Shirley House
3 Third Louisiana Redan
4 Ransom's Gun Path
5 Stockade Redan Attack
6 Thayer's Approach
7 Battery Selfridge
8 Vicksburg National Cemetery
9 Fort Hill
10 Stockade Redan
11 Great Redoubt
12 Second Texas Lunette
13 Railroad Redbout
14 Fort Garrott
15 Hovey's Approach

Legend
Current Park Boundary
Roads
Railroad
Stream Corridor
Buildings
State Monuments
Observation Towers
Tree Cover



Paving of the Park Tour Roads, ca. 1935
Source:
Historic American Engineering Record (HAER)
"Vicksburg Military Park Tour Roads," 1997.

Sources: Autocad Base Map
USGS Topographic Survey 1935

Notes:
Ohio State Monuments are in thirty-nine different locations and are not identified here.

Tree cover information not currently available.

Darker modeling represents areas of low and steep topography.

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Cultural Landscape Report
Vicksburg National Military Park

Historic Period Plans - 1935
Figure 43

In 1961, Sherman Avenue at the north edge of the park was reconstructed. At this time, Sherman Avenue was still connected to North Union Avenue at two points. Also, within the park, Connecting Avenue and the loop road through the cemetery were reconstructed, as was the northern loop portion of Grant Avenue. These projects included some adjustments to the right-of-way as well as new gutters, culverts, and paving. As part of the 1963 boundary adjustments, approximately twenty-four acres of land was quitclaimed to Warren County, including Sherman Avenue and the Sherman Avenue spur.[83]

In 1961, the Vicksburg National Cemetery was closed to new burials, except for already reserved sites.[84]

Mission 66 Era

The National Park Service Mission 66 program was developed to provide funding to revitalize the national parks over a ten year period concluding in 1966, to coincide with the agency's fiftieth anniversary. During and following World War II, limited funding and deferred maintenance had contributed to deterioration of the parks' infrastructure. At the same time, parks visitation had increased as Americans had more income, leisure time, and access to automobiles for transportation.

Conrad L. Wirth, an NPS landscape architect who had overseen NPS recreational planning and state park development during the 1930s, was appointed director of the NPS in 1951. In January 1956, Wirth proposed the Mission 66 program, supporting the concept with a slide show depicting the poor conditions of the parks that was presented to President Dwight D. Eisenhower and his cabinet. The multimillion-dollar Mission 66 project involved improvements to roads, expansion of park facilities, and repair of existing infrastructure.[85]

The most significant change to Vicksburg National Military Park during the Mission 66 era was a large adjustment to the park boundaries. On June 4, 1963, an Act was passed "to consolidate Vicksburg National Military Park and to provide for adjustments necessitated by the installation of a park tour road . . . in order to preserve and protect the essential historical features of Vicksburg National Military Park in the State of Mississippi and to enhance visitor enjoyment and safety by means of a park tour road and through the consolidation of park lands."[86] The act included quitclaim to the city of approximately 154 acres of land, in exchange for which the city agreed to maintain the roads and abutting land in a park-like character. The quitclaim land included land south of Fort Garrott with the exception of Navy Circle, South Fort, and Louisiana Circle. The park remained responsible for maintenance of the monuments located within the quitclaimed property. In exchange for this land, the city agreed to transfer up to 544 acres to the park's authorized boundary. The new land was primarily located along Union and Confederate Avenues in the northern portions of the park.[87] Along the former park roads, many markers, plaques, and stone monuments still exist, as well as several large state monuments. Some portions of this former parkland have been developed; for example, the site of the former Illinois Circle South is now a shopping center.

New state monuments constructed in the early 1960s included Kansas (1960), Texas (1961), and Georgia (1962). Other construction included additions to the two 1930s park maintenance buildings, completed in 1964.[88] Between 1963 and

83. Bureau of Public Roads, Drawings for "Sherman Spur, Connecting Avenue, Cemetery Road, Sherman and Grant Avenues: Grading, Structures, Gravel Base, Surfacing, and Other Work," February 1961. As-constructed set, June 1961, 38 sheets.
84. Statement for Management, 8.
85. Conrad L. Wirth, *Parks, Politics, and the People* (Norman, Oklahoma: University of Oklahoma Press, 1980), 111.
86. Public Law 88-37, June 4, 1963, 77 Stat. 55–56.
87. Ibid. Of the authorized 544 acre limit, the park could still acquire up to 118 acres beyond 2007 property line.
88. Project Completion Report, February 1965.

1966, the three observation towers built during the War Department years were demolished (Fig. 44).

In 1965–1966, extensive restoration work was undertaken at the Shirley House. Work included removal of non-historic partitions and additions constructed in 1931; raising of the building to permit replacement of the sill plate; gutting of the interior for implementation of structural repairs; removal and replacement of roof sheathing and roofing; and installation of new exterior wood siding. The interior was not restored during this project[89]

In 1968–1970, a new visitor center was constructed to replace the previous building near the Confederate Avenue entrance. One of the original tour loops, Indiana Circle, was removed and the knoll on which it was located was leveled. A new entrance was created from Clay Street and a parking lot was constructed for the visitor center. As part of this project, the tour route through the park was reversed. Previously, visitors entered onto Confederate Avenue from U.S. Highway 80 and proceeded clockwise around the park loop.[90] An extensive plan to add shade trees and other landscaping to the visitor center site and parking lot was apparently not implemented, but earthen berms, benches, and other site furnishings were constructed.[91]

Prior to the Mission 66 era, local roads connected with park roads at twenty-one points, of which four were considered major park entrances (Fig. 45).[92] A major portion of the work performed during the Mission 66 era included paving and reconstruction of the park tour roads, as well as roadwork outside the park boundaries, to create a



FIGURE 44. Demolition of one of the observation towers, 1966.



FIGURE 45. U.S. Highway 80 at the entrance arch, 1960s.



FIGURE 46. The newly cleared vista between the Louisiana Monument and Battery de Golyer, 1963.

89. Jon Buono, *Shirley House: Historic Structure Report* (Atlanta, Georgia: National Park Service Southeast Regional Office, Cultural Resources, 2004).
90. Risk, *Draft Cultural Landscape Report*.
91. National Park Service, Philadelphia Planning & Service Center. "Walks and Grounds Improvement, Visitor Center and Parking Area." February 27, 1968. 9 sheets in 2 sets.
92. Albert Manucy, *Interpretive Prospectus for Vicksburg National Military Park* (National Park Service, February 1961), 4.



FIGURE 47. Removal of Kentucky Avenue at the junction with Confederate Avenue, 1963.

self-contained one-way park tour road, separated from local roads.[93] Work also included stabilization of slopes in the park. In 1963, slope stabilization work was performed throughout the park, and trees were cleared from a sightline between the Louisiana Memorial and Battery De Golyer (Fig. 46), from an area east of the Missouri Memorial, and from an area east of Stockade Redan.[94]

The 1964 drawings for Mission 66 Road, show the development of the new road from a connection with Confederate Avenue south of the railroad (near Fort Garrott) to East Main Street; a portion of the road north of East Main Street to Sky Farm Avenue/Lovers Lane intersection is shown as "future contract."[95] This northern section would not be built until the late 1970s.

In 1968–1969, the park roads in the vicinity of the new visitor center were reconfigured. At the west edge of the park near Anshe Chesed Cemetery, the connection of Grove Street to the park tour road and the southward extension of Confederate Avenue to U.S. Highway 80 (Clay Street) were removed. The historic Baldwin Ferry Road was regraded and realigned to serve as an east-west connection from Confederate Avenue to the visitor center site and Union Avenue. Similarly, the southward extension of Union Avenue to U.S. Highway 80 (Clay Street) was removed and reconfigured to connect to the visitor center parking lot, and the Memorial Arch was relocated to Union Avenue at the start of the tour route. Midway between Union and Confederate Avenues, a new north-south road was created, running south under a new overpass for U.S. Highway 80 and curving east to connect to the existing Union Avenue overpass over the railroad. In the vicinity of the Texas Monument, the former Confederate Avenue railroad overpass was disconnected from the park tour roads and retained to provide access to private residences on Melborn Place. At the same time as this project, North Union Avenue from Grant Avenue to Navy Memorial, and South Union Avenue in the portion of the park south of the railroad, were reconstructed.[96]

In 1969 the steel arch bridge along North Union Avenue, between the present-day Wisconsin and West Virginia Monuments, was demolished and replaced with a culvert. Adjacent lands were regraded.[97] In the 1970s, three iron bridges dating to early 1900s were replaced. At this time, sixteen existing concrete bridges were identified as historic engineering structures.[98]

In 1970, Old Jackson Road was removed in the vicinity of the Illinois Monument and Shirley House (Fig. 48). At the west end, the connection from the Hickenlooper Battery parking lot to Confederate Avenue was removed. At the east end,

93. Edward S. Zimmer, *Master Plan for the Preservation and Use of Vicksburg National Military Park: Chapter 5, Design Analysis, Visitor Center Development* (National Park Service, 1963).
94. Completion Report, January 1964.
95. Cavallo & Crout, Inc., Consulting Engineers, Drawings for "City of Vicksburg, Mission 66 Project," June 1964, 21 sheets.
96. Bureau of Public Roads, "Reconstruction and Relocation of Roads, Bridge under Route U.S. 80," April 1966, drawing set marked "As constructed," June 1969.
97. Federal Highway Administration, "Grading, Drainage, and Other Work, North Union Avenue," April 1969.
98. Statement for Management, 7. One of these sixteen bridges has subsequently been demolished.

the connection from Union Avenue to other public roads was removed.[99] In 1972, two new overpasses were constructed to carry Union Avenue and Confederate Avenue over modern Jackson Road/Glass Bayou; the 1903 steel bridge at Union Avenue was apparently demolished as part of this work, while the 1903 Confederate Avenue bridge was retained but closed to all traffic. In the late 1970s, an additional acre from the Navy Circle parcel was utilized by the Mississippi Department of Transportation to construct a parking lot for the state welcome center.

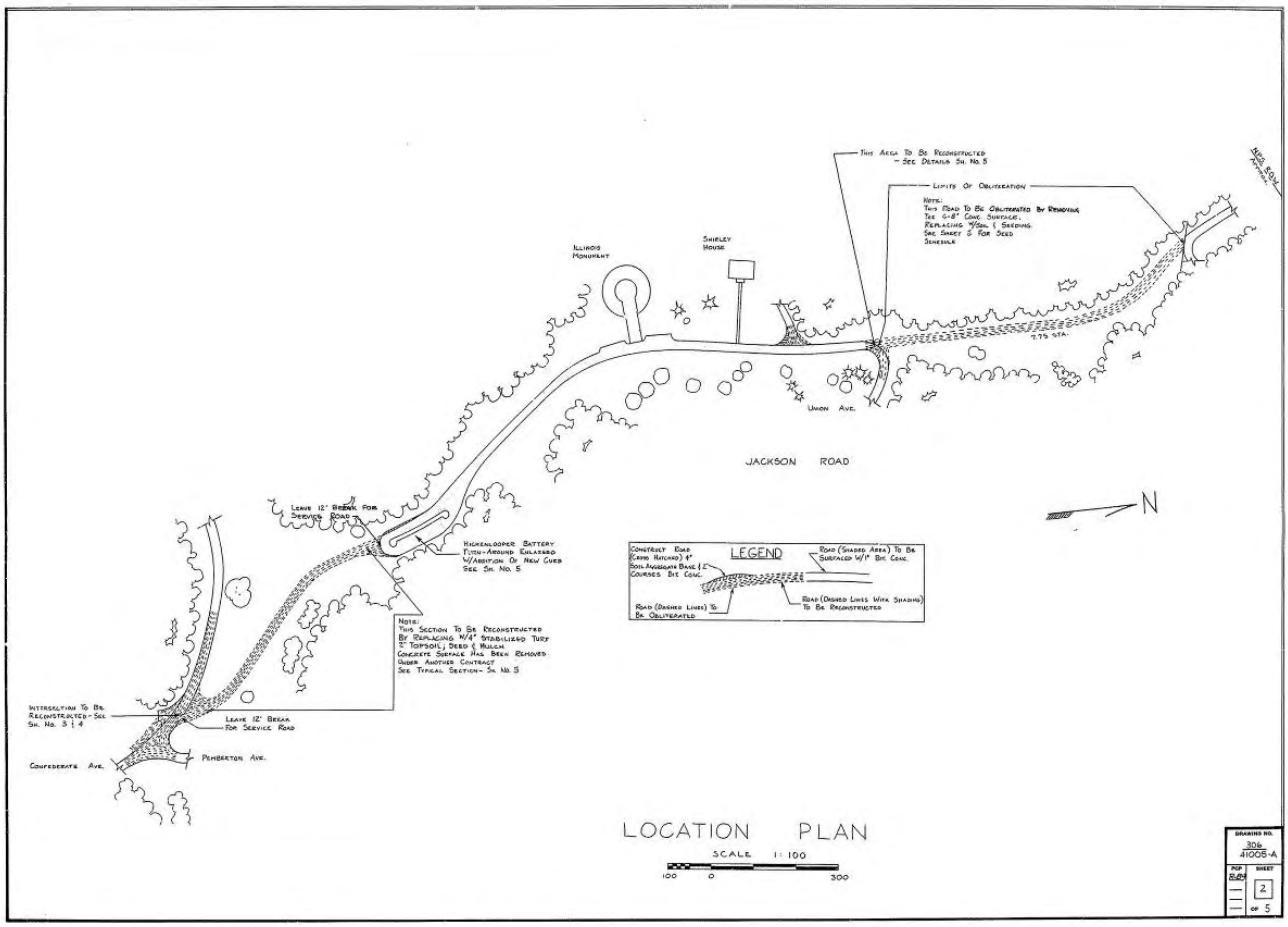


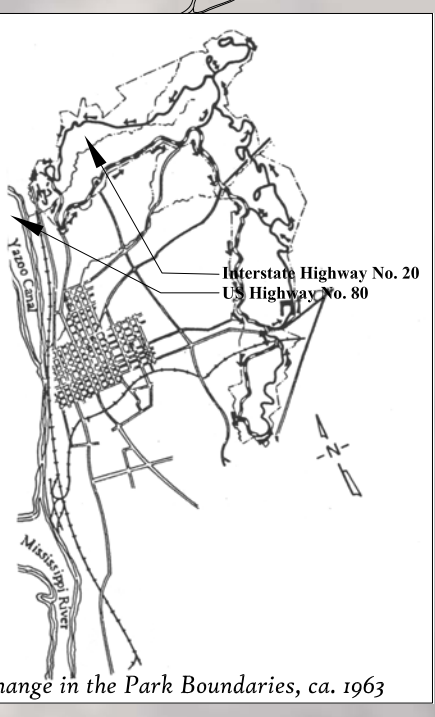
FIGURE 48. Site plan drawing for the removal of two portions of Old Jackson Road in the vicinity of the Shirley House, 1972.

99. National Park Service, Denver Service Center, Drawings for "Road Obliteration and Miscellaneous Construction," May 1970, 5 sheets.

Melan Arch Bridge No. 3
Melan Arch Bridge No. 4
Melan Arch Bridge No. 5
Grant Avenue
Sherman Circle
Union Avenue
Rhode Island
Massachusetts
New York
Pennsylvania
New Hampshire
Land added to park 1963
U.S. Naval Memorial
Battery Selfridge
Yazoo River Diversion Canal
8
National Cemetery
7
Mint Spring Bayou
Land added to park 1963
Thayer's Approach Tunnel
Kansas
6
26th La. Redan
27th La. Lunette
9
Water Battery
5
10
Arkansas
Missouri
West Virginia
Graveyard Road
Confederate Avenue
Connecting Avenue
Stockade Redan
Green's Redan
Wisconsin
Contemporary Bridge
4
Modern Jackson Road
Steel Bridge
Glass Bayou
Shirley House
Illinois
2
Administration Building
3rd Louisiana Redan
3
11
Louisiana
City of Vicksburg
Great Redoubt
Surrender Interview Site
Stouts Bayou
Melan Arch Bridge No.2
1
Pemberton Avenue
Battery De Golyer
Mississippi
Confederate Avenue
Michigan
Minnesota
Union Avenue
Mississippi River Commission Office (Demolished 1976)
Melan Arch Bridge No.1 Maintenance Complex Visitor Center
12
Baldwin Ferry Road
Clay Street
South Texas Lunette
Texas
13
Railroad Redoubt
Memorial Arch
Anshe Chesed Cemetery
Illinois Central Railroad
Alabama
Iowa
Maloney Circle Bridge
Fort Garrott (Square Fort)
14
Georgia
15
Melan Arch Bridge No. 10
Melan Arch Bridge No. 9
Melan Arch Bridge No. 8
Melan Arch Bridge No. 7
Indiana
Park boundary changed - see map inset
Durden Creek

Tour Stops
1 Battery De Golyer
2 Shirley House
3 Third Louisiana Redan
4 Ransom's Gun Path
5 Stockade Redan Attack
6 Thayer's Approach
7 Battery Selfridge
8 Vicksburg National Cemetery
9 Fort Hill
10 Stockade Redan
11 Great Redoubt
12 Second Texas Lunette
13 Railroad Redbout
14 Fort Garrott
15 Hovey's Approach

Legend
Current Park Boundary
Roads
Railroad
Stream Corridor
Buildings
State Monuments
Observation Towers



Change in the Park Boundaries, ca. 1963

Source:
Historic American Engineering Record (HAER)
"Vicksburg Military Park Tour Roads," 1997.

Sources: Autocad Base Map

Notes:
Ohio State Monuments are in thirty-nine different locations and are not identified here.

Tree cover information not currently available.

Darker modeling represents areas of low and steep topography.

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Vicksburg National Military Park

Historic Period Plans - 1971
Figure 49

Contemporary National Park Service Activities

Edwin C. Bearss, Historian at Vicksburg National Military Park, determined the approximate site of the *Cairo* by studying contemporary documents and maps. In 1956, using a pocket compass and iron bar probes, Bearss and two companions, Don Jacks and Warren Grabau, located the site of the *Cairo*. Three years later, divers were able to confirm the find. By December 1964, the remains of the vessel had been placed on barges and towed to Vicksburg. In the summer of 1965, they were towed to Ingalls Shipyard on the Gulf Coast in Pascagula, Mississippi, for repair and reassembly.[100] In May 1966, the National Park Service was offered title to the gunboat. The gift was contingent upon the NPS restoring, reconstructing, and exhibiting the *Cairo*.[101] In 1972 Congress appropriated funding for the restoration of the gunboat and for development of an exhibition.[102] In 1977, the *Cairo* was brought to the park from Pascagoula for restoration. A site overlooking the Yazoo River Diversion Canal and the national cemetery was chosen for the permanent exhibition of the gunboat. Construction of the *Cairo* museum, which is partially embedded in the adjacent hillside on a site within the boundaries of the national cemetery parcel, was completed in 1980. The restored gunboat opened to the public in 1985.[103]

In 1978, the 1935 Administration Building was last used as the Superintendent's residence.[104]

In 1976–1977, the roadway in the Vicksburg National Cemetery was stabilized, including regrading and installation of curbs and gutters at the hairpin turn at the south end of the tour road within the cemetery.[105]

In 1979, clearing was proposed for selected areas of the park to create vistas of the battlefield. The Environmental Assessment completed in that year noted:

> The original vegetative cover in the park has been greatly disturbed since the area was first settled in the late 18th century. This is primarily a result of the extensive agricultural and forestry practices that were historically vital to the economy of the region. Thus, farming and clear cutting converted many of the forested regions to areas of open land. During the Civil War, the battlefield area was kept clear for defense purposes. Most of the fields have since revegetated through secondary plant succession.[106]

The areas proposed for vista clearing included Thayer's approach to 26th Louisiana Redoubt, Stockade Redan to Ransom's Gunpath, Fourth Ohio Battery to 26th Louisiana Redoubt, and an area between Railroad Redoubt and the tracks below. The work was to involve "judicious clearing of vegetation at these strategic points to aid visitors in viewing and understanding the battlefield."[107] The Environmental Assessment noted, "Although General Grant ordered most of the battlefield earthworks destroyed, selective restoration has aided in conveying the impression of the battlefield's appearance under siege."[108]

In 1980, approximately 700 acres of park land were maintained as open grassy areas.[109] The 1980 *General Management Plan* also noted that a recently completed Mission 66 road in Vicksburg

100. National Park Service, "USS *Cairo* Gunboat and Museum," <http://www.nps.gov/archive/vick/cairo/cairo.htm> (accessed September 17, 2007.)
101. National Park Service, *Final General Management Plan: Vicksburg National Military Park and National Cemetery* (July 1980), 10–11.
102. Public Law 92-483, October 12, 1972, 86 Stat. 796.
103. Statement for Management, 3–5; NPS reviewer comments on *Draft Cultural Landscape Report*.
104. Ibid., 15.
105. National Park Service, Denver Service Center, "Road Bank Stabilization, National Cemetery." As-constructed drawings, February 1978, 3 sheets.
106. National Park Service, *Environmental Assessment: General Management Plan: Vicksburg National Military Park and National Cemetery* (September 1979), 4.
107. Ibid.
108. Ibid., 15.
109. National Park Service. *Final General Management Plan: Vicksburg National Military Park and National Cemetery*, (July 1980), 11

facilitated local vehicular traffic flow through the park. In the 1960s the city had constructed 1-1/2 miles of four-lane highway using federal funds south of East Main Street but 1/2 mile of road north of East Main Street was left unfinished due to funding limitations, requiring the park to maintain its two-way road system. The road work was completed by 1980, allowing the park circulation pattern to be altered. At that time, the park access point at Sky Farm Avenue was closed.[110]

The 1980 *General Management Plan* also commented, "The park property along the Baldwin Ferry Road is no longer needed by the park and should be exchanged with Warren County for the Old Jackson Road that is a part of the park tour route."[111]

In 1983, minor exterior restoration work was performed at Shirley House. This work consisted of repairs to the front and rear porches.[112]

Two locations in the park prone to landslides were investigated in 1981. One location was along Connecting Avenue at the base of Fort Hill. Landslides occurred at this location in summer 1962 and spring 1980, in addition to other slides prior to the 1961 reconstruction of the roadway. A second location was along North Union Avenue overlooking Mint Spring Bayou west of Thayer's Approach. A major failure occurred at this location in 1962. This was followed by a new investigation in 1991 of these sites.[113] Stabilization work was performed on North Union Avenue from October 1992 to February 1993, and stabilization and repair work was performed on Connecting Avenue in 2005.

Work on several monuments was completed, including rehabilitation of the Texas Memorial in 1984; repointing and cleaning of the Illinois Memorial in 1985; and rehabilitation of the Missouri and Iowa Memorials in 1988. In the late 1980s, park personnel cleaned monuments and markers, including stone and bronzework, as well as cemetery gravestones.[114] An inventory noting conditions of monuments and markers was completed in 1986.[115]

On March 5, 1987, the park began collecting entrance fees. Entrance kiosks were constructed near the Memorial Arch and at the Fort Hill Drive/Connecting Avenue intersection.[116]

On October 18, 1990, the authorized boundaries of the park were expanded to include a 2.5 acre property at Grant's Canal in Madison Parish, Louisiana. A 2.82 acre county-owned parcel adjacent to the park entrance was also added to park ownership to allow for the construction of a maintenance facility.[117] The legislation broadened the interpretive mandate to include the operations from April, 1862, to July 4, 1863, and the history of Vicksburg under Union occupation during the Civil War and Reconstruction. This bill noted that "In administering Vicksburg National Military Park, the Secretary shall interpret the campaign and siege of Vicksburg from April 1862 to July 4, 1863, and the history of Vicksburg under Union occupation during the Civil War and Reconstruction."[118]

As of 1990, the park contained 37 major stone monuments such as state memorials; 660 smaller stone monuments; and 628 iron and bronze markers. Iron markers were painted on a regular schedule. In that year the Vicksburg National Cemetery contained over 18,000 graves, of which approximately 13,000 are unknown soldiers.[119] The

110. Ibid., 11.
111. Ibid., 20.
112. Buono, 41.
113. Federal Highway Administration. *Vicksburg National Military Park Landslide Investigation.* June 1981, and Federal Highway Administration. *Vicksburg National Military Park Landslide Investigations: Thayers Approach to Fort Hill.* July 1991.
114. Ibid., 9.
115. No monument rehabilitation work was recorded as having been performed prior to 1984; however, photographs from the 1930s CCC era show scaffolding surrounding several monuments. Statement for Management, 6.
116. Statement for Management, 4.
117. Public Law 101-442, title I, sec. 101, October 18, 1990, 104 Stat. 1019.
118. Ibid., sec. 103.
119. Statement for Management, 8.

park tour road closed for four months in spring 1989 to repair Melan Arch Bridge No. 3 near Thayer's Approach, which was undermined by erosion near pilings.[120]

In 1995, an elevator addition was constructed at the visitor center.[121] In 1997, a new sloped roof was added to the building.[122]

Due to severe deterioration of two historic concrete Melan arch bridges, on February 16, 1996, the National Park Service closed the segment of North Union Avenue from Grant Avenue to the USS *Cairo* Museum and initiated planning for replacement of Melan Arch Bridge No. 5 and repair of Melan Arch Bridge No. 3. Work proceeded in 1997, when Melan Arch Bridge No. 5 was replaced with a box culvert, allowing North Union Avenue to be reopened to visitor traffic.[123] Repair work is ongoing on the historic bridges throughout the park, including controlling erosion and sealing surface cracks.

Although it had been designated as a historic engineering structure, the 1903 steel arch bridge carrying Confederate Avenue over modern Jackson Road/Glass Bayou had been closed to all use due to safety concerns since the 1970s. Due to its severe deterioration, the bridge was demolished in 2003.

In 1998, an area east of Fort Garrott was cleared, graded, and seeded with grass (Fig. 50 and Fig. 51).

In 2002, the Park was authorized to acquire Pemberton's Headquarters in downtown Vicksburg.[124] In 2006–2007, repair and stabilization work was completed on the building.



FIGURE 50. Views of clearing and grading work in the area east of Fort Garrott, July 1998.



FIGURE 51. View of clearing and grading work in the area east of Fort Garrott, July 1998.



FIGURE 52. Clearing of vegetation at Railroad Redoubt, 2005.

120. Ibid., 10.
121. Ingram and Associates, Architects. Drawings for Visitors Center Addition. August 1995, 10 sheets.
122. Ibid., 7.
123. National Park Service, Denver Service Center. *Environmental Assessment for Replacement and Repair of Tour Road Bridges.* July 1996; Project Completion Report, June 2004.
124. Public Law 107-238, sec. 2, October 11, 2002, 116 Stat. 1486.

On April 9, 2003, a landslide occurred on the left side of Union Avenue at milepost 2.33 following heavy rainfall in spring 2003. In September and October 2003, the slope was reconstructed and stabilized with geogrid. Fill was acquired from a borrow pit outside the park.[125]

In 1996, the Tennessee Memorial was constructed, and on October 20, 2001, the Kentucky Memorial was dedicated. In 2000, rehabilitation of the Mississippi Memorial was undertaken. In 2004, the Mississippi African American Monument was dedicated. In 2007, designs for the Connecticut Monument and the Kentucky Confederate Monument were approved for construction. The Connecticut Monument was constructed on the noncontiguous Grant's Canal parcel of the park and dedicated on October 14, 2008.

In 2005–2006, three battlefield restoration projects were undertaken. Work involved clearing of 18.5 acres, including areas near the Iowa Memorial and Railroad Redoubt along the South Loop (Fig. 52). As part of this work, grass covering was established to stabilize the soil while maintaining the open vista of the historic scene.

From November 3, 2008, through an anticipated completion date of September 30, 2009, several sections of the tour road will be intermittently closed and/or travel restricted to allow for reconstruction of the pavement. Work areas include Confederate Avenue beginning at Fort Hill.

Other ongoing work includes cleaning and repointing of the wall that encloses the Vicksburg National Cemetery, and stabilization of the Old Administration Building.

Today, the Shirley House is again urgently in need of repair and restoration, being maintained as a hollow shell since the 1960s. In 2004 the park received a $300,000 appropriation to stabilize the structure, in part to provide for a new roof and repair of the central beams. This stabilization work, completed in 2006, was intended to preserve the existing building intact until funds are available to complete the restoration.

125. Project Completion Report, December 2003.

Melan Arch Bridge No. 3
Melan Arch Bridge No. 4
Box culvert crossing
USS *Cairo* Museum
Thayer's Approach Tunnel
Grant Avenue
Sherman Circle
Union Avenue
Rhode Island
Massachusetts
New York
Pennsylvania
New Hampshire
Yazoo River Diversion Canal
U.S. Naval Memorial
Mint Spring Bayou
Kansas
African-American Memorial
Tennessee
Graveyard Road
Arkansas
Missouri
West Virginia
Confederate Avenue
Connecting Avenue
Entrance Booth
Wisconsin
Contemporary Bridge
Modern Jackson Road
Contemporary Bridge
Glass Bayou
Shirley House
Illinois
Old Jackson Road
Administration Building
Melan Arch Bridge No.2
Louisiana
Pemberton Avenue
Stouts Bayou
Michigan
City of Vicksburg
Mississippi
Confederate Avenue
Minnesota
Union Avenue
Maintenance Complex
Anshe Chesed Cemetery
Clay Street
Vicksburg Southern Railroad
Texas
Interstate Highway No. 20
US Highway No. 80
Melan Arch Bridge No.1
Memorial Arch
Entrance Booth
Visitor Center
Maloney Circle Bridge
Alabama
Iowa
Georgia
Kentucky
Melan Arch Bridge No. 10
Melan Arch Bridge No. 9
Melan Arch Bridge No. 8
Melan Arch Bridge No. 7
Indiana
Durden Creek

Tour Stops
1 Battery De Golyer
2 Shirley House
3 Third Louisiana Redan
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6 Thayer's Approach
7 Battery Selfridge
8 Vicksburg National Cemetery
9 Fort Hill
10 Stockade Redan
11 Great Redoubt
12 Second Texas Lunette
13 Railroad Redbout
14 Fort Garrott
15 Hovey's Approach

Legend
Current Park Boundary
Roads
Railroad
Stream Corridor
Buildings
State Monuments
Tree Cover

Note:
Darker modeling represents areas of low and steep topography.

Connecticut Monument dedicated in 2008 located on Grant's canal parcel.

Sources: Autocad Base Map
USGS Topographic Survey
National Park Service Map

Notes:
Ohio State Monuments are in thirty-nine different locations and are not identified here.

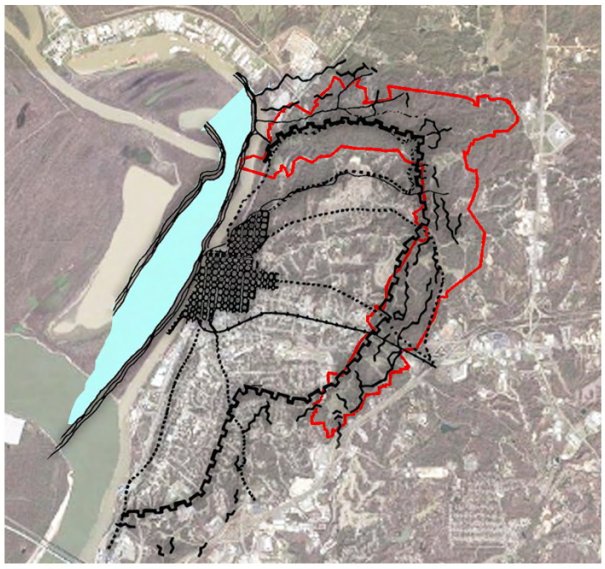
Darker modeling represents areas of low and steep topography.

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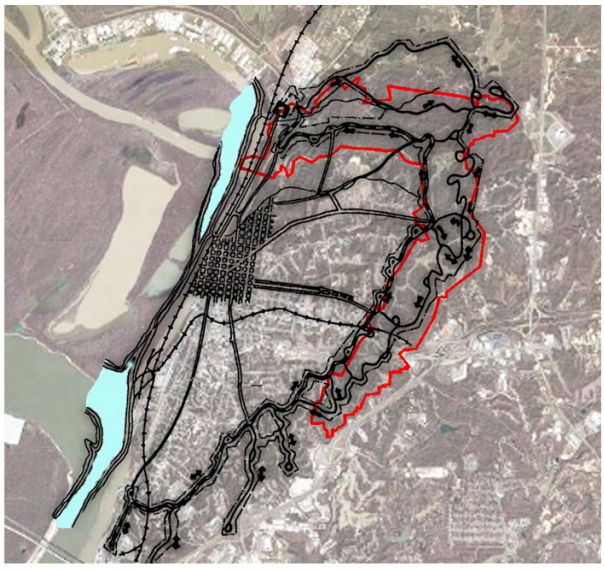
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Cultural Landscape Report
Vicksburg National Military Park

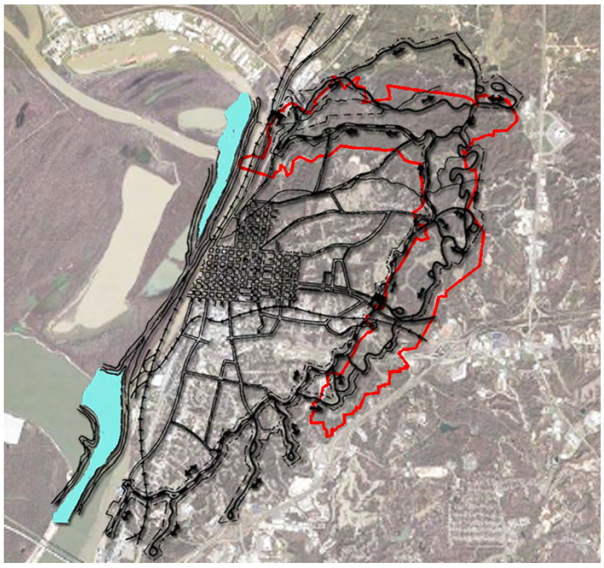
Historic Period Plan - 2009
Figure 53



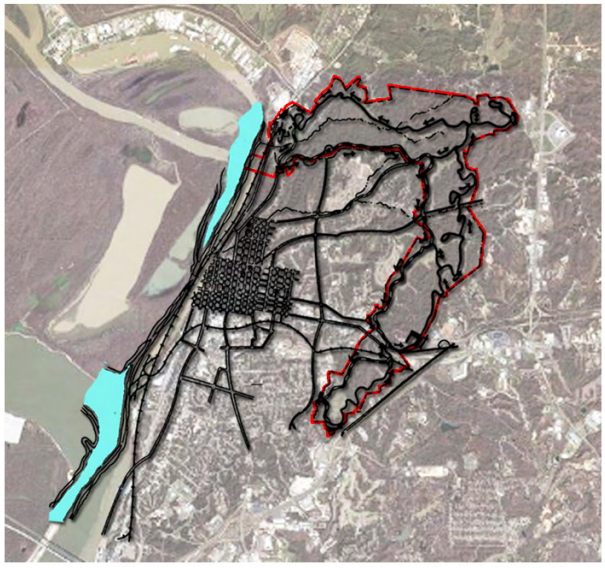
Confederate fortifications and Union approaches surrounding Vicksburg, ca. 1863, and the course of the Mississippi at the time of the siege.



Park development by the War Department, ca. 1899. Original park boundary encircled the city. The city now faced the Yazoo River Diversion Canal rather than the river.



Park development by the National Park Service, ca. 1935.



Park boundary changes, ca. 1965.

FIGURE 54. Changes in river and park boundaries, 1863–2009.

Existing Conditions

Introduction

This chapter describes through narrative text, contemporary photographs, labeled base mapping, and analytical diagrams, the current conditions and extant landscape features associated with the Vicksburg National Military Park landscape. The first section—Environmental and Cultural Context and Setting—describes the battlefield within a regional and local context, including hydrological, geographical, and geological features, as well as the demographics and other traits that characterize the park's contemporary setting and surrounding community. The second section—Site Description—describes the primary organizing elements and features that characterize the Vicksburg National Military Park landscape, including former park lands quitclaimed to the City of Vicksburg and Warren County in the 1960s. The third section—Landscape Description by Characteristic—depicts the individual extant landscape features and resources that together compose the Vicksburg National Military Park battlefield landscape. (See Fig. 7 and Fig. 8 for site location and context and study area boundary maps.)

The purpose of documenting the park's existing landscape is threefold. The primary goal is to understand the range and breadth of landscape features, and to identify, describe, and locate them on a map to serve as a baseline of information for the rest of the document. The second goal is to generate an inventory of park features that can be utilized to develop several cultural landscape analyses, including the OCOKA military terrain analysis.[126] The final goal is to provide a record of the landscape that may prove useful to future research efforts and management decisions made at Vicksburg National Military Park.

Due to the size, complexity, and heavily monumented character of Vicksburg National Military Park, the National Park Service (NPS) requested that this Cultural Landscape Report (CLR) focus on documenting the park's primary landscape resources, which are defined as the most valuable and important resources relating to the natural environment and the site's significant cultural history. Thus, the CLR documentation describes these primary landscape features individually, while secondary features are depicted in groups or as part of systems to a lesser degree of detail. The existing conditions documentation is organized in accordance with the guidance offered in the NPS guidelines for preparing Cultural Landscape Reports. Resource descriptions are organized into the following categories of landscape characteristics:

- **Natural systems and features** are the environmental resources and qualities that have influenced the development and physical form of a landscape. These include the underlying landform and topography, soils, water resources, as well as attendant native plant communities.

- **Responses to natural resources** describe cultural responses to natural features, such as the siting and clustering of buildings and

126. OCOKA is an acronym that stands for: Observation and fields of fire; Cover and concealment; Obstacles; Key terrain; and Avenues of approach.

structures, the use of native materials, and other connections between the built and natural environment.

- **Topography and topographic modifications** include any alterations to the elevations of the land surface for accessing potable water, grading roads, siting buildings, draining stormwater, or other purposes.

- **Patterns of spatial organization** reflect the three-dimensional organization of physical forms and visual associations in a landscape, including the articulation of ground, vertical, and overhead planes that define and create spaces.

- **Land uses and activities** illustrate the principal activities in a landscape that form, shape, and organize it as a result of human interaction.

- **Circulation patterns and features** are the spaces, features, and applied material finishes that constitute the systems of movement in a landscape.

- **Cultural vegetation** includes the deciduous and evergreen trees, shrubs, vines, ground covers, and herbaceous plants that have been introduced in a landscape by cultural activities.

- **Views** are generally defined as being an expansive and panoramic prospect, whether naturally occurring or designed; while **vistas** are deliberate and are often meant to orient the gaze to a linear feature or particular focal point.

- **Buildings** are elements constructed primarily for sheltering any form of human activity in a landscape.

- **Structures** are elements constructed for functional purposes other than sheltering human activities.

- **Small-scale features** provide detail and diversity for both functional needs and aesthetic concerns in a landscape.

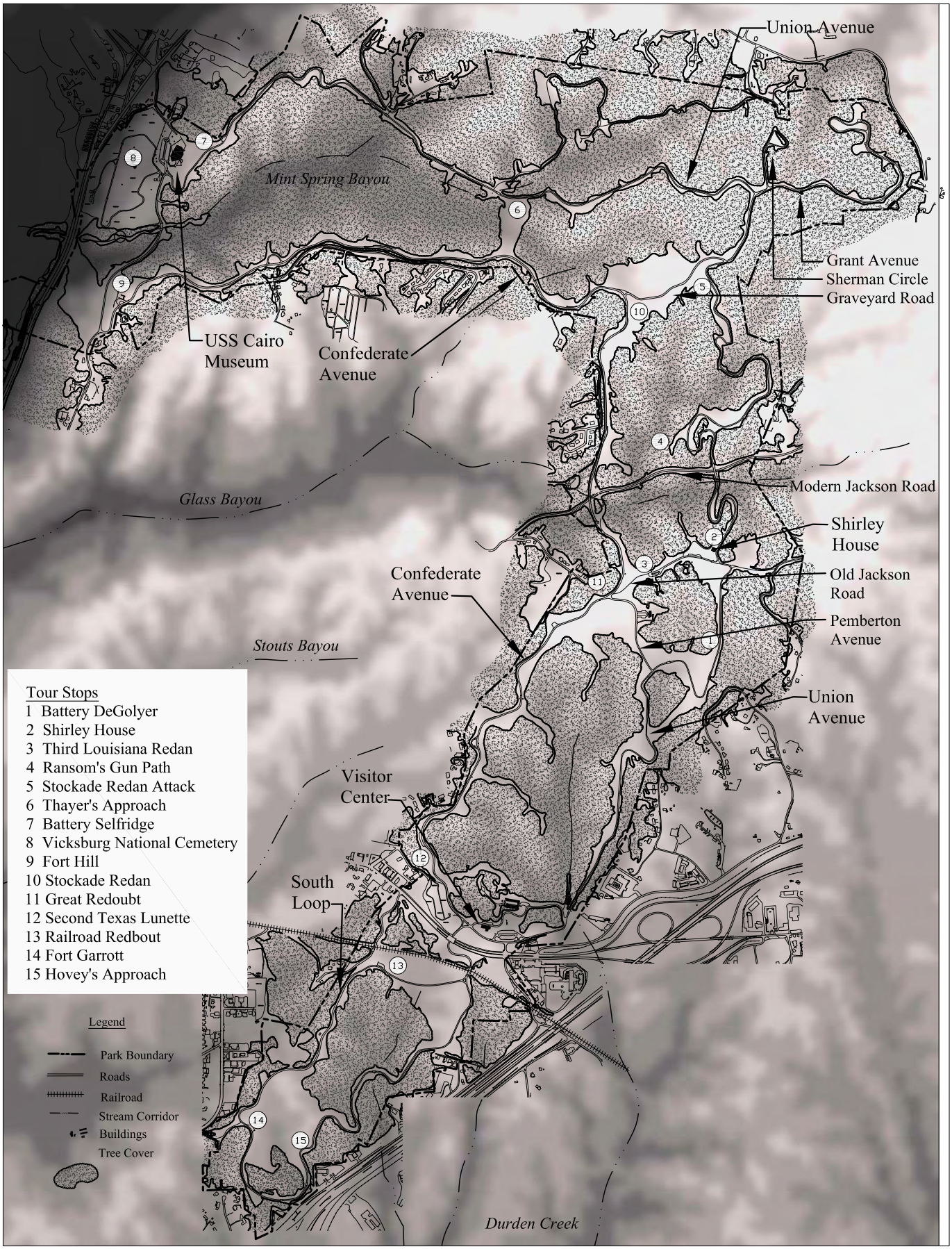
- **Archeological resources** are the traces or deposited artifacts in a landscape, evidenced by the presence of either surface or subsurface features.[127]

Graphic documentation, in the form of maps and photographs, is found at the end of this chapter. Representative photographs illustrate many of the features described in the text. Primary features are identified on existing conditions maps (Fig. 51 and Fig. 52). The location and orientation of view of the photographs used to illustrate this chapter are indicated on photographic station-point maps found at the end of this chapter.

The physical condition of the primary features described herein has been assessed in conformance with the rating standards established by the National Park Service (NPS) in *The Cultural Landscapes Inventory Professional Procedures Guide*. Features are described as being in good, fair, poor, or unknown condition. Features categorized as fair, poor, or unknown will be accompanied by a brief annotation to explain the rating.

Overview maps of existing conditions are provided as Fig. 55 through Fig. 58.

127. Derived from Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports; Contents, Processes, and Techniques* (Washington, D.C.: Department of the Interior, 1998), 53; and Linda Flint McClelland, J. Timothy Keller, Genevieve Keller, and Robert Z. Melnick, National Register Bulletin 30: *Guidelines for Evaluating and Documenting Rural Historic Landscapes* (Washington, D.C.: Department of the Interior, 1990), 53.



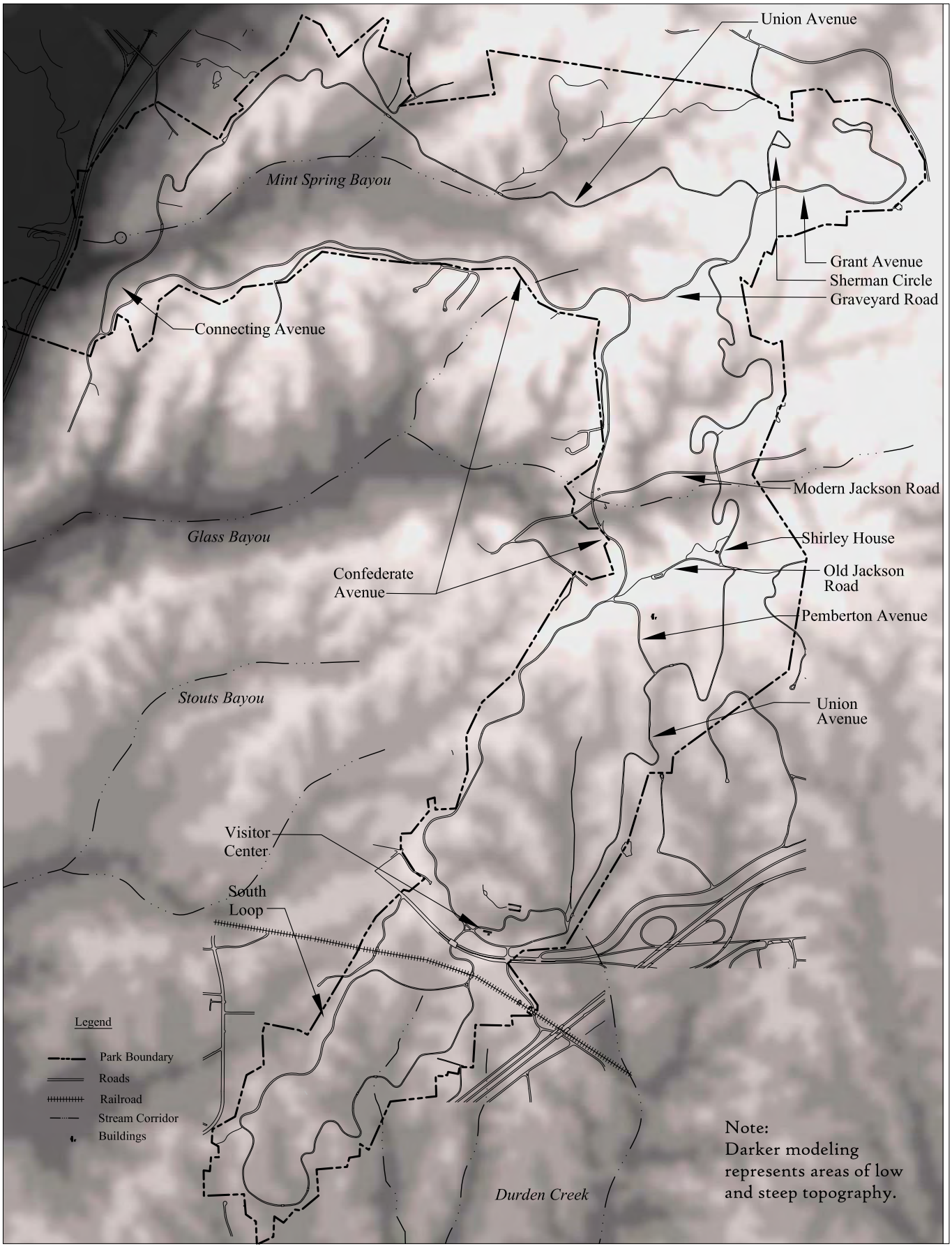
Source: Autocad Base Map, USGS Topographic Data

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Cultural Landscape Report
Vicksburg National Military Park

Existing Conditions Overview
Figure 55



Source: Autocad Base Map, USGS Topographic Data

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Existing Conditions
Land Forms
Figure 56

Melan Arch Bridge No. 3
Melan Arch Bridge No. 4
Box culvert crossing
U.S. Navy Memorial
Sally Willis Road
Union Avenue
Rhode Island State Monument
Massachusetts State Monument
New York State Monument
Pennsylvania State Monument
New Hampshire State Monument
Short Sherman Avenue
Yazoo River Diversion Canal
Givens Road
Mint Spring Bayou
Sherman Circle
Pennsylvania Circle
Old Will's Road
Given Hill Road/ Cemetery Road
Cairo Museum Circle
Union Avenue
Grant Avenue
Connecting Avenue
Confederate Avenue
Mississippi African American Memorial
Graveyard Road
Kansas State Monument
West Virginia State Monument
Lover's Lane
Tennessee State Monument
Contemporary Bridge
Mint Spring Waterfall
Arkansas State Monument
Missouri State Monument
Wisconsin State Monument
Confederate Avenue
Modern Jackson Road
Glass Bayou
Contemporary Bridge
Contemporary Bridge
Illinois State Memorial
Union Avenue
Logue Circle
Martin Luther King, Jr. Boulevard
Old Jackson Road
Surrender Interview Site
Former Administration Building
Pemberton Avenue

Tour Stops
1 Battery DeGolyer
2 Shirley House
3 Third Louisiana Redan
4 Ransom's Gun Path
5 Stockade Redan Attack
6 Thayer's Approach
7 Battery Selfridge
8 Vicksburg National Cemetery
9 Fort Hill
10 Stockade Redan
11 Great Redoubt
12 Second Texas Lunette
13 Railroad Redbout
14 Fort Garrott
15 Hovey's Approach

Legend
Park Boundary
Roads
Railroad
Stream Corridor
Buildings
Tree Cover

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Existing Conditions North

Figure 57

Louisiana State Monument
Mississippi State Monument
Pemberton Circle
Haly's Point
Melan Arch Bridge No. 2
Michigan State Monument
Minnesota State Monument
Confederate Avenue
Union Avenue
Honeysuckle Lane
Grove Street
Clay Street
Melborn Place
Stouts Bayou
Texas State Monument
Arkansas State Monument
Interstate Highway No. 20
US Highway No. 80
Confederate Avenue
Melan Arch Bridge No. 1
Maintenance Buildings
Memorial Arch
Entrance Booth
Visitor Center
Kansas City Southern Railway Bridge
Maloney Circle Bridge
South Loop
Union Avenue
Iowa State Monument
Melan Arch Bridge No. 10
Melan Arch Bridge No. 9
Melan Arch Bridge No. 8
Melan Arch Bridge No. 7
Durden Creek
Big Bayou
Indiana State Monument
Georgia State Monument

Tour Stops
1 Battery DeGolyer
2 Shirley House
3 Third Louisiana Redan
4 Ransom's Gun Path
5 Stockade Redan Attack
6 Thayer's Approach
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Legend
Park Boundary
Roads
Railroad
Stream Corridor
Buildings
Tree Cover

0 500′ 1000′
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Existing Conditions South

Figure 58

Environmental and Cultural Context and Setting

Vicksburg National Military Park is located along the west central edge of the state of Mississippi on an escarpment of bluffs that rises more than 300 feet above the Mississippi River and overlooks the city of Vicksburg as well as the plains and bayous of eastern Louisiana. The escarpment is part of a geological formation associated with the Lower Mississippi Valley known as the Loess Bluffs, which extends from the confluence of the Ohio and Mississippi Rivers in northwest Kentucky to Baton Rouge, Louisiana.[128] It also falls within the Loess Hill Physiographic Province, an area characterized by steep hills and bluffs rising abruptly from the river alluvial plain. These hills and bluffs are between ten and twenty-five miles wide; the Vicksburg region contains the thickest deposits of loess soil in the Tennessee-Mississippi-Louisiana area.[129]

While the river is edged to the west by swampy bayous and floodplain, its eastern bank is characterized by the deep soil profile and dramatic topographic relief of the Loess Bluffs physiographic province. The loess soils that form these bluffs are as thick as 200 feet in places, and largely responsible for the region's unusual topography, deeply channeled ravines, and intermittent and limited springs. The loess originated as pulverized rock deposited in the Mississippi floodplain by retreating glaciers during the late Pleistocene epoch. During the advance of the glaciers during the Pleistocene era, specifically the Iowan glacier, the ice floes pulverized the bedrock over which it passed, as well as the boulders it carried in transit. This created an abundance of fine materials that traveled in meltwater. This "rock flour" was carried southward by the Mississippi and its tributaries. As the ice floes receded, the exposed floodplain deposits were picked up by the prevalent winds and blown onto the eastern riverbank of the Mississippi and the uplands. As the bluffs built up, they slowed the wind's velocity; thus the thickest deposits are found directly along the shores.[130] The deposits occur in a belt reaching five to fifteen miles inland from the bluff line. At Vicksburg, the loess soil extends from ten to fifteen miles away from the river.[131] The Loess Bluffs are thickest on their western edges, averaging 100 feet and reaching 200 feet in some places, and becoming gradually thinner to the east (Fig. 59). While a relatively unusual soil type, loess soils are also found in the mid-continent United States, China, Argentina, and eastern Europe.[132]

Due to the high impermeability and erodibility of loess soils, streams and gullies are incised deeply and sharply between linear ridges. This dramatic landform and topography played a key role in the military tactics of both armies engaged in the 1863 siege of Vicksburg.

The Vicksburg area has a mean average precipitation rate of 60 inches. While Vicksburg's winters are mild, with an average temperature of 35 degrees, summers are typically extremely hot and humid, with an average temperature in August of 92 degrees, and the potential for sudden and severe thunderstorms. In summertime, most visitors view the park from along the tour road, inside air-conditioned vehicles. The subtropical latitude and proximity to maritime tropical air originating in the Gulf of Mexico influence the climatic patterns of the area. Tropical storms occur most frequently from July to September. During the winter months, cold masses of air may be accompanied by prolonged heavy rains.

128. Warren E. Grabau, *Ninety-Eight Days; A Geographer's View of the Vicksburg Campaign* (Knoxville, Tennessee: The University of Tennessee Press, 2000), 14.
129. Mactec, *Vicksburg National Military Park Environmental Assessment for Landscape Rehabilitation,* Draft (Atlanta: National Park Service, 2009), 3–7; from USDA, 1964; Walker, 2008.
130. William Clifford Morse, Ph.D., "The Geologic History of the Vicksburg National Military Park Area" *Mississippi State Geological Survey* Bulletin 28 (1935): 14.
131. Grabau, 21.
132. Randall J. Schaetzl and Sharon Anderson, *Soils: Genesis and Geomorphology* (Cambridge, New York: Cambridge University Press, 1994), 198.



FIGURE 59. View across the Loess Bluffs toward the former Mississippi River bed, from Fort Hill, looking west.



FIGURE 60. Views of the Yazoo River Diversion Canal, from Fort Hill, looking northwest.



FIGURE 61. View of development encroaching on the park boundary, on the northwest portion of Confederate Avenue, west of Thayer's Approach, looking south.

The park falls within the Mississippi River watershed. Vicksburg originally evolved as a port city to take advantage of shipping and commerce along the Mississippi River. By 1863, Vicksburg had become one of the last Confederate strongholds along the river and thus the focus of Confederate defense and Union advance. The Mississippi River is therefore an integral part of the story of Vicksburg National Military Park, even though it does not fall within park boundaries. The river has, however, meandered since the Civil War and no longer edges the city or the bluffs to its north where the Confederates anchored the end of their defensive line. Today, the Yazoo River Diversion Canal occupies a portion of the former river channel (Fig. 60). In 1876, the Mississippi River formed a new channel west of the city during a flood. A diversion canal was created soon thereafter from the Yazoo River along the former bed of the Mississippi River to reestablish Vicksburg as a port, and the abandoned bend was renamed Lake Centennial. The canal edges the park for approximately one-half mile. The park's northern stream corridors empty into the canal, which in turn drains into the Mississippi River approximately one mile north of Louisiana Circle. Views to the canal allow interpretation of the historic relationship between the military events of the Civil War and the river.

Three forest types dominate the region. These include oak-hickory woodland, oak-gum-cypress woodland, and elm-ash-cottonwood woodland. Oak-hickory forests characterize the loessal uplands. Oak-gum-cypress woodlands are typically found on the alluvial plain of the river and many streams, while elm-ash-cottonwood woodlands are found in association with other hydric and moist-mesic soils.

Until relatively recently, Warren County was mainly agricultural.[133] While the economic base of the county has shifted into other areas including industry, there remain many acres managed for agricultural production. The growing season

133. William A. Cole and R.C. Carter, "Soil Survey; Warren County, Mississippi" (Washington, D.C.: U.S. Government Printing Office, 1964), 1.

generally lasts between 240 and 260 days.[134] Cotton and has been an important crop within the region; however, many areas of the county are not well suited to cultivated crops due to steep slopes or the risk of flooding.[135] These areas are typically wooded or used as timber plantations.

Vicksburg is the seat of Warren County, Mississippi. It lies 40 miles due west of the capital of Jackson, and 234 miles northwest of New Orleans, Louisiana. U.S. Highways 80 and 61, and Interstate 20 service the region, and pass within close proximity to the park. In 2000, the federal census tallied the city's population at 26,400, with a density of 310 people per square kilometer, an increase of 26 percent over 1990 census figures. Warren County remains relatively rural, with an estimated population of approximately 49,000 residents, and a density of 1363 people per square kilometer. Approximately 23 percent of the population lives below the poverty line.[137] Numerous industries are based in Vicksburg, including mills and cement plants; in 2006, manufacturing was identified as the city's largest economic sector.[138]

Vicksburg National Military Park lies approximately one mile to the east and north of the city's urban area. The landscape between the city and the park is characterized by commercial, industrial, and institutional developments, as well as residential subdivisions and urban neighborhoods. Since the 1950s, the City of Vicksburg has been slowly expanding toward and beyond the park. As a result, the park is experiencing development pressure along much of its boundary. This pressure is currently greatest along its eastern boundary where a large elementary school, numerous commercial ventures, and a new regional hospital have recently been built along the U.S. Highway 61 corridor. Commercial development along U.S. Highway 80 and the Interstate 20 frontage road occurs within close proximity to the park's boundaries and has impacted the park's viewsheds and water resources, and heightened incidences of vandalism (Fig. 61). This development is visible from the park's entrance area and the South Loop.

Site Description

Vicksburg National Military Park is one of 380 park units administered by the NPS as part of the National Park System. The park preserves the majority of the landscape associated with the 1863 siege and defense of Vicksburg. Confederate and Union military commanders and engineers integrated the high bluffs, rugged ravines and narrow ridges, and road and rail line corridors into their strategies for the siege and battle. The park's landscape features are essential to interpretation of the siege and range of military operations and tactics conducted by Confederate and Union forces. During the siege, both armies cleared trees to clear the line of fire associated with their weapons. Today, the views are all but blocked by dense woodland that has grown up since the twentieth century. Many of the existing trees grew up in areas revegetated by the Civilian Conservation Corps (CCC) to protect the erodible soils from washing away.[139]

Vicksburg National Military Park is comprised of six noncontiguous units: the main battlefield unit, South Fort, Louisiana Circle, Navy Circle, Pemberton's Headquarters, and Grant's Canal. Abutting the park is Vicksburg National Cemetery, which includes 17,000 interments, the largest number of Civil War Union soldier burials of any national cemetery in the United States. Together, the park and the cemetery extend over approximately 1,800 acres. Both are administered by the National Park Service.

134. Delcourt and Delcourt, 1975, as cited by Stephen A. Walker, *The Vascular Flora of Vicksburg National Military Park; Vicksburg, Mississippi* (Arlington, Virginia: The Nature Conservancy, 1997), 28.
135. Cole and Carter, "Soil Survey," 1.
136. U.S. Census Bureau, 2000 census data.
137. Ibid.
138. "Overview of Warren County, Mississippi," Indiana Business Research Center, http://www.stats.indiana.edu/uspr/a/usprofiles/28/us_over_sub_pr28149.html> (accessed September 4, 2007).
139. Mactec, EA, 3–5.

The main battlefield unit of Vicksburg National Military Park forms a crescent shape that cradles the city to its north and east. It protects and interprets the sites of the Confederate defensive line of fortifications established to maintain control over the Mississippi River corridor, and the Union batteries, earthworks, and approach routes established to attack the Confederate position. A few privately-held parcels occur within the park's legislative boundary. Some are twentieth-century residential properties, while the Anshe Chesed Cemetery, located along Confederate Avenue and Clay Street to the west of the visitor center, is a Hebrew burial ground established circa 1864 prior to the park.

The park also includes three small parcels overlooking the river to the south of the city—Louisiana Circle, South Fort, and Navy Circle—that protect evidence of batteries located by Confederate forces to protect the river and Warrenton Road avenues of approach, and Union forces to fire on these Confederate positions. Pemberton's Headquarters is the most recent addition to the park. It protects the dwelling that housed the Confederate commander during the siege. The dwelling is located in downtown Vicksburg. The Grant's Canal parcel is located across the river in Madison Parish, Louisiana, and protects and interprets the site of failed attempts by Brig. Gen. Thomas Williams and General Ulysses S. Grant in 1862 and 1863 to reach Vicksburg by establishing a canal across the base of DeSoto Point from the west side of the river to develop a channel for navigation that would allow gunboats to bypass Confederate batteries stationed along the riverfront. Neither the cemetery, nor the Pemberton's Headquarters and Grant's Canal parcels are documented as part of this CLR.

Parcels formerly included in the park were quitclaimed to the City of Vicksburg and Warren County in the 1960s. To the south of the park is a system of roads and associated monuments and earthworks remnants currently managed by the City of Vicksburg. These lands were exchanged with the city in 1963 for land along the northern boundary of the main battlefield unit. The NPS continues to maintain the monuments located on these city-owned parcels, while the city is responsible for the upkeep of the road corridors. In 1964, twenty-four acres along Sherman Avenue and Short Sherman Avenue, were quitclaimed to Warren County. While most of the monuments were moved into the remaining park land, a few were left on privately-owned residential properties at the request of the owners. In 2008, three more were moved onto park land.

Vicksburg National Military Park is listed in the National Register of Historic Places for its association with the important events of the campaign, siege, and battles for Vicksburg conducted between March 29 and July 4, 1863. In 1899, Vicksburg National Military Park was created by the federal government as one of five national military parks established in the 1890s to commemorate decisive battles of the Civil War. During the late nineteenth and early twentieth centuries, veterans and various state and federal commissions placed tablets and monuments to mark the important sites of engagement, and the locations of regiment and battery contributions to the siege. These features, which provide a direct connection between those involved in the engagement and the visitor, and support access to and commemoration of the battlefield landscape, are also protected within the park.

Today, Vicksburg National Military Park features more than 1,340 historic monuments and markers, twenty miles of original and reconstructed trenches and earthworks, approaches and parallels, eight historic bridges, an antebellum home, a sixteen-mile tour road, 149 emplaced cannon, and a restored Union gunboat.[140] The primary organizing element of the park is the tour road, which winds its way through the complex topographical terrain, tracing both the Union and Confederate siege and defense lines and providing access to important fortifications and engagement

140. Information conveyed by Vicksburg National Military Park personnel to the CLR team. The figures are not consistent with the information included in the park National Register nomination.

sites. Approximately 550 acres of the park landscape are maintained in mown grass cover to facilitate access to and an understanding of the monuments and military terrain. The remainder of the park is characterized by the woodland cover, described earlier, which developed after a revegetation effort conducted by the CCC in the 1930s to protect against erosion of the loess soils. Woodland cover often obscures important visual connections between the opposing Civil War-era siegelines.

Topographic change and relief within the park is dramatic. Due to the erodibility of the loess soils, most of the ridges are edged by steeply sloped ravines, sometimes reaching 45 degree angles. Elevations range from a height of 400 feet above mean sea level (AMSL) in the vicinity of the Illinois State Memorial to a low point of approximately 75 feet AMSL in association with Mint Spring Bayou near the park's western boundary. The park's high point occurs as part of a ridgeline that extends northeast/southwest across the center of the park between the Great Redoubt and the Old Jackson Road corridor near the Shirley House. One of the most dramatic topographic features of the park is Fort Hill, a steeply-sloped knoll that overlooks the Mississippi River at an elevation of 340 feet AMSL. This landform played a key role in the defense of Vicksburg and the river due to its commanding position.

Three perennial stream corridors traverse the park. These include Mint Spring Bayou in the northern section of the park, Glass Bayou extending across the center of the park, and branches of Durden Creek in the southern portion of the park. Other wetlands and water resources include slope or seep palustrine forested wetlands associated with seepage-saturated soils and gullies, and classified as "non-tidal, seasonally-flooded/saturated, inland fresh, circumneutral, on mineral soil… These wetlands are recharged from rainwater that percolates from higher elevations and contributes to seepage, subsurface, and sheet flows."[141] Many of the park's wetlands exhibit evidence of soil disturbance and are infested with invasive plant species.

Existing Conditions Documentation by Landscape Feature

Natural Systems and Features

The primary natural systems and features of the Vicksburg National Military Park are its limestone geology, Loess Bluffs soils, bayous, streams, waterfalls, wetlands, and native woodland.

Limestone Geology and Travertine Formations. The park is generally underlain by fossiliferous limestone, a byproduct of sedimentation that occurred during the late-Mesozoic period when the Gulf reached much farther north and covered a large portion of the southern United States, including current-day Vicksburg. The calcareous shells of marine invertebrates, ground into fragments, form the basis of limestone and shell marl. Mint Spring Bayou is one of the few areas of the park where bedrock is exposed; here, the substrate contains a large number of fossils from the Byram era. The fossil bed associated with the Mint Spring formation is considered a significant paleontological resource.[142] Formations of flowstone and dripstone, also known as travertine, have been found within the exposed cave passage along a tributary of Glass Bayou.[143] The condition of this geologic formation is generally good.

Within the lower river terraces, layers of red, sandy clay and gravel are deposited above the limestone and shale bedrock geology. These are visible along the base of the line of bluffs, at approximately river level. The fine loess particles,

141. Katya Kovalenko and Eric Dibble, Ph.D., "Wetland Inventory; Vicksburg National Military Park" (Mississippi State, MS: Department of Wildlife and Fisheries, Mississippi State University, December 2007), 11.
142. Mactec, EA, 3–8; from Cliff and Buysse.
143. Robert J. Cooper et al., "Natural Resource Summary for Vicksburg National Military Park (VICK)" (Athens, Georgia: University of Georgia, Warnell School of Forest Resources, November 2004), 9.

as described above, were deposited above these layers of sediments after the retreat of Pleistocene glaciation.

Loess Soils. Vicksburg National Military Park is primarily underlain by the Memphis-Natchez-Adler soil association, which is found over approximately 60 percent of Warren County lands. The well-drained soils of this association are typically found in hilly loessal uplands and local silty alluvia. Loess soils are very fertile and are one of the richest soil types in the world.[144] Memphis and Natchez soils comprise about 70 percent of the association.

Memphis soils are well-drained and loess-based. This soil type occurs on nearly level to very steep slopes in the uplands of Warren County. In areas that have not been eroded, natural fertility is moderate, organic content is low, and reaction is strongly acid. Memphis soils are well suited to most of the commonly grown crops in the county. The movement of water through the soil is very slow, but enough moisture is generally available to support the needs of most plants. When cultivated, the soil is subject to erosion; cultivation is not recommended on steeper slopes due to the erosion hazard.[145]

Natchez soils are also well-drained and loess-based, occurring on strongly sloping to steep slopes of upland areas within Warren County. Natchez soils have moderate fertility and a low organic matter content. The reaction is strongly to moderately acid. These soils are typically found in areas that are too steep for cultivation, and are best suited to perennial vegetation.[146]

Adler soils are moderately drained and formed in the alluvium washed from loessal uplands found in stream valleys on nearly level sites. Natural fertility is moderate, the organic matter content is low, and the reaction is mildly alkaline. They are well-suited to a range of crops and pasture plants.[147]

The unique properties of the soils of the Loess Bluffs have played an integral role in shaping the park's terrain. Loess is composed of tiny plate-like particles locked together by calcium carbonate. The plates give the soil an unusual crystalline structure. The resulting soil is soft, easy to work, and will stand in a vertical bank indefinitely, requiring little in the way of bracing, despite the fact that the soil is very loosely consolidated and has the consistency of flour.[148] These properties were exploited by both armies at Vicksburg in their fortification construction and mining operations, as well as by civilians, who dug cave dwellings into the Loess Bluffs for protection against artillery fire. In an undisturbed state, this structure has a very high porosity. Despite its porosity, the soil is highly impermeable. Water does not percolate through loess soil, but will quickly erode the particles when it runs across an exposed surface (Fig. 62). Due to this high erodibility, the Loess Bluffs are characterized by a steep and deeply dissected topography that affords a diversity of habitats for plants and animals.[149]



FIGURE 62. Example of erosion of the local loess soils, south of the walkway leading to the Stockade Redan Attack tour stop.

144. William Clifford Morse, Ph.D., "The Geologic History of the Vicksburg National Military Park Area" *Mississippi State Geological Survey* Bulletin 28 (1935): 15.
145. Cole and Carter, "Soil Survey," 10–11.
146. Cole and Carter, "Soil Survey," 13.
147. Cole and Carter, "Soil Survey," 4.
148. Christopher R. Gabel, *Staff Ride Handbook for the Vicksburg Campaign; December 1862–July 1863*, 49, <www.cgsc.army.mil/carl/resources/csi/gabel15/gabel15.asp>.
149. Samuel Faulkner, Ph.D., "Mississippi's Geology" (Cleveland, Mississippi: Delta State University, 2003), <www.marshdoc.com/physiography/physiography2/physiography2.html>.

Over millennia, runoff water carved out deep ravines in all directions. The slopes dropping into the ravines are quite steep in many places.[150] The current condition of the park bluffs ranges from fair to good.

Mint Spring Bayou, Glass Bayou, Durden Creek. The park is crossed by three stream corridors—Mint Spring Bayou, Glass Bayou, and Durden Creek—as well as various minor perennial and intermittent streams. All eventually empty into the Mississippi River; Mint Spring and Glass Bayou feed into the Yazoo River Diversion Canal, while Durden Creek flows into Hatcher's Run, which drains directly into the Mississippi River. The park's drainages are fed by springs, which maintain a constant flow even though the speed and depth of the water vary during the year.[151] Both Mint Spring and Glass Bayous have worn steeply-sloped ravines into the Loess Bluffs.[152]

Mint Spring and Glass Bayous were described in a 1935 geological survey, including their relationship to the surrounding terrain, as follows:

> For their length and for the volume of their waters, [Mint Spring and Glass Bayous] both have cut enormous valleys of great depth and steep walls. Along the ridge constituting the southern or left valley wall of the more northern of these two valleys, Mint Spring, the Confederates took up their position and entrenched in the loess, the most ideal of mantle rock for rapidity in excavation and for stability of vertical walls. From the head of Mint Spring valley, they extended their line southward along the ridge constituting the west or right wall of one of the tributary valleys of Glass Bayou. From Fort Hill on the Mississippi bluff, their line extended east and thence south unbroken topographically to the crossing of the main valley of Glass Bayou near the old Jackson Road. On the side of the valley opposite these various positions of the Confederates, the Federals took up their position and likewise entrenched in the loess. Between these parallel lines was no level way of approach other than the narrow transverse ridge forming the divide between the headwaters of Mint Spring Bayou and Glass Bayou. This transverse ridge is a part of the Graveyard Road and was actually used as the Ewing approach.[153]

Mint Spring Bayou is the only stream within the park that falls entirely within park boundaries. It is located within the northern section of the main battlefield unit, and flows generally west from the vicinity of Thayer's Approach toward the western boundary of the park, passing beneath Connecting Avenue and to the south of Vicksburg National Cemetery before emptying into the Yazoo River Diversion Canal. Mint Spring Bayou is classified as a perennial stream along its lower section, while over its upper reaches it is considered an intermittent stream. The volume of flow decreases during the summer months, with the stream channel diminishing from a maximum width of fifteen feet after heavy rains to twelve feet, and a depth ranging from 1.1 feet to 0.7 feet. NPS has monitored Mint Spring Bayou for temperature, dissolved oxygen, pH, and conductivity since 1995. No unusual environmental contamination has been detected relative to the variables being measured.[154] The condition of the stream corridor ranges from fair to good. Recently, increased sedimentation resulting from the run-off of nearby urban development, especially along Highway 61 east of the park, has resulted in higher water

150. Grabau, 21–22.
151. "Vicksburg National Military Park Springs and Seeps," <www.nps.gov/vick/naturescience/springs.htm>, accessed May 17, 2007.
152. Cooper et al., 13.
153. "Geologic Control of the Armies" *Mississippi State Geological Survey Bulletin* 28, <www.cr.nps.gov/history/online_books/geology/publications/bul/msgs-bul-28/sec3.htm>.
154. Mactec, EA, 3–9 ; Eric Dibble of Mississippi State University has been collecting information about the condition of the park's streams and natural habitats for more than a decade: "An ongoing study by the associate university professor is providing the National Park Service with comprehensive, science-based information about existing stream conditions and the presence of bank-side flora and fauna. It is believed to be the first ecological evaluation of the streams since the park was established in 1899," from "MSU Study Reveals Wild Side of Famous Park," <www.msstate.edu/web/media/detail.php?id=3367>, accessed September 4, 2007.

temperatures in Mint Spring Bayou (Fig. 63).[155] Currently, "restoration of Mint Spring Bayou [is] recommended to aid in re-introduction of native fish species, currently deficient due to invasion of a fathead minnow population, and depletion of streamside vegetation."[156]

Glass Bayou is a shallow perennial stream that is faster moving, shallower, and narrower than Mint Spring Bayou. The main branch flows through the central portion of the main battlefield unit just south of modern Jackson Road, while a small segment of its northern branch flows beneath Confederate Avenue northwest of Stockade Redan. Glass Bayou flows through an exposed cave passage for a short length. NPS has monitored Glass Bayou for temperature, dissolved oxygen, pH, and conductivity since 1995. The condition of the stream corridor is generally good. Recently, increased sedimentation resulting from the run-off of nearby urban development, especially along Highway 61 east of the park, has resulted in higher water temperatures in Glass Bayou.[157]

Branches of Durden Creek, also known as Big Bayou, extend through the center of the main battlefield unit beginning west of the Minnesota State Monument and flowing south toward the Memorial Arch. A second branch flows for approximately 500 feet through the park's South Loop between the bottomlands south of Railroad Redoubt and north of Hovey's Approach. The stream corridor averages three feet in width. A portion is culverted where it passes beneath the South Loop of the tour road.[158] Clearing associated with Railroad Redoubt "entailed removal of several acres of trees planted in the mid-1900s, and opened the landscape to more grassland and herbaceous plants."[159] Durden Creek is located



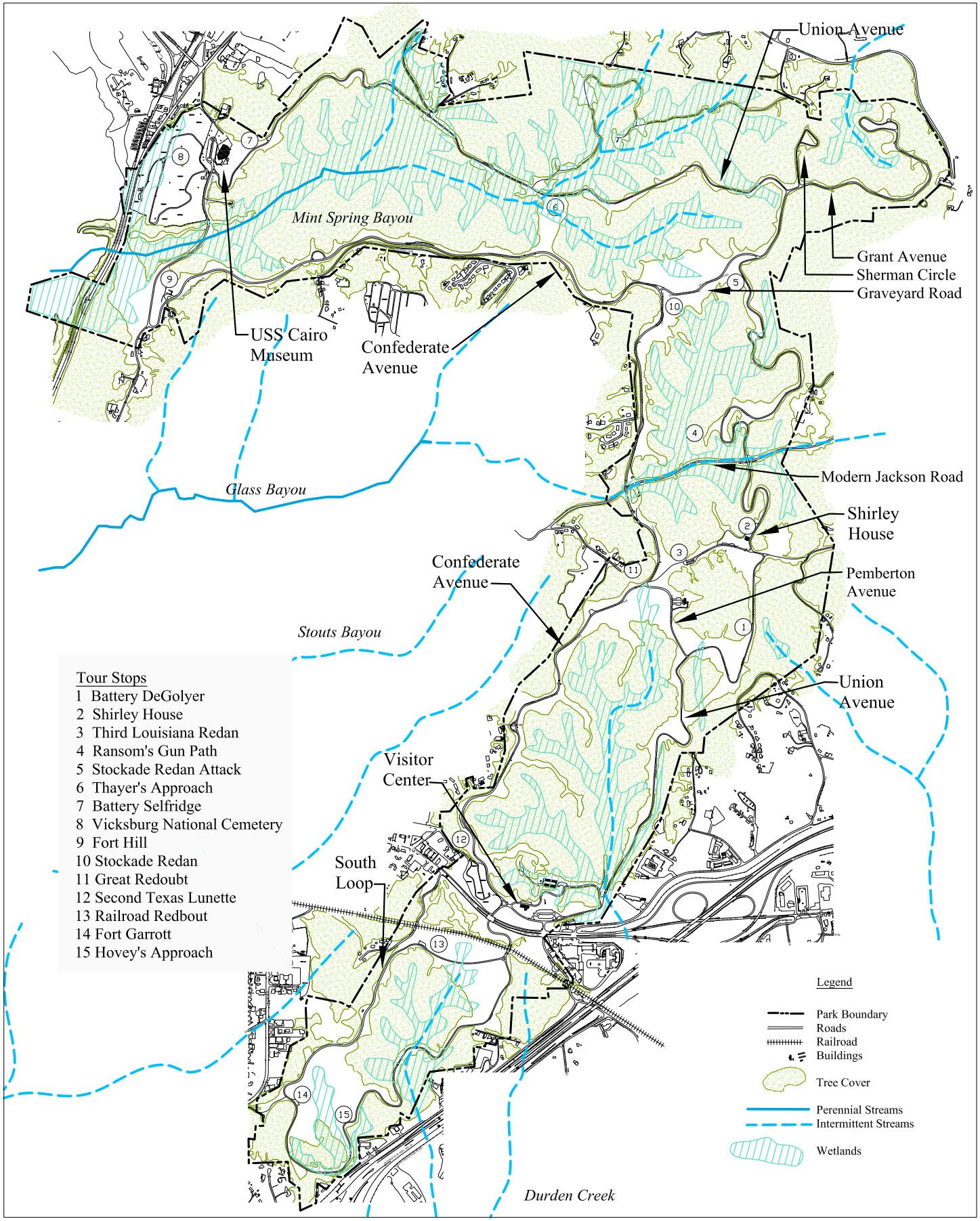
FIGURE 63. Looking west and down at Mint Spring Bayou from the Connecting Avenue bridge between Vicksburg National Cemetery and Fort Hill; recent studies have been tracking sedimentation in the streams of the park.

within the cleared area. The section running south of Railroad Redoubt is "considered a vital wetland area, was maintained as a buffering area of the restoration process."[160] The condition of the stream corridor is fair given the degree of disturbance that has occurred to soil within the area.

Mint Spring Bayou Waterfall. Two waterfalls are associated with Mint Spring Bayou. The waterfalls are formed from rock outcroppings. One of these, located near the park's western boundary south of the Vicksburg National Cemetery, has a vertical drop of nearly twenty-five feet and has been designated a Mississippi State Natural Feature. The condition of the waterfalls is generally good.

Springs and Seeps. As the surface exit points for water moving underground, springs and seeps are influenced by geology. Within the rolling and hilly topography of the Loess Bluffs, these water features originate from groundwater percolating through the soil and emerge from the ground on the lower slopes, where they develop into small streams or pooled water. Because water does not percolate through loess soil in the same way as

155. Cooper et al., 16.
156. "Vicksburg National Military Park; Rivers and Streams," <www.nps.gov/vick/naturescience/rivers.htm>, accessed May 17, 2007.
157. Cooper et al., 16.
158. Mactec, EA, 3–9.
159. "Vicksburg National Military Park; Rivers and Streams," <www.nps.gov/vick/naturescience/rivers.htm>, accessed March 25, 2009.
160. Ibid.



Source: Autocad Base Map, USGS Topographic Data
December 2007 Wetland Delineation, Kovalenko and Dibble.

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Cultural Landscape Report
Vicksburg National Military Park

Wetlands
Figure 64

other soils, and rainwater is not retained in its mass, there are very few springs in the Loess Bluffs. While springs and seeps are assumed to feed Mint Spring Bayou, as suggested by its name, their locations are not currently known by park staff. Others have been witnessed by park staff, but their locations have not been well documented. The park may include many more slope seepage type wetlands than previously thought.[161] Many of the park's seeps go dry during the summer months, and the streams associated with these seeps are ephemeral and flow only during the winter and early spring months.[162] The condition of park springs and seeps as known is generally good.

Other Wetlands. A wetland delineation of the park was conducted by Mississippi State University in December 2007 (Fig. 64).[163] Park wetlands were identified as either riverine, unconsolidated bottom or streambed, or palustrine forested wetlands. They are most commonly associated with slopes with seepage-saturated soils, gullies, ephemeral creek beds, and streams such as Mint Spring Bayou, Glass Bayou, and Durden Creek,[164] and take the form of wet meadows, vernal pools, and riparian areas, particularly in the South Loop area where there are low-lying depressions and poorly-drained soils. The area around the Railroad Redoubt is thought to have significant areas of wetlands that merit further study and investigation. Vernal or ephemeral pools also occur within the park and provide shallow-water habitat for many faunal species, which in turn feed many predators such as bats and raccoons. These areas only exist during the wettest time of the year, and are typically not present during the hot Mississippi summer.[165] Within the park, portions of many wetland communities are dominated by Chinese privet (*Ligustrum sinense*).[166] The condition of park wetlands generally ranges from fair to good, although some disturbed environments infested by privet may be classified as in poor condition.

Functionally, forested wetlands in the park are defined as seepage or slope wetlands, which are recharged from rainwater that percolates from higher elevations and contributes to seepage, subsurface, and sheet flows. According to disturbance-level criteria, seepage and riverine wetlands in the park were judged pristine to moderately disturbed (primarily by upstream modifications and invasive plants), and modified wetlands (such as the Railroad Redoubt cleared area) were judged severely disturbed.[167]

Forested wetlands of the park may play an important role in control of erosion and siltation. Dense growth of Chinese privet may compromise this role and habitat wetland functions. Most areas overgrown with privet have very sparse herb and other shrub cover and lack of extensive root systems, thus potentially allowing soil erosion to occur beneath the stands, and precluding associated soil moisture retention. Areas dominated by native giant cane (*Arundinaria gigantea*), however, had a more extensive root system in the upper part of the soil and may be a desirable component of wetland habitats in terms of soil erosion control and water retention. Water retention by seepage wetlands is essential for streamflow maintenance and integrity of the overall watershed. Saturated soils were observed in the park up to two months after the last significant precipitation was recorded. It is also possible that seepage wetlands prevent the soil from extreme desiccation, which may lead to changes in soil structure; therefore this type of wetland is important for maintaining soil integrity

161. National Park Service, Review comments provided to CLR team relating to 75% draft, Part 1, August 2007.
162. Grabau, 21.
163. K. Kovalenko and E. Dibble, "Vicksburg National Military Park Wetland Delineation: Final Report" (Starkville: Mississippi State University, Department of Wildlife and Fisheries, 2007).
164. Mactec, EA, 3–10; from Kovalenko and Dibble, 2007.
165. "Wetlands, Marshes and Swamps," <www.nps.gov/vick/naturescience/wetlands.htm>, accessed March 25, 2009.
166. Mactec, EA, 3–10.
167. Mactec, EA, 3–10; from Kovalenko and Dibble, 2007.



FIGURE 65. Mown grass areas of the park edged by woodland, at the Surrender Interview Site Monument, looking southeast along Pemberton Avenue.

and reducing erosion.[168] Springs and seeps within the park provide important habitat for many amphibians and reptiles, including spotted dusky salamanders (*Desmognathus conanti*) and box turtles (*Terrapene carolina*), which forage in the shallow waters and often rehydrate themselves in these areas before traveling through drier, upland territory.[169]

Native Woodlands. The landscape of Vicksburg National Military Park is characterized by a mix of forested and open, grassy areas (Fig. 65). Currently, approximately 70 percent, or 1,250 acres, of the park is wooded, while 550 acres are maintained in grass and other low-growing ground covers through mowing and burning. The steep ravines are generally covered by dense woody vegetation, while many of the ridgelines occupied by earthworks and the tour road are maintained in cool-season grasses. The wooded areas have mainly developed since CCC revegetation efforts in the 1930s to prevent soil erosion. These woodlands exhibit a high degree of diversity, generally attributed to the forest's relatively young age. More than sixty species of trees and shrubs have been identified within the park as part of past inventories. Yet, at seventy-five years of age, the stands that exist today are some of the oldest second-growth woodland in Mississippi.

The park falls within the loess hill ecosystem, which borders the eastern edge of the lower Mississippi River Valley from Cairo, Illinois, to Baton Rouge, Louisiana. Vicksburg National Military Park is the largest publicly-held parcel of wooded loess soils in the United States,[170] and the Loess Bluffs support "the only major southward extension of mixed mesophytic forest through Mississippi into Louisiana."[171] In a 1964 *Vascular Flora of Vicksburg National Park*, E.L. Braun describes the area as a mixed mesophytic forest dominated by beech (*Fagus grandifolia*) and cucumber tree (*Magnolia acuminata*). In 1996–1997, Stephen A. Walker of the Nature Conservancy prepared an inventory of park plant species (see Appendix C). During the inventory, only two small stands of beech were observed, and no cucumber trees were in evidence.

Walker describes the park's woodland as a mixed, mesophytic forest with a predominance of southern red oak (*Quercus falcata*) and white oak (*Q. alba*). Other common overstory trees include southern sugar maple (*Acer barbatum*), basswood (*Tilia americana*), black oak (*Q. velutina*), and northern red oak (*Q. rubra*), elm (*Ulmus spp.*), walnut (*Juglans nigra*), and hickories (*Carya spp.*). Understory and shrub species include ironwood (*Carpinus caroliniana*), dogwood (*Cornus florida*), redbud (*Cercis canadensis*), pawpaw (*Asimina triloba*), sassafrass (*Sassafras albidum*), American hydrangea (*Hydrangea americana*), and oak-leaved hydrangea (*Hydrangea quercifolia*).[172]

Naturally occurring, but less frequently observed, are shortleaf and loblolly pine (*Pinus echinata, P. taeda*), American holly (*Ilex opaca*), hawthorn (*Crataegus spp.*), and vines. Christmas fern (*Polystichum acrostichoides*), rattlesnake fern

168. Mactec, EA, 3-10; from Kovalenko and Dibble, 2007.
169. "Springs and Seeps," <http://www.nps.gov/vick/naturescience/springs.htm>, accessed May 17, 2007.
170. Personal communication, Kurt Foote, National Park Service, to Liz Sargent, JMA, March 2007.
171. Walker, 28.
172. Virginia DuBowy, personal communication, May 30, 2008.



FIGURE 66. One of the park's many reforested areas, just after Union Avenue's western bend toward the Illinois Monument, looking northwest. The Shirley House is barely visible behind the trees; during the siege, this exposed escarpment was the site of many *shebangs*, or lean-to shelters, in which Union soldiers encamped.



FIGURE 67. Giant cane (*Arundinaria gigantea*) growing in a low-lying area, looking south from the vicinity of the Wisconsin Monument. Dense stands of cane were present in the landscape during the siege and presented obstacles to movement and also material for the construction of sap rollers.

(*Botrychium virginianum*), green trillium (*Trillium viride*) and bedstraw (*Galium aparine*) are in evidence in the herbaceous understory (Fig. 66).[173]

Mesic and hydric communities occupy the stream valleys. These are characterized by species such as oak (*Quercus spp.*), cottonwood (*Populus deltoides*), sweetgum (*Liquidambar styraciflua*), sycamore (*Platanus occidentalis*), and yellow poplar (*Liriodendron tulipifera*). The understory consists chiefly of roughleaf dogwood (*Cornus asperifolia*), American holly, low shrubs, and vines.

Notable forest stands include a mature area of bottomland vegetation along Mint Spring Bayou, likely older than the CCC revegetation efforts, and another located along the Yazoo Diversion Canal margin. Other plant communities inventoried within the park include cherrybark-water oak association, sweetgum-pecan tree-water oak association, tulip tree-oak association, black willow association, black locust association, sycamore mix, and smooth sumac shrubland.

Giant cane is another plant of interest within the park. A member of the grass family, giant cane is a native perennial bamboo found in wet woods and swamps or along river banks. It grows in dense stands and was present during the siege of Vicksburg. Some stands grew as high as fifteen feet and created impenetrable thickets that posed a challenge to troop movements, particularly when entangled by vines.[174] The cane was also used to make sap rollers by the Union soldiers in their mining efforts to approach the Confederate earthworks (Fig. 67).

Invasive species are prevalent in many areas of the park. Although the woodlands are generally in fair to good condition, colonization of park woodlands and fields by non-natives threatens their ecological health (see Cultural Vegetation section for more information).

Plant Species of Special Concern. The 1996–1997 inventory prepared by the Nature Conservancy did not identify any federal or state rare, threatened, or endangered species within the park.[175] Two state-listed plant species of special concern have been identified as occurring or possibly occurring within the park. The prairie nymph (*Herbertia lahue ssp. caerulea*) is associated with a habitat of open, disturbed areas, and is found throughout the park in open grassland areas. The climbing bittersweet (*Celastrus*

173. Ibid., 33.

174. Grabau, 22.
175. Walker, 32.

scandens) was identified during a 2005 survey to verify occurrence for the Biotics 4 Database. This species was later observed within the park on two occasions in April 2008. The habitat for this species includes forests, edges of forests, fields, thickets, and swamps or damp forests.

Wildlife Habitat. Various wildlife species inhabit the excellent habitat, including food, water, and shelter, offered by the park's mixed hardwood, mesophytic forests and grasslands. The maturation of the mesophytic forest since the 1930s has supported the return of many species of native fauna, including ungulates, small mammals, birds, reptiles, amphibians, and invertebrates. Trees that have regrown in the park since the 1930s, for example, are today home to many mammal species.[176] Loess bluff hardwood forest has become increasingly fragmented by development and other land uses over the years.[177] The park encompasses one of the few extant tracts of loess bluffs hardwood forest on public land in the United States. The loess soils at the western edge of this ecosystem support unique hardwood forests within the Mississippi River floodplain and the more well-drained upland pine forests of the east gulf coastal plain. Forest species are reliant upon woodland resources to survive and successfully reproduce, and will use every available ecological niche until the carrying capacity of a particular habitat is reached. Forested habitats with structural and compositional heterogeneity provide for microhabitats and food sources that support species diversity. While the park's grasslands support the habitat requirements of additional species, those areas of the park that are monocultures of Bermuda grass (*Cynodon dactylon*) tend to be less biologically productive, and do not support a wide range of species.

176. For more information, see recent park wildlife inventories, including E. D. Keiser, "Survey of the Amphibians and Reptiles of Vicksburg National Military Park: Final Report" (Gulf Coast Network Inventory & Monitoring, National Park Service, 2002); and J. M. Linehan and M.T. Mengak, "Inventory of the Mammalian Species at Vicksburg National Military Park: Final Report" (Gulf Coast Network Inventory & Monitoring, National Park Service, 2006).
177. Mactec, EA, 3–14.



FIGURE 68. Wild turkeys were observed in the park during the January 2007 CLR field investigations along the shoulder of Confederate Avenue in the northwest region of the park. Vicksburg National Military Park has become significant habitat for wildlife, particularly migratory birds.

Birds. The park is located along the central flyway of the United States, a major habitat corridor for migrating and breeding bird species that focuses along the Mississippi River. The park's varied habitats—hardwood forest, riparian areas, grasslands, and edge communities—make it an important stopping place along the route (Fig. 68). To date, 180 species of birds have been sighted within the park, including several of conservation or high conservation priority, such as the white-eyed vireo, worm-eating warbler, hooded warbler, orchard oriole, Swainson's warbler, and Kentucky warbler.[178] The uplands of the park is also the only known concentration point in Mississippi for migrating raptors during the fall. The raptors utilize the park's topography, which constitutes the second highest point of elevation between Memphis and New Orleans, as an important point of reference during migration. Bird enthusiasts travel to Fort Hill to observe broad-winged hawks, sharp-shinned hawks, peregrine falcons, bald eagles, and other raptors during their southward migration.

178. "Birds," <www.nps.gov/vick/naturescience/birds.htm>, accessed March 25, 2009.

The National Audubon Society has designated Vicksburg National Military Park an Important Bird Area (IBA). Important Bird Areas are sites that provide essential habitat for one or more species of birds, and may include breeding, wintering, or migratory stopover sites. Typically, sites are discrete areas that stand out from the surrounding landscape. To qualify as an IBA, a site must support species that are threatened, endangered, or vulnerable due to limited distribution or a concentration in one general habitat or biome, or known to congregate in high densities there. Initiated by a global coalition of more than 100 partner organizations called Bird Life International, the designation is recognized worldwide. The National Audubon Society administers the IBA program in the United States.

The Audubon Society cites non-native plant species and clearing as threats to the Vicksburg IBA designation. Bruce Reid with Audubon Mississippi, along with representatives of the USGS Patuxent Wildlife Research Center, have been monitoring the migratory habits of songbirds within the park since 2003 and hope to continue to collect this data annually. Further surveys are needed during the breeding season to better understand the habitat usage and nesting density of bird species within the park. Breeding bird studies and monitoring activities are proposed for the park, but until these studies have been conducted, a definitive statement of bird habitat usage cannot be made at this time.[179]

Wildlife Species of Special Concern. There are no known federally-listed wildlife species that reside within the park, although one federally endangered bird species—the interior least tern (*Sternaantillarum athalassos*)—may visit the park on a transitory basis. The bald eagle, formerly federally-listed as threatened and recently delisted and now monitored, has been observed near Fort Hill. The Yazoo River Diversion Canal and its adjoining Louisiana bayous provide an abundant source of favored prey for the bald eagle.[180]

There are two reptiles listed by the state of Mississippi as species of special concern that reside in the park. These are the Mississippi map turtle (*Graptemys pseudogeographica*) and the alligator snapping turtle (*Macrochelys temminckii*). There is also one mammal listed by the state as a species of special concern known to inhabit Warren County—the oldfield mouse (*Peromyscus polionotus*). A 2006 mammal inventory conducted at the park did not indicate the presence of the oldfield mouse.

According to MNHP records, the southern red belly dace (*Phoxinus erythrogaster*) is a state fish species of concern found within a two-mile radius of the park. This fish species, however, is not listed on the park's inventory.[181]

Other Species. Encroaching development has introduced feral populations of cats and dogs to the park. Some may threaten native species and constitute a hazard to visitors.[182]

179. "Site Profile," <iba.audubon.org/iba/viewSiteProfile.do?siteId=1777&navSite=state>, accessed May 21, 2007. Working with the U.S. Geological Survey in 2003 and 2004, Audubon monitored migrating and breeding songbirds in the Loess Hills habitat of the Vicksburg National Military Park. Data were collected over 33 days using the Breeding Bird Survey technique over a 10-mile route (*Audubon Conservation News*, Summer 2003), <www.freelists.org/archives/chapter-communicator/09-003/msg00000.html>, accessed September 4, 2007. See also S. G. Somershoe, D. J. Twedt, and B. Reid, "Density and Abundance of Spring Migrant and Breeding Birds at Vicksburg National Military Park" (Laurel, Maryland: USGS Patuxent Wildlife Research Center, 2004).

180. Mactec, EA, 3–14; from NPS, 2004.
181. Mactec, EA, 3–15.
182. Cooper et al., 16.

Responses to Natural Resources

The Loess Bluffs landform influenced early cultural settlement patterns of the region, the Civil War era siege, as well as park development and subsequent management by focusing construction, road building, establishment of defensive structure, and agricultural activities on the narrow ridgelines. Today, the primary cultural responses to natural resources in evidence within the park include remnants of the Confederate defensive fortifications established along ridgelines to command views of avenues of attack (Fig. 69), the siting of the antebellum Shirley House on a ridgeline in close proximity to a spring that provided a ready source of potable water, the tour road system and engineered infrastructure, such as culverts and bridges, paved ditches, drop inlets, curbs and gutters, and terraced slopes placed to follow elevated topography, to manage drainage, and to cross the deeply dissected terrain in the fewest possible locations. In addition, the park visitor center is sited on an elevated plateau adjacent to Clay Street, which is built on fill to afford a level road and development corridor. Existing woodland and some graded areas of the park exhibit the 1930s response to severe erosion caused by careless cultivation practices. These efforts stabilized roads and monuments and contributed additional engineering solutions to stormwater management.

Many of the park's cleared slopes have been planted with Bermuda grass to hold the soil and prevent erosion while maintaining an open character for interpretation and viewing of Civil War-era and commemorative features (Fig. 70).



FIGURE 69. A view of cannon sited to mark Civil War gun emplacements associated with earthworks. This view is from the vicinity of the Texas State Monument, looking east along the Railroad Redoubt, one of the major fortifications interpreted at the park.



FIGURE 70. The highly erodible, steep slopes within the park are stabilized with vegetation. This view is of a slope east of Confederate Avenue, near the Missouri State Monument, looking east.



FIGURE 71. Remnant earthworks are in evidence throughout the park, and they are highly legible when covered with mown turfgrass. These earthworks lie southeast of the Louisiana State Monument and are part of the Great Redoubt complex. This view is from Pemberton Avenue, looking northwest.

Topography and Topographic Modifications

The topography of Vicksburg is varied and marked by dramatic slopes, deeply incised ravines, and narrow ridges. The variations in topography are evident along the tour road as it curves around hills, dips into ravines, and climbs ridges. Earthen fortification remnants punctuate the existing high points and depict the system of Civil War-era Confederate defenses and the Union siege lines placed along proximate ridgelines and other high ground affording views of the Confederate earthworks (Fig. 71). Many of these views today are obscured by woodland vegetation. The lowlands are characterized by drainage corridors such as Mint Spring Bayou. As noted earlier, elevational differences across the park range from a low point of 75 feet AMSL to a high point of approximately 397 feet AMSL at the site of the Louisiana State Monument.

A 1935 geological survey describes the role of topographic features in structuring the opposing forces:

> From Jackson Road the valley of Stouts Bayou drains south by southwestward almost to the Mississippi at the southern edge of the city. The left or east wall of this valley forms a ridge extending unbroken likewise almost to the very bluff of the Mississippi. Along this ridge the Confederates entrenched, thus encircling the city from bluff almost to bluff with a topographically unbroken trench, save for the crossing of Glass Bayou at Jackson Road.
>
> For nearly half of the distance from the Jackson Road ridge southwestward toward the Mississippi bluff, a number of successively lower and lower tributaries of Big Bayou (Durden Creek) head upward toward the ridge, bearing the Confederate trenches, in such a manner as to form along their headwater stretches a succession of headwater valleys, the whole being a linear composite valley parallel with the ridge on which the Confederates were entrenched. On the side of this valley opposite the Confederates, the Federal forces took up their position and entrenched in a parallel line of trenches. Between the two opposing trenches was only one ridge approach, namely, the Baldwin Ferry Road through the Hebrew Cemetery near the Alabama and Vicksburg Railroad.
>
> For approximately two-thirds of the length of the line of defense trenches, therefore, the Federal line was on the side of a deep valley opposite to, and parallel with, the Confederate line. Throughout this entire distance only three transverse ridges, the Graveyard Road ridge, the Jackson Road ridge, and the Baldwin Ferry Road ridge, connected the two opposing lines of trenches. Consequently, it was necessary that the Confederate trenches be heavily fortified at these three places, for at most other places, even though the steepness of the slope did offer protection at some, it was necessary for either attacking army to descend a steep valley wall and ascend the opposite steep valley wall in the face of a brave entrenched foe. Needless to say, the Federals' attempt to capture these special fortifications led to the hardest and bloodiest fighting along and near these three ridge approaches.
>
> For the remaining third of the encircling line the outward flowing tributaries head upward toward the ridge of the Confederate trenches at right angles to it, thus forming short spur ridges between them. Save for a short distance south of Kentucky Avenue, the Federal trenches were, consequently, not dug in a parallel position. Rather they were dug as a series of zigzag trenches along the crest of some of these spur ridges and as a series of short crescent-shaped trenches across others.[183]

Topographic modifications in evidence within the park are related to military events, road construction, erosion control, construction of park amenities for visitors and administrative features, and interpretation. The topographic modifications relating to military events include the surviving evidence of Confederate and Union earthworks constructed to defend and attack the City of Vicksburg during the Civil War. Road construction, including the park tour road and Clay Street, has often entailed grading, shaping,

183. "Geologic Control of the Armies," *Mississippi State Geological Survey* Bulletin 28, <www.cr.nps.gov/history/online_books/geology/publications/bul/msgs-bul-28/sec3.htm>.

and the placement of fill to engineer the necessary horizontal and vertical profiles. These efforts are in evidence along the park's road corridors. Erosion control efforts have ranged from extensive regrading and reshaping of the land to stabilize slopes to repair of failed slopes, localized repair with soil and crushed stone, and placement new stormwater management control. Construction of the park's visitor center, USS *Cairo* exhibit and museum, and other buildings and structures has involved regrading to establish level areas of structures and associated roads, walks, and parking areas. Topographic modifications associated with interpretation include reconstruction during the 1960s of one of the Union zigzag trenches as an interpretive aid (Fig. 72), and the construction of representative earthworks in the vicinity of the visitor center as an interpretive aid.

Today, the park continues to experience problems with sinkholes, cave-ins, and erosion (Fig. 73). A borrow pit behind the maintenance area is sometimes utilized to obtain material for repair of erosion problems (Fig. 74).

Patterns of Spatial Organization

The spatial organization of Vicksburg National Military Park is informed by its landform, land cover, and park features such as buildings, monuments, roads, and fences. The most important factors influencing the volumes of space and character of places within the park are woodland and grass cover.

The layout of the main battlefield unit is a crescent that wraps around the northern and eastern margin of the city, tracing the Confederate fortifications that defended the city from all sides and the Union forces that edged them landward. The fortifications originally extended north and south to the Mississippi River and the original park boundaries encompassed the entire system. However, the southern third of the system is no longer included within park boundaries, changing spatial patterns of the park and the potential for understanding the defensive system as a whole.



FIGURE 72. View looking southeast from the foot of Fort Garrott of a zigzag trench reconstructed during the 1960s to interpret Hovey's Approach.



FIGURE 73. Erosion around the footings of historic Melan Arch Bridge No. 2 along Union Avenue north of Pemberton Avenue, looking southwest.



FIGURE 74. A borrow pit behind the maintenance complex, north of the visitor center, from which fill is used to repair erosion, an ongoing maintenance concern at the park.

During the fall of 1862 through the spring of 1863, the Confederate forces established a nearly continuous line of fortifications, rifle pits, and obstacles around the city, following ridgelines and high points, and fortifying road corridors and other potential avenues of attack. In front of the defensive line in many places were deep ravines "through which Union troops would have to pass to reach the Confederates. The Union siege lines paralleled the Confederate defense line at an average distance of about 500 yards at the beginning of the battle, but this distance was gradually reduced as the siege wore on. The Union siege line consisted of artillery protected by earthworks and rifle pits manned by infantry."[184]

The park protects and preserves the location of the Confederate linear system of earthworks, as well as the parallel system constructed by the Union army to support its attack and siege of the Confederates. The layout of these systems is reinforced by the placement of Union and Confederate Avenues that follow the defensive lines as part of early park development.

Landform played an important role in the spatial organization of the earthworks, and continues to influence the park's spatial organization today. The primary organizing elements are the ridgelines and the two stream valleys. These include Glass and Mint Spring Bayous, which flow in a westerly direction and are more or less parallel to one another.

During the early twentieth century, two park roads were established to afford access to the earthwork systems and the monuments that were sited to mark key events and locations of the siege of Vicksburg. These two parallel systems are reinforced by park vegetation management practices that maintain the landscape associated with the earthworks, monuments, and road corridors in mown grass cover. In addition to the road margins, the park also maintains notable



FIGURE 75. The Railroad Redoubt is one of the recently cleared areas of the park that is now maintained in mown turfgrass. This view is from a position southeast of the Texas State Monument, looking southeast.



FIGURE 76. A cannon siting into woodland, an example of how current vegetation is not consistent with historic conditions. There are many such examples within the park; this particular cannon is on Union Avenue, just south of Pemberton Avenue. This view is looking northwest.



FIGURE 77. Privet forms a screen planting along the park boundary to the northeast of Grant Avenue.

184. Nancy Aiken Miller, "Vicksburg National Military Park National Register Nomination" (Vicksburg, Mississippi: National Park Service, September 1976), 7-1.

cleared areas in mown grass, including Railroad Redoubt (Fig. 75), Ewing's Approach, the visitor center, Stockade Redan, old Jackson Road, and the Great Redoubt areas, as well as the area in between Fort Garrott and Hovey's Approach in the south end of the park.

Otherwise, much of the undulating landscape of ravines and ridgeline side slopes is currently vegetated with woodland. Aerial photographs of the park dating from the late twentieth century indicate the extent of woodland cover associated with the park. The degree of woodland cover has increased dramatically since park establishment, as evidenced by many of the emplaced cannon pointing into woodlands (Fig. 76).

Many of the park's boundaries are edged by contemporary development that is not consistent with the historic character of the site. Evergreen shrubs such as privet are used to screen views of features outside the park (Fig. 77). Woodland cover along park boundaries also serves as a defined edge to the open space areas of the park. The primary exception is the open view toward the Yazoo River Diversion Canal afforded from Connecting Avenue, the USS *Cairo* Museum, and Fort Hill. The elevated topography in the northwestern corner of the park overlooks the river and allows for long views toward and along the river. A ten-foot wide corridor of the park boundary is maintained clear of woody vegetation to reduce the fuel load and associated fire hazard as a fire break at the wildland/urban interface. The boundary clearing effort is an on-going process.

The city-owned roads that extend south from the park toward the river, and were once included within the park, are linear parkways that are partially protected from commercial and high density residential development. These road corridors have a linear and internally-contained spatial quality, and parkway-like character composed of trees, shrub plantings, and mown grass, punctuated by monuments and tablets. Views are afforded from these road corridors to surrounding contemporary residential, commercial, and institutional development that are inconsistent with their original historic character.

Land Uses and Activities

The primary land use of Vicksburg National Military Park is commemoration. Other land uses include education/museum/interpretive, visitor services, recreation, administration, maintenance, and military staff rides for training purposes.

Commemoration. Commemoration is the primary land use of the park as directed by its enabling legislation. Commemoration takes the form of monuments, statues, busts, relief panels, tablets and markers that honor commanders as well as common soldiers, and identify places on the battlefield where troops were positioned and where significant action took place.

Education/Museum/Interpretive Land Use. Opportunities for education and interpretation include exhibits and park rangers available to convey information at the visitor center and the USS *Cairo* Museum, the interpretive information afforded along the park tour road and in association with the numerous tablets, monuments, and markers located throughout the park that help to convey the stories of the 1863 siege and engagements (Fig. 78). The park conducts a Living History program each summer in which rangers and volunteers offer interpretive talks and demonstrations to the public. These include artillery and rifle firings and reenactments of drills performed by Civil War soldiers held at the reconstructed earthworks at the visitor center.

Visitor Services Land Use. Visitor services provided by the park include ranger contact, comfort stations, water fountains, a gift shop, interpretive films, museum facilities, and picnic areas. Most of these are available in the visitor center and the USS *Cairo* Museum.

Recreational Land Use. Recreational land uses associated with the park include walking and biking along the park tour road, and hiking along the park's wooded trail.

Administration Land Use. NPS administrative offices are located in the visitor center. Office space is also associated with the archival storage facility located behind the USS *Cairo* Museum, and the museum itself. The Old Administration Building is used for meetings.

Maintenance Land Use. The majority of the park's maintenance facilities are located in the maintenance complex northeast of the visitor center (Fig. 79). There are also storage and repair facilities located behind the USS *Cairo* Museum.

Military Training Land Use. The U.S. Armed Forces frequently conducts staff rides for the training of military officers at Vicksburg National Military Park.

Circulation Patterns and Features

Park roads generally follow level topography wherever possible. In some locations, switchbacks are used to navigate steep grades. Numerous bridges and culverts carry park roads across ravines and wet areas.

The predominant circulation feature associated with Vicksburg National Military Park is the circa 1903–1905 tour road, which was initially designed for horses and carriages, but was later adapted for the automobile. Originally surfaced with hard-packed earth, and later gravel, the tour road is currently paved variously with concrete or asphalt. Extending for some sixteen miles, the tour road allows visitors to experience both the Union and Confederate siege lines. The tour road is comprised primarily of Union and Confederate Avenues. Three additional roads extend between them that are also part of the park tour route: Connecting Avenue, Pemberton Avenue, and Graveyard Road. A portion of the historic Jackson Road has also been incorporated into the park tour route. In the northeastern corner of the park, two spur roads lead from Union Avenue to the sites of Gen. Ulysses S. Grant's Headquarters and Gen. William T. Sherman's XV Army Corps Headquarters. South of the visitor center, the tour road is a single continuous route known as the South Loop. The tour road functions as a guide



FIGURE 78. The park's educational and interpretive land use is well-represented outside the visitor center, looking north from the parking area, where there is a display of the artillery used during the siege. The replica earthworks used for Living History demonstrations can be seen in the background.



FIGURE 79. Maintenance land uses are focused within the maintenance complex, north of the visitor center.

and narrator, carrying visitors along the two opposing lines and providing access to many of the monuments. There are fifteen designated interpretive stops along the route that highlight the pivotal events of the siege. The tour road also provides access to Vicksburg National Cemetery and the Shirley House, appropriated during the siege as a Union regimental headquarters.

The park's tour road was originally designed as a two-way system that most visitors approached from the City of Vicksburg and thus began with the Confederate line, moving clockwise around the park. Currently, visitors are directed first to Union Avenue and move counterclockwise through the park. The current tour route was completed in 1980 after construction of Mission 66 Road in 1979, built to reroute local through traffic. The new route also responded to the 1968–1970 construction of the visitor center and U.S. Highway 80. Most visitors now approach the park from the east due to its proximity to Interstate 20.

The primary entrance to the park occurs from Clay Street (U.S. Highway 80), west of Interchange 4 of Interstate 20, near its intersection with Old Mississippi Highway 27. The park entrance leads to the parking lot associated with the visitor center as well as a manned entrance booth where visitors pay a fee before beginning their journey along the tour road. Just past the entrance booth, the tour road passes beneath the Memorial Arch onto Union Avenue.

The first stop along the tour road interprets the Union Battery De Golyer, from which attacks on the Confederate Great Redoubt and Third Louisiana Redan were staged. The second stop occurs near the Shirley House, where a sloped embankment sheltered Union regiments poised to attack the Great Redoubt and Third Louisiana Redan. The third stop along the tour route is the site of several Union mining operations directed at reaching Confederate earthworks undetected. Tour stops four, five, and six interpret various Union efforts to attack Confederate positions, including Ransom's Gun Path, Stockade Redan approaches, and Thayer's Approach along Union Avenue. Tour stop seven interprets Battery Selfridge, the site of a powerful Union artillery position directed at Fort Hill and Confederate positions to its east. Tour stop eight occurs within Vicksburg National Cemetery to the southwest of Battery Selfridge.

Union Avenue terminates in a three-way intersection affording access to the parking area of the USS *Cairo* Museum, the Vicksburg National Cemetery, and Connecting Avenue, a short segment of road along the park's western edge that leads to Confederate Avenue beginning at Fort Hill, that follows the Confederate defensive line of earthworks. A secondary entrance into the park also occurs along Connecting Avenue at the northern terminus of Fort Hill Drive. A manned booth for fee collection is located at this entrance. Two small circles extend from Confederate Avenue to provide access to the Tennessee State Memorial, located northeast of Fort Hill, and the Pemberton Statue south of the Mississippi State Monument. Similar circle roads around monuments that were part of the early park design were eliminated between 1940 and 1978.

Tour stop nine is located atop Fort Hill, a key position held by the Confederates during the siege. This stop overlooks the Yazoo River Diversion Canal and the former alignment of the Mississippi River. Tour stops ten, eleven, and twelve are located at the primary fortification features, including Stockade Redan, Great Redoubt, and the Second Texas Lunette. To the northwest of the visitor center, current-day Confederate Avenue reaches its southern terminus. A connecting road leads beneath a concrete overpass that carries Clay Street west toward the City of Vicksburg, and across a nearby rail line via bridge to the park's South Loop. The tour road continues as a one-way road corridor that includes three additional tour stops. These tour stops interpret the Confederate fortifications known as Railroad Redoubt and Fort Garrott, as well as Hovey's Approach and the Union efforts to overcome Fort Garrott.

Twelve city streets pass through portions of the park, including Lovers Lane, Fort Hill Street, Washington Street, Tilghman Circle, Martin Luther King Drive, modern Jackson Road, Clay Street, Haley's Point Road, Culkin Road/Logue

Circle, Melborn Place, Rodehaugher Drive, and Honeysuckle Lane.

Lovers Lane is located along the southern margin of the northern section of the main battlefield unit, and runs parallel to Confederate Avenue. A section of the road is located within the park boundary between the Tennessee State Monument and west of Thayer's Approach. Efforts have been made to screen views of the road using vegetation.

West of Fort Hill, the park boundary jogs west to the margin of the Yazoo River Diversion Canal, extending across both Fort Hill Street and Washington Street. Tilghman Circle is located west of Great Redoubt. It is a dead-end residential-scale street that leads east from Martin Luther King Drive, a portion of which also falls within park boundaries. Also abutting the park to the west with a section falling within park boundaries is Melborn Place, a residential dead-end street that extends from Clay Street, across the rail line, and west of the Railroad Redoubt.

Modern Jackson Road extends through the center of the park below the grade of the park tour road; no access to this road is afforded from the park. Heavy vegetation associated with the ravine and the road help to screen the corridor from the park. However, travelers frequently litter along the road corridor, and the noise of vehicular traffic can be heard in the park. Clay Street (U.S. Highway 80) similarly passes through the center of the park, and crosses into the park boundary.

To the east of the park are Haley's Point Road and Culkin Road/Logue Circle, portions of which fall within park boundaries. These residential streets fall within the park to the east of the Shirley House and southeast of Battery De Golyer. Also located along the eastern margin of the park's South Loop is Rodehaugher Drive and Honeysuckle Lane, portions of which extend into the park boundary.

A portion of Sherman Avenue administered by Warren County also falls within park boundaries in the northern section of the park.

Changes in park boundaries have affected the tour road. In 1963, approximately 154 acres of the park between Fort Garrott and South Fort south of the current South Loop were quitclaimed to the City of Vicksburg in exchange for land along the northern boundary. The historic road corridor—known as South Confederate Avenue—winds along the southern extension of remnant Confederate earthworks. As part of the quitclaim agreement, the road continues to be managed by the City of Vicksburg as a monument-lined parkway. Additional roads—Indiana Avenue, Wisconsin Avenue, Halls Ferry Road, Iowa Avenue, and Frontage Road—lead off of South Confederate Avenue where monuments, markers, and tablets can be viewed. The City of Vicksburg maintains these roads, while the NPS maintains the monuments.

There is little in the way of pedestrian circulation within the park. The primary pedestrian features are walks associated with the visitor center, the Shirley House, and USS *Cairo* Museum, and stairs and walks providing connections between parking areas or pull-offs and key monuments and vistas. Pedestrians also use the park tour road for walking. A primitive hiking trail that extends through the woodland portion of the park is denoted by white-topped entrance posts, mile markers, and trail blazes painted on trees.

Each of the park's primary circulation features is described in the order in which they are encountered by visitors in more detail below.

Clay Street (U.S. Highway 80) and the Park Entrance. Clay Street is state- and city-maintained forty- to fifty-foot-wide, four-lane, asphalt-paved road with a median and a grass shoulder that extends through the park landscape. Clay Street is a busy arterial corridor that conveys motorists between Interstate 20 and downtown Vicksburg. The road corridor, built on fill, is both physically and visually intrusive to the park's setting (Fig. 80).

Visitors enter the park at the intersection of Clay Street and Old Mississippi Highway 27, where there is a traffic light. Earthworks and emplaced cannon flank the entrance corridor. Visitors can choose to park in a large asphalt paved parking lot near the visitor center entrance, or continue to the



FIGURE 80. Clay Street is a heavily utilized municipal road that bisects the park, and services its main entrance. Commercial development on this road is visually intrusive to the historic character of the park. An overpass conveys Clay Street over an internal park tour road. This view is from south of the visitor center parking lot, looking southeast.



FIGURE 81. Union Avenue is the one-way asphalt-paved half of the park tour road that runs up its eastern and northern sides, following the Union siege lines and interpretive tour stops. This view is where it makes a hairpin turn to the east just past the Minnesota State Monument, looking east.



FIGURE 82. Pemberton Avenue connects Union and Confederate Avenues and provides access to the Surrender Interview Site Monument and the Old Administration Building. This view is looking north.

manned booth where they can access the park tour road.

Union Avenue. Union Avenue is a sixteen- to twenty-foot-wide, one-lane, one-way, asphalt-paved road that is periodically edged by parking pull-offs associated with tour stops and monuments. A white stripe defines a walking lane along portions of the road margin (Fig. 81). Portions of Union Avenue are edged by concrete curbs on one or both sides, while some steeply-sloped sections are edged by asphalt-paved drainage ditches. Relatively level sections are edged by grass shoulders. The condition of Union Avenue varies along its length, but is generally in good condition. Condition issues observed include cracked and spalling pavement, grass growing into the road prism, and vegetative growth associated with pull-offs and parking areas. The majority of the area between Union Avenue and the park boundary is densely wooded. Existing vegetation helps to screen views of contemporary development outside of the park.

Pemberton Avenue. Pemberton Avenue is a quarter-mile long, twenty- to thirty-foot-wide, two-way, two-lane, concrete-paved park road, with numerous asphalt patches, located near the middle of the main battlefield unit of the park. Pemberton Avenue leads between Union and Confederate Avenues, and provides access to the Surrender Interview Site Monument, as well as to the Old Administration Building. Its southern section is edged by grass shoulders, while the south side of the northern section is edged with a concrete gutter. The landscape to either side of Pemberton Avenue is maintained in mown grass and views from the road area afforded of rolling terrain and nearby earthen fortifications and associated monuments, such as the Great Redoubt and the Louisiana State Monument. The road is generally in fair condition with cracked asphalt along the shoulders and at various expansion joints (Fig. 82).

Old Jackson Road. Old Jackson Road is a historic corridor that extends through the center of the park's main battlefield unit south of the Shirley House. The center segment of the road has

been appropriated for park circulation as a spur offshoot of the tour road. The spur ends in a parking area and turn-around located near the Third Louisiana Redan. Traces of the historic road continue beyond the spur to the southeast and northwest. The central section is asphalt-paved and twenty to thirty feet wide. It is two way, and has two lanes. An additional line of approximately ten head-in parking spaces edges the road adjacent to the Illinois State Memorial. The corridor is edged by a grass shoulder except at the parking and turn-around areas where it is edged with concrete curbing. The paved segment is in good condition.

To the northwest, the Old Jackson Road trace leads to and intersects Pemberton Avenue and Confederate Avenue. To the southeast, the trace continues to the park boundary. The trace is maintained as a ten-foot-wide, gravel, two-track. Portions are edged by berms or higher grades of several feet. This trace is closed to vehicular traffic but is open to pedestrian use (Fig. 83).

Graveyard Road. Graveyard Road is a quarter-mile-long, fifteen- to twenty-foot wide, two-lane, two-way, asphalt road in the northern third of the main battlefield unit that extends between Union and Confederate Avenues. The historic road corridor is edged by grass shoulders, and is in good condition. Tour stops five and ten are located at either end of the road and interpret Stockade Redan and Union attack of the fortification. Monuments, position markers, and tablets line the road corridor (Fig. 84).

Grant Avenue. Grant Avenue is located in the northeast corner of the park. It extends east from Union Avenue, and provides access to Sherman and Grant Circles. The road is two-way, approximately twenty feet wide, and paved with asphalt. It has a grass shoulder. State monuments located along this road include Kansas, Rhode Island, and New York. Also located along the road corridor is the Mississippi African American Memorial. A small concrete parking area with concrete wheel stops is associated with the monument (Fig. 85). Grant Avenue is in good condition.



FIGURE 83. A spur of the tour road follows the historic Jackson Road trace and provides access to the Shirley House, Illinois State Memorial, and the Third Louisiana Redan. A continuation of the historic road trace (in the foreground) is a two-track gravel road that is not open to public vehicular access. This view is from the Third Louisiana Redan looking east.



FIGURE 84. Graveyard Road connects Union and Confederate Avenues in the northern part of the park's core area at the tour stops associated with Stockade Redan Attack and Stockade Redan. This view is from in between those two sites, looking west.



FIGURE 85. Grant Circle marks the site of Maj. Gen. Ulysses S. Grant's headquarters. This view is from the southern half of the circle, looking east.

Sherman Circle. Sherman Circle arises from Grant Avenue near its intersection with Union Avenue. The road leads north and ends in a one-way circle. The initial two-way section is approximately twenty feet wide, asphalt-paved, and edged with concrete curbing, while the one-way circle is approximately ten-feet-wide, asphalt-paved, and edged by curbing to the outside and a grass shoulder to the inside. The road is generally in good condition. The character of this area is unique within the park and derived from a grove of pine trees with high canopies (Fig. 86). Sherman Circle was formerly connected to the north with Sherman Avenue, a road corridor that was quitclaimed to Warren County in 1964.



FIGURE 86. Sherman Circle has a very different vegetative character than other areas of the park. This view is from the western side of the one-way loop terminus, looking northeast.

Grant Circle. This one-way loop terminates Grant Avenue. The circle marks the site of Major General Ulysses S. Grant's headquarters during the siege. State monuments have been placed along the circle road by New Hampshire, Pennsylvania, and Massachusetts.

Connecting Avenue. This mile-long, two-lane road is approximately sixteen feet wide, asphalt-paved and edged by grass shoulders. It is in good condition. Connecting Avenue runs south and slightly west from between the intersection of Union Avenue and the USS *Cairo* Museum parking area to Confederate Avenue, which begins just southwest of Fort Hill. Connecting Avenue parallels and overlooks the Yazoo River Diversion Canal.



FIGURE 87. Confederate Avenue follows the Confederate fortification siege lines along the southern and western halves of the park. It is twenty feet wide and paved mostly in concrete, in many places in only fair condition. This view is looking south, south of the bridge that crosses modern Jackson Road.

Confederate Avenue. Confederate Avenue generally runs along the western boundary of the park. The one-way road is twenty feet wide, has a single lane, and is primarily paved with concrete, although sections have been repaved or patched with asphalt. Concrete curbs, swales, and gutters edge the road corridor in places. A white stripe along the left side of the road designates a walking lane for pedestrians. As the concrete shows cracking and wear in many places, the road is considered to be in fair condition (Fig. 87).



FIGURE 88. The Kansas City Southern Railroad extends through the park at the top of the South Loop. This view is from a position standing east of the Texas State Monument, looking east.

Kansas City Southern Railway Line. Formerly known as the Southern Railroad of Mississippi, the Vicksburg and Jackson Railway,

and the Vicksburg and Clinton railway, the Kansas City Southern Railroad extends through the park to the north of the South Loop (Fig. 88). During the siege, Confederate forces established Railroad Redoubt to guard the rail line as a potential Union avenue of approach. The area around the redoubt and rail line was cleared of woodland in 2005 to enhance interpretation of these key physical relationships.

South Loop. The South Loop begins to the south of the visitor center. The road leading to the South Loop passes beneath a concrete overpass that conveys Clay Street past the park. It then passes over a bridge that spans the Kansas City Southern Railway line (Fig. 89) before splitting into the one-way loop that accesses the last three tour stops within the park. The one-way, single lane South Loop is approximately fifteen feet wide and paved with asphalt. A white stripe running along the left-hand side of the road designates a section as a pedestrian walking lane. The road is in fair condition due to cracking and patched sections of asphalt.

Other Circulation Features

South Confederate Avenue. South Confederate Avenue (Fig. 90) is the primary road connecting the southern end of the park with the former Union and Confederate battery sites overlooking the Mississippi River south of the city. It extends between the vicinity of Fort Garrott to North Frontage Road, approximately one mile from the riverfront. South Confederate Avenue is maintained by the City of Vicksburg. It is a two-way, two-lane, twenty-four-foot-wide, asphalt-paved public road, edged variously by concrete curbing, gutters, and swales. South Confederate Avenue is a former park road that was quitclaimed to the City of Vicksburg in exchange for land now included within the northern portion of the park. As part of the transfer, the city is expected to maintain the road as a parkway. The park continues to maintain the various monuments, tablets, and other markers sited within the road corridor. Five state monuments—North Carolina, Florida, Maryland, South Carolina, and Virginia—are located along South Confederate Avenue. Privately-owned residential, institutional, commercial, and industrial parcels edge the road. Curb cuts, signs, utility features, ornamental plantings, traffic signals, and features such as mail boxes line the road right-of-way.

Related city roads. A series of roads lead off of South Confederate Avenue that feature Civil War commemorative monumentation. From north to south, these include Indiana Avenue, Wisconsin Avenue, and Halls Ferry Road, Iowa Avenue, and North Frontage Road. North Frontage Road extends to Washington Street near the Louisiana Circle unit of the park. South Fort and Navy Circle are sited along this road to the south.



FIGURE 89. The South Loop is continuous one-way road that affords access to the tour stops south of the Visitor Center and Clay Street (Railroad Redoubt, Fort Garrott and Hovey's Approach). This view is west of the Texas State Monument, looking southwest.



FIGURE 90. South Confederate Avenue is not within the park boundaries but accesses monuments and sites which were once a part of the park before they were quitclaimed to the city in 1963. This view is looking southwest from halfway between Halls Ferry Road and Iowa Avenue.

Pedestrian Circulation Features

Tour Road Walking Route. The margins of the park's vehicular tour roads have been adapted to accommodate pedestrian use. Many local residents use the tour road to walk, jog, and bicycle through the park. There is a guide to the park called "On Foot: The Runner's & Walker's Guide to Vicksburg National Military Park," which describes five loops ranging from approximately 2-3/4 to 10 miles long that visitors can follow to personalize their recreational experience.[185]

Monument Access Walks. Some monuments feature stairs and walks intended to facilitate visitor access. These include the Illinois State Memorial and the Wisconsin State Monument and a remnant brick walk alongside the road near the Mississippi State Monument.

Pedestrian paths and walks, while infrequent, also connect some parking areas and key siege and commemorative features. These include a concrete sidewalk and steps at Fort Hill, tour stop 5, at the Shirley House, a brick walk along the old Jackson Road parking area, a stair and path that lead to the Wooden Mortar monument below the parking area at the Third Louisiana Redan, a flight of concrete steps leading to the tunnel near Thayer's Approach, and exposed aggregate walks connecting the parking area and the visitor center.

Hiking Trail. The Al Scheller Boy Scout trail is a twelve-mile primitive hiking trail route, marked by white-topped posts and tree blazes, that provides a sense of the challenging terrain faced by soldiers during the siege. It was designed as a compass and orienteering course.

Cultural Vegetation

In addition to the native woodland vegetation communities described above, the park includes limited examples of culturally-derived or maintained vegetation that serves a variety of purposes. Ornamental plantings, including shrubs and flowering and shade trees, are associated with the park entrance, visitor center, and Old Administration Building. Native trees and shrubs as well as the invasive Chinese privet serve as a visual screen along the park's boundaries. Loblolly pine plantations are used to screen park boundaries in some locations. Road margins, major fortifications and other visible earthworks, monuments, and sites of high visitor use are generally maintained in open vegetative cover, particularly cool-season grasses. The most important species used in these areas is the non-native Bermuda grass (*Cynodon dactylon*), which is generally thought to provide a high level of protection against soil erosion. Some sloped areas have been planted in native warm-season grasses and are maintained through prescribed burning (Fig. 91), while crown vetch (*Coronilla varia*) is also in evidence on some open slopes within the park.

Invasive Plants. Vicksburg National Military Park saw massive disturbance during the Civil War, as terrain was cleared for the fields-of-fire associated with military artillery, and woody material was collected for use in fashioning obstructions, shelter, protective saps, and fuel for cooking and heat. The landscape of the siege has also been disturbed for hundreds of years through agricultural cultivation and foraging livestock. After the Civil War, various non-native plant species were introduced from Europe and Asia that are adapted to competition within disturbed environments. Some of these have become well-established, and troublesome residents of the park.

Today, as in most national park units, Vicksburg National Military Park is waging a battle to protect native vegetation communities from invasion by non-native species. The flora of Vicksburg contains more than eighty-three invasive plant species. Five of these are of particularly concern within the park: kudzu (*Pueraria lobata*), Johnson grass (*Sorghum halepense*), Chinaberry (*Melia azedarach*), Chinese privet, and English ivy (*Hedera helix*). All are very difficult to control. Chinese privet occurs throughout the park, both adjacent to park boundaries and within the

185. "On Foot,"<www.nps.gov/vick/planyourvisit/upload/Walking%20Map.pdf>, accessed September 4, 2007.

interior. Chinaberry and mimosa (*Albizzia julibrissin*) trees occur all along the park boundaries. Chinese parasol tree (*Firmiana simplex*) occurs predominantly in the South Loop buffer areas, while Johnson grass dominates at Fort Hill.[186] Other invasive species of concern within the park, which are also problematic for park management include paper mulberry (*Broussonetia papyrifera*), Japanese honeysuckle (*Lonicera japonica*), Heavenly bamboo, (*Nandina domestica*), and trifoliate orange (*Poncirus trifoliata*).

Vicksburg National Military Park's natural resource program focuses on managing invasive species, and on improving the park's ecological integrity, using an existing invasive plant management plan (Fig. 92).[187] In addition to monitoring activities, the park conducts active control programs. The kudzu population, for example, is being aggressively treated by the park at twelve locations totaling approximately forty acres (Fig. 93). Kudzu is a perennial, trailing, or climbing vine of the legume family. During the growing season, this prolific plant can grow at a rate of a foot per day, easily covering and shading out trees and understory vegetation. It is considered one of Mississippi's "Top Ten Worst Weeds."[188] The kudzu population is being managed by a long-term program of repeatedly treating the leaves and stems of the plants with approved herbicides in an attempt to eradicate the plant from the area.[189] At least two treatments per year over a five to ten year period is anticipated by the park's Natural Resources staff. Prescribed fire is another tool that is being used within the park to control kudzu as well as Johnson grass on Fort Hill. The park currently manages six burn units, including four acres at Logue's Meadow, ten acres along Graveyard Road, ten acres at Thayer's Approach, four acres at Fort Hill, eleven acres at Railroad Redoubt, and nineteen acres at Fort Garrott/Hovey's Approach (Fig. 94).

186. Mactec, EA, 3–12.
187. "Nonnative Species," <http://www.nps.gov/vick/naturescience/nonnativespecies.htm>.
188. "Mississippi's 10 Worst Invasive Weeds," <msucares.com/pubs/misc/m1194.pdf>.
189. Mactec, EA, 3–12.



FIGURE 91. View of native warm-season grass on the lower slopes of Fort Hill, from Connecting Avenue looking east.



FIGURE 92. Looking northwest down into one of the park's kudzu management areas, off the South Loop, north of Fort Garrott. The NPS is waging a constant battle to protect native vegetation from invasive species.

Views and Vistas

Views within the park focus primarily on the military terrain associated with many of the Civil War fortifications and the striking monuments that mark key locations of siege events, as visible from the park tour road system. There are also maintained visual connections between monuments and fortifications, and to monuments from road corridors. For example, from Pemberton Avenue there is a direct visual connection to the Great Redoubt and Louisiana State Monument. The areas maintained in mown grass often are used to afford views to these features; given the rugged and diverse landform of

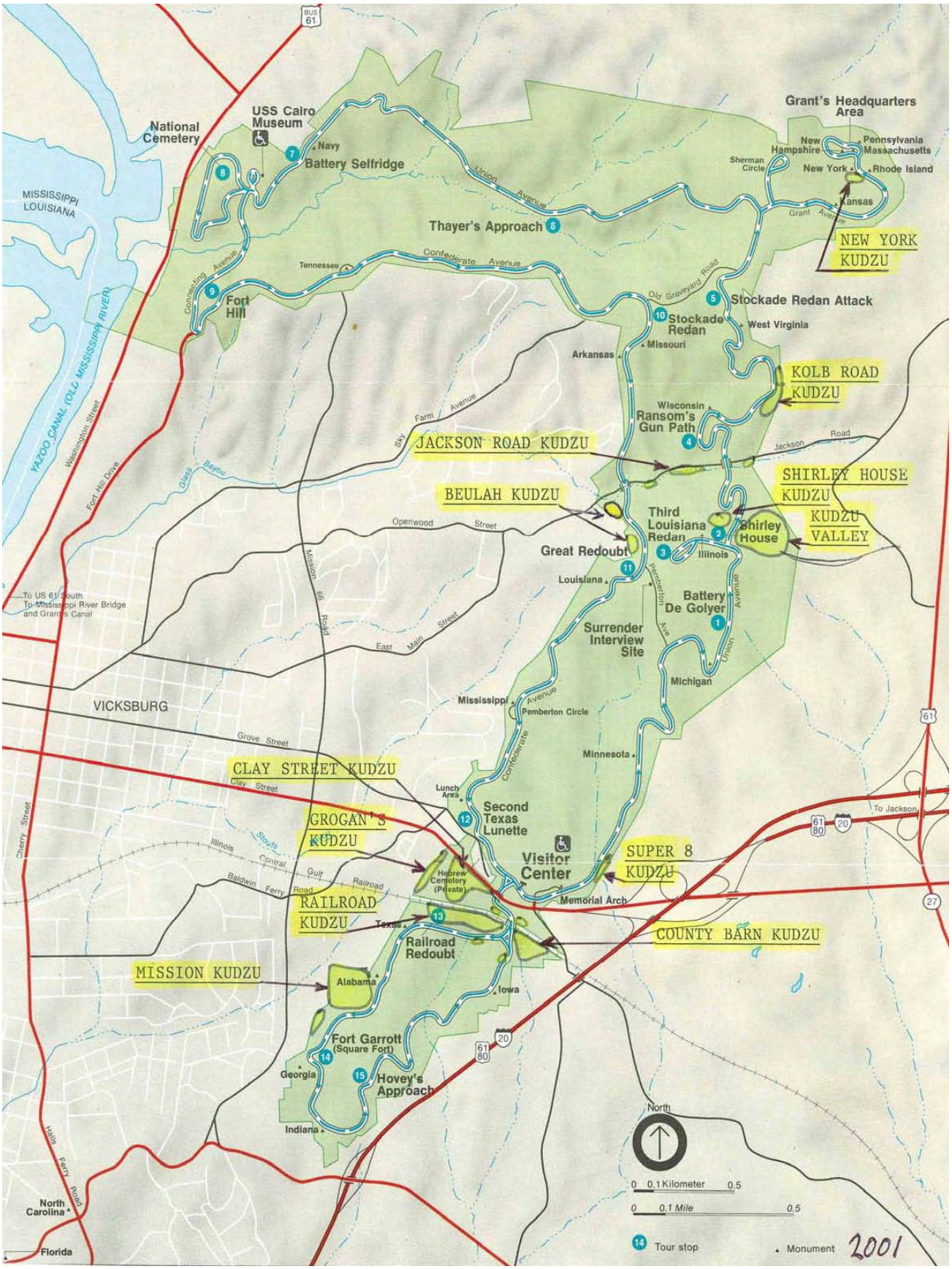


FIGURE 93. Map showing locations of present-day kudzu management within the park.

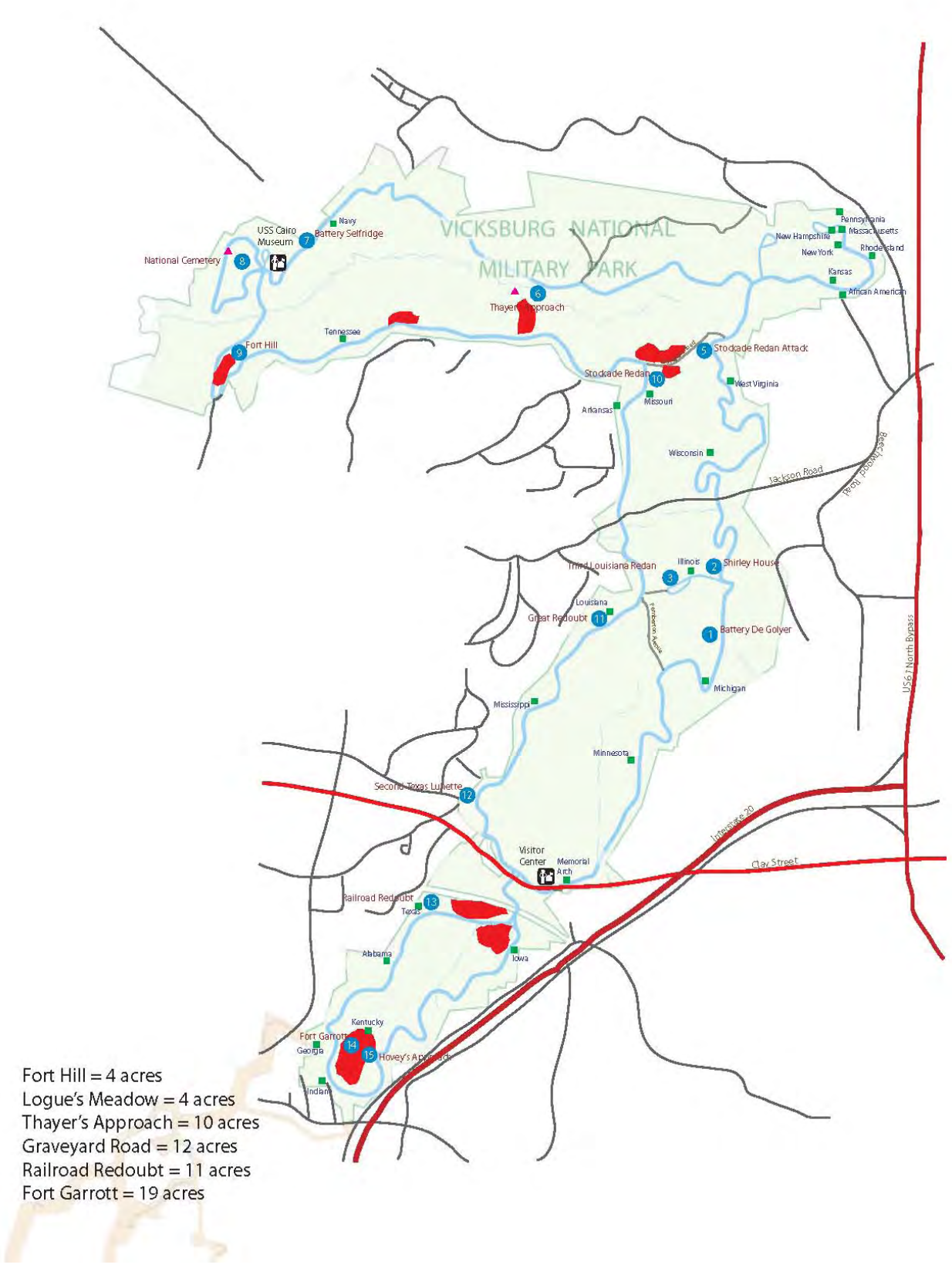


FIGURE 94. Map showing locations of present-day burn units within the park.

the Loess Bluffs, these views are often dramatic and express the challenges faced by the Union army in attacking fortified positions atop the ridges. Tree cover and woodland vegetation limits the extent of many of these views. In many locations, woodland cover currently blocks views associated with placed artillery pieces and visual connections that formerly existed between opposing fortification systems.

Some of the park's most expansive views occur along the northwestern edge of the park where views toward the Yazoo River Diversion Canal, the former Mississippi River channel, and the alluvial plain are afforded. The dramatic topography in this area includes Fort Hill (Fig. 95).

Views to non-historic features such as the contemporary Jackson Road corridor are screened through use of a separated grade crossing and woodland vegetation. Screen plantings help mitigate views of industrial, commercial, and residential development along the park's margins.

Over the past ten years, the park has conducted several woodland clearing projects to enhance historic viewsheds. In 1998, the park cleared thirteen acres along the South Loop and five acres of trees near the Louisiana Monument. In 2003, the park cleared trails that had become overgrown since the 1980s near and including Old Jackson Road. The most recent clearing project involved removal of ten acres of trees to improve the visual connection between Railroad Redoubt and the rail line it defended. Clearing was generally conducted in front of the redoubt. Other projects have involved clearing around Fort Garrott and Hovey's Approach, and an area south of Kentucky Avenue that includes the zigzag trenches of the Union approach.

City-Owned Parcels. Views of commercial development, such as along Halls Ferry Road, are increasingly prominent along the parkway-like city-owned road corridors.



FIGURE 95. From Fort Hill looking southwest, west and northwest, there are commanding, long-distance views over the Yazoo River Diversion Canal. This view is looking northwest.

Buildings

There are eleven buildings located within the park. These include the antebellum Shirley House, the maintenance buildings and garages, Old Administration Building, visitor center, USS *Cairo* Museum, *Cairo* restoration shop, and operations storage facility. The park recently acquired two contemporary buildings along Rodenbaugh Drive behind the Iowa Monument that are not addressed in this report.

Shirley House. LCS 001362. The Shirley House was built by Nicholas Gray as "Wexford Lodge" between 1830 and 1839. Judge James Shirley purchased the property in 1851, and renovated the dwelling, which stood during and survived the siege; it was used by the Union army as a smallpox hospital in 1864.[190] The Shirley House is a one-and-one-half story wood-frame residence that faces south along the Old Jackson Road (Fig. 96 and Fig. 97). The 60-by-40-foot side-gabled structure has a wood-shingle gable roof, two asymmetrically-placed brick chimneys, and a brick foundation. The brick basement is accessible from grade along the rear (north) and side (east) elevations. To the east, the land falls away toward Union Avenue, and beyond where shebangs—excavated earthen caves—were used by soldiers to

190. National Park Service, "Shirley House; Historic Structures Report" (Atlanta, Georgia: Southeast Region, Cultural Resources, 2004), 39–40.

avoid artillery fire. The exterior walls are white-painted clapboard. The first floor windows are twelve-over-twelve double-hung units with green-painted wood shutters. The building has undergone several renovations and alterations since the Civil War. Prior to the completion of the Old Administration Building in 1936, the Shirley House was used as the park headquarters. The interior is currently in poor condition and the building is not currently open to the public.

Old Administration Building. The Old Administration Building, completed in 1936, was designed to accommodate park offices. It was converted into the park Superintendent's Residence in 1944, and served this role until 1978 (Fig. 98). Located along Pemberton Avenue, the one story masonry building is designed in the Georgian Revival style based on "Monteigne," an antebellum house in Natchez, Mississippi. The Old Administration Building has a five-bay main block, and single-bay recessed blocks set symmetrically about the main facade. The walls are painted stucco. A pediment with dentils steps forward to meet the slate-covered hipped roof, covered with slate. Two interior chimneys flank a widow's walk atop the roof. The main entrance is set within a pedimented cross-gable-roof porch supported by paired columns set on a concrete porch. The windows are six-over-six double-hung units, and wood shutters flank the windows. Above the door and windows are semi-circular details. The building is visible from the Great Redoubt and Louisiana State Monument.

Maintenance complex. The maintenance complex includes a primary maintenance building comprised of offices and shops set around a central open space, and three garages. It is located northeast of the visitor center along a spur road leading west from Union Avenue near the start of the tour route (Fig. 99). The office and shop buildings complex was constructed in 1936. It is a single composition of one-story buildings, connected into two rows. The entrance into the



FIGURE 96. Shirley House, view of the front and east side from Union Avenue.



FIGURE 97. Shirley House, view of the back of the house from Union Avenue.



FIGURE 98. Old Administration building.



FIGURE 99. Maintenance shops constructed in the 1930s.



FIGURE 100. Contemporary maintenance facility.



FIGURE 101. Visitor center, front view from the main approach walk.

central open space is flanked by a pair of identical brick pavilion-like structures, that are connected to structures that extend west in a perpendicular fashion to the pavilions. The southern line of structures extends farther west than the northern line. The pavilions, one an office and the other a tool shed, are constructed of brick and feature hipped roofs clad with standing seam metal. The other structures, also constructed of brick with gabled roofs clad with standing seam metal, are for storage, truck garages, a blacksmith shop, and a workshop. Three additional buildings were added to the site in 1964. Two are corrugated metal and the third is brick (Fig. 100).

Visitor Center. The visitor center was constructed in 1968-70 based on Mission 66-era planned improvements at the park. One of the original tour loops, Indiana Circle, was removed and the knoll on which it was located leveled to accommodate the new building. The visitor center faces southeast toward the visitor parking lot, with Clay Street beyond. It is a two-story brick and cast-concrete structure set on a sloping site. Only the upper floor is visible from the main public approach afforded from the adjacent parking lot (Fig. 101 and Fig. 102). The building originally had a flat roof, but a sloped sheet metal roof was added in 1997. The upper floor houses exhibits, restrooms, a bookstore, auditorium, and visitor information desk, while the lower level houses park offices. A small addition to house an elevator was built to the north of the building in 1995.

USS *Cairo* Museum. The USS *Cairo* Museum is located in the northwestern corner of the park along Union Avenue with views toward the Yazoo River Diversion Canal (Fig. 103). Completed in 1980, the two-story museum is built into a hillside. The exposed, above-grade section has windowless, battered, brick clad exterior walls. The main entrance occurs through a round arch that leads to recessed glass doors. The roof of the museum is a raised terrace offering views of the *Cairo*, which is protected beneath a tensile tent-like structure nearby.



FIGURE 102. Visitor center, view of the rear side.



FIGURE 103. USS *Cairo* and museum.



FIGURE 104. View from a parking area and interpretive plaza looking north toward Fort Hill. The earthwork was one of the major earthworks associated with the Confederate line established to defend Vicksburg. It was later used by Union soldiers occupying Vicksburg after the siege.

A group of three additional buildings is located to the north of the parking lot for the USS *Cairo* exhibit and museum. The group consists of a contemporary garage, the Operation Storage Facility, the *Cairo* Restoration Shop, a curatorial management facility constructed in 1998, and the archive building, a climate-controlled curatorial management facility.

Structures

The types of structures associated with the park include earthworks, monuments, bridges, culverts, a shelter, and a tunnel. Documentation of the park's monuments is divided between the Structures section and the Small-scale Features section later in this chapter. For ease of reference, all state monuments are documented under Structures. Other monuments of great size are also described under Structures, while smaller monuments and statues are discussed under Small-scale Features.

Almost all of the states that maintained troops at Vicksburg have installed a memorial to their soldiers at the park. The only exception is Vermont, which is authorized to erect a memorial within the park.

Earthworks

From northwest to southeast, the surviving earthworks within the park include:

Battery Selfridge. Artillery are placed along Union Avenue near the U.S. Navy Memorial in association with low earthen parapet walls to mark the site of this key battery along the Union line.

Fort Hill. LCS 001360. Fort Hill is a four-sided earthen fortification, with parapet walls between twelve and fifteen feet in height, sited atop a high bluff overlooking the Yazoo River Diversion Canal (Fig. 104). First established by the Confederates as part of their defense line, Fort Hill was later modified by the Union army during their occupation of Vicksburg after the siege. It was rehabilitated using CCC labor between 1934 and 1937 (Fig. 34 and Fig. 35). The earthwork is currently maintained under mown grass cover. A

parking area, stairs, and an asphalt-paved walk afford access to the fort. Chain-link fencing edges the margin of the parking area and stairs where the slope falls away steeply below to ensure the safety of visitors. Fort Hill was assessed in good condition by the List of Classified Structures (LCS) in 2006.

Stockade Redan. (Not listed on the LCS.) Stockade Redan was designed and sited to defend against Union attack along the Graveyard Road. Stockade Redan was edged to the west by the Twenty-Seventh Louisiana Lunette and to the south by Green's Redan. It was constructed as a V-shaped fortification with a prominent ditch. The fortification was open to the rear, and included a traverse to aid in retreat or retrenching if the parapet was breached. The redan was named for the stockade wall of wooden poles with sharpened tops set in front of the earthen parapet and ditch as an obstacle. Today, the earthwork stands near the intersection of Graveyard Road and Confederate Avenue. The surviving earthen structure is maintained under mown grass cover, and interpreted through placed artillery, tablets, and monuments.

Third Louisiana Redan. (Not listed on the LCS.) This Confederate earthwork overlooked the Jackson Road atop high ground north of the road. It is accessible from the parking area located southwest of the Illinois State Memorial and the old Jackson Road trace that extends from the parking area. Numerous cast iron tablets recall the sapping and mining effort that resulted in a blast that formed a crater in the work on June 25, 1863.

Great Redoubt (LCS 007288). Sited to guard Jackson Road, the Great Redoubt was the largest and most formidable Confederate earthwork in the line, and occupied some of the park's highest ground. Rehabilitated between 1933 and 1936 using CCC labor, the grass-covered earthwork is rectangular in shape, with a twelve-foot-high parapet wall and a portion of a ditch in front. Confederate Avenue currently extends through a portion of the ditch; the Louisiana State Monument is located adjacent to the earthwork. A small parking area is located to the southwest of the earthwork. The earthwork was assessed in good condition in 2006.

Battery De Golyer. Located along Union Avenue to the north of the Michigan State Memorial, Battery De Golyer is the site of a large Union battery during the siege. It is located at stop one along the park tour route, and a parking area is located to the south of the battery. A line of cannon interprets the battery position, which eventually included twenty-guns, the largest concentration of cannon along the Union line. It was used to assail the Great Redoubt and the Third Louisiana Redan. Earthen parapets frame pairs of emplaced cannon. The parapets are maintained under mown grass cover. These earthworks were likely rebuilt during the early park development period. Cast-iron tablets placed by the park commission are associated with the battery.

Second Texas Lunette. This earthwork originally guarded Baldwin Ferry Road. It is located near the Anshe Chesed cemetery along Confederate Avenue just north of Clay Street.

Railroad Redoubt (LCS 007286). Associated with the Confederate defensive line, the Railroad Redoubt was built to protect against attack along the adjacent rail line approach to the city. The fortification is roughly rectangular in shape, includes traverses along its apex, and has a fishhook extension at one end. It is maintained under mown grass cover (Fig. 105). A small parking area is located to the west of the redoubt for access, and stairs lead from the parking area uphill toward the Civil War feature and the nearby Texas State Monument. Railroad Redoubt was rehabilitated between 1933 and 1936 using CCC labor.

Fort Garrott (LCS 007292). Also known as Square Fort, Fort Garrott was part of the Confederate line that defended against attack to the southwest of the rail line. Fort Garrott is comprised of a square parapet fronted by a ditch system. A section of the parapet is missing where a drawbridge was located during the siege. The parapet currently ranges in height from twelve to

fifteen feet. The earthwork was rehabilitated using CCC labor circa 1933–1936. It was assessed in good condition by the LCS in 2006.

Confederate rifle pits and other artillery positions. There are numerous earthen structures located throughout the park that represent protected Confederate artillery positions along the defensive line established prior to the siege. These were placed periodically along the brows of the ridgeline between the major fortifications sited to protect avenues of approach. It is assumed that many of these structures were rehabilitated or reconstructed as part of early park development. Many are associated with emplaced cannon, iron tablets, and monuments. The park has 149 artillery pieces sited in historically-authentic locations throughout the park. Many of the cannon point into woodland that obscures the intended field of fire.

Union batteries. There are numerous earthen structures located throughout the park that represent Union battery positions established during the siege. It is assumed that many of these structures were rehabilitated or reconstructed as part of early park development. Many are associated with emplaced cannon, iron tablets, and monuments. As noted above, emplaced cannon are placed in historically authentic locations throughout the park; in many cases they point into dense woodland that has grew up during the twentieth century and now obscures the historic relationship between the artillery piece and its potential target.

Demonstration Earthworks at the Visitor Center. Representative earthworks flank the park's entrance drive, the visitor parking area, and the primary walk leading to the visitor center. These earthworks were part of the site design of the visitor center. Adjacent to the visitor center to its east is a demonstration area that includes a display of various artillery pieces, and exhibits features such as abatis that are associated with the Civil War earthworks at Vicksburg. The area is also used for artillery demonstrations (Fig. 106).



FIGURE 105. View looking west of the major Confederate earthwork known as Railroad Redoubt.



FIGURE 106. Replica earthworks and associated features near the visitor center are the site of Living History and artillery demonstrations in the summer.



FIGURE 107. The Missouri State Memorial is one of the monuments that have been affected by the change in orientation of the tour road. Approached by Confederate Avenue as it curves gently to the west south of Graveyard Road, the monument is at first viewed from behind. This view is looking back toward the east.

State Monuments

Vicksburg National Military Park's 1899 enabling legislation directed the Secretary of War to mark the lines of battle, and authorized the states involved in the campaign, siege, and defense of Vicksburg to erect monuments and markers in memory of their soldiers stationed there. Twenty-nine states that maintained troops at Vicksburg have installed such a memorial at the park. The only state represented that has not yet erected a monument is Vermont.

Vicksburg National Military Park currently features twenty-eight state monuments. The first was placed at the park in 1903. States continue to add their contribution to this day, with the Connecticut State Monument placed most recently in 2006. Design of the monuments is determined by each state individually, but the location, design, and inscription of all memorials placed upon the battlefield must go through a rigorous approval process. The monuments within the park exhibit a wide range of scales, materials, and design styles.

Monument design styles have evolved dramatically since the first state monument was placed at the park in 1903. During the mid-nineteenth century, popular styles for monuments were typically derived from funerary traditions. The obelisk, derived from Egypt, was one of the most used forms. By the late nineteenth century, sculptural monuments had begun to take the form of realistically detailed renderings of soldiers and officers. At the park, the Massachusetts State Monument is an example of this style. Circa 1900, realism was slowly replaced by neo-classical forms, monumental compositions, and allegorical figures reflective of the Beaux Arts style, and the Parisian art education enjoyed by many American sculptors. Themes derived from funerary sentiments were supplanted by images of peace, reconciliation, and reunification. An example of this style at the park is the Illinois State Memorial, which features a projecting portico based on the Pantheon and is the most architectural of Vicksburg's monuments.

Allegorical features evident in monuments at Vicksburg National Military Park include the bronze Angel of Peace within the Minnesota State Memorial, and the central female figure of Clio seated before a Greek temple within the Mississippi Memorial.

Beginning in the 1930s and continuing through the 1950s, the classical Beaux Arts-style monument was followed by modernistic designs that incorporated influences of Art Deco and later artistic and sculptural trends. Examples include 1954 Arkansas memorial and the 1960 Kansas Memorial.

Shafts and other vertical monument types, such as obelisks, columns, and slender towers, are one of the most prevalent at Vicksburg National Military Park. Obelisks include the thirty-seven-foot Michigan State Memorial, the forty-three-foot New York State Memorial, the seventy-five-foot Mississippi State Memorial, the ninety-foot Minnesota State Memorial, and the 202-foot U.S. Navy Memorial. Monuments in the form of columns and towers include the eighteen-foot Georgia State Memorial, the twenty-foot New Hampshire State Memorial column, the eighty-one-foot Doric column of the Louisiana State Memorial, and the 122-foot column of the Wisconsin State Memorial.

Exedra and colonnades have long been popular forms in American civic monumentation, and occur at Vicksburg National Military Park. Exedras are semi-circular structures with a high solid back that functions as seating. Colonnades are columns arranged at intervals supporting an entablature, and typically, one side of a roof. The Iowa, Missouri, Texas, and Pennsylvania State Monuments all feature exedra and colonnades.

Three major changes to the design of the early park tour road have affected the way visitors interact with the state monuments. The first involves the loss of circle roads around the monuments. The early twentieth-century-design of the tour road included a series of small pull-offs that encircled some of the state monuments. Most were removed in the 1940s. Today, only Tennessee Circle survives in association with a state

monument, although Pemberton Circle that encompasses a statue of the Confederate General also survives. The second change that affected some of the monuments was the reorientation of the tour road as a one-way counterclockwise loop that begins with Union Avenue. From this direction, the Missouri State Monument cannot be viewed from the front unless visitors first pass the monument and then turn and look backward along the tour road (Fig. 107). Similarly, the Louisiana Memorial features an eighty-one-foot Doric column is best viewed while ascending the hill upon which it is sited from the south. Following the current orientation of the tour road, the monument can no longer be experienced in this way.[191] The third major change that has affected visitor access to the state monuments was acquisition of the southern third of the park by the City of Vicksburg. Five state monuments are located within the quitclaimed parcels, and their settings have been impacted by the development that has occurred along the South Confederate Avenue road corridor. The affected monuments include the Florida, Maryland, South Carolina, Virginia, and North Carolina State Monuments.

The condition of park monuments and markers varies. Some show evidence of damage due to acid rain, including pitting of stone and corrosion of decorative materials. Many include bronze sculpture that is in need of periodic cleaning involving technical expertise. Others have recently received special care and repair. For example, the Louisiana Monument, which was twice struck by lightning, has been carefully repaired.[192]

The twenty-eight existing state monuments are individually described below.

191. National Park Service, "Vicksburg National Military Park Tour Roads," No. MS-14 (Washington, D.C.: Historic American Engineering Record, 1997), 8.
192. Cooper et al., v.

Monuments Erected by Confederate States

Alabama State Memorial. (1951; LCS007279). The Alabama State Memorial is a large bronze statue that rests on a base of Weiblin grey granite from the Elberton City Quarries in Elberton, Georgia. The monument is located along the South Loop at milepost 13.6 of the park tour road. According to sculptor Steffen Thomas, the Alabama State Memorial depicts a young woman as "Alabama herself." The female figure stands with her right arm raised as if in protection of the seven heroic Alabama soldiers around her that are depicted in the process of defending Southern ideals, homes, and womanhood.

Arkansas State Memorial. (1954; LCS 007281). The Arkansas State Memorial was designed by William Henry Deacy. It depicts an upright bronze sword that divides two slabs of Mount Airy, North Carolina, granite (Fig. 108). This image is symbolic of a divided nation. The hilt bears the state seal of Arkansas. Relief panels to the left and right depict infantry in battle and the C.S.S. *Arkansas*. The memorial is located along Confederate Avenue, south of Graveyard Road. It bears the inscription "To the Arkansas Confederate Soldiers and Sailors, a part of a nation divided by the sword and reunited at the altar of faith."



FIGURE 108. The monuments of Vicksburg National Military Park represent a range of sculptural styles. The Arkansas State Memorial, dedicated in 1954, has Art Deco stylistic detailing. It is situated along Confederate Avenue south of the Stockade Redan; this view is looking northwest.

Georgia State Monument. (1962; LCS 003364). The Georgia State Monument is an eighteen-foot tower of gray granite bearing the state seal. The monument is located along the South Loop at milepost 14 of the park tour road, immediately south of Fort Garrott. It is identical to monuments erected at Gettysburg National Military Park in Pennsylvania, Antietam National Battlefield in Maryland, and Kennesaw Mountain National Battlefield Park in Georgia. The monument is inscribed as follows:

> We sleep here in obedience to law;
> When duty called, we came,
> When country called, we died.

Kentucky State Monument. (2001). This monument is located along Kentucky Avenue, a spur road leading between the Union and Confederate lines in the South Loop north of tour stop 15. The monument features bronze statues of United States President Abraham Lincoln and Confederate President Jefferson Davis, who were both native Kentuckians. The memorial symbolizes the division within Kentucky during the Civil War, as well as the post-war reunification of the state and country. The monument was designed under the direction of the Kentucky Heritage Council and the Kentucky Vicksburg Monument Association.

Louisiana State Memorial. (1920; LCS 007273). In 1902, Louisiana became the first Southern state to select a site for a monument at Vicksburg National Military Park. Located along Confederate Avenue at milepost 11.9 of the park tour road, the Louisiana State Memorial features a square granite base with an eighty-one-foot high Doric column topped by a brazier of granite bearing an eternal flame. The word Louisiana is inscribed on the face of the monument, along with a list of the organizations involved in the siege. The monument was designed by Albert Wieblen. A granite sculpture depicting a nest of pelicans is placed at the base of the column. In 1999, the Louisiana Monument was twice struck by lightning; its repair involved wholly dismantling and reconstructing the monument.

Mississippi State Memorial. (1909; LCS 007274). The Mississippi State Memorial is comprised of a 75-foot obelisk constructed of Mount Airy, North Carolina, granite. Bronze bas relief and statuary, sculpted by Frederick Triebel and fabricated in Rome, were added in 1912. Located along Confederate Avenue at milepost 12.3 of the park tour road, the bronze works represent various involvements of Mississippi troops during the siege. The statue represents Clio, the muse of history. The memorial was damaged by lightning in 1951 and repaired in 1954. Additional repairs were made in 2001 (Fig. 109).



FIGURE 109. Many of the monuments in the park are impressive structures, such as the Mississippi State Memorial's 75-foot obelisk. This view is from Confederate Avenue, south of the Great Redoubt, looking west.

Missouri State Memorial. (1917; LCS 00727). The Missouri State Memorial honors men who served on both sides of the struggle; Missouri contributed twenty-seven units to the Union army and fifteen to the Confederate army. The forty-two-foot-tall monument commemorates these forty-two units and is positioned near the site where opposing Missouri regiments faced one another (Fig. 251). A bronze statue of an angel, sculpted by Victor S. Holm, representing the "Spirit of the Republic," stands on the prow of a granite ship protruding from a granite shaft, which bears the state seal at its top. This centerpiece is flanked by bronze relief panels on granite pedestals. This is one of the monuments that have been affected by the change in orientation of the tour road. Located south of Stockade Redan on Confederate Avenue at milepost 10.9 of the park tour road, the monument is initially viewed from the rear.

Tennessee State Memorial. (1996). The Tennessee State Memorial is located on the north side of Confederate Avenue approximately four-tenths of a mile east of Fort Hill. Dedicated in 1996, the monument consists of a slab of unpolished granite cut in the shape of the State of Tennessee. The slab measures approximately 14 feet by 3 feet, and is nearly 3 inches thick. It rests on a 4 foot by 3 foot granite base. The side that faces the tour road is inscribed:

> TENNESSEE, Dedicated To the Tennessee Confederate Soldiers Who Served In the Defense of Vicksburg.

While the other side of the monument, viewed from the Tennessee Circle Drive, reads:

> Honor to those who never sought it; Fame to those who never wished it; Glory to those who never dreamed it; Immortality, for they earned it—The Confederate Soldiers of Tennessee. Mike Grissom.

Texas State Monument. (1961; LCS 007277). The Texas State Monument stands where Thomas Waul's Texas Legion repulsed the Union troops that breached the parapet of the Railroad Redoubt during the May 22, 1863, battle. It is located at milepost 13.5 of the tour road within the South Loop. Constructed of red Texas granite, the monument features eleven steps that represent the number of states seceding from the Union during the Civil War. The steps lead to an oversized Texas soldier sculpted by Herring Coe. The sculpture was completed in 1963. To the right of the statue is a list of all the Texas units that participated in the campaign; to its left is a description of the combat at Railroad Redoubt. This monument also features a planting of yucca, which is native to Texas. Erosion of the slope behind the monument is of concern.

Monuments Erected by Union States

Connecticut. (2006). The Connecticut State Memorial is located at the Grant's Canal site, near Delta, Louisiana. It honors the contributions of the Ninth Regiment Connecticut Volunteers. The monument was designed by Mathieu Memorial and Granite Works of Southington, Connecticut, in conjunction with Royal Melrose Granite of Cold Spring, Minnesota. It is sculpted of polished gray and black granites, and is placed on a concrete plaza shaped like the outline of the state of Connecticut.

Illinois State Memorial. (1906; LCS 007276). One of the largest and most ornate monuments in the park, the Illinois State Memorial contains sixty bronze tablets that bear lists of the 36,325 Illinois men who participated in the campaign, the largest number of any state. The monument is sited on one of the high points in the park near the Shirley House. Visitors approach the monument from a walkway connecting a parking area along Jackson Road to a processional flight of forty-seven marble stairs, one for each day of the siege, that lead to a dramatic rotunda-like structure modeled on the Pantheon in Rome. The base and stairway of the monument is constructed of Stone Mountain, Georgia, granite, while the rotunda is composed of Georgia white marble. The monument stands sixty-two feet high and was designed by W. L. B. Jenney, with sculpture by Charles J. Mulligan. Frederick C. Hibbard sculpted a gilded bronze eagle associated with the monument (Fig. 110).



FIGURE 110. The Illinois State Memorial is one of the largest and most ornate in the park. It is also located on one of the highest elevations in the park. It has become a roosting habitat for a species of brown bat. This view is from the Union Avenue western spur leading to the monument, looking toward the northeast.

A species of brown bat (*Eptesicus fuscus*) uses the interior of the memorial as roosting habitat and guano must be regularly cleaned from its walls and floor.[193]

Indiana State Memorial. (1926; LCS 007257). The Indiana State Memorial monument features a heroic scale bronze statue of the state's wartime governor, Oliver Perry Morton, placed on a granite base. It was sculpted by George T. Brewster. The Indiana State Memorial is located along the South Loop at milepost 14.3 of the park tour road.

Iowa State Memorial. (1906; LCS 007269). Fashioned after a Roman triumphal arch, the Iowa State Memorial is a semi-elliptical, trabeated composition of Greek columns constructed of Vermont white granite. An equestrian statue of a standard bearer stands before the monument, appearing to lead Iowans into battle. The monument includes a series of bronze reliefs depicting Iowa's participation in the successive engagements of the campaign—Grand Gulf, Port Gibson, Jackson, Champion Hill, Big Black River Bridge, and Grant's Second Assault on May 22, 1863. It stands among the Union line along the South Loop at milepost 15.3 of the park tour road. Henry Husdson Kitson sculpted the relief panels and the equestrian statue, placed in 1912 after construction of the stone base was complete.

Kansas State Memorial. (1960; LCS 003694). The Kansas State Memorial is located along Grant Avenue in the northeast corner of the park. A contemporary, abstract design, this eight-foot-tall monument features three circles representing the United States at different times in history. The entire lower circle represents a pre-war nation, the center broken circle symbolizes the nation divided, and the entire upper circle represents reunification. An abstracted bald eagle is perched atop the three circles. The monument is mounted on a granite pedestal.

A plaque placed at the monument by the Daughters of Union Veterans of the Civil War reads:

> The bottom circle represents the unity of the pre Civil War Era.
> The broken circle in the center represents the Union torn asunder by the war 1861–1865.
> The perfect circle at the top depicts the regained unity of the post war era.
> An eagle atop all typifies the glorious majesty of our country.

Massachusetts State Monument. (1903; LCS007275). The Massachusetts State Monument was the park's first (Fig. 225). It is located along Grant Circle in the northeast corner of the park. The monument is a fifteen-ton granite boulder, with the figure of a soldier, sculpted in bronze, striding across its top. Affixed to the boulder is a bronze tablet engraved with the Massachusetts coat of arms, the IX Corp badge, and lists of the units that served. The statue was sculpted by Theo Alice Ruggles Kitson.

Michigan State Memorial. (1916; LCS 007279). The White Bethel granite Michigan State Memorial stands thirty-seven feet high and depicts the "Spirit of Michigan," a female figure, standing at the base of a white obelisk (Fig. 313). The figure and the lower third of the memorial are carved

193. "Mammals," <http://www.nps.gov/vick/naturescience/mammals.htm>, accessed September 11, 2007.

from a single piece of granite by sculptor Herbert Adams. The memorial is located on Union Avenue at Battery De Golyer, near milepost 1.2 of the park tour road.

Minnesota State Monument. (1907; LCS 007272). The Minnesota State Monument is a ninety-foot granite obelisk (Fig. 111). A bronze female figure representing "peace" holds a shield and sword and is seated on a granite bolder at the base of the obelisk. Bronze tablets list the Minnesota units serving in Grant's campaign. The monument is located on Union Avenue at milepost 0.6 of the park tour road. It was sculpted by William Couper.



FIGURE 111. The Minnesota State Monument is a 90-foot granite obelisk featuring a seated bronze female figure representing "peace." It is sited early in the tour route, north of the Visitor Center. This view is looking west from Union Avenue.

New Hampshire State Memorial. (1904; LCS 003778). The New Hampshire State Memorial is located along Grant Circle approximately seventy-five yards east of the General Grant Statue. A twenty-foot column of granite bears the IX Corp badge, the State seal, and a list of the New Hampshire units that served. The column is rock-faced granite, with a sphere on top (Fig. 229).

New York State Memorial. (1917; LCS 007271). The New York State Memorial is a forty-three-foot granite obelisk that stands guard along the road to Grant's headquarters. It is located along Grant Avenue at milepost 4.8 of the park tour road. The memorial was designed by A. J. Zabriskie. The Mount Airy granite monument features two bronze inscription tablets measuring 5 feet 7 inches by 2 feet 4 inches.

Ohio State Monuments. (1905). The state of Ohio erected thirty-nine small monuments created by the Hughes Granite and Marble Company in the park at points where units served during the siege to commemorate Ohio's twenty-six regiments of infantry, twelve batteries of artillery, and one battalion of cavalry. The monuments are nearly all distinct, with a total of thirty-seven different designs represented. The Ohio Vicksburg Battlefield Commission was authorized by the state of Ohio to select and place multiple monuments for Ohio's Civil War soldiers at many sites, rather than investing in one large monument.

Pennsylvania State Memorial. (1906; LCS 003833). The Pennsylvania State Memorial is located along Grant Circle at milepost 4.6 of the park tour road. It consists of a granite shaft placed at the rear of an elliptical platform, and is approached via a flight of three steps (Fig. 232). Five bronze medallions on the main shaft feature relief portraits of each of the Pennsylvania unit commanders. The monument was designed by Albert Randolph Ross.

Rhode Island State Memorial. (1908; LCS 007278). The Rhode Island State Memorial was designed by Frances Edwin Elwell. It is a bronze statue of an infantryman wielding a musket and flag, standing on a granite pedestal, and is located along Grant Avenue near Grant Circle (Fig. 239).

West Virginia State Memorial. (1922; LCS 003316). One of the smallest state monuments, the West Virginia State Memorial is a bronze bust of Major Arza M. Goodspeed, who was killed in the May 19, 1863, assault on the Confederate earthworks. The bust of this prominent West

Virginian, sculpted by Aristide Berto Cianfarani, sits upon a granite pedestal. The monument is located on Union Avenue south of Graveyard Road.

Wisconsin State Memorial. (1911; LCS 007268). The Wisconsin State Memorial is a 122-foot granite column topped with a bronze bald eagle perched on a bronze ball (Fig. 245). The bald eagle represents the 8th Wisconsin Infantry Regiment's mascot, "Old Abe" the war eagle. Approached by a flight of marble stairs, the base of the column features bronze tablets which bear the names of the 9,075 soldiers from Wisconsin who fought in the Vicksburg campaign. Relief tablets at the base of the column depict Union and Confederate soldier clasping hands to symbolize the peace that now exists between the states. The monument was sculpted by Julius C. Loester. It is composed of granite from Winnsboro, South Carolina, and is located along Union Avenue at milepost 2.9 of the park tour road.

State Monuments Outside Park Boundaries

Florida State Memorial. (1954; LCS 003466). The Florida State Memorial is located near the intersection of South Confederate Avenue and Mulvihill Street. This 4-by-3 foot, 9 inch upright monolithic tablet, composed of polished Elberton, Georgia, granite was funded by the Florida Chapter of the United Daughters of the Confederacy (U.D.C.). It honors the soldiers who served in General Joseph E. Johnston's Army of Relief. The monument includes the state seal of Florida at the top, and text that reads: "In God We Trust," and "Whether sleeping in distant places, or graveless, this monument has been erected to the memory of the men who served the Confederate States of America."

Maryland State Monument. (1914; LCS 003708). The Maryland State Monument is situated along South Confederate Avenue approximately 0.2 miles south of the Mulvihill Street intersection. The memorial consists of a bronze tablet mounted on a granite pedestal that commemorates the Third Maryland Battery under the command of Ferdinand O. Claiborne.

North Carolina State Monument. (1925; LCS 003779). The North Carolina State Monument is located along South Confederate Avenue, approximately 0.1 mile south of its junction with Halls Ferry Road. The memorial was cut from Stone Mountain, Georgia, granite and sculpted by Aristide B. Cianfarani. It features a bronze coat of arms and the names of the engaged units engraved in the granite.

South Carolina State Memorial. (1935; LCS 003834). The South Carolina State Memorial is located in front of Vicksburg High School, on former park property along South Confederate Avenue. The memorial was constructed of Winnsboro, South Carolina, granite. It was sponsored by the South Carolina Chapter of the U.D.C.

Virginia State Memorial. (1907; LCS 003842). The Virginia State Memorial is a granite and bronze tablet situated southeast of the North Frontage Road and Iowa Avenue intersection. It was the first Confederate memorial to be erected. The monument represents the Botetourt Artillery, the only Virginia unit to participate in the defense of Vicksburg.

Other Important Monuments within the Park

Union Navy Memorial. (1911; LCS 007282). At 202 feet, the Union Navy Memorial is the tallest monument in Vicksburg National Military Park (Fig. 249). The granite obelisk, sculpted by Frank Edwin Elwell, Henry Hudson Kitson, and William Couper, is a tribute to the officers and sailors of the U.S. Navy who served in the Vicksburg campaign. At the base of the monument are four statues of the fleet commanders: Admirals Farragut and Porter, and Flag Officers Davis and Foote.

Mississippi African American Memorial. (2004). The Mississippi African American Memorial is a nine-foot-tall polished granite block set on a slab of granite flagstones. The face of the granite block has a bronze plaque inscribed with a dedication to the First and Third Mississippi infantry of African descent that fought in the

Vicksburg campaign. The three bronze statues of African American men depict a soldier looking forward to the future, a wounded soldier representative of the sacrifice made by African Americans during the war, and a civilian laborer who looks to the past and the institution of slavery. The memorial was designed by Dr. J. Kim Sessums, and financed jointly by the city of Vicksburg and the state of Mississippi.

Grant-Pemberton Surrender Interview Site Monument. (circa late 1860s; LCS 091212). A 42-pound iron cannon placed upright on the ground commemorates the site of the surrender interview between Grant and Pemberton in July 1863. It replaced a small stone shaft that marked the site between 1863 and 1867, but was vandalized. The original stone obelisk was moved three times to the Cherry Street Railroad Station, the Vicksburg National Cemetery, and finally the present-day visitor center.

Historic Bridges within the Park

Due to the numerous ravines and undulating topography of the park, bridges are a major feature of the tour road. Some are notable for their artistic ornamentation, others for unusual engineering technologies. Eleven bridges were initially constructed as part of the tour road between 1903 and 1908. Nine of these original bridges remain. Other bridges have since been added. The nine historic bridges include:

Maloney Circle Bridge. (1908). This bridge is located southeast of the visitor center and spans the Kansas City Southern Railroad line to provide access to Battery Maloney. It is no longer accessible to vehicular traffic but can be reached by pedestrians from Old Mississippi Highway 27. The bridge is constructed of reinforced concrete, spans seventy-five feet, and has two arched ribs and a decorative concrete arch railing atop the parapet. The guardrail is formed by a series of rounded concrete posts connected by shallow-arched concrete railings. The spandrel walls have decorative inlaid rectangles.

Melan Arch Bridges. (1903). Nine Melan Arch bridges were constructed as part of the original tour road. These bridges cross small streams and valleys throughout the park. Seven of the bridges are still in use today. In 1997, Bridge No. 5, which was located along Union Avenue in the northwestern portion of the main battlefield unit, was replaced with a box culvert after being declared unsafe for vehicular traffic due to buckling of the structural members.

The patented Melan bridge-building technique utilized concrete reinforced with curved steel I beams. These span the breadth of their crossings without any intermediate supports. The reinforced arches have reinforced spandrels, and are covered by a level concrete deck and a low parapet wall which runs along either side of the bridge. The wall is topped by square concrete pedestal-style posts originally connected by a decorative wrought-iron railing.



FIGURE 112. There are eight of the original nine Melan Arch bridges extant in the park. This historic, patented bridge-building style could span crossings without any intermediate supports. This bridge is just beyond the Memorial Arch on Union Avenue. This view is from the western side of Union Avenue, looking northeast.



FIGURE 113. Two contemporary bridges convey the park tour road over modern Jackson Road (which passes through but does not access the park). This photo of the one on Union Avenue was taken south of the crossing, standing on the eastern shoulder looking northwest.

The Melan Arch bridges within the park are similar in appearance, with triangular and rectangular inlays on their spandrel walls (Fig. 112). Among the park's examples, there are minor differences in their span length, arch radii, and number of railing posts. Over the years, the original decorative ironwork has been replaced, due to corrosion, with plain, round iron rails, and the decks of the bridges have been paved. The surviving examples include (not included on LCS):

- HAER Bridge No. 1/Historic Bridge 5. This bridge is located at mile marker 0.2 just beyond the Memorial Arch on Union Avenue. It has a total span of 60 feet, and an arch span of 34 feet.

- HAER Bridge No. 2/Historic Bridge 4. This bridge spans a ravine at mile marker 1.2, just before Union Avenue makes a sharp turn to the southeast near the Michigan State Monument. It has a total span of 54 feet, and an arch span of 28 feet.

- HAER Bridge No. 3/Historic Bridge 3. This bridge spans a tributary of Mint Spring Bayou along Union Avenue at mile marker 6.4. It has a total span of 67 feet, and an arch span of 40 feet.

- HAER Bridge No. 4/Historic Bridge 2. This bridge spans a ravine in the northern section of the park's main battlefield unit, along Union Avenue between Thayer's Approach and Battery Selfridge. It has a total span of 48 feet, and an arch span of 67 feet.

- HAER Bridge No. 7/Historic Bridge 10. This bridge is located along the South Loop at mile marker 14.4, south of Hovey's Approach. It has a total span of 40 feet, and an arch span of 16 feet.

- HAER Bridge No. 8/Historic Bridge 9. This bridge is also located along the South Loop at mile marker 14.5, south of Hovey's Approach. It has a total span of 40 feet, and an arch span of 16 feet.

- HAER Bridge No. 9/Historic Bridge 8. This bridge is located at mile marker 15 along the South Loop north of Hovey's Approach. It has a total span of 40 feet, and an arch span of 16 feet.

- HAER Bridge No. 10/Historic Bridge 7. This bridge is located at mile marker 15.1 along the South Loop north of Hovey's Approach. It has

a total span of 49 feet, and an arch span of 28 feet.[194]

Contemporary Bridges within the Park

Box culvert. A box culvert was used to replace the largest Melan arch bridge, located along Union Avenue in the northwestern corner of the park, in 1997.

Jackson Road Bridges. Constructed in 1972, two bridges extend Union and Confederate Avenues across modern Jackson Road (Fig. 113). Historically, the Confederate Avenue bridge crossing of the ravine in this location was a steel arch bridge that was removed in 2003. The existing bridges are contemporary structures supported on tall concrete columns, with curved concrete shoulders and metal guard rails across the spans.

Mint Spring Bayou Bridge. The Mint Spring Bayou crossing of Connecting Avenue is a simple concrete structure. The date of origin of the structure is not currently known.

Bridge over the Kansas City Southern Railroad line. Confederate Avenue extends across the Kansas City Southern Railroad line west of the visitor center. A contemporary concrete and steel bridge affords passage over the rail line.

Bridge Outside of Current Park Boundaries

Halls Ferry Road Bridge. The Halls Ferry Road Bridge along South Confederate Avenue (Fig. 114) was constructed in 1936–1937 under the direction of the Public Works Administration to divert park traffic on Confederate Avenue from a busy intersection with Halls Ferry Road. To do so, the approach roads were re-graded so that the at-grade crossing of Halls Ferry Road could be replaced with an overpass. Composed of a single reinforced concrete arch span with brick facing, the bridge has brick spandrel and wing walls and is ornamented with low-relief brick quoins. Its total span is 122 feet, and arch span is 41 feet. The Halls Ferry Road Bridge is the only known bridge of its kind in the state of Mississippi, and was nominated for listing in the National Register of Historic Places in 1986.

Stout's Bayou Bridge. In 1903, a steel bridge similar to three others built in association with the park, was constructed along South Confederate Avenue across Stout's Bayou and an adjacent rail line spur to the east of the Louisiana Circle. The steel bridge was demolished in 1938 in association with a realignment of the road corridor, and replaced with an adjacent new steel girder span with concrete and brick abutments by the CCC. The new bridge incorporated some of the materials from the earlier bridge.



FIGURE 114. The Halls Ferry Road Bridge, from South Confederate Avenue, looking southwest. Composed of a single reinforced concrete arch span with brick facing, it is the only bridge of its kind in Mississippi. It is now on city-owned property.

194. Bridge numbers refer to the 1997 Historic American Engineering Record (HAER) documentation of Vicksburg's Melan Arch Bridges.

Other Structures

Memorial Arches. (1920; LCS 007285 and LCS 007288). Two triumphal arches were built in the park in 1920. One marks the ceremonial entrance into Vicksburg National Cemetery, which has been closed to vehicular traffic (Fig. 115). The other was originally placed along Clay Street but was moved to its current location at the beginning of the park tour road in 1966.

The Memorial Arch located within the park's main battlefield unit was constructed with funds left over from a 1917 veterans reunion held at the park (Fig. 116). It is a trabeated entry portal with two engaged Doric columns, and an entablature with an attic story inscribed with the name of the park and two stylized laurel wreaths. The rear of the attic story includes a carved reference to the reunion that funded its construction. The structure is built of Stone Mountain, Georgia, granite, and was originally placed on Clay Street, but moved to its current location in 1966 as part of the Mission 66-era changes made to the park including the nearby visitor center. The arch was assessed in good condition by the LCS in 2006.

Tunnel. There is a tunnel under Union Avenue that accesses the site of Thayer's Approach (Fig. 117). This tunnel was initially excavated during the siege as part of Thayer's Approach. The existing concrete structure was established by the CCC during the 1930s. It has an arched opening and protruding cheek walls along the sides of the walk that leads through the tunnel. It is in fair condition due to spalling, cracking, and broken sections of the concrete.



FIGURE 115. The Memorial Arch at the entrance to Vicksburg National Cemetery from North Washington Street, now closed to vehicular traffic.



FIGURE 116. Originally on Clay Street, this triumphal Memorial Arch (pictured here, from the Visitor Center parking lot, looking east) was relocated and is now the portal through which visitors begin the park road tour.

Contemporary Park Structures. There are two fee collection booths located at the park entrances. One is placed near the visitor center, while the second is stationed at the Fort Hill Drive entrance (Fig. 118). These structures are both small, approximately 6-by-10-foot, one-story structures composed of steel, blue painted walls, and low-pitched hipped roofs clad with standing-seam metal. The booths have window openings in the narrow dimensions, and a door opening in the longer dimension that faces vehicles entering the park. Low concrete walls and steel bollards are placed around the building from damage potentially caused by errant vehicles.

The USS *Cairo* is protected from weather by a white tensile structure (Fig. 103).

Small-Scale Features

In addition to the larger monuments described above, Vicksburg National Military Park includes more than 1,300 smaller monuments, statues, busts, tablets, and position markers that constitute small-scale features. Notably, twelve free-standing bronze statues are present in the park. There are 95 bronze relief portraits, 62 bronze busts on granite pedestals, 76 regimental monuments with bronze plaques, and 208 stone regimental monuments. Of the original 178 granite regimental position markers, 77 bronze tablets, 352 large cast iron tablets, 504 small cast iron tablets, and 102 guide posts sited on the 1902 park commission maps, over 900 have recently been documented. At least 143 of the large cast iron tablets were removed for the metal scrapping drive during World War II, of which 22 have been replaced.[195]

Other types of small-scale features represented at the park include site furnishings, boundary markers, emplaced cannon and other interpretive aids, and signage.

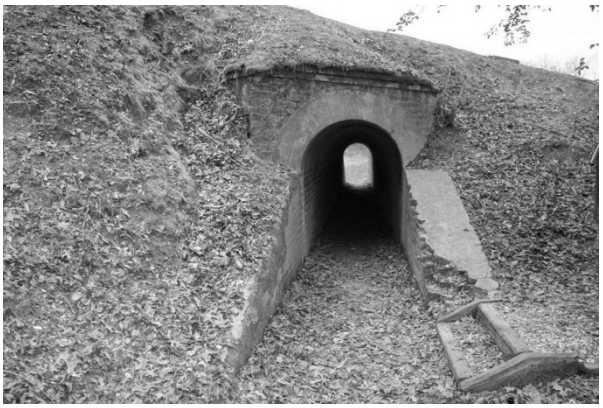


FIGURE 117. View south of the concrete tunnel leading beneath Union Avenue to the Thayer's Approach site. A tunnel has been present in this location since the siege.



FIGURE 118. Park entrance fees are collected at manned booths in two locations. One edges the road west of the Memorial Arch near the visitor center. The other is located at the park entrance along Fort Hill Drive.



FIGURE 119. The close juxtaposition of tablets and position markers, such as these at Railroad Redoubt, viewed here looking northwest, indicate how close the two armies came to one another during the siege.

195. National Park Service, 95% draft CLR, review comments.



FIGURE 120. The park includes hundreds of cast iron tablets and position markers placed at locations of battle events and troop positions. They are coded by size, shape, and color to facilitate self-guided tours; they are oriented so that the reader is facing the same direction as the troops they are reading about.



FIGURE 121. The larger tablets indicate battle lines, while the smaller position markers, such as this one at Fort Garrott, viewed here looking east, indicate troop positions.

Monuments and Other Battlefield Markers. Vicksburg National Military Park is recognized as one of the most densely monumented parks in the world. Although originally slated to receive more than 1,700 monuments, the park currently features approximately 1,340 statues, busts, tablets, and position markers. The monuments honor the contributions of individuals as well as those of the battalions, regiments, infantry, artillery, and cavalry units that participated in the siege.[196]

196. Miller, 7-2.

Iron Tablets and Position Markers. The park has identified more than 540 iron tablets and position markers that currently exist within current and former park boundaries. Most of these were written and placed by veterans to mark the specific locations of events important to the siege. They are coded by size, shape, and color to facilitate interpretation of the battlefield. Tablets and position markers painted red represent the Confederate locations, while blue markers are associated with Union operations. The larger tablets indicate battle lines, while the smaller position markers indicate troop movements. Often, red and blue tablets are located in close proximity, indicating how close the opposing armies came to one another (Fig. 119).

The tablets are made of cast iron and have raised lettering, and are supported by cast iron or granite poles (Fig. 120). The tablets explain siege events. They are oriented to face the direction of the events interpreted. Many are canted to facilitate legibility. The position markers indicate the lines of battle. Typically, they are smaller than the tablets and are upright, rather than canted (Fig. 121).

These tablets are vulnerable to weathering, but are preserved through a park preventative maintenance program, which includes cleaning the tablets with high pressure water spray or, as needed, sandblasting and repainting. The system was altered when 143 of the tablets were removed and appropriated during a World War II metal drive.

Figurative Statues. As a way of diffusing sensitive partisan emotions following the Civil War, statues took on the emblematic role of the common soldier in the conflict (Fig. 122). Portraits of the generic soldier are one of the most prolific Civil War monuments within the park. While some depict infantrymen standing sentinel, most portray soldiers actively engaged in combat. Bronze is the primary material used in figurative statuary.

Statues also depict the portraits of individual officers. These were usually carefully researched using photographs and other portraits, and are

rendered in bronze with naturalistic details. Examples of standing statues include:

- *Brig. Gen. Stephen D. Lee.* Sculpted by Henry Hudson Kitson in 1909, this statue depicts Lee in his military uniform holding his sword with both hands across his bent left knee. The statue is nine feet tall.

- *Maj. Gen. John A. Logan.* Sculpted by Leonard Crunelle in 1919, this seven foot statue depicts Logan standing in his military uniform, with his left hand on his hip and his right hand clutching a pair of gloves.

- *Lt. Gen. John C. Pemberton.* Sculpted by Edmond Thomas Quinn in 1917, this statue is eight feet tall and depicts Pemberton in full military dress, including a buttoned, knee-length coat.

Busts and Reliefs. Vicksburg began to commission statuary busts and reliefs beginning circa 1910 as a means of memorializing the commanders of the troops who fought there. These portraits, based on photographs, were commissioned in groups, and were required to be a standard size (Fig. 123 and Fig. 124). Notably, many of the busts and reliefs were fabricated by Tiffany and Company foundry. Examples of reliefs include:

- *Brig. Gen. Louis Herbert.* This relief, fabricated by Tiffany and Company and sculpted by Theo Alice Ruggles Kitson in 1910, sits on a bronze plaque mounted to a white granite stele. The relief measures 40 by 28 by 1-1/8 inches, while the stele is 78 by 54 by 28 inches.

- *Maj. Gustavus Lightfoot.* Sculpted by Henry Hudson Kitson in 1914, this bronze relief bust is mounted to a granite stele. The plaque is approximately 39 by 26 by 1 inch, while the stele is approximately 76 by 54 by 22 inches.



FIGURE 122. Portraits of the "common soldier" are among the most prolific statuary within the park, such as this one of a soldier depicted in the Rhode Island State Memorial, seen from Grant Avenue looking west.



FIGURE 123. Sculpted by William Couper in 1911, this bust of Union Brig. Gen. Isaac F. Quinby conforms to dimensions standardized by the park when they began commissioning portraits in the early twentieth century. This view is from the eastern shoulder of Union Avenue, looking northwest. The Michigan State Memorial can be seen in the distance.

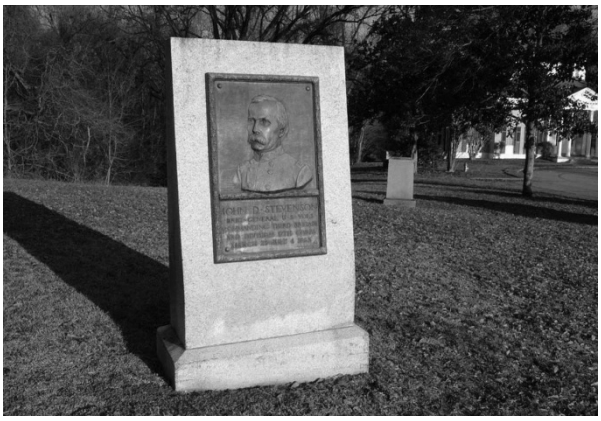


FIGURE 124. Relief panels, like this one of Brig. Gen. John D. Stevenson, viewed here from in front of the former Administration Building looking east, were another form of portrait commissioned by the park to commemorate commanders.



FIGURE 125. Civil War commemorative sculptures include the first widespread installation of bronze equestrian statues in the United States. This statue of a mounted Maj. Gen. Ulysses S. Grant was sculpted by Frederick Cleveland Hibbard in 1918 and can be found at Grant's Headquarters Area, in the far northeastern corner of the park.

Examples of sculpted busts include:

- *Brig. Gen. Daniel W. Adams.* This bronze bust, sculpted by Theo Alice Ruggles Kitson, is placed atop a two-section granite base and is approximately 52 by 30 by 22 inches while the base is approximately 72 by 43 by 43 inches.

- *Brig. Gen. John Adams.* This bronze bust, sculpted by Anton Schaaf, is placed atop a two-section granite base and is approximately 51 by 36 by 20 inches, while the base is approximately 72 by 43 by 43 inches.

- *Brig. Gen. Isham Warren Garrott.* This bronze bust, sculpted by William Couper, was dedicated in 1909. It sits atop a granite two-tier base and is approximately 52 by 40 by 24 inches. The base is approximately 76 by 48 by 48 inches.

Equestrian Statues. With commemoration of the Civil War came the first widespread use of equestrian monuments in the United States (Fig. 125). Bronze was the material of choice for equestrian statuary, most likely due to the difficulties inherent in carving a freestanding quadruped in stone or marble. Park examples include:

- *Maj. Gen. Ulysses S. Grant.* Sculpted by Frederick Cleveland Hibbard in 1918, the statue of Grant is mounted with his left hand holding the horse's reins and a sword hanging by his side. The statue is 12 by 5 by 15 feet while the upper base is 6 by 9 by 16 feet and the lower base is 1 by 15 by 12 feet.

- *Maj. Gen. John A. McClernand.* Sculpted by Edward Clark Potter in 1919, this statute depicts General McClernand mounted on his horse with his left hand on his hip. The statue is 9 by 9 feet and its base is approximately 8 by 4 by 12 feet.

- *Brig. Gen. Lloyd Tilghman.* Sculpted by Frederick William Sievers in 1926, this statue of Brigadier General Tilghman depicts him standing beside a rearing horse, the front hooves of which are braced on a broken

cannon carriage wheel. The sculpture is approximately 10 by 24 by 6 feet.

Emplaced Cannon. Since the early days of the national military park system, artillery has been used to mark positions of batteries and lines of battle (Fig. 126). At Vicksburg, 149 cannon have been placed at actual battery sites. While only one is known to have served at Vicksburg—placed at South Fort, this artillery piece is referred to as Widow Blakely—all are actual Civil War-era tubes that have been mounted on replica wood and iron carriages.[197] Many of the existing replica carriages were built circa 1905–1908. Due to severe deterioration, replacement of the carriages with new reproductions was begun in 2003. This process is anticipated to continue until all the early twentieth-century carriages have been replaced.

Due to the reforestation that has occurred at Vicksburg over the past 75 years, some of the emplaced cannon are now pointing into heavily wooded areas, which appears incongruous and can be confusing to the visitor (Fig. 127).

Culverts and Drainage Structures. Drainage features are a significant component of the infrastructure at Vicksburg National Military Park. The original construction of the park's roads necessitated grading and the establishment of an elaborate drainage system. An elaborate system of curbs, gutters, and culverts control overland flow of stormwater associated with roads and steeply-sloped landforms. The system redirected stormwater and accommodated the engineering needs of circulation corridors and protected against erosion. Since the loess soil is highly erodible, hillsides were protected and stabilized using terracing, culverts, and gutters. Culverts carry roads across perennial waterways. Drop inlets, paved channels, curbs, and gutters are used in association with roads and slopes to manage stormwater runoff. Various types of culverts are in evidence including single-hole brick with diversion gutters, double-hole brick with diversion inlets, roadside drop culverts with diversion inlets,



FIGURE 126. Cannon are used to mark battery sites, such as these, seen looking north at Battery De Golyer. There are 149 cannon emplaced at historic battery sites at the park.



FIGURE 127. Another example of emplaced artillery that, today, is aimed toward a wooded area, which can be confusing to visitors. This cannon is west of Union Avenue near Stockade Redan Attack and is viewed here looking northwest.



FIGURE 128. An elaborate system of curbs, gutters, and culverts control the overland flow of stormwater associated with roads and steep landforms within the park. Shown is a concrete swale along Union Avenue north of the Memorial Arch.

197. Ibid., 7-3.

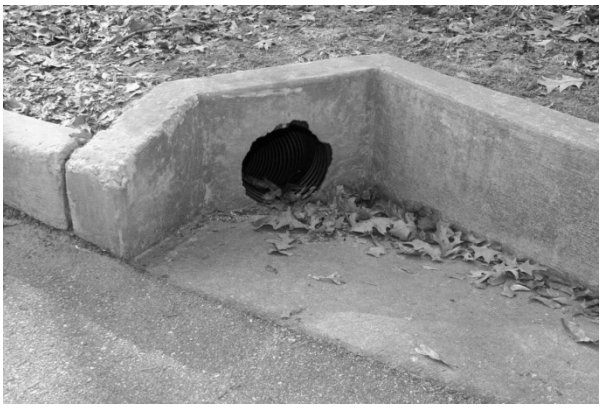


FIGURE 129. Another example of a drainage structure is a concrete culvert inlet, looking south on Union Avenue just past the first Melan Arch Bridge.



FIGURE 130. Other culverts within the park are made of brick, such as this outlet viewed looking east from the South Loop road near Fort Garrott.



FIGURE 131. A CCC-era concrete gutter. Used on slopes for erosion control, these gutters were typically three feet wide and five to eight inches deep. This one is on the northwestern facing slope of Fort Hill.

drop culverts with mountable curbs, and concrete or asphalt gutters (Figs. 128, 129, 130, and 131). Water is conveyed from the roads to stream corridors as possible.

Retaining Walls. There are a limited number of retaining walls within the park. They are found along a few road sections, edging parking areas, and some monuments.

Along the switchback section of the tour road between the Shirley House and the Wisconsin Monument, a section of poured-in-place concrete retaining wall edges the road (Fig. 132).

At Fort Hill, brick retaining walls define the edge of the parking area. The brick walls continue as the cheekwall for a flight of stairs leading up the earthwork (Fig. 133). A brick retaining wall is also associated with the parking lot margin associated with the Texas State Monument and the Railroad Redoubt. The brick wall flanks a central flight of steps leading up the steep slope to the siege and commemorative features. The stairs are edged by brick cheekwalls. Brick retaining walls edge the brick landing on which the USS *Cairo* exhibit is set.

The Surrender Interview Site monument is partially edged by a stone retaining wall that defines a semi-circular raised earth form, within which the monument is centered.

War Department Boundary Markers. Many of the park boundary lines are marked with a system of low concrete blocks. This type of marker is found at other sites formerly administered by the War Department prior to 1933.

USGS Benchmarks. Benchmarks associated with the United States Geological Survey (USGS) are located within the park that mark surveyed elevations. These benchmarks consist of a six-inch-square concrete post set in the ground inset on the top with a steel medallion engraved with survey data (Fig. 134).



FIGURE 132. A concrete retaining wall, on the first switchback curve made by Union Avenue north of Shirley House, looking south.



FIGURE 135. The grave site of James Shirley and his wife Adeline Quincy are marked by this joint headstone located north of the Shirley House.



FIGURE 133. A brick retaining wall, edging the slopes of Fort Hill and forming the cheekwalls of the stairs which access the fortification.



FIGURE 136. Small-scale features within the park include interpretative signage and waysides, such as this kiosk in the center of the parking lot east of the visitor center, viewed here looking northwest.



FIGURE 134. A USGS benchmark within the park marking a surveyed elevation. The benchmark is a six inch square concrete post set in the ground, inset on the top with a steel medallion engraved with the survey data.



FIGURE 137. Examples of park benches as small-scale amenities, also within the visitor center parking lot area.



FIGURE 138. Tour stop markers keyed to fifteen major focal points assist visitors in staying oriented to the sixteen-mile park road tour loop and its many interpretive waysides. This one is for Hovey's Approach, in the south end of the park. This view is looking northwest from South Loop Road.

Shirley House Grave Marker. Behind the Shirley House, the graves of James Shirley and his wife Adeline Quincy are marked by a shared square, split faced granite headstone. The name "Shirley" is carved into the top and sides of the headstone (Fig. 135).

Chain-link fencing. Chain-link fencing edges the parking area associated with Fort Hill and portions of the Louisiana Circle site to prevent visitors from accessing dangerously steep slopes.

Park Operation Features. Park operation features include site furnishings and exhibits associated with the visitor center and parking area, fee collection areas, the picnic area, and various parking pull-offs. Small-scale features associated with park operations include lighting associated with parking areas, kiosks (Fig. 136), benches (Fig. 137), picnic tables, rope and bollard edging, security bollards, signage, interpretive exhibits, waysides, and tour stop markers (Fig.138). The park's identity sign is a large concrete structure set into the side of one of the earthwork exhibits located at the entrance to the park along Clay Street. The picnic area is located along Confederate Avenue near Pemberton Circle. A concrete apron edges the road. Several picnic tables are located along the apron.

Archeological Resources

Vicksburg National Military Park is listed in its entirety in the National Register of Historic Places. All archeological sites located within the park are protected under this listing, and the park is a battlefield and therefore likely a significant archeological resource. However, a formal, comprehensive survey, conducted to determine whether a site independently qualifies for the National Register, has not yet been undertaken at the park.[198] Due to the lack of systematic archeological investigation, the specific knowledge of resources is very limited. It is likely that portions of the park have been heavily disturbed and will therefore have little archeological integrity as far as *in situ* primary deposits are concerned.

The NPS Archeological Site Management System (ASMIS) database currently lists fifteen sites at Vicksburg. Of these, ten are prehistoric sites. Historic sites include the Shirley House, the museum complex, and the battlefield, with Railroad Redoubt, Great Redoubt, Fort Hill, and Fort Garrott identified as sub-sites of the battlefield. Absent from the list are two sites identified in 1997, one near the Memorial Arch and the other north of the Minnesota State Monument inside a sharp bend in Union Avenue.

Past archeological studies within the park have generally been limited to areas of proposed construction activities, including road and trail improvements, and the addition of new visitor services such as water fountains. Four of the surveys were conducted in the 1960s and 1970s.

198. Mactec, EA, 3–5.



Source: *City of Vicksburg Geoportal*
www. http://www.geoportalmaps.com/atlas/vicksburg/viewer.htm
Aerial photograph, ca. post-1984

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SCALE IN FEET
FOR PLANNING PURPOSES ONLY
NOT FOR CONSTRUCTION

Cultural Landscape Report
Vicksburg National Military Park

Existing Conditions
Riverfront Batteries
Figure 139

These surveys recorded important sites, but were not conducted to current standards and the locational information is poor. Recorded during these surveys, for example, was the potential prehistoric "Temple Mound" north of Mint Spring Bayou (site 22Wr503) that has been the subject of several inconclusive investigations regarding its prehistoric significance.

The first recorded investigation was conducted in 1968 by Lee Hanson prior to road construction of four road segments. In 1975, archeological survey for trails and relocation of the USS *Cairo* were conducted by Crawford Blakeman and Michael Collins. Nine prehistoric sites and one historic Civil War-era site were identified within the park during the survey. During this investigation, test excavations were conducted at the mound.

In 1978, an archeological survey for Mission 66 road construction was conducted by Christopher Hamilton. In 1979, Carlos Martinez conducted investigations prior to installation of a water fountain in the picnic area, and in 1992, John Cornelison undertook Section 106 investigations prior to construction of a french drain system. In 1990, 1993, 1995, 2002, 2003, and 2007, investigations were conducted to assess damage caused by looting under the Archeological Resources Protection Act (ARPA).

An archeological and historical inventory was completed in 1999 for a Mint Spring Bayou stabilization project. Two archeological sites with historic artifacts were identified, but neither site was recommended eligible for listing in the National Register. It was also during this project that two unusual areas of exposed fossiliferous bedrock were identified.

A metal detecting survey of ten acres in the Railroad Redoubt area was conducted in 2004 prior to clearing activity. Numerous Civil War-era artifacts, consisting mostly of three-ring minie balls, were recovered during this survey.

A geophysical survey and archeological testing were conducted by the Southeast Region Archeological Center (SEAC) during 2005 around Pemberton's Headquarters. This is possibly the only investigation focused on addressing military questions. SEAC has also been involved in the ARPA looting investigations associated with the park.

Finally, in 2007, archeological survey and limited testing were conducted within the Washington Street corridor by the Mississippi Department of Transportation.

Noncontiguous Park Parcels

Vicksburg National Military Park includes three small noncontiguous parcels on the bluffs overlooking the Mississippi River to the south of the city of Vicksburg. These are known as Louisiana Circle, South Fort, and Navy Circle (Fig. 139). Each parcel is between one and three acres in size and includes remnant earthen fortifications from the Civil War siege of Vicksburg, and marked by artillery, metal tablets, and other commemorative and interpretive features. The two northern fortifications—Louisiana Circle and South Fort—were associated with the Confederate defensive line established in 1862, while Navy Circle was established by Union forces as part of their offensive siege line in 1863. Louisiana Circle and Navy Circle also include visitor access elements such as roads, parking, walks, stairs, site furnishings, and signage. Each of these forts is individually described below.

Louisiana Circle. Louisiana Circle (Fig. 140) is located west of South Washington Street and north of South Fort and Navy Circle within the southern portion of the city of Vicksburg limits. This approximately 1.3-acre parcel is also referred to as a Mississippi River overlook in NPS literature and on directional signage. The entrance road into the parcel arises north of the intersection of South Washington Street (also known as U.S. 61 Business), and Old U.S. Highway 80-North Frontage Road. Cashman Drive leads west from Washington Street south of Louisiana Circle. Within view of the parcel are casinos, the old U.S. 80/railroad bridge, and Interstate 20 bridge (Fig. 141), and commercial development along Washington Street.



FIGURE 141. Within view of Louisiana Circle are casinos and the old U.S. Highway 80 and railroad bridge and the Interstate 20 bridge crossing the Mississippi River.

The Louisiana Circle parcel features a remnant Confederate earthen fortification sited on a bluff overlooking the Mississippi River (Fig. 142). The fortification is generally circular in shape, with the landform falling away gently towards the river, and more steeply along Washington Street (Fig. 143). A concrete road leads in a circle around the base of the knoll occupied by the Civil War fortification. The road is edged by low, rounded, mountable curbing and an eighteen-inch-high guardrail composed of concrete posts and timber rails along its western margin (Fig. 144). Directional, identity, and regulatory signs as well as trash receptacles are placed along the outer edge of the road margin. Signs warning visitors not to cross the protective guard rail are mounted on its wood timbers. Roadside curbing directs stormwater to drains placed above the intersection of the park road with Washington Street.

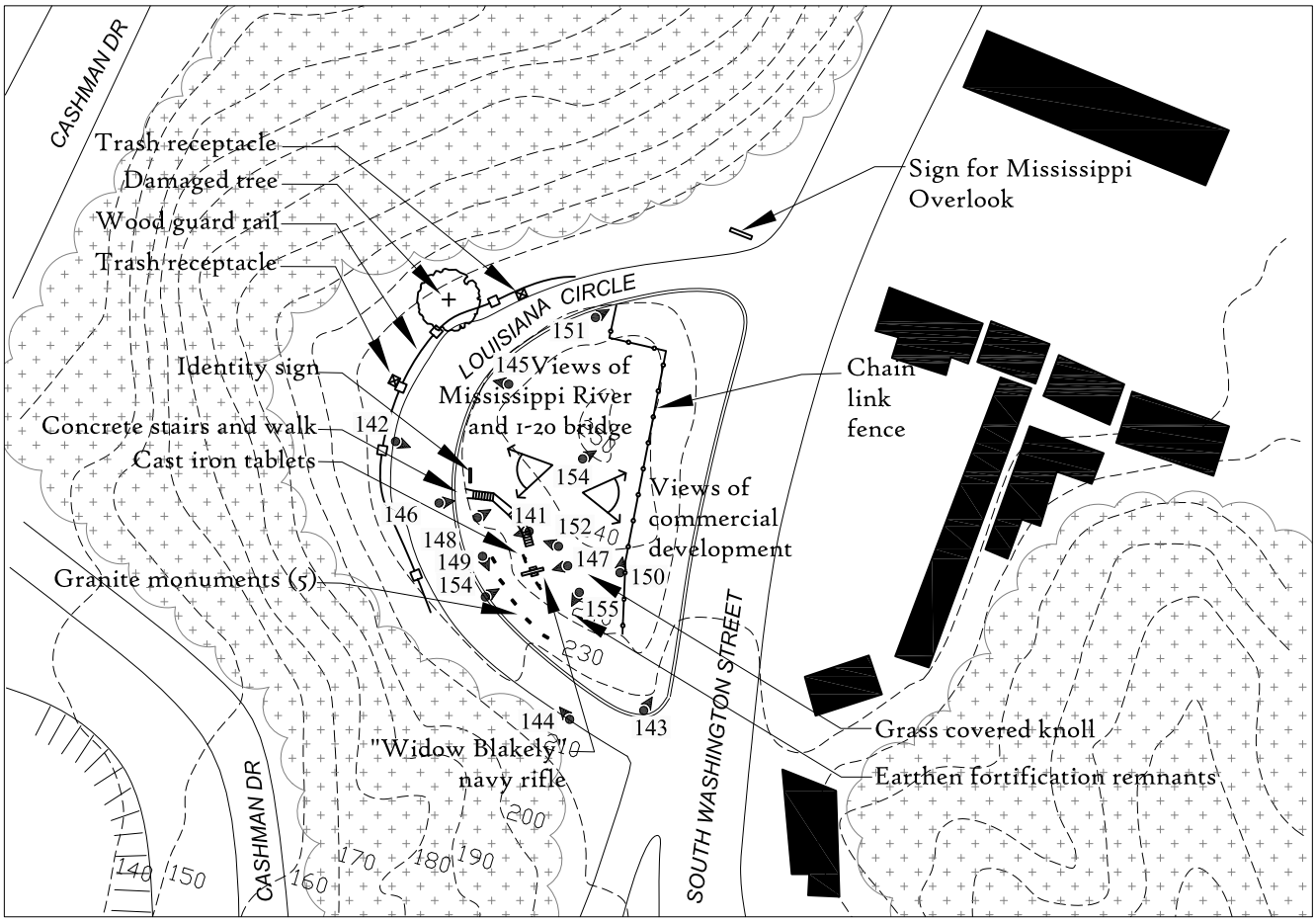


FIGURE 142. The Louisiana Circle parcel features a remnant Confederate earthen fortification sited on a bluff overlooking the Mississippi River.

Vehicular parking occurs along the margins of the approximately twenty-foot-wide road corridor. The road flares to accommodate up to three parallel-parked cars along its outer margin (Fig. 145). To the north of the parking pull-off is the site's lone shade tree, which is badly damaged. Pedestrians access the fortification via a concrete stair and walk. The stairs are edged by round metal handrails (Fig. 146). The walk leads to a small



FIGURE 143. The landform at Louisiana Circle falls away gently towards the river and more steeply along Washington Street.



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Cultural Landscape Report
Vicksburg National Military Park

Existing Conditions
Louisiana Circle
Figure 140



FIGURE 144. A concrete road circles around the base of the fortification at Louisiana Circle edged by rounded, mountable curbing and a guardrail composed of concrete posts and timber rails along its western margin.



FIGURE 145. Vehicular parking at Louisiana Circle occurs where the road flares to accommodate up to three parallel-parked cars along its outer margin. The large deciduous tree was damaged in a storm and needs to be removed.



FIGURE 146. Pedestrians access the fortification at Louisiana Circle via a concrete stair and walk.

landing along the fortification's southern margin that features an artillery piece looking out toward the Mississippi River to the south. Known as the "Widow Blakely," the piece is a 7.5-inch navy rifle fashioned by the Blakely foundry in England. It is the only gun of its type used in the Confederate defensive system. Originally emplaced approximately one mile to the north, the rifle was moved to this location for interpretive purposes. It was used during the siege to fire on Federal naval vessels as well as to guard the low bottom ground between the river and the bluffs. Adjacent to the rifle are two metal tablets, one of which dates to early-twentieth-century War Department administration of the site (Fig. 147). The landing, tablets, and cannon are sited approximately midslope along the knoll. The walkway does not continue on to the summit (Fig. 148). On the western side of the knoll's summit there is also a small depression that may have been associated with a constructed feature such as a bombproof.

Two metal tablets flank the artillery piece. They are comprised of metal posts supporting cast iron tablets, set approximately three-and-one-half feet high, and painted red. The raised text of the tablets conveys the history of this site within the context of the siege. The tablets are similar to those placed elsewhere within the park by the War Department during the early park establishment period. The tablet to the west of the artillery piece appears to be either a replacement of an original tablet, or a later addition to the site. The text credits the NPS, which did not exist at the time most of the tablets were placed, and the tablet itself is a cast aluminum material that is different than the cast iron of many of the other tablets. In addition, the pole supporting the tablet is round, rather than the figure-eight shape that is characteristic of the other tablets, and appears to be wrapped in plastic.

Below the cannon and tablets on the lower level of the southern side of the knoll are five granite monuments. These monuments identify the Confederate companies that defended this position during the siege (Fig. 149). The monuments are generally five feet in height, three feet wide, and one foot deep, and stand approximately six feet apart. Four of the

monuments are dressed granite, while one is rusticated on the sides and back. Three are set on dressed granite bases. Each is inset with a cast bronze panel. Two of these panels primarily feature text, while the other three include bas relief busts of Confederate officers present at this fortification during the siege.

A black, chain-link fence guards visitors from the steep western slope of the knoll that parallels South Washington Street (Fig. 150). This fence protects visitors from accessing the edge of the dangerously steep slope that edges the public road corridor. The stump of a large tree is located outside of the fence.

The majority of the parcel is maintained in turf, primarily Bermuda grass. There is no woody vegetation on the site with the exception of the single tree outside of the guard rail along the road. The open vegetative cover allows for expansive views of the river and surrounding development. From the fortification, it is possible to observe long stretches of the river in both directions, including the Interstate 20 and railroad bridges.

Condition-related problems observed in association with this parcel during field investigations conducted in April 2008 include the following:

- The concrete paving is cracked and broken in some locations, and there is some minor surface wear. It has been patched with a black asphaltic material that contrasts with the color of the paving. (Fig. 151).

- Portions of the concrete walk constitute a trip hazard where the steps have risers of uneven heights, and settling has occurred between two slabs. The handrail does not extend the entire length of the stairs. The handrail needs painting. The upper walkway includes a trip hazard near the approach to the cannon (Fig. 152).



FIGURE 147. Two metal tablets flank the "Widow Blakely" rifle at Louisiana Circle.



FIGURE 148. The walkway at Louisiana Circle does not continue on to the summit of the fortification.



FIGURE 149. On the southern side of the knoll at Louisiana Circle are five granite monuments that identify the Confederate companies that defended this position during the siege.



FIGURE 150. A black chain-link fence guards visitors to Louisiana Circle from the steep western slope of the knoll that parallels South Washington Street.



FIGURE 151. The concrete paving at Louisiana Circle that is cracked has been patched with a black asphaltic material that contrasts with the color of the paving.



FIGURE 152. The upper walkway at Louisiana Circle includes a trip hazard near the approach to the cannon. Social trails are worn in the turf grass where visitors walk beyond the available path to reach the top of the knoll.

- Portions of the timber guard rail are damaged. Some of the timbers are cracked, split, or displaced. Some of the concrete piers lean outward.
- The black chain link fence is leaning in some locations.
- There are bald spots in the turf grass on the earthen fortification that may lead to erosion. (Fig. 153).
- Social trails are worn in the turf grass where visitors are walking beyond the available path to reach the top of the knoll. (Fig. 152).
- The cannon needs painting.
- There is vegetative growth between the control joints of some sections of the concrete walk.
- The bronze plaques set within the granite markers are stained and need cleaning. They are exhibiting some patination, graffiti scratches, and the loss of bolt covers or bolts. (Fig. 154).
- The five granite monuments exhibit organic growth, rising damp, and minor edge spalls.
- The large deciduous tree along the circular drive that was damaged in a storm needs to be removed. (Fig. 145).
- Views from the fortification are affected by non-historic commercial developments including casinos, commercial buildings, and overhead electrical lines. (Fig. 155).

Inventory of Landscape Features

Natural Features and Systems

- Knoll landform
- Deciduous tree on the slope below the access road



FIGURE 153. There are bald spots in the turf grass on the earthen fortification at Louisiana Circle that may lead to erosion.



FIGURE 154. The bronze plaques at Louisiana Circle set within the granite markers are stained and need cleaning.



FIGURE 155. Views from the fortification at Louisiana Circle are affected by non-historic commercial developments.

Cultural Vegetation

- Turf grass (primarily Bermuda grass)

Topographic Modifications

- Civil War earthwork remnant atop knoll

Patterns of Spatial Organization

- Elevated knoll landform encircled by access road
- Expansive sense of open space from western side of the parcel

Land Uses

- Museum/Educational/Interpretive

Circulation

- Concrete access road with curbing, drains, and parking pull-off
- Concrete walk and stairs

Buildings and Structures

- None

Views and Vistas

- Expansive views to the Mississippi River and I-20 bridge
- Views of surrounding commercial and highway development

Small-scale Features

- Concrete post and wood timber guard rail
- Trash receptacles
- Chain-link fencing
- Identity sign
- Regulatory signage
- Metal handrail
- Five granite and bronze monuments
- Two cast iron tablets
- Widow Blakely artillery piece

South Fort. South Fort (Fig. 156) is located south of Louisiana Circle, and west of South Washington Street. The parcel sits on high ground overlooking the Mississippi River, although views to the river are blocked by dense woody vegetation. There is currently no public access to the parcel, but the asphalt-paved road and parking pull-off associated with a former car wash edges the parcel to the east and allows for informal visitor use of the site (Fig. 157). Two artillery pieces have been placed on the edge of the fortification's southwestern parapet wall where Confederate guns commanded the river approach to the city as well as the former Warrenton Road (contemporary South Washington Street) leading to downtown Vicksburg (Fig. 158). Commercial development along South Washington Street is visible from the parcel (Fig. 159).

The South Fort parcel, approximately two acres in size, is edged to the east by an asphalt access road associated with a former business that is now owned by Ameristar Casino. An electrical line extends into the site from Washington Street, anchored by an electrical pole at the southern end of the parking area. Near the base of the pole is a bronze marker commemorating the role of Iowa brigades in the Civil War siege (Fig. 160). The marker is mounted on a concrete base that is likely a replacement of the original.

There are no pedestrian paths leading into or around the fortification. Visitors scramble up a low rise that edges the paved pull-off. A social trail runs along the top of the rise (Fig. 161). Visitors walk up the slope of the fortification parapet to reach the interior of the fortification. The parapet walls of this fortification remain in good condition and retain a strong profile (Fig. 162). An NPS identity sign for the unit is placed in the slope above a concrete block wall associated with the adjacent parking area (Fig. 161). Nearby is one of the metal position marker tablets placed by the War Department during the early park development period. It marks Company A of the 14th Mississippi Light Artillery. An additional metal position marker tablet locating Company G of the 1st Louisiana Heavy Artillery is



FIGURE 157. There is currently no public access to South Fort; however, the asphalt-paved road and parking pull-off associated with a former car wash edges the parcel to the east allowing access to the site for informal visitors.



FIGURE 158. Two artillery pieces have been placed on the edge of the fortification's southwestern parapet wall at South Fort.



FIGURE 159. Commercial development along South Washington Street is visible from South Fort.

located behind a clump of trees along the northern edge of the fortification's parapet wall. (Fig. 163). Metal tablets are also associated with each of the site's emplaced artillery pieces. These are similar in design to the older tablet described above under the Louisiana Circle site. They are painted red to reflect their association with a feature of the Confederate defensive system of fortifications.

The two cannon placed within the interior of the fort face south towards South Washington Street and the Mississippi River (Fig. 164). The artillery piece facing the river is larger than the one facing South Washington Street. It interprets the original 10-inch Columbiad stationed in this location to fire upon approaching vessels (Fig. 165). The other is a 12-pounder bronze field howitzer.

The site also includes three USGS survey markers (Fig. 166). One is located in a secondary parapet wall near the center of the fort. Another is found in the northern section of the parapet along Washington Street. The third edges the small parking node near the bronze tablet. Within the fort there is a small concrete slab and two area drains. The former use of the slab is not apparent today. One of the drains is located below the interior parapet; the second is located in the northern part of the fort interior near a small clump of trees growing on the parapet wall.

Woody vegetation occupies the margins of the parcel below the fortification's parapet walls. The majority of the existing woody vegetation is comprised of invasive exotics, such as Japanese honeysuckle (*Lonicera japonica*), chinaberry (*Melia azedarach*), paper mulberry (*Broussonetia papyrifera*), and two types of privet (*Ligustrum vulgare, L. lucidum*), as well as native hackberry (*Celtis laevigata*) and cherry laurel (*Prunus laurocerasus*) trees, edge the parcel below the parapet wall. This vegetation obscures views of the river (Fig. 167). Bermuda grass covers most of the fortification associated with the ditch, parapet walls, and their interior. Near the artillery piece there is the stump of a large tree.



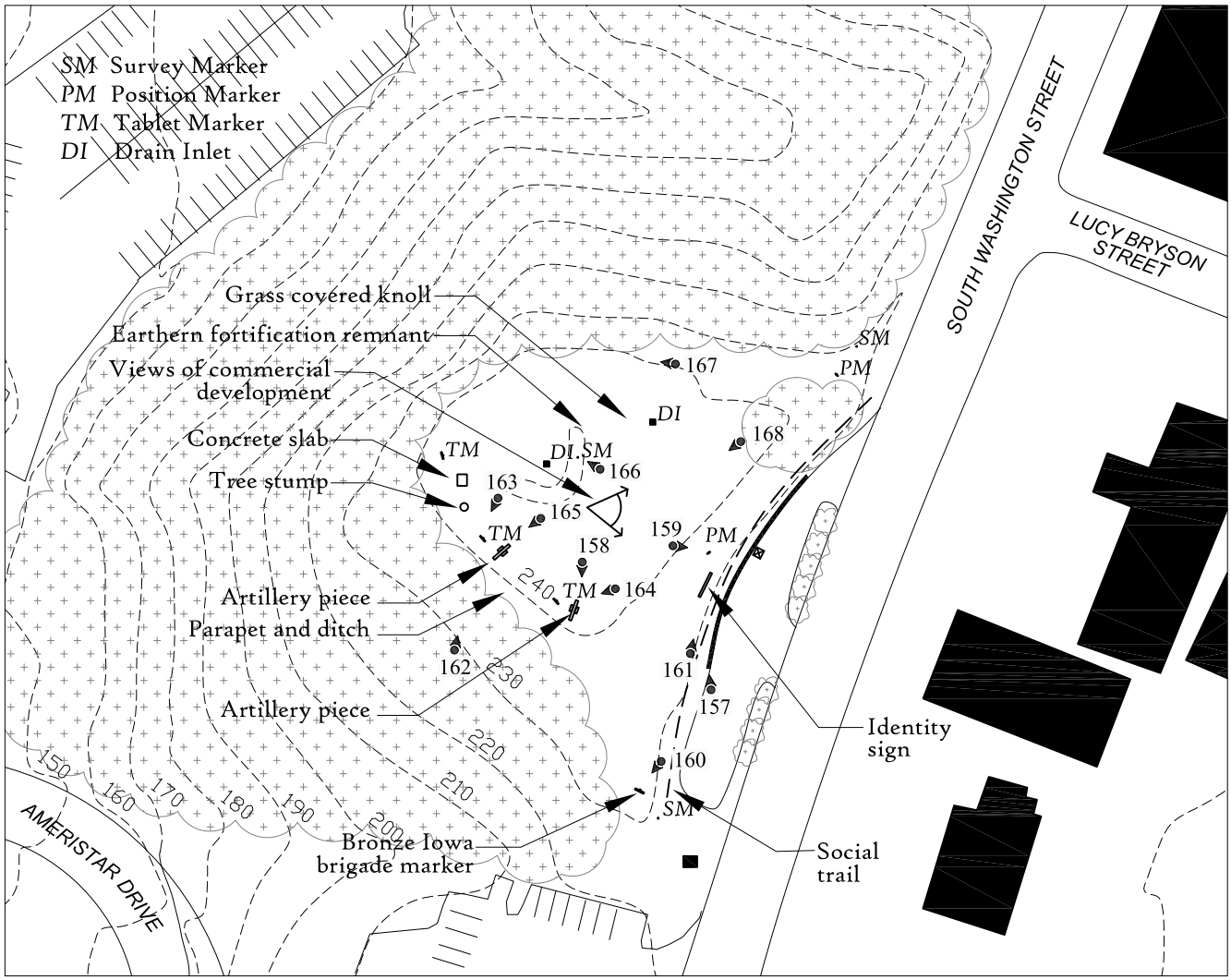
FIGURE 160. A bronze marker commemorating the role of Iowa brigades in the Civil War siege sits near the base of an electrical pole at South Fort.



FIGURE 161. A social trail runs along the top of the rise at South Fort as there are no pedestrian paths leading into or around the fortification. An NPS identity sign is placed in the slope above the concrete block wall.



FIGURE 162. The parapet walls of the fortification at South Fort remain in good condition and retain a strong profile.



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Cultural Landscape Report
Vicksburg National Military Park

Existing Conditions
South Fort
Figure 156



FIGURE 163. A metal position marker tablet locating Company G of the 1st Louisiana Heavy Artillery is located along the northern edge of the fortification's parapet wall.



FIGURE 164. The two cannon placed within the interior of South Fort face south toward South Washington Street and the Mississippi River.



FIGURE 165. The artillery piece facing the river interprets the original 10-inch Columbiad stationed at South Fort.



FIGURE 166. Three USGS survey markers are located at South Fort.



FIGURE 167. Woody vegetation occupying the margins of the parcel below the fortification's parapet walls obscures views of the river from South Fort.



FIGURE 168. There are bald spots in the turf grass on the earthen fortification at South Fort that may lead to erosion.

Condition-related problems observed in association with this parcel during field investigations conducted in April 2008 include the following:

- There is biological growth on the bronze tablet, which is also not very secure on its base and exhibits some corrosion and bowing of the tablet.
- There are bald spots in the turf grass on the earthen fortification that may lead to erosion. (Fig. 168)
- Social trails are worn in the turf grass where visitors are walking to reach the fortification.
- The concrete block retaining wall is leaning and bowing.
- The identity sign needs cleaning.
- Views of the river, important historically, are blocked.
- The cannon is set on concrete bases. One of these appears to be lifting up.
- One of the concrete USGS markers has the top edge broken off.
- There are many invasive exotic plants present within the parcel.

Inventory of Landscape Features

Natural Features and Systems

- Knoll landform

Cultural Vegetation

- Turf grass (primarily Bermuda grass)
- Hackberry and cherry laurel trees
- Crepe myrtle trees
- Various invasive exotic species forming a thicket edging the fortification to the south, west, and north

Topographic Modifications

- Civil War earthwork remnant atop knoll comprised of a perimeter ditch and parapet wall with a secondary parapet wall near the center of the interior

Patterns of Spatial Organization

- Elevated knoll landform encircled by woody vegetation

Land Uses

- Museum/Educational/Interpretive

Circulation

- Social trail

Buildings and Structures

- None

Views and Vistas

- Internal views within the fortification remnant; expansive views and views of the river are blocked by trees
- Views of surrounding commercial and highway development

Small-scale Features

- Identity sign
- Bronze Iowa monument
- Five cast iron tablets
- Two cannon
- Three survey markers
- Two drop inlets (area drains)

Navy Circle. Navy Circle (Fig. 169) is the southernmost of the park's three noncontiguous parcels along the Mississippi River. The approximately 2.75-acre parcel protects the surviving evidence of a Union fortification and gun emplacement sited to attack Confederate defensive positions during the spring and summer of 1863. This parcel also edges South Washington Street to its west. It overlooks the railroad bridge crossing of the Mississippi River, and is near the entrance ramp to the Interstate 20 Bridge (Fig. 170). The fort parcel abuts a visitor welcome center maintained by the City of Vicksburg. One of the visually prominent features of the parcel is a pedestrian bridge that extends from the welcome center to the fort's knoll across the access road leading to the railroad bridge. The bridge is founded within the fortification (Fig. 171). Large casino complexes are located along the Mississippi River within view of Navy Circle (Fig. 172). Additional commercial development along Washington Street is also visible from the site (Fig. 173).

Like Louisiana Circle, Navy Circle features a dramatic knoll overlooking the Mississippi River that contains the remains of an earthen fortification. A concrete roadway encircles the knoll, providing visitor access to the parcel (Fig. 174). The road corridor accommodates one-way traffic, with the entrance occurring in conjunction with the visitor welcoming center access road. The access road exits along South Washington Street north of the fortification. A small directional sign indicates the entrance into the parcel, and stop signs are located at the exit. The twenty-foot-wide road corridor flares to twenty-eight feet along its northern margin to provide parallel parking for approximately three cars (Fig. 174).

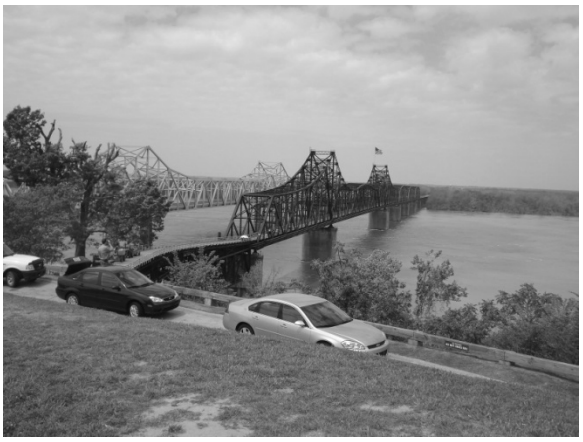


FIGURE 170. Navy Circle overlooks the railroad bridge crossing the Mississippi River and is near the entrance ramp to the Interstate 20 bridge.



FIGURE 171. A pedestrian bridge crosses the access road at Navy Circle, extending from a nearby welcome center to the fort's knoll.



FIGURE 172. Large casinos are located along the Mississippi River within view of Navy Circle.

The road is edged by a low, rounded, mountable concrete curb and a concrete-post-and-wood-timber guard rail similar in character to the features found at Louisiana Circle. Below the guard rail to the north is a concrete retaining wall that extends for a portion of the embankment below the roadway (Fig. 175). Two trash receptacles edge the guard rail, which has a sign mounted on it requesting that visitors not cross the barrier for their safety.

A flight of concrete steps leads up to the fort from the access road (Fig. 176). The steps are edged by tubular metal handrails. An asphalt walk leads from the stairs to a paved area encircling an artillery piece (Fig. 177). There is a metal War Department-era tablet located near the cannon (Fig. 178). It is constructed similarly to those described above, but is painted blue to reflect the fort's association with the Union siege line. Another asphalt path leads from the paved circle to the pedestrian bridge, which is surfaced in concrete. A trash receptacle sits at the end of the bridge on a concrete landing (Fig. 179). This trash receptacle is similar to the one at South Fort, and comprised of a metal frame and cover, with exposed aggregate panels inset along the sides.

Vegetation associated with the Navy Circle landscape includes turf grass over much of the earthwork, and the remains of a damaged deciduous tree along the edge of the guard rail. There are ornamental plantings near the entrance to the parcel and in the planting strip between the park unit access road and the bridge access road below; these plantings are likely not on NPS property. The trees along the road are crepe myrtles, while the ornamental plantings include trees such as crepe myrtle and autumn olive (*Elaeagnus umbellata*) and azaleas (*Rhododendron sp.*).



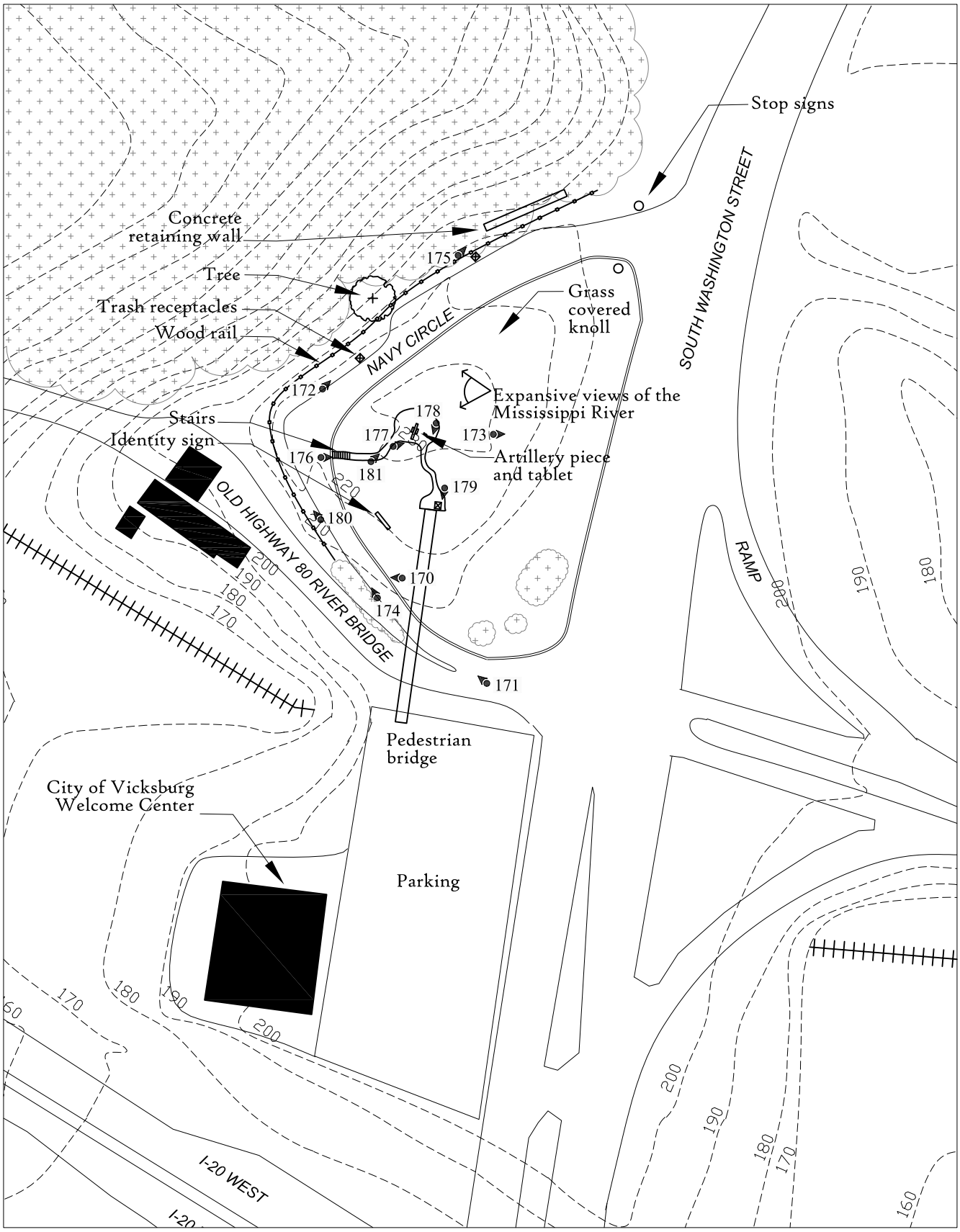
FIGURE 173. Commercial development along Washington Street is visible from Navy Circle.



FIGURE 174. A concrete roadway encircles the knoll, providing visitor access to Navy Circle. Parking for approximately three cars is provided along the northern margin of the road. The road is edged by a low, rounded, mountable concrete curb and a concrete-post-and-wood-timber guard rail.



FIGURE 175. Below the guard rail along the Navy Circle access road to the north is a concrete retaining wall that extends for a portion of the embankment.



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Vicksburg National Military Park

Existing Conditions
Navy Circle
Figure 169



FIGURE 176. A flight of concrete steps leads up to the fort from the access road at Navy Circle. Erosion is undercutting the edge of the stairs.



FIGURE 179. A trash receptacle sits at the end of the bridge leading to the welcome center from Navy Circle.



FIGURE 177. An asphalt walk leads from the stairs at Navy Circle to a paved area encircling an artillery piece. There are bald spots in the turf grass in the vicinity of the walk; this condition may lead to erosion.



FIGURE 180. Portions of the timber guard rail along the Navy Circle access road have been damaged by cars.



FIGURE 178. There is a metal War Department-era tablet located near the cannon at Navy Circle.



FIGURE 181. The asphalt on the walk leading to the top of the fortification at Navy Circle is cracking.

Condition-related problems observed in association with this parcel during field investigations conducted in April 2008 include the following:

- The concrete paving and curbing are cracked and broken in some locations. The pavement is being patched with a black asphaltic material that contrasts with the color of the paving.
- Portions of the timber guard rail have been damaged by cars, and one of the concrete piers is broken (Fig. 180).
- Erosion is undercutting the concrete stair (Fig. 176).
- The asphalt on the walk is cracking (Fig. 181).
- There are bald spots in the turf grass on the earthen fortification that may lead to erosion, particularly in the vicinity of the artillery piece (Fig. 177).
- Social trails are worn in the turf grass where visitors are walking beyond the available path.
- The artillery piece needs painting.
- The handrail does not extend the entire length of the stairs.
- The deciduous tree along the circular drive that was damaged in a storm needs to be removed.
- Views from the fortification are affected by non-historic commercial developments including casinos and businesses and overhead electrical lines.

Inventory of Landscape Features

Natural Features and Systems

- Knoll landform
- Deciduous tree (damaged) along slope below circular road

Cultural Vegetation

- Turf grass (Bermuda grass)

Topographic Modifications

- Civil War earthwork remnant sited atop a knoll

Patterns of Spatial Organization

- Elevated knoll landform encircled by an access road
- Expansive sense of open space from the western side of the parcel

Land Uses

- Museum/Educational/Interpretive

Circulation

- Concrete access road with curbing, drains, and parking pull-off
- Asphalt walk
- Concrete stairs

Buildings and Structures

- Pedestrian bridge/elevated walkway

Views and Vistas

- Expansive views to the Mississippi River, I-20 bridge, railroad bridge
- Views of surrounding commercial and highway development

Small-scale Features

- Concrete post and wood timber guard rail
- Trash receptacles
- Identity sign
- Regulatory signage
- Metal handrail
- Cast iron tablet
- Artillery piece
- Concrete retaining wall

Cultural Landscape Report

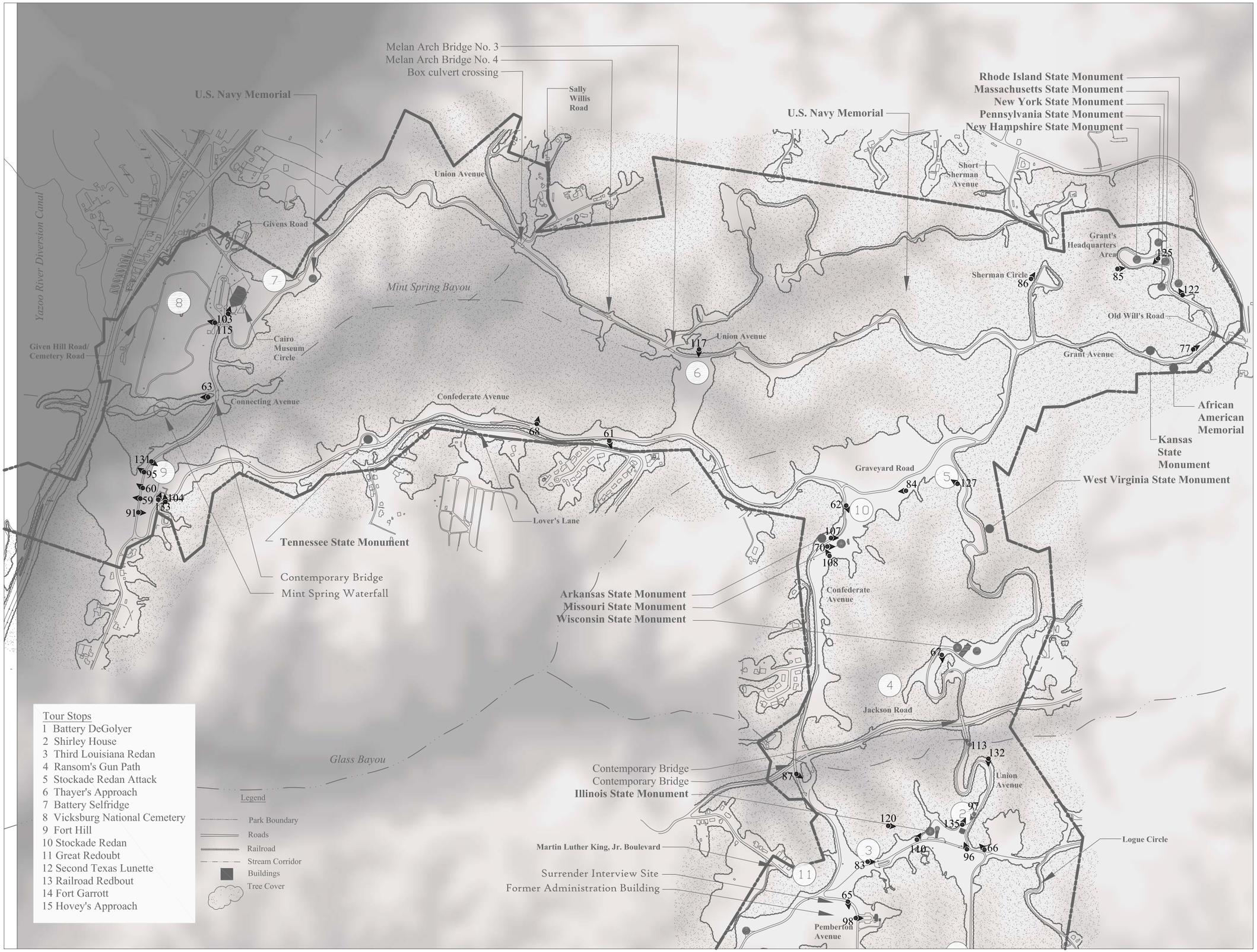
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Existing Conditions Photo Station Points North

Figure 182



Cultural Landscape Report

Vicksburg National Military Park

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Existing Conditions Photo Station Points South

Figure 183

Analysis and Evaluation

Introduction

This chapter is comprised of four sections: an evaluation of the significance of the Vicksburg National Military Park landscape in accordance with the guidance provided by the National Register of Historic Places, a comparative analysis of historic and existing landscape conditions, an identification of contributing and non-contributing resources, and an integrity assessment.

The significance evaluation identifies the park's important historical associations over time, as well as its architectural, archeological, and social value. The property's significance is tied to discrete period(s) of time in which its important contributions were made and the historic contexts within which the activities that occurred on the property may be placed.

Based on this identification and discussion of the park's significance, and the period during which historical associations occurred, the CLR team prepared a comparative analysis of historic and existing conditions. The analysis conveys an understanding of change over time and suggests which resources today reflect their character and appearance during the period(s) when historical contributions were made, including the key terrain features associated with siege and battle tactics during the Civil War and commemorative efforts that followed the war.

One of the byproducts of the comparative analysis is an inventory of resources that survive from the identified period(s) of significance. These are referred to as contributing features. Resources that originated after the period of significance are assessed as non-contributing. The CLR also identifies features that existed during the period(s) of significance but no longer survive, except perhaps in the archeological record.

The final section of the chapter is comprised of an integrity assessment that summarizes to what degree the property retains its ability to convey conditions during the identified period of significance.

Evaluation of Significance

In order for a property to be eligible for inclusion in the National Register of Historic Places, it must possess significance under one of four criteria. The Criteria for Evaluation state:

> The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, 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 artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory or history.[199]

Vicksburg National Military Park is a memorial to the soldiers and civilians who participated in the campaign, defense, and siege of Vicksburg. The park's purpose statement emphasizes the significance of the site and its resources:

> [The purpose of Vicksburg National Military Park is] to commemorate the campaign and siege and defense of Vicksburg, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and were carried on . . . [during the months of May, June, and July 1863].[200]

The park is marked by more than 1,340 monuments, markers, tablets, and plaques that illustrate the actual locations of troops and events during the siege. The park also contains nine historic fortifications; more than twenty miles of reconstructed trenches, approaches, and parallels; fifteen historic bridges; five historic buildings; historic cannon; and the USS *Cairo*. Vicksburg National Cemetery, adjacent to the park, contains more than 17,000 interments, the largest number of Union Civil War soldiers of any national cemetery in the United States.[201]

At the time that Vicksburg National Military Park was first listed in the National Register in 1966 as part of the Historic Preservation Act, a nomination form was not prepared for the property. In 1976, a nomination was prepared that identified the park as an historic district. The nomination focused primarily on the extensive commemorative statuary placed on the battlefield.[202] It indicates that the property is significant in the subject areas of military history and sculpture. While the nomination was approved in 1977, it contains gaps in data regarding the areas, themes, and period(s) in the park's significance evaluation. The pages that follow expand on the significance evaluation afforded by the National Register nomination to support the decision-making process necessary to complete a treatment plan for the park, and should be considered if the existing nomination is updated or amended in the future.

Per Criterion A, the battlefield is associated with events that have made a significant contribution to the broad patterns of our history: generally, the Civil War, the Vicksburg campaign (March 29-July 4, 1863), and the siege and associated fighting around the city that occurred between May 19 and July 4, 1863.

Per Criterion B, the battlefield is associated with the lives of persons significant in our past, particularly Union Maj. Gen. Ulysses S. Grant and Confederate Lt. Gen. John C. Pemberton. Grant led the Union armies to ultimate victory in the war, contributing to his election as the nation's eighteenth president in 1868. Pemberton, a native of Pennsylvania, married a Virginia woman and joined the Confederate army when war began. The surrender at Vicksburg resulted in Pemberton's demotion, although he continued to serve in the Confederate army for the remainder of the war. There are many other persons who participated in the siege and achieved prominence later in life who merit consideration under this criterion, should an update to the nomination be prepared.

Per Criterion C, the commemorative sculpture in the park possesses high artistic values. The state memorials, monuments to individual Union and Confederate leaders, and other monuments and markers represent the work of renowned sculptors in a variety of materials and artistic styles.

199. Code of Federal Regulations, Title 36, Part 60. "The National Register Criteria for Evaluation."
200. <www.nps.gov/vick/parkmgmt/missionstat.htm>
201. NPS web site, Cultural Resource Preservation. Evaluation of the cemetery is beyond the scope of this report.
202. Nancy Aiken Miller, Interpretive Specialist, Vicksburg National Military Park. *National Register Nomination form, Vicksburg National Military Park.* The nomination form is dated as having been received at the National Park Service on February 5, 1976, and approved on February 9, 1977.

Per Criterion D, archeological investigations may indicate that areas of the battlefield are likely to yield information important in prehistory or history. Although the evaluation of archeological significance is not addressed by the National Register nomination, physical features of the park suggest that further research is warranted to understand the history of the site prior to, during, and after the siege. A park-wide archeological survey is needed before further determination can be made regarding Criterion D significance.

Military History

Vicksburg National Military Park is nationally significant under Criterion A because it contains a large portion of the area where the siege of Vicksburg and associated fighting occurred. Over the course of forty-seven days, from May 18 to July 4, 1863, Confederate defenders resisted Union efforts to capture the city. The Confederate surrender not only affected the lives of those involved in the campaign, defense, and siege, and the immediate activities of both armies and civilians in the region, it also had implications for the final outcome of the war.

The campaign for Vicksburg was one of the most complex and protracted engagements of the war, and involved operations of the Army and Navy of the North and South, land and water troop movements, and diversion, siege, and defense efforts.[203] Vicksburg National Military Park is significant as the site of the siege of Vicksburg and the battle for the city, which had decisive results for the outcome of the Civil War. As a result of the Union victory, the Confederacy lost an army and the states of the Trans-Mississippi were separated from the eastern Confederacy. Union forces were able to concentrate on the one remaining Confederate army in the west—the Army of Tennessee—and move forward toward ultimate victory. The surrender of Vicksburg, coming one day after the defeat of Confederate forces at Gettysburg, had a significant psychological impact on morale in both the North and South. The South's dream of independence was nearly shattered, while the North's hope for a reunited country was renewed with the success of its strategic objective: control of the Mississippi River, which again rolled "unvexed to the sea."[204]

The landscape of Vicksburg National Military Park is significant for its critical role in the activities and outcome of the siege and fighting that occurred at the site. Military strategists and commanders of Confederate and Union forces developed their strategy in response to the high bluffs, rugged terrain, and unique properties of the loess soil. The overlook from the bluffs to a hairpin curve in the Mississippi River influenced Confederate defense strategies and Union assaults, as well as the movement of troops and supplies for both armies. The swampy bayous that Union forces had to traverse in their attempts to approach the city gave advantage to whichever forces held the high ground. Finally, the location of the city adjacent to the river made the capture of Vicksburg the key to control of the Mississippi, and hence to victory in the war.

Commemoration and Sculpture

Vicksburg National Military Park is one of the first five military parks created by Congress at the sites of Civil War battles. Establishment of a park at Vicksburg was the result of efforts by Union and Confederate veterans of the campaign and siege. Creation of the park was supported by the Vicksburg National Military Park Association, formed in 1895 with the goal of promoting congressional designation of a military park at Vicksburg.

The enabling legislation that created Vicksburg National Military Park was enacted on February 21, 1899. The legislation called for the restoration of the forts and lines of fortifications, and marking of the lines of battles and other points of interest with tablets; permitted any state that had troops engaged in the campaign, siege, or

203. "Vicksburg: A Silent Tribute," <www.nps.gov/vick/forteachers/upload/Silent%20Tribute.pdf>

204. President Abraham Lincoln, letter to James C. Conkling, August 26, 1863, in *Collected Works of Abraham Lincoln* 6 (Piscataway, New Jersey: Rutgers University Press 1953, 1990), 409.

defense of the city to erect monuments and markers in memory of its soldiers; and established a commission to oversee the creation of the park. The 1,200-acre park as established in 1899 encompassed the entire area of the siege and defense lines around the city.

Commemoration continued through acquisition of property and placement of markers on the battlefield, as represented in part by the numerous sculptures added to the landscape of the battlefield beginning in 1903 by states whose troops had served in the Vicksburg campaign. Early monuments included those of the states of Massachusetts (1903); New Hampshire (1904); Pennsylvania, Iowa, and Illinois (1906); Minnesota and Virginia (1907); Rhode Island (1908); Mississippi (1909–1912); Wisconsin (1911); Michigan (1916); Missouri and New York (1917); and Louisiana (1920). A monument to the Federal Navy was constructed in 1911. Monuments continue to be designed and erected to the present day. The sculpture within the park includes a renowned collection of monuments, including work by Theo Alice Ruggles Kitson, represented by sixty-nine relief portraits or busts, and Henry Hudson Kitson, who created two statues and other busts and relief portraits. Other sculptors whose work is represented in the park include F. C. Hibbard and Adolph Weinman.[205] The Tiffany and Company foundry is known to have cast many of the bronze sculptures located within the park.

Another significant commemorative feature of the park is the Vicksburg National Cemetery, established in 1866 as part of the system of national cemeteries authorized by Congress on or near Civil War battlefields. The battlefield and cemetery were the sites of commemorative events and reunions over the next several decades.

205. The present park boundaries do not include approximately the southern one-third of the Confederate defense line. This portion of the park was quitclaimed with the City of Vicksburg in 1966. Some monuments and markers are thus now located on city property, although they are owned and maintained by Vicksburg National Military Park.

Period of Significance

The 1977 National Register nomination defines the period of significance broadly as the nineteenth century. Research performed for this study suggests that the period of significance be refined to include a primary period of significance that encompasses the March 29–July 4, 1863, campaign for Vicksburg, and a secondary commemorative period of significance that extends from the earliest efforts in 1864 to mark and honor the events of the siege through the placement of the Surrender Interview Site Monument, through early park development and the work of the Civilian Conservation Corps, to 1959. This closing date represents the fifty year age consideration for historic properties recognized by the National Register of Historic Places.

The dates of importance associated with this revised primary period include the events of the campaign and siege of Vicksburg as they fall within the broader context of the Civil War (1861–1865). The campaign is considered to extend between March 29 to July 4, 1863, while the siege falls between May 19 and July 4, 1863. The dates of the campaign are also inclusive of the period of the siege. The fortifications that were started prior to the beginning of the campaign fall into the historic context period of the entire Civil War (1861–1865). These fortifications are not considered to be defining of the beginning date of the primary period of significance because they were proposed for construction as general defenses rather than in preparation for the specific events of the siege. However, the fortifications are contributing features to the primary period as well, since their significance comes not from their construction as general defenses but from their use as military features during the campaign and siege.

The secondary period of significance begins with the placement of the Surrender Interview Site Monument in 1864, and encompasses veterans' reunions and other commemorative activities leading up to and including park establishment in 1899. The period also encompasses the commemorative efforts conducted by veterans, park commissioners, and the War Department to develop and manage the park; the construction of

state monuments and other memorials; memorial celebrations and other events held at the site; as well as the efforts undertaken by the Civilian Conservation Corps (CCC) between 1933 and 1941 to rehabilitate and restore battlefield features in threatened condition. The closing date of 1959 extends to the fifty year age consideration recognized by the National Register in order to encompass the ongoing process reflected through the placement of additional state monuments.

As more monuments and other resources reach fifty years of age, these structures should be considered in light of their contribution to the significance of the park. Future evaluation may also consider Mission 66 resources when they reach fifty years of age. While the Mission 66 period is beginning to gain recognition as a significant period in American history and its attendant resources evaluated for their potential to contribute to the significance of historic properties, the efforts conducted at Vicksburg National Military Park are at approximately ten years from reaching the fifty year age consideration of the National Register, and have not been evaluated in terms of significance as part of this study. The features at the park attributable to the Mission 66 period would need to meet Criterion Consideration G and present exceptional qualities to qualify for listing in the National Register of Historic Places. Resources of the Mission 66 period should be evaluated again when they reach fifty years of age circa 2017–2020. As a result of these considerations, the closing date of the secondary period of significance may be extended in future.

Closely related to the establishment of period of significance is the question of historic site boundaries. The boundaries of Vicksburg National Military Park do not fully reflect the extent of siege and assault lines during the primary period of significance. However, careful interpretation of historic resources that lie outside of the current park boundaries, and coordination with the City of Vicksburg to protect and preserve those resources, will permit outlying features to be appreciated as part of the historic setting. Similarly, the preservation and use of Pemberton's Headquarters in conjunction with the park provides an important link to downtown Vicksburg and an opportunity to enhance interpretation of the historic city and its environs.

Comparative Analysis of Existing and Historic Conditions

For the purposes of this study, two periods of significance— March 29 to July 4, 1863, and 1864 to 1959—have been utilized to compare historic and existing landscape conditions within the Vicksburg National Military Park CLR project area. As discussed previously, these periods of significance have been suggested as part of the development of this CLR and augments the period of significance previously documented in the 1977 National Register nomination for the park. Extension of the period of significance to include twentieth century commemorative and restorative efforts by the CCC and others is appropriate because the park as it is known today might otherwise have been lost without these efforts. It should be noted, however, that although commemorative activities and features may be National Register-eligible, their contribution to the significant history of the property is secondary to that of the features for which the park was established to commemorate and preserve.

The comparative analysis that follows focuses on four distinct moments in time: the landscape as it existed prior to the siege, the 1863 military siege, the park property during the commemorative period of significance, and the evolution of the site since 1959, for each of the landscape characteristics discussed in chapter three previously:

- Natural Systems and Features and Responses to Natural Resources
- Topography and Topographic Modifications
- Patterns of Spatial Organization
- Land Uses and Activities
- Circulation Patterns and Features

- Cultural Vegetation
- Views and Vistas
- Buildings
- Structures
- Small-scale Features

For each characteristic, major events associated with each period are summarized, and the dates of origin of primary features are identified. A summary discussion of the evolution of features associated with each landscape characteristic identifies features established during each of the periods of significance—contributing resources—and those that post-date the periods of significance—non-contributing resources. Features that existed during the periods of significance but are no longer extant are discussed as missing from the historic landscape. Post-1959 alterations that have affected the integrity of the landscape to convey its character during the period of significance are also noted in the summaries. The information conveyed in each summary analysis is collected in a list of contributing, non-contributing, and missing resources at the end of the analysis section. Appendix A collects this information in a reference table.

Fig. 271 and Fig. 272 illustrates the features contributing to each period of significance. Also supporting the comparative analysis are pairs of historic and contemporary photographs taken from the same or a similar location that help illustrate change over time (see Fig. 184 through Fig. 269). Photographic pairs are cited to illustrate points made in the narrative.

Comparative Analysis by Landscape Characteristics

Today, the Vicksburg National Military Park project area landscape most closely approximates the character of the site as it evolved during the secondary period of significance, although many changes have occurred since 1959 to alter the landscape. In particular, the vegetation that the CCC helped to establish as an erosion control measure has matured and woodland areas have expanded over time due to decreased maintenance budgets. In addition, park boundaries have been considerably altered since the end of the period of significance through transfer of some parcels to the city of Vicksburg and Warren County, and the acquisition of others.

Much of the physical evidence of the Civil War siege has been lost over time as well. Gone is all but the eroded earthen evidence of the siegeworks associated with both armies. All other features associated with the earthworks—gabions, fascines, headlogs, abatis, cheveaux-de-frise, bombproofs, magazines, soldier privies and latrines, huts and tent sites, and military access roads—have been lost to the ravages of time. Early War Department and park period signs, parking circles, picnic facilities, etc., have also been lost or replaced with features of a different character. Surviving are the larger-scale site organizing features, and the landform and topography as stabilized and repaired by the CCC, including Union and Confederate Avenues, the monuments, markers, and many of the tablets explaining the activities of the siege, and the earthworks and rifle pits.

Natural Systems and Features and Responses to Natural Resources

Summary Analysis. The park's natural environment, featuring deep deposits of loess soil, a diverse landscape of ridges, valleys, and steep sideslopes, three water courses, and extensive deciduous hardwood forest, remains recognizable as compared with the period of significance, but has become increasingly forested to the detriment of visual accessibility and historic patterns of open space. The park's stream corridors and attendant

ravine landforms, also present during the Civil War, continue to link the park to historic periods and events.

However, when considered against conditions present during the Civil War siege, natural systems and features are dramatically different in the present-day landscape. Military operations led to the removal of nearby all woody plant material by the end of the siege. Wood and cane were used to construct and reinforce features of the fortifications and saps, for fuel, and to construct obstacles such as abatis and cheveaux-de-frise. Erosion of the loess soil as a result of tree removal during the siege was likely extensive, negatively affecting water resources. Potable water sources were likely overused and sullied. Today, water and soil resources are protected by park maintenance of vegetative stands over the soil, and riparian buffers in association with streams and bayous, and woody vegetation covers more than 70 percent of the site.

During the subsequent commemorative period, soil erosion caused by agricultural use of the land and exposure of cultivated soil to stormwater again affected the park's natural resources, leading to extensive sedimentation of the ravines and proliferation of extensive cane breaks in low-lying areas. Shrubby and scrubby woody growth colonized the side slopes, as the ridges remained open due to farming activities. Park establishment in 1899 included the retention of local land-owners on their properties as a way to diminish maintenance costs. By the time the last of their life-leases expired in the 1930s, many areas of the park were threatened by severe erosion problems. Filling and regrading efforts conducted by the CCC helped to correct and diminish the erosional problems, while also altering the character of the park's landscape by rehabilitating Civil War earthworks, planting scores of native tree saplings and seeding and sodding, and installing new stormwater management systems to limit exposure of soils to overland flow. The park's natural features and systems, and associated responses to natural resources today most closely approximate conditions shaped by commemorative-period activities.

Natural Resource Characteristics of the Site prior to 1861.

- Loess bluffs formed east of the Mississippi River from wind-blown deposits after the retreat of the last glaciers. Over time, steep-sided valleys formed where streams cut into the soil. The erosive action of the stream corridors contributed to the formation of two major ridge networks that generally encircled a landing along the river. The ridge networks were connected by other east-west trending ridges that divided the watersheds of Glass Bayou, Mint Spring Bayou, and Durden Creek. The ridges define the watersheds composed of hundreds of ravines that drain the eastern boundary into Durden Creek, and the western boundary into Stout's, Glass, and Mint Spring Bayous. Moving eastward, the loess ridge descends gradually to the undulating and rolling farmland of the Pearl River Valley.

- Until about 300 years ago, much of the regional landscape was forested with mixed hardwoods and conifers. Many grew quite large. Nineteenth-century logging operations reported removing cypress, cottonwood, and sycamore logs measuring four feet across and weighing up to thirty-five tons from the swamp and lowland areas. These species, along with sweet gum, were the dominant trees in lowland areas. On the uplands, black walnut, hickory, oak, magnolia, and pecan were prevalent within a diverse forest community.

- In fact, the area north of the city was known as Walnut Hills prior to the Civil War for the abundance of walnut trees. Fort Nogales was the name given to the eighteenth century Spanish military fortification located near present-day Vicksburg National Cemetery. Nogales means walnut in Spanish.

- One of the native understory plants typical of lowland areas within the region is a local grass called giant cane (*Arundinaria gigantea*), a relative of Asiatic bamboo. It grew in extensive thickets known as cane brakes that were

sometimes burned by Native American and early European settlers to facilitate passage.

- For Native American peoples, and later settlers of European descent, the bluffs afforded prospect. The loess soils proved fertile and suitable for cultivation, and level areas associated with ridgelines and bottomlands were used for agriculture; sloped areas were avoided due to the highly erodible nature of the soil. Rains continually wash away any surfaces not securely anchored by plants with good root systems. The soil becomes a thick liquid when wet and flows freely.

- Springs and seeps existed as a water source for Native Americans and later settlers; there were also numerous drainageways extending through the area including Mint Spring Bayou, Glass Bayou, Stout's Bayou, and Durden Creek. An antebellum description of the Shirley House suggested that the property included a spring—a never failing water source—and good, rich land.

- After European settlement began to occur within the region, the ridges were used to site road approaches to Vicksburg. By the Civil War, these included the Yazoo City Road, Graveyard Road, Jackson Road, and Baldwin Ferry Road.

- The Mississippi River was an important component of local settlement. It served as a transportation corridor and means for commercial trade. To facilitate passage and commerce, the U.S. Army Corps of Engineers began clearing a channel through the Mississippi River in 1824.

- The town of Vicksburg was established in 1825 just below the confluence of the Yazoo and Mississippi Rivers to take advantage of the commercial, trade, and transportation opportunities afforded by these river corridors.

- By 1862, the siege landscape was a patchwork of open fields, cleared areas, cultivated crops, orchards, and woodland cover that generally followed drainageways and ravines, with the largest block of forest occurring to the northwest and northeast of Graveyard Road.

Natural Resource Characteristics of the Site during the Civil War (1861–1865).

- Situated on high bluffs that commanded a wide bend in the Mississippi River, Vicksburg was recognized as a strategically-important location during the early years of the Civil War. Confederate forces established batteries at Vicksburg and elsewhere along the river at the beginning of the war as a means for controlling this strategic transportation feature.

- Confederate military engineers began in September 1862 to establish a system of defensive earthen fortifications around the city of Vicksburg to protect against land-based attack. The system was anchored to the north and south along the Mississippi River, which ran nearly south alongside the city. Local streams generally entered the river east, and flow in a southwesterly direction. The defensive system was sited along the dividing ridges between streams entering the Mississippi above and below Vicksburg.

- The Confederate military engineers who designed defensive earthworks to protect the city employed the challenging conditions of the natural environment to their advantage. Elevated positions afforded prospect and thus power and knowledge. The earthworks were sited on high bluffs overlooking ravines and swamps made more impenetrable by the obstacles fashioned from downed timber referred to as abatis and cheveaux-de-frise, or thickets of brush and timber intertwined with cables. Trees were removed to open views of potential avenues of attack by enemy forces. This likely led to extensive erosion and deposition of sediments in stream corridors, springs and seeps, and ravines. The Union army is said to have poisoned potable water sources by dumping the bodies of dead pigs and sheep into streams and bayous.

- Perpendicular ridges associated with road approaches to Vicksburg were the most heavily fortified, and became the target of attack by the Federals as the most expedient way to breach the defenses and reach the city.

- During the fall of June and July 1862 and January through March of 1863, the Union army conducted two separate failed attempts under the commands of Brig. Gen. Thomas Williams and Gen. Ulysses S. Grant, respectively, to reach Vicksburg by establishing a canal across the base of DeSoto Point, near a hairpin curve in the river, from the west bank. The channel was intended to gunboats to bypass the Confederate batteries stationed along the riverfront. It was abandoned due in part to fluctuations in the water level.

- After failed attempts to breach and control the Confederate fortifications in May 1863, the Union army initiated a siege. The Union positions occupied high points within view of the major Confederate fortifications from which they could maintain artillery pressure. Gen. Ulysses S. Grant established a lookout on nearby Mount Ararat, located south of the Jackson Road outside of the present-day park boundaries, where it is said he could view the majority of the Confederate line.

- Scrubby vegetation remained along Mint Spring Bayou, ravines around Graveyard Road, and north of Jackson Road.

Natural Resource Characteristics of the Site between 1865 and 1959.

- In 1876, the Mississippi River formed a new channel west of the city during a flood. Prior to the event, the river had been eroding DeSoto Peninsula for years, causing concern among local residents. Citizens began to request action as early as 1870, but no stabilization work was performed. The river finally broke through during a high-water period in 1876. The cutoff happened quickly, within four days.

- The U.S. Army Corps of Engineers subsequently constructed a canal, watered by the Yazoo River, within the former river channel to reestablish Vicksburg as a port. The abandoned bend was renamed Lake Centennial.

- After removal and disturbance of most vegetation cover during the siege, local soil began to erode due to the action of water and wind. Slopes became riddled with gullies and cave-ins. The ravines filled with silt that remained wet and boggy. Cane grew up in extensive thickets within the lowlands, and the slopes of the ridgelines were quickly covered with tangled scrub. Local farming continued on the upland ridges.

- The CCC conducted numerous soil erosion control efforts in the park during the 1930s, including regrading, filling, and placement of sod. The CCC also planted extensive numbers of native woodland tree species in a large-scale revegetation effort intended to control erosion.

- In 1939, approximately seventy-six acres of land were purchased between Fort Hill and Highway 61 for an expansion of the cemetery. The land was found to be unsuitable for burials due to underground springs.

Natural Resource Characteristics of the Site after 1959.

- During the 1960s, the land to the north, east, and south of the park was described as primarily agricultural with considerable lumbering operations.

- A master plan prepared in the 1960s as part of the National Park Service's Mission 66 program identified natural resource management goals as preventing and correcting erosion, controlling exotic plants, and clearing vistas between battle lines to add authenticity to the historical scene.

- Invasive plant species have become an increasingly challenging problem for the park,

negatively impacting native plant communities, and altering their visual character. Soil disturbance is one of the factors that contribute to the proliferation of invasive species. Problematic species include privet, Japanese honeysuckle, kudzu, Johnson grass, chinaberry, mimosa, paper mulberry, princess tree, and tree of heaven. Most, but not all, of these species were introduced after the Civil War.

Topography and Topographic Modifications

Summary Analysis. Landform and topography are one of the critical character-defining features of the Vicksburg National Military Park landscape. The landform and topography known to, and topographic modifications undertaken by, the opposing armies during the Civil War are contributing resources of the park. The loess hills that encircle the city, comprised of two parallel ridges divided by deep ravines and connected by a series of transverse ridges, were used to advantage by Confederate military engineers in 1863 to establish a system of armed defensive earthworks. Although the local soil is highly prone to erosion from the overland movement of stormwater, and erosion has occurred over the years, the park's landform and topography appear to retain integrity to the 1863 Civil War siege. Evidence of the siege exists in the form of earthworks, including fortifications and battery positions, which generally followed two parallel sweeping arcs around the city to its north, east, and south, with the river located to the west. One of the topographic modifications associated with the siege that is no longer extant is the hillside of shebangs, a system of earthen dugouts established by Union soldiers (Fig. 184 through Fig. 186). These dugouts served as sleeping quarters protected from Confederate artillery fire by the sideslopes of the hill.

Much of the soil erosion that occurred after the Civil War was due to cultivation and a lack of vegetative cover to hold the soil. It was indicated in early Park Commission maps that eroded



FIGURE 184. Shirley House shebangs, looking northeast, 1863. During the Civil War siege of Vicksburg, artillery shelling was a constant fact of life. Union soldiers camped near the Third Louisiana Redan established tent sites by digging into the hillside near the Shirley House.



FIGURE 185. A similar view, 1935. Note the erosion control measures in place on the steep slope in the foreground.



FIGURE 186. The same view, 2007. The historic view in Fig. 184 was compared with similar later views, Fig. 185 and Fig. 186. The later views indicate that evidence of the shebangs does not survive, and that woody vegetation obscures the viewpoint of these features.



FIGURE 187. View looking northwest toward the Missouri State Memorial of slope erosion, October 11, 1934.



FIGURE 188. View looking northwest toward the Missouri State Memorial of filling operations, February 1935.



FIGURE 189. View looking northwest toward the Missouri State Memorial showing completed slope, November 7, 1935. These 1930s photographs illustrate the filling, grading, and sodding efforts conducted by the CCC. These images are an example of the many similar efforts conducted in numerous locations around the park at the time to correct erosional problems threatening roads and monuments. Agricultural activities had led to a lack of vegetative cover to protect against the loss of soil due to overland flow of stormwater. The CCC worked to protect the soil from further erosion through filling, grading, and sodding.

military features would be repaired and reconstructed. A circa 1902 survey of the park shows the gaps in earthworks, while a circa 1903 master plan indicates the reestablishment of missing features. Little is currently known about how much of this work was completed.

Better documented are the efforts conducted to control and correct erosion by CCC crews in the mid-1930s. Maps indicate the degree of erosion present in the park in the 1930s, and the locations of CCC efforts to correct these identified erosion problems (Fig. 187 through Fig. 189). Their work entailed filling, grading, sodding, and planting. The CCC are also known to have repaired and rehabilitated Civil War earthworks. Changes that have occurred to park landform and topography since the end of the period of significance include the removal of Indiana Circle and associated landforms to construct the Mission 66 visitor center in 1968–1970, establishment of the interpretive earthworks that are associated with this facility, realignment of Clay Street involving extensive fill sections as it passed through the park, and construction of the USS *Cairo* exhibit.

Topographic Characteristics of the Site prior to 1861.

- The loess bluffs and dissected landforms established through the formation and action of stream corridors described above characterized the park landscape prior to the Civil War.

Topographic Characteristics of the Site during the Civil War (1861–1865).

- In September 1862, Confederate military engineers began to design and construct defensive earthworks to protect the city of Vicksburg as a means for maintaining control of the Mississippi River. The major earthen fortifications were placed on the military brow or upper reaches of the high ridges overlooking road and rail line approaches into the city. These works were connected by a continuous line of trenches and rifle pits. Artillery and rifle positions were placed so as

to be able to fire on approaching attackers in all directions.

- As noted above, the Army of the Tennessee under the command of Brig. Gen. Thomas Williams (1862) and Maj. Gen. Ulysses S. Grant (1863) attempted to build a canal at De Soto Point to bypass the city rather than attack over land. The canal was to be sixty feet wide and of sufficient depth to admit any vessel. By late March, however, the final attempt by Grant was deemed unattainable, and work was abandoned.

- The Union army attacked the Confederate position twice in mid May 1863. Finding the Confederate fortifications difficult if not impossible to assail, the Union army changed tactics. Because of the combination of topography, obstacles, steeply sloped fortification walls, and number of rifles positioned to fire upon all potential avenues of approach, Grant determined to lay siege to the fortified position, and undertake a series of mining operations to reach the Confederate line.

- The Union army established artillery positions of its own on high points within range of the Confederate earthworks and maintained artillery pressure during a forty-seven siege. Union soldiers began work on numerous excavated trenches to approach the Confederate fortifications. These followed a zigzag form that would not allow for direct fire from the fortifications. The Union soldiers intended to place explosives in the mines once they reached the Confederate fortifications as a means for breaching the earthworks.

- Mines were exploded on June 25 and July 1, damaging the structure of the Third Louisiana Redan on the Jackson Road, contributing to Pemberton's decision to surrender on July 4, 1863.

Topographic Characteristics of the Site between 1865 and 1959.

- After the Civil War, local residents returned to the Vicksburg landscape and began to cultivate crops and pasture livestock along the ridges and bottomlands. Erosion took its toll on many areas of the landscape, including the earthen fortifications and other evidence of the siege.

- When the park was established in 1899, local residents were permitted to remain on the land as a means for maintaining it. They were given life leases that remained in effect until the 1930s. Most continued to farm the land.

- During the 1930s, the CCC worked to rehabilitate the important earthworks located within the park and to correct other erosion problems in a variety of ways, including major earth moving, the addition of fill or borrow material, grading, seeding, and sodding.

- Erosion control measures were preceded by investigations by landscape architects and park historians reviewing the changes that had occurred to the land by comparing the circa 1902 topographic survey with existing conditions.

- Documentation of the efforts of the CCC is relatively extensive. Although there remain many more records of their work at the park that were not available at the time this report was prepared, notable locations of erosion control projects include:

    1. Along Pemberton Avenue: grading and widening of the road.
    2. At the intersection of Pemberton Avenue and Jackson Road: regrading.
    3. At/near the intersection of Confederate Avenue, Jackson Road, Louisiana Avenue (a former section of Confederate Avenue south of the intersection with Pemberton Avenue), and Pemberton Avenue: filling for widening of Pemberton and Louisiana

Avenues and reconstruction of the intersection.

4. At the intersection of Confederate Avenue and Jackson Road: a small hill was removed, gutters were placed and replaced, and telephone poles were relocated.
5. North of the Wisconsin State Memorial: erosion was corrected, drainage appurtenances were added, and forest were removed to allow for reshaping of the ground.
6. Along the road leading toward former Tower No. 1: underbrush was cleared to expose erosion; the ground was regraded, filled, and sodded.
7. Behind the Illinois State Memorial: wood bracing was erected, filling and grading were conducted, and a temporary wooden flume was constructed. The ground was then sodded.
8. North of Confederate Avenue approximately 200 yards west of a lunette along Graveyard Road defended by Shoup's brigade: repair included terracing, erosion control, filling, and fine grading.
9. Fifty feet east of the 38th and 37th Mississippi trench line: work included clearing of undergrowth, filling, regrading, and fine grading.

- The process was described in a report prepared by the CCC in 1938 as follows:

> Very few scattered trees were cut. The operations consisted for the most part in clearing the slopes of such brushy material as existed and in carefully grubbing the roots of this material and the existing sod so as to present a clean surface, free of vegetation, on which to place the new fill. . . . Final shaping and rounding of slopes and shoulders was done after paving operations were completed and just prior to sodding. . . .
>
> Drainage operations consisted of the excavation for and installation of Reinforced Concrete Pipe culverts underneath the roadway and Corrugated Metal Pipe outlets. The character of the soil is such that it is impossible to outlet culvert pipes on the slopes at any elevation above the ravine bottoms without immediate and serious erosion resulting. In addition, it was necessary to erect special aprons at the outlet ends of the pipes, equipped with baffles so arranged as to lessen the rate of flow of the water and reduce thereby its erosive force. The inlet ends of culverts were provided with brick drop inlets constructed on concrete bases and equipped with cast iron grating. Combination headwalls and receiving basins constructed at the outlet ends of the reinforced concrete pipes served as headwalls, collecting basins, and clean-out chambers.[206]

Topographic Characteristics of the site after 1959.

- Construction of the visitor center in 1968–1970 was preceded by the removal of Indiana Circle and a nearby knoll. It was followed by removal of the earlier visitor center in 1976. The site plan for the visitor center and environs includes constructed earthen forms that recall and interpret the Civil War earthworks found within the park.
- Establishment of the USS *Cairo* exhibit included site work and grading to create a level viewing area, and construction of an adjacent museum set into the side of a hill to diminish its visual impact on the surrounding landscape.
- The park continues to correct erosion problems as they are detected. Regrading, the addition of fill and stone, and redirection of stormwater are measures that the park takes to repair erosion on a site by site basis.

206. North Confederate Avenue regrading, 1938, 8–10.

Patterns of Spatial Organization

Summary Analysis. The park's primary patterns of spatial organization today are derived primarily from the relationship between mown and wooded areas. In many cases, mown areas are associated with the surviving evidence of the Civil War earthworks of the lines of the opposing forces, the roads constructed to interpret them, and associated monuments. These patterns of spatial organization are also tied to the topography of the loess bluffs and the ravines created by stream corridors, as it is the ridgelines that are mown, and sloped areas are often wooded.

Prior to the Civil War, the local uplands and ridgelines were the most viable locations for local settlement, which related primarily to agriculture. House sites prior to the war were generally located on the ridgelines, and farming occurred as possible on the most level areas. Ravines, naturally difficult to traverse, likely remained wooded due to the challenges they presented to travel and cultivation.

Patterns of open space associated with the Civil War have been altered profoundly by the expansion of woodland over time. In 1862, Confederate military engineers selected high points and ridgelines around the city of Vicksburg for the construction of a defensive earthwork system due to the military advantage it afforded. Woody vegetation was removed to clear fields of fire and create obstacles to approaching enemies during the war. Obstacles consisted of felled trees placed in the bottomlands and along the slopes below the Confederate line with their branches pointed toward the enemy. Downed timber was frequently interwoven with cable to further hinder forward movement across the ground fronting the siegeworks. By the end of the siege, the landscape between the lines was nearly denuded of woody vegetation. Today, only 30 percent of the park retains this open quality.

After the war, small farming operations again occupied the bluffs, and trees and cane breaks began to colonize the ravines and bottomlands. Establishment of Vicksburg National Military Park contributed new patterns of spatial organization involving roads and monuments that followed the lines of the opposing armies, in part reinforcing the patterns associated with the siege, which in turn related directly to landform, topography, hydrology, and cultural settlement patterns. The War Department maintained the landscape in and around the earthworks under grass cover, while outlying areas remained open through agricultural use of the land by former land owners.

By the expiration of the last life leases in the early to mid-1930s, erosion problems were in evidence throughout the park. Erosion control measures implemented by the CCC followed the end of the life leases associated agriculture within the park. This period contributed additional new patterns of spatial organization associated with the planting of trees as an erosion control method. These trees, and the slow encroachment of additional woodland resulting from diminished maintenance beginning in the 1970s, have led to the patterns of spatial organization present within the park. Today, open space is currently confined to a narrow linear band that edges roads, and expands to encompass important monuments and earthworks.

Patterns of Spatial Organization Characteristic of the Site prior to 1861.

- At European contact, Native American villages were present within this region of Mississippi. During the eighteenth century, these coexisted with French and Spanish military fortifications such as Fort Nogales near the present-day Vicksburg National Cemetery, as well as outlying farmsteads and settlements.
- Early settlers cleared the forest and planted crops on the ridges and hilltops.
- In 1812, Reverend Newett Vick and his family settled on the bluffs just south of Walnut Hills.
- In 1825, Vicksburg incorporated as a town. The landscape around the city slowly evolved into a mosaic of small farms and cotton plantations that included fields, pastures, wooded ravines, and deeply cut springs. Houses and roads were also generally sited on the ridgelines.

- The area during the antebellum period was characterized by cotton plantations and small subsistence-level farmsteads.

- In 1836, Vicksburg incorporated as a city and became the seat of Warren County due to its prime location between the commercial ports of Memphis and New Orleans, along developing rail lines, and amidst an important cotton growing region.

- At this time, Vicksburg was described as located on "the shelving declivity of a cluster of precipitous hills, which rise abruptly from the river . . . The houses are scattered in picturesque groups on natural terraces along the river, the balcony of one often overhanging the roof of another."[207]

Patterns of Spatial Organization Characteristic of the Site during the Civil War (1861–1865).

- Between 1861 and 1862, the Confederates established batteries of heavy artillery along the river front. With the river defended and land approaches to the north and south guarded by densely wooded swamplands, Vicksburg defied large-scale land and river expeditions until late 1862.

- In September 1862, Confederate engineers began to construct fortifications around Vicksburg to further protect it from an attack by land. Most of the trees in the vicinity of the eight-mile defensive line were cut to clear fields of fire for artillery, establishing a relatively open landscape and exposed the dramatic terrain of the loess bluffs.

- During this time, the Confederate line was an extended line of rifle-pits occupied by infantry, punctuated by nine powerful fortifications occupied by artillery arranged to command ravine and ridge approaches as well as the adjacent fortifications.

- Although Grant's Union forces attempted a direct assault of three primary Confederate fortifications—Railroad Redoubt, Stockade Redan, and the Great Redoubt/Third Louisiana Redan—during the engagements of May 19 and 22, he found the Confederate defenses unassailable without large numbers of casualties. After May 22, Grand changed tactics and initiated a siege. Over time, the Union forces excavated approach trenches at numerous locations along the Confederate line to reach the fortifications below grade. Patterns of spatial organization that characterized this period included the semi-circular line of Confederate rifle pits and batteries punctuated by nine major fortifications, placed atop ridgelines and highpoints, particularly at junctures with roads leading to Vicksburg. The landscape was nearly denuded of trees. Military roads connected the positions. Facing the Confederate line across various ravines was a series of small batteries placed atop high points. The excavated trenches, covered with saps, formed zigzag cuts in the earth leading between the Union batteries and Confederate fortifications.

Patterns of Spatial Organization Characteristic of the Site between 1865 and 1959.

- Vicksburg National Cemetery was established in 1866 on land that was partially occupied by Union forces during the siege.

- In 1899, Vicksburg National Military Park was established to encompass the Union and Confederate lines during the siege. New patterns of park boundaries, tour roads and circles, and monuments arose through park development. At the time of its establishment, the park extended over approximately 1,200 acres.

- In 1958, the park transferred two parcels to the city of Vicksburg and state of Mississippi. The

207. Ingraham, *The South-West: By a Yankee*, 2: 169–170, quoted in Reps, *Cities of the Mississippi*, 138.

first was a three-acre parcel used to build a school along South Confederate Avenue. The other was a one-and-one-third-acre parcel used to build a highway weighing station along Warrenton Road. The city and state transferred parcels of a similar size to the park.

Patterns of Spatial Organization Characteristic of the Site after 1959.

- In 1963, the park quitclaimed 154 acres of the park between Fort Garrott and Louisiana Circle to the city. In exchange, the city agreed to increase the authorized boundary of the park by 544 acres along its northern boundary.

- In 1964, the park transferred 24 acres associated with Sherman Avenue beyond Sherman Circle and the cemetery access road to Warren County.

- In 1988, a 2.5 acre parcel in Madison Parish, Louisiana, encompassing a segment of the canal that Grant's troops attempted to establish prior to the siege was proposed for acquisition as part of the park. A similar proposal was made to acquire an additional 2.82 acres of land adjacent to the entrance of the park for construction of a maintenance facility. Both of these parcels were acquired in 1990.

- In 2002, the park acquired the dwelling utilized by Confederate Lieutenant General Pemberton during the siege. The residence is located in downtown Vicksburg.

Land Uses and Activities

Summary Analysis. The principal land uses associated with Vicksburg National Military Park today are commemoration, education/museum/interpretive, visitor services, recreation, administration, maintenance, and military training. All of these land uses survive from and are characteristic of the park's secondary period of significance. The Vicksburg National Cemetery is affiliated with burial uses; during the battles and siege, soldiers were buried on the battlefield. Many of the bodies were recovered later, and reinterred at the national cemetery and elsewhere. Land uses that were formerly associated with the site but no longer occur include residential—both during the military siege, and later by private residents, National Park Service personnel, and CCC camp residents—and agricultural.

Land Uses and Activities Characteristic of the Site prior to 1861.

- The French claimed ownership of the region in 1675.

- In the early eighteenth century, as European settlers began to arrive in the area that is now western Mississippi, its inhabitants included the Natchez, Chickasaws, Choctaws, and Houmas. Native Americans maintained villages and burial grounds within the Vicksburg area at Contact. Early trappers and traders used existing native trade routes such as the Natchez Trace for exploration and commerce, and initial contact between French settlers and trappers and the native inhabitants was generally friendly. The primary land uses during the eighteenth century were agriculture and military. French settlers, many accompanied by black slaves, were primarily farmers.

- As a result of the French and Indian War, Mississippi and all other French territory east of the Mississippi River passed into British control in 1761.

- In 1779, Mississippi came under the control of Spain when Bernardo Galvez, the governor of

Spanish Louisiana, captured Natchez. Following the end of the Revolutionary War in 1781, and under the provisions of the Treaty of Paris of 1783, West Florida, which included the southern half of Mississippi, came under Spanish control, while the United States gained possession of Mississippi north of the 32 degree 28 minute parallel.

- In the 1790s, the Spanish established Fort Nogales across Mint Spring Bayou from the present-day Vicksburg National Cemetery site on the bluffs overlooking the bend in the river. The fortification included Fort Sugar-loaf, sited on the mound in the present-day cemetery and Fort Mount Vigio at current-day Fort Hill.

- In 1803, the region was acquired by the U.S. government as part of the Louisiana Purchase and the Mississippi River was opened for commerce.

- Treaties signed by the U.S. Government and the Choctaw and Chickasaw Indians between 1805 and 1834 opened Indian lands in Mississippi to settlement.

- Reverend Newett Vick settled in the region in 1812. The town of Vicksburg incorporated in 1825 after the U.S. Army Corps of Engineers established a channel in the river for shipping in 1824. The town slowly evolved into a port town and commercial center where local agricultural products could be shipped to larger markets due to its strategic located near the confluence of the Yazoo River and Mississippi River.

- The land around the town developed into an agricultural community characterized by small subsistence-level farms as periodic larger cotton plantations.

Land Uses and Activities Characteristic of the Site during the Civil War (1861–1865).

- Military land uses and related activities predominated during the Civil War period. Residential and agricultural uses of the landscape were interrupted by the military activities in 1863. Burial of soldier casualties occurred on the battlefield.

- The Anshe Chesed Cemetery was established near the Second Texas Lunette in 1864.

Land Uses and Activities Characteristic of the Site between 1865 and 1959.

- The Vicksburg National Cemetery was established in 1866 on land that was partially occupied by Union forces during the siege.

- Veterans conducted reunions after the war. In 1890, a reunion was held that featured a parade, fireworks, concerts, and visits to the battlefield and cemetery.

- In 1895, the Vicksburg National Military Park Association was formed.

- In 1899, Vicksburg National Military Park was established. The land uses associated with the park evolved to include military training, commemoration, education/museum/ interpretive, maintenance, administration, recreation, and visitor services. Recreational uses included picnicking, walking, hiking, and horseback riding.

- Private property owners within proposed park boundaries were offered life leases and required to "cultivate their present holdings upon condition that they will preserve the present buildings and roads and the present outlines of field and forest, and they will only cut trees or underbrush under such regulations as the Secretary of War may prescribe, and they will assist in caring for and protecting all tablets, monuments, or such other artificial works. . . ."[208]

- In 1917, a National Memorial Reunion and Peace Jubilee was held at the park.

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208. Ibid.

- During the 1930s, the private in-holdings associated with the life-estates within the park ended.

- Between 1934 and 1941, four CCC camps were established within the park. Men stationed in the camps undertook a wide range of physical improvements within the park.

Land Uses and Activities Characteristic of the Site after 1959.

- The NPS sought to eliminate some recreational uses of the park, including picnicking, camping, and horseback riding. While camping and horseback riding were eliminated in the 1960s, picnicking is still allowed. Although a picnic ground, including grills, was developed by the CCC, it was later altered to diminish the impact of this activity on the park.

Circulation Patterns and Features

See Fig. 190 through Fig. 199.

Summary Analysis. Circulation within the Vicksburg National Military Park landscape that survives from the period of significance includes Union and Confederate Avenues, Connecting Avenue, Pemberton Avenue, Old Jackson Road, the Jackson Road trace, Graveyard Road, Grant Avenue, Grant Circle, Sherman Circle, Logan Circle, and Tilghman Circle North and South. Surviving circulation features associated with the siege and park located beyond park boundaries include the Kansas City Southern Railroad rail line, Washington Avenue, Fort Hill Drive, South Confederate Avenue, Halls Ferry Road, Indiana Avenue, Iowa Avenue, Wisconsin Avenue, and North Frontage Road. Many historic roads have been realignment, repaved, or resurfaced, diminishing their integrity. For example, paving of Union Avenue was not completed until 1970.

At the time of the siege, six primary roads afforded access to the city of Vicksburg. From north to south, these included the Yazoo City Road, Graveyard Road, Jackson Road, Baldwin Ferry Road, Halls Ferry Road, and Warrenton Road. All were heavily guarded by Confederate earthworks. Today, three of these have been at least partially altered in their alignments and names. The Yazoo City Road is now partially expressed as part of Fort Hill Drive; Baldwin Ferry Road exists to the west of the park, and a portion survives in the part tour road connecting the South Loop with the exit along Clay Street; and Warrenton Road is now part of Washington Avenue, also known as U.S. Business Route 61.

Confederate forces established military roads behind their earthworks to facilitate movement between artillery positions and fortifications along the line. This road system does not survive, but may be overlain in places by Confederate Avenue. The Union army established similar access routes to its fieldworks from existing road corridors, which also do not survive.

Roads present during the secondary period of significance that survive within current park

boundaries include Confederate and Union Avenues, Connecting Avenue, Graveyard Road, Jackson Road, Pemberton Avenue, Grant Avenue, Sherman Avenue, Grant Circle, Sherman Circle. Lost are the circle drives around many state monuments. Former park roads that are no longer included within park boundaries include Sherman Avenue north of Sherman Circle, which was transferred to Warren County, and connections beyond park boundaries of Jackson Road, as well as South Confederate Avenue and the network of roads that arose from the corridor, which was transferred to city ownership in 1963, and provided access to surviving earthworks and placed tablets and monuments. The city-owned roads and their associated rights-of-way are maintained in a park-like setting by the city; however, twentieth- and twenty-first-century developments beyond the park-like corridor visually encroach on the roads. Their integrity has been diminished by the various residential driveways and access roads that now lead to commercial and institutional developments from the roads.



FIGURE 190. View looking northeast from the Third Louisiana Redan toward the Shirley House, circa 1899. This photograph predates construction of the Illinois State Memorial, which was dedicated in 1906. It indicates the existence of Jackson Road and the Shirley House at the time.

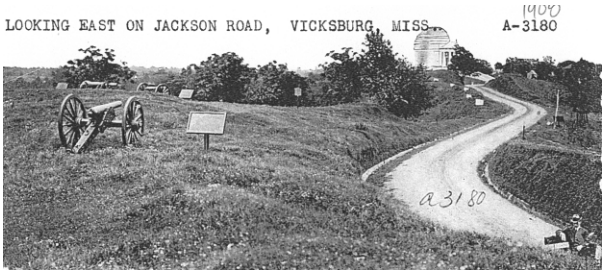


FIGURE 191. A similar postcard view from the vicinity of the Third Louisiana Redan, 1908. This view shows the historic site after construction of the Illinois State Memorial and the placement of tablets and cannon.



FIGURE 192. The contemporary view indicates the addition of cannon, tablets, and monuments marking the Civil War events that occurred in this area. A hard-packed earth road in the historic view, Jackson Road is paved in the 2007 view. Although partially visible due to tree cover, the Illinois State Memorial can be seen in the center of the historic photograph.



FIGURE 193. Comparison with a similar view in 2007 indicates that a parking area has been added below the redan and tree cover is far more extensive in 2007 than it was historically.

Circulation features that post-date the period of significance include the entrance and parking area leading to the current visitor center that were established in the late 1960s, the connection between Confederate Avenue and the South Loop, and the reorientation of the Union and Confederate Avenue system into one-way loop road. Modern Jackson Road was established through a ravine crossing the park in 1970 that carried through traffic, but was not connected to the park. Although its impact is diminished by the grade separation, the road corridor is often used as an illegal dump site within the park boundary, especially along Glass Bayou. Similarly, Mission 66 Road was constructed to by-pass the park, and the majority of the twenty-one local roads that connected with the point were disconnected from park circulation. Until this time there had been four major entrances into the park. Two entrances, one major and one minor, were then developed, and the tour road was converted into a closed loop. Today, twelve public roads extend across park boundaries, but the park only remains accessible from Clay Street and Fort Hill Drive. These circulation changes from the 1960s through the 1980s have altered the visitor experience, patterns of spatial organization, and historic circulation, and constitute non-contributing resources.

Circulation Patterns and Features Characteristic of the Site prior to 1861.

- During the nineteenth century, the Mississippi River became a transportation artery that linked the West with ports on the Gulf Coast and the Atlantic seaboard. The region afforded access to the Mississippi River for transportation.

- Rail lines developed through the area during the early and mid-nineteenth century. The primary line was the Vicksburg & Meridian Railroad (also known as the Southern Railroad of Mississippi) that served as the only east/west line located between New Orleans and Memphis. The Vicksburg, Shreveport, & Texas Railroad line traversed De Soto Point in the bend of the Mississippi to a railhead at De Soto Landing.

- The De Soto ferry crossed the Mississippi River between Vicksburg and the railhead at De Soto Landing.



FIGURE 194. View looking northeast along Jackson Road toward the Illinois State Memorial, circa 1912.



FIGURE 195. The same view, 2007. These two views indicate that the road corridor pavement has been altered, and the degree of the tree cover between the monument shown and the Shirley House in the background has increased.

- Six roads led into Vicksburg from the north, northeast, east, southeast, and south by 1861: Graveyard Road, Jackson Road, Baldwin Ferry Road, Halls Ferry Road, Yazoo City Road, and Warrenton Road. The roads were generally built along ridge spurs or followed stream channels. Most were surfaced with hard-packed earth. During rains, they turned to mud, making passage difficult.

- The Yazoo City Road was the northernmost of the roads leading into Vicksburg. It crossed Mint Spring Bayou via a ford.

- Jackson Road, which continued to the state capital, followed a ridgeline extending northeast from the city.

- Graveyard Road was so named because it passed the city cemetery.

- The Mississippi River was a key transportation route that also afforded access to the rich farmland of the Delta.

- The Shirley House existed prior to the Civil War. It was described as having a semi-circular driveway that passed the front door, a wide walk running between the front porch and the road, and steps leading to the porch.

Circulation Patterns and Features Characteristic of the Site during the Civil War (1861–1865).

- Vicksburg was recognized by both Union and Confederate commanders as the key to controlling the Mississippi River.

- In During the fall of 1862 and winter of 1863, the Union army conducted failed attempts under the command of Brig. Gen. Thomas Williams and Gen. Ulysses S. Grant to approach the city by digging a canal across De Soto Point prior to the siege.

- A fleet of Federal gunboats ran the batteries at Vicksburg on the night of April 16, 1863.

- Grant led an expedition through Yazoo Pass to land troops downriver at Yazoo City between February 3 and April 14, 1863.

- Grant later marched his forces north-northeast toward the Big Black River, intending to flank the Southern Railroad that connected Jackson and Vicksburg.

- Baldwin Ferry Road was used as an artery of movement for the Federal XIII Corps in its advance on Vicksburg.

- Jackson Road was the artery of advance for the Federal XVII Corps.

- Graveyard Road was the main assault road for the Federal XV Corps.

- Federal troops also approached the Confederate siege lines through trenching and mining and movement of artillery across rough terrain.

- Thayer's Approach was the site of one of the more spectacular of a series of constructed avenues of approach made by the Union army to reach the Confederate lines. It involved excavation of zigzag trenches extending toward a Confederate battery overlooking Mint Spring Bayou.

- Hovey's Approach was comprised of a series of excavated trenches converging on Fort Garrott.

- After these approach efforts contributed to surrender by Confederate Lieutenant General Pemberton on July 4, 1863, General Grant's soldiers marched into Vicksburg along the Jackson Road.

Circulation Patterns and Features Characteristic of the Site between 1865 and 1959.

- Vicksburg National Cemetery was established in 1866. The first entrance to the cemetery occurred from the riverfront (Warrenton) road. A masonry arch marked the entrance.

- Under the direction of the three early park commissioners, a road system was laid out for Vicksburg National Military Park in 1902. The system was intended to incorporate existing roads such as Graveyard and Jackson Roads, while establishing new roads to meet the mission of the park. The new roads followed the lines occupied by the opposing armies, rendering the fortifications visually and physically accessible. Two main roads were planned. Confederate Avenue would follow the Southern works to their rear, while Union Avenue would edge the Federal lines. Additional roads planned for the park included Connecting Avenue that linked the two lines, and Pemberton Avenue that passed the Surrender Interview Site Monument and also linked the two lines. Completed by 1903, the roads were first surfaced with hard-packed earth. Later a layer of chert gravel was added. Confederate Avenue was constructed first. It was twenty feet wide, while Union Avenue was sixteen feet wide. The roads were intended to support horse and buggy use. Grading was required to create level roadbeds. Circle drives were designed to loop around the many monuments so that they could be seen from all sides.

- Bridges were built in association with the new roads to cross ravines and bayous. By 1903, nine Melan arch bridges and four steel bridges had been constructed. In 1908, the Maloney Circle Bridge was added. The Halls Ferry Road Bridge was completed later by the CCC in 1937.

- During the 1930s, Confederate Avenue was paved in concrete, with curbs, to accommodate the growing popularity of the automobile.

- The CCC conducted road improvement projects involving grading, paving, and stormwater management. Projects included paving of North Confederate Avenue from Fort Nogales to Graveyard Road, using reinforced concrete, and Pemberton Avenue from North Confederate Avenue to the site of the Administration Building under construction, in 1935. Type H-1 asphalt concrete surfacing was used for some projects such as Pemberton Avenue. The concrete for the upper two inches of the slab consisted of the regular mix of aggregates to which emulsified carbon black was added.

- Beginning in 1940, many of the circle drives around monuments were removed. This effort continued until 1978. Of the original circle drives, only Pemberton Circle and Tennessee Circle survive today.

Circulation Patterns and Features Characteristic of the Site after 1959.

- Asphalt paving of Union Avenue began during the Mission 66 development program and was completed in the early 1970s. Many segments had super elevated paving edged by 3-inch mountable curbing.

- In the 1960s, to accommodate the proposed new visitor center structure, Indiana Circle was removed and an associated knoll was leveled.

- Traffic conflicts, particularly public use of park roads as thoroughfares, led to changes in park circulation, land ownership, and the construction of new public roads through and adjacent to the park and associated park bridge crossings. Prior to the Mission 66 era, local roads connected with park roads at twenty-one points, of which four were considered major park entrances. A major portion of the work performed during the Mission 66 era included roadwork outside the park boundaries to create a self-contained one-way park tour road, separated from local roads.

- Mission 66 Road and Modern Jackson Road were built in the late 1960s to establish new public roads that would accommodate some of the traffic that had previously traversed the park. Mission 66 Road was not completed until 1979.



FIGURE 196. View looking north along Confederate Avenue toward the Arkansas State Memorial, circa 1950s. This photograph of the road corridor after construction of the memorial in 1954 shows the historic concrete road surface and a view to the memorial.



FIGURE 197. A similar view photographed in 2007 indicates that the scene remains much the same, although once again the degree of tree cover behind the monument is greater in 2007 than in the historic photograph.



FIGURE 198. View west from the Surrender Interview site along Pemberton Avenue, circa 1910.



FIGURE 199. The same views, 2007. Comparison of the images indicates that regrading was conducted in this area after the 1910 image was taken. Images of the CCC efforts to correct erosion at the park show the work that was conducted along Pemberton Avenue to correct erosion at its intersection with Confederate Avenue. Comparison of these two images reveals that the Louisiana State Monument had not yet been constructed. A circle drive referred to as Louisiana Avenue is known to have afforded visitors the opportunity to view the monument from all sides between construction of the monument in 1920 and the CCC regrading effort that changed the intersection of the circle, Pemberton Avenue, and Confederate Avenue.

- As part of a Mission 66 Master Plan, the visitor center, entrance sequence, and Union and Confederate Avenue road network was reconfigured. The avenues were converted to a one-way closed circuit loop road. Grade separations were used to carry public thoroughfares above or below park roads at intersections, and access to the park was limited to two entrances, one major at U.S. Highway 80, and one minor at Fort Hill Drive.

  In 1968–1969, the park roads in the vicinity of the new visitor center were reconfigured. At the west edge of the park near Anshe Chesed Cemetery, the connection of Grove Street to the park tour road was removed, and the southward extension of Confederate Avenue to U.S. Highway 80 (Clay Street) was removed. The historic Baldwin Ferry Road was realigned to serve as an east-west connection from Confederate Avenue to the visitor center site and Union Avenue. Similarly, the southward extension of Union Avenue to U.S. Highway 80 (Clay Street) was removed and reconfigured to connect to the visitor center parking lot. The Memorial Arch, which was considered a traffic hazard, was relocated in 1967 to Union Avenue at the beginning of the new tour route. Midway between Union and Confederate Avenues, a new north-south road was created, running south under a new overpass for U.S. Highway 80, and curving east to connect to the existing Union Avenue overpass over the railroad. In the vicinity of the Texas Monument, the former Confederate Avenue railroad overpass was disconnected from the park tour roads and retained to provide access to private residences on Melborn Place.

- In 1970, Old Jackson Road was removed in the vicinity of the Illinois Monument and Shirley House (Fig. 48). At the west end, the connection from the Hickenlooper Battery parking lot to Confederate Avenue was removed. At the east end, the connection from Union Avenue to other public roads was removed.

- In 1972, a new overpass was constructed at modern Jackson Road/Glass Bayou.

- The 1980 *General Management Plan* noted that an uncompleted Mission 66 road in Vicksburg presented an obstacle to planning vehicular traffic flow through the park. The city had constructed 1-1/2 miles of four-lane highway using federal funds south of East Main Street, but 1/2 mile of road north of East Main Street was left unfinished due to funding limitations. This limitation had required the park to maintain its two-way road system. In 1979 the road work was completed. The park tour road was converted to a one-way loop that began at the fee collection booth at Union Avenue beginning in 1980. At that time, the park access point at Sky Farm Avenue was also closed.





FIGURE 200 and FIGURE 201. Views west along Graveyard Road toward Stockade Redan, 1899 and circa 1908. These two historic views of Graveyard Road looking west toward Stockade Redan illustrate the landscape during the early park development period.





FIGURE 202 and FIGURE 203. A similar view, 1935 and 2007. The image at left shows this location during the Civilian Conservation Corps (CCC) period. The images illustrate the character of Graveyard Road as it evolved from a hard-packed earth road to a paved road corridor. These images indicate that severe erosion along the road margins was corrected by CCC filling and regrading efforts. Telephone poles visible in the 1908 view had been removed by the 1930s. Rustic wooden guard rails installed during the 1930s are also now gone, as are trees that once edged the road to its north. Woody vegetation in the background of the photographs is far more extensive in 2007, however.





FIGURE 204 and FIGURE 205. Left: View looking north along Union Avenue of the site of Battery De Golyer, circa 1902. The historic image illustrates the open character of the landscape, with exposed earth undergoing erosion in the foreground, Battery De Golyer and a few trees scattered in the middle ground, and the Shirley House and another unidentified building in the background. Right: The same view, 2007. In the contemporary view, a tree growing in the foreground has been replaced with the Michigan State Memorial, Union Avenue has been paved with asphalt, curbing occurs along the downhill sides of the road to conduct stormwater, and the earthen slopes are protected under turf grass. Battery De Golyer is still visible in the middle ground. Heavy tree cover has grown up in the background and to the east of the road corridor, obscuring the historic view of the Shirley House.

Cultural Vegetation

Summary Analysis. Predominant among the cultural vegetation that contributes to the park's period of significance is the Bermuda-grass dominated turf that extends along the margins of Union and Confederate Avenues and around the monuments and fortifications viewed from the road. Turf grass is one of the land cover types that protect the local loess soil from erosion, and it is used in many areas of the park to maintain open areas that support visitor interpretation, education, and enjoyment. Bermuda grass has been used for turf in this area since the nineteenth century.

There is otherwise, there is little in the way of cultural vegetation present within the park, and no examples of specific plantings that survive from either period of significance. Pre Civil War descriptions of the Shirley House suggest residential plantings included quince, lilac, rose, violet, jonquils, hyacinth, crape myrtle, and rose of Sharon. None are present today. Review of historic documents has not revealed site designs for monuments and other commemorative features that include plantings of ornamental trees or shrubs.

Cultural vegetation that post-dates the periods of significance includes shrubs and trees associated with the Old Administration Building and the visitor center and park entrance road. Invasive plants with the ability to disrupt native plant populations and habitats have colonized many areas of the park. Among the invasive alien plant species present within the park, those of most concern are kudzu, Japanese honeysuckle, privet, Johnson grass, tree of heaven, mimosa, and princess tree. Eradication programs are currently being conducted at the park to remove these invaders. Although some were introduced as early as the Civil War period, most of these plants have an exotic character that contrasts with the natural setting of the park.

Cultural Vegetation Characteristic of the Site prior to 1861.

- During the nineteenth century, farms dotted the Warren County landscape. Most were small subsistence-level farms, although there were some larger cotton plantations present. Many farms produced a variety of grains, fruits, and vegetables, as well as cotton.

- The Shirley House landscape is described in mid-nineteenth century accounts as including a variety of fruit trees, and ornamental plantings of quinces, lilacs, roses, violets, jonquils [narcissus], hyacinths, crepe myrtle, and althea [Rose-of-Sharon] around the house. A rustic summer house composed of "green grape vines and roots with beds of flowers all around it,"[209] and a vegetable garden with peas, lettuce, and radishes were apparently also present prior to the Civil War.

Cultural Vegetation Characteristic of the Site during the Civil War (1861–1865).

- Col. Isham W. Garrott commanding the Confederate troops in and around Fort Garrott was killed by a Federal sharpshooter who fired from a position within a nearby tree.

- Pemberton and Grant met under an oak tree located 200 feet from the Confederate trenches to discuss surrender terms on July 3, 1863.

- On July 4, 1864, a small stone obelisk was placed to mark the site of the Surrender Interview. The oak tree that had been located on the site of the surrender had already been lost to souvenir seekers.

209. *Fredonia N.Y. Censor*, May 30, 1900, cited in Wilshin, *The Shirley House*, 3.

Cultural Vegetation Characteristic of the Site between 1865 and 1959.

- After establishment of Vicksburg National Military Park in 1899, management of the site as a park led to a change in the character of the existing agricultural landscape as mown grass and trees began to replace crop fields and pastures.
- The CCC conducted exotic plant eradication efforts during the 1930s.
- The CCC sodded many areas with Bermuda grass where they had regraded and filled to correct erosional problems.



FIGURE 206. View looking north toward the Railroad Redoubt from the South Loop, Confederate Avenue, January 1934.

Cultural Vegetation Characteristic of the Site after 1959.

- The Old Administration Building along Pemberton Avenue was formally planted with trees and shrubs around the parking area and building foundation.
- Ornamental and shade plantings of trees and shrubs are associated with the 1968–1970 visitor center.
- Battlefield restoration during the late twentieth and early twenty-first century has focused on removing woodland cover in association with important fieldworks and their fields of fire (Fig. 206 and Fig. 207).



FIGURE 207. The same view, 2007. The redoubt survives, continues to be associated with a series of tablets and monuments, and can be viewed across open ground from a nearby road corridor. Recently cleared of woody vegetative cover, the landcover fronting the redoubt appears to be in the process of stabilizing as turf grass becomes established over the area cleared of trees. Evidence of recent erosion is present in the photograph, however. Tree cover behind the earthwork is more extensive today than in the historic photograph.

Views and Vistas

See Fig. 208 through Fig. 215.

Summary Analysis. Views were a critical component of both the Confederate military defensive system as well as the Union offensive positions during the siege. High points afforded long views of surrounding terrain providing a military advantage. Tree clearing contributed to the ability of Confederate defenders to see approaching troops, but also facilitated an understanding of the terrain by the Union infantry. To ensure early warning of attack and a clear field of fire, views from the high points occupied by military earthworks were maintained as open through the clearing of trees. Views were obscured from ravines and other low points.

During the early park development period, views were considered, at least minimally, in the placement of roads and monuments. Although road corridor design was primarily focused on providing safe access to important features, and following a reasonable gradient within the limited confines of the park boundaries, they also featured views of the important military landscape elements of the adjacent Federal and Confederate lines. Monuments were placed to mark key locations. Many monuments were designed as tall columns, obelisks, or other vertical forms that could be seen from a distance. These became visual reference points for key locations and terrain. When visible from the road, these monuments heighten the drama of the landscape.

Many historically important views are today partially to fully blocked by woodland vegetation. The sense of vast expansive open space and the ability of the visitor to take in the complex terrain is no longer present. Where there are openings in the woodland cover across the siege lines, it is possible to gain a sense of the dramatic terrain. Those earthworks and monuments that are maintained in open turf lawn continue to be visible along the road corridors. Some historic visual relationships have been reestablished since the 1990s by removal of woody vegetation.



FIGURE 208. View looking southwest from the Illinois State Monument toward the Third Louisiana Redan, circa 1900. The historic image predates construction of the Illinois State Monument. The landscape is almost entirely open in the photograph. Visible is the earthen corridor of the historic Jackson Road and terraced slopes that likely indicate agricultural use of the ridgeline.



FIGURE 209. The same view, 2007. The contemporary view indicates the numerous changes that have occurred within this area of the park, including the paving of Jackson Road, construction of the 1920 Louisiana Monument in the distance, establishment of numerous smaller monuments, markers, and tablets, and an increase in tree cover and turf grasses. The photograph was taken from the steps of the Illinois State Monument, which did not exist at the time the historic photograph was taken.

Views and Viewsheds Characteristic of the Site prior to 1861.

- Little is known about views that were important to local residents prior to the Civil War, although it is assumed that French and Spanish fortifications were sited on high points to afford views of the surrounding terrain.

Views and Viewsheds Characteristic of the Site during the Civil War (1861–1865).

- Access to long views of the surrounding landscape were an important part of the military strategy of both forces during the siege.

- River batteries were sited to command unobstructed views of the river and approaching vessels.

Views and Viewsheds Characteristic of the Site between 1865 and 1959.

- The park's tour road afforded visitors an opportunity to view the lines and fortifications of the opposing lines, punctuated in many cases by state monuments that provided a point of visual reference across long distances.

- Views were maintained through the use of Bermuda grass along road margins, around most state monuments, and earthworks, and other low growing ground cover throughout much of the battlefield.

- After trees were planted by the CCC in the 1930s, the ravines and many other areas of the park slowly became less visually accessible.

Views and Viewsheds Characteristic of the Site after 1959.

- Clearing of trees in 1998 opened important military views between Fort Garrott and Hovey's Approach

- Clearing of trees around Railroad Redoubt in 2005-06 reinstated important military views.



FIGURE 210. View looking north from Fort Hill toward Vicksburg National Cemetery and the Yazoo River Diversion Canal, first decade of twentieth century.



FIGURE 211. A similar view, 2007. Generally, the view continues to include a glimpse of the former river bed, and features of the national cemetery are visible from the elevated landform, but woody growth is far more extensive in 2007 and serves to obscure much of the view.

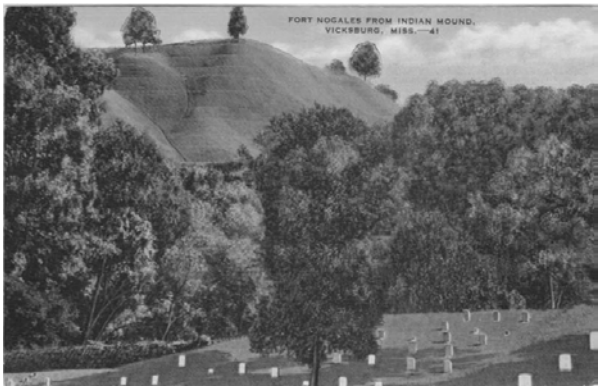


FIGURE 212. An undated postcard that illustrates the landscape of the national cemetery and view toward Fort Hill (referred to as Fort Nogales) during the early twentieth century.



FIGURE 213. A similar view, 2007. The primary change in the landscape since the early twentieth century is the degree of tree cover which obscures the view of the hillside from the mound. The cemetery also appears slightly less manicured and planted with ornamental specimens and flower beds in 2007.



FIGURE 214. View south along Union Avenue and a historic bridge crossing Glass Bayou toward the Shirley House on the ridgeline beyond, circa 1903.



FIGURE 215. The same view, 2007. A comparison of the two images is difficult due to the extent of woody vegetation blocking views of the bridge and Shirley House. The bridge shown in the early photograph was replaced with a contemporary bridge in the 1970s. The Shirley House survives, but is no longer visible from this vantage point.

Buildings

See Fig. 216 through Fig. 219.

Summary Analysis. Three buildings within the park survive from the period of significance. These include the antebellum Shirley House, and the Old Administration Building and maintenance complex built circa 1936. Buildings that post-date the period of significance include the visitor center, garage additions to the maintenance complex, two fee collection booths, the USS *Cairo* Museum, and a garage, restoration shop, and storage/archives building located to its north.

Buildings present at the time of the siege that do not survive today include houses and outbuildings associated with subsistence farming that dotted the ridgelines prior to the siege. Many of these, such as the Riddle and Lynd Houses, were burned by the Confederates to establish clear fields-of-fire for their earthworks. Others survived the siege, but are no longer present today, such as the Rock House. Houses were later built after the Civil War that remained after the park was established with owners maintaining life-leases. Park-related buildings that are no longer extant include park personnel housing and the Mississippi River Commission Office that served as a visitor center between 1944 and 1970.

Buildings Characteristic of the Site prior to 1861.

- Limited settlement occurred within the area during French and Spanish occupation.

- The Willis House was constructed circa 1835–1836. This Greek Revival dwelling, located in downtown Vicksburg, was owned at one point by a descendant of Reverend Newett Vick, Vicksburg's first settler.

- The Shirley House was built circa 1837–1838 along the Jackson Road by Nicholas Gray. It was known as "Wexford Lodge." Judge James Shirley purchased the property in 1851, and renovated the dwelling.



FIGURE 216. The Shirley House, looking northeast, undated, circa 1930s. The historic photograph indicates that the house was formerly surrounded by a wooden picket fence painted white, which was edged by shade and ornamental trees. Turf lawn extended from the house precinct toward Jackson Road.



FIGURE 217. The same view, 2007. The fence and shade and ornamental trees are no longer extant, but the turf grass survives.



FIGURE 218. The Shirley House, looking northwest, from the intersection of historic Jackson Road and Union Avenue, circa 1910–1920.



FIGURE 219. The same view, 2007. The 2007 view indicates that removal of the tablets along the road, which occurred in 1942 as part of a World War II metal drive, the changes that have occurred to the road corridor including paving, curbing, and widening, and growth of trees along the right hand side of the road and behind the house since the historic photograph was taken

- The Riddle House was present by the Civil War. It was located on a ridge later occupied by Confederate earthworks. It served as a visual and physical landmark during one of the Federal attacks.

- Other dwellings present prior to the siege included the Edward House, Lynd House, Catnol House, Yoste House, Merritt House, Williamson property, and various un-named properties that generally were sited along road corridors.

Buildings Characteristic of the Site during the Civil War (1861–1865).

- The Shirley House survived Confederate destruction of most farmhouses in the area as part of their effort to clear the field of fire in front of their defensive lines. The house served as an 1863 headquarters for an Illinois regiment and a smallpox hospital for Federal troops in 1864.

- The Willis House was appropriated for use by Pemberton as his headquarters.

- The Lynd House was set on fire by the Confederates to provide light so that their sharpshooters could see withdrawing Union troops after one of the May 1863 attacks.

- The Union army maintained a lookout and station for sharpshooters referred to as "Coonskin" tower. It was built under the direction of Lt. Henry C. Foster of the Twenty-third Indiana Infantry near the Third Louisiana Redan along the Jackson Road.

Buildings Characteristic of the Site between 1865 and 1959.

- The Shirley House was also known as the White House. It fell into disrepair after the war. Alice Shirley Eaton sold the house to the federal government in 1900, but retained burial rights for her parents. Incorporated into the park in 1902, the Shirley House was restored by the park commissioners. It later

served as a visitor center and residence for park employees.

- The Rock House burned in the early 1900s.
- During the early park development period, three observation towers were built within the park. Two of these were located within current park boundaries, while the third was placed within the land currently maintained by the city of Vicksburg. The towers were removed in the 1960s due to their poor and unsafe condition.
- The Shirley House was again restored in 1938.
- The park's visitor center between 1944 and 1970 was the adapted headquarters for the Mississippi River Commission, constructed behind Anshe Chesed Cemetery in 1929.
- The Vicksburg National Cemetery Superintendent's House at Vicksburg National Cemetery was constructed in 1927. The park and the cemetery were managed by separate superintendents until 1947.
- Between 1933 and 1941, four CCC camps existed at the park. The camps variously included tents, temporary wooden army barracks, and other facilities arranged in quadrangles around a parade ground and flagpole.
- The Old Administration Building was constructed in 1936 as park administrative offices. It was converted to the Superintendent's Residence in 1944 and continued in this role until 1978.
- In 1936, the park maintenance complex was constructed.
- Park employee housing was present within the park near the early visitor center by the 1930s.

Buildings Characteristic of the Site after 1959.

- The Shirley House was again restored in 1966, at which time its use as a residence for park employees was terminated. Exterior restoration work was conducted in 1983 and again in 2005.
- In the 1960s, the park employee housing was demolished, and three new garages were built in the maintenance complex.
- In 1968–1970 a new visitor center was constructed to replace use of the Mississippi River Commission Office. The building was reroofed in 1980. A new sloped roof was constructed in 1997.
- Construction of the *Cairo* museum, which is partially embedded in a hillside, was completed in 1980. The restored gunboat, placed under a protective tensile structure, opened to the public in 1985. The Cairo Restoration Shop was built in the 1980s as well.
- Fee collection booths were added at the two park entrances in 1987.
- The Operations Storage Facility was built in the late 1980s–early 1990s.
- The curatorial (archive) facility was built in 2000–2001.

Structures

See Fig. 220 through Fig. 251.

Summary Analysis. Four types of structures are present within the park. These include the remnant earthworks associated with the siege, large monuments such as state memorials, engineered features such as bridges and culverts, and a tensile structure.

- *Earthworks*. The gun emplacements, artillery positions, and rifle pits associated with the Civil War siege of Vicksburg are key character-defining features of the park landscape and contributing resources. Physical evidence of these features survives. Efforts conducted by the War Department, and later the CCC, stabilized and rehabilitated many of these earthworks. The interpretive earthwork at the visitor center post-date 1959, and are non-contributing resources.

- *Large Monuments.* The majority of the large monuments located within the park, including most state monuments, the Memorial Arch, and the U.S. Naval Memorial, are contributing resources due to their age. State monuments erected after the period of significance are listed as non-contributing resources due to their age, but remain character-defining features of the park landscape.

- *Engineered Structures*. Numerous bridges were constructed during the early park establishment period as part of the road network that provided visitor access to the important resources of the park. Those that survive are contributing resources. A few of these bridges have been replaced with contemporary bridges and box culverts. These replacement structures are non-contributing. Three towers established during the early park development period were removed in the 1960s and constitute missing historic features. The concrete tunnel beneath Union Avenue at Thayer's Approach is visible in an early twentieth century photograph. The feature appears to date from the early park development period, although a tunnel existed in this location during the siege (Fig. 220 and Fig. 221).

- *Other Structures.* The tensile structure protecting the USS *Cairo* post-dates the period of significance and constitutes a non-contributing resource. Missing structures include the contact stations that existed at the park during the period of significance.



FIGURE 220. Thayer's Approach Tunnel, undated photograph, early twentieth century.



FIGURE 221. The same view, 2007. The tunnel and the road corridor that crosses it survive, but a large earthen mound to the right in the historic photograph appears to have been lost or removed, and there is far more woody vegetation.

Structures Characteristic of the Site prior to 1861.

- A battery was part of Fort Nogales during Spanish occupation. Fort Nogales was the name given to the eighteenth century Spanish military fortification located near present-day Vicksburg National Cemetery. The fortification included Fort Sugar-loaf, sited on the mound in the present-day cemetery and Fort Mount Vigio at current-day Fort Hill. This structure was renamed Fort McHenry after the United Stated gained control of this region in 1797.

- Antebellum accounts of the Shirley House landscape suggest that the property included a cistern, stable, and hen house.

Structures Characteristic of the Site during the Civil War (1861–1865).

- All traces of Fort McHenry had disappeared by the Civil War. The site was used to construct the Confederate fortifications known as Fort Hill. These fortifications were further adapted for use by the Union forces that occupied the region after the siege.

- Early on during the war, river batteries were established along the water's edge near Vicksburg. In September 1862, Confederate engineers began to construct a system of land defenses to further protect the position and river at Vicksburg. Nine major fortification structures anchored the system. These were composed primarily of earth, with log parapets reinforced with cylindrical baskets of native cane called gabions. Tightly-bound bundles of brush called fascines were used as a reinforcement for the unstable loess.

- The Water Battery was a Confederate battery position that controlled the bend in the Mississippi River above Vicksburg.

- Fort Hill was the anchor of the Confederate defensive line on the north and an observation point to monitor Union naval operations on the river.

- The Second Texas Lunette was a Confederate defensive strong point guarding Baldwin Ferry Road.

- The Great Redoubt was a Confederate stronghold guarding Jackson Road.

- The Stockade Redan was the central fort, flanked by the Twenty-seventh Louisiana Lunette to the west and Green's Redan to the east, key to the defenses guarding the Graveyard Road. Several bloody assaults were made on this position by Union forces, and General Green was killed at the site. The Twenty-seventh Louisiana Lunette was the object of the Fourth West Virginia Infantry attack.

- The Third Louisiana Redan guarded the Jackson Road, and was the scene of Union mining operations. Explosives were set beneath the parapet of the fort and ignited.

- Fort Garrott, which was also known as the Square Fort, was located south of Railroad Redoubt.

- Railroad Redoubt was the Confederate guardian of the Southern Railroad of Mississippi rail line that ran east from Vicksburg.

- The Union army conducted at least two mining operations to reach and destroy the parapet of the Third Louisiana Redan that guarded Jackson Road.

- The Salient Work, also referred to as the Horn Work, commanded the Halls Ferry Road into Vicksburg. It was called the salient work due to its forward position as related to the remainder of the line. It consisted of an irregular redan with a short northerly face and longer south face with an oblique angle at the end. Two artillery pieces were stationed within the work. It was the object of Federal sap operations.

- South Fort anchored the southern end of the Confederate line along the river, and also guarded the Warrenton Road.

- Battery Barnes was a secondary fort built prior to the siege to guard the river approach from the south. It reinforced South Fort. Today, Battery Barnes is protected as part of the Louisiana Circle unit of the park.

- On May 19, 1863, the Union army assaulted Stockade Redan along the Graveyard Road approach to the city. Confederate defenders rolled cannon balls down the parapet onto the attackers.

- On May 22, 1863, the Union army conducted a second attack on Stockade Redan. Federal troops also attacked the Third Louisiana Redan (known as Fort Hill by the Union army), the Great Redoubt, Railroad Redoubt, Second Texas Lunette, Fort Garrott, and South Fort. At first successful in attacking Railroad Redoubt, the Union forces were later repulsed. Based on these failed attempts to overrun the Confederate defenses, Grant shifted his approach to gaining Vicksburg, assuming that the defenders would not last a protracted siege.

- During the siege, Federal batteries were sited on ridgelines where their artillery could fire upon the Confederate strongholds.

- Battery Selfridge was a position manned by men and artillery drawn from Union gunboats in the Mississippi River and added to the Union siege.

- Battery DeGolyer amassed the largest concentration of Union artillery along the siege lines. It was composed of four batteries including the Second Illinois, Third Ohio, Eighth Michigan, and Yost's (independent) Ohio battery.

- Battery Benton was a Union anchor position on the south end of the siege line, commanded by naval personnel from the USS *Benton*.

- At least one lookout tower was built by the Union army. It was known as Coonskin tower, and used as a sharpshooter position for firing on the Third Louisiana Redan.

Structures Characteristic of the Site between 1865 and 1959.

- Vicksburg National Cemetery was established in 1866 on land that was partially occupied by Union forces during the siege. The original entrance to the cemetery occurred from the riverfront road (Warrenton Road). A masonry arch marked the entrance after 1920.

- In 1887, the Louisiana Monument on Monroe Street was erected and dedicated.

- Vicksburg National Military Park enabling legislation directed park commissioners to commemorate the siege of Vicksburg. Commemoration, including the establishment of monuments and markers in memory of the soldiers stationed on the site, the restoration of the forts and lines of fortifications, and demarcation of the lines of battles and other points of interest with tablets.

- Three observation towers were constructed within the park in the early 1900s. These were located at Logan Circle southeast of intersection of Union Avenue and Old Jackson Road; on a high mound along Confederate Avenue to the east of Fort Hill; and near the southern end of the Confederate Avenue extension beyond current park boundaries.

- Nine Melan arch bridges were constructed in association with ravine and stream crossings of Union and Confederate Avenues in 1903. One of these, Bridge No. 5, was removed and replaced with a box culvert in 1997. Bridge No. 1 was a Melan arch bridge constructed across a branch of Durden Creek northeast of the current visitor center. Bridge No. 2 was a Melan arch bridge across a drainageway near the Battery De Golyer. Bridges No. 3, 4, and 5 were Melan arch bridges along North Union Avenue associated with branches of Mint Spring Bayou. Bridge No. 7 is a Melan arch

bridge along the South Loop near the Indiana Monument. Bridge No. 8 is a Melan arch bridge located just north of Bridge No. 7 near Hovey's Approach. Bridge No. 9 is a Melan arch bridge located farther north near tour stop 15. Bridge No. 10 is also a Melan arch bridge located south of the Iowa Monument along the South Loop.

- Four steel bridges were also constructed in 1903 in association with the park's tour road system, none of which survive. Steel bridges were formerly associated with the Union and Confederate Avenue crossings of the ravine where modern Jackson Road is currently located. Bridge No. 6 was the Confederate Avenue steel bridge crossing of modern Jackson Road that was replaced in the 1970s and removed in 2003. Another steel bridge was formerly located across Stout's Bayou and a rail line spur at the end of South Confederate Avenue. This was replaced with a steel, brick, and concrete bridge in 1938.
- The Maloney Circle Bridge was built in 1908 across the tracks of the Illinois Central Gulf Railroad to provide access to Battery Maloney.
- The 1937 Halls Ferry Bridge was built by CCC labor to provide a separated grade crossing at the busy intersection of Halls Ferry Road and South Confederate Avenue. It is located on former park land currently maintained by the city.
- The Massachusetts State Monument was built in 1903 (Fig. 224 and Fig. 225).
- The New Hampshire State Monument was established in the park in 1904 (Fig. 226 through Fig. 229).
- The Pennsylvania, Iowa, and Illinois State Monuments were erected in 1906 (Fig. 230 through Fig. 234).
- The Minnesota and Virginia State Monuments were built 1907 (Fig. 235 through Fig. 237).



FIGURE 222. View north from behind the Illinois State Memorial toward the site of the Wisconsin State Monument, circa 1903, showing a bridge crossing Glass Bayou.



FIGURE 223. A similar view, 2007. Woody vegetation in the contemporary photograph obstructs views. The early bridge was removed and replaced circa 1970.

- The Rhode Island State Monument was completed in 1908 (Fig. 238 and Fig. 239).
- The Mississippi State Monument was established in the park in 1909–1912 (Fig. 240 and Fig. 241).
- The Wisconsin State Monument was erected in 1911 (Fig. 242 through Fig. 247).
- The Union Navy Memorial was built in 1911 (Fig. 248 and Fig. 249).
- The Michigan State Monument was completed in 1916.

- The Missouri and New York State Monuments were established within the park in 1917 (Fig. 250 and Fig. 251).
- The Louisiana State Monument was built in 1920.
- In 1920, a Memorial Arch was placed at the entrance to the park. The entrance was then located along Clay Street west of Confederate Avenue. The memorial was funded by monies remaining after the 1917 veterans' reunion. A second arch was placed at the entrance to the national cemetery along the riverfront road (Warrenton, Washington, or U.S. Business Route 61).
- During the 1930s, the CCC restored monuments, constructed bridges—including Halls Ferry Road bridge—and rehabilitated earthworks including the Water Battery, Fort Garrott, Great Redoubt, Railroad Redoubt, and Fort Hill. Some earthworks, such as the Second Texas Lunette located within the Hebrew Cemetery, were not rehabilitated.
- The Alabama State Monument was built in 1951.
- The Arkansas and Florida State Monuments were erected in 1954.

Structures Characteristic of the Site after 1959.

- The three park observation towers were demolished between 1963 and 1966.
- In 1964, the USS *Cairo* was raised from the Yazoo River bed. Construction of a protective structure and museum were completed by 1980. Restoration of the boat was completed by 1985.
- In 1969 the steel arch bridge along North Union Avenue, between the present-day Wisconsin and West Virginia Monuments, was demolished and replaced with a culvert.
- The remaining three iron bridges constructed in the early 1900s were replaced in the 1970s.
- Two entrance booths were constructed in 1987 to collect park entrance fees at the Memorial Arch near the visitor center and along Fort Hill Drive.
- In 1996 the Tennessee State Monument was erected.
- In 1997, Melan Arch Bridge No. 3 was repaired and Bridge No. 5 was replaced by a box culvert.
- The Mississippi State Monument was rehabilitated 2001.
- The Kentucky Monument was erected and dedicated in 2001.
- The early 1900s steel arch bridge carrying Confederate Avenue over modern Jackson Road and Glass Bayou was demolished in 2003.
- In 2004 the Mississippi African American Monument was built.
- The Connecticut Monument was dedicated in 2008.

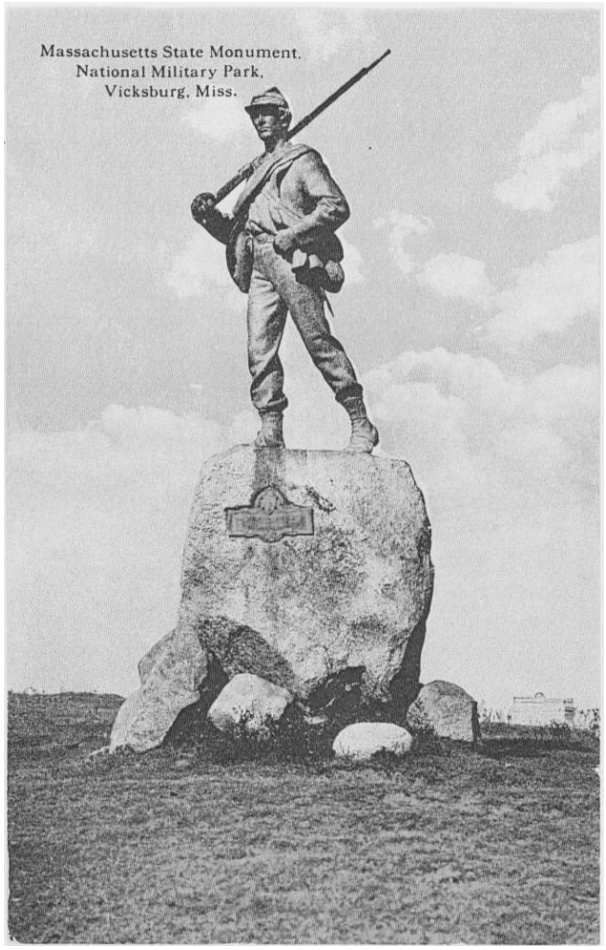
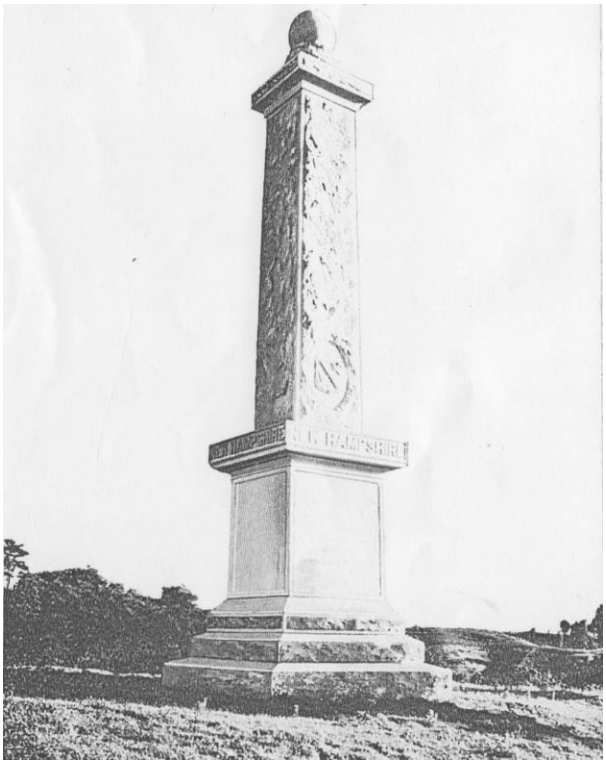


FIGURE 224. The Massachusetts State Monument, looking north, circa 1908



FIGURE 225. The same view, 2007. The monument appears to survive in good condition, although some of the boulders at the base of the monument shown in the historic image appear to have been moved in the 2007 image. Otherwise the primary difference in the views is the dramatic increase in vegetation seen behind the monument.





FIGURES 226 and 227. The New Hampshire State Memorial, looking west, circa 1908; looking east, circa 1910–1920.





FIGURES 228 and 229. The New Hampshire State Memorial, similar views, 2007. Located with many other state monuments along Grant Circle, the New Hampshire State Memorial was the second state monument placed at the park. Both views indicate that the monument itself retains a high degree of integrity, and continues to be set on a knoll maintained in open turf lawn. Behind the monument both to the east and to the west, however, the setting has changed through the addition of extensive expanses of woodland. The woodland cover obscures views of the park to the west, and the rolling terrain to the east. In the contemporary view looking east, a transmission tower is visible in 2007 that was not present during the early twentieth century.





FIGURE 230 and 231. Left: The Pennsylvania State Memorial, looking east, 1907. Right: The same view, circa 1910–1920.



FIGURE 232. The same view, 2007. Dedicated in 1906, the Pennsylvania State Memorial is located along Grant's Circle. The memorial survives with a high degree of integrity. Changes to the landscape include the addition of dense woodland vegetation behind the monument, and a narrow concrete walk leading to the monument from the road nearby. Historic maps indicate that a circle drive was intended for this monument, which is no longer present.





FIGURE 233 and 234. Left: The Illinois State Memorial, looking east toward the Shirley House, circa 1910–1920. Right: The same view, 2007. Dedicated in 1906, the Illinois State Memorial is one of the largest and most ornate state monuments in the park. Changes that have occurred in association with the monument over time include the addition of a parking area in front of the monument, a shift in the alignment of Jackson Road fronting the monument, revegetation of an access route leading around the western side of the memorial with grass, loss of trees edging the Shirley House precinct beyond the monument, and the addition of a transmission tower in the far distant view. Cannon that once flanked the stairs leading to the memorial are no longer present. There are many more trees visible behind the monument in the 2007 photograph than in the historic image.

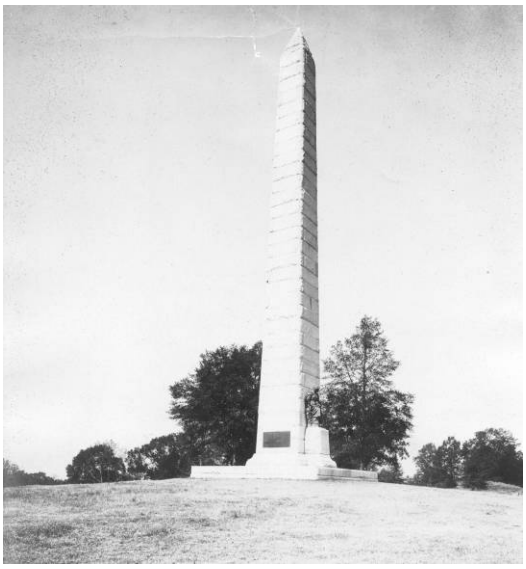




FIGURE 235 and 236. Left: The Minnesota State Monument, looking northwest, circa 1907. Right: looking south, no date.



FIGURE 237. The Minnesota State Monument, looking south, 2007. Erected in 1907, the Minnesota State Monument was recently recognized for its centennial. Comparison of historic and contemporary views of the monument indicates the changes that have occurred to the structure and its setting over the past 100 years. The contemporary photograph includes temporary interpretive signage marking the centennial. The photographs suggest that the monument itself is little changed since its dedication. In addition, it continues to be sited on a broad, gently-sloping knoll maintained in turf grass that edges Union Avenue. Changes to its setting include the large increase in woodland behind the monument, loss of the circle drive that once afforded views of the monument from all sides, and the more open nature of the knoll that allowed for these views.





FIGURE 238 and 239. The Rhode Island State Memorial, looking east, 1908; and the same view, 2007. The Rhode Island State Memorial is located along Grant Avenue near Grant Circle. It was dedicated in 1908. Comparison of an early twentieth century view and a 2007 photograph from a similar perspective suggests that the monument survives in good condition. Once again, tree cover behind the monument is far more extensive, changing the character of the monument's setting.

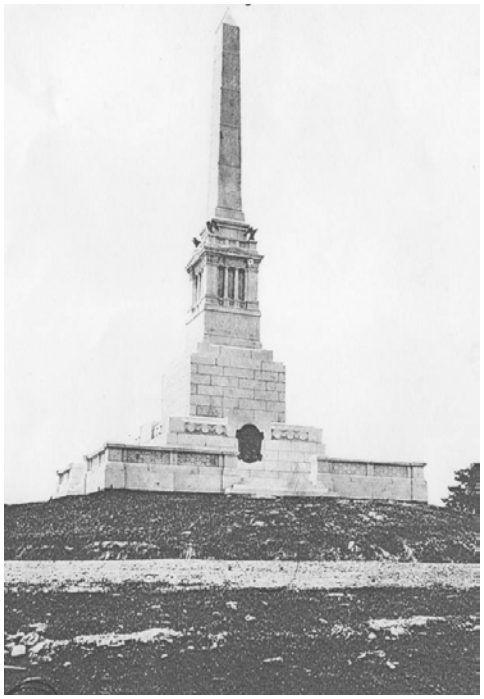




FIGURE 240 and 241. The Mississippi State Memorial, looking northwest, 1908; and the same view, 2007. Dedicated in 1909, this memorial is located along Confederate Avenue. A postcard dated 1908 illustrates the monument soon after its construction in 1907. Comparison of the postcard with a similar view suggests that the road may have been realigned away from the monument at some point. Once again, tree cover behind the monument is more extensive in the contemporary view than in the historic image. Bronze sculpture known to have been installed in 1912 is absent from the monument in the historic view.





FIGURE 242 and 243. Left: Wisconsin Infantry Monuments flanking Union Avenue, looking northeast, 1908. Right: The same view, 2007. Much of the landscape retains its historic character of 100 years ago. Union Avenue retains a similar character and alignment, although the road has since been surfaced with asphalt and curbing along the uphill side of the road in the historic view has been removed. The predominant land cover is turf grass in both images. However, the historic image suggests that meadow grasses and flowering bulbs formerly grew at the base of the monument. The postcard predates construction of the Wisconsin State Memorial, which appears in the 2007 photograph. The earlier view indicates the open nature of the knoll behind the monuments that is now wooded.

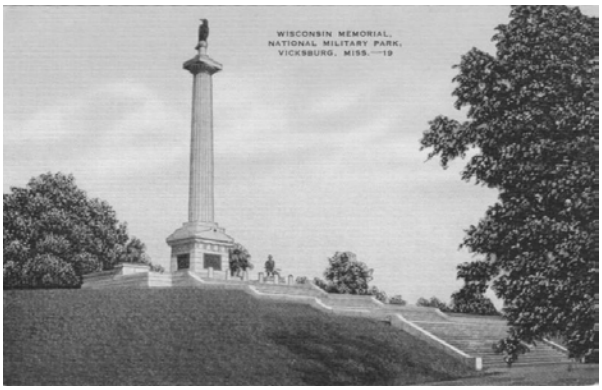




FIGURE 244 and 245. Left: The Wisconsin State Memorial, looking east, circa 1912. Right: The same view, 2007. The Wisconsin State Memorial was erected in 1911. The memorial remains remarkably consistent in appearance since its construction. Like many of the park's memorials, the setting around the monument continues to be maintained in turf lawn, but trees are seen to have encroached on the landscape behind the monument by 2007. The original circle drive that afforded views of the monument from all sides is no longer extant.

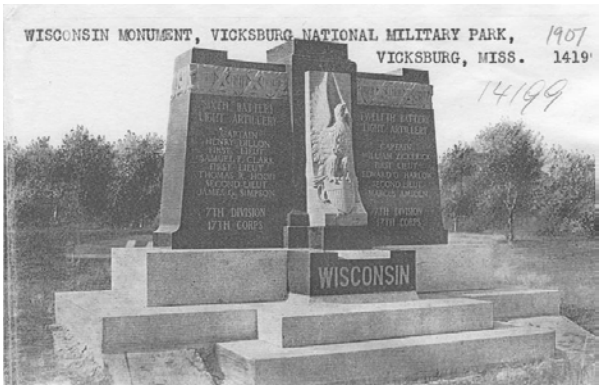




FIGURE 246 and 247. Left: The Wisconsin Twelfth Battery Monument, looking southwest, 1907. Right: The same view, 2007. Sited on a knoll overlooking Union Avenue, the monument marks the location of a Federal battery. Comparison of the views shows that the monument base was altered through the placement of a concrete apron to protect the monument from damage by mowers. The setting for this monument is changed by the growth of trees, although the 1907 view shows a grove of young trees near the monument.

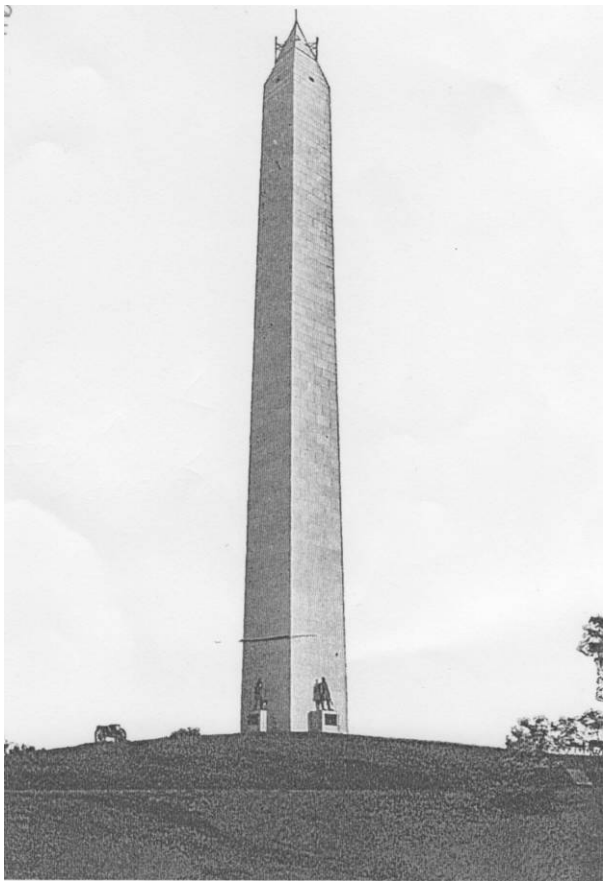




FIGURE 248 and 249. Union Navy Memorial, looking west, 1911; and the same view, 2007. The Union Navy Memorial was constructed in 1911. The monument remains consistent in appearance from its original design and construction. The setting for the monument, however, has changed through the establishment of woodland on the slopes behind the monument.

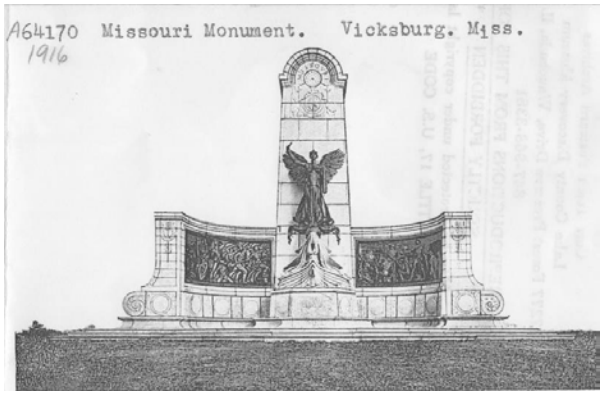




FIGURE 250 and 251. Left: The Missouri State Memorial, looking southeast, circa 1916. Right: The same view, 2007. Dedicated in 1917, this monument is located along Confederate Avenue south of Stockade Redan. The monument survives with a good degree of integrity, although the monument's setting has changed due to the growth of woody vegetation behind it. Visitor appreciation of the monument has been affected by the reorientation of Confederate Avenue. Designed to be viewed from the south, the monument is now approached from the north, altering the intention of the designed view of the monument.

Small-scale Features

See Fig. 252 through Fig. 255.

Summary Analysis. There are no small-scale features that survive from the Civil War period of the park's history. Small-scale features present during that time included abatis, cheveaux-de-frise, headlogs, sap rollers, and the stockade fence of the Stockade Redan.

Numerous small-scale features survive from the period of significance and contribute to the historic significance of the park landscape. Most of these are associated with the early park development period and include small monuments, busts, reliefs, tablets, identity and road signs, and cannon. Additional small-scale features survive from the 1930s and CCC activities such as signs and culverts and other drainage structures. Surviving small-scale features also include concrete retaining walls along segments of the Union and Confederate Avenue road corridors, and the Shirley gravestones.

Some of the features established by the CCC are no longer extant. These include rustic-style signs, guard rails, picnic benches, and stone grills. Fencing used by residents with life leases to maintain their agricultural crop fields and pastures that existed during the commemorative period into the 1930s is also no longer extant.

Non-contributing small-scale features include the site furnishings and exhibits associated with the visitor center.

Small-scale Features Characteristic of the Site prior to 1861.

- It is not currently known what small-scale features existed within the Vicksburg National Military Park landscape prior to the Civil War. Likely present, however, were fences of various types.

Small-scale Features Characteristic of the Site during the Civil War (1861–1865).

- There were many small-scale features associated with the earthworks and fortifications of the siege and the soldier camps. These included headlogs, abatis, cheveaux-de-frise, animal enclosures and tying posts, water collection and distribution features, and tents.

- Obstacles placed by Confederate troops as part of the defensive system included larger trees with branches sharpened into spikes called abatis, or laid horizontally with intersecting diagonal rows of sharpened spikes called cheveaux-de-frise. Other obstacles were created by cabling downed timber with vines and wires.

- Union soldiers dug a series of protected approach trenches toward the Confederate lines with the intent of planting mines beneath Confederate fortifications. They hid behind sap rollers.

- On July 4, 1864, a small stone obelisk was placed to mark the site of the Surrender Interview. A square base, surmounted by an ornamental ball of marble, was surrounded by masonry protected by Roman cement and an iron fence of simple but appropriate design.

Small-scale Features Characteristic of the Site between 1865 and 1959.

- After the war, the Surrender Interview Site Monument was damaged by visitors who removed pieces of its shaft. It was moved in 1867 to the Cherry Street Railroad Station, in 1868 to the Indian Mound in Vicksburg National Cemetery, and later to the visitor center. In the late 1860s, an upright cannon tube engraved with a commemorative inscription was erected to again mark the site.



FIGURE 252. View south from the vicinity of the Surrender Interview Site Monument, circa 1900.



FIGURE 253. Attempt to photograph a similar view, 2007. This pair of images suggests a great degree of change has occurred in the landform and topography below the monument. Given the more steeply sloped landscape below the monument in the historic image, this photograph may have been taken from a different angle. However, the monument and its surrounding stone wall appear similar in the two images.



FIGURE 254. A 1908 postcard of the Lee Memorial, a statue of the Confederate leader, looking west.



FIGURE 255. A similar view, 2007, along the South Loop of Confederate Avenue. The statue appears to retain a high degree of integrity. Tree cover behind the monument is extensive in the contemporary view.

- Vicksburg National Cemetery was established in 1866 on land that was partially occupied by Union forces during the siege. Headstones and other burial markers are some of the small-scale features associated with the cemetery.

- Within the Vicksburg area, road building and maintenance was rendered challenging by the erodibility of the soil. Large culverts were used in association with local streets to convey stormwater and diminish the threat of erosion.

- After 1899, Vicksburg National Military Park began to mark the lines of battles and other points of interest with cast iron tablets.

- Iron gun carriages were acquired in 1903–1905 to mark artillery positions.

- A 10-inch Columbiad referred to as the Widow Blakely was acquired by the park through donation in 1935. This is the only artillery piece displayed at the park that was actually used during the siege. Arrangements were made to mount it in front of the Administration Building, but it was ultimately placed at Louisiana Circle.

- A picnic grounds was established by the CCC in 1936. Signage associated with the picnic grounds was fashioned in the Colonial Revival style. Rustic wood benches and grills or camp stoves composed of stacked stones arranged in a horseshoe shape were placed within the picnic grounds.

- Guard rails were used along many segments of road identified by the CCC as having a dangerous proximity to steep slopes. These were generally constructed in the "rustic" style and comprised of local cedar and locust.

- Some road and erosion control work required the CCC to move and reset historical markers and monuments.

- The CCC built concrete gutter in various places to convey stormwater.

- In support of the World War II metal drive, numerous cast iron markers were removed from the park. Included were 143 of the largest tablets and markers.

Small-scale Features Characteristic of the Site after 1959.

- Twenty-two of the cast iron markers removed in support of the World War II metal drive have been replaced.

- The 1968–1969 Visitor Center and adjacent parking area, as well as the nearby living history demonstration area include various small-scale features.

- Interpretive waysides, directional, informational and wayfinding signs, and traffic signs have been added to the park since 1959.

- Small monuments, statues, busts, and portrait reliefs have been added to the park since 1959.

- Drainage and stormwater management features have been added to the park since 1959.

Noncontiguous Parcels

The following section provides a comparative analysis for the three noncontiguous park parcels included in the scope of this study: Louisiana Circle, South Fort, and Navy Circle. Fig. 256 through Fig. 260 provide overview maps and aerial photography for all three parcels.

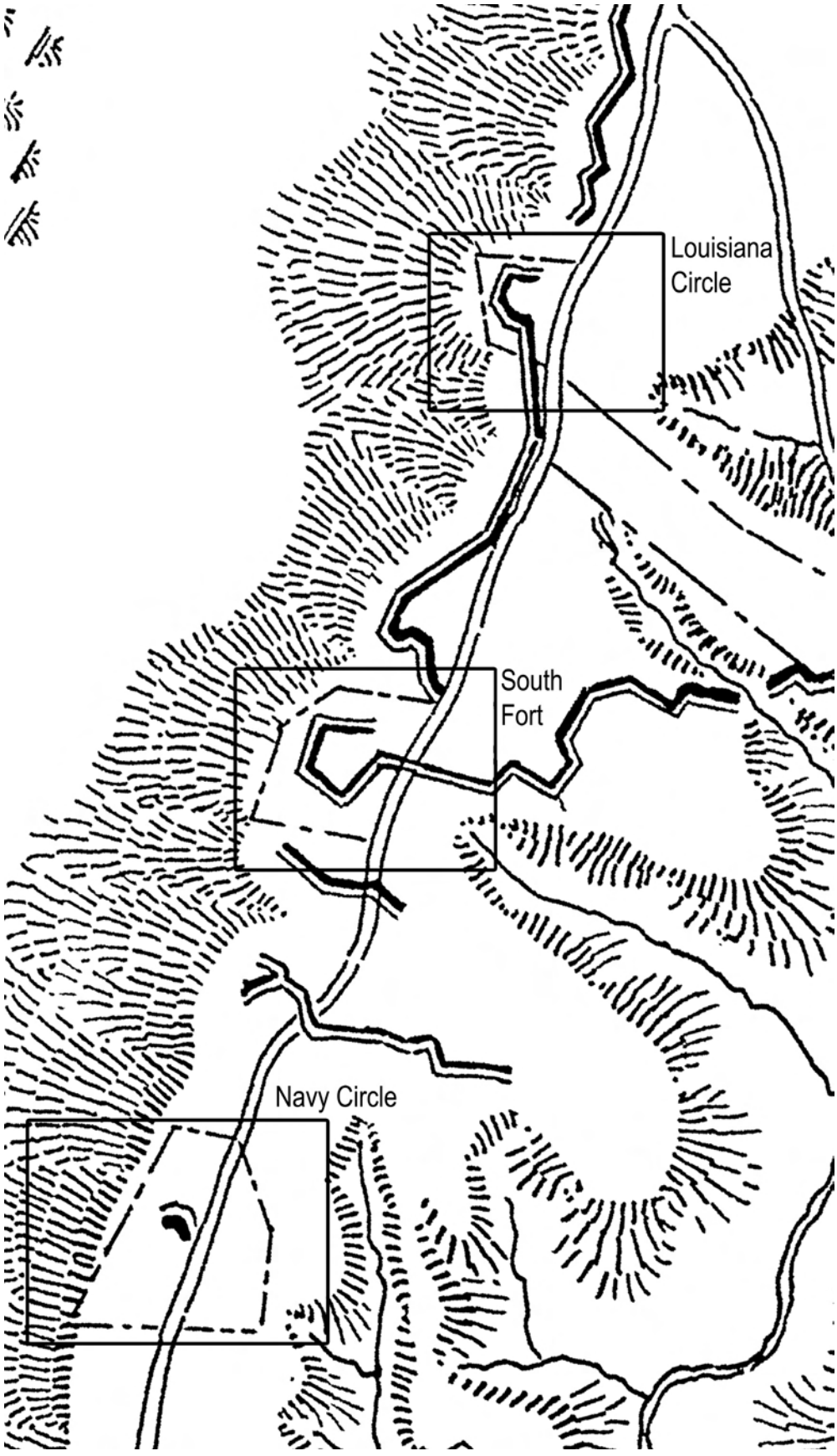


FIGURE 256. Conditions after the siege, circa 1863 (from a 1938 drawing).

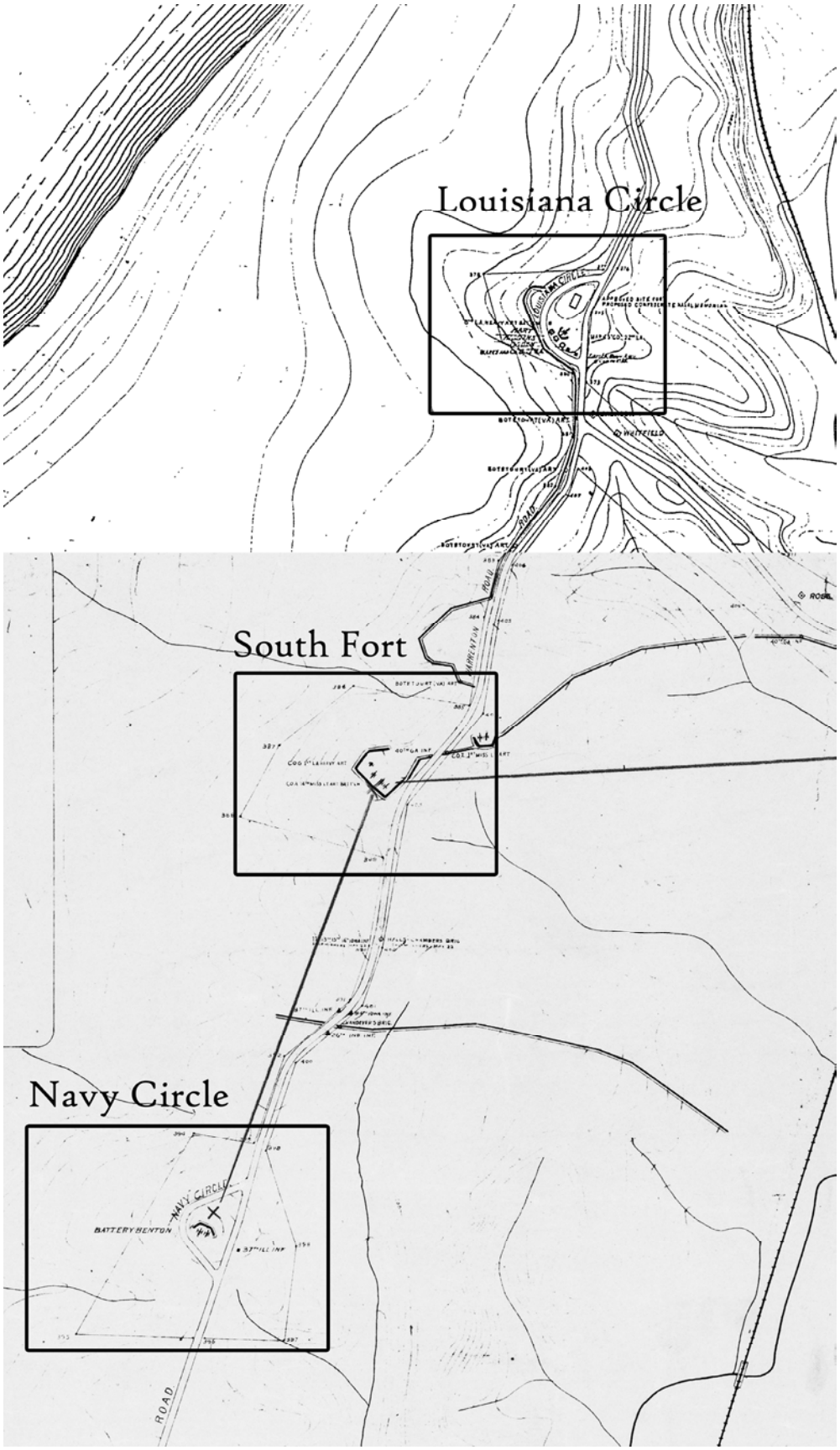


FIGURE 257. Park commission survey, 1902.



FIGURE 258. Detail of 1925 bird's eye view by Poole. The location labeled "South Fort" is actually the Louisiana Circle parcel.

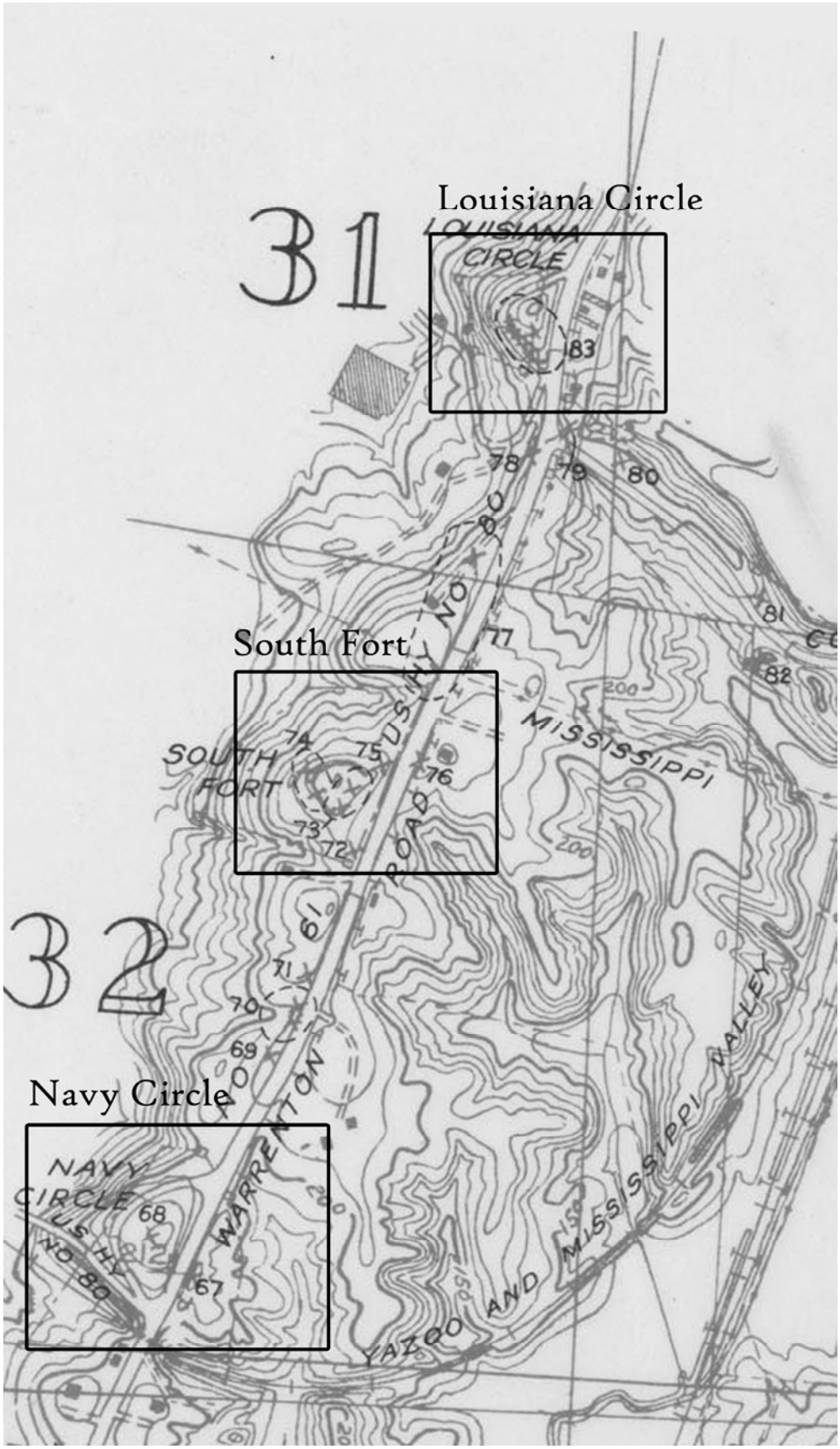


FIGURE 259. USGS survey map, 1935.

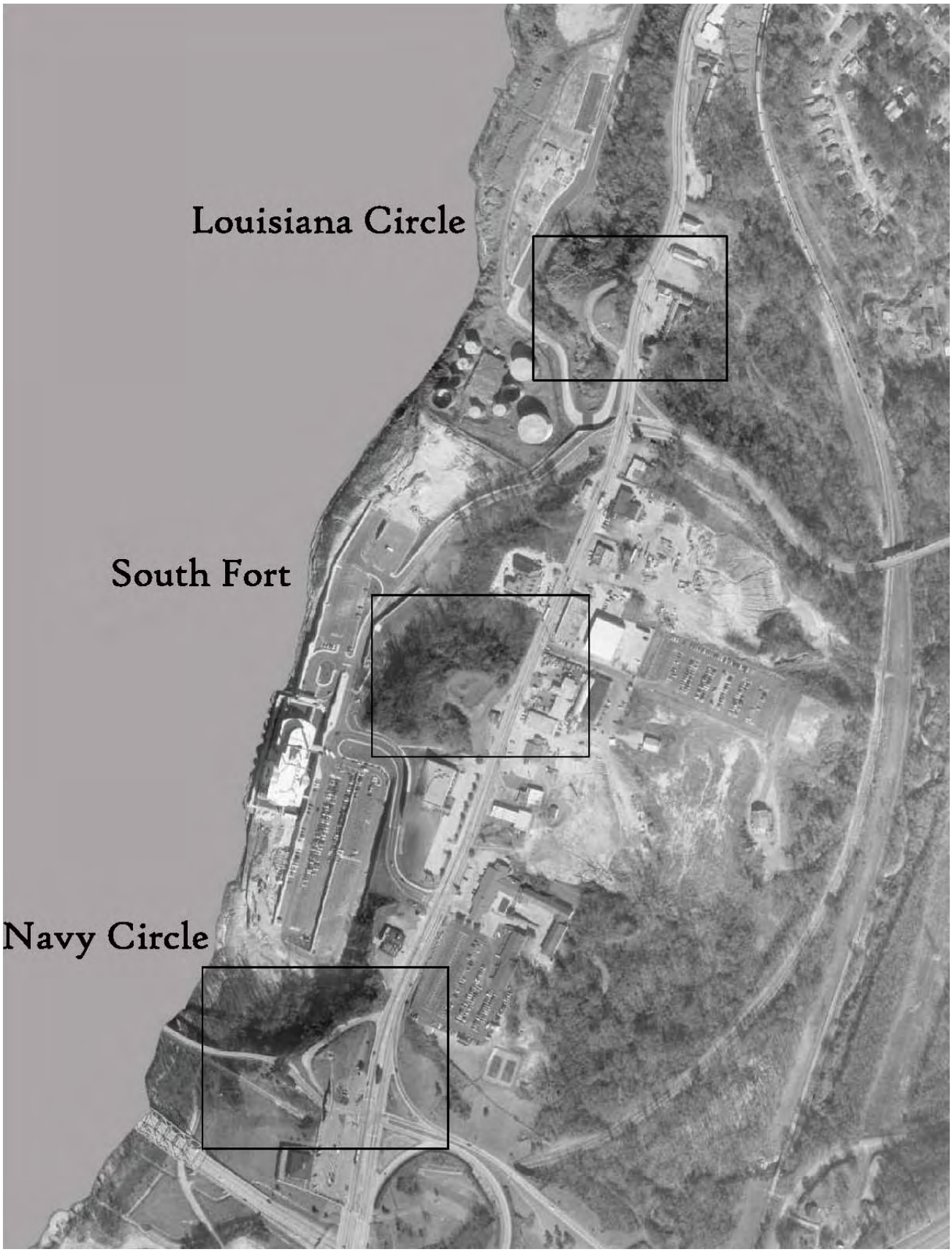


FIGURE 260. Contemporary aerial photography, early 2000s.

Louisiana Circle. The fortification featured within the park's Louisiana Circle unit was part of the southern anchor of the Confederate line of defenses around the City of Vicksburg. Surviving historic evidence of the landscape of the fortification during the siege and the early part of the twentieth century includes various maps (Fig. 256 through Fig. 260) and photographs. A 1902–1903 topographic survey, prepared for the park commissioners, shows Louisiana Circle with many of its existing elements, including the access road, five granite monuments, and artillery piece, as built (Fig. 257). The survey shows the parcel boundary, as well as a rectangular form with a note indicating it as the approved site of the proposed Confederate Naval Memorial, apparently never built. The memorial was sited to the north of the artillery piece within the circular access road. Also shown on the survey is the exterior line of the Civil War entrenchment which followed the southern and western edge of the access road. A redan-like form is shown extending from the road to the west. A panoramic photograph taken at approximately the same time depicts the landscape soon after it became part of the park (Fig. 261). The photograph indicates that by this time the landscape of the fort remained predominantly open, although a few deciduous trees had grown up around its perimeter. The photograph also shows that the existing circular access road, at least one of the existing granite monuments, and an emplaced artillery piece had been established. The surface of the circular access road during this early part of the twentieth century road was hard-packed earth, edged by curbing on the uphill side. The landscape to the center of the access road was maintained in mown grass. The landscape of the early twentieth century can be compared with the contemporary landscape through repeat photography (Fig. 262). Differences include the establishment of the guard rail, stairs, signage, and site furnishings. It is likely that the remaining four existing granite monuments and the cast-iron tablet were added relatively soon thereafter by the War Department. A 1925 bird's eye view shows "South Fort" encircled by a ring road arising from adjacent Warrenton Road (Fig. 258). It is likely that this map is mislabeled and the earthwork shown is actually Louisiana Circle. A postcard



FIGURE 261. Panorama of Louisiana Circle, early 1900s.



FIGURE 262. Contemporary panorama of Louisiana Circle, 2007.

that probably dates from the 1920s or 1930s shows the cannon and an associated cast-iron tablet (Fig. 263). Two of the five existing granite monuments are visible below the brow of the parapet. This postcard also depicts trees partially blocking the view toward the river. Comparison of the landscape through contemporary repeat photography (Fig. 264) indicates the similarity of the view today, with the exception of the addition of contemporary development along the river that has altered the view from the fortification.

The hard-packed earth road corridor encircling the knoll is known to have been paved with concrete in the 1930s. Some sections have required repair or replacement over the years. On a 1935 survey of the park (Fig. 259), the Louisiana Circle parcel is labeled, with topographic conditions and the perimeter circular access road shown in a configuration consistent with that present today. The survey also indicates the presence of a building with a massive footprint adjacent to the parcel to its west that likely impacted views from the parcel toward the river. This building does not survive today.



FIGURE 263. Postcard view from Louisiana Circle. Although the postcard text says "South Fort," this view is actually the Louisiana Circle parcel.



FIGURE 264. Contemporary view from Louisiana Circle, 2007.

The artillery piece visible in the early twentieth century photographs of the Louisiana Circle unit was replaced in 1959 with the present artillery piece. Known as the "Widow Blakely," this 10-inch Columbiad navy rifle was employed by the Confederates at Vicksburg during the siege, but was emplaced further north along the line. The cannon was later removed from Vicksburg and taken to West Point after the war. In 1959, it was returned to Vicksburg and placed in its current location within the Louisiana Circle.

Other features that post-date the park's periods of significance include the existing guard rail, the access stairs and walk, and the various small-scale features such as signs and site furnishings that support visitor use. One of the tablets associated with the landing at the Widow Blakely was added by the NPS rather than the War Department, and likely post-dates the park's periods of significance.

Features that survive from the periods of significance include:

Natural Features and Systems

- Knoll landform

Cultural Vegetation

- Turf grass (predominantly Bermuda grass)

Topographic Modifications

- Civil War earthwork remnant atop the knoll

Patterns of Spatial Organization

- Elevated knoll landform encircled by an access road

- Expansive sense of open space from prominent knoll with views to the river to the west

Circulation

- Concrete access road with curbing, drains, and parking pull-off

Views and Vistas

- Expansive views to the Mississippi River

Small-scale Features

- Granite and bronze monuments (5)
- Cast iron tablet

South Fort. With Battery Barnes, South Fort provided the anchor to the Confederate defensive line's southern end. Surviving historic evidence of the landscape of the fortification during the siege and the early part of the twentieth century includes various maps (Fig. 256 through Fig. 260) and photographs. Two historic photographs of the parcel just prior to and after its acquisition by the Federal government indicate landscape conditions during the early park establishment period. Both views indicate that the site and its environs remained relatively free of woody growth around the turn of the twentieth century, allowing for expansive views of the surrounding landscape and river from the fortification. The form of the earthen parapet walls and ditch were, and continue to be, relatively intact. A circa 1899 photograph indicates that erosion was a problem in the vicinity of the earthwork (Fig. 265). This image can be compared with contemporary repeat photography to understand the extent of development that has occurred in the vicinity of the fortification, altering its setting (Fig. 266). A later panoramic photograph suggests that a good cover of Bermuda grass had been established on the earthwork, helping to stabilize the erosion problem (Fig. 267). The 1899 photograph also shows the character of the landscape surrounding the earthwork parcel. Warrenton Road appears as a winding corridor surfaced with hard-packed earth edged by fencing used to contain grazing



FIGURE 265. View of erosion at South Fort, circa 1899.



FIGURE 266. Contemporary view of South Fort, 2007.

livestock. A few trees dot the hilly terrain. The later photograph indicates the presence of at least one War Department tablet and two emplaced artillery pieces. The other tablets and the Iowa marker were likely placed on the site during the periods of significance, although the Iowa marker base appears to have been replaced more recently. The 1902–1903 survey (Fig. 257) provides relatively detailed information about the parcel soon after acquisition by the Federal government. The survey indicates the boundary of the parcel, the U-shaped form of the earthwork, and the Civil War-era positions of the artillery pieces known to have been emplaced within the fortification. No access route into the parcel is indicated, although the fortification remnants were located in close proximity to the former alignment of Warrenton Road.



FIGURE 267. Panorama of South Fort, early 1900s.

An early twentieth-century postcard view of the site also provides information about the landscape during the periods of significance (Fig. 268). The postcard shows two artillery pieces pointing across the parapet toward the road corridor and the river, and indicate the presence of at least one cast iron tablet. Trees are beginning to grow up in front of the cannon and block the view. Contemporary repeat photography shows the extent to which tree cover has grown up to obscure the key visual relationship between the fort and the approaches that it defended (Fig. 269).

A 1935 survey provides some detailed information about topography associated with South Fort (Fig. 259). The survey does not indicate the presence of a ring road around the fortification but shows South Fort as a large square along Warrenton Road and the associated topography.

The parcel began to undergo changes in the 1930s when Warrenton Road was straightened, altering the right-of-way and its relationship to the fortification. Once the road corridor shifted, a small parcel of land was left over between the road and the Federally-owned land. The former right-of-way was acquired by the landowner of the associated property, and the parcel was developed. A carwash operated on the parcel until 2005, limiting access to the fort site. The Ameristar Casino purchased the parcel and demolished the carwash in 2005. Today, invasive exotics and other woody vegetation are growing around the perimeter of the fortification to its south, west, and north. Other landscape features that post-date the



FIGURE 268. Postcard view of South Fort.



FIGURE 269. Similar contemporary view of South Fort, 2007.

periods of significance include USGS survey markers, a small concrete slab, and stormwater collection drop inlets.

Features that survive from the periods of significance include:

Natural Features and Systems

- Knoll landform

Cultural Vegetation

- Turf grass (predominantly Bermuda grass)

Topographic Modifications

- Civil War earthwork remnant, including parapet walls and a ditch, atop a prominent knoll

Patterns of Spatial Organization

- Elevated knoll landform

Small-scale Features

- Bronze Iowa brigade marker
- Cast iron tablets (five)
- Artillery pieces (two)

Navy Circle. Navy Circle contains the remains of Union Battery Benton, the southernmost position along the Union offensive siege line around Vicksburg.

Like Louisiana Circle, it was developed as part of park through construction of a ring road leading into the property from Washington Street. The road was paved with concrete in the 1930s. In 1959, a 1.32-acre parcel was transferred to the Mississippi State Highway Commission to establish a weigh station, and in the late 1970s, an additional acre or so was used by the Mississippi Department of Transportation to construct a parking lot for the State Welcome Center. The existing bridge that is founded in the knoll was built as part of Welcome Center development.

In addition to the bridge, most of the site features that support visitor access such as the walks, guard rails, site furnishings, and signs were established after the periods of significance.

Surviving historic evidence of the landscape of the fortification during the siege and the early part of the twentieth century includes various maps (Fig. 256 through Fig. 260). No ground photographs have been identified of the site during the periods of significance to use in comparing current and historic site conditions.

The circa 1902–1903 survey illustrates the site, showing the perimeter road, locations of the two guns emplaced within the fortification during the Civil War, an associated redan, topography, and parcel boundary (Fig. 257). The 1925 bird's eye view of the City of Vicksburg indicates the location of Navy Circle, and illustrates the existing roadway surrounding the former fortification (Fig. 258). The 1935 survey indicates the location of Navy Circle as a road encircling a knoll. The site is shown as adjacent to a Mississippi River bridge crossing (Fig. 259).

Features that survive from the periods of significance include:

Natural Features and Systems

- Knoll landform

Cultural Vegetation

- Turf grass (predominantly Bermuda grass)

Topographic Modifications

- Civil War earthwork remnant atop knoll

Patterns of Spatial Organization

- Elevated knoll landform encircled by access road
- Expansive sense of open space from western side of the parcel

Circulation

- Concrete access road with curbing and parking pull-off

Views and Vistas

- Expansive views to the Mississippi River

Small-scale Features

- Cast iron tablet
- Artillery piece

Resource Assessment

Resources Contributing the Park's Primary Period of Significance (1863)

See Fig. 271.

Natural Resources.

- Loess bluffs characterized by highly erodible soils
- Mint Spring Bayou and associated ravine and bottomlands
- Glass Bayou and associated ravine
- Stouts Bayou and associated ravine
- Durden Creek (Big Bayou) and associated ravine
- Springs, seeps, wet meadows, vernal pools
- Mint Spring Bayou waterfalls
- Limestone geology and travertine formations
- Two major ridge networks encircling the city with east/west trending ridges
- Woody vegetation associated with bottomlands

Responses to Natural Resources.

- Siting of roads (Graveyard and Jackson within the park, and Baldwin Ferry Road outside the park) along the east/west trending ridges
- Siting of Shirley House on a ridgeline with access to a good spring
- Siting of Confederate earthworks and rifle pits on elevated terrain for military advantage, and fortified earthen defensive structures to defend likely avenues of approach (road, river, and railroad corridors)
- Union establishment of zigzag trenches and other avenues of approach through mining and use of sap rollers for concealment
- Use of high points by both armies for observation and lookout positions

Topography and Topographic Modifications.

- Loess Bluffs landform and topography formed after retreat of the last glaciation period
- Dissected landforms and ravines formed from overland flow of stormwater and groundwater-sourced springs and seeps
- Grading conducted during the Civil War by Confederate soldiers to establish fortifications, batteries, rifle pits, trenches, and glacis
- Grading conducted during the Civil War by Union soldiers to protect artillery positions and approach Confederate defensive positions

Patterns of Spatial Organization.

- System of batteries established by the Confederate army on the bluffs overlooking the Mississippi River to protect the city from attack by and maintain control over the river
- Beginning in September 1862, Confederate construction of the defensive system of earthworks, batteries, and rifle pits on the ridgelines to the north, east, and south of the city of Vicksburg
- Positioning of Union troops in a semicircle around the Confederate defensive system on elevated positions; avenues of approach created leading toward heavily defended fortifications stationed to protect against the best routes for entering the city by land. These avenues included zigzag trenches and other mining methods
- Federal attack focused on the fortifications protecting Jackson Road

- Park acquisition of Pemberton's Headquarters in downtown Vicksburg contributes to historic siege patterns

Land Uses.

- Military land uses remain a part of the park landscape due to on-going military training in the form of staff rides
- The battlefield became a burial ground for casualties of the siege. Re-interment of Union soldiers occurred after the establishment of Vicksburg National Cemetery (adjacent to park) in 1866

Circulation Features

- Vicksburg & Meridian Railroad line (now Kansas City Southern Railroad; outside current park boundaries)
- Old Jackson Road
- Old Graveyard Road
- Halls Ferry Road (outside current park boundaries)
- Warrenton Road (now Washington Avenue or U.S. Business 61; outside current park boundaries; with changes to its original alignment)
- Yazoo City Road (now part of Fort Hill Drive; outside of park boundaries; with changes to its original alignment)

Cultural Vegetation.

- None identified

Views and Vistas.

- Views between opposing lines afforded along Old Graveyard Road, Thayer's Approach, Third Louisiana Redan and Great Redoubt, Battery De Golyer, Railroad Redoubt, Fort Garrott and Hovey's Approach. Long views toward the river: Fort Hill and Louisiana Circle

Buildings.

- Shirley House
- Willis House (Pemberton's Headquarters; located in downtown Vicksburg)

Structures.

- Evidence of earthwork associated with eight of the nine major fortifications of the system: Fort Hill, Stockade Redan, Third Louisiana Redan, Great Redoubt, Second Texas Lunette, Railroad Redoubt, and Fort Garrott. In addition, evidence of Battery Barnes (Louisiana Circle), South Fort, and the Water Battery. Additional evidence along the former Confederate line of earthen forms of batteries and rifle pits
- Evidence of Union artillery positions and approach trenches including Battery Selfridge; Battery De Golyer; and Battery Benton (Navy Circle), and fortifications at Fort Hill manned during Union occupation of Vicksburg after the siege

Small-scale Features.

- None identified

Secondary Period of Significance (circa 1864–1959)

See Fig. 272.

Natural Resources.

- Woodland derived from CCC-era revegetation efforts

Responses to Natural Resources.

- Construction of bridges and culverts to cross ravines and wet areas in support of park development and construction of the tour road
- Establishment of culverts, drain structures, curbs, and paved channels to convey stormwater away from erodible soil

- Extensive soil erosion control efforts conducted by the CCC, including importation of soil, regrading, and sodding

Topography and Topographic Modifications.

- Erosion control measures conducted by the CCC involving regrading and filling. Sites of erosion control activities include, among others, the margins and intersection of Pemberton Avenue; the intersection of Confederate Avenue, Jackson Road, Louisiana Avenue, and Pemberton Avenue; the intersection of Confederate Avenue and Jackson Road; slopes north of the Wisconsin State Memorial; the road margins leading to former Tower No. 1; the slopes behind the Illinois State Memorial; the margins of Graveyard Road; east of the 37th and 38th Mississippi trench line; and Fort Hill, Railroad Redoubt, Great Redoubt, and Fort Garrott

Patterns of Spatial Organization.

- Vicksburg National Cemetery established over a portion of the Union line in 1866 (adjacent to park)

- Vicksburg National Military Park established over a large portion of the siege landscape in 1899

Land Uses.

- Military land uses continued to be associated with the area, including Union occupation of Fort Hill after the siege, and use of the park for staff rides involved in military training

- Cemetery land uses included establishment of Vicksburg National Cemetery in 1866, which included re-interment of Union soldiers from the battlefield, the graves of the Shirleys behind the Shirley House, and the establishment of the Anshe Chesed Cemetery (adjacent to the park) in 1864 near the Second Texas Lunette

- Commemoration of the siege began with the placing of a monument to mark the surrender interview site in 1864, continued with veterans reunions, and was formalized through establishment of the park in 1899

- Along with commemorating the siege, park establishment involved administrative, maintenance, visitor services, and interpretive/museum/educational land uses

- The park continues to be used by the public for passive recreation associated with use of the tour roads for walking and driving, and picnic grounds for picnicking

Circulation Features.

- Union Avenue

- Confederate Avenue

- Old Jackson Road and Jackson Road trace

- Old Graveyard Road

- Sherman Circle

- Pemberton Avenue

- Grant Avenue

- Grant Circle

- Connecting Avenue

- Pemberton Circle

- Tennessee Circle

- Highway 80 (outside park boundaries; road underwent changes in the 1960s–1980s)

- City- and county-managed road corridors (integrity diminished by adjacent contemporary development; outside current park boundaries): South Confederate Avenue, Indiana Avenue; Wisconsin Avenue; Halls Ferry Road; Iowa Avenue; North Frontage Road; and Sherman Avenue

- Vicksburg National Cemetery entrance drive marked by a Memorial Arch (adjacent to park; not currently open to vehicular traffic)

Cultural Vegetation.

- Bermuda grass along road margins and associated with earthworks and other areas of high visitor use
- CCC-generated forest

Views and Vistas.

- View to the former Mississippi River channel, now the Yazoo River Diversion Canal

Buildings.

- Shirley House
- Willis House (Pemberton's Headquarters; located in downtown Vicksburg)
- Maintenance buildings constructed in 1936
- Old Administration Building
- National Cemetery Superintendent's Lodge (adjacent to park)

Structures.

- Grant-Pemberton Surrender Interview Site Monument
- State Monuments including: Massachusetts; New Hampshire; Pennsylvania; Iowa; Illinois; Minnesota; Virginia; Rhode Island; Mississippi; Wisconsin; Maryland; Michigan; Missouri; New York; Louisiana; West Virginia; North Carolina; Indiana; South Carolina; Alabama; Arkansas; and Florida
- U.S. Naval Memorial
- Memorial Arch (integrity diminished due to relocation)
- Other monuments predating 1959
- Melan arch bridges: Nos. 1 through 4, and 7 through 10, and Maloney Circle Bridge
- Tunnel beneath Union Avenue at Thayer's Approach
- Culverts and drainage structures pre-dating 1959
- Halls Ferry Road Bridge (outside current park boundaries)
- Memorial Arch located at the former entrance into Vicksburg National Cemetery from Washington Street and perimeter walls associated with the cemetery (adjacent to the park)

Small-scale Features.

- Shirley grave marker
- Tablets and Position Markers
- Statues pre-dating 1959
- Busts and Reliefs pre-dating 1959
- Equestrian Statues pre-dating 1959
- War Department boundary markers
- USGS survey markers pre-dating 1959
- Retaining walls pre-dating 1959, including stone retaining wall around Surrender Interview Site Monument
- Culverts and drainage structures pre-dating 1959
- Emplaced cannon pre-dating 1959

Non-contributing Resources

Natural Resources.

- Successional forest derived from reduced maintenance beginning in the 1960s

Responses to Natural Resources.

- Stabilization of park soils; establishment of additional curbing, drain structures, and paved channels after 1959

- Clearing of non-contributing woodland to open views of the earthworks
- Invasive plant control programs resulting in plant removal and management

Topography and Topographic Modifications.

- Post 1959 slope stabilization projects around the park
- Regrading of landform near the former Indiana Circle to establish the current visitor center
- Construction of an earthwork exhibit near the visitor center as an interpretive aid
- Regrading, primarily using fill, to establish Clay Street through the park

Patterns of Spatial Organization.

- Donation of two parcels of park land for construction of a new city school and highway weighing station
- Quitclaim transfer of park land along the southern portion of the Confederate line and to the north of Sherman Circle to the city of Vicksburg and Warren County, and addition of land along the park's northern boundary
- Acquisition of land associated with the Union attempt to construct a by-pass canal along the Mississippi River
- Acquisition of Pemberton's Headquarters within the city of Vicksburg

Land Uses.

- None identified

Circulation Features.

- Modern Jackson Road
- Mission 66 Road
- Current park entrance and parking lot and walks associated with the visitor center
- USS *Cairo* exhibit and museum parking and walks
- Access road and parking at the curatorial management facility, garage, and storage shed
- Mission 66-era walks at Fort Hill, Third Louisiana Redan, and Louisiana State Monument

Cultural Vegetation.

- Ornamental vegetation associated with the Old Administration Building and the park entrance, parking lot, and visitor center

Views and Vistas.

- Woodland that blocks views between artillery positions and opposing lines

Buildings.

- Visitor center
- USS *Cairo* exhibit and museum
- Curatorial Management Facility
- Garage north of the USS *Cairo* exhibit
- Storage shed north of the USS *Cairo* exhibit
- Entrance booths (two)

Structures.

- Replacement of Melan Arch Bridge No. 5 along Union Avenue with a box culvert
- Replacement of Confederate Avenue bridge across Mint Spring Bayou
- Replacement of bridge crossings of the ravine associated with Modern Jackson Road
- State monuments post-dating 1959: Texas; Kansas; Georgia; Tennessee; Kentucky; Connecticut
- Mississippi African-American Monument

Small-scale Features.

- Culverts and drainage structures post-dating 1959
- Statues, busts, reliefs, and small markers and monuments post-dating 1959
- Emplaced cannon post-dating 1959
- Retaining walls post-dating 1959
- Park operations features and site furnishings, including at the visitor center, USS *Cairo* exhibit and museum, and at tour stops

Missing Features

Natural Resources.

- Some springs and seeps
- Landform associated with the siege that has suffered from erosion

Responses to Natural Resources.

- Farmsteads sited along ridgelines with cultivated fields along relatively level slopes both prior to and after the siege
- Siting of roads along east/west trending ridgelines with bridges and culverts to cross ravines and wet areas both prior to and after the siege (portions missing)
- Siting of Confederate earthworks on elevated terrain for military advantage (portions missing)
- Confederate fortification system and defensive structures (portions missing)
- Confederate introduction of obstacles (abatis, cabled brush, and cheveaux-de-frise) to interfere with enemy movement along avenues of approach
- Union siting of earthworks and protected artillery positions on elevated terrain for military advantage (portions missing)
- Union establishment of zigzag trenches and other approach routes and the use of sap rollers for concealment (portions missing)
- Use of high points for observation, lookout, and sharpshooting positions, such as the tower documented on Fort Hill and Coonskin Tower (portions obscured by tree cover)
- Use of high points for signal towers, and later observation towers (portions missing and obscured by trees)
- Clearing of tree cover to facilitate fields of fire for artillery (portions obscured by tree cover)
- Establishment of drain structures, curbs, and paved channels to convey stormwater away from erodible soil (portions missing)

Topography and Topographic Modifications.

- Union establishment of zigzag trenches and other approach routes and mines
- Shebangs and caves for shelter and protection

Patterns of Spatial Organization.

- Indian village sites prior to Contact
- French and Spanish military fortification sites and settlements
- Antebellum farmsteads, with cultivation of relatively level terrain and pasturing of livestock
- System of batteries established by the Confederate army on the bluffs overlooking the Mississippi River to protect the city from attack (portions missing)
- Confederate defensive system of earthworks, batteries, and rifle pits on the ridgelines to the north, east, and south of the city. Including signal towers, soldiers' quarters, stockade fencing, headlogs, gun emplacements, abatis, cheveaux-de-frise (portions missing)

- Positioning of Union troops in a semicircle around the Confederate defensive system on elevated ground (portions missing)
- Federal attack concentrating on the approaches leading to the city: Graveyard and Jackson Roads and the rail line
- Vicksburg National Military Park as established in 1899 (boundaries have changed; land has been transferred to other owners)

Land Uses.

- Residential villages of the Natchez and Choctaw Indians
- Military posts of the French and Spanish
- Local land owners and farmers representing a residential land use
- CCC labor camps
- Military occupation of the site
- Residential use by NPS personnel
- Veterans reunions
- Horseback riding and camping recreational uses

Circulation Features.

- Yazoo City Road (portions incorporated into Fort Hill Drive)
- Old Baldwin Ferry Road
- Mint Spring Bayou ford
- Residential circulation, such as the Shirley House walk and drive
- Internal road network servicing the Confederate defensive line
- Union attack routes developed through trenching and mining
- Circle drives at various monuments including: Indiana; Alabama; Iowa; Maloney; Mississippi; Tilghman; Logan; Missouri; Arkansas; Ohio; Kansas; New York; Observation Tower No. 1; Illinois; Pennsylvania
- Sections of Confederate Avenue were referred to as Louisiana and Mississippi Avenues until the road was straightened in 1935. These segments extended, respectively, between the intersection of Pemberton and Confederate Avenues/Jackson Road and Tilghman Circle, and between Pemberton Circle and Clay Street.
- Sherman Avenue connection to Sherman Circle
- Circle termini associated with roads leading from South Confederate Avenue (such as Iowa Avenue, Illinois Avenue, Wisconsin Avenue) (located beyond current park boundaries)
- Kentucky Avenue
- Portions of South Confederate Avenue

Cultural Vegetation.

- Agricultural cultivation and pasturing of livestock
- Ornamental plantings associated with the Shirley House
- Surrender Interview Site Oak

Views and Vistas.

- Open landscape of fields of fire

Buildings.

- Residences pre-dating Civil War
- Residences present between 1864 and 1933
- Riddle House
- Edward House
- Lynd House

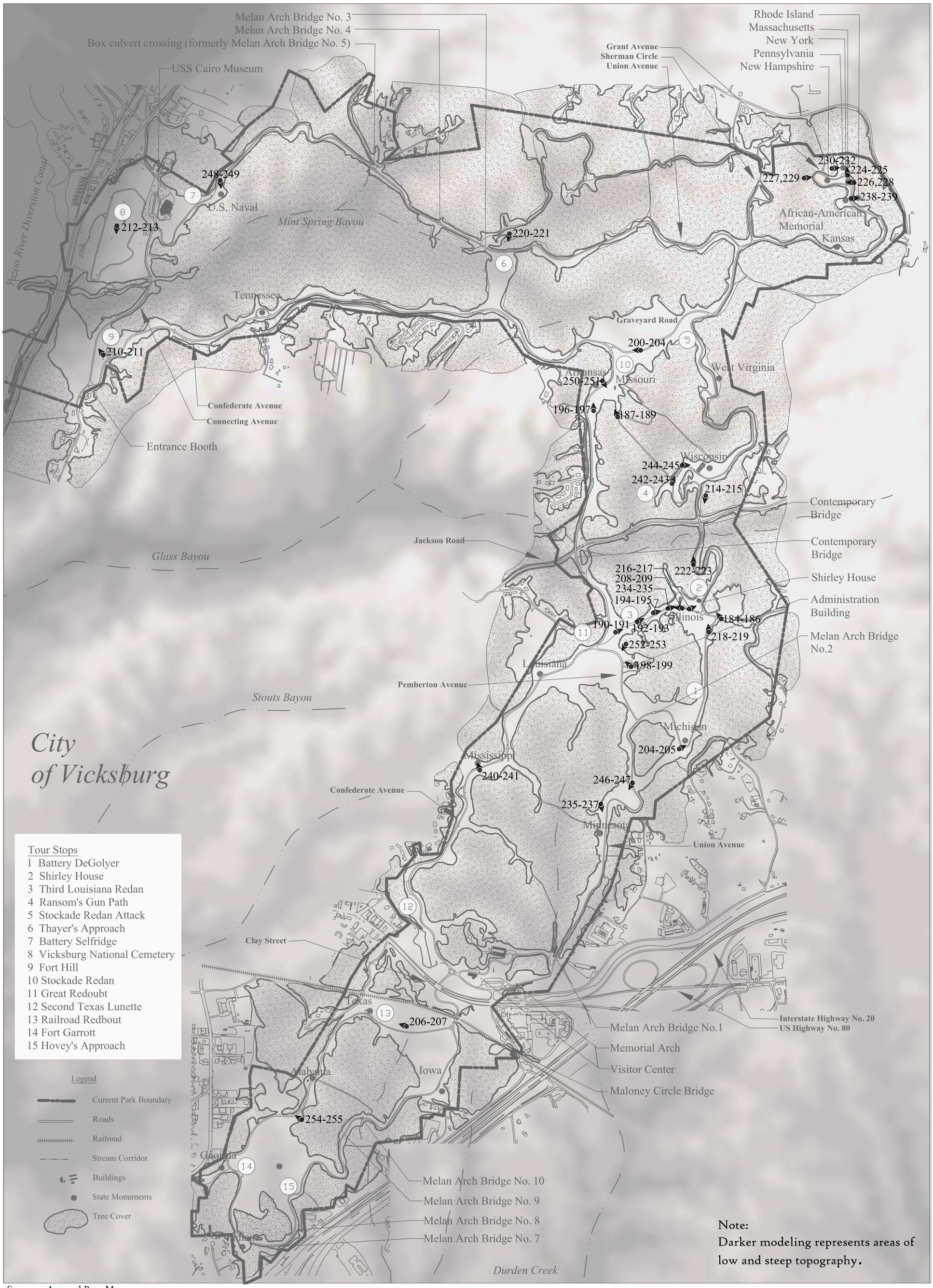
- Original visitor center in Mississippi River Commission headquarters building
- CCC camp buildings and structures
- Residences for park employees

Structures.

- Fort Mount Vigio on Fort Hill
- Fort McHenry which replaced Fort Mount Vigio on Fort Hill
- Fort Nogales battery
- Shirley House outbuildings (cistern, hen house, stable)
- Observation towers Nos. 1, 2, 3 (Tower No. 3 located outside of current park boundaries)
- Bridge No. 5
- Four steel bridges
- Union Avenue bridge across Mint Spring Bayou
- Confederate Avenue bridge across Jackson Road
- Stout's Bayou steel bridge (outside of current park boundaries)

Small-scale Features.

- Position tablets and markers collected for metal drive during World War II
- Replaced cannon carriages
- War Department boundary markers (some missing)
- Culverts and drainage structures placed by the CCC that have been removed or replaced
- Picnic grounds features such as grills or camp stoves, rustic benches, and Colonial Revival-style signage
- Guard rails along road corridors edged by steep slopes.



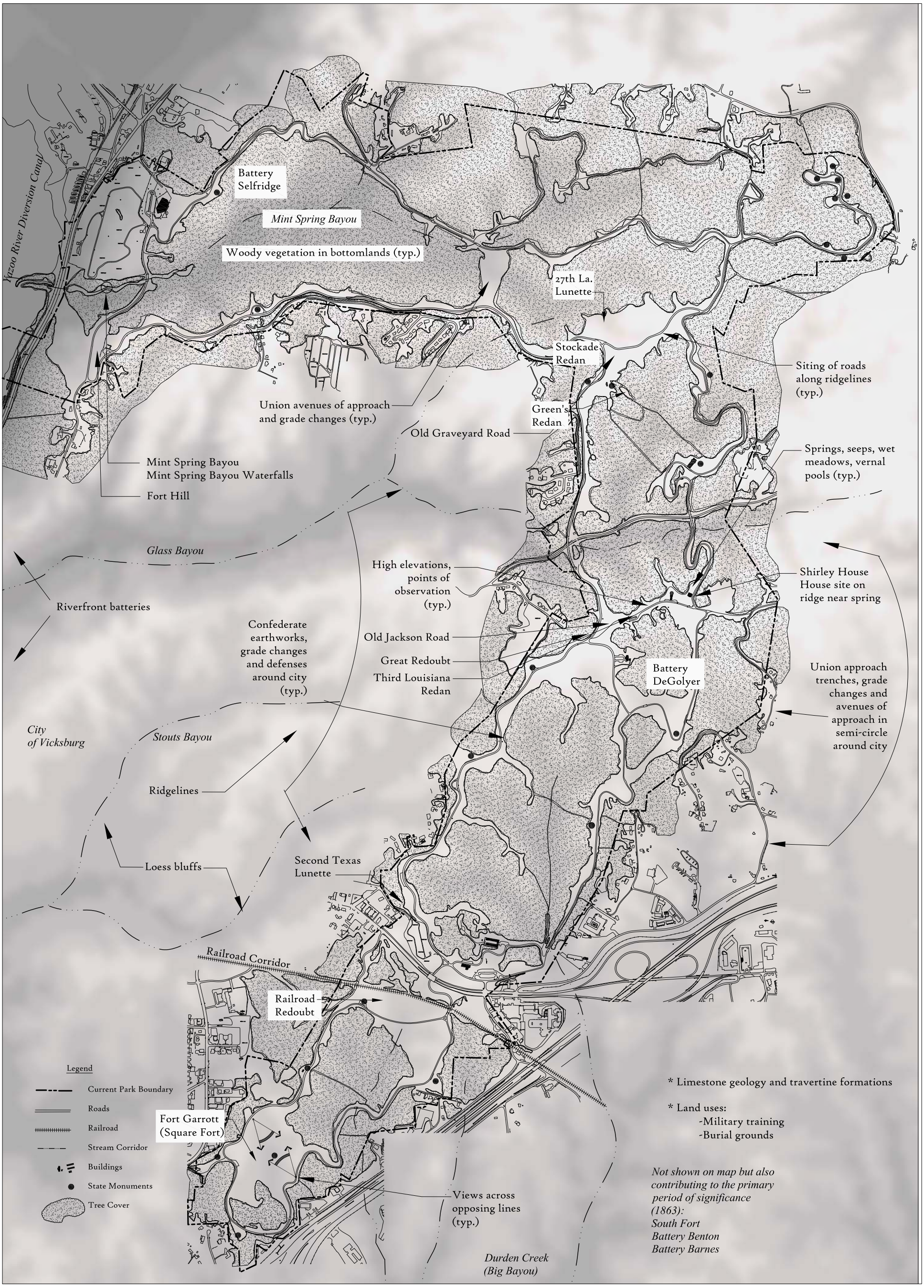
Sources: Autocad Base Map
USGS Topographic Survey
National Park Service Map

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Notes:
Ohio State Monuments are in thirty-nine different locations and are not identified here.

Darker modeling represents areas of low and steep topography.

Cultural Landscape Report
Vicksburg National Military Park
Photo Station Points Historic Comparisons
Figure 270



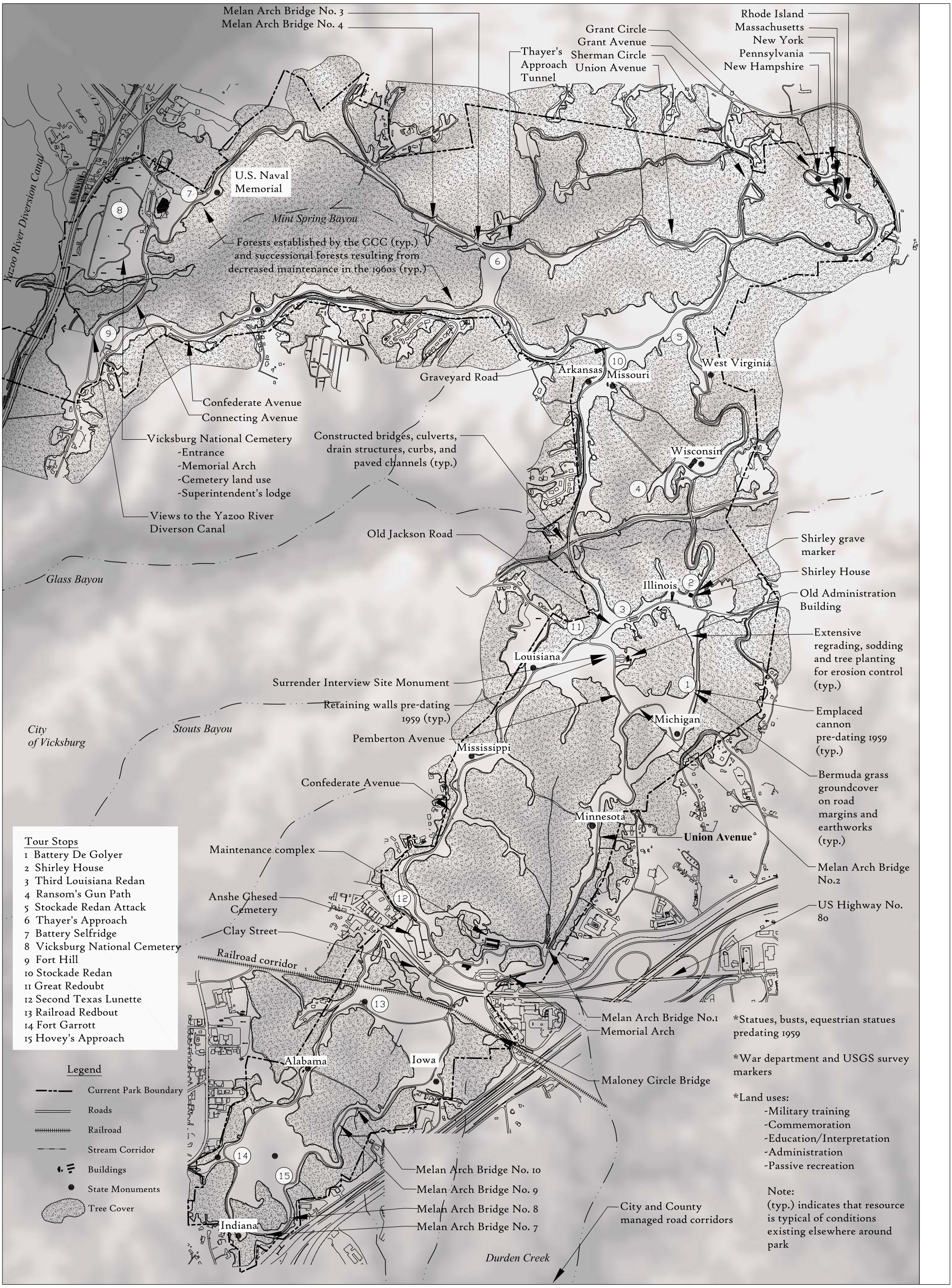
Sources: Autocad Base Map
USGS Topographic Survey
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Park Resources Contributing to the Primary Period of Significance (1863)

Figure 271



Sources: Autocad Base Map
USGS Topographic Survey
National Park Service Map

Notes:
Ohio State Monuments are in thirty-nine different locations and are not identified here.

Darker modeling represents areas of low and steep topography.

Not shown on map but also contributing to the secondary period of significance:
South Fort
Louisiana Circle
Navy Circle

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Park Resources Contributing to the Secondary Period of Significance (1864-1959)

Figure 272

Integrity Assessment

The primary objective of an integrity assessment is to determine to what degree a historic site retains its ability to convey conditions during an identified period of significance and continues to convey its historical associations with a significant event in American history. National Register Bulletin 15: *How to Apply the National Register Criteria for Evaluation* states that

> Integrity is the ability of a property to convey its significance. . . . Historic properties either retain integrity (that is convey their significance) or they do not. Within the concept of integrity, the National Register criteria recognize seven aspects or qualities that, in various combinations, define integrity.
>
> To retain historic integrity a property will always possess several, and usually most, of the aspects. The retention of specific aspects of integrity is paramount for a property to convey significance. Determining *which* of these aspects are most important to a particular property requires knowing why, where, and when the property is significant.[210]

Assessment of integrity is based on an evaluation of the existence and condition of physical features dating from a property's period of significance, taking into consideration the degree to which the individual qualities of integrity are present. The seven aspects of integrity included in the National Register criteria are location, design, setting, materials, workmanship, feeling, and association. As noted in Bulletin 15:

> **Location** is the place where the historic property was constructed or the place where the historic event occurred; **design** is the combination of elements that create the form, plan, space, structure, and style of a property; **setting** is the physical environment of a historic property; **materials** are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property; **workmanship** is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory; **feeling** is a property's expression of the aesthetic or historic sense of a particular period of time; and **association** is the direct link between an important historic event or person and a historic property.[211]

While integrity assessments are generally conducted by considering the seven aspects of integrity described above, National Register Bulletin 40: *Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields* suggests that "the most important aspects of integrity for battlefields are location, setting, feeling, and association."[212] The bulletin discusses an approach to assessing overall integrity for battlefields that is relevant to this study, and has been taken into consideration as part of the development of the integrity assessment that follows:

> Battlefields cannot be frozen in time. . . . Even where efforts to preserve the battlefield were initiated almost immediately, as at Gettysburg, it proved impossible to perpetuate the scene in the exact form and condition it presented during the battle. Instead, Gettysburg presents several layers of history, including its post-battle memorialization. The best-preserved battlefields appear much as they would have at the time of the battle, making it easy to understand how strategy and results were shaped by the terrain. All properties, however, change over time and nearly all battlefields will contain non-contributing properties. The impact of non-contributing properties on a battlefield as a whole depends not only on their number, but also on their nature and location and the size and topography of the battlefield. While this is a subjective judgment, there are some general principles for assessing integrity. If the type of non-contributing property reflects a continuing layer of development of

210. National Register Bulletin 15: *How to Apply the National Register Criteria for Evaluation* (Washington, D.C.: National Park Service, 1995), 44.

211. Ibid., 44–45.

212. Patrick W. Andrus, National Register Bulletin 40: *Guidelines for Identifying, Evaluating, and Registering America's Historic Battlefields* (Washington, D.C.: U.S. Government Printing Office, 1992), 11.

> traditional land use, then the impact of these properties may not be as great as that of modern properties that do not reflect the historic use of the land. For example, in battlefields located in rural or agricultural areas, the presence of farm related buildings dating from outside the period of significance generally will not destroy the battlefield's integrity. It is important that the land retain its rural or agricultural identity in order for it to convey its period of significance. The impact of modern properties on the historic battlefield is also lessened if these properties are located in a dispersed pattern. If a battlefield is characterized by rolling topography, the impact of later non-contributing properties may also be lessened. The covering of former open fields with trees is a natural and reversible alteration to the landscape. If it can be demonstrated that, despite the forestation of an area, the battle took place in that particular spot, then the battlefield retains integrity of location.[213]

The integrity assessment that follows considers the landscape at two junctures: during the siege and during park development. Assessment of the siege landscape focuses on the four primary aspects of integrity most important to battlefield assessment: location, association, setting, and feeling. The integrity of park development is assessed for all seven aspects.

Based upon the comparative analysis of historic and existing conditions presented above, the Vicksburg National Military Park cultural landscape possesses sufficient integrity for both the primary and secondary periods of significance to convey its important historic associations to the visitor.

The park landscape retains the ability the convey the significant stories of both the Civil War siege as well as development of the park by veterans and others to commemorate the siege and through its existing physical features. Many cultural landscape features survive from each of the periods of significance. These include physical evidence of the 1863 siege of Vicksburg in the form of landform and topography, patterns of spatial organization, natural resources, the Shirley House, and remnants of the earthen fortifications and batteries established by the opposing armies. Resources also survive from the commemorative period of significance. These include park roads, monuments, tablets, busts, reliefs, signage, rehabilitated earthworks, the Administration Building, and the maintenance complex. Throughout the site's history, there remains a strong connection between natural features and processes and cultural events, activities, and resource development. This connection remains clear and evident.

While the park retains a high degree of integrity, some actions have served to diminish this integrity, including alterations to the original tour road system, construction of the visitor center complex, land exchanges with the City of Vicksburg, and extensive growth of woody vegetation over formerly open areas.

The Vicksburg National Military Park landscape possesses integrity of **location** as the site of the siege, as well as the location where commemoration of the siege has been a focus since early park development. Integrity of location is diminished by the transfer of land to the south of the park's South Loop to the city of Vicksburg, and land to the north of the park to Warren County.

The park retains integrity of **association** due to the continued interpretation of the link between the existing landscape and the historical events of the Civil War siege. While it remains possible to experience and understand the placement of fortifications on high ground that allowed for a continuous defensive line against overland attacks on the city, the challenge posed by the steeply sloped ravines that faced by the Union soldiers when attempting to attack the well-fortified Confederate positions, this integrity is diminished by the degree of non-contributing woodland cover that blocks visual accessibility of much of Vicksburg's terrain. Nonetheless, visitors continue to be afforded the opportunity to understand the events of the siege as well as gain a sense of military tactics utilized during the period.

213. Ibid., 11–12.

The park retains a higher degree of integrity of association for the commemorative period. The tablet and marker system, the placement of commemorative monuments, as well as Union and Confederate Avenues continue to convey the influence of the veterans, and the guidance they offered in establishing physical connections to the ground where events had occurred. The careful work of the CCC in stabilizing threatened park features, and correcting soil erosion problems also remains evident in the configuration of road corridors, and associated shoulders, margins, and stormwater conveyance features, as well as gentler and more controlled slopes in many locations within the park. The integrity of association is diminished within the city-maintained parcels due to the visual clutter caused by adjacent development and the currently incongruent character of the monuments and their settings.

The Vicksburg National Military Park landscape retains partial integrity of feeling to both the siege period as well as the commemorative period due to the screening of views of adjacent areas outside of the park, and the care with which the land has been maintained. The integrity of feeling is diminished by the loss of dwellings and farmsteads that existed within the park landscape during the siege and at the time of park development. It is also diminished by the loss of agricultural land uses that characterized the park prior to both the siege and park development, and by the increase in woodland cover which stands in contrast to the very open landscape that existed by the end of the siege, and during the commemorative period.

The park landscape retains integrity of **setting** due to the large land area encompassed by the park and extensive screening that occurs along its boundaries. Later development is visible from some locations around the park, particularly at the entrance along U.S. Highway 80, from high points overlooking the former alignment of the Mississippi River near Fort Hill, and from the three noncontiguous parcels along the riverfront. For the most part, however, the park's integrity of setting remains particularly strong.

For the early park development and CCC commemorative periods, the park also retains integrity of **design**, **materials**, and **workmanship** due to the numerous surviving monuments, markers, and tablets, and the tour road system along which many of these features are sited. Integrity of materials has been diminished in part by the resurfacing of some segments of the road system. Integrity of design has been diminished by conversion of Union and Confederate Avenues into a one-way loop road, the loss of circle roads around monuments, and removal of the observation towers. Transfer of the southern portion of the park to the City of Vicksburg in 1963 has also diminished the integrity of commemorative period park design. Site improvements conducted at the park after 1968 based on Mission 66 period plans, including the visitor center and associated parking area, revised park entrance and tour route, the USS *Cairo* exhibit and museum, and other parking and pedestrian path and plaza additions have also served to diminish the integrity of design, materials, and workmanship associated with the commemorative period through alteration of the original park design.

OCOKA Military Terrain Analysis

> Vicksburg was, then, rather an entrenched camp than a fortified place, owing much of its strength to the difficult ground, obstructed by fallen trees in its front, which rendered rapidity of movement and ensemble coordination in an assault impossible.[214]
>
> —Report of Capts. Prime and Comstock, Grant's chief engineers, November 29, 1863

Introduction

The cultural landscape of Vicksburg became the focus of one of the most strategic events of the Civil War: the campaign and siege of Vicksburg, Mississippi. The unique combination of rugged, dissected, elevated terrain and a tortuous turn of the Mississippi River was seized and embellished upon by the Confederate army in their struggle to maintain control of the waterway that served as a lifeline and major artery to their cause. Under the commands of Lt. Gen. John C. Pemberton, Confederate forces constructed a series of artillery batteries along the bluffs overlooking the river to protect against gunboat attacks. Later, they protected the city landward, constructing a horseshoe-shaped system of fortifications and rifle pits around the city between the artillery positions anchored on the river that anticipated potential Union avenues of approach in the placement of strong forts and artillery positions along road and rail lines and obstacles to troop movement elsewhere. The tactics of Union Maj. Gen. Ulysses S. Grant in attacking and laying siege to the Confederate line were similarly rooted in an understanding of the landform, topography, and water systems of Vicksburg's cultural landscape.

The connection between the terrain and features of the battlefield landscape and the military tactics employed by army commanders has been formalized by U.S. Armed Forces in a military terrain analysis process known as OCOKA. The system is an acronym that stands for

O – Observation and Fields of Fire
C – Cover and Concealment
O - Obstacles
K – Key Terrain
A – Avenues of Approach

The OCOKA process is founded on the principle that "terrain has a direct impact on selecting objectives; location, movement, and control of forces; effectiveness of weapons and other systems; and protective measures."[215] Based upon the connection between military tactics and battlefield terrain, contemporary U.S. Army officer training involves assessment of terrain and the tactical advantages offered by different landscape conditions. This training also entails field analysis of the role that military terrain played in historic battles. One of the training activities utilized by the U.S. Army for nearly a century is the staff ride. As noted in the *Staff Ride Handbook for the Vicksburg Campaign*, "since the early twentieth century, officers of the U.S. Army have honed their

214. *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies*. Series 1, V. 24, Pt. 2, 170. Reports of Captain Frederick E. Prince and Cyrus B Comstock, S. Corps of Engineers, chief Engineers Army of the Tennessee. New York City, November 29, 1863. Ohio State University Primary Sources Section, <ehistory.osu.edu/osu/sources/recordview.cfm?content=/037/0178>, accessed June 6, 2007.

215. U.S. Army Field Manual No. 6-0, *Mission Command: Command and Control of Army Forces* (Washington, D.C.: Department of the Army, 2003), Appendix B.

professional knowledge and skills by conducting staff rides to historical battlefields. Often, these educational exercises have focused on the tactical level of war, through a detailed examination of a single battle."[216] While the OCOKA military terrain analysis system "did not exist in the nineteenth century, the basic concept has been taught at West Point since that time and was in use during the Civil War."[217]

Today, the OCOKA terrain analysis is being applied to the study of historic battlefields in support of land protection, historic resource preservation, and scene restoration. The American Battlefield Protection Program (ABPP), for example, is currently utilizing OCOKA military terrain analysis to update documentation of the nation's battlefields initiated in the 1993 Civil War Sites Advisory Commission *Report on the Nation's Civil War Battlefields*.

Specifically, the OCOKA process assesses natural and man-made features within a prospective battlefield to "provide military commanders with an understanding of the limitations and opportunities of the terrain in which they must operate."[218] There is a link between the five aspects of the analysis and terrain features, as noted in the following definitions prepared by ABPP:

Observation and Fields of Fire

Observation is the ability to see friendly and enemy forces and key aspects of the terrain in order to judge strength, prevent surprise, and respond to threats. Examples include fortifications sited on high points with a cleared field of fire, and lookout towers. Some of the variables that can have an effect on observation are topography, vegetation, urban development, and the effects of the battle on conditions.

Field of Fire is an area with a direct line of sight that weapons may cover/fire upon effectively from a given position. A unit's field of fire is directly related to Observation. Examples include open land with a clear view within the firing range of available weaponry. The field of fire is related to emplacement suitability, lines of fire for direct-fire weapons, lines of fire for mortar, and the ranges for Civil War era weaponry. This must be qualified by the poor condition and effectiveness of some Confederate weaponry.

Dead Space (ground) is the land within range of weapons that cannot be observed or fired upon.

Cover and Concealment

Concealment is protection from enemy observation and surveillance, including features that protect both horizontally and vertically. Examples include forests, ravines, dense vegetation, and reverse slopes.

Cover is protection against enemy fire, both direct and from shelling. Examples include ditches, river banks, buildings, walls, and entrenchments.

Obstacles

Obstacles are natural or manmade terrain features that prevent, restrict, divert, or delay military movement. There are two categories of obstacles: existing and reinforcing. The presence and difficulty of obstacles determine whether terrain is unrestricted, restricted, or severely restricted. Examples include vegetation, topography, fences, stone walls, fortification features such as parapets and ditches, battle events, urban areas, drainage characteristics (natural and man-made), micro-relief, surface materials (wet and dry), abatis, ravines, and bluffs. The hindrance level of obstacles can be analyzed as "go," "slow-go," or "no-go."

Existing Obstacles are already present on the battlefield. Natural examples include swamps, woods, and rivers. Cultural examples include towns, railroads, bridges, and fences.

Reinforcing Obstacles are placed on the battlefield through military effort to slow, stop, or control

216. Dr. Chris Gabels, *Staff Ride Handbook for the Vicksburg Campaign; December 1862–July 1863*, 1, <www.cgsc.army.mil/carl/resources/csi/gabel15/gabel15.asp>.
217. National Park Service, Draft "Cultural Landscape Summary; The Battle of Gettysburg," 1.
218. U.S. Army Corps of Engineers Engineer Research and Development Center, "Terrain Analysis," <www.erdc.usace.army.mil>, accessed May 2006.

enemy movement. Examples include earthworks, abatis, and log cribs.

Unrestricted Terrain is fairly open and presents no hindrance to ground movement.

Restricted Terrain hinders ground movement. Effort is needed to enhance mobility.

Severely Restricted Terrain is unfavorable terrain. Much effort is needed to improve mobility, if it is possible to improve it at all.

Key Terrain and Decisive Terrain

Key Terrain is any ground that must be controlled in order to achieve military success. Two factors can render an area key terrain: how a commander wants to use it, and whether his enemy can use it to defeat the commander's forces. Key terrain typically offers control of a local objective or an important transportation route. Examples include high ground with good observation and fields of fire; and transportation choke-points such as a water crossing, mountain gap, or road junction. Key terrain also might include dense woods or rivers that anchor the flank of a battle line.

Decisive Terrain (Critical Terrain) is ground that *must* be controlled in order to successfully accomplish the mission. It is relatively rare and not present in every battle. Terrain is identified as decisive when it is recognized that the mission depends upon its seizure or retention. Examples include urban areas, lines of communication and supply, topography, drainage characteristics, bridges, choke points, high ground, key military installations, and supply routes.

Avenues of Approach/Withdrawal

Avenue of Approach is any relatively unobstructed ground route that leads to an objective or key terrain. The size of an attacking unit is limited by the breadth and difficulty of its avenue of approach. Variables that can affect avenues of approach include surface conditions, topography, and drainage characteristics. Examples include lines of communication and supply such as roads, rail lines, and rivers, and areas where movement could occur.

Mobility Corridor is any area where movement is channeled due to terrain constrictions. Examples include a road over a causeway.

Avenue of Withdrawal is any relatively unobstructed ground route that leads away from an objective or key terrain.

The pages that follow convey military terrain analysis information consistent with the OCOKA process for the battles and siege of Vicksburg that occurred between May 19 and July 4, 1863. The analysis indicates how terrain features influenced the battles, the siege, and the outcome of this decisive event in American history.

Historic Context

The Opposing Armies

The campaign and siege of Vicksburg were waged by Confederate forces under the command of Lt. Gen. John C. Pemberton, and the Union Army of the Tennessee commanded by Maj. Gen. Ulysses S. Grant between March 29, and July 4, 1863. The primary objective of the military engagement was control of the Mississippi River, which played a key role in military transportation and supply operations and was pivotal to the geographic cohesion of the Confederate states. By March 29, 1863, Vicksburg had become the last bastion of Confederate command along the river. The campaign to capture Vicksburg that followed had become the focus of Grant's Army of the Tennessee after the General in Chief of the Union armies entrusted Major General Grant with the following important charge: "The great objective on your line now is the opening of the Mississippi River, and everything else must tend to that purpose. The eyes and hopes of the whole country are now directed at your army. In my opinion, the opening of the Mississippi River will be to us of more advantage than the capture of forty Richmonds."[219]

This statement, in late winter 1863, followed several failed efforts on the part of the Union army to reach and overpower Confederate forces at Vicksburg, including a gunboat attack in the spring of 1862; invasion from the north and a coordinated amphibious attack in the winter of 1862; canal construction across De Soto Point in June and July 1862 and January through March 1863; and additional gunboat attacks in April 1863. By late March, however, Grant had set the stage for the campaign after breaking Confederate resistance through a series of engagements over the course of early 1863.

Clashes involving control of the Mississippi began in 1861 in response to a Union blockade of Southern ports, including the mouth of the Mississippi River where it entered the gulf south of New Orleans. The Confederacy soon began to fortify strategic points along the river where it bordered the Confederate states of Arkansas, Tennessee, and Mississippi, and where the river extended through lower Louisiana. Vicksburg was recognized as the key to control of the Mississippi River, as well as to the Red River in Louisiana and the Arkansas and White Rivers in Arkansas, that provided access for shipping as well as to the rich farmland of the Mississippi delta region.

North of Vicksburg, the Confederates fortified Island No. 10 and New Madrid, Missouri, across the river from the Tennessee-Kentucky state line. On April 7, 1862, both sites fell to Union forces led by Brig. Gen. John Pope, which defeated Confederate forces led by Brig. Gen. William Mackall. This defeat opened the river to Union shipping as far south as Fort Pillow near Memphis, Tennessee.

To the south of Vicksburg, New Orleans was defended by Confederate Fort Jackson and Fort St. Philip, about ninety miles downriver from the city, and by several smaller Confederate forts. Union river forces, led by Flag Officer David G. Farragut and Commodore David Dixon Porter, overcame the Confederate defenses between April 25 and 28, 1862, and Confederate troops led by Mansfield Lovell evacuated New Orleans. Following this victory, Farragut took several cruisers and gunboats upriver to Vicksburg. Brig. Gen. Martin L. Smith, however, refused to surrender the city. Farragut ordered a bombardment that lasted from mid-May through July of 1862, but was unsuccessful.

To the north, in April 1862, Grant's defeat of Johnston and Beauregard at Shiloh opened up the way to inroads into northern Mississippi.

In September 1862, Confederate engineers begin to construct fortifications at Vicksburg to protect against land-based attack of the city. The Confederate fortifications sought to protect the city by controlling key and decisive terrain as well as anticipated avenues of approach along road and rail lines; establishing clear points of observation and fields of fire; taking advantage of existing

219. William C. Everhart, "Vicksburg National Military Park, Mississippi" (Washington, D.C.: U.S. Government Printing Office, 1954), 2.

obstacles and placing reinforcing obstacles; and affording the soldiers the best cover and concealment possible.

Although Union forces appeared unable to reach the city from the river, they remained determined to gain control of the region and began to slowly break down impediments to attack from the landward side. In October 1862, they gained control of Corinth and the critical rail junction. The fighting at Corinth, the last Confederate offensive in Mississippi, weakened the only mobile Southern army defending the Mississippi Valley and permitted Ulysses S. Grant to launch his campaign to capture Vicksburg.

On October 20, 1862, Gen. John McClernand initiated an amphibious operation against Vicksburg that was later taken over by Maj. Gen. William T. Sherman. Sherman's forces included 40,000 men and the support of the Union navy. On December 20, 1862, Union transports began ferrying troops downriver. Union gunboats moving up the Yazoo River withdrew after the U.S.S. *Cairo* hit a Confederate mine and sank. Despite the lack of support from the navy, General Sherman's forces continued moving toward Vicksburg and the Walnut Hills north and northeast of the city. Sherman attacked Confederate forces stationed there on December 27–29. In the ensuing Battle of Chickasaw Bayou, the Union troops outnumbered the Confederates, but the swamps and bayous at the confluence of the Yazoo and Mississippi Rivers made movement extremely difficult and Gen. Martin Smith's Confederate forces held well-fortified high ground. On January 1, 1863, the defeated Sherman retreated to Louisiana.

After the failure of Sherman's December 1862 offensive, Grant moved his troops to the west bank of the Mississippi River and proceeded down the Louisiana side of the river, intending to cross the river south of Vicksburg. In January and February 1863, Grant began work on a bypass canal project initiated in the summer of 1862 by Gen. Thomas Williams to reach the river by crossing De Soto Point south of the hairpin curve in the Mississippi River in front of Vicksburg. While Williams's effort had failed due to low water and disease, Grant's work would similarly come to naught due to water level fluctuations.

Despite losses and problems with the canal efforts, Grant persevered, either for diversionary purposes or in a genuine attempt to find a route for movement of troops by water. Grant's engineers also attempted to provide access from Lake Providence, seventy-five miles above Vicksburg on the Louisiana side of the river, to streams leading into the Red River, and then to the Mississippi River south of Vicksburg. This effort, which offered the possibility of moving troops south and then north to attack Vicksburg, also did not succeed.

For a week in mid-March, U.S. Navy Rear Admiral David D. Porter led an amphibious expedition up Steele's Bayou in an attempt to gain the Sunflower River, which led to the Yazoo River above Vicksburg. Porter's flotilla included ironclad gunboats, mortar boats, and tugboats. The expedition had great difficulty with obstructions constructed by the Confederates as well such as trees growing in the bayou, and the fleet eventually had to be rescued. The fleet remained in the area, however, and on the night of April 16, 1863, successfully ran the batteries at Vicksburg to meet Grant at Grand Gulf.

Grant's overland campaign for Vicksburg began in earnest in late March 1863. By early May, he had reached the vicinity of Vicksburg, where his army engaged in a series of battles: the Battle of Port Gibson (May 1, 1863); the Battle of Raymond (May 12, 1863); the Battle of Jackson (May 14, 1863); the Battle of Champion Hill (May 16, 1863); and the Battle of Big Black Bridge (May 17, 1863). Attacks on the fortifications at Vicksburg in mid-May followed almost immediately on May 19. Grant's initial strategy was to amass around the Confederate defensive system and seek a weakness that could be exploited. After breaking through the defenses, he planned to work together with Union naval forces to conduct a coordinated attack. Grant believed that a strong show of force would induce surrender.[220] On May 19, Grant's

220. Warren E. Grabau, *Ninety-Eight Days; A Geographer's View of the Vicksburg Campaign*

army fired the first shots of the siege, attacking many of the Confederate strongholds along the roads and rail line leading into the city. The Confederates had engineered their system wisely, however, and it repulsed the attacks as well as a second attempt conducted on May 22. Thereafter, Grant's army established its own system of fieldworks, focusing on the heavily guarded avenues of approach to the city, and began a siege that would last forty-seven days.

Engineers were an integral part of the siege operations that ensued. For both sides, the military tactics of the commanders could not be implemented without the technical expertise afforded by the engineers in the placement, construction, and reinforcement of earthworks and fortifications or the sapping, mining, and occupation of key terrain undertaken by the Union forces.

> Engineer missions for both sides included construction of fortifications; repair and construction of roads, bridges, and in some cases, railroads; demolition; limited construction of obstacles; and construction or reduction of siege works. . . . The engineering operations conducted in support of the Vicksburg campaign were perhaps the most diverse and complex of the war. For much of the campaign, Federal engineers focused on mobility operations, while Confederate engineers emphasized counter mobility, particularly in denying the Federals the use of streams and bayous in the swamps north of the city. Confederate engineers also supervised the construction and repair of the fortifications around the city. During the siege phase of the campaign, Grant's engineers focused on the reduction of those works, utilizing procedures such as sapping, mining, and other related tasks, as well as the improvement of roads and landings to enhance logistical support. This wide range of activities, which required engineers on both sides to construct roads, emplace or construct bridges, clear or obstruct waterways, construct field works, emplace batteries, divert the flow of rivers [Grant's Canal], and numerous other tasks, is made even more remarkable by the limited number of trained engineers available to accomplish them.[221]

(Knoxville, Tennessee: The University of Tennessee Press, 2000), 355.

221. Gabels, 38–39.

The Confederate Line

Lt. Gen. John C. Pemberton, who led the Confederate forces at Vicksburg, was a Pennsylvania-born West Pointer. His army at Vicksburg comprised

> . . . five infantry divisions with no immediate corps headquarters. Counting two brigades that briefly joined Pemberton's command during the maneuver campaign, he had over 43,000 effectives, many of whom had only limited battle experience. Of Pemberton's subordinates, Brig. Gen. John S. Bowen was an exceptionally able tactical commander. Maj. Gen. Carter L. Stevenson was also West Point trained, and the other division commander in the maneuver force, Maj. Gen. William W. Loring, was a prewar regular colonel who had worked his way up through the ranks. . . . Although Pemberton's five divisions represented the main Confederate force in the Vicksburg campaign, his army came under the jurisdiction of a higher headquarters, Gen. Joseph E. Johnston's Department of the West. . . . When Pemberton became besieged in Vicksburg, Johnston assembled an Army of Relief but never seriously threatened Grant.
>
> The Confederates possessed a sizeable artillery capability but were no match for the Federal firepower amassed at Vicksburg. The Confederate forces . . . possessed a total of about 62 batteries of artillery with some 221 tubes. Pemberton's force besieged in Vicksburg included 172 cannon—approximately 103 field pieces and 69 siege weapons. Thirty-seven of the siege guns, plus thirteen field pieces, occupied positions overlooking the Mississippi. The number of big guns along the river dropped to thirty-one by the end of the siege—apparently some weapons were shifted elsewhere. The thirteen field pieces were distributed along the river to counter amphibious assault. The heavy ordnance was grouped into thirteen distinct river-front batteries. These large river-defense weapons included twenty smoothbores, ranging in size from 32-pounder siege guns to 10-inch Columbiads, and seventeen rifled pieces, ranging from a 2.75 inch Whitworth to a 7.44 inch Blakely.[222]

In plan view, the Confederate line protecting Vicksburg landward resembled the numeral '7,' with both ends of the figure resting on the Mississippi River.[223] Along the river, "from Fort Hill, at the northern extremity of the line, along the waterfront to South Fort, was a chain of powerful river batteries that mounted 31 heavy siege cannon and 13 field pieces."[224] Taken together, these systems were so well designed to take advantage of the terrain that they were to prove nearly unassailable.

As far as the river batteries were concerned,

> Three major factors made guns placed high on the bluffs relatively ineffective. First, very thick parapets were necessary in order to prevent penetration by the heavy shells of the Union naval artillery, but those thick parapets also made it impossible to depress the guns far enough to bear on the river close into shore. . . Second, placing the guns on the ridge tops meant increasing the range. The riverfront of Vicksburg is very steep, but a gun atop the ridge still was at least 400 yards from the river bank, and this meant approximately doubling the distance to targets in the river. The greater range reduced the penetrating power of the projectiles, and the increased distance to the river made it much more difficult to see and hit objects in the stream, especially amid the smoke of battle. Third, in order to bear on the river at all, the muzzles of guns on the ridge top had to be deeply depressed. This is a serious handicap in muzzle-loading artillery because great care must be taken in bringing the gun into battery (i.e. running it forward into firing position after loading). With the muzzle below the horizontal, a sudden stop will start the projectile in the bore (i.e. the shot will slide forward in the bore away from contact with the powder charge.) This markedly reduces both accuracy and power. The extreme care

222. Ibid., 10.
223. Ibid., 104.
224. Jim Miles, *A River Unvexed; A History and Tour Guide of the Campaign for the Mississippi River* (Nashville, Tennessee: Rutledge Hill Press, 1994), 411.

> required to prevent this from happening automatically reduces the rate of fire, further curtailing the overall effectiveness of such guns.[225]

The landward Confederate line occupied a nearly unbroken escarpment composed of ridges and high points along the Loess Bluffs between the high points punctuated by the major fortifications anchored on the river at Fort Hill and South Fort. The Confederates expanded upon the natural opportunity afforded by the terrain by building a system of earthworks. The system was composed of a nearly continuous line of fortifications, rifle pits, trenches, and placed and natural obstacles that extended for eight miles, approximately one mile landward around the city to its north, east, and south. Nine major fortifications—Fort Hill, Stockade Redan, Third Louisiana Redan, Great Redoubt, Second Texas Lunette, Railroad Redoubt, and Fort Garrott, Salient Work, and South Fort—were placed on key terrain in commanding locations along likely avenues of approach. Stretched between them were lines of parapets, six feet thick, studded with artillery positions. These faced the more challenging terrain that was less likely to be assaulted. The land within view of the fortifications was cleared of trees and other obstructions to establish direct lines of sight or the fields of fire necessary for effective use of their artillery and small arms. Because of this, the land fronting the line had little in the way of cover or concealment opportunities for attackers, and was also filled with obstacles that included steep slopes, wet conditions, and abatis described as follows:

> The [loess] soil when cut vertically will remain so for years. For this reason the sides of the smaller and newer ravines were often so steep that their ascent was difficult to a footman unless he aided himself with his hands. The sides of the ravines were usually wooded, but near the enemy's lines the trees had been felled, forming in many places entanglements which under fire were absolutely impassable.[226]

Grant's engineers wrote that the Confederate fortifications gained much of their strength from the difficult nature of the terrain and that the intricate network of ravines and gullies, steep ascents, and ridges were challenging. Further, felled trees, undergrowth, and abatis made impassable entanglements.[227] Soldiers involved in the siege wrote that the "ravines where Mint Spring Bayou heads are filled with felled timber,"[228] "man-made obstacles, not to mention dense natural vegetation, obstructed the ravine in front,"[229] and "beyond the works were extensive abatis made of trees felled to clear fields of fire and interlaced with telegraph wire, and the ground was studded with sharpened stakes."[230]

Capts. Fred Prime and Cyrus Comstock, Chief Engineers of the U.S. Army wrote about the obstacles, "The sides of the ravines were usually wooded, but near the enemy's line the trees had been felled, forming in many places entanglements which under fire were absolutely impassable… Vicksburg was, then, rather an intrenched [sic] camp than a fortified place, owing much of its strength to the difficult ground, obstructed by fallen trees in its front, which rendered rapidity of movement and *ensemble* in an assault impossible."[231] Significant abatis extended for several hundred yards in front of Stockade Redan, while another large installation was placed between Halls Ferry Road and Stout's Bayou.

Description of the obstacles encountered on May 22 by Grant's men included the following:

> On the evening of the 21st, Col. Stone received Gen. Grant's order for a general assault on the enemy's lines at 10 a.m. On the 22nd accordingly about 11 o'clock p.m. the men were

225. Grabau, 43–44.
226. Leonard Fullenkamp, Stephen Bowman, and Jay Luvaas, eds. *Guide to the Vicksburg Campaign* (Lawrence, Kansas: University Press of Kansas, 1998), 315, quoting the Official Reports of Capts. Frederick E. Prime and Cyrus B. Comstock.
227. Miles, 412.
228. Edwin C. Bearss, *Fields of Honor: Pivotal Battles of the Civil War* (Washington, D.C.: National Geographic, 2006), 235.
229. Gabels, 104.
230. Miles, 411.
231. O.R., Chapter XXXVI "The Siege of Vicksburg, Mississippi," 169–170.

> ordered to divest themselves of everything but their guns and accoutrements, and be ready to move. The object was to gain possession of a prominent position midway between the two lines, from which it was thought a successful assault could be made. In the stillness of midnight, the 22nd, being in advance, moved over the brow of the hill and passed noiselessly down the deep ravine, into which the enemy had felled trees in every conceivable manner, crawling cautiously on hands and knees for two or three hours, we succeeded in reaching the desired position without drawing the attention of the enemy's pickets, which were posted but twenty yards distant. The day was dawning when the position was gained, and the men were ordered to lie down and rest on the hillside until the appointed hour should arrive. At half past nine, a.m. the brigade was formed in lines of battalions, the 22nd Iowa in advance, followed by the 21st Iowa and the 11th Wisconsin… The strong work against which the principal attack was directed covered about half an acre of ground, the walls being fifteen feet high, and surrounded by a ditch ten feet wide. A line of rifles connected it with others of the same kind, each of which was so arranged as to enfilade the approach to the other… The regiment succeeded in reaching, under a most falling and concentrated fire of grape and musketry, an almost impenetrable abates, forty yards from these works, where it was necessary to reform the line, it having become very much scattered in crossing the logs and obstructions which literally covered the ground. Sgt. Joseph E. Griffith, however, with some fifteen or twenty men, by raising one another up the wall entered the fort, driving the enemy, and capturing a number of prisoners. There being a series of rifle pits in rear of the fort, the latter being open, the place was untenable, and they were obliged to withdraw.[232]

In addition to the obstacles created by the Confederate forces, natural features provided protection for those holding the high ground, as described in this account by Grant: "The country in this part of Mississippi stands on edge, the roads running along the ridges except where they occasionally pass from one ridge to another. Where there are no clearings, the sides of the hills are covered with a very heavy growth of timber and with undergrowth, and the ravines are filled with vines and canebrake almost impenetrable."[233]

As anticipated by the Confederates, the generally unfavorable terrain, rendered more challenging by the placement of man-made obstacles, contributed to the interest of the Union army in following existing ridges occupied by road corridors and the rail line to reach the city. These avenues of approach included six roads—Yazoo City Road, Graveyard Road, Jackson Road, Baldwin Ferry Road, Halls Ferry Road, and Warrenton Road—and the Southern Railroad of Mississippi rail line. Thus the Confederates placed their most daunting fortifications to face these approaches, in addition to the river approaches from the north and south. Of the nine major fortifications anchoring the Confederate defenses, all but one—Fort Garrott—covered road corridors and the rail line.

The fortifications were earthen structures with tall parapet walls fronted by deep ditches. Sometimes the parapet walls were reinforced with gabions or revetments. Gun platforms and embrasures were associated with artillery positions. Headlogs were placed atop the parapet to afford cover for the soldiers manning the artillery inside. Due to the engineering properties of loess soil, which exhibited a lack of compacted strength, the parapet walls were reinforced with various available materials, including wood and bales of cotton.

However, there were several weaknesses associated with the Confederate earthworks:

> Use of the correct artillery (smoothbore rifles) led to blow-outs of large masses of earth, which fell back into the parapet and left a ramp of earth in front of the earthwork which served as a highway for the attacking infantry. Rifled shells penetrated very deeply, and their comparatively small bursting charges often were inadequate to displace any significant quantity of earth. Rifled guns were useful in knocking out the artillery pieces of the

232. Report of the Adjutant General and Acting Quartermaster General of the State of Iowa, F.W. Palmer, Des Moines, 1865. *History of the Regiment*, 1.

233. From Grant's *Memoirs*, as cited in Bearss, 211.

> opponent. Their accuracy made it possible to put rounds through embrasures with considerable precision. The field guns that the Confederates had placed within their works were relatively ineffective against the Union saps. Union artillery were stronger and grouped. Confederates followed a procedure of one gun per 250 yards which left them open.[234]

The Confederate artillery and infantry positions were placed in such a way as to provide interlocking fields of fire continuously along the lines; each of the elements along the line was designed to provide covering fire to each other and to the infantry positions between them to prevent Union attackers from outflanking them. The artillery was spread out in batteries spaced approximately 150 to 200 yards apart so as to cover the potential lines and avenues of approach yet afford support to neighboring positions.[235] As it turned out, the infantry and small arms fire proved more important to the Confederate forces in the siege warfare that ultimately ensued than the artillery amassed within the fortifications.[236]

234. Grabau, 421.
235. Information provided by Rick Martin, Vicksburg National Military Park.
236. Ibid.

The Union Line

Grant's army was organized into four infantry corps. However, only three were present on the field during the siege. These included ten divisions and more than 44,000 men, as follows.

> Although some recently recruited 'green' regiments participated, the bulk of Grant's army consisted of veteran units, many of which had fought with distinction at Forts Henry and Donelson, Shiloh, and Chickasaw Bayou. Of Grant's senior subordinates, the XV Corps commander, Maj. Gen. William T. Sherman, was his most trusted. Ultimately to prove an exceptional operational commander, Sherman was an adequate tactician with considerable wartime command experience. He and Maj. Gen. James B. McPherson, commander of XVII Corps, were West Pointers. McPherson was young and inexperienced, but both Grant and Sherman felt he held great promise. Grant's other corps commander, Maj. Gen. John A. McClernand, was a prewar Democratic congressman who had raised much of his XIII Corps specifically so that he could command an independent Vicksburg expedition. A self-serving and politically ambitious man who neither enjoyed nor curried Grant's favor, he nonetheless was an able organizer and tactical commander who had served bravely at Shiloh. The division commanders were a mix of trained regular officers and volunteers who formed a better-than-average set of Civil War commanders.[237]

In addition, Grant's army at Vicksburg

> enjoyed a clear superiority in terms of artillery. When Grant's army closed on Vicksburg to begin siege operations, it held about 180 cannon. At the height of its strength during the siege, the Union force included some forty-seven batteries of artillery for a total of 247 guns—13 'heavy' guns and 234 'field' pieces. Twenty-nine of the Federal batteries contained six guns each; the remaining eighteen were considered four-gun batteries. Smoothbores outnumbered rifles by a ratio of roughly two to one.[238]

237. Gabels, 9–10.
238. Ibid., 25–26.

After his numerous successful land-based battle victories in spring 1863 on the outskirts of the Vicksburg region, Grant was encouraged enough to attempt two immediate assaults on the Confederate earthworks around the city on May 19 and 22, 1863.

> All three corps spent the morning hours of 19 May moving into positions from which an assault could be launched. The terrain was terrible…The ridge tops were so narrow there was little room to deploy, and deep and precipitous ravines made maneuvering very slow and difficult. Good positions for artillery were in especially short supply.[239]

The first shots of May 19, 1863, were exchanged from a knoll near Graveyard Road within 900 yards of the Confederate's Stockade Redan. Grant focused on massing his attack against Stockade Redan, while simultaneously launching secondary attacks on the Confederate strongholds to the north and south. In addition to the combat at Stockade Redan, the fighting was particularly intense in several locations, namely the Third Louisiana Redan, Great Redoubt, Second Texas Lunette, and Railroad Redoubt.

On May 22, 1863, Grant attempted a massive assault along the majority of the Confederate line. The Confederate fortifications proved imposing and well sited, however, and Grant's men were able to breach the line only at the Railroad Redoubt for a short time, while suffering a large number of Union casualties. A description of the Union assault of May 22, 1863, indicates the nature of landform and topography in providing cover and concealment:

> When we took our position in front of the works we threw up a little earth work in front of what was afterward our main line. We formed for the charge under a ridge and waited for the order. Going over the ridge at 10 a.m. we were raked by the fire from the fort and rifle pits to our right. In passing through Mississippi after the war, I noticed the action of rains on the ridges in cultivated fields. It looked as though furrows had been plowed down the hill. In one of these little gullies, a little over a foot deep, I sought shelter. There were a few little shrubs or bushes. One was cut off by a bullet.[240]

After these failed attempts, Grant reasoned that because the ridgeline surrounding Vicksburg was so well fortified, he could not afford to take it by force from any one direction. Rather, he endeavored to wait out the Confederates through a protracted siege and slowly break down the opponent's forces. In support of this approach, the Union army surrounded the city and the Confederate line along an opposing, irregular series of outer ridges, separated from the Confederate earthworks by steep ravines. Throughout, the Union army maintained a line of positions nine miles east of the park with several batteries to the rear of their forward line as an Army of Observation to prevent surprise attacks by Confederate reinforcements.

On the ridges and knolls facing the Confederate line, the Union forces placed several very large and powerful batteries to maintain pressure on the large Confederate works guarding the approaches to the city. At the same time, Grant's men began to slowly approach each of the major works by sapping or digging shallow trench lines. An approach is a zigzag trench with angles laid out so that no section of the trench is exposed to direct enemy fire down its length. During the siege of Vicksburg, Union soldiers dug thirteen separate approaches at various points along their twelve-mile line. The Union approaches extended over diverse terrain elements, including steep ravines filled with abatis, side slopes, wetlands, as well as open, formerly cultivated fields. The saps were dug in a zigzag pattern to prevent being enfiladed. Large cylinders (gabions) made of woven cane, a native plant that grew in the ravines, filled with dirt or cotton, were pushed ahead of sapping operations for cover and concealment to protect the excavators from being hit by artillery fire.[241] Excavated earth was thrown to the side facing

239. Grabau, 355–356.

240. Letter to Captain William Charleton, Madison Wis., Colorado Springs, Colo., March 26, 1902. Report of the 11th Wisconsin.

241. Miles, 429

fire.[242] Between May 24 and July 3, many of the thirteen approaches under active pursuit by the Union army closed in on and threatened numerous Confederate fortifications. By the end of the siege four had reached the parapets of the Confederate works, including Stockade Redan, the Third Louisiana Redan, the Second Texas Lunette; and the Railroad Redoubt.

Saps leading to the Third Louisiana Redan reached the parapet wall in late June 1863. Gun powder was placed in subterranean mines excavated below the parapet wall. The loess was perfect for mining as tunnels required no shoring or revetting. The mine was detonated on June 25. A second mine was detonated on July 1, 1863.[243] While these attempts were foiled by the Confederate forces, the potential threat of numerous additional instances of similar activity at other major works contributed to the July 4, 1863, surrender of Lt. Gen. John C. Pemberton's army at Vicksburg.

242. Ibid.
243. Gabels, 111.

Terrain Features

The following pages identify and describe the military terrain features and their related OCOKA aspect or aspects associated with the siege of Vicksburg. The features are presented generally in geographic order, starting along the river north of the city of Vicksburg and moving in a clockwise direction until reaching the river again to the south of the city. An inventory of terrain features by OCOKA aspect follows this section.

Mississippi River

The primary objective of the military engagement at Vicksburg was control of the Mississippi River. As such, the river constituted **key** and **decisive terrain**. The river was an important **avenue of approach** for the Union army to reach and gain control of Vicksburg. The Loess Bluffs bordering the Mississippi River provided excellent **observation** positions for Confederate artillery to fire upon any enemy approaching via the river, however. Ships were particularly vulnerable to their fire because of an oxbow north of the city's waterfront where ships were forced to slow down to make the treacherous turn. The river approach afforded no opportunities for **cover and concealment**. The Confederate positions at Fort Hill and South Fort had clear fields of fire regarding approaching gunboats that afforded them a great advantage. The oxbow proved a challenging **obstacle** for Union approach, and was considered in the design and placement of artillery positions by the Confederates at Fort Hill and the river batteries along the waterfront. The Confederates placed additional **obstacles** in the form of explosive mines within the waters of the river and canal to the north and south of the city. The U.S.S. *Cairo* sunk in the Yazoo River Canal due to one of these mines during the winter of 1862 while on a mission to clear the river of mines and rid the channel of Confederate batteries. The U.S.S. *Cincinnati* was sunk by Confederate artillery emplaced south of Fort Hill on May 27, 1863.

The Union army made two attempts to bypass the oxbow by constructing a canal across De Soto Point—during June and July 1862 and January through March 1863—through which Union

gunboats could reach Vicksburg , and engage the Confederate batteries overlooking the river. These canal-building efforts constituted an additional Union **avenue of approach**.

The Confederate line included thirteen batteries of gun emplacements along three miles of the Mississippi River waterfront armed with thirty-seven large-caliber antiship guns. Three of these batteries—Marine Hospital Battery, Wyman's Hill Battery, and Water Battery—were particularly significant. Each stood thirty to forty feet above river level within close proximity to the river, which simplified aiming and ensured high projectile velocity at the target. The most important of these was Water Battery, which commanded the hairpin turn of the river where vessels faced navigational **obstacles** as well as heavy Confederate artillery. Marine Hospital Battery, located south of downtown Vicksburg, contained three 42-pounder smoothbores, two 32-pounder smoothbores, and two 32-pounder rifles. Wyman's Hill Battery, located on the northern outskirts of Vicksburg, held three 10-inch Columbiads, one 8-inch Columbiad, one 32-pounder rifle, one 2.71-inch Whitworth rifle, and one 3-inch Armstrong rifle.[244]

In addition to Grant's canal-building efforts to reach the city from the Louisiana shore, he instructed his men to destroy a foundry near a railroad depot along the riverfront. The foundry was used to make shells for the Confederate guns. When Grant was unable to reach the foundry by gunboat to destroy it because of the guns placed on Wyman's Hill and the Marine Hospital batteries, he instead built a fortified position called Fort Adams on De Soto Point. A single 20-pounder Parrott rifle was emplaced within the fort on June 20 that was used to ruin the foundry.

While most of these positions have been lost, the Water Battery is indicated by mounted artillery pieces visible near the highway at the foot of Fort Hill.

244. Grabau, 42.

City of Vicksburg

As the objective of Union assault, the city of Vicksburg itself was **key** and **decisive terrain** that afforded an opportunity to command not only the Mississippi River but also the rail lines that transported supplies from the river to the rest of the Confederacy. President Lincoln famously quoted that Vicksburg was "key" to winning the war. Its capture would divide the Confederacy, cutting off access to states west of the river that provided supplies and recruits for continuation of the war.

The elevated topography of the Loess Bluffs upon which the city was sited afforded prime locations for **observation**. The Confederate defenses enhanced the potential for observation by establishing an extensive cleared **field of fire** to the north, east, and south of their fieldworks. The fortifications, steep slopes, stream valleys, and the abatis and other felled timber, sometimes entangled with telegraph wire, placed in front of the lines served as **obstacles** to Union movement toward the city.

Throughout the siege, the Confederate soldiers and citizens of Vicksburg were exposed to the continual threat of artillery fire. For **cover and concealment**, the soldiers were stationed behind the protection afforded by the constructed earthworks, in many cases strengthened by wood, cotton bales, and gabions. The citizens of Vicksburg dug caves within the slopes of the loess soil for protection. Union soldiers also used the slopes of loess soil to construct shebangs, or cave-like quarters that faced away from the Confederate artillery.

In addition to the river, the likeliest **avenues of approach** to gaining control of Vicksburg were the six roads leading into the city—the Yazoo City Road, Graveyard Road, Jackson Road, Baldwin Ferry Road, Halls Ferry Road, and Warrenton Road—and the Southern Railroad of Mississippi rail line.

The city of Vicksburg survives today, although it has grown extensively since the mid-nineteenth century. Its relationship to the river was altered

when the Mississippi River cut a new channel during a storm in the 1870s. The city and its waterfront, including evidence of the Civil War river batteries, suddenly were no longer connected to the river. Soon thereafter, the U.S. Army Corps of Engineers established the Yazoo River Diversion Canal through a portion of the former river bed.

Yazoo City Road

The Yazoo City Road (also known as the Indian Mound Ridge Road) extended between the city of Vicksburg and Yazoo City, located fifty miles northeast along the Yazoo River. The road was one of the **avenues of approach** to the city of Vicksburg. North of the city, the road crossed Mint Spring Bayou, a stream corridor set within a deep ravine, via a ford. The road, like most in the region, was surfaced with hard-packed earth. When dry, the local roads were dusty. When wet, they turned to mud, making passage difficult, and rendering the road an **obstacle**. Most of the roads leading to the city were established on ridges to avoid the swampy bottomlands. When road corridors were "forced to drop off a ridge crest in order to cross from one ridge to another, the grade quickly became depressed into the hillside, because every drop of rain eroded ruts into the road surface… Before long, the roadbed in many places was at the bottom of a small canyon ten to fifteen feet deep, with vertical sides."[245] Portions of the Yazoo City Road, which included incised segments, served as **cover and concealment** for soldiers approaching the battlefield on May 19, 1863.

The Confederate army built a strong fortification atop Fort Hill Ridge that afforded opportunities for **observation** of the Yazoo City Road approach. The strong landform of the ridge and the fortification and its artillery were daunting **obstacles** to Union advance along this route.

During the May 19 battle, Maj. Gen. William Tecumseh Sherman sent Steele's division, already positioned north of the city, to investigate a county road that appeared to head in the direction of the Yazoo River. The narrow road—Yazoo City Road—was heavily wooded on both sides to the north of Vicksburg. Anticipating that the Confederate line was located to the south, Steele, with Manter's and Wood's brigades, followed the road:

> After advancing about 1,000 yards they found themselves on the north rim of the gorge-like valley of Mint Spring Bayou. All of the tributaries to Mint Spring Bayou enter from the north, so the northern line of bluffs is ragged and discontinuous. Not so the southern wall of the valley; Fort Hill Ridge forms an unbroken rampart more than 140 feet high along its entire length. Atop that natural wall, Steele could see a continuous line of rifle pits.[246]

Along the road, the Union forces found an earthwork constituting an abandoned Confederate forward position atop the Indian Mound Ridge along the Yazoo City Road northeast of Fort Hill. Woods's brigade took over the position, where they remained throughout the attack. Nearby was a house that had not been destroyed by the Confederates prior to the siege. The Edwards House, atop a high point known as Edwards Heights, became an **obstacle** to the Union forces when Confederate sharpshooters took up positions in the house and fired upon Steele's position on May 19.

Over the course of the siege, this position was fortified with a Union battery manned by Steele's XV corps, and additional batteries that afforded **observation** opportunities and had a clear **field of fire** were placed on the ridges near the Yazoo City Road across Mint Spring Bayou from the Confederate line to maintain artillery pressure. The 12-pounder howitzers and James rifles of these batteries were trained on the Water Battery and Fort Hill. However, due to the challenge presented by the steep and rugged terrain in front of them, and the fort atop Fort Hill being so impregnable, the Union army never attacked the Confederate line along the Yazoo City Road.

Today, little evidence of the alignment of the Yazoo City Road survives today, although portions

245. Ibid., 23.

246. Ibid., 350.

of Fort Hill Drive to the south of Fort Hill appear consistent with the alignment of the historic road corridor. This military terrain feature otherwise retains little integrity today.

Mint Spring Bayou

Grant's engineers wrote that the Confederate fortifications gained much of their strength from the difficult nature of the terrain and the intricate network of ravines and gullies, steep ascents, and ridges that were **obstacles** that rendered movement of soldiers and armaments challenging. One of the most challenging of these landforms was the Mint Spring Bayou ravine that sat at the base of Fort Hill Ridge. The main branch is fed by headwaters extending from the northern escarpment, including First and Second Branch that extend down slope in a south/southwest trending direction. As noted above,

> All of the tributaries to Mint Spring Bayou enter from the north, so the northern line of bluffs is ragged and discontinuous. Not so the southern wall of the valley; Fort Hill Ridge forms an unbroken rampart more than 140 feet high along its entire length.[247]

The steep slopes of the ravine, the swampy bottomlands and stream corridor, and the unconsolidated loess soil served as natural **obstacles** to an approaching army. Added to these natural obstacles were felled trees, undergrowth, and abatis and cheveaux-de-frise, sometimes cabled with telegraph wire, placed by the Confederates to create additional man-made **obstacles**. These often formed impassable entanglements.[248] Soldiers involved in the siege wrote that the "ravines where Mint Spring Bayou heads are filled with felled timber,"[249] "man-made obstacles, not to mention dense natural vegetation, obstructed the ravine in front,"[250] and "beyond the works were extensive abatis made of trees felled to clear fields of fire and interlaced with telegraph wire, and the ground was studded with sharpened stakes."[251]

The Union forces placed batteries that included earthen parapets for **cover** on high points north of and overlooking Mint Spring Bayou that trained four 6-pounder guns and two 12-pounder howitzers on the Confederate positions to the south. One of these was powerful Battery Selfridge, located at the base of the current day U.S. Naval Memorial, which contained two 8-inch Columbiads and two 30-pounder Parrott rifles. These positions afforded opportunities for **observation** of the Confederate activities beyond the ravine and a clear **field of fire** toward the Confederate earthworks.

Like Fort Hill, the Union army avoided assault of the Confederate line atop Fort Hill Ridge via Mint Spring Bayou west of the Twenty-sixth Louisiana Redoubt. Union Gen. John Thayer's brigade was positioned north of Mint Spring Bayou throughout the siege. He commanded troops in attack against Stockade Redan and associated Confederate works on May 19 and 22, and later conducted sapping efforts across the ravine to approach the Twenty-sixth Louisiana Redoubt.

Steele's Advance. On May 19, 1863, General Sherman sent Steele's Division, already positioned north of the city, to investigate a country road that seemed to head in the direction of the Yazoo River. Due to dense woodland cover, they were unable to observe much of the land to their front. But,

> After advancing about 1,000 yards they found themselves on the north rim of the gorge-like valley of Mint Spring Bayou. All of the tributaries to Mint Spring Bayou enter from the north, so the northern line of bluffs is ragged and discontinuous. Not so the southern wall of the valley; Fort Hill Ridge forms an unbroken rampart more than 140 feet high along its entire length. Atop that natural wall, Steele could see a continuous line of rifle pits.[252]

247. Ibid., 350.
248. Miles, 412.
249. Bearss, 235.
250. Gabels, 104.
251. Miles, 411.
252. Grabau, 350.

Their approach was thus halted by the steepness of the ravine and the intensive and advantageous line of Confederate fortifications.[253]

Faced with the incredible escarpment that formed the south wall of Mint Spring Bayou, and the powerful earthworks above, Steele determined to locate an available avenue of approach. One of the opportunities appeared to lie in Mint Spring Bayou's First Branch, which, unlike much of the terrain around Vicksburg, flows through a broad and gentle valley. Upon further inspection, however, the terrain was impassable due to the **obstacles** presented by dense second-growth timber and canebrakes. Manter's brigade, which was sent to investigate this route, made little forward progress and was only able to reach the higher elevations of the small finger ridges surrounding First Branch.

Steele, with Woods's brigade, moved westward along the ridge north of Mint Spring Bayou, but soon discovered that the Yazoo City Road that they had been following continued on down the crest of the ridge where it was completely exposed to the Confederate riflemen and artillery on the escarpment south of Mint Spring Bayou. To avoid the line of fire of the rifle pits, he moved the troops off the road and, **concealed** behind the crest of Indian Mound Ridge, continued on to the southwest. Woods led his men forward and began the construction of a line of rifle pits on the forward face of Indian Mound Ridge. It proved to be dangerous work, however, as the Confederate works were above his position with good **observation** opportunities and the Union infantry was subjected to heavy fire. To diminish the danger, Steele established a counter battery under the direction of Capt. Clemens Landgraeber. However, the position required by the counter battery was exposed from various directions. Landgraeber lined his guns up along the road in the last position offering **cover and concealment** before hurrying them forward. The moment forward movement began, they were shot upon by Confederate sharpshooters **concealed** in the Edwards House 300 yards to the southwest. Steele's men eventually overcame the sharpshooters and later occupied the house. Steele also took command of a knoll associated with Indian Mound Ridge to the southwest, which he manned with a battery.[254]

Thayer's Advances and Approach. On May 19, Thayer's brigade was positioned along the broken high ground north of the Mint Spring Bayou. Thayer's regiments prepared for their attack on the Confederate positions near Graveyard Road under the **cover and concealment** afforded by North Ridge that extended west/southwest from Graveyard Road Ridge to the north of Mint Spring Bayou. From there, they moved forward over the top of the ridge and around its western end. The moment they reached the bottom of Mint Spring Bayou, they began receiving intense rifle fire from the Confederate lines. They reached the end of the Second Branch ravine only about 300 yards from the Confederate defense line. They crossed the bayou with a rush and took **cover** in a small area of defilade at the base of the slope where they were forced to remain until nightfall when they could retreat.[255]

As part of the May 22, 1863, attack on the Confederate line, Thayer used the wetland terrain and vegetation associated with the Mint Spring Bayou ravine for **cover and concealment** to form up his lines, and ready his artillery and **approach** to the Twenty-sixth Louisiana Redoubt. These attacks would prove unsuccessful due to the extent of the obstacles posed by the stream, the slopes of Fort Hill Ridge, and the Confederates abatis. After failure of the May 22 attack, the Union army took a new tack and began a siege that involved maintaining artillery pressure on the Confederates and construction of a series of trench approaches to the major fortifications.

In support of this approach, Thayer's troops began, under the protective **cover** of wetland terrain and vegetation, as well as a tunnel in the area, to dig a series of zigzag trenches as an **avenue of approach** to the Confederate system of gun emplacements located northeast of Fort Hill. They

253. Fullenkamp et al., 318.

254. Grabau, 348–350.

255. Ibid., 347-353.

added to the existing natural forms of concealment by creating sap rollers composed of rolled brush and cane. Along the route Thayer's men continued to encounter various **obstacles**, including the ravine's steep and contorted slopes, the abatis placed by the Confederates, and the steep escarpment of the southern wall of the valley.[256]

This approach commenced near the crest of a ridge, ran south down the slope toward the salient approach of the Confederate line, and then up the opposite slope of the ravine. Thayer's route proved difficult to protect against fire from above. Additional **cover** was afforded using fascines and the more traditional sap rollers made of cane that were placed across the six-foot-deep trench. The fascines formed a roof that hid the movements of the men and, where well constructed, were impenetrable to musket balls.[257] They had just begun work on a mine beneath the targeted work when Pemberton surrendered.

Ewing's, Lightburn's, and G. A. Smith's Advances. On May 19, Ewing's Brigade approached the Confederate works placed to defend the Graveyard Road. With Lightburn and G. A. Smith, these approaches were the most important in Sherman's front. They were ". . . directed against the northeast angle of the enemy's line, where that line, bending around the ravines at the head of a small stream, takes the form of a bastion."[258] En route, detours had to be made where Confederate mines had already disturbed the soils.

Ewing and G. A. Smith were separated by the deep ravine of Mint Spring Bayou. Ewing's objective was the Twenty-seventh Louisiana Lunette. During the attack, Ewing's brigade crossed over the crest of North Ridge, which edged Second Branch of Mint Spring Bayou, and charged into the Mint Spring Bayou ravine. At the base, two regiments became mired in the **obstacles**, while two other regiments found passage through and continued up the eastern slope of Mint Spring Bayou to within a few yards of the parapet of the Twenty-seventh Louisiana Lunette. They reached a final obstacle in heavy fire from the fortification.

Today, dense tree cover obscures the ground and terrain of Mint Spring Bayou. Present beneath the woodland are remnants of the Confederate earthworks to the south and Union earthworks to the north.

Fort Hill/Fort Hill Ridge

Fort Hill. Fort Hill was one of the nine major fortifications established by the Confederates to anchor **key terrain** along the avenues of approach into the city of Vicksburg. It occupied a dramatic high point formerly referred to as Spanish Fort, where Fort Vigio had once stood. At an elevation of approximately 340 feet above mean sea level (AMSL), Fort Hill rose abruptly from the river terrace directly behind the Water Battery. Although Fort Hill did not constitute the highest elevation along the Confederate line, it formed a dramatic cliff affording a commanding view of the river for **observation** of the surrounding terrain. Fort Hill was used as an officer's headquarters and a signal station. The lack of **cover and concealment** to its fore, and its steep side slopes served as challenging **obstacles** to the movement of assailants. The works on Fort Hill contained gun emplacements for one 24-pound siege gun, two 6-pounder guns, two 12-pounder howitzers, one 3-inch rifle, two 24-pound siege guns, several small field pieces, and a brass signal gun. Clear **fields of fire** for the artillery extended toward the river as well as along Yazoo City Road, Mint Spring Bayou, and the ridges to its north. Fort Hill was never directly assaulted by the Union army.

Fort Hill Ridge. Fort Hill Ridge extends east from Fort Hill along the southern margin of the Mint Spring Bayou ravine. The ridge forms an unbroken escarpment more than 140 feet high along its entire length. With commanding views north and northwest and steep slopes serving as a severe obstacle to movement, the Fort Hill Ridge was **key terrain**.

The escarpment was so high and steep that it could barely be climbed. It proved to be a challenging

256. Ibid., 351.
257. Fullenkamp et al., 320.
258. Ibid., 318.

obstacle to Union movement toward the Confederate positions atop the ridge. The Confederates placed a continuous line of rifle pits composed of nine batteries along the top of the ridge between Fort Hill and the Twenty-seventh Louisiana Lunette, and ensured that the terrain in front of the guns was cleared of tree cover for the **fields of fire** of the artillery. The guns emplaced along the line included two 12-pounder guns, one 3-pounder Parrott gun, five 6-pounder guns, two 12-pounder howitzers, three 3-inch rifles, one 24-pounder howitzer, and a Whitworth rifle.

Because the Confederate artillery could not always be depressed far enough to cover the extent of the north facing slopes of the escarpment below due to the angle of the topography, the Confederates placed additional **obstacles** such as abatis and cheveaux-de-frise, sometimes wrapped with telegraph wire, below the rifle pits to hinder the progress of any potential attack by Union forces.

Fort Hill and Fort Hill Ridge retain good integrity to their original landform and topography. Extensive woodland growth currently obscures visual understanding of the physical relationship between the rifle pits, the Fort Hill fortification, and Mint Spring Bayou below. The abatis and other obstacles are no longer present, and much of the fabric of the earthen works has eroded or been rebuilt. Fort Hill was occupied by Union forces after the siege and was modified from its Confederate layout.

Graveyard Road/Graveyard Road Ridge/North Ridge

Graveyard Road. Graveyard Road was one of the six roads constituting important **avenues of approach** to the city of Vicksburg. It followed one of the primary east/west trending ridges—Graveyard Road Ridge—that provided an opportunity to avoid ravines and other rugged landforms and as such constituted **key terrain**. The ridge forms the watershed between Mint Spring and Glass Bayous. Additional ridges extend from Graveyard Road Ridge to the northwest and southeast. Short Spur branches south from Graveyard Road Ridge to the south approximately 180 yards northeast of the face of the Stockade Redan, while Long Spur extends south/southwest 350 yards from the redan. Northwest Spur edges the road to the northwest and extends into Mint Spring Bayou nearly across from Long Spur. North Ridge arises from Graveyard Road Ridge nearly 900 yards from the redan to its northeast. North Ridge edges much of Mint Spring Bayou to its north. Graveyard Road Ridge eventually turns eastward and joins the ridge upon which Jackson Road is sited approximately 1,800 yards east of the Stockade Redan. To the south of the ridge, the landscape is comprised of a series of ravines that form the headwaters of Glass Bayou.[259]

To protect against attack along the ridge, the Confederates concentrated their forces to either side of the road, establishing a complex of three earthworks that included the Twenty-seventh Louisiana Lunette, Stockade Redan, and Green's Redan. The earthen parapet walls of the earthworks provided **cover and concealment** for the soldiers manning the works. The ravines edging Graveyard Road Ridge were heavily studded with **obstacles** in the form of abatis and cheveaux-de-frise to avoid attack from these directions. During the May 22 assault on Stockade Redan, Union regiments took **cover** in the Graveyard Road cut approximately 100 yards from the redan.[260]

North Ridge. North Ridge is a southwestward extension of the Graveyard Road Ridge. Steep side slopes extend from the ridge to Second Branch to the west and the main stem of Mint Spring Bayou to the south. The western nose of the ridge was used for **cover and concealment** by Union attackers of the Graveyard Road fortifications during the May 19, 1863, battle.

Twenty-seventh Louisiana Lunette, Stockade Redan, and Green's Redan. This Confederate earthwork complex was designed and sited to defend the Graveyard Road approach to the city of Vicksburg. The lunette and redans were fortified with various artillery pieces.

259. Grabau, *need page number*.
260. Gabels, 106

The Twenty-seventh Louisiana Lunette, located to the west of the road, was manned by McNally's Arkansas Battery and a 12-pounder howitzer. It occupied a high point and **key terrain** with a clear view of the road corridor for **observation** and its margins, and included a long forward extension that provided angles for enfilade fire over the ground in front of the work.

The Stockade Redan, a V-shaped fortification with a prominent ditch, was open to the rear. It was constructed east of and adjacent to the Twenty-seventh Louisiana Lunette. Within the overall form of the Confederate line shaped like the numeral '7', Stockade Redan sits at the forward projecting apex.[261] The work was armed with a 12-pounder gun. Stockade Redan included a traverse to aid in retreat or retrenching if the parapet were breached, as well as various **obstacles**, including a six-foot deep ditch, abatis, and a stockade wall of poles with sharpened tops. Dense vegetation obstructed the ravine in front.[262] Other obstacles included wire entanglements and grass mats concealing the ditch. Soldiers noted that during attacks on the redan ". . . as they plunged into the ravine . . . abatis, wire entanglements, and pits covered with grass mats further broke up the Union formations."[263]

Green's Redan sat seventy-five yards east of Stockade Redan on a broad plateau affording a key point of **observation** of the terrain along the eastern margins of Graveyard Road. This small crescent-shaped outwork provided cross fire for Stockade Redan. Lowe's Missouri Battery manned a 12-pounder howitzer at the redan.

The Stockade Redan was a principle focus of both May 1863 Union attacks. The May 19, 1863, battle ensued from the high ground fronting Stockade Redan along the Graveyard Road Ridge. During the attack, Grant ordered the massing of various brigades against Stockade Redan, while simultaneously launching secondary attacks on Confederate strongholds to the north and south ranging from the Yazoo City Road to Fort Garrott.

During the May 19 battle, General Sherman's XV Corps was assigned to the approach along Graveyard Road. Upon reviewing the Confederate fortifications, he determined that the only true **avenue of approach** for direct assault lay along the high ground of the ridge. Unfortunately, he also recognized that this route would provide no **cover** and his men would be exposed to heavy direct fire from the parapets of Stockade Redan, and additional fire from Twenty-seventh Louisiana Lunette and Green's Redan to either side. One of the difficulties faced by the Union commanders was the narrowness of the ridge top, which allowed little room to deploy the regiments and thus reduced the area from which to fire upon the enemy earthworks. They established their own batteries on the ridges facing the triad of works to provide artillery fire during the battle.

During both the May 19, and 22, 1863, attacks, the Union forces also used the ravines to either side of the road for **cover and concealment**. Within these areas, the Union army was able to mass their artillery pieces used to try and break down the parapet walls. In general, however, they realized that the steeply-sloped ravines and the abatis posed too great an **obstacle** due to the disorganization caused by attempted movement through the layers of abatis, and that potential success may lay in a direct assault from the ridge. For the May 22 battle, General Sherman planned to support an infantry attack with artillery. On May 20–21, he concentrated twenty guns along the Graveyard Road, and placed large numbers of sharpshooters on Long Ridge, North Ridge, and in the ravines in front of the works. His plan was to reach the parapet with a storming party and reach the interior via the salient angle of the redan.[264] While the Union forces were able to reach the parapet wall of Stockade Redan from the road corridor, and a storming party of 150 men carrying scaling ladders also reached the parapet, they found the fortification walls too high for their

261. Ibid., 104.
262. Ibid., 104.
263. Ibid., 104.

264. Grabau, 368–370.

ladders, and they were eventually forced to retreat.[265]

Graveyard Road Batteries. During the siege, the Union army established a line of batteries to be trained on the three Confederate fortifications protecting the Graveyard Road approach, including the Twenty-seventh Louisiana Lunette, Stockade Redan, and Green's Redan. These batteries were manned by the First Illinois Artillery and the Second Iowa Battery, and were emplaced with 10- and 20-pounder Parrotts, 6- and 12-pounder guns, 12-pounder howitzers, and James rifles. One of these was known as Battery Powell.

These field batteries were repositioned within the large, level, and open area northeast of Graveyard Road to maintain pressure on the different Confederate fortifications. From these batteries, Union cannons were trained on this work and blasted the Confederate defenders relentlessly. Today, Graveyard Road, the ridge, and Stockade Redan remain in evidence. Land along this corridor is maintained in low-growing ground cover, which aids visitors in understanding the assaults by Union forces. Much of the detail of both lines has been lost over time to erosion, however.

G. A. Smith's Approach. G. A. Smith's Approach was a sapping effort that extended from the Graveyard Road batteries toward the north face of the Stockade Redan. His **avenue of approach** "pushed forward from a ravine parallel at this point to the enemy's line, which gave **cover** near that line. It was directed on a salient of the enemy's line, and was close to it when the city surrendered. . . ."[266]

Glass Bayou

Graveyard Road Ridge forms the watershed line between Mint Spring and Glass Bayous. To the south of the ridge, the land is comprised of a series of ravines within which the headwaters of Glass Bayou arise, including the North and South Forks. Glass Bayou is deeply incised within a ravine to the south. It served as **key terrain** for Union troops, providing critical **cover and concealment** opportunities for massing and staging attacks.[267] As with most of the swales and gullies in the area of the siege, the wetland and riparian areas along these unnamed tributaries of Glass Bayou contained abatis and other debris **obstacles** that were intended to interfere with the advance of Union troops towards Confederate earthworks.[268]

Along the 1,250-yard Confederate line that extended between Green's Redan and the Third Louisiana Redan were five batteries. In addition to the abatis, the Confederates generally relied on the unfriendly terrain of Glass Bayou to deter Union troops from utilizing it as an **avenue of approach**. The position was unsuccessfully assaulted on May 19 by Brig. Gen. Thomas Ransom's brigade:

> In response to Grant's directive to get into assault position as quickly as possible, during the morning of 19 May, Ransom's [brigade] of McArthur's [division] had pushed slowly westward along a huge, irregular ridge separating the north and south forks of Glass Bayou. The terrain was frightful—nothing but tangled cane breaks filling deep ravines that seemed to go nowhere.[269]

> [Ransom] . . . worked his way westward along his ridge until about 1300, when he came out on a commanding nose that overlooked the gorge like valley of the North Fork of Glass Bayou. Only 400 yards away, on the far side of the abatis-choked ravine, he could see the Confederate earthworks. He had only an hour before the time specified for the beginning of the assault. . . . One regiment never got through the abatis, but one of them found an easy passage and stormed the hill ahead of them.[270]

Later, Ransom approached this section of the line overland during the siege in a bold move. In June 1863, he brought forward artillery pieces over rough terrain to establish a new battery nearly 100 yards from the Confederate line. Col. G. A. Smith's

265. Gables, 106.
266. Fullenkamp, et al. 322.
267. Information provided by Terry Winschel, Vicksburg National Military Park.
268. Ibid..
269. Grabau, 358.
270. Ibid., 360.

brigade also approached this portion of the line by taking advantage of ridges to move the infantry into firing position.

The ravine is currently wooded, which obscures the way that this landform served as cover and concealment, avenues of approach, and key terrain for the Union army during the battles and siege for Vicksburg.

Ransom's Gun Path. One **avenue of approach** utilized by the Union army was an overland route through rough terrain near modern Jackson Road. Known as Ransom's Gun Path, this approach was conducted by the men of the Second Illinois Artillery, with the help of Ransom's infantrymen, who, in late June 1863, dismantled and dragged their 12-pounder guns across the steep slopes of a ravine to reach a parapet only 100 yards away from the Confederate line. These artillery pieces were utilized to support the infantry stationed along this segment of the Union line.

Jackson Road/Jackson Road Ridge

Jackson Road was one of the six roads that constituted **avenues of approach** to the city of Vicksburg. It followed a broad east/west trending ridge that commanded the highest elevation within the area and facilitated passage across the rugged terrain. As such Jackson Road constituted **key terrain**. The Confederate line included two massive earthworks to protect against attack along the Jackson Road: the Third Louisiana Redan, with the Great Redoubt to its southwest.

> Two powerful Confederate earthworks guarded the point where the Jackson Road passed through the defense line. To the south of the road, crowning the highest hill on the defense line, was the Great Redoubt. The redoubt was difficult to approach from the Union siege lines, because it was fronted by long open slopes dropping into deep ravines. To the north of the Jackson Road, the Third Louisiana Redan crowned the ridge along which the Jackson Road ran, and thus it could be approached along a terrain feature not notably lower in elevation than the redan itself. Both the Great Redoubt and the Third Louisiana Redan were in the sector of responsibility of McPherson's XVII Corps.[271]

The Third Louisiana Redan sat upon Pemberton Ridge, a north/south trending ridge. To the east was the Shirley House sited atop Shirley House Ridge, another north/south trending ridge. The Union army occupied the high ground along Shirley House Ridge. Here they placed Coonskin tower, which they used as an **observation** point for their sharpshooters. They also amassed several batteries—Hickenlooper, White House, McPherson, Logan, and the powerful De Golyer—on the high points facing the Third Louisiana Redan and Great Redoubt within range of their artillery. During the siege, they initiated sapping efforts as **avenues of approach** to the Third Louisiana Redan.

While these Confederate positions were attacked during the battles of May 19 and 22, 1863, the Union forces made little headway against the fortifications, and suffered heavy casualties.

In reviewing the events of the May 19 and 22 battles, Pemberton realized that the Great Redoubt, Third Louisiana Redan, Railroad Redoubt, and Second Texas Lunette had all been targets of attacks. These efforts had been so ineffectual, however, that the invaders had been stopped almost before the defending infantry fired a shot.[272]

Third Louisiana Redan. The Third Louisiana Redan occupied **key terrain** along the Jackson Road as a strong **observation** point reinforced with **cover** afforded by the fieldworks. The redan was placed atop high ground just north of the road and overlooked the road cut. Batteries placed within the earthwork were armed with 6-pounder guns, 3-inch rifles, and a 20-pounder Parrott. There were also rifle pits located outside the parapet walls. The redan was attacked on May 22 but successfully defended. This position was later **approached** by zigzag saps excavated by Maj. Gen. John Logan's division. Logan's Approach included mines dug beneath the parapet to set

271. Ibid., 428.
272. Ibid., 365.

gunpowder charges. On June 25, 2,200 pounds of gunpowder placed beneath the parapet were exploded. The Union infantry entered the earthwork through a crater created by the blast, but were unsuccessful in gaining command of the fort due to defense on the part of the Confederates manning the work. Another mine was detonated a week later, with similar results.

The Great Redoubt. As its name connotes, the Great Redoubt was the largest fortification along the Confederate line at Vicksburg. Enclosed on three sides by a tall parapet wall, the Great Redoubt occupied the highest point along the line at 397 feet AMSL and afforded broad opportunities for **observation**. The redoubt was sited to take advantage of **key terrain**, and faced potential **avenues of approach** to the south and east. It was armed with a 12-pounder howitzer and four 3-inch rifles. In addition to Jackson Road, the Great Redoubt also guarded the high ground of a nearby ridgeline, another potential Union **avenue of approach**. The redoubt itself was the primary **obstacle** to attack; there were no abatis established in the immediate front of this fieldwork, although **obstacles** were placed to its southeast. This redoubt was unsuccessfully attacked on May 22, 1863. The Union army later established Battery De Golyer to the east to maintain pressure on the commanding fortification.

Battery Hickenlooper, White House Battery, Battery McPherson, Battery Logan, and Battery De Golyer. By June 11, the Third Louisiana Redan was opposed by four major Union batteries sited along Jackson Road Ridge. These positions were sited on high points for **observation**. Most included parapets for **cover**. Closest to the redan was Battery Hickenlooper, which sat atop a knoll associated with the Jackson Road Ridge to the east. The White House battery stood on a small rise 50 yards to the south of the Shirley House. Battery McPherson stood just south of Jackson Road, some 620 yards east of the Third Louisiana Redan, in a position from which the guns could bear on both the redan and the Great Redoubt. Battery Logan stood on the ridge 100 yards south of Battery McPherson, and was sited so that its guns could fire on both works. In addition, Battery De Golyer sat southeast of Jackson Road. Earthworks were constructed at this field position in front of the artillery to help protect the gunners. While the battery was first occupied by Capt. Samuel De Golyer and his Eighth Michigan Light Artillery with six guns, over time the battery amassed twenty-two guns, the most of position along the Union lines. Over the course of the siege, Grant had determined that Battery De Golyer was the most strategic site for maintaining artillery pressure on the Great Redoubt. Captain De Golyer was mortally wounded 600 yards to the north of here while directing the fire of some of his guns.

On June 11, two giant 9-inch Dahlgren smoothbores borrowed from the Navy were emplaced in Battery McPherson. These guns were able to blast a hole in the redan, but it was patched before the Union army could take advantage of the breach, and the Confederates built a new line of rifle pits across the base of the redan.[273]

Field Batteries. Union forces also established batteries on the other knolls facing the Confederate Great Redoubt and Third Louisiana Redan. These were manned by the Eighth Michigan, the Third Ohio Battery, Battery L of the Second Illinois, the Sixth Wisconsin Battery, First Ohio Battery, Twelfth Wisconsin Battery, First Illinois Battery, First Missouri Light Artillery, and Yost's Independent Battery. They were generally separated from the Confederate line by steep ravines.

Coonskin Tower. Sited to overlook the Third Louisiana Redan, Coonskin Tower was erected by the Union army several hundred yards north of Battery De Golyer. It was used for **observation** and to allow sharpshooter Henry C. Foster to maintain pressure on the Confederate line.[274]

Shebangs. On the slopes of a ravine east of the Shirley House, which served as the headquarters

273. Ibid., 422–423.

274. Henry Woodhead, ed. *Illustrated Atlas of the Civil War* (Alexandria, Virginia: Time Life Books, 1998), 229.

of the Forty-fifth Illinois Infantry, Union forces established a series of bombproof shelters for **cover**. The hillside afforded **concealment** for this position.

Logan's Approach. Logan's Approach extended from the Shirley House toward the Third Louisiana Redan. The prominent knoll used to site the advance breaching Battery Hickenlooper, along Jackson Road, afforded the men an important degree of **cover** for their sapping effort.

Captain Andrew Hickenlooper, McPherson's chief engineer, supervised the work. Logan's division of McPherson's corps dug one of these approaches. The zigzag trench was angled back and forth across the Jackson Road Ridge, aimed at the salient angle of Third Louisiana Redan. It was eight feet wide and seven feet deep and designed to accommodate passage of artillery. A railroad car loaded with bales of cotton served as moveable **cover** for the digging parties rather than the usual sap roller.[275]

Logan's men began digging on May 26, 1863. Work parties numbered 300 men at the outset but diminished in size as the approach neared the enemy. The approach began at the battery opposite the Shirley House and ran up to the front porch of the house. There, it angled left, along the front of the house, to the high point to the west. Logan's men constructed an artillery battery position at this angle. From the battery, the approach ran left across the Jackson Road. At the road, the small knoll described earlier in front provided cover from the Third Louisiana Redan, so the men were able to dig straight ahead to the base of the knoll. They reached the knoll on June 3, 1863, where they established Battery Hickenlooper emplaced with two 30-pounder Parrott guns situated less than 150 yards from the parapet of the Third Louisiana Redan. They also dug a parallel extending from the knoll. The approach then continued from the right-hand side of the knoll.[276]

Things went well until June 13, when the head of the sap was only forty yards from the parapet of the redan. At this point, life in the sap suddenly became very dangerous as the Confederates began to drop ninety-pound shells into the sap from a 10-inch mortar newly emplaced southwest of the Great Redoubt. Union sapping continued, however, and by June 16 the head of the sap was within twenty-five yards of the scarp of the redan. This brought it within grenade range of the Confederate lines, another **obstacle** to their progress. Here, the Union troops established another parallel to the right and left of the approach. By June 21, they stalled at ten yards from the parapet due to the grenades and shells raining down on the sap. Hickenlooper tried to suppress some of the Rebel fire by extending two parallels to the south of the head of the sap, so that the southeast face of the Third Louisiana Redan could be covered by close-range rifle fire, but this effort had little effect.[277]

Driving the approach forward, Logan's men reached the base of the enemy redan on June 22, 1863. On June 23, Hickenlooper and Logan began work on a mine beneath the parapet. They excavated a tunnel forty-five feet long, which branched at the end into three galleries, each fifteen feet long. By June 25, a gallery seventy-eight-feet long had been created beneath the parapet of the works. Two side galleries had also been constructed. Within these subterranean spaces, Logan's men placed 2,200 pounds of black powder.[278] After the blast, the resulting crater was thirty to forty feet wide, twelve feet deep, and shaped like a washbowl. The Union forces moved quickly into the breach. Once they reached the crater, the assailants were shot upon by Confederates stationed in a secondary line of defensive rifle pits that afforded them **cover**. They had moved to the position upon hearing the sounds of mining beneath the parapet and subsequently the unnatural hush that preceded the first explosion. While the Union's Forty-fifth Illinois, under the command of Jasper Maltby, used surviving Confederate parapets for **cover**, firing over the top to command the crater, and

275. Gabels, 111–112.
276. Grabau, 429.
277. Ibid.
278. Gabels, 112.

built additional **cover** by extending their sap and using heavy cypress timbers for protection, the Confederate rifle positions could ultimately not be taken.[279]

> Through June 26–27, McPherson and his men tried to break through a thin barrier of Confederate rifle positions unsuccessfully. They then determined to excavate a new mine to reach the junction of the second Confederate line and the original parapet of the 3rd Louisiana Redan 50 yards to the west. This worried the Confederates who did not have another fallback line. Confederates began countermining operations. By July 1st, the Union officers had determined to explode their mine. They breached the works, but did not attack at once, waiting for Grant's order for the final assault, as they could now breach the Confederate defenses more or less at will.[280]

Today, evidence of the Third Louisiana Redan and Great Redoubt survive within the park, and are maintained in open vegetative cover for visual accessibility. Battery De Golyer is interpreted through earthen parapets and emplaced cannon. Many of the Union features around the Shirley House are also interpreted by the park.

Mount Ararat

Shortly after daylight on May 19, Grant visited Sherman's position in front of the Stockade Redan complex. When he knew that most of Sherman's men were in position, he moved to Mount Ararat to the east along the Jackson Road. The location afforded Grant **observation** of most of the Confederate line between Stockade Redan and Fort Garrott. He could not, however, see the Union troops, since they were mostly sheltered in the ravine bottoms.

This landscape feature is located outside of current park boundaries.

Durden Creek

The headwaters of Durden Creek form south of the Jackson Road, with branches separated by the north/south trending Pemberton and Shirley House Ridges. The stream corridor sits in a deep valley that served as an **obstacle** to Union troop movements, but also an opportunity for **cover and concealment** when amassing for an attack.

Overlooking the ravine to the west was the Confederate line to the south of the Great Redoubt and north of the Second Texas Lunette. Within this area were six gun emplacements armed with various field artillery pieces that faced the stream valley of Durden Creek, a natural **obstacle**. To strengthen the obstacle posed by Durden Creek, the Confederates placed abatis and debris within the ravine's low-lying areas.

The Durden Creek ravine is currently shrouded in woodland cover. Union earthworks and trench lines and battlefield terrain that served as both an obstacle and cover and concealment are not visible due to the trees.

Baldwin Ferry Road

Baldwin Ferry Road was one of the six road corridors that constituted **avenues of approach** into the city of Vicksburg during the siege. It was defended by the Second Texas Lunette, manned by the Second Texas Infantry Regiment. The fort occupied a high point along the road margin and constituted **key terrain.** The varied topography of ridges and ravines provided **avenues of approach**, as well as **obstacles** and **cover and concealment** for Union efforts during the battles of May 19 and 22, 1863, as well as the siege. During the events of May 19, the road corridor was used by Maj. Gen. John A. McClernand to approach the Confederate line. During a fierce battle waged on May 22, the Union offensive nearly succeeded in capturing the Second Texas Lunette. The lunette was later approached by a Union sapping enterprise conducted by A. J. Smith's division.

Second Texas Lunette. The Second Texas Lunette guarded against potential Union approach along Baldwin Ferry Road. Occupying **key terrain**, comprised of a high point that afforded good opportunities for **observation** and long views of forces approaching along the road, the Second Texas Lunette had a clear field of fire for its guns.

279. Grabau, 431–432.
280. Ibid., 438.

A 100-yard gap existed in the parapet along the road. This gap was covered by the field of fire of the various artillery pieces. This lunette was later approached by a Union sapping enterprise conducted by A. J. Smith's division.

A. J. Smith's Approach. Utilizing sap-rollers for protection, A. J. Smith's men constructed a sap leading toward the Second Texas Lunette during the siege. This **avenue of approach** was subjected to intense Confederate fire. Smith's men had begun construction of a mine by the time of surrender, however.[281]

Union Battery. Between the Second Texas Lunette and the Railroad Redoubt stood a Union battery armed with two artillery pieces. It was sited atop a high point that allowed **observation** of the general terrain associated with the Baldwin Ferry Road and the **avenue of approach** it afforded.

Today, these features retain little integrity within the park.

Southern Railroad of Mississippi Rail Line

In addition to the six road corridors that entered the city, there was also a rail line maintained by the Southern Railroad of Mississippi. This corridor was a potential **avenue of approach** for the Union army, and **key terrain** for both armies. Railroad Redoubt was the major Confederate fortification that guarded the rail line. Union forces placed various batteries within range of the Railroad Redoubt on knolls that afforded opportunities for **observation** and a clear field of fire. The parapet walls and ditch of the fort, and abatis in the low-lying ravines of the nearby stream, served as **obstacles** to Union assault on the position.

Railroad Redoubt. Railroad Redoubt was a large fortification that guarded the city from approach by the rail line. Control of the avenue of approach posed by the rail line was critical, and the Railroad Redoubt thus occupied **key terrain**.

> Railroad Redoubt was semi enclosed, and open only at the rear, with the main body projected forward, well ahead of the remainder of the line. The interior was divided into three compartments by lateral traverses. It was within site of the Second Texas Lunette. Fire from their parapets could sweep the head of the ravine which lay to the east. The bottom of the ravine was less than 100 yards from the ditch of the Railroad Redoubt. It was filled with abatis made by cutting down the trees and binding them together with telegraph wire. Beyond the ravine was Two Mile Ridge, nearly as high as the defense line ridge. Its summit, which trended almost straight south from a point 300 yards southeast of the Second Texas Lunette, is about 300 yards from the ditch of the Railroad Redoubt.[282]

During the attack on the redoubt on May 22, the Union infantry briefly gained a foothold inside the fortification, but were unable to break through the Confederate defenses.

The redoubt was later approached during the siege through a sapping enterprise conducted by Carr's division.

Carr's Approach. Brig. Gen. Eugene A. Carr was in command of a sapping enterprise used as an **avenue of approach** to the Railroad Redoubt and the Second Texas Lunette. At the time of surrender, the approach was within ten yards of the Confederate line.

Two-mile Creek

Two-mile Creek flows south from headwaters near the Railroad Redoubt. Trench lines extended within the creek ravine associated with Brig. Gen. Lawler's Second Brigade, Fourteenth Division, and Col. Lindsey's Second Brigade, Ninth Division under the XIII Army Corps and General McClernand. As with most of the swales and gullies in the area of the siege, the wetland and riparian areas along the creek contained abatis and other debris in an attempt to interfere with the advance of Union troops towards Confederate earthworks.

281. Fullenkamp et al., 323.

282. Grabau, 375–376.

Five Union artillery positions existed between Railroad Redoubt and Fort Garrott along Two-mile Ridge and other high points overlooking the creek during the siege.

Fort Garrott (Square Fort). This square Confederate fortification was sited on an elevated ridgeline that constituted **key terrain**. Col. Isham W. Garrott, who commanded the Confederate troops in this immediate area, was killed inside the fort by a Union sharpshooter who fired from a tree. Fort Garrott sat on a plateau surrounded by three radiating spur ridges that overlooked the city. To the east is a ravine. The head of the ravine forms a half-bowl, concave side outward. The rim of the bowl was guarded by Confederate rifle pits. The end of the system was a salient located 300 yards northeast of the fortification. At 340 feet AMSL, the ridge has a steep slope along its western margin. It was designed to guard an angle or naturally-weak point in the line between the rail line approach and the Halls Ferry Road approach guarded by the Salient Work. Armed with three artillery pieces, including a 12-pounder howitzer, Fort Garrott was the only completely enclosed work on the Vicksburg perimeter, and was entered via a drawbridge.

Fort Garrott is the only Confederate work that today retains clear traces of approaches, parallels, saps, and other features associated with the siege operations.

Batteries Sited to Attack Fort Garrott. Additional Union batteries were sited on the hillside overlooking Fort Garrott, with clear fields of fire and points of **observation**. Three **avenues of approach** were established by Osterhaus's, Hovey's, and Slack's divisions. Their saps led toward the fortification, and they were intended to be used to mine beneath the parapet walls, the cavities filled with gunpowder, and the parapet walls breached by the explosion.

Osterhaus/Hovey's Approach. Another **avenue of approach** utilized by the Union forces to reach Confederate Fort Garrott during the siege was Hovey's Approach. It was begun relatively late, in mid-June, as compared with other efforts, despite the fact that the ground afforded good **cover** to within a short range of the Confederate line due to a lack of intelligence collected about this portion of the Confederate line. It followed initial work conducted by Osterhaus's infantrymen who established a line of rifle pits after the defeat of May 22. Hovey's division took over the position a few days later.

Thereafter, Gen. Alvin Hovey's troops dug two parallel zigzag approach trenches leading toward Fort Garrott. They were based on the work of engineer Tweeddale. One was to start from a sheltered spot in the ravine near the left of the second parallel, and the other from a small ravine between Short and Middle Spurs. They would eventually converge on the plateau thirty yards from the ditch of the fort.[283] Work on the saps was conducted at night, precluding the need for sap-rollers.

Woodlands and wetlands were cleared in 1998 to reveal the military terrain from Fort Garrott and along Hovey's Approach.

Slack's Approach. Aimed at the relatively unguarded Confederate rifle pits 100 yards north of Fort Garrott, work on this sap continued so close to the Confederate line that casual conversation was possible between the enemies. Ultimately the sap reached to within 10 yards of the rife pits. The subsequent concentrated volley of fire was interrupted by the pre-surrender truce.[284]

Additional gun emplacements between Fort Garrott and Salient Work (five positions). Five artillery positions extended along the Confederate line between Fort Garrott and the Salient Work that protected Halls Ferry Road. The line of works was manned by the Thirty-fourth, Thirty-sixth, Twenty-ninth, Fifty-sixth, and Fifty-seventh Georgia regiments. These positions were placed on high points with good opportunities for **observation** and clear fields of fire.

283. Ibid., 414.
284. Ibid., 416.

Halls Ferry Road. The Halls Ferry Road was one of the six roads extending into the city of Vicksburg along ridgelines that constituted potential Union **avenues of approach**. It is located outside of current park boundaries, but survives today.

Salient Work. This major Confederate fortification, located outside of the park's current boundaries, was sited to protect the Halls Ferry Road **avenue of approach**. The earthwork was diamond shaped and extended forward of the line to the east to establish a line of fire along the ridgeline followed by the road, and an adjacent broad knoll. The Fifty-seventh Georgia regiment manned this position. It was located outside of current park boundaries.

Lauman's Approach. This approach line is also located outside of current park boundaries. The sap began on a ridge extending out from the Confederate line 300 yards east of the Halls Ferry Road. A good deal of work had been expended on the trench, when Grant decided to abandon it for an approach through the ravines adjacent to the road that afforded better **cover**.[285]

Gun emplacements between Halls Ferry Road and South Fort. Between Halls Ferry Road and South Fort were twelve Confederate batteries. The line was manned by men from the Forty-third, Third, Thirty-first, and Fifty-ninth Tennessee, and the Fifty-second, Forty-third, Forty-second, Forty-first, and Fortieth Georgia regiments. The batteries formed a linear system along the undulating ridge line that was broken periodically by deep ravines. Abatis were used as **obstacles** to further strengthen the line.

Battery Barnes

Battery Barnes guarded the Mississippi River south of the city of Vicksburg and north of South Fort, the southern anchor of the Confederate line. Both of these heavily fortified anchor positions were located on the bluffs overlooking the river. Battery Barnes, located approximately one-quarter mile to the north of South Fort, was one of the river defense batteries protecting against naval attack, and part of a mile-long line of rifle pits that edged the Warrenton Road to protect against river side attack. The position included earthen parapet walls and a ditch to provide **cover** for the soldiers of Mark's Company, Twenty-second Louisiana Infantry, stationed there between May 26 and the end of the siege. The battery was armed with a 10-inch Columbiad, a long-range weapon powerful enough to reach the river.

One of the challenges associated with defending this portion was the distance between the bluffs, which afforded the best opportunities for **observation**, and the river, which was too far away to render artillery fire on naval vessels effective:

> South of the Widow Blakely, geography conspired to create a problem because the river begins to trend away from the bluff line, leaving a wedge of often flooded plain at the base of the bluff. Thus a mile below the Widow Blakely battery, the only battery site safely above flood level was 1,200 yards from the river bank, a distance so great that the effectiveness of even a big gun would be questionable.[286]

Battery Barnes therefore also defended the swampy bottomlands between the bluff and the river that might have served as an avenue of approach by the Union army. Both South Fort to the south and additional rifle pits tied to its flank also defended Battery Barnes from attack via the Warrenton Road. The bluffs and the battery served as an **obstacle** to Union attack.

Today, The Louisiana Circle unit of Vicksburg National Military Park protects surviving evidence of Battery Barnes, and the relationship between the river and the defensive position remain clear and understandable. The link between Battery Barnes and associated works is no longer in evidence, however, as the Louisiana Circle parcel is a small protected remnant of a larger system that has been lost to commercial development.

285. Fullenkamp et al., 325.

286. Grabau, 42–43.

South Fort

South Fort was a **key terrain** feature within the Confederate system. Like Fort Hill to the north, South Fort guarded the river as the primary **avenue of approach** by the Union army. The fortification was later retrofitted to accommodate artillery that could aim along Warrenton Road and defended against land-based attacks from the south. South Fort was a substantial U-shaped earthwork with thick parapet walls that provided **cover** for the soldiers stationed therein and served as an **obstacle** to attackers. Rifle pits connected the eastern flank of the fortification with the western margin of Stout's Bayou across Warrenton Road.

South Fort was one of the river defense batteries, a series of heavily armed positions that faced river approaches, and were intended to protect against naval attack. The southern river batteries extended between a railroad depot and South Fort and were served by the 1st Louisiana Artillery under the command of Lt. Col. Daniel Beltzhoover.[287] The Widow Blakely gun currently exhibited at Louisiana Circle was originally emplaced at one of the southern river batteries a quarter mile southeast of the Marine Hospital.

> The engineers who designed the River Defenses would have preferred to terminate the array of anti-ship batteries with the Widow Blakely position, but the configuration of land defenses made it necessary to defend the bluff line for a distance of 1,800 yards to the south. The reason was the Maj. Samuel A. Lockett, the engineer who selected the alignment of the land defenses, had chosen a prominent ridge that circled the southeastern half of the city for his main defensive line, and that ridge terminated just across the deep ravine of Stout's Bayou at a point 1,800 yards south of the Widow Blakely position. The fortress engineers had little choice but to construct a strongpoint on the bluff at that point, 170 feet above the level of the floodplain, to provide a secure anchor for the land defenses. The result was South Fort, in which were emplaced three long-range guns: one 10-in. Columbiad, a 30-pounder Parrott rifle, and a 10-in mortar. No one had any illusions about the effectiveness of the South Fort guns in an anti-ship role, so South Fort was a part of the River Defenses only by courtesy.[288]

The 10-inch Columbiad and 10-inch mortar mounted at South Fort were powerful weapons that helped to anchor the southern end of the line. These guns were originally intended, however, to aim only on the river approach to the south and the design of the gun platforms and embrasures reflected this. After the siege began, the Confederates determined that protection from an infantry attack along the Warrenton Road was needed. By mid-June, they had modified the fortification to allow the guns to aim along the ridge south of the fort. Two additional 12-pounder howitzers were also added to the fort to guard Warrenton Road as an **avenue of approach**. The road itself followed a very narrow ridge edged by steeply-sloped ravines, potentially affording **cover**, to either side. The howitzers were served by Company A, Fourteenth Mississippi Light Artillery, while a detachment of Company G, First Louisiana Heavy Artillery manned the 10-inch Columbiad and mortar. Infantrymen of the Fortieth Georgia Infantry were also stationed in the fort throughout the siege.

South Fort experienced artillery fire during the latter part of June and early July 1863. Herron's Division of the Union army began to assault the position on June 14, 1863. Herron's men first established a gun emplacement, which they armed with two 10-pounder Parrott rifles. The guns were no match for the heavy artillery of the 10-inch mortar, however, and Herron was forced to abandon his attack until more substantial fire power could be secured or risk the loss of his company to the Confederate's superior weaponry. Over the course of the coming weeks, the Union army began to assemble additional guns south of South Fort along the ridge, bringing weaponry up the bluffs from the Union naval vessel *Benton* anchored at Warrenton landing along the river. Exchanges continued through the month of June as the Union position continued to test the various weaponry dragged up to the ridge.

287. Ibid., 41.

288. Ibid., 42–43.

Eventually, they established Battery Benton, from which they initiated a coordinated assault on South Fort in conjunction with artillery remaining on the ship below. To counter the enhanced power of the Union effort at Battery Benton, the Confederates were forced to return the 10-inch mortar, which had been moved to a position along Jackson Road, to South Fort. The two sides engaged in more heavy exchanges on June 30, 1863, when Union 42-pounder guns fired directly on the parapets of South Fort from relatively close range. The Union artillery began to breach the parapets of South Fort before the 10-inch mortar struck, killing two and wounding four. By early July, the Union had established several batteries of field artillery, and coordinated their assault with the navy and the artillery in Battery Benton. The assault proved highly successful and may likely have threatened the viability of the Confederate position of South Fort if not for the surrender the next day, July 4, 1863.

Today, the relationship between the river, the road corridor, and the defensive position are obscured by dense vegetation, the realignment of the former Warrenton Road corridor, and the degree to which the surrounding landscape has been altered through grading. The parapet and ditch system of the fortification retain a good degree of integrity, however.

Battery Benton

Union Battery Benton, one of the offensive field positions established by Grant's army during the siege of Vicksburg was completed at the end of June 1863. Construction of the battery culminated various efforts conducted by the Union army to probe the vulnerability of South Fort beginning in mid-June. On June 13, Union forces gained their first position on the Warrenton Ridge 900 yards directly to the south of the fort.[289] By late June, the battery was manned by a detachment of Battery E, First Missouri Light Artillery, and a detail of enlisted men of the Thirty-fourth Iowa Infantry, all under the command of Acting Master J. Frank Reed of the gunboat *Benton*.

The Union army then began the arduous task of bringing larger guns to the ridgeline from the gunboat *Benton* anchored below. The first guns to be brought 150 feet up the side of the bluff were 32-pounder smoothbore guns with tubes that weighed 7,200 pounds and naval gun carriages that weighed 1,000 pounds. These were firing by June 25, 1863 within a gun emplacement located to the south of South Fort. These guns proved too weak to challenge the Columbiad and mortar emplaced at South Fort, and the Union forces returned to the *Benton* for larger guns. They eventually secured two 42-pounder rifles from the *Benton*. Reed was sent along to supervise the use of these large guns. He also directed "the construction of a massive emplacement on a knoll 900 yards south of South Fort," which became known as Battery Benton.[290] On June 30, the Union troops began to use the 42 pounders against South Fort. Troops from the Thirty-seventh Illinois and Twenty-sixth Indiana Infantry were positioned in the nearby area to form a sharpshooter line. The primary **avenues of approach** probed by the Union army as part of this offensive were the Mississippi River and the Warrenton Road.

> This extreme southern sector of the lines was relatively inactive until Federal BG Francis Herron's Division arrived on the scene on 13 June. Herron took one look at the massive parapets of South Fort and realized that nothing could be done without artillery. All he had was field guns. Nevertheless, on the night of 14 June, his artillerymen threw up a gun emplacement and mounted two 10-pounder Parrott rifles, the biggest pieces he had available.
>
> At dawn the next morning, the Federal artillerymen opened fire, confident in the power of their weapons. The two shells screamed along the ridge and exploded deep inside the parapet of the Confederate earthwork. Almost like an echo, a gun replied from the fort with a deep toned bellow. When its shell exploded in front of the artillery emplacement, the roar shook the earth, and huge iron fragments went shrieking by on all sides. One came to rest in the Union emplacement and the shocked artillerymen

289. Ibid., 424.

290. Ibid., 425.

> realized it was from a 10 incher. The next round was closer and the next closer still. A hit from one of those shells could kill every man in a gun crew so the Union artillerymen limbered up and got out before the bolt fell.
>
> That night, the Union gunners strengthened their parapets and put the two Parrotts back into position. The next morning, at first light, the Confederate Columbiad fired one round. It made a direct hit on one of the Parrotts and sent it flying away, a complete ruin. The Confederates had made their point, don't try to fight heavy artillery with field guns. [291]
>
> From the very first shots, it was evident that the almost point blank fire soon would breach the parapets. That gave Herron license to start planning an infantry assault. Then there was a dull report from inside the walls of South Fort and a 10-inch mortar sailed overhead and burst just to the rear. The fourth round dropped squarely into Battery Benton, killing two men, wounding four, and silencing the guns. It took two days to get the Union guns back into operation, but when they were ready their fire was coordinated with that of the navy… The combined fire of Battery Benton and the gunboats in the river kept the Rebel mortar operators so off-balance that they no longer could hit Battery Benton. The walls of South Fort began to erode quickly under the combined fire. In vain, Herron matured his plans for an assault; the next day, 4 July 1863, the guns of both blue and grey fell silent in the pre-surrender truce.[292]

The Navy Circle unit of Vicksburg National Military Park protects the surviving evidence of Battery Benton. Today, the relationship between Battery Benton and South Fort to the north is obscured by changes to the road corridor, surrounding development, and vegetative growth. The role of the battery in the Civil War offensive line is not immediately apparent to the casual visitor. The pedestrian bridge anchored in the knoll and the surrounding casino buildings and parking areas, as well as the degree to which the Warrenton Ridge has been regraded, have diminished the integrity of the site.

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291. Ibid., 424.
292. Ibid., 425–426.

Inventory of Features

Observation and Fields of Fire.

- Loess bluffs
- Clearing of woodlands for artillery fields of fire
- Siting of fortifications, batteries, signal and lookout towers, and commander's headquarters
- Mount Ararat
- Fort Hill/Fort Hill Ridge
- Water Battery
- Twenty-seventh Louisiana Lunette
- Stockade Redan
- Green's Redan
- Third Louisiana Redan
- Great Redoubt
- Second Texas Lunette
- Railroad Redoubt
- Fort Garrott
- Salient Work
- South Fort
- Battery Selfridge
- Union batteries north of Mint Spring Bayou
- Indian Mound Ridge
- Union batteries facing Graveyard Road
- Knoll along Jackson Road
- Battery Powell
- Battery De Golyer
- Union batteries sited on the Second Texas Lunette and Railroad Redoubt
- Union batteries sited on Fort Garrott
- Coonskin Tower

Cover and Concealment.

- Bluffs and ridges (North Ridge)
- Knolls (Indian Ridge Mound, Knoll near Shirley House)
- Ravines including Mint Spring and Glass Bayous
- Earthwork parapets, head logs, ditch system
- Shebangs along the slope east of the Shirley House
- Small gullies and berms resulting from cultivation and erosion
- Incised road corridors and Graveyard Road cut
- Sap rollers and fascines
- Tunnel near Thayer's Approach
- Edwards House
- Caves excavated by city dwellers

Obstacles.

- Mississippi River oxbow
- Mines placed in the river
- Mint Spring and Glass Bayous
- Durden Creek
- Two-mile Creek
- Steeply sloped landform

- Tall parapet walls and deep ditches associated with fortifications
- Stockade fence/wall at Stockade Redan
- Abatis and cheveaux-de-frise interlaced with telegraph wire and felled timber
- Large pits with sharpened stakes covered with mats of dried grass
- Dense vegetation and debris
- Edwards House

Key Terrain.

- Mississippi River
- Water Battery
- City of Vicksburg
- Yazoo City Road
- Fort Hill
- Graveyard Road
- Twenty-seventh Louisiana Lunette, Stockade Redan, Green's Redan
- Glass Bayou ravine
- Jackson Road
- Third Louisiana Redan
- Great Redoubt
- Shirley House Ridge
- Baldwin Ferry Road
- Second Texas Lunette
- Southern Mississippi Railroad rail line
- Railroad Redoubt
- Fort Garrott
- Salient Work
- Halls Ferry Road
- Warrenton Road
- South Fort
- Battery Benton

Avenues of Approach.

- Mississippi River
- Yazoo City Road
- Graveyard Road
- Jackson Road
- Baldwin Ferry Road
- Halls Ferry Road
- Warrenton Road
- Southern Railroad of Mississippi rail line
- Mint Spring Bayou and Glass Bayou ravines
- Saps including Thayer's Approach, G. A. Smith's Approach, Logan's Approach, A. J. Smith's Approach, Carr's Approach, Osterhaus/Hovey's Approach, Slack's Approach, and Lauman's Approach
- Ransom's Gun Path

Mines in the river:
Obstacles

Mississippi River:
Avenue of Approach

Indian Mound:
Observation

Yazoo City Road:
Avenue of Approach

Fort Hill:
Observation
Obstacles

Water Battery

Battery Selfridge:
Observation
Cover

Edwards House:
Cover

Mint Spring Bayou:
Obstacles
Cover

Riddle House

Fort Hill Ridge:
Observation
Obstacles

Confederate rifle pits:
Observation
Obstacles
Cover

Glass Bayou (Ravine):

Jackson Road

Stouts Bayou

City of Vicksburg

Second Texas Lunette
Observation
Obstacles
Cover

Railroad Redoubt
Observation
Obstacles
Cover

Confederate rifle pits:
Observation
Obstacles
Cover

Thayer's Approach

26th La. Redan
27th La. Lunette:
Observation
Obstacles
Cover

Stockade Redan:
Observation
Obstacles
Cover

Graveyard Road

Green's Redan:
Observation
Obstacles
Cover

Confederate rifle pits:
Observation
Obstacles
Cover

Coonskin Tower:
Observation

Third Louisiana Redan
Great Redoubt:
Observation
Obstacles
Cover

Confederate rifle pits:
Observation
Obstacles
Cover

Slack's Approach
Sap rollers:
Cover

Fort Garrott
Observation
Obstacles
Cover

Hovey's Approach
Sap rollers:
Cover

Confederate rifle pits:
Observation
Obstacles
Cover

Baldwin Ferry Road:
Avenue of Approach

Carr's Approach
Sap rollers:
Cover

Southern Railroad of Mississippi rail line:

Union artillery positions:
Observation
Cover

Earthworks and fortifications extended to south to river.

North Ridge
Cover

Ravine:
Cover

Lightburn's Approach

Graveyard Road ridge:

Graveyard Road ridge:

Buckland and
Ewing Approach
G.A. Smith Approach
Sap rollers:
Cover

Union artillery positions:
Observation
Cover

Cover

Ransom's Gunpath

Shirley House

Shebangs
Cover

Mt. Ararat
Observation
Jackson Road Ridge

Logan's Approach
Sap rollers:
Cover

Battery De Golyer
Observation

Durden Creek:
Cover
Obstacles

Union artillery positions:
Observation
Cover

A.J. Smith Approach
Sap rollers:
Cover

Union artillery positions:
Observation
Cover

Legend

- Current Park Boundary
- Roads
- Railroad
- Stream Corridor
- Confederate Earthworks
- Union Earthworks
- Buildings
- City blocks
- Vegetation
- Abatis
- 20' Topographic Contours

OCOKA:

Observation/Fields of Fire*

Cover and Concealment

Obstacles

Key Terrain ★

Avenues of Approach →

**Note: Fields of fire continuous forward of Confederate defense line.*

Sources: Autocad Base Map
War Department Park Commission Maps
NPS "Historic Map Showing Conditions at the End of Seige" 1938
Approaches to Vicksburg, Miss. & Rebel defences / traced by James H. Logan, Oct. 14, 1863

Notes:

Darker modeling represents areas of low and steep topography.

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Cultural Landscape Report
Vicksburg National Military Park

OCOKA Diagram
Figure 273

Treatment Plan

Introduction

This treatment plan has been prepared to provide the National Park Service (NPS) with an overall vision for the cultural landscape of Vicksburg National Military Park. The plan is intended to guide and support long-term management and interpretation of the site and its resources. Comprised of treatment recommendations, guidelines, and implementation projects, the plan addresses management of four units of the Vicksburg National Military Park landscape: the main battlefield unit, Louisiana Circle, South Fort, and Navy Circle.

The treatment plan carefully considers the needs and goals for site management as identified in various meetings conducted on behalf of this project by NPS personnel and the Cultural Landscape Report (CLR) consultant team. Integral to the planning process was concurrent preparation of an Environmental Assessment (EA) by a team that included NPS Denver Service Center, Washington Administrative Service Organization (WASO), Southeast Regional Office, and park personnel, as well as consultants from Mactec Engineering and Consulting of Atlanta, Georgia. Another key factor in the development of the treatment plan was the information collected during a series of public meetings held at the park on behalf of the project.

At the time the CLR was completed, several key planning documents that typically establish a framework for treatment, such as a General Management Plan and a Long-Range Interpretive Plan, were outdated. Future development of these studies will need to be coordinated with the information included in this CLR.

Chapter Organization

This treatment plan chapter is divided into six sections as follows:

1. Park Management Goals, Issues, and Concerns. This section describes the issues raised by the park for consideration within the CLR treatment plan.

2. Treatment Alternatives Developed through the CLR/EA Planning Process. This section outlines the six treatment alternatives explored by the CLR and EA and presented to the public for review and consideration. This section also describes NPS and public responses to the alternatives.

3. The Preferred Alternative. This section identifies the preferred alternative and the process conducted to select the alternative.

4. Treatment Plan. This section presents the overarching concept for treatment associated with the preferred alternative as well as the individual recommended actions that are needed to effect the treatment concept, while addressing the park's management goals, issues, and concerns. The recommendations are organized by landscape characteristic.

5. General Management and Design Guidelines for Treatment. This section provides general treatment guidelines on how to approach resource management within the Vicksburg National Military Park landscape.

6. Implementation Projects. This section identifies and describes the various projects that will contribute to implementation of the CLR treatment plan.

Park Management Goals, Issues, and Concerns

During the CLR kick-off meeting held on January 30, 2007, at the park, NPS park and regional personnel provided the CLR consultant team with a list of management issues to be addressed in the treatment plan as follows:

- What is the appropriate landcover for the park given all of the natural and cultural resource issues under consideration by the CLR? Where should the land remain forested versus under open vegetative cover or cleared of trees, considering the imperative to interpret the battle, sustain maintenance requirements, and the risks of exposing relics and diminishing wildlife habitat?

- What is the appropriate approach to land management concerns such as the erosion of fragile loess soils and the accumulation of fuel associated with the regrowth of forest cover?

- How can the challenges related to mowing steep and highly erodible loess slopes be mitigated?

- How should the park proceed with managing invasive species, particularly privet and kudzu?

- What additional measures should the park undertake concerning wetlands protection and management?

- How should the park address issues of historic integrity and misinterpretation? For example, the orientation of the original automobile tour road was reversed in the 1960s and made into a one-way loop road, and the circa 1937 Old Administration Building near the Surrender Site is often mistaken for a Civil War-era building.

- Should missing park elements be replaced, such as the observation towers removed in the 1960s that were once a significant component of the commemorative-era landscape, or the more than 140 cast iron tablets removed during World War II?

- How should the park address management of noncontiguous park parcels as well as non-NPS ownership of parcels within or closely abutting the park boundaries?

- How can visual screening of obtrusive elements located on neighboring properties or within the viewshed of the park be achieved?

As part of the preparation of the EA component of the project, the park identified a purpose, need, objectives, and concerns statement, which provided additional guidance in the development of the CLR treatment plan. The park's statement includes the following:

> **Purpose:** The purpose of this plan is to guide landscape treatment and maintenance so that the park meets its mandate to "commemorate the campaign, siege and defense of Vicksburg, and to preserve the history of the battles and operations of the siege and defense on the ground where they were fought and were carried on . . . ." The park's authorizing legislation further includes specific actions to meet the overall purpose: "to restore the forts and the lines of fortification, the parallels and approaches of the two armies, or so much thereof as may be necessary to the purposes of the park." This plan seeks to provide a clear direction to manage the landscape in ways that commemorate the campaign, siege and defense of Vicksburg, as required by Congress, by preserving resources and enhancing visitor understanding and appreciation of the events that occurred here while providing a variety of experiences and complying with other laws and regulations.
>
> **Need:** The park needs to analyze the landscape comprehensively and determine if and what changes are needed to enhance preservation of the landscape's historic character and integrity and improve visitor understanding and experience.
>
> **Objectives**
> 1. To facilitate understanding and interpretation of the park story including:
> a. Campaign (primary)
> i. Topography/features/struggles/achievements
> ii. Confederate use of landscape/defensive plan

iii. Union use of landscape/offensive plan
iv. Proximity of river/city/fortifications
b. Context (secondary)
c. Establishment/Commemoration (secondary)
i. Helps understand why and where monuments are located
d. Civilian Conservation Corps (secondary)

2. To experience history up close:
a. Enhance the visitors' immersion in the resource
i. Encourage visitors to leave their cars to experience the park firsthand
ii. Provide interpretative experiences faithful to the park's purpose
iii. Make the park's story relevant to visitors' lives today
b. Enhance outreach and educational opportunities

3. To protect physical features and resources from degradation due to:
a. Vandalism
b. Wear and tear
c. Relic hunting
d. Erosion

4. To provide opportunities for a variety of visitor experiences while maintaining the historic character and integrity of the landscape and managing visitor use conflicts including:
a. Habitat
b. Wildlife
c. Trails/paths
d. Water resources

5. To develop sustainable ways of maintaining the landscape including:
a. Methods
b. Costs

Concerns

1. Additional measures are needed to enhance interpretation of Union and Confederate military objectives during the siege of Vicksburg to comply with the park's enabling legislation.
2. Visitors appreciate the natural landscape. However, visual interpretation and understanding of the military objectives are difficult because the current landscape now obscures lines of sight to battlefield features.
3. Visitors generally do not experience park resources up close.
4. Landscape changes would affect:
a. Wildlife habitat
b. Park aesthetics
c. Soil erosion
d. Wetlands
e. Surface water quality and temperature, and streamflow characteristics
f. Maintenance requirements
g. Visitor experience
h. Prehistoric and historic archeological resources
i. The only public forested area within urban Vicksburg
j. Viewscapes
5. Physical features and resources of the park are vandalized.
6. Soil erosion threatens military earthworks, archeological resources, and monument and landscape stability.
7. Some visitor uses are not consistent with the park mission, while others are consistent only when made secondary to the primary park mission of interpreting the battle and siege of Vicksburg.
8. Some resources and features are not accessible to visitors or maintenance crews.[293]

293. Vicksburg National Military Park, "Statement of Purpose, Need, Objectives, and Concerns," in Mactec, *Vicksburg National Military Park Environmental Assessment for Landscape Rehabilitation,* draft (Atlanta, Georgia: National Park Service, 2009).

Treatment Alternatives Developed through the CLR/EA Planning Process

Six conceptual treatment alternatives for the Vicksburg National Military Park cultural landscape were developed during a CLR/EA Workshop, held at the park on November 13–14, 2007. The conceptual alternatives were later refined and revised based on review comments received from NPS and EA project team members. A summary of the alternatives and a preliminary determination by the workshop participants of their viability is provided below. More detailed explorations of the alternatives follow.

- **Alternative A.** Maintain existing conditions and management direction (No Action). Preliminary workshop determination: Continue to consider this alternative.

- **Alternative B.** Preservation through best management practices. Interpretation is considered to be a primary means of commemoration. Preliminary workshop determination: Preservation meets resource protection needs, and visitor needs with the interpretation component. Continue to consider this alternative.

- **Alternative C.** Rehabilitate/maintain key areas of military engagement. Preliminary workshop determination: this alternative meets resource protection needs in most areas, and visitor needs with the interpretation component. Continue to consider this alternative.

- **Alternative D.** Rehabilitate/maintain the broad spectrum of military engagements. Preliminary workshop determination: this alterative meets some resource protection needs although mitigation would be required to address the concerns and problems identified in the workshop. Meets visitor needs with the interpretation component. Continue to consider this alternative.

- **Alternative E.** Restore the park landscape to its character during the Civil War siege. Preliminary workshop determination: This alternative is problematic for various reasons. First, insufficient documentation exists to restore the landscape to 1863 conditions. Second, implementation of the alternative would have severe resource implications, including potential removal of monuments, and reconstruction of missing features, such as earthworks and abatis, that would be difficult to accomplish and maintain. The significant amount of tree clearing required under this alternative may cause erosion. This alternative should not be considered further.

- **Alternative F.** Restore the park landscape to its character during the early park development period. Preliminary workshop determination: This alternative is problematic for various reasons. First, insufficient documentation exists to restore the landscape to 1917 conditions. Second, it would have severe resource implications, including the potential need to remove major monumentation components erected after 1917. Significant tree clearing would be required under this alternative and would likely lead to severe erosion. The degree of mitigation that would be necessary and the loss of many original park features suggest many potential avenues for misunderstanding by the public. This alternative should not be considered further.

Each of the treatment alternatives is associated with an overarching preservation approach, as well as a concept intended to address the park's identified purpose and need in preparing the CLR.

The alternatives comply with the *Secretary of the Interior's Standards for Historic Properties* in their overarching approaches to resource management and conservation. The Secretary of the Interior currently recognizes four appropriate treatment approaches for historic landscapes: preservation, rehabilitation, restoration, and reconstruction. "Collectively, the four treatments form the philosophical basis for responsible preservation practice and enable long-term preservation of a

landscape's historic features, qualities, and materials."[294]

The four treatment approaches are defined as follows:

- **Preservation**: the act or process of applying measures necessary to sustain the existing form, integrity, and material of a historic property. Preservation includes stabilization work, where necessary, as well as ongoing preservation maintenance and repair of historic materials and features.

- **Rehabilitation**: the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

- **Restoration**: the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by removing features from other periods in its history and reconstructing missing features from the restoration period.

- **Reconstruction**: the act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location.

Issues Common to All Alternatives

All of the treatment alternatives considered for the Vicksburg National Military Park cultural landscape will have an impact on site resources and conditions as well as implications for maintenance, resource protection, and interpretation. While all of the alternatives are designed to help the park and the NPS best meet its mission and goals, as well as the Purpose, Need, Objectives, and Concerns statement prepared to guide this CLR, for protecting the historic Vicksburg National Military Park landscape and accomplishing its legislative mandate, each alternative involves changes to the landscape that will affect the site, the visitor, and park operations to varying degrees. Seven issues of concern are common to all of the alternatives: soil erosion control, tree clearing, turfgrass landcover, adaptive land management, best management practices, enhancing interpretation, and mitigating the potential for relic hunting. The degrees to which the alternatives successfully address these issues vary, as does the need for mitigation of potential impacts to cultural and natural resources.

The issues common to all alternatives are identified and described below; the effect that each alternative will have on the site as it relates to each issue is specified to the degree possible as part of the more detailed descriptions of each alternative that follows.

Soil Erosion Control. The loess soils that underlay the park are vulnerable to severe erosion. Erosion control has been a management challenge at the park since its inception. Areas of the park that had been cultivated and used for pasture began to erode intensively in the 1930s. The Civilian Conservation Corps conducted ambitious corrective work, regrading, stabilizing, and terracing slopes, establishing gutter and other conveyance systems, and planting forests, particularly where subsidence threatened the underlying support of significant monuments. Today, erosion continues to plague the park's maintenance staff. Wherever stormwater has the potential to run across exposed soil there is a threat of erosion. Terracing and the use of gutters continue to play an important role in erosion control within some steeply sloped areas. The park has found that maintaining a healthy stand of turfgrass, primarily Bermuda grass, is the best defense against soil erosion. However, the maintenance regime that promotes Bermuda grass requires regular mowing to keep weeds and woody growth in check. Mowing of steep slopes and ravines is not always feasible given existing budgets, staff, and the risk posed to maintenance

294. Robert R. Page, Cathy A. Gilbert, and Susan A. Dolan, *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* (Washington: National Park Service, 1998), 82.

staff in the steepest areas. In these areas, forest has been allowed to grow up. Tree roots, however, may not necessarily be the most successful at retaining the soil, and forest cover can obscure areas of erosion. The park is vigilant in correcting all evidence of erosion as soon as it is spotted. However, within forested areas erosion has the potential to go undetected. It is hoped that new materials, including plant species, may be identified in the future that will simplify the job of controlling erosion at the park. One of the most challenging issues will be controlling erosion during any landcover conversion process as the soils will be most vulnerable after one landcover has been removed and the replacement groundcover is becoming established.

Tree Clearing. The treatment alternatives presented below consider various degrees of land area to be cleared and other means for managing woodland to enhance interpretation of Civil War events.

One of the concerns that has been raised repeatedly by park staff as well as visitors and participants in recent public meetings is that woodland as it currently exists throughout much of the park obscures visual and physical relationships that were apparent during the siege and are crucial to visitor understanding of the Civil War events and associations. Two of the treatment alternatives developed for the CLR/EA include tree clearing as a site rehabilitation effort that is intended to support interpretation of the Civil War events.

One of the main issues related to tree clearing, however, is that it may lead to increased soil erosion and require additional maintenance efforts and costs. The loess soils that are associated with the park are fragile and highly susceptible to erosion. Having comprehensive vegetative cover with a good root system is crucial to preventing erosion. Soil loss can degrade archeological resources, including the remnant earthworks associated with the siege of Vicksburg. Tree clearing, particularly on sloped areas, must be followed by immediate establishment of an alternative landcover that can be maintained by the park. Regardless of soil holding capabilities, any landcover so established will is likely to have a character that is not consistent with that present at the time of the siege. Additionally, bird habitat would be lost.

There are various issues requiring additional consideration when clearing trees. For example, after cutting trunks, consideration should be paid to whether logs are to be removed, left in place to decompose, or retained to resemble Civil War obstacles such as abatis as an interpretive aid. Logs used as abatis would need to be replaced periodically as they will decompose. Soon after clearing, vegetation will begin to grow up and cover the logs, rendering interpretation challenging. The downed timber would be a fire hazard. Downed timber would also present a challenge for mechanical maintenance of ground cover. If handled properly, downed timber could be used as a stormwater control mechanism to slow and redirect water flow along the same lines of some of the park's engineered systems; without proper treatment, logs could divert run-off, possibly into channels that would cause erosion. On slopes and in bottomlands, removal of cut timber may be difficult and will have to be done carefully to avoid causing erosion.

Tree clearing would need to be undertaken using best management practices for logging. Contractors selected to conduct tree clearing work would need to follow very specific specifications to avoid damaging the land and contributing to erosion problems. Additionally, any stump removal would require on-site archeological monitoring for exposure of artifacts.

After the trees are removed, if grass is not planted and maintained, other plants that are difficult to maintain, such as saplings, woody weeds, and invasive species, will quickly colonize the site, rendering turfgrass establishment more difficult. Tree clearing will constitute a loss of wildlife and plant habitat for some existing species, and may have a negative impact on water quality due to an increase in particulate matter reaching water resources, and higher water temperatures due to the removal of the tree canopy.

Turfgrass Landcover. The park currently uses turfgrass as the primary vegetative cover within areas of visitor interest and use, where telling the story of Civil War events is most critical and possible. Turfgrass is maintained through periodic mowing. Areas of the park are mowed with more or less frequency depending on a variety of factors. For instance, areas that are of interest to visitors because they are close to the road or contain an interesting or important resource are mowed most often. The alternatives presented below generally assume that areas where tree clearing occurs will be converted to turfgrass cover, primarily Bermuda grass. Bermuda grass is the species preferred by the park for turfgrass because its root system is highly successful in holding the local loess soils. It is not currently known whether there are other species that could be used successfully within the park that would require less frequent mowing.

Mowing on steep slopes and in ravines is very challenging, and in some cases, dangerous for park maintenance staff. While alternatives to regular periodic mowing exist, each is fraught with its own challenges. Prescribed burning is one of these alternatives. Challenges to using prescribed fire include the humid conditions of the region that render the available fuel too wet to burn, the difficulty of scheduling a burn unit to coincide with appropriate conditions, and the potential for timing the burns too late in the season. Less frequent mowing can lead to rapid and excessive growth of weeds that will choke and shade out the desirable grass species that retain the soil.

Adaptive Land Management. All of the treatment alternatives presented herein involve changes in landcover that have the potential to lead to soil erosion, wildlife habitat alterations, and impacts on water resources. Given the cost of maintaining open space within the park both in staff time, equipment, and petroleum, diminishing the need for labor-intensive vegetation management is likely to become increasingly desirable. The park may choose to experiment with alternative landcover types and management strategies, particularly if implementing a treatment alternative that calls for the conversion of large areas of forest to turfgrass. It will be prudent for the park to adopt a conservative approach to implementation that includes phasing the efforts, and taking on small areas of clearing at a time. With each phase, the park should monitor the results and adapt or adjust the implementation strategy to correct any problems identified during earlier phases. A protocol for monitoring the efficacy of any treatment alternative implemented would need to be developed.

Best Management Practices. Best management practices (BMPs) are defined as effective, practical, or feasible (including technological, economic, and institutional considerations) conservation practices and land- and water-management measures that avoid or minimize adverse impacts to natural and cultural resources.[295] BMPs are often used to control soil loss and reduce water quality degradation caused by nutrients, animal wastes, toxics, and sediment moving from the land to surface or ground water, or to otherwise protect water quality. They can be innovative and dynamic, and provide improved environmental protection practices for landscape management procedures of many types. They may target a variety of endeavors, for instance forestry or silviculture and tree clearing, landscape installation, landscape maintenance, riparian buffer preservation, or turf management. For example, the state of Mississippi maintains best management practices for forestry as it relates to water quality protection.[296] BMPs should be reasonable, achievable, and cost effective to adopt and use.

At Vicksburg, most of the alternatives suggest that the park establish and utilize BMPs to address desired landscape change and management within the park, particularly the clearing of existing woodland areas, and the establishment of turfgrass cover. BMPs may also need to be developed for invasive alien plant control methods, riparian

295. "Twelfth Biennial Report on Great Lakes Water Quality" <www.ijc.org/php/publications/html/12br/english/report/glossary.html>, accessed August 29, 2008.
296. <www.mfc.state.ms.us/water_quality.htm>, accessed August 29, 2008.

buffer preservation, and specific types of landscape maintenance that regularly occur at the park. Consideration of innovative and dynamic BMPs is recommended.

Enhancing Interpretation. All of the treatment alternatives presented herein assume an interest on the part of the park in enhancing the interpretive program at Vicksburg National Military Park and suggest a range of means for doing so that are tied to landscape management recommendations. Improved interpretation will benefit the public in many ways, including engendering an appreciation for the site and its history and a sense of stewardship of its resources. It will also help the park to meet its stated mission and purpose. Improving interpretation at the park could take many forms. As noted above, rendering the site more visually accessible through tree clearing is one of the methods under consideration. Other options for enhancing interpretive opportunities range from developing exhibits, to increasing the role of living history, utilizing technology to aid in visualizing scenes obscured by post-Civil War changes to the landscape, and providing a tour bus with personal interpretation. Some alternatives suggest that the park implement a combination of strategies. Different combinations of the strategies presented below could be implemented depending on the park's available budget or other criteria.

Mitigating the Potential for Relic Hunting. Relic hunting is an illegal activity that can damage or destroy important historic resources. Relic hunters typically attempt to enter a protected site unnoticed and explore its potential to yield artifacts by excavating areas where combat likely occurred. Review of historical accounts and maps and metal detection suggest sites with potential for finding relics. Additional tree clearing in areas advertised as sites of important or key military engagement may invite relic hunting or unlawful excavation and exploration within the park. Sites that are near park boundaries or adjacent to roads or access points, in addition to opportunities for concealment, may be targeted by relic hunters. Tree clearing may discourage relic hunting in some areas by eliminating opportunities for concealment.

Currently, the treatment alternatives raise the issue of relic hunting as a law enforcement consideration, but do not specifically suggest physical landscape implications for mitigating the problem. The park has instituted features, such as vehicular entrance obstructions and detection devices, as means for diminishing the potential for relic hunting, and plans to implement formal park-watch programs, outside agency (city/county law enforcement) cooperative surveillance efforts, and barrier construction over time in susceptible areas.

The Treatment Alternatives Considered

The pages that follow include narrative and graphic depictions of the six treatment alternatives considered for the Vicksburg National Military Park cultural landscape as part of the CLR/EA process. The first alternative reflects current park management practices and consists of concrete actions conducted at regular, identified intervals. The other alternatives are conceptual ideas for future treatment of the historic Vicksburg landscape.



FIGURE 274. One of the kudzu management areas within Vicksburg National Military Park.

Alternative A. Maintain existing conditions and management direction (No Action)

As part of this alternative, the park would maintain its present landscape patterns and features and the management and maintenance practices that sustain them. The existing visitor center would continue to serve as the primary means for visitor contact and orientation (Fig. 101). The sixteen-mile tour road would remain the primary vehicular access route for experiencing the park's resources, and it would retain its current configuration and circulation pattern (Fig. 81 through Fig. 89). Visitors would continue to explore the park outside of their vehicles at established points of interest such as the Shirley House and Illinois State Memorial (Fig. 110). No further clearing would be undertaken and current mowing and vegetation management regimens would be continued, including specific protocols for the treatment of areas infested with invasive plants such as kudzu (Fig. 274) and repressing succession with prescribed fire (Fig. 275). Important views that are already maintained as significant interpretive sites, such as Thayer's Approach (Fig. 276) would continue to be managed for clear sight lines. Treatment would also focus on stabilization and maintenance of the current landscape and preservation of the park's Civil War and commemorative features as they exist today, including earthworks (Fig. 277), associated cannon (Fig. 278), and monuments (Fig. 279).



FIGURE 275. Prescribed fire used to repress woodland succession.



FIGURE 276. Thayer's Approach, maintained as a "backfield" area.



FIGURE 277. Earthworks in a "maintained" area.



FIGURE 278. Cannon placed on historic earthworks as interpretive aids.



FIGURE 279. The Missouri State Memorial is an example of a "maintained" area edged by a "backfield" area.

Because this alternative is comprised of existing management practices, detailed information about the periodic efforts conducted to maintain the park are described below within each landscape management area (Fig. 280):

"Unmaintained" landscape areas. Areas of the landscape that are not mowed.

- Oversee right-of-way maintenance and activity
- Monitor wildlife, habitat, erosion, vital signs, and invasive species

"Maintained" landscape areas. Areas of the landscape that are mowed at varying intervals.

Activities conducted throughout the area:

- Monitor and inspect for hazardous trees and erosion
- Correct erosion as needed
- Remove hazardous trees as needed
- Monitor wildlife, habitat, erosion, vital signs, invasive species
- Monitor, mark, and maintain a cleared zone and fire break, approximately ten feet wide, along the boundary
- Clean and maintain features (monuments, cannon and carriages, markers, tablets, statues, busts, reliefs)
- Patrol and monitor for vandalism prevention and law enforcement

Activities conducted at "points of interest" (places where visitors are invited to leave their vehicles, such as the Shirley House and tour road stops):

- Remove trash daily
- Mow bi-weekly, except for the Shirley House, Visitor Center, Cairo museum, and fee collection and information kiosks, which are mowed weekly

- Trim around features bi-weekly
- Treat fire-ant mounds weekly
- Update kiosk information quarterly
- Trim overgrowth annually
- Limb up trees where they interfere with important views annually
- Maintain/replace signs annually
- Maintain waysides and interpretive panels annually

Activities conducted in association with the sixteen-mile tour road and other roads, parking areas, and bridges:

- Remove trash daily
- Blow off debris two times per week
- Patch potholes two times per year
- Grade gravel surfaces monthly
- Maintain gates monthly
- Repair curbing annually
- Remove vegetation from bridges annually
- Maintain/replace signs annually
- Seal cracks every five years
- Stripe every five years
- Seal bridges every five years
- Maintain fee collection and information kiosks every five years
- Correct erosion as needed

Activities conducted within the "general landscape" (areas that are visible from the tour road and points of interest, and the administrative/maintenance/collections storage area):

- Remove trash daily
- Trim around features bi-weekly
- Mow every three weeks
- Treat vegetation behind the Cairo Restoration Shop to keep the drain open two times per year
- Trim overgrowth annually
- Limb up trees to provide visual access and to allow equipment and visitor access annually

Activities conducted in "backfields areas" (opening up vegetation and maintaining vegetative cover for important views):

- Bush hog/mow as possible three times per year
- Trim overgrowth to permit access for maintenance every three to five years
- Cut and treat woody vegetation in ravines and steep slope conditions every five years; leave the timber in place

Areas with unique management considerations:

- Kudzu management areas. Treat kudzu two times per year; otherwise treat as unmaintained landscape area
- Railroad Redoubt riparian buffer (twenty-five feet on each side of the stream, fifty feet total). Maintain vegetation height to less than twenty feet; otherwise treat as backfields area
- Trail (twelve miles unpaved). Initiate volunteer projects to clear trails annually; otherwise treat as unmaintained landscape
- Burn units (six units totaling sixty acres).
    - Burn every two years

- Cut big wood (8 inch diameter and smaller) two months prior to scheduled burn

Implications of the Alternative. Relationship of the alternative to the issues common to all:

- Under this alternative, no additional tree clearing will be undertaken at the park.

- Turf grass will continue to be the preferred landcover type along visitor road corridors and associated with earthworks and monuments that fall within the maintained areas of the park. There will continue to be some monuments and tablets that are located outside of maintained areas that may not be visually accessible because of tree cover and steep slopes.

- Existing interpretive programs will continue.

- The park may not be able to address the concerns raised in the Purpose, Need, Objectives, and Concerns statement prepared to guide the CLR/EA project and presented above, including:

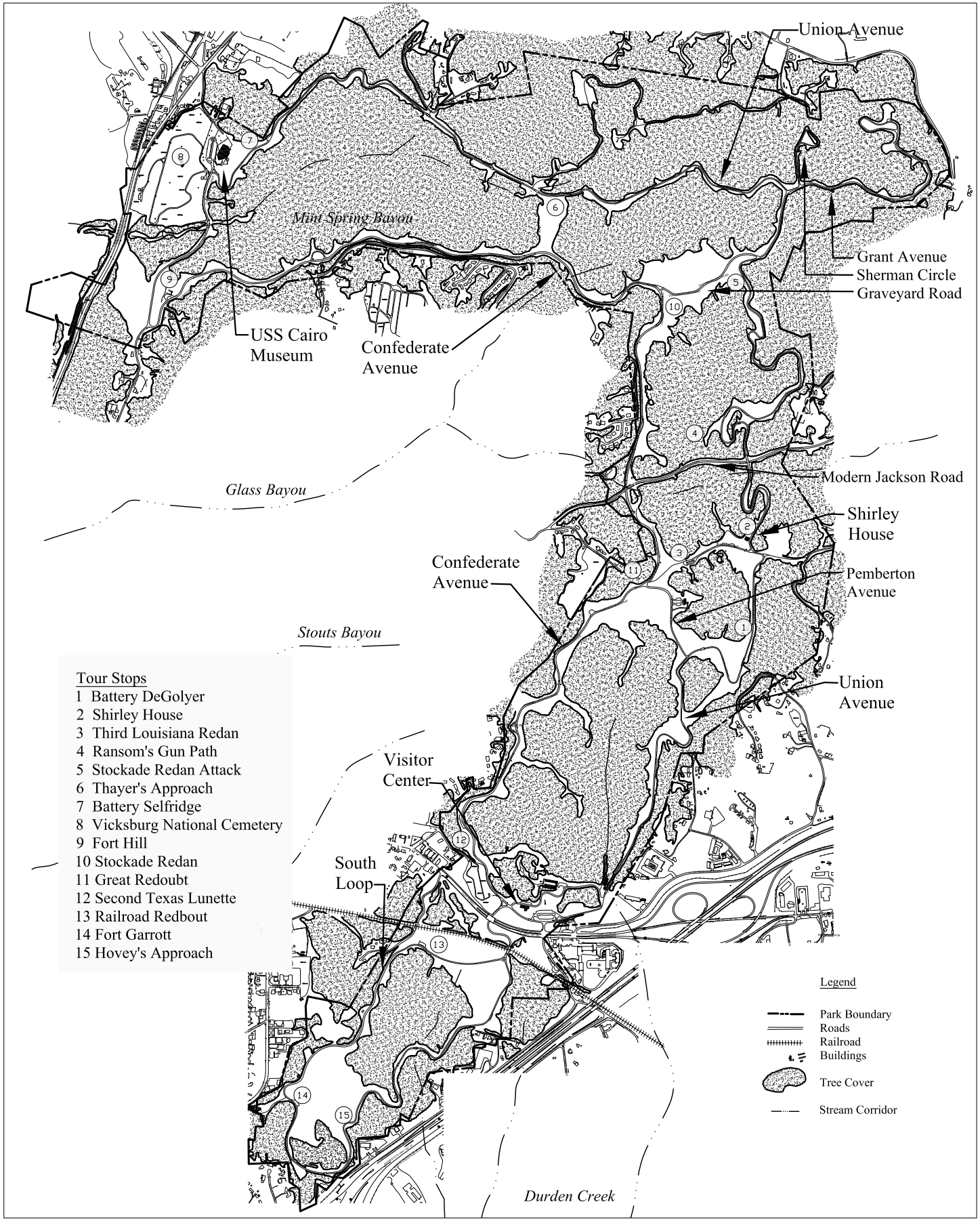
  - Additional measures are needed to enhance interpretation of Union and Confederate military objectives during the siege of Vicksburg to comply with the park's enabling legislation.

  - Visitors appreciate the natural landscape. However, visual interpretation and understanding of the military objectives are difficult because the current landscape now obscures lines of sight to battlefield features.

  - Visitors generally do not experience park resources up close.

  - Soil erosion threatens military earthworks, archeological resources, and monument and landscape stability.

  - Some resources and features are not accessible to visitors or maintenance crews.



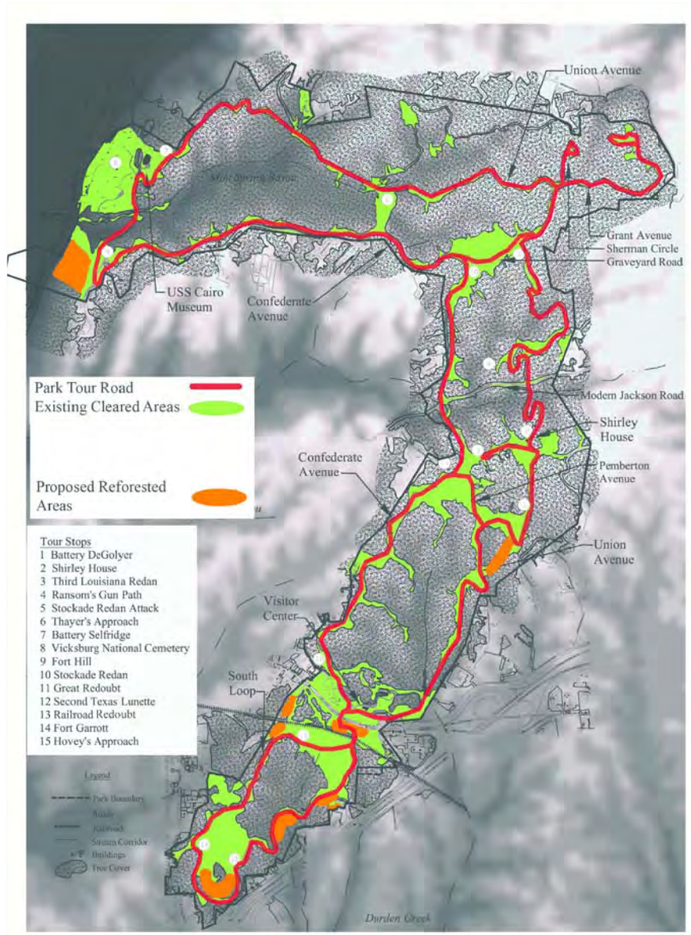
Source: Autocad Base Map, USGS Topographic Data

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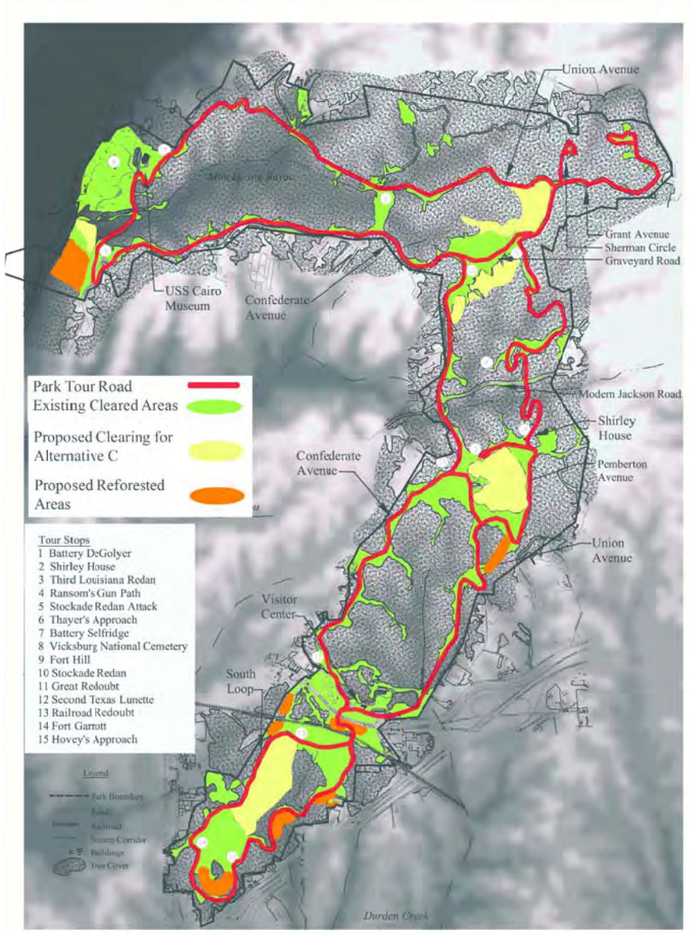
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Cultural Landscape Report
Vicksburg National Military Park

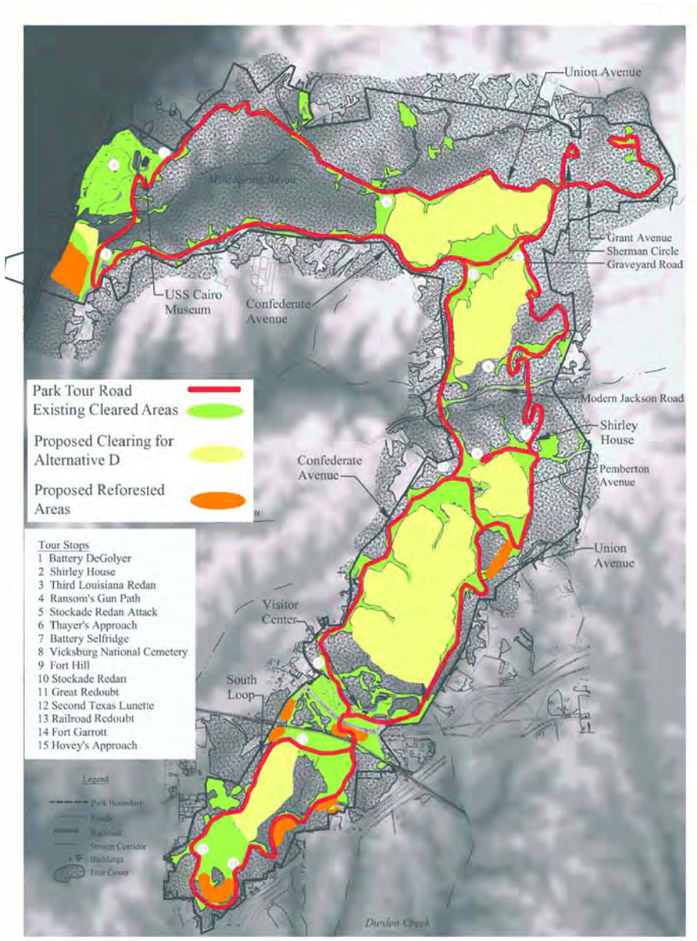
Treatment Alternative A
Existing Conditions
Figure 280



Treatment Alternative B
Preservation through Best Management Practices (BMPs)



Treatment Alternative C
Rehabilitate/Maintain Key Areas of Military Engagement



Treatment Alternative D
Rehabilitate/Maintain the Broad Spectrum of Military Engagements

Comparison View
of Treatment Alternatives B, C and D

Figure 281

Cultural Landscape Report
Vicksburg National Military Park

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Alternative B. Preservation through Best Management Practices (BMPs)[297]

This alternative (Fig. 281) involves identifying management practices for the landscape that best support preservation of vestiges of the Civil War siege as they exist today. The Best Management Practices (BMPs) support soil conservation throughout the park, but particular emphasis would be placed on retaining surviving above-ground evidence of the earthworks constructed by the opposing armies, and any surviving below-ground archeological evidence of the siege. BMPs would consider the role of vegetative cover in conserving soil, and the ecological implications of maintaining healthy plant communities, including the associated need for water resource protection, and diversity of good quality wildlife habitat (Fig. 282).

Erosion control has been a management challenge at the park since its inception due to the fragility of the underlying loess soils. Disturbed areas begin to erode immediately unless stabilized under protective cover such as vegetation with a fibrous root system. Severe erosion due to early twentieth-century agriculture was corrected in the 1930s by the Civilian Conservation Corps through extensive regrading, filling, and slope stabilization, including tree planting and sodding (Fig. 28 through Fig. 32). This alternative advocates a proactive approach to soil erosion control, and continued vigilance in taking corrective measures where necessary to ensure that erosion does not jeopardize existing landforms.



FIGURE 282. Example of erosion within the park.

As part of this alternative, the park would investigate the range of landcover types available that best protect the loess soil from erosion. Using the best scientific and empirical information available, the park would convert existing plant communities that do not provide adequate protection from erosion over time to new landcover that better mitigates the potential for erosion. New landcover would be comprised of plant communities tailored to site-specific conditions, including soil moisture and slope and solar orientation. Land cover might include a combination of continued use of turf grasses (Fig. 283) and new warm-season grass and forb fields (Fig. 284), savanna (a combination of grasses and widely spaced hardwood trees) (Fig. 285), wet meadows, or mesophytic forest. The principle characteristic of this alternative is that management of the landscape will follow the most effective and practical erosion control methods available, based on available scientific and empirical knowledge and finances, in an effort to preserve Civil War-era resources. One initial focus would be on removing invasive plant species, such as kudzu and privet, that crowd out native species with better soil-holding ability. The use of BMPs to protect the park's cultural resources could be explored as an interpretive theme within the Visitor Center and in park interpretive programs.

297. For the purposes of this project, the term *preservation* is based on the definition conveyed in *The Secretary of the Interior's Standards for the Treatment of Historic Properties* with *Guidelines for the Treatment of Cultural Landscapes*, as follows: "Preservation is the act or process of applying measures necessary to sustain the existing form, integrity, and materials of a historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project."



FIGURE 283. Turf grasses as a land cover.



FIGURE 284. Warm-season grasses used as land cover on historic earthworks; this example is from another park.



FIGURE 285. An example of the character of a savanna community; this example is from another park.

Due to the fact that the resulting landcover might alter visual and/or physical accessibility of the landscape resources used to interpret the park to the public, future interpretation of the Civil War landscape might feature advanced technology and media to illustrate conditions of the Civil War landscape that cannot be otherwise explained on the ground. New digital technologies are beginning to provide unprecedented opportunities for visual and auditory interpretive material. The potential exists to interpret and visualize the battle on-site in such a way that the visitor would be able to mediate any differences between the landscape of today and that present at the time of the siege. Such tools could facilitate interpretation without having to faithfully recreate or represent historic conditions. A variety of interpretive means ranging from static exhibits, models, and waysides, to dynamic and interactive displays on indoor and outdoor digital screens, or audiovisual presentations downloadable and transportable on hand-held devices, such as personal cell phones or GPS Rangers could be used to bridge the gap (Fig. 286). Exhibits and other interpretive aides could feature representations of missing Civil War resources such as wooden platforms, headwalls, log and stone cribs, internal circulation, magazines



FIGURE 286. A GPS Ranger.

and bombproofs, lookout towers, soldier tents, barracks, mess halls, and shebangs that comprised the elements of the fortifications and the life of the soldiers stationed there. Interpretive aides might also depict the cane brakes, cabled brush, cheveaux-de-frise, and abatis that reinforced the Confederate line of defenses faced by approaching Union soldiers (Fig. 287), or outline important sites or trajectories using mowing patterns (Fig. 288) or other minimal and removable interventions (Fig. 289). Finally, interpretive aides might also be used to tell the story of life in the region by depicting one of the farmsteads that sat on one of the ridges as the siege began or the cave-dwellings constructed by civilians during the siege. These aides would be designed solely to enhance on-site interpretation, and would be temporary and removable so as not to permanently alter the cultural landscape. In addition, they would be conceived as interpretive aids, not as reconstructions, and sited in such a way as to educate visitors without suggesting that they are themselves historic resources.

Assumptions.

- The goal of this alternative is to preserve the landscape as it currently exists as far as landform and topography are concerned. Preservation is a relatively restrictive treatment approach, which assumes that existing features are replaced in kind, and new features are not added to the landscape. These restrictions may be problematic if interpretive exhibits are proposed for areas of the park other than visitor use zones such as the Visitor Center environs.

- Soil erosion control as it relates to cultural resources and their connection to the natural terrain is the primary objective of this alternative.

- This alternative is based on the assumption that BMPs are constantly updated based on available scientific data and site manager feedback regarding performance data.



FIGURE 287. An example of an interpretive exhibit of military earthworks features now missing from the landscape, including abatis (foreground) and gabions, at another park.



FIGURE 288. Mowing patterns being utilized to outline important sites or trajectories; this example is from another park.



FIGURE 289. An example of wood posts used to outline a missing structure; this example is from another park.

- This alternative assumes a gradual implementation process and an adaptive management strategy. The approach is intended to be conservative and aimed primarily at the protection of sensitive resources.

Implications of the Alternative. The section that follows indicates the relationship of the alternative to the issues common to all:

- It is not currently clear how much, if any, tree clearing would occur under this alternative.

- To supplement any potential lack of visual accessibility to the battlefield landscape, an innovative and creative approach to interpretation is an integral part of this alternative.

- Relic hunting may or may not be affected by the implementation of this strategy depending on the future landcover type established.

- Given all of the unknowns associated with this alternative, identifying the implementation costs will rely on the establishment of numerous assumptions.

Other implications and considerations.

- This alternative, if successfully implemented, would provide the best protection for the resources that serve as a physical connection between the siege of Vicksburg and current and future generations.

- This strategy appears to best meet the 1916 NPS Organic Act mandate that all parks are subject to of conserving "the scenery and the natural and historic objects and the wild life therein," and providing "for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

- This alternative may facilitate management and maintenance practices, but it also may take years or decades to implement. Implementation may present challenges that cannot currently be met by the park depending on the BMPs that are adopted and landcover types recommended for soil conservation.

- There are conflicting opinions in the scientific community about what landcover type(s) and communities best protect loess soil from erosion. A clear and undisputed compendium of BMPs for the site may not be fully developed for some time.

- A protocol for monitoring the efficacy of any treatment approach implemented would need to be developed. Adjustments would need to be made to the approaches to address any problems identified through the adaptive management strategy.

- Annual investigation into the available alternatives for protecting loess soil from erosion through landcover management may be needed to continually apply BMPs to preserving the park's significant Civil War resources.

- In the absence of an alternate strategy and defined BMPs, every effort would need to be made to stabilize areas currently undergoing erosion by utilizing the most effective short- and long-term means for arresting the process and correcting the cause of the erosion. Methods might include placing leaf litter, straw, stone, seeded mats, excelsior netting, or geotextile over exposed soil while establishing new vegetative cover. Methods for establishing new vegetation communities might range from seeding or hydroseeding to sodding. Diverting overland flow of stormwater from areas undergoing erosion without causing erosion elsewhere may also be required.

- The park's current approach to landcover management is based on what currently works given the benefit of past experience. The park's maintenance capabilities are a critical factor in landcover management at the park. If the staff is not sufficient to maintain grass cover through regular periodic mowing, or

mowing is not feasible given the park's steep slopes, then trees are the next best option given the park's current capabilities. Tree canopies reduce the erosive energy of rain, and their root systems can slow erosion, which is why the Civilian Conservation Corps (CCC) originally planted trees. If other grass species and grass and forb communities that can be appropriately maintained are identified it would be of great value to the park. Terracing and directing water not to flow across sloped surfaces is also necessary to prevent erosion. The CCC installed extensive guttering to control the flow of surface water across slopes. Fort Hill, for example, is terraced. The efficacy of this system needs to be evaluated as part of the development of appropriate strategies for managing erosion as part of this alternative.

- The engineering of stormwater and surface water management through extensive manipulation of existing topography, such as terracing and guttering, would not necessarily be consistent with a preservation approach but may be necessary to succeed.

- Bermuda grass has a root system that holds the loess soil well; Fort Hill has been colonized by Johnson grass, an invasive alien plant, which provides very little soil protection.

- Resources leading to erosion may need to be removed to support the efficacy of this strategy. For example, the historic tour roads may exacerbate soil erosion problems, suggesting their removal or redesign.

- Under this alternative, it is possible that one resource may need to be altered to preserve another resource.

- Conflicts between historic resources associated with the primary period significance and other resources could be addressed through interpretation.

- Interpretation, including living history, can take the place of making physical changes to the landscape to meet the objectives of the enabling legislation.

- Interpretation could incorporate both traditional modes and newer technologies.

- While primary interpretation would take place at the Visitor Center and the Cairo Museum, and through rangers, volunteer guides, Podcasts, GPS, cell phone tours, etc., the park could also continue to explore innovative technologies to interpret Civil War events and associations as they evolve.

Treatment Recommendations and Implementation Guidelines. The bullet points that follow outline the actions that taken together comprise this treatment alternative.

- Convene local experts knowledgeable about land and soil management from groups such as the Nature Conservancy, Mississippi Natural Resources Conservation Service, Conservation Reserve Program, Mississippi Wildlife Fisheries and Parks, Mississippi State University, USGS, and County Agricultural Extension Agency, to identify the range of possible landcover types that should be considered for soil erosion control within the park landscape, and their associated advantages and disadvantages. Vegetation communities that might be considered include 1) warm season grass fields; 2) grass and forb meadow or prairie; 3) oak savanna; 4) native oak-hickory woodland representative of pre-settlement communities; and 5) cool-season turf grass such as Bermuda, bahia, centipede, and St. Augustine. Involve the group in developing an initial set of Best Management Practices (BMPs) for the establishment and maintenance of each recommended landcover type.

- Evaluate the advantages and disadvantages of the landcover types discussed by the group of local experts, and identify recommended landcover types to be established within different areas of the park. Evaluations should be conducted by park and regional NPS personnel, including but not limited to a natural resource specialist, archeologist,

historical landscape architect, and maintenance manager.

- Identify three ten-acre sites to be converted to a new landcover type based on the recommendations of the group of local experts. Sites should be at risk due to the fact that they are currently undergoing erosion, are deteriorating because current maintenance or management practices are not successfully mitigating erosion, or are threatened with colonization by invasive species. Consider three ten-acre sites currently involved in kudzu management as the first conversion candidates.

- Install the new landcover type(s) utilizing the BMPs identified for the site during previous planning efforts.

- Assume maintenance procedures will include weekly mowing of one-third of the new landcover, bi-annual mowing of one-third of the new landcover, and bi-annual early spring burning of one-third of the new landcover.

- Initiate monthly monitoring procedures to evaluate the efficacy of the new landcover.

- Evaluate annually the success of the converted units, and revise implementation strategies and BMPs accordingly. Document all findings, decisions, and updates to management protocols as part of this adaptive strategy.

- Initiate conversion of additional units after monitoring the results of previously-established areas for three years and applying the results of the endeavor to the methods utilized in converting the next unit. For the purposes of this study, convert three ten-acre units per three-year period.

- Expand the park's invasive alien plant species control programs by doubling current efforts to dissuade colonization by invasive species and encouraging the establishment of healthy native species. Include South Fort in the control program.

- Control or eradicate the privet along the park boundary and where it has spread. Replace privet with native trees and shrubs along the park perimeter to form a fifty- to one-hundred-foot-wide screen planting.

- Develop interpretive programs that utilize digital technology to allow visitors to understand and visualize the battlefield landscape where it is obscured by vegetative cover that protects the soil from erosion. These might include access to audiovisual and multimedia recordings as well as interactive digital information such as historic maps georeferenced to current conditions using GIS, via mobile devices such as cell phones, GPS rangers, MP3 players, car stereos and displays such as outdoor or indoor digital screens, or LCD or plasma touch screen kiosks.

- Develop a large-scale relief model of the battlefield landscape as it existed during the siege that can be experienced spatially and/or tactilely by visitors.

- Improve the living history area near the Visitor Center. Provide additional universally-accessible opportunities to engage in demonstrations, and enhance visitor comfort by providing three additional benches and shade trees in locations that have a good view of the activities.

- Develop five new removable exhibits at different locations around the park. These exhibits would feature 1) aspects of soldier life during the siege; 2) a field hospital; 3) the military engineering of the earthworks; 4) weaponry used by the opposing armies and aspects of its use including fields of fire; and 5) examples of obstacles placed by the military to deter attack on their fortifications as well as approach trenches and associated features used to attack fortified positions.

- Provide enhanced interpretation of the Civil War-era Shirley House landscape using a removable outdoor exhibit.

- Establish new interpretive information in association with the three riverfront park units to offset any changes that might occur to views and access should vegetation be rehabilitated to protect against erosion.

- Provide an interpretive wayside in a location where forest established by the CCC survives. Convey information about the 1930s efforts to stabilize slopes and mitigate soil erosion within the park, including the planting of trees, grading, and rehabilitation of some road segments and monuments.

- Increase signage along the park boundary that identifies the penalties associated with relic hunting.

- Provide as many as ten additional benches with associated shade trees near parking pull-offs and places where visitors are encouraged to get out of their cars.

Alternative C. Rehabilitate/Maintain Key Areas of Military Engagement[298]

This alternative (Fig. 281) focuses on rehabilitating Vicksburg National Military Park by making landcover changes that reveal the historic landscape of the Civil War siege in areas of key military engagement. It is intended to help the park better meet its legislative mandate to "commemorate the campaign and siege and defense of Vicksburg," and "restore the forts and the lines of fortifications, the parallels and the approaches of the two armies, or so much thereof as may be necessary to the purposes of the park." Key military engagement sites were identified through careful review of the military terrain that molded the events of May 19 through July 4, 1863, and its ability to convey the full range of events and activities that occurred. As currently envisioned, the key sites include the earthworks and artillery positions associated with the city approaches of Old Jackson Road/Battery DeGolyer/Third Louisiana Redan (Fig. 290), Railroad Redoubt/Fort Garrott (Fig. 291), and Graveyard Road (Fig. 292). Post Civil War additions to the landscape that relate to commemoration and park operations would be retained under this alternative.

This alternative assumes that BMPs, particularly regarding soil erosion control, would be used when removing tree cover in key areas. The areas proposed for conversion from forest to turfgrass or native grass cover would be evaluated prior to clearing to minimize impacts to wetlands and avoid turf establishment on slopes too challenging to mow. Judicious manipulation of existing



FIGURE 290. Battery DeGolyer on Union Avenue.



FIGURE 291. View from Railroad Redoubt.



FIGURE 292. Graveyard Road.

298. For the purposes of this project, the term *rehabilitate* is used based on the meaning conveyed in *The Secretary of the Interior's Standards for the Treatment of Historic Properties* with *Guidelines for the Treatment of Cultural Landscapes*, as follows: "Rehabilitation is the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."

vegetation to enhance views would also be conducted as part of this alternative. Removal small numbers of trees in front of positioned cannon (Fig. 293 and Fig. 294) or the limbing up and thinning of trees along the tour road to create more transparency (Fig. 295 and Fig. 296) are examples of this approach.

New interpretive strategies and programs would be provided to support visitor understanding of the key areas revealed through tree clearing. These might involve exhibits, opportunities for Living History (Fig. 297 and Fig. 298), and augmentation of the demonstration area near the Visitor Center that currently features abatis, cheveaux-de-frise, and artillery displays (Fig. 299 and Fig. 300). Of particular interest is the reestablishment of spatial patterns associated with the 1863 battlefield landscape within view of the tour road corridor, and enhancing visual connections to and between artillery positions of the opposing armies, fields of fire, and terrain features that can be tied to the military engineering of the two lines. This approach would prioritize interventions that enhance the experience of the visitor touring the park within a vehicle, as most visitors do.

Assumptions.

- Preservation and stabilization of important natural, cultural, and historic resources is assumed under rehabilitation. Rehabilitation accommodates new uses and can make historic associations more apparent. There are many different resource types within the park, all of which are important to the history of the site. Examples of natural features that are crucial to understanding the history of the battlefield landscape include Mint Spring Bayou and the existing landform and topography. Examples of cultural features that are crucial to understanding the efforts of the veterans in establishing the park include monuments and tablets. Examples of historic features that are crucial to understanding the events of the Civil War siege include surviving earthworks.



FIGURE 293. Existing view of cannon sighted into woodland.

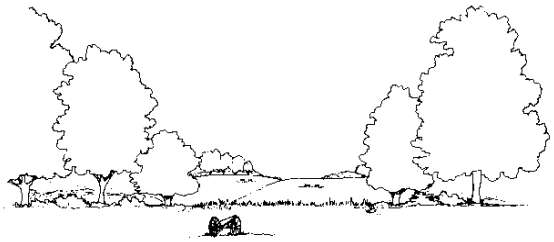


FIGURE 294. View after removing trees within the line of fire of positioned cannon.

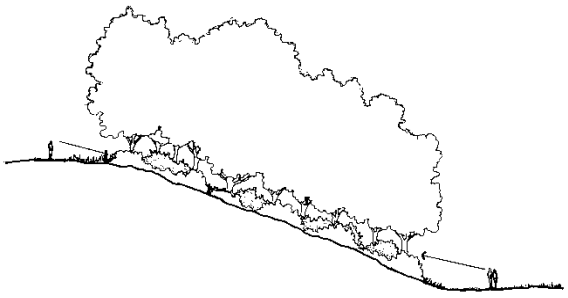


FIGURE 295. Existing sightlines through trees.

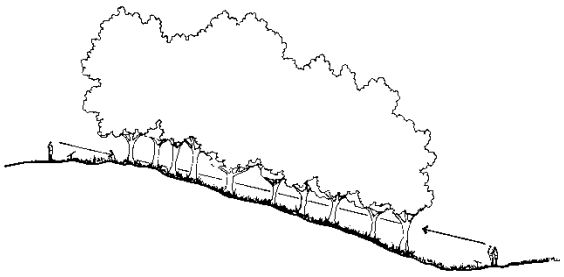


FIGURE 296. Line of sight after limbing up and thinning of trees.



FIGURE 297. Example of an earthwork exhibit and living history display from another park.



FIGURE 298. Example of a living history display from another park.



FIGURE 299. Existing living history demonstration area near the Visitor Center at Vicksburg National Military Park.



FIGURE 300. An example of a temporary living history exhibit previously used at Vicksburg National Military Park.

- Implementation of this concept will follow the guiding and applied principles for approaching preservation of battlefields presented in the NPS summary of the August 1998 and March 2001 gathering "Holding the High Ground; Principles and Strategies for Managing and Interpreting Civil War Battlefield Landscapes." Of particular note:
    - The management of battlefield landscapes shall recognize the primacy of those historic resources identified in each park's enabling legislation—those resources that are at the heart of the visitor experience and the core of the park's preservation efforts. Cultural resources on Civil War battlefields shall, therefore, be managed according to these priorities:
        - Those structures, features, landscapes, archeological resources, and viewsheds that comprised the wartime landscape
        - Commemorative expressions by veterans and subsequent generations that reflect Americans' attempts to make sense of and derive meaning from the war
        - Nationally significant post-war accretions on wartime landscapes
        - Facilities (buildings, roads, trails, or media) erected by the government or other entities to interpret, support maintenance of, or provide access to battlefield landscapes
    - Additionally, battlefield managers remain committed to preserving all significant historic resources when they do not constitute a significant degradation of the primary battlefield landscape. When post-war resources adversely affect the primary battlefield landscape, the NPS will develop solutions in close consultation with the SHPO and ACHP, in accordance with NEPA and Section 106 of the National Historic Preservation Act.

- Visitor uses shall not adversely affect the integrity of park resources or the ability of visitors to understand and appreciate the mission/stories of the park.

- This alternative assumes that interpretation and education of visitors should feature authentic connections between physical resources and military events. Taking the entire siege into consideration, this alternative emphasizes stories associated with key areas of military engagement.

- The three key areas that should be considered priorities for providing enhanced views of and access to the battlefield for their ability to meet the park's mission of telling the story of the siege and attacks are 1) Old Jackson Road/Battery DeGolyer/Third Louisiana Redan (with Old Jackson Road to Pemberton Avenue being of the highest importance); 2) Railroad Redoubt/Fort Garrott; and 3) Graveyard Road/Stockade Redan. These are assessed as follows:

  - **Area 1 – Old Jackson Road/Battery DeGolyer/Third Louisiana Redan.** The stories of Union mining and related activities, the crater, the May 22, 1863, attacks, and the Shirley House would best be told here. Of the three key areas, this would be the easiest to maintain. Implementation of this alternative would benefit from the removal of the Old Administration Building, which will be addressed further by the park in a future planning process.

  - **Area 2 – Railroad Redoubt/Fort Garrott.** The stories of how Confederate fortifications guarded key terrain such as supply lines and the May 19 and 22, 1863, attacks would best be told here. This area would be the second easiest to maintain. Natural resource challenges include gleyed soils (soil that has been saturated over a long period of time, therefore reducing the iron and manganese content) and wetland areas.

  - **Area 3 – Graveyard Road/Stockade Redan.** This is the best place to tell the story of combat, the May 19–22, 1863, attacks, the construction methods and components of Stockade Redan, and a key Union avenue of approach. This would be the most difficult of the three to maintain. Natural resource challenges include wetlands, heavy forest, and Mint Spring Bayou.

- Park land west of Thayer's Approach is the most heavily forested, are associated with water resources, and have high potential for erosion. This area is less desirable to clear and would be left in its current condition, although consideration would be paid to exposing the visual connection between the Water Battery and Fort Hill.

- Other key natural resource areas to be protected in their current condition include:

  - Mint Spring and lower falls, a designated state natural landmark south of the national cemetery.

  - Areas of exposed fossils along Mint Spring Bayou and elsewhere within the northwest corner of the park.

  - Additional wetland resources revealed through the recently prepared park wetland delineation.

Implications of the Alternative. The section that follows indicates the relationship of the alternative to the issues common to all:

- The historic record is complete enough to adequately inform landscape rehabilitation for the most significant areas of the battlefield.

- Tree clearing would be an integral part of this alternative, but the area to be cleared would be the minimal necessary to convey the most important stories about the siege as identified by park and regional personnel.

- The primary landcover likely to replace trees is currently assumed to be turfgrass or native grasses, although it may be possible in steeply sloped areas and ravines to approach landcover management in a manner similar to that used at Thayer's Approach, including less frequent mowing, burning, and the use of meadow species rather than Bermuda grass or other turf grasses requiring frequent mowing.

- Prior to implementing tree removal plans, the park would prepare a set of BMPs for the treatment and maintenance of new landcover in the three key interpretive areas where existing woodland cover is to be removed. These BMPs may suggest an alternative landcover type to turfgrass. Determination of the appropriate BMPs will require investigation into the range of vegetation types that allow for enhanced visual accessibility yet ensure retention of the existing soil profile and protect against erosion by given using the park's maintenance capabilities. The BMPs should be developed by a team of park and regional personnel with expertise in natural resources, maintenance, military history, and interpretation and potentially outside experts, and should be approved by the Superintendent. (See Implementation Projects for more information regarding BMPs.)

- Approximately twenty to twenty-five acres of the park would also be reforested to help protect the park's setting and critical viewsheds. Reforestation would involve the planting or natural re-growth of tree, shrub, and groundcover species representative of a desired future woodland composition. Species should be considered for their ability to contribute to a healthy native woodland appropriate to the cultural conditions of the site, such as mesic upland, xeric upland, or mesic to moist bottomland.

- Elsewhere, landcover modifications intended to improve visual connections to military terrain features and diminish visual obstructions would be considered. These may include a variety of modifications ranging from selective tree removal and thinning to limbing up of trees.

- The removal of trees in some steeply-sloped areas might occur cyclically rather than regularly to reduce maintenance costs.

- A protocol for monitoring the efficacy of any approach implemented should also be developed by the team. Adjustments should be made to the BMPs to address problems and issues identified through monitoring.

- Additional investigation into the alternatives for protecting loess soil from erosion through landcover management should be conducted annually and findings applied to revision of the BMPs. Investigation might include consultation with personnel involved with the management of local natural areas or large land parcels maintained in open vegetative cover that are successfully controlling erosion.

- Stump removal should occur based on site-specific conditions as follows:

    - In areas where mechanical maintenance will not occur, stumps should remain in place.

    - In areas where mowing or burning will occur, stumps should be removed.

- Enhanced monitoring of plants of special concern, birds, mammals, amphibians, reptiles, and water quality should be conducted in association with clearing or other changes in landcover. Adjustments to the treatment regime should be made if detrimental impacts are noted.

- This alternative provides an opportunity for improving interpretation and the range of recreational activities available to visitors, including:

    - Expanded interpretation of the Shirley House, to highlight evidence of the residents who lived there prior to the siege.

- Enhanced access to Mint Spring and associated waterfalls. A trail could be established to the waterfalls as a benefit to visitors. Issues to address include parking, trash collection, and coordination with ongoing stabilization efforts. As this provision does not fall within the park's legislated mandate, limited, if any, funds are available for it. The park would rely on the community to maintain the trail and collect litter.

- New trails to provide connections to interesting and important natural and cultural resources not currently accessible such as Mint Spring Bayou and the CCC camp sites. As this provision does not fall within the park's legislated mandate, limited, if any, funds are available for it. The park would rely on the community to maintain the trails and collect litter.

- The current living history program could be expanded to include special events like an "adventure camp" where visitors could experience the life of the soldier, living history, or other guided activities. A rehabilitation approach to cultural landscape management allows for the establishment of much needed visitor services such as water fountains or bottled-water vending machines and restrooms. Bicycle riding would continue to be permitted on road but not off road. Horseback riding would remain prohibited to avoid potential for erosion and safety conflicts with vehicles along the road. Rehabilitation allows the addition of new interpretive media within the battlefield landscape.

Other implications and considerations.

- Selective rehabilitation of portions of the battlefield does not provide a completely accurate depiction of the historic landscape during the battle and siege period.

Treatment Recommendations and Implementation Guidelines. The bullet points that follow outline the actions that taken together comprise this treatment alternative.

- Enhance the visual accessibility of three key areas of the battlefield landscape by removing existing forest cover and replacing it with low-growing grasses or other groundcover. Retain older native trees where they do not block important views, particularly those that afford shade along the tour road. The total area of forest cover to be converted to grass cover as part of this alternative is ninety acres.

- Also clear trees to provide a view from the artillery placed at the South Fort park unit to visualize the avenues of approach they were intended to defend.

- Conduct tree thinning, limbing, and limited removal in specified areas along the tour road to facilitate visual connections between the artillery positions of the opposing lines. Allow trees to remain that do not interfere with desired views. Thinning and limbing up of trees associated with artillery positions should only occur in areas where visitors will benefit from this action through available access afforded by the tour road or proposed new parking pull-offs and trails. One specific area to be thinned is the view of the Water Battery from Fort Hill. Assume thinning and limbing operations will occur along approximately three total miles of the tour road, although the areas likely will not be contiguous.

- Provide two new waysides to interpret the Shirley House landscape before, during, and after the siege. Continue to convey information about the shebangs that were established on the slope below the house as housing for soldiers encamped there and other military features established on the property during the siege.

- Establish interpretive waysides to provide additional information about the newly cleared areas of the park. Provide one wayside each for the Confederate and Union

perspectives within each of the three cleared areas (six total waysides).

- Provide an additional wayside within the park to interpret the role of the CCC in stabilizing parkland during the 1930s through soil erosion control and the planting of trees that now constitute many of the large forested areas of the park.

- Establish new forest cover over twenty to twenty-five acres of the park to enhance screening of incompatible views and protect steep slope areas that do not contribute to park interpretation. Reforestation should be conducted in such a way as to promote a healthy native woodland appropriate to the cultural conditions of each area considered for conversion. See the list of native tree species provided in Appendix C for plants to be considered in the reforestation effort.

- Increase ranger patrols of areas potentially utilized by relic hunters to access the park. Newly opened areas may become a target for relic hunters, and may require added protection, particularly immediately after clearing occurs.

- Establish a new trail within each of the three cleared areas. Design the trailhead and possibly a segment of each trail to be universally accessible. Due to the challenging terrain and potential for erosion, design the trails generally to follow existing topography and with a mown grass surface. Trails with mown grass surfaces will not be universally accessible. The waysides established at the accessible trailheads will provide an alternative interpretive experience for those unable to access the mown grass surfaced trails. Possible locations for these new trails include the approaches at Stockade Redan, Fort Garrott, and the assault routes of the Railroad Redoubt. Assume a total length of three miles for these new trails, and that parking pull-offs already exist to provide access to them.

- Develop a one-half-mile loop trail providing access to the Mint Spring Bayou waterfall. Assume the trail will include an accessible trailhead and possibly an additional accessible segment. Due to the terrain of the area, it is recommended that much of the trail be developed as a primitive hiking trail surfaced with hard-packed earth. Provide a parking pull-off large enough for three cars from the U.S. Business 61 side of the park south of the National Cemetery arch at a trailhead. Provide an interpretive brochure at the trailhead that describes how the park's natural conditions influenced military events.

- Provide as many as twenty additional benches, under shade trees, in places where visitors can be encouraged to get out of their cars.

The following elements were added to Alternative C during the CBA workshop:

- Convert forest in key areas to open vegetative cover utilizing BMPs, and consider vegetative cover options now and in the future for their environmental sustainability.

- Evaluate annually the success of the converted units, and revise implementation strategies and BMPs accordingly. Document all findings, decisions, and updates to management protocols as part of this adaptive strategy.

- Expand and intensify by doubling current invasive alien plant species control programs and encourage the establishment of healthy native species. Include South Fort in the control program.

- Consider using the cleared areas for additional living history programs. Provide opportunities for visitors to experience living history activities in comfort by identifying a location with views of the area that might include shade trees and benches.

- Establish three new removable exhibits within the siege landscape to facilitate visitor understanding of missing military features such as earthworks and associated

components, weaponry, obstacles, transportation and communication features, approach trenches and associated features, field hospital components, and/or soldier lifeway features. Consider locating the exhibits 1) in the vicinity of Graveyard Road to feature Confederate earthworks elements such as the stockade fence; 2) near the Shirley House to interpret Union efforts to reach the Third Louisiana Redan and shebangs, Coonskin tower, sapping, and sap rollers; and along the South Loop Road to interpret both Union and Confederate features associated with Fort Garrott and Hovey's Approach.

- Rehabilitate the Shirley House landscape to more closely approximate Civil War era conditions. Reinstate features described in association with the property such as vegetable and flower gardens, fruit trees, and walks, and identify the locations of former outbuildings and structures associated with the dwelling precinct. Continue to convey information about the shebangs that were established on the slope below the house as housing for soldiers encamped there and other military features established on the property during the siege.

- Plant or retain shade trees in association with parking areas and roadside pull-offs where visitors will be encouraged to get out of their cars.

Alternative D. Rehabilitate/Maintain the Broad Spectrum of Military Engagements

This alternative (Fig. 281) focuses on enhancing the legibility of Civil War-era resources and associations by removing tree cover that has grown up since the end of the siege and currently obscures visual and physical relationships that were important to the events that occurred at Vicksburg in 1863. Historic imagery, such as nineteenth-century lithographs of the siege landscape, would be used to guide rehabilitation and ensure compatibility with the historic character of the landscape (Fig. 301 and Fig. 302).

Tree clearing would occur in areas where military terrain analysis has indicated key battle and siege tactics of Union and Confederate commanders are evident and can be understood by visitors. Woodlands would primarily be cleared in selected areas between Union and Confederate Avenues to reveal the opposing lines of fire. This already occurs in some areas of the park (Fig. 303 through Fig. 305) but the extent of the current cleared area is insufficient and misleading and confusing to visitors. For example, in many locations, cannon face into dense stands of trees (Fig. 306). Woodlands would primarily be replaced with turf or native grasses maintained by mowing (Fig. 307). The frequency of mowing will depend in part on the severity of the cleared slopes (Fig. 308).

Interpretation would be provided to help visitors understand what happened within these cleared areas. Post Civil War additions to the landscape, including late nineteenth and early twentieth century commemorative features and park operations features that support visitor use of the park would be retained (Fig. 107 through Fig. 125). Preservation and stabilization of important natural, cultural, and historic resources is assumed under rehabilitation, and will be taken into consideration in the development of implementation plans.



FIGURE 301. Nineteenth-century lithograph of the siege landscape, an example of a documentary source available to guide landscape rehabilitation efforts.



FIGURE 302. Another nineteenth-century lithograph of the siege landscape to consider in planning landscape rehabilitation.



FIGURE 303. Currently legible opposing lines of fire.



FIGURE 306. Cannon facing obstructed terrain.



FIGURE 304. Currently legible opposing lines of fire.



FIGURE 307. Open land cover is primarily composed of turf grasses maintained by mowing.



FIGURE 305. Currently legible opposing lines of fire.



FIGURE 308. Steeply-sloped areas pose a challenge to mowing. These would be mowed less frequently.

There are many examples of different resource types within the park, all of which are important to the history of the site. Natural resource features that are crucial to understanding the history of the battlefield landscape include Mint Spring Bayou and the park's landform and topography. Examples of cultural features that are crucial to understanding the efforts of the veterans in establishing the park include the placement of monuments and tablets. Examples of historic features that are crucial to understanding the events of the Civil War siege include surviving earthworks.

Assumptions

- This alternative assumes that the best way to "commemorate the siege and preserve the history of the battles and operations of the siege and defense on the ground where they were fought and were carried on . . ." is to reveal the landform, topography, and earthen fortifications associated with Union and Confederate lines and the landscape between them that was modified for offensive and defensive purposes.

- This alternative recognizes that some formerly cleared areas may not be feasible to clear today due to the potential for severe soil erosion.

- This alternative assumes that interpretation and education of visitors should feature authentic connections between physical resources and military events, using military terrain analysis as the basis for revealing the broadest range of stories associated with the Vicksburg landscape.

- Based on review and evaluation of the military history of the park, the most important area to be revealed through tree clearing and the reestablishment of Civil War patterns of spatial organization is the terrain between the Union and Confederate lines extending from Thayer's Approach to Fort Garrott.

- Screen plantings should be established or maintained to limit views of the Visitor Center, maintenance area, and Clay Street from cleared areas. Existing forest should remain in the area behind the Illinois Monument up to Old Jackson Road to protect the steeply sloped topography which could not be maintained through mowing, and to provide a visual screen for modern Jackson Road. Other areas that would not be cleared are located south of Fort Garrott and Grant's Circle. Screen plantings in these locations would buffer the park from Interstate 20 and would also be difficult to maintain under turfgrass cover.

- This alternative would benefit from the relocation of the tour road and the nearby tour stop out of the ditch of the Great Redoubt. This alternative would also benefit from the removal of the Old Administration Building. These actions are best considered through preparation of a General Management Plan, however, and are not pursued as part of this alternative.

- Park land to the outside edge of the tour road would not be cleared and existing vegetation would remain as a visual screen.

- Fort Hill and the landscape west and north of Thayer's Approach would not be cleared because there was little military activity in this area, and most of the park's forest and natural resources, wetlands, and Mint Spring Bayou exist within this area.

- Clearing to expose a visual connection to the Water Battery from Fort Hill is another localized effort that would support implementation of this alternative.

- Clearing of the vegetation along the perimeter of South Fort should also be conducted to provide a visual connection to the Mississippi River.

Implications of the Alternative. The section that follows indicates the relationship of the alternative to the issues common to all:

- This alternative involves extensive tree clearing. It would decrease the amount of forest habitat present in the park.
- Reducing the diversity of landcover and plant community types represented within the park may or may not have a negative impact on the current wildlife communities within the park.
- This alternative may or may not increase the potential for soil erosion.
- The riskiest aspect of landcover conversion may be tree removal followed by replacement with a new landcover when soil disturbance is a real possibility, and the vehicle for protecting the soil from stormwater may take some time to become established. Particular attention should be paid to applying soil erosion control methods during this period.
- The wetland area within the South Loop landscape would be negatively affected by additional clearing. Riparian buffers along the stream that flows below Railroad Redoubt are warranted. This alternative would lead to a significant increase in maintenance requirements and costs due to the increase in the area to be mown, storm- and surface water management issues, and the potential for increased soil erosion.
- Additional interpretation should accompany this alternative to provide visitors with a full understanding of battlefield events that benefits from the tree clearing. This may take the form of new waysides, living history programs, and trails.
- This alternative would benefit from allowing visitors to begin their tour from the Confederate perspective. It also would benefit from the establishment of additional tour stops/pull-offs, and walking trails.
- This alternative may increase the potential for vandalism and relic hunting. Implementation of this, and other alternatives, may require additional law enforcement and security efforts, an enhanced park watch program, and/or construction of features such as fences to prevent access from locales like Melborn Place.
- Relocation of the tour road near the Great Redoubt would involve major construction, alteration of the existing landform and topography, and relocating gas, electrical, and telephone utility lines. One benefit would be the eradication of a stand of non-native cane. These actions are best considered through preparation of a General Management Plan and will not be pursued as part of this alternative.
- A landcover of turfgrass does not accurately represent conditions at the time of the battle.
- Approximately twenty to twenty-five acres of the park would be reforested to help protect the park's setting and critical viewsheds. Reforestation would involve the planting or natural regrowth of tree, shrub, and groundcover species representative of a desired future woodland composition. Species should be considered for inclusion that would contribute to a healthy native woodland appropriate to the cultural conditions of the site including mesic upland, xeric upland, or mesic to moist bottomland.

Treatment Recommendations and Implementation Guidelines. The bullet points that follow outline the actions that taken together comprise this treatment alternative.

- Enhance the visual accessibility of the battlefield landscape by removing existing forest cover over approximately 350 acres, and replacing it with a low ground cover that does not interfere with visual access of the enhanced areas. Also clear trees blocking the view of the Water Battery from Fort Hill and clear trees from the margins of South Fort to reinstate historic views from the artillery

positions. Bermuda grass, native grasses and forbs, and other groundcovers should be considered for their use in newly cleared areas. The type of groundcover to be used in each area should be based on an assessment of park capabilities in terms of implementation and maintenance.

- Utilize the cleared areas for additional living history interpretation.

- Establish ten interpretive waysides to provide additional information about the newly cleared areas of the park. Depict information about both the Confederate and Union perspectives within the newly cleared areas.

- Provide two new waysides to interpret the Shirley House landscape before, during, and after the Civil War siege. Continue to convey information about the shebangs that were established on the slope below the house as housing for soldiers encamped there.

- Conduct tree thinning, limbing, and limited removal in specified areas along the tour road, where clearing is not undertaken, to facilitate visual connections between artillery positions of the opposing lines.

- Establish new forest cover over twenty to twenty-five acres of the park to enhance screening of incompatible views and protect steep slope areas that do not contribute to park interpretation. Reforestation should be conducted in such a way as to promote a healthy native woodland appropriate to the cultural conditions of each area considered for conversion. See the list of native tree species provided in Appendix C for plants to be considered in the reforestation effort.

- Increase ranger patrols in areas potentially utilized by relic hunters to access the park. Newly opened areas may become a target for relic hunters, and may require added protection, particularly immediately after clearing. Ensure that boundaries are clearly marked with signs that warn of the legal implications of relic hunting. Establish surveillance cameras in two of the most accessible areas to monitor activity along the park boundary.

- Establish five new walking trails in association with the newly cleared areas. Possible locations for these new trails include the approaches at Stockade Redan, Fort Garrott, Ransom's Path, Hovey's Approach, and the assault routes on the Railroad Redoubt. Assume a total length of five miles for these new trails, and that parking pull-offs already exist to provide access to them.

- Develop a one-mile loop trail providing access to the Mint Spring Bayou waterfall and other areas within the ravine to afford an understanding of the Confederate fortified position atop the ridge above. Assume the trailhead and possibly a segment of the trail will be accessible; however, due to the terrain it is recommended that the majority of the system be designed as a primitive hiking trail surfaced in hard-packed earth. Provide a parking pull-off large enough for five cars from the U.S. Business 61 side of the park south of the National Cemetery arch at a trailhead.. Provide an interpretive brochure at the trailhead that describes how the park's natural resources influenced the military events that occurred there.

- Provide as many as twenty-five new benches in association with new or existing shade trees in areas where visitors can be encouraged to get out of their cars and experience the park up close.

Alternative E. Restoration to the Civil War siege period (circa 1863)[299]

This alternative involves reinstating, to the greatest extent possible, the landscape that existed at the time of the siege, including its military features and landcover types. Such an approach would rely heavily on historical documentation and written descriptions such as those found in the Official Records.[300] Few photographs survive as evidence of the appearance of the landscape at the time of the siege.

Various historic photographs and lithographs exist of the Vicksburg landscape during the siege that would be used to guide restoration under this alternative. For example, two historic photographs depict the Shirley House and its environs during the Civil War; one shows of the front of the house (Fig. 11) while the other indicates the hillside east of the house where Union soldiers constructed shebangs, or sleeping dens protected from artillery fire (Fig. 184). This image, when compared with more recent photographs (Fig. 185 and Fig. 186), reveal the extent to which the landscape has changed in this particular area.



FIGURE 309. "Position of Hovey's Division of McClernand's Corps," an example of one of the sources available to guide restoration of the 1863 landscape.



FIGURE 310. "Position of Quinby's Division of McPherson's Corps," another source to support restoration efforts.



FIGURE 311. "Position of Logan's Division of McPherson's Corps," a third historic graphic depiction of the battlefield landscape.

299. For the purposes of this project, the term *restore* is used based on the meaning conveyed in *The Secretary of the Interior's Standards for the Treatment of Historic Properties* with *Guidelines for the Treatment of Cultural Landscapes*, as follows: "Restoration is the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by removing features from other periods in its history and reconstructing missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project.

300. *The War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies. Prepared under the direction of the Secretary of War, by Bvt. Lieut. Col. Robert N. Scott, Third U.S. Artillery and Published Pursuant to Act of Congress, Approved June 16, 1880* (Washington: Government Printing Office, 1880).

Other sources available to inform restoration include artistic renderings, such as the lithographs published in Civil War-era popular magazines such as *Harper's Illustrated*, or in books such as *Battles and Leaders of the Civil War*, published in the 1880s. Examples include: "Position of Hovey's Division of McClernand's Corps" (Fig. 309), "Position of Quinby's Division of McPherson's Corps" (Fig. 310), "Position of Logan's Division of McPherson's Corps" (Fig. 311), "The fight in the crater after the explosion of the Union mine under the Confederate fort on the Jackson Road, June 25, 1863" (Fig. 312), and "The siege of Vicksburg—approach of McPherson's saps to the rebel works" (Fig. 313).

True restoration, as prescribed by this alternative, would involve removal of commemorative monumentation (Fig. 314) and other resources from the battlefield that post-date 1863, including the tour road and NPS administrative facilities (Fig. 315).

Assumptions

- This alternative assumes that restoration of the park's appearance to 1863 conditions is a worthwhile goal, given that this is the date of the park's primary period of significance. This alternative addresses the comments of many individuals during public meetings held on behalf of the CLR suggesting restoration to 1863. Because landscape conditions evolved over the course of the forty-seven-day siege, the restoration would emphasize conditions present in the late spring/early summer of 1863 after the Union army had established its offensive positions and begun mining efforts to reach the Confederate defensive line.

- Under a pure restoration approach, the existing commemorative monuments would need to be removed, as well as any other features that post-date the siege, including the tour road, Visitor Center, War Department tablets, and bridges that afford visitor access and interpretation of the site.



FIGURE 312. "The fight in the crater after the explosion of the Union mine under the Confederate fort on the Jackson Road, June 25, 1863," a fourth source.

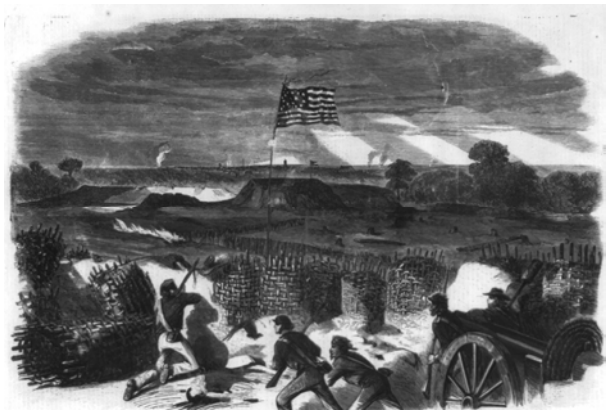


FIGURE 313. "The siege of Vicksburg—approach of McPherson's saps to the rebel works," a fifth source to support restoration.



FIGURE 314. The Michigan State Memorial, an example of a resource that would be in conflict with the restoration approach.



FIGURE 315. Old Administration Building, another example of a resource that would not be consistent with a restoration approach to landscape treatment.

Implications of the Alternative. The section that follows indicates the relationship of the alternative to the issues common to all:

- Implementation of this alternative would require extensive tree clearing. The majority of the park's existing tree cover would be removed. This alternative has a high potential for devastating erosion.
- The landscape would be easier to mow without monuments, but the ravines would be impossible to maintain.
- This alternative meets the park's purpose of interpreting the siege, as tree clearing would allow for a more accurate portrayal of the historic conditions associated with the battlefield. However, all interpretation involving the use of physical features such as waysides and exhibits would need to occur offsite.

Other implications and considerations:

- This alternative recognizes the significance of the battlefield as hallowed ground and is respectful of events that occurred here in 1863.
- Consideration would need to be given to re-acquiring the city-owned quitclaimed land to present all of the features associated with the siege. Restoration of the quitclaimed land is no longer feasible, however, given the extent of adjacent development that has occurred to the south of the park and altered the views and setting of this landscape.
- This alternative would involve the loss of monuments and other important non-siege historic resources.
- Removal of the tour roads would make visitation challenging.
- Insufficient documentation likely exists to accurately convey historic conditions.
- The Visitor Center would need to be relocated outside of the park.
- The act of removing post-siege features could impact archeological resources.

F. Restoration to the Park Development Period (circa 1899–1917)

This alternative suggests restoring the landscape to the conditions present after the park commissioners had substantially completed their initial plans for developing Vicksburg National Military Park. Veterans of the Civil War were involved in many aspects of this work. The date that appears to encompass the broadest involvement of veterans in park design and development is 1917, when the National Memorial Reunion and Peace Jubilee were held at the park. At this time, surviving veterans were reaching an advanced age.

Vicksburg National Military Park is nationally significant within the context of conservation, preservation, and commemoration as one of the first five national military parks. It is particularly significant for the role that the veterans of the battle played in marking the lines of battle and commemorating key events and associations. By 1917, most of the ideas that had been envisioned in the plans for the park at its establishment in 1899 had been realized. After this point, individuals who had experienced the Civil War were elderly and less able to participate in planning and commemoration. Restoration of the park to its character as conceived by the veterans and Park Commission would meet the mandate of the enabling legislation. Implementation of this concept would require removal of features added later that were not consistent with the original vision.

Historical documentation of early park development would be used to inform the restoration plan associated with this alternative. A series of panoramic views from the early twentieth century and a 1925 birds-eye lithograph (Appendix E) depict large areas of the park during this time. Comparisons of historic photographs with contemporary photographs taken from similar viewpoints reveal the extent of change that has occurred since 1917. Features missing from the park development period would



FIGURE 316. One of the observation towers erected in the park in the early twentieth century. No longer extant, restoration of the tower would support this treatment approach.

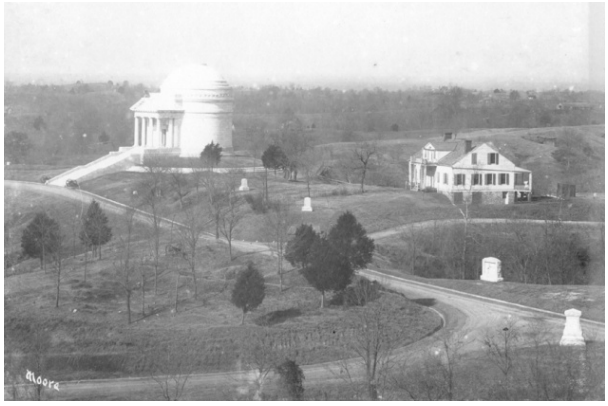


FIGURE 317. View from the top of the observation tower looking toward the Shirley House and Illinois State Memorial. This, and similar images, would support landscape restoration to the early park period.



FIGURE 318. Historic view of one of the original steel arch bridges on Union Avenue over Glass Bayou; this bridge was removed circa 1972. Consideration would be paid to restoring the bridge under this alternative.

need to be replaced. Among these are three observation towers (Fig. 316) that contributed to the interpretation of battle events by providing a bird's eye perspective (Fig. 317). Large areas of forest cover, later monuments, and changes to the tour road would have to be reconciled as well as the replacement of some original bridges (Fig. 318).

Assumptions.

- This alternative requires difficult decisions to be made about replacing missing features, such as the observation towers and life-lease properties. It is preferable that these features not be reconstructed, but they could be interpreted.
- This alternative would require removal of the Administration Building, maintenance shop, and features established by the CCC including tree plantings.
- This alternative suggests that the circle drives be restored.
- This alternative suggests that Confederate and Union Avenues, and the tour road in general, be restored to their original design and orientation.

Implications of the Alternative. The section that follows indicates the relationship of the alternative to the issues common to all:

- The majority of existing tree cover would be removed. This would lead to a high potential for soil erosion.
- Removal of trees over extensive areas would require additional maintenance efforts due to the resulting increase in turfgrass cover.
- This alternative would provide increased opportunities for interpretation, including an enhanced understanding of the siege through the reestablishment of historic patterns and open areas. No wayside exhibits that post-date the restoration period would remain, however.

Other implications and considerations.

- This alternative allows the monuments and roads to remain.
- Monuments that post-date 1917 could potentially remain based on their relationship to the original plan for the park that allowed for future monumentation.
- The Shirley House would merit restoration under this alternative.
- The Memorial Arch would need to be moved to its original location or this change could be mitigated through interpretation.
- The visitor center and USS *Cairo* museum are in conflict with this alternative.
- Consideration would need to be paid to re-acquiring city-owned quitclaimed land. However, restoration of the quitclaimed land is no longer feasible given the extent of adjacent development which has altered the views and setting of this corridor.
- It would be challenging to identify sufficient historic documentation to faithfully restore the landscape to this period.

The Preferred Alternative and Treatment Plan Recommendations

Identification of a Preferred Alternative

In June 2008, CLR and EA project team members convened at the park to conduct a Choosing by Advantage (CBA) workshop intended to evaluate each of the treatment alternatives outlined above, with the exception of Alternatives E and F, which were dismissed due to the negative impacts they would have on some park resources. CBA is a decision-making process that ranks alternatives based on the advantages they provide for the park. The process results in the identification of a preferred alternative and an environmentally preferred alternative.

During the CBA workshop, Alternative C received the highest score based on advantages it provided in meeting the park's purpose, need, objectives, and concerns statement, public and stakeholder opinion, and management issues identified as the preferred and environmentally preferred alternative. As part of the CBA process, it is possible to improve the preferred alternative by incorporating elements from other alternatives not selected. During the workshop, participants identified additional elements to be added to Alternative C as part of the CLR. The treatment plan below conveys the improved alternative as developed in the workshop, the additional detail appropriate to the level of investigation provided by a CLR.

The recommended treatment approach presented in Alternative C is rehabilitation. Rehabilitation affords the park the opportunity to meet the current and projected future interpretive, functional, and management goals outlined in the park's list of issues and goals. Because rehabilitation is defined as the act or process of making possible a compatible use for a property, this approach allows for protection of the site's historic character and resources while carefully addressing the needs for limited enhancement of interpretive opportunities and circulation routes, ecological maintenance and restoration, and the improvement of visitor amenities.

Under rehabilitation, stabilization, protection, and preservation of historic and natural resources are actions that must occur to allow for the limited accommodation of new uses. As part of the treatment recommendations, those resources and systems within the park that are to be the focus of stabilization, protection, and preservation are noted, as are those aspects or areas of the landscape that are particularly sensitive to change and disturbance. Sensitive habitats and biotic resources, as well as sites of known and potential archeological resources, for example, should be treated with great care. In general, the CLR recommends preservation of archeological resources unless a compelling research question or informational need justifies disturbance or excavation, or mitigation to accommodate unavoidable change is necessary.

Secretary of the Interior's Standards for Rehabilitation

For each treatment approach, the Secretary of the Interior espouses specific standards to guide future management. Ten basic principles comprise the standards for rehabilitation. These are intended to help preserve the distinctive character of a site while allowing for reasonable change to meet new needs. The standards (36 CFR Part 67) apply to historic properties of all periods, locations, sizes, conditions, and uses. These standards create a baseline of guidance to which intended changes to the historic landscape must be compared. These standards are neither technical nor prescriptive, but promote responsible rehabilitation practices as follows:

1. A property will be used as it was historically, or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features,

spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

Treatment Plan

Introduction

This treatment plan for Vicksburg National Military Park provides a vision for the long-term management of the park as a whole, as well as site-specific guidance for individual resources. It is intended to convey an overarching concept for treatment that meets the NPS issues, goals, and concerns identified as part of this project. The concept is derived from the preferred alternative (Alternative C) developed as part of the EA described above —Rehabilitate/Maintain Key Areas of Military Engagement—with some additional elements added from the CBA workshop. The treatment plan that follows, comprised of recommendations, general management and design guidelines, and implementation projects, convey the specifics of how to achieve the vision.

The park has identified the need to more closely approximate historic patterns of open landcover within areas of key military engagement while continuing to protect and enhance natural and cultural resource values. The park also wishes to provide enhanced interpretation through improved visual connections to and between battlefield resources, and the provision of additional signage, waysides, exhibits, and personal interpretation opportunities. To assist the park in these goals, the CLR treatment plan concept is as follows.

The overarching concept for cultural landscape treatment at Vicksburg National Military Park is to better convey the story of the battles and the siege leading to the surrender of the Confederate forces, and the establishment of a park on this important ground, by reinstating historic conditions in carefully chosen locations and establishing aids to interpreting missing landscape features. Contemporary park access and interpretation needs are accommodated in the least intrusive manner possible, and landscape management is guided by the principles of sustainability to diminish the financial and environmental costs associated with maintenance and management.

Vegetation and natural resource management, interpretation, and consideration of the overall visitor experience are of the highest-priority based on the park's purpose and needs statement for the CLR. The recommended approach to vegetation management, including selective tree clearing, supports a crucial interpretive goal at the park: enhancement of visual accessibility. Removal of specific non-contributing woodland areas, control of invasive plant species, and restoration of the historic character of areas of key military engagements will help visitors better understand the events of the siege. The plan considers the highly-erodible nature of the park's loess soils in the approach to converting woodland to a more open vegetative cover, and includes numerous mitigation strategies for protecting existing landform and topography.

In addition to vegetation management, the treatment plan recommends the development of new exhibits and interpretive features that connect the visitor to key physical resources and the historic use of the landscape. The park is currently in the process of developing a long-range interpretive plan, which will establish the specific goals and vehicles for park interpretive programs. The treatment plan provides numerous ideas for consideration within the LRIP due to the link between landscape management and interpretation. In particular, the treatment plan suggests assisting visitors with understanding the extent and character of the numerous military landscape features that are no longer present within the park such as abatis, cheveaux-de-frise, fascines, gabions, headlogs, gun platforms, military roads, pickets, rifle pits, approach tunnels, and scaling ladders, etc.

Interpretation of the work of the veterans, park commissioners, and later the CCC to protect, preserve, and manage this significant historic landscape is recommended herein. The treatment plan suggests that information about these endeavors be presented to the public to instill a sense of stewardship and appreciation of this fragile site, and to inspire the public to incorporate a similar ethic into their daily lives. At a minimum, it will be important to help visitors to distinguish

between existing layers of history that frequently occupy the same site, for example earthworks, commemorative markers, and tablets.

The pages that follow convey a series of action items—treatment recommendations—that are organized by the landscape characteristics used to describe the park's existing conditions in chapter three. These are followed by a set of principles—General Management and Design Guidelines—that indicate how the actions items should be implemented. The final section is a series of implementation projects that suggest a process to be followed when undertaking the key recommendations conveyed below. Implementation projects are referenced with their associated recommendations.

Treatment Recommendations by Landscape Characteristic

Spatial Organization.

- Retain and maintain the patterns of spatial organization that survive from the primary period of significance (1863 Civil War siege). These include evidence of the system of earthworks, batteries, rifle pits, and pickets established by the Confederate army on the bluffs encircling the city of Vicksburg and overlooking the Mississippi River to maintain control of the river; and the positioning of Union troops around the Confederate defensive system on elevated landforms and at potential avenues of approach, particularly Old Jackson Road, Graveyard Road, and the rail line near Railroad Redoubt.

- Retain and maintain the patterns of spatial organization that survive from the secondary period of significance (commemoration of the siege). These include the tour road system and monuments that edge the road and are associated with many of the surviving earthwork features.

- Retain and maintain the open character of the maintained areas of the park, which include the tour road margins, points of interest, and key resources within view of points of interest. Increase the extent of the area maintained in open landcover by 1) converting forest cover to open space within three areas of key military engagements as an interpretive aid for visitors; 2) clearing views of the Water Battery from Fort Hill; 3) undertaking limited clearing and thinning to afford views from artillery positions along the tour road that can be seen or easily approached by visitors; and 4) reestablishing views from South Fort to the river and riverside and road approaches it defended.

- Ensure that a vegetative screen or visual buffer exists along all park boundaries where views of incompatible adjacent development are afforded (See Implementation Project No. 5).

- Consider exploring the historic patterns of spatial organization of the military landscape that are no longer apparent in the interpretive information provided to visitors. Examples of missing features that structured the military landscape include military roads, abatis, fascines, cheveaux-de-frise, headlogs, gun platforms, rifle pits, batteries, approach tunnels, and scaling ladders (See Implementation Project No. 7).

- Consider exploring the historic patterns of spatial organization derived from local farmsteads present prior to and after the siege in the interpretive information provided to visitors.

- Consider exploring the missing historic patterns of spatial organization associated with the commemorative period, such as circle drives around monuments and observation towers in interpretive information provided to visitors.

Landform and Topography and Topographic Modifications.

- Retain and maintain landform and topography features and topographic modifications that survive from the primary period of significance. These include the 1) loess bluffs

formed after retreat of the last glaciers; 2) dissected landforms and ravines formed from overland flow of stormwater and groundwater sourced springs and seeps; 3) prominent ridgelines encircling the city with east-west trending ridges; 4) grading conducted during the Civil War by the Confederates to establish fortifications, batteries, rifle pits, trenches, glacis, and fields of fire; 5) grading conducted by the Union army to establish fieldworks and construct trenches and mines to approach and damage the Confederate fortifications.

- Retain and maintain landform and topography and topographic modifications that survive from the secondary period of significance. These include the grading conducted to establish the tour road and monument sites, and erosion control measures conducted by the CCC at various locations within the park.

- Stabilize and repair any landform, topography, or topographic modification features that survive from the periods of significance but are in fair to poor condition due to erosion, slumping, or visitor access.

Land Uses and Activities.

- Continue to allow military land uses and activities such as staff rides and military training exercises that perpetuate a historic land use associated with both periods of significance.

- Retain and maintain the land uses and activities that survive from the secondary period of significance including commemorative, administrative, maintenance, interpretive/museum/educational, visitor services, recreation, and cemetery.

- Convey, through interpretation, the residential and agricultural land uses that were associated with the site during the periods of significance but are no longer in evidence today.

- Monitor local zoning and planning committees for nearby adjacent development and land use changes that may adversely impact the character and cultural resources of the area around the park. Participate in the early stages of any development plans to protect park values.

Natural Systems and Features, and Responses to Natural Resources.

- Remove trees from ninety acres of non-contributing forest stands in association within three specified areas of key military engagements, taking into consideration natural resource values such as potential impacts on water quality or the possibility of soil erosion. Additionally, clear non-contributing woodland from South Fort and the Water Battery site, and undertake thinning and limbing, or limited clearing, to enhance views between the lines along the tour road. Utilize the best management practices (BMPs) established for the project when removing trees, and avoid, minimize, and mitigate impacts to wetlands (see Implementation Projects Nos. 2, 3, and 4).

- Retain and maintain all natural systems and features known to survive from both periods of significance, including 1) Mint Spring Bayou and its associated waterfalls, ravine, and bottomlands landform; 2) Glass Bayou and its associated ravine landform; 3) Durden Creek and its associated ravine landform; 4) existing wet meadows, vernal pools, and riparian areas; 5) springs and seeps; and 6) limestone geology.

- Retain and maintain evidence of the responses to natural resources that survive from the primary period of significance, including 1) the siting of Graveyard, Old Jackson, and Baldwin Ferry Roads along east-west trending ridgelines; 2) the siting of the Shirley House on a ridgeline with access to a good spring; 3) the siting of the Confederate earthworks on elevated terrain for military advantage; 4) the placement of Confederate defensive structures, rifle pits, and batteries to defend likely avenues of approach such as roads and rail lines traversing ridgelines, and the river; 5) the Union siting of earthworks on elevated

terrain for military advantage; and 6) military occupation of high points for observation and lookout positions. Consider interpreting these responses.

- Retain and maintain evidence of the responses to natural resources that survive from the secondary period of significance, including 1) bridges and culverts established to cross ravines and wet areas in support of park development; 2) drain structures, curbs, and paved channels established to convey stormwater away from erodible soils; 3) portions of the mixed mesophytic forest partially derived from CCC-planting efforts to protect against erosion in areas not currently proposed for clearing; and 4) soil erosion control efforts conducted by the CCC, including importation of soil, regrading, and sodding. Consider interpreting these responses.

- Stabilize or repair contributing natural resources that are in fair to poor condition, including aspects of various park water resources, eroding loess bluffs and ridges, and forested areas infested with invasive plants.

- Stabilize or repair contributing responses to natural resources that are in fair to poor condition, including 1) aspects of the tour road system and some of the bridges; 2) the Shirley House and associated spring; 3) evidence of Confederate and Union earthworks sited to take advantage of topographic conditions, and 4) some of the drain structures used in association with terracing and along road corridors.

- Establish or retain a riparian buffer along the margins of Mint Spring Bayou, Durden Creek, Stouts Bayou, Glass Bayou, and all springs and wetlands. Control or remove invasive plant species within riparian buffers. Plant native species of trees, shrubs, and herbaceous grasses and forbs as needed to ensure that a continuous riparian buffer exists in association with all water resources (see list of native plants found within the park provided in Appendix C for options) (see Implementation Project No. 2). Where view corridors are desirable for interpretation, limb up existing trees, and/or remove smaller trees and shrubs to allow for specific viewing opportunities (see Implementation Project No. 3).

- Educate visitors about the sensitive nature of local plant communities and water resources.

- Limit pedestrian access to wetlands.

- Minimize soil disturbance and grading when introducing new site developments such as parking, paths, or trails.

Circulation.

- Retain and maintain the circulation features that are known to survive from the primary period of significance. These include the Kansas City Southern Railroad line, Graveyard Road, and Old Jackson Road. Monitor city protection of the historic roads located beyond current park boundaries, including Baldwin Ferry Road, Halls Ferry Road, and Warrenton Road (Washington Street).

- Retain and maintain the circulation features that survive from the secondary period of significance including Confederate and Union Avenues, Pemberton Avenue, Connecting Avenue, Sherman Avenue, Sherman Circle, Grant Avenue, Grant's Circle, and Pemberton Circle. Monitor city protection of the historic roads located beyond current park boundaries, including South Confederate Avenue, Clay Street, Wisconsin Avenue, Iowa Avenue, Indiana Avenue, and North Frontage Road.

- Consider allowing visitors to begin their journey along Confederate Avenue, either by reversing the current tour road direction or reinstating the historic two-way road system.

- Establish a new trail within each of the three cleared areas. Design the trailhead and possibly a segment of each trail to be universally accessible. Due the challenging terrain and potential for erosion, design the

trails generally to follow existing topography and with a mown grass surface. Trails with mown grass surfaces will not be universally accessible. The waysides established at the accessible trailheads will provide an alternative interpretive experience for those unable to access the mown grass surfaced trails. Possible locations for these new paths include the approaches at Stockade Redan, Fort Garrott, and the assault routes of the Railroad Redoubt. Provide parking pull-offs that connect to the new paths. (See Implementation Project No. 6.)

- Develop a loop trail that provides access to the Mint Spring Bayou waterfall. Design the trailhead and possibly a segment of the trail to be universally accessible. Due to the challenging terrain, design the majority of the trail as a primitive hiking trail and surface it with hard-packed earth protected with a layer of mulch or leaf litter. Provide a parking pull-off large enough to accommodate three cars from the U.S. Business 61 side of the park south of the National Cemetery arch at a trailhead. Provide an interpretive brochure at the trailhead that describes how the park's natural conditions influenced military events (see Implementation Project No. 6).

- Repair or stabilize contributing circulation features identified as being in fair to poor condition including historic Jackson Road, Graveyard Road, Union Avenue, and Confederate Avenue. Recommend that the city repair or stabilize historic roads in fair to poor condition located outside of the park including Baldwin Ferry Road, Hall's Ferry Road, and Warrenton Road (Washington Street).

- Consider means for better integrating the historic Jackson Road trace into the visitor experience and park interpretive program.

- Post regulatory signage to guide bicycle uses within the park, including rules of conduct. Prevent bicycles from traveling on park trails.

- Establish designated bicycle parking with bike racks at points of interest, interpretive waysides, and trailheads. Prevent bicycles from traveling on park trails and require that riders dismount and/or lock bikes in designated areas when approaching historic features that could be damaged by tire tracks, or by leaning bicycles against surfaces.

- Plant or retain shade trees in association with parking areas and roadside pull-offs where visitors will be encouraged to get out of their cars.

Vegetation.

- Prepare a vegetation management plan that considers appropriate approaches for treating all park plant communities.

- Utilize BMPs for vegetation management, including tree clearing, establishment of riparian buffers, establishing screen plantings, maintaining turf grass, invasive plant control, and enhancing the health of native communities (See Implementation Projects No. 2 through No. 4).

- Protect areas of rare or unique habitat within the park from visitor access, and changes in landcover or vegetation that might negatively impact rare or unique habitat.

- Expand and intensify invasive plant control programs and encourage the establishment of healthy native species. Include South Fort in the control program.

- Continue using prescribed fire to manage vegetation on excessively steep slopes and in invasive plant control areas. Attempt to burn annually or as frequently as fuel loads and/or park resources permit, guided by a fire management plan.

- Retain and maintain cultural vegetation features surviving from the secondary period of significance including turfgrass along key visitor use areas, and CCC-generated forest where clearing is not slated to occur.

- Establish or enhance existing screen buffers along park boundaries featuring primarily native plant material from the list provided in Appendix C (see Implementation Project No. 5).

- Assess the condition of trees within areas of visitor use in consultation with a certified arborist. Determine whether they pose any threat or hazard to individuals, buildings, or monuments. Remove hazardous plants and those that may threaten the stability of monuments or buildings.

- Enhance the visual accessibility of three key areas of the battlefield landscape by removing ninety acres of existing forest cover and replacing it with low-growing groundcover. Clear trees to provide a view from the artillery placed at the South Fort unit of the park to visualize the avenues of approach defended. Clear trees to allow for views of the Water Batteries from Fort Hill. (See Implementation Project No. 3.)

- Conduct the tree clearing in stages, undertaking a series of manageable and discrete areas over time. Retain older native trees where they do not block important views, particularly those that afford shade along the tour road. Ensure that BMPs for forest clearing, including soil erosion and run-off control and safe and effective tree removal principles, are followed (see Implementation Projects Nos. 2 through 4).

- Evaluate the success of each converted area annually over the course of one to three years before beginning conversion of additional areas. Refine the implementation strategies and BMPs accordingly. Document all findings, decisions, and updates to management protocols as part of this adaptive strategy. Consider various options for new landcover to replace the removed trees. Consider sustainability and the ability of the species to control against erosion, be easily established, and associated maintenance requirements and costs. Options may include oak savanna, warm-season grass fields, wet meadow, Bermuda grass, centipede grass, St. Augustine grass, or other ground covers. Consider using prescribed fire as a management tool (see Implementation Project No. 4).

- Conduct tree thinning, limbing, and limited removal in specified areas along the tour road to facilitate visual connections between the artillery positions of the opposing lines. Thinning and limbing up of trees associated with artillery positions should only occur in areas where visitors will benefit from this action because the tour road, a parking pull-off, or a trail will afford visual access. Clear and thin as little vegetation as possible to achieve the desired viewshed opening. Allow trees to remain that do not interfere with desired views (see Implementation Project No. 3).

- Consider establishing a new exhibit in association with the Shirley House that features the plants described in historic accounts of the landscape to interpret civilian life at the time of the siege. Exhibits and other treatments associated with the Shirley House should be based on preparation of a Cultural Landscape Report for the property

- Establish new forest cover over approximately twenty to twenty-five acres of the park to enhance screening of incompatible views and protect steep slope areas that do not contribute to park interpretation. Reforestation should be conducted in such a way as to promote a healthy native woodland appropriate to the cultural conditions of each area undergoing the conversion. See the list of native tree species provided in Appendix C for the species to be considered for the reforestation effort (see Implementation Project No. 5).

- Consider preparing Cultural Landscape Reports for the Shirley House, Vicksburg National Cemetery, and Pemberton's Headquarters to support further rehabilitation efforts at the park.

Buildings and Structures.

- Retain and maintain the Shirley House which survives from the primary period of significance.

- Retain and maintain the remnant structures that survive from the primary period of significance, including the 1) Confederate fortifications: Fort Hill, Second Texas Lunette, Great Redoubt, Third Louisiana Redan, Green's Redan, Stockade Redan, Twenty-seventh Louisiana Lunette, Fort Garrott, Railroad Redoubt, Water Battery, South Fort, Battery Barnes; and 2) Union positions at Battery Benton, Battery Selfridge, and Battery DeGolyer.

- Retain and maintain buildings that survive from the commemorative period of the park's significance including the Old Administration Building and the maintenance complex.

- Retain and maintain the structures that survive from the secondary period of significance, including the 1) the Memorial Arch; 2) Surrender Interview Site monument; 3) Union Navy Memorial; 4) tunnel near Thayer's Approach; 5) Melan Arch bridges; 6) Maloney Circle bridge; and 8) state monuments: Massachusetts, New Hampshire, Pennsylvania, Iowa, Illinois, Minnesota, Virginia, Rhode Island, Mississippi, Wisconsin, Maryland, Michigan, Missouri, New York, Louisiana, West Virginia, North Carolina, Indiana, South Carolina, Alabama, Arkansas, and Florida. Also retain and maintain state monuments that post-date the commemorative period of significance.

- Repair or stabilize contributing buildings in fair to poor condition. These include the Shirley House, the Old Administration Building, and aspects of the maintenance complex.

- Repair or stabilize contributing structures in fair to poor condition. These include the 1) Second Texas Lunette; 2) Third Louisiana Redan; 3) Green's Redan; 4) Stockade Redan; 5) Twenty-seventh Louisiana Lunette; 6) South Fort; 7) Water Battery; 8) other batteries and rifle pits; 9) Battery Selfridge; 10) Battery DeGolyer; 11) Battery Benton; and the 12) tunnel near Thayer's Approach.

- Provide additional interpretation of the form, function, and spatial organization of the missing buildings and structures present during May through July 1863. Focus particularly on historic graphics such as photographs and drawings, and physical descriptions conveyed in the Official Records, or soldiers' journal or diary entries.

Views.

- Maintain existing, or establish new, vegetative buffers along the park's boundary to screen views of nearby incompatible development. Buffers should be comprised of a layered, informal, but relatively dense planting of native evergreen and deciduous trees and shrubs. Maintain open sight lines beyond the park boundary where interpretation is desirable and views are compatible with the historic scene.

- Mitigate the appearance of mid- to late-twentieth-century residences located along park boundaries.

- Maintain vegetative screens to limit views of the Visitor Center and its associated parking lot from visitor use areas.

- Remove and thin trees along the Confederate and Union Avenues to establish views that interpret artillery fire and troop movement. Re-evaluate the need for interpretive views if the amount of vegetation in need of removal is large and proves to be a financial burden or ecologically unsound.

Small-scale Features.

- Retain and maintain all small-scale features that survive from the secondary period of significance. These include the various monuments, statues, iron and bronze tablets and position markers, busts and reliefs, equestrian statues, emplaced cannon, culvert and drainage structures, retaining walls, Shirley House gravestones, and War Department boundary markers established by the end of the period of significance.

- Replace the more than140 tablets that were removed from the park during a World War II metal drive.

- Repair or stabilize contributing small-scale features identified in fair to poor condition including individual iron and bronze tablets and position markers, battlefield markers, statues, busts and reliefs, equestrian statues, emplaced cannon, culverts and drainage structures, retaining walls, and boundary markers.

- Keep signage minimal and unified in style.

- Provide additional benches along the tour road, particularly where visitors can be encouraged to get out of their cars. Consider using existing trees or planting new trees in association with the placement of benches to provide shade for visitors.

- Install the least-intrusive site furnishings—benches, directional and regulatory signage, and bollards—possible when accommodating anticipated visitor needs.

- Design a consistent design palette for park site furnishings to unify the character of the landscape (see Implementation Project No. 8).

- Ensure that new site furnishings are compatible with the natural and historic character of the site but cannot be confused with historic features. Select furnishings that are simple in design and either dark or earth-toned in color. Avoid features that are brightly colored, overly ornate, or contain reflective or glossy surfaces.

Interpretation.

- Prepare a long-range interpretive plan for the park that incorporates the physical history information available in the CLR and guides landscape management relating to interpretation supported by implementation of the recommendations included herein.

- Reveal missing features of the military landscape using interpretive elements such as waysides, exhibits, models, pamphlets, clearing and thinning, mowing patterns, and technology-based electronic and virtual exhibits (see Implementation Project No. 7).

- Establish new interpretive nodes at the three areas of key engagement that incorporate non-historic woodland clearing, trails, parking, shade trees, and interpretive information conveyance systems.

- Establish interpretive waysides to provide additional information about the newly cleared areas of the park. Provide waysides for the Confederate and Union perspectives within each of the three cleared areas (six total waysides).

- Provide new interpretive trail connections and interpretive materials and opportunities in association with the three proposed areas of key engagement.

- Consider using the newly cleared areas for additional living history programs. Provide opportunities for visitors to experience these living history activities by identifying a location with view of the area that might include shade trees and benches.

- Consider establishing new temporary exhibits within the siege landscape to facilitate visitor understanding of missing military resources such as earthworks and associated components, weaponry, obstacles, transportation and communication features,

approach trenches and associated features, field hospital components, and soldier lifeway exhibits (see Implementation Project No. 7).

- Rehabilitate the Shirley House landscape to more closely approximate Civil War era conditions. Prior to rehabilitation, prepare a Cultural Landscape Report for the property to guide design and implementation of this recommendation. Consider reinstating features described in historic accounts of the property such as vegetable and flower gardens, fruit trees, and walks. Identify the locations of former outbuildings and structures associated with the dwelling precinct. Continue to convey information about the shebangs that were established on the slope below the house as housing for soldiers encamped there, and other military features established on the property during the siege.

- Consider providing information to visitors about important links between the forts along the river, the quitclaim parcels, the current main battlefield unit of the park, and Maloney Circle.

- Consider exploring the historic patterns of spatial organization derived from local farmsteads present prior to and after the siege in interpretive information provided to visitors.

- Provide an additional wayside within the park to interpret the role of the CCC in stabilizing parkland in the 1930s through soil erosion control and the planting of trees that now constitute many of the large forested areas of the park.

- Ensure that visitors are provided information about South Confederate Avenue and the monument- and tablet-lined road corridors south of the existing park that lead to Louisiana Circle, South Fort, and Navy Circle that were formerly included within park land. Convey the history of the park quitclaiming the land to the city of Vicksburg. Recommend that visitors travel the historic route and stop at the forts along the river.

- Consider including alternative interpretive materials for physically-impaired persons unable to experience the entire site.

- Consider offering interpretive materials for the visually-impaired. Include Braille on waysides, offer audio-tapes, and/or install a "touchable" model of the site. The touchable model should be a bronze relief of the landscape as it appeared at the time of the siege that allows visitors to understand the site in its entirety and experience the various missing features.

Archeological Resources.

- Conduct an overview and assessment survey of the park's archeological resources. Undertake remote sensing studies using ground-penetrating radar and metal detection to aid in the location of additional archeological resources. Use the findings of the assessment to protect, stabilize, and maintain known and potential archeological resources and design future archeological investigations.

- Consider measures to enhance the security of archeological resources, including the placement of signage, enhancing ranger patrols, and establishing a community watch group. In particular, discourage relic hunting within the park. Signage should indicate that disturbing the ground and removing artifacts is illegal. Increase ranger patrols of areas potentially targeted by relic hunters. Newly opened areas may become a target for relic hunters, and may require added protection, particularly immediately after clearing occurs.

- Protect archeological sites from disturbance except for investigations necessary to address important research questions and to consider proposed new additions such as trails and interpretive exhibits, and vegetation management treatments. Avoid ground disturbance associated with archeological excavation unless conducted in support of collecting essential information.

- Prepare a ground disturbance policy to be implemented by park personnel and all others who will be physically interacting with the site. Ensure that the ground disturbance policy includes guidelines regarding what constitutes ground disturbing activities and other pertinent information that site managers and cultural resource staff deem necessary for staff maintaining the site to understand.

- Engage an archeologist to conduct on-site investigations to determine any potential impact on cultural resources prior to construction of new trails and paths or exhibits.

- Document all known and potential archeological resources prior to undertaking any ground-disturbing activities. Engage a qualified archeologist to monitor any ground-disturbing activities.

- Incorporate archeology into long-term plans for protection, maintenance, and interpretation of the site.

- Avoid regrading or filling any historically significant earthen form.

- Avoid establishing trails in areas associated with known sensitive archeological resources.

- Monitor water resource margins for erosion and associated emerging archeological resources.

General Management and Design Guidelines for Treatment

The following section provides general guidelines for the treatment of the Vicksburg National Military Park landscape intended to support all treatment recommendations and alternatives developed as part of this CLR. These guidelines relate to a philosophy of cultural landscape treatment based on *The Secretary of the Interior's Standards for the Treatment of Historic Properties* with *Guidelines for the Treatment of Cultural Landscapes*, and a comprehensive view of the park as a whole. The following guidelines should be used when planning for any and all landscape changes, and should be considered in connection with each of the proposed landscape treatment recommendations included in this report.

Land Use

- Avoid land use activities, permanent or temporary, which threaten or impair known or potential archeological resources.

- Monitor and regulate use of the landscape to minimize immediate and long-term damage to cultural resources.

- Consider equally both natural and cultural features in treatment and land-use decisions.

Buildings and Structures

- Consider and recognize the interpretive value of unobtrusive, non-contributing buildings and structures.

- Consider the removal of non-contributing structures that are intrusive to the historic landscape.

- Avoid conjectural reconstruction of missing historic buildings and structures.

Circulation

- Minimize the visual impacts of vehicles and vehicular access systems. Consider the impact of any proposed circulation systems on views from primary visitor use areas. Consider noise and the other impacts that proposed new roads and parking areas will have on the visitor experience and historic resources.

- Encourage pedestrian circulation throughout the park as an alternative to vehicular access.

- Minimize the visual impacts of pedestrian access systems.

- Provide a range of pedestrian trail circuit lengths and accessibility/difficulty levels to serve a wide variety of visitors.

- Incorporate historic circulation routes whenever possible into pedestrian trail systems.

- Construct new trail segments in as minimal a fashion as possible to access points of interest or complete loop trails.

- Ensure proper drainage along trails. Establishment of trails that are too narrow, uneven, or poorly drained can result in trampling of vegetation, soil compaction, erosion, and damage to the surrounding ecosystem, and may become hazardous to visitors.

Guidelines for Adapting Historic Road Traces as Trails.

- Use only low-tire-pressure vehicles when working along historic road traces.

- Design new trails that follow or traverse historic road traces in such a way as to avoid cutting into the ground in order to preserve archeological resources. Utilize fill sections rather than cutting into the existing grade wherever possible to achieve positive drainage and address drainage and erosion control needs.

- Incorporate local materials, such as stone and wood, into trail-related structures including water bars, stepping stones, signage, fences, steps, treads, stream crossings, stone boxes or treadways crossing marshy areas, retaining walls, trail markers, and shelters. Design these features to be clearly a product of their time.

Guidelines for New Trails.

- Consider the range of possible trail types carefully before implementing a new trail system. The range of trail options to consider are as follows:

    - No trail: In areas with sensitive natural or archeological resources, it may be best to avoid trail development altogether. Avoid placing trails near sensitive resources that could be damaged by people.

    - Primitive hiking trail: Consider for areas that are relatively sensitive. Primitive hiking trails include only limited development and are anticipated to experience low-impact use and a relatively small number of pedestrian users.

    - Pedestrian trail: Consider for areas where only low-impact use, such as hiking or jogging, is anticipated. Establishment of this type of trail typically results in some level of disturbance, based upon the fact that construction equipment is required.

    - Unpaved multi-use trail: Consider this type of trail for moderate use areas to accommodate pedestrians and bicyclists, but site it to avoid impacts to historic resources. This trail type requires moderate site disturbance in the form of grading and surfacing. An unpaved multi-use trail can be made accessible in conformance with Americans with Disabilities Act (ADA) standards.

    - Paved multi-use trail: Consider this type of trail for high use areas and for the primary visitor interpretive experience. It should not be used, however, when following

historic road traces or corridors due to the relatively high level of disturbance involved in its construction.

Guidelines for Trail Construction by Type.

Primitive hiking trail guidelines.

- Design primitive hiking trails as minimal, well-drained, three- to four-foot-wide earthen- or grass-surfaced treadways.
- Design primitive hiking trails as spurs leading from more developed or major trails. Limit primitive hiking trailhead development to minimal signage at intersections with larger trails.
- Design primitive hiking trail alignments to require minimal grading and erosion control methods that can be effected by hand. Avoid trail runs that are steeper than 15 percent. Erosion control methods should be utilized primarily to correct poor drainage and prevent damage to the trail surface by stormwater.
- Utilize stepping stones, stone boxes, or a treadway of large stones on trails that pass through wet areas to allow drainage and water to move freely and prevent erosion and compaction. Ensure that stones are level and do not present a trip hazard for pedestrians. In remote areas, locally collected or quarried stepping stones are preferable to a wooden boardwalk that might be used on a heavily traveled and highly accessible trail.

Pedestrian trail guidelines.

- Incorporate only a minimal trailhead and signage into the design of this type of trail. Signage should be limited to trailheads and intersections with larger trails.
- Consider making sections near trailheads barrier-free to allow some measure of universal accessibility, where feasible.
- Utilize earthen, shredded bark mulch, or crushed stone surfacing.
- Avoid trail runs that are steeper than 10 percent grade. Maintain cross-slopes at 2 percent or less.
- Utilize low-profile boardwalks when crossing wet areas.

Unpaved multi-use trail.

- Design trails of this type with a minimum ten-foot-wide firm surface with three-foot-wide soft shoulders on either side to allow passing. Surface these trails with crushed aggregate or gravel fines, with shoulders of grass or shredded bark mulch. To meet ADA requirements for universal-accessibility, crushed aggregate trails will need to incorporate a chemical binding agent to ensure an adequate degree of firmness.
- Incorporate signage at trailheads, and as needed for orientation and to post regulations and warnings.

Paved multi-use trail.

- Consider using warm-colored surface materials such as colorized concrete or asphalt, or a stabilized crushed-stone surface fabricated from warm-colored brownstone.

Universally-accessible trail guidelines.

- Design universally-accessible trails to have a firm surface.
- Avoid trail runs longer than 200 feet that are steeper than a 5 percent grade. Maintain cross-slopes at 2 percent or less.
- Follow the guidance available in the trail accessibility pages on the American Trails website at http://www.americantrails.org/resources/accessible/index.html.

Rare, Threatened, and Endangered Plant and Animal Species

- Avoid altering the habitats of rare, threatened, or endangered species or species of special concern. Evaluate the potential impact to wildlife habitat prior to undertaking any construction or vegetation removal project.

Sustainability

- Institute cultural and natural resource treatment and maintenance methods that are environmentally and culturally sensitive and sustainable over the long term.

- Minimize areas of woodland disturbance, earth grading and compaction, and drainage pattern alteration.

- Promote biodiversity by protecting and planting native plant species.

- Use mitigating devices, such as retaining walls, closed drainage systems, and large areas of cut and fill, sparingly. Implement the least-intrusive measures and those involving stabilization first, and subsequently proceed to the most invasive as necessary. Limit major new interventions to areas that have previously been disturbed.

- Emphasize landform-based solutions, such as grading, over hardscape solutions, such as retaining walls.

- Take into consideration life-cycle costing of materials to assess their long-term wearing capacity and maintenance costs. Consider materials that are non-toxic, durable, long-lived, and low-maintenance.

Topography

- Minimize soil disturbance and grading.

- Preserve existing landforms and natural drainage patterns to the greatest extent possible.

- Avoid attempts to reconstruct or restore historic grades unless supported by clear documentary evidence showing how they appeared at a specific period or as intended by its original constructed design, as set out by the Secretary of the Interior's "Standards for the Treatment of Historic Properties."

Landcover Management

- Develop and follow BMPs, integrated pest management strategies, and soil and erosion control measures in all maintenance and management practices in order to minimize water pollution and degradation of natural systems.

- Establish vegetative cover, preferably composed of native species, on all slopes greater than 10 percent for erosion control. Consider planting species that are appropriate to the soil conditions, such as using wet-site species in perennially wet areas.

Forest Management

- Remove, when necessary, existing trees using a method that minimizes the potential impacts on known and potential archeological resources. Undertake tree removal from areas with known or potential archeological resources under the guidance of an archeologist.

- Retain, where appropriate, existing woodlands; allow successional areas to mature; and establish new buffers along appropriate sections of the park boundary when protection of viewsheds is required. Buffers should consist of mixed species woodland with understory plants. Promote varied plant composition, and consider locally native woodland species for screen and buffer plantings.

- Remove invasive alien species using ecologically sound removal techniques.

- Maintain woodlands by thinning periodically to improve stand health and increase wildlife habitat.

- Remove dead trees and shrubs, and those identified as potentially hazardous to individuals or resources because of their health or condition.

Water Resources Management

- Retain and maintain all existing water resources, including springs and seeps.

- Monitor water resources for invasive alien plant species. Remove invasive alien species identified during water resource monitoring activities using ecologically sound removal techniques.

- Maintain riparian buffers in association with all water resources.

New Design and Construction

- Consider adding new features to support interpretive, management, and visitor access functions at the park in such a way as to avoid altering existing features or adversely affecting the landscape's existing character. Features that facilitate access and interpretation should be designed in such a way as to minimize adverse impacts on the character and features of the landscape. Larger facilities should be designed to be as unobtrusive as possible while allowing for accessibility and safety. Limit the construction of new facilities to those that are absolutely necessary. Consider the use of temporary structures that do not require subgrade foundations.

- To the extent possible, accommodate new uses in existing buildings on the site.

- Site any proposed new buildings and structures out of primary and character-defining viewsheds. New buildings and structures should be situated to lie lightly on the land, minimizing soil disturbance, particularly cut and fill. Minimize the footprints of new buildings and structures by optimizing use and flexibility of both indoor and outdoor spaces. Consider designing low buildings situated below the brows of ridgelines or within valleys. The design of a cluster of smaller buildings is preferable to the establishment of one larger building. Groups of smaller buildings should be clustered tightly together. Also situate new structures relatively close to existing road corridors to avoid the establishment of new roads. Design new buildings and structures to be compatible with local traditions in terms of scale, massing, roof form, and details, and construct them from locally-available and indigenous materials. Sustainability should be considered in the choice of materials and energy use; consider incorporating passive solar energy conservation strategies into the design of new buildings and structures. Also consider the local climate in the siting and design of buildings, taking into consideration solar orientation, heat gain, shading, prevailing winds, and seasonal average temperatures.

- Avoid adding new features or altering existing features in ways that adversely affect the landscape's historic character. Introduce features to facilitate access and interpretation in ways that minimize any adverse impacts.

- Design and site new additions or alterations to the landscape in such a way that they do not destroy historic materials, features, and spatial relationships that characterize the cultural landscape. New construction should be limited to those alterations and additions that are necessary for visitor access, interpretation, and management. This might include vehicular, pedestrian, and interpretive systems such as trails and paths, minimal automobile parking areas, and unobtrusive and minimal wayside, informational, identity, and regulatory sign systems. The new or altered features should be as unobtrusive as possible while allowing for accessibility and safety.

- Limit the use of destructive techniques, such as archeological excavation, to providing

sufficient information in support of research, interpretation, and management goals.

- Evaluate all proposed new uses in consultation with an historical landscape architect and other cultural and natural resource specialists.
- Undertake sufficient study and recordation of landscape features requiring modification, repair, or replacement before work is performed to protect research and interpretive values.
- Retain and maintain historic materials, features, finishes, construction techniques, spaces, and spatial relationships.
- Avoid as possible landscape changes that create a false sense of historical development, including the addition of conjectural, typical, or representative features. Consider the addition of typical features in cases where restoration is not possible but make clear that they are not historic resources via interpretation.
- Retain and maintain changes to the cultural landscape that have acquired historic significance in their own right.
- Repair, rather than replace, deteriorated historic features. Replacement of severely deteriorated features should be based on archeological, documentary, or physical evidence. Such new features should also be based on archeological, documentary, or physical evidence; the new feature should match the old in design, color, texture, and, where possible, materials.
- Avoid the use of chemical or physical treatments that cause damage to cultural resources and natural systems. Undertake the surface cleaning of structures using the gentlest means possible.
- Protect and preserve archeological resources in place. If such resources must be disturbed, undertake mitigation measures such as recovery, curation, and documentation.
- Design all new additions and alterations to be a product of their time, and compatible with the historic resources in materials, size, scale and proportion, and massing. Differentiate new work from existing historic resources.
- Design and site new additions and alterations to the landscape in such a way that, if removed in the future, the essential form and integrity of the cultural landscape would be unimpaired.
- Minimize disturbance associated with the installation of visitor access facilities and systems that cross or abut wetlands to preserve existing landforms, and plant and animal life.
- Design new features, systems, and programs to be as accessible as possible.
- Establish new waysides in the least intrusive manner possible to fulfill proposed interpretive goals.

Adjacent Lands and Visual Quality

- Monitor and participate in regional and local planning activities in order to protect the park's setting and adjacent resources.
- Develop and maintain working relationships with adjacent property owners. Work with neighbors and community groups to develop a program of monitoring unauthorized access and destruction of resources.
- Educate adjacent property owners regarding resources located on their lands. Work with these owners to develop programs for the protection of these resources.
- Develop or maintain visual buffers along property lines abutting development. The clearing of woodlands on adjacent properties or properties within the park's viewshed are activities that could potentially threaten the visual quality of the project area. Monitor adjacent planning and development activities, and develop working relationships with adjacent landowners to yield information that

may determine the need to establish additional buffers due to proposed development.

- Utilize screening methods, such as native vegetation, that blend with the surrounding character of the site and do not become a secondary visual intrusion.

- Minimize development impacts on the park by working with developers during the planning process, suggesting setbacks and the least intrusive siting and character for improvements and new structures.

Access to Resources

- Limit, monitor, and control unauthorized access to the park.

- Limit, monitor, and control access to areas that are vulnerable to damage from human access or use.

- Develop an interpretive program that addresses cultural resources, natural systems, and their interrelationships.

- Minimize the visual and physical impacts of interpretive and visitor access facilities on cultural resources and natural systems. Develop the least intrusive interpretive and visitor access improvements possible.

- Erect the minimal number of signs possible for identity, directional, interpretive, and regulatory needs.

- Develop interpretive programs and media to be as accessible as possible for the widest range of visitors.

Role of Preservation Specialists

- Undertake all treatment projects under the direction of cultural and natural resource specialists, including historical landscape architects, historical architects, archeologists, natural resource managers, and qualified technicians and artisans.

Documentation

- Document, through drawings, photographs, and notes, all changes and treatments. Maintain records of treatments and preserve documentation according to professional archival standards.

Implementation Projects

This section describes the means for implementing many of the recommendations conveyed above. Identified below are eight implementation projects intended to support the park's ability to undertake work on the treatment plan, and secure funding. As such, they are presented in accordance with the format of NPS Project Management Information System (PMIS) funding requests. The projects are presented in a consistent format that describes the concept, identifies the considerations that must be addressed in planning for implementation, the location of the project, the additional studies that might need to precede implementation efforts, and the step-by-step process for implementation.

The implementation projects developed for this CLR are as follows:

1. Best Management Practices for Riparian Buffer Establishment; Tree Removal; New Landcover Establishment; and Invasive Plant Species Control
2. Enhance Wetland Protection by Establishing or Maintaining Riparian Buffers
3. Clear and Thin Non-Contributing Woodland using Best Management Practices
4. Establish New Landcover where Woodland is Cleared Using Best Management Practices
5. Establish or Maintain Vegetative Screen Buffers to Protect the Park's Setting and Feeling
6. Establish New Interpretive Trails
7. Enhance Interpretation within the Park Emphasizing the Cultural Landscape
8. Establish Design Guidelines for Contemporary Park Features

1. Best Management Practices for Riparian Buffer Establishment; Tree Removal; New Landcover Establishment; and Invasive Plant Species Control

Description. The CLR treatment plan recommends that the park adopt Best Management Practices (BMPs) to guide many of the actions and long-term management protocols for park resources, particularly those involving environmental features such as wetlands, soil, and vegetation. For the purposes of this report, BMP information relating to four topics has been collected for use by the park as they move forward with implementation of recommended projects. It is anticipated that the park will need to tailor current and available BMP information to the individual projects at hand, so this section will serve as a general guide rather than a specific list of actions. As part of the development and refinement of these BMPs, consideration should be given to maintenance practices required prior to and during maintenance activities.

Best Management Practices for Riparian Buffer Establishment.

See Implementation Project 2.

Best Management Practices for Tree Removal.

The most current BMPs, prepared in September 2008 by the Mississippi Forestry Commission are titled *Mississippi's BMPs: Best Management Practices for Forestry in Mississippi*, available online at www.mfc.state.ms.us.

Best Management Practices for New Landcover Establishment.

- Re-vegetate all disturbed soil in a manner that optimizes plant establishment for that specific site, unless ongoing disturbance at the site will prevent establishment of invasive species.
- Use local seeding guidelines and appropriate mixes, but realize that many species previously recommended for this purpose are now presenting invasive problems. Use native material where appropriate and available. Re-vegetation may include planting, seeding, fertilization, and mulching.
- Monitor and evaluate the success of revegetation in relation to the project plan.
- When re-vegetating areas that were previously dominated by invasive plants, try to achieve at least 90 percent control of the invasive before attempting restoration.

For more information, see "Invasive Plant Responses to Silvicultural Practices in the South" by C. W. Evans, D. J. Moorehead, C. T. Bargeron, and G. K. Douce (Tifton, Georgia: The University of Georgia, 2006).

Best Management Practices for Invasive Plant Species Control.

- Before starting any ground-disturbing activities, inventory invasive plant infestations both on-site and in the adjacent area.
- Begin activities in uninfested areas before operating in infested areas.
- Use uninfested areas for staging, parking, and cleaning equipment. Avoid or minimize all types of travel through infested areas, or restrict to those periods when spread of seed or propagules are least likely.
- When possible, to suppress growth of invasive plants and prevent their establishment, retain relatively closed canopies.
- Minimize soil disturbance and retain desirable vegetation in and around the area to the maximum extent possible.
- Monitor infested areas for at least three growing seasons following completion of activities. Provide for follow-up treatments based on inspection results.
- Do not blade roads or pull ditches where new invaders are found.

- When it is necessary to conduct soil work in infested roadsides and ditches, schedule the activity when seeds and propagules are least likely to be viable and to be spread.

- Quarantine soil from infested areas to prevent off-site spread.

- Invasive plants can be introduced and spread by moving infested equipment, sand, gravel, borrow, fill, and other off-site material. Inspect material sources at site of origin to ensure that they are free of invasive plant material before use and transport.

For more information, see Mactec, "Vicksburg National Military Park Environmental Assessment for Landscape Rehabilitation" (Atlanta, Georgia: National Park Service, 2009); <www.uaf.edu/ces/aiswg/word-documents/FS_NPS_InvasiveSpeciesBMPsFinal.doc>; and C. W. Evans, D. J. Moorehead, C. T. Bargeron, and G. K. Douce, "Invasive Plant Responses to Silvicultural Practices in the South" (Tifton, Georgia: The University of Georgia, The Bugwood Network, 2006), available on-line at <www.bugwood.org>.

2. Enhance Wetland Protection by Establishing or Maintaining Riparian Buffers

Description. Any future change in land management at Vicksburg National Military Park will need to include efforts to avoid, minimize, and mitigate all potential impacts to wetlands. One of the critical factors affecting wetlands and water quality is overland flow of stormwater. Riparian buffers are one of the tools available to the park to protect wetlands and water quality from erosion, sedimentation, and influxes of pollutants (Fig. 319).

Riparian buffers are bands of vegetation that edge watercourses to either side between the flood zone and the edge of the water—typically a strip of large trees, another of medium-sized trees and shrubs, and a third strip of grasses—designed to filter sediments and pollutants from stormwater flowing overland before it reaches the water course. Riparian buffers also stabilize streambanks, hold and release water, and contribute to aquifer recharge. Riparian buffers are developed with a plant composition and depth designed to address site-specific soil and slope conditions. Riparian buffer vegetative composition can vary greatly, but many of the trees, shrubs, and fibrous-rooted grasses native to the region can be used successfully to create effective buffers. Natural resource managers familiar with the park and region can help select plants that are appropriate for the buffer. Riparian buffer establishment and/or conservation should be considered an integral part of all park landscape management planning and implementation strategies.

Considerations. The condition of existing vegetation communities along stream and river corridors need to be evaluated for their value as a riparian buffer. For example, there may be gaps in existing woodlands along stream margins that need to be filled. Riparian buffers can be established by allowing guided natural woodland succession rather than planting. Interventions will likely be necessary where invasive plant species are a threat to native riparian vegetation, and where watercourses have unstable hydrologic conditions due to upstream disruptions caused by construction, industry, or road or residential development.

For sites where a riparian buffer is recommended, but tree cover interferes with important views, it may be possible to establish and maintain an alternative buffer type. Alternative buffers might include vegetation that can be maintained at a lower height, such as native grasses, sedges, and forbs with a strong fibrous root system capable of stabilizing the soil, interplanted with a limited number of trees and shrubs. It may also be possible to thin existing tree stands or remove individual trees and large shrubs in limited areas to accommodate site-specific interpretive objectives.

Location. Riparian buffers should be considered for all perennial and intermittent watercourses, springs, and wetlands.

Additional Studies Recommended.

- Develop a set of best management practices (BMPs) for riparian buffer implementation and management. Refer to the most recent version of Director's Order 77 for guidance in developing BMPs.

- Prepare a plan that identifies all areas requiring a buffer and delineates the proposed dimension for each buffer. Delineate proposed buffer boundaries for all perennial water bodies and wetlands using global positioning systems (GPS). Buffer dimensions and composition will take into consideration topography, vegetative cover, and soil type. The locations of the proposed buffers should be field verified, and any deficiencies in the existing riparian forest should be noted and addressed in the plan. The plan should identify a list of desirable native species for inclusion in the buffer planting. The site specific selection of species should be tied to cultural conditions. Ecologists and plant specialists should be involved in determining the recommended species compositions, densities, and the appropriate season for planting. Seed scarification, dormancy, and the potential for colonization by invasive

species are often dependent on seasonal issues. Planting schemes should be based upon a detailed evaluation of the following elements:

- Soil type(s)
- Slope of buffer zone
- Stability of soil organic layer
- Vegetation type(s) and communities
- Hydrology
- Type and condition of adjacent waterway
- Land use history
- Location of cultural and archeological features

Project Implementation Process.

Existing Riparian Buffers.

1. Retain existing vegetation that is consistent with the desired riparian buffer in composition.

2. Rehabilitate buffers using BMPs for forestry if the buffer is not stable due to vegetation that is in poor health, the existing buffer is too narrow, or invasive plants are present.

3. Invasive plants should be removed.

4. Plant native vegetation as needed to rehabilitate the existing buffer, and implement maintenance and management practices that support the establishment of additional buffer area if its width or density must be increased (see new riparian buffer section below).

5. Establish a program to perform cyclical maintenance and monitoring to ensure the continued effectiveness and health of the existing vegetative composition.

6. Provide educational and/or interpretive information to park employees and visitors on the value of riparian buffers and the goals of buffer conservation projects. Consider using waysides, signage, or other means to interpret buffers.

New Riparian Buffers.

1. Establish a riparian buffer strip to the designed dimension to either side of watercourses and wetlands where buffers do not exist, or in places where existing buffers do not comply with NPS management objectives. Begin by identifying potential buffer locations and delineating minimum buffer boundaries. Involve park staff, including natural resource specialists, in the process.

2. Prepare the site for buffer establishment by removing exotic and invasive vegetation and protecting sensitive natural or cultural resources.

3. Plant appropriate native vegetation, as identified in the plan. Follow established procedures for forest restoration, planting a combination of native trees, shrubs, and herbaceous plants, such as grasses and forbs, within the new riparian buffer zone.

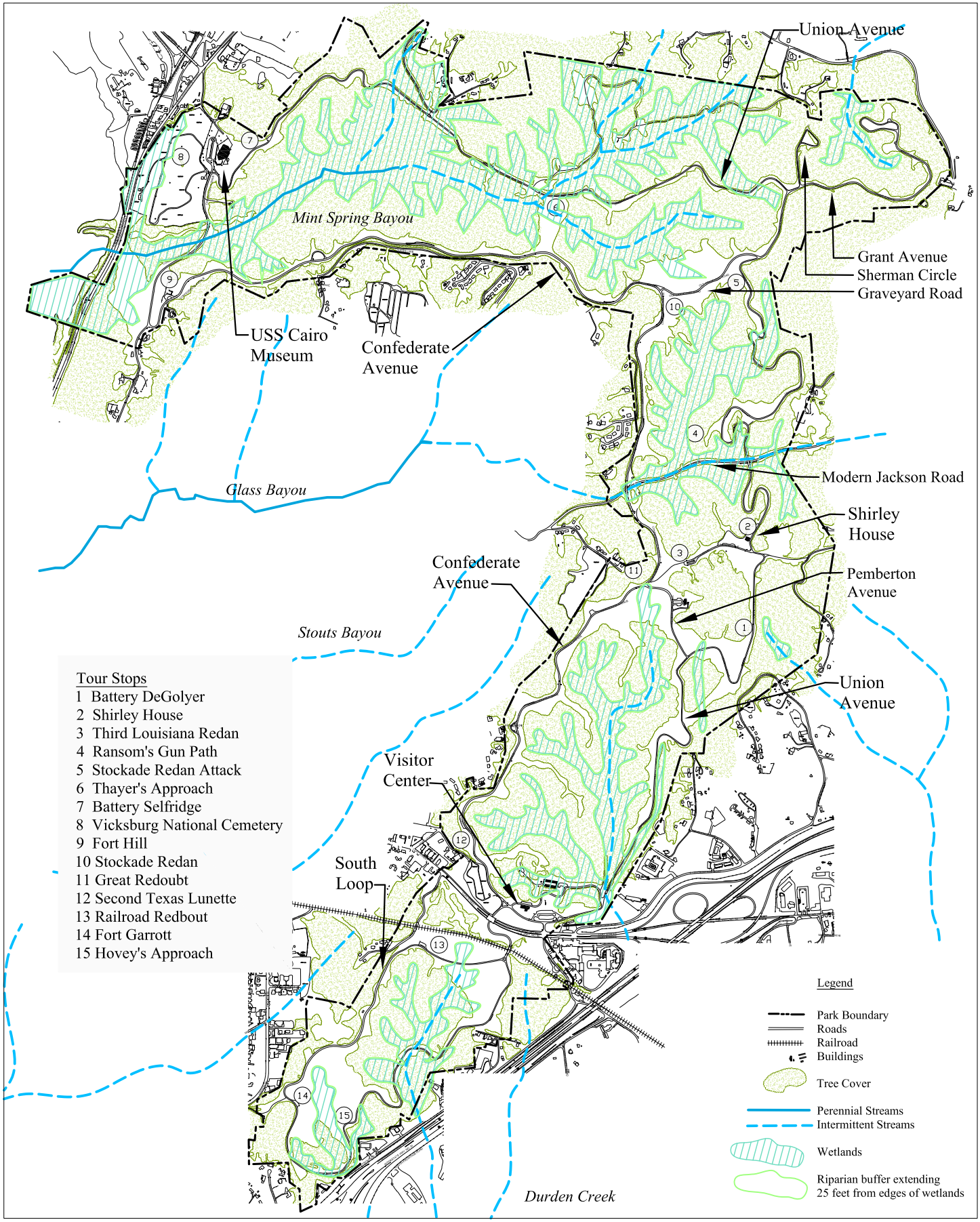
4. Follow proper plant installation methods, including mulching and watering techniques, to ensure the survival of the vegetation. Follow erosion control methods to prevent sediment or chemical runoff into the adjacent watercourse.

5. Monitor regularly post-installation site conditions for plant health and possible invasive or exotic plant species growth.

6. Replace failed vegetation immediately.

7. Avoid mowing within delineated riparian buffer zones.

8. Control colonization by invasive species.



Source: Autocad Base Map, USGS Topographic Data
December 2007 Wetland Delineation, Kovalenko and Dibble.

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Diagram of Wetland Buffers for Implementation Project

No. 2
Figure 319

Alternative Buffers for Establishing Viewsheds. At Vicksburg, certain viewsheds are critical to the visitor's understanding of the Civil War siege. Where interpreted viewsheds and sight lines are desired, standard riparian buffers should be replaced by an alternative buffer comprised of vegetation that can be maintained at a lower height, such as native grasses, sedges, and forbs that maintain a fibrous root system capable of stabilizing the soil, along with small numbers of trees to shade the water course for temperature control.

1. Identify locations where alternative buffers would be desirable to interpret specific open viewsheds between the Confederate and Union lines and their associated fields of fire.

2. Identify the desired buffer composition and select species for inclusion that are compatible with the alternative buffer proposed. Utilize an appropriate low growing landcover at sites where trees are judged to be incompatible with interpretive or management objectives. Select species with a strong fibrous root system that will help stabilize the soil.

3. Maintain alternative buffers through mowing or burning.

4. Consider, as an alternative, selectively removing trees from existing riparian areas to establish or maintain interpreted view corridors. Conserve or establish understory grasses and forbs in locations where trees are removed. Avoid gouging and other soil disturbance during plant removal and installation procedures. Consult with an arborist, archeologist, and natural resource specialist to determine the best method for the selective removal of trees within buffers and the prevention of resprouting and growth of invasive species.

3. Clear and Thin Non-Contributing Woodland using Best Management Practices

A. Clear Non-contributing Woodland Vegetation

Description. The clearing of non-contributing woodland to reestablish historic land cover conditions would enhance interpretation of the 1863 Civil War era siege and battlefield landscape (Fig. 320). Clearing of non-contributing woodland is a key element of the CLR treatment plan that responds to the park's goals and objectives. It is only recommended, however, in specified key visitor use areas where the landscape is interpreted, and where impacts to natural and historic cultural resources can be avoided, minimized, or mitigated. Best management practices (BMPs), as discussed below, should be followed when conducting the tree clearing considered as part of this plan.

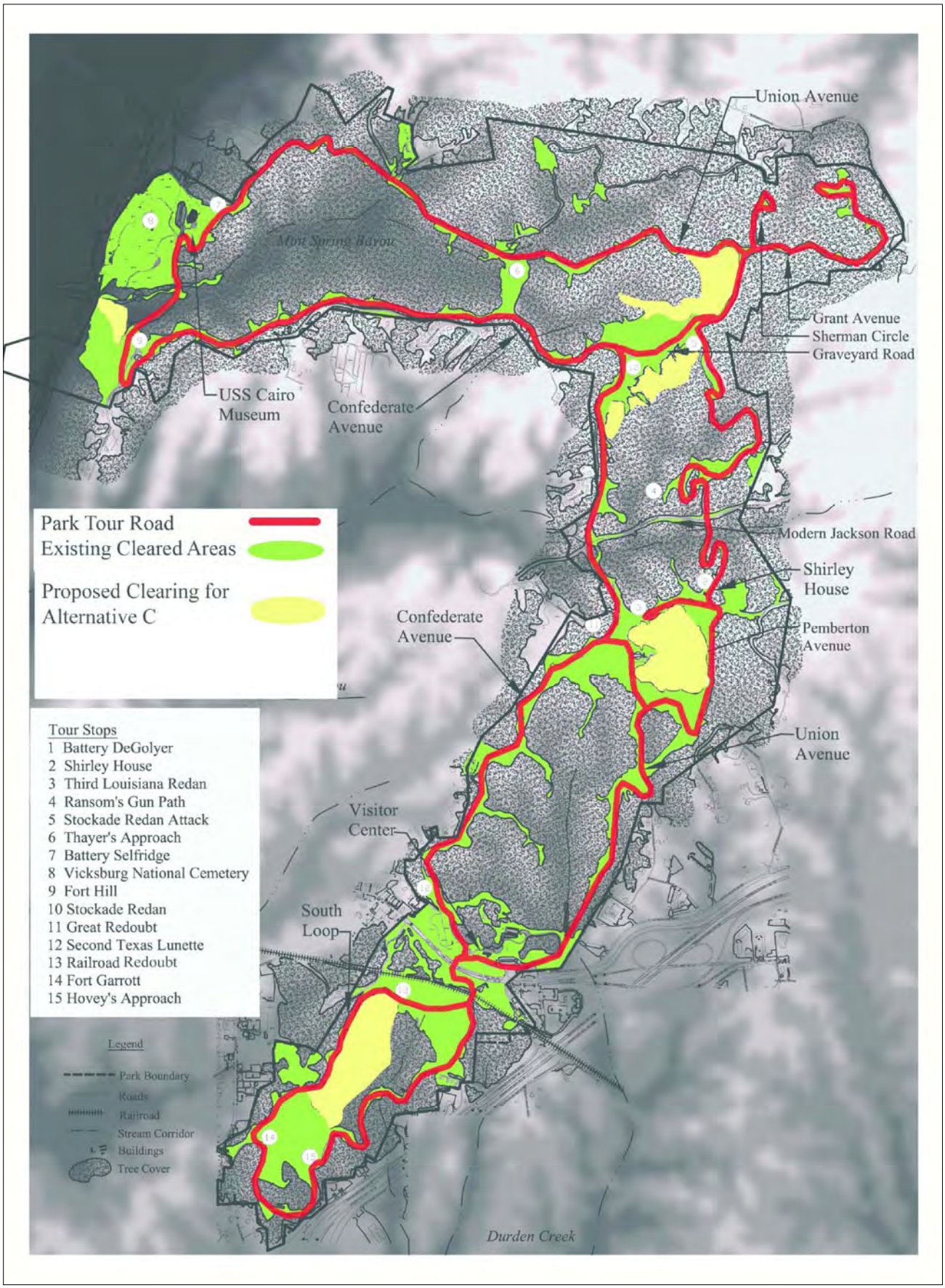
Considerations. Before any existing woodland is cleared, two factors must be considered: the impact of clearing on the environment, and the role that clearing will play in interpretation. In some cases, non-contributing woodland helps to screen views of incompatible contemporary development and should remain. In other cases, non-contributing woodland plays an important role in maintaining the health of the environment. Woodland cover along stream corridors such as Mint Spring Bayou is important as a riparian buffer that protects water quality and should not be removed. (See Riparian Buffer guidelines provided in Implementation Project No. 1 above). Other woodland areas may serve as habitat for plant or animal species of special concern and should not be disturbed. As part of the development of a Long-Term Interpretive Plan, the park should establish priorities for interpretation, the role that clearing will play in conveying the stories of the siege to the visitor, and determine the costs and benefits associated with clearing.

The following criteria should be considered when deciding whether and where to clear woodland:

- The area to be cleared should support the goals of the park's interpretive plan.
- The area to be cleared should be located within view of a primary visitor use area.
- The area to be cleared should not negatively impact water resources or other sensitive ecological areas, and proposed plans should be consistent with all federal, state, and local laws associated with natural resource protection.
- Tree removal should not result in open views to areas outside the park that would have a negative effect on interpreting the historic scene.

The following economic and environmental costs should also be considered when weighing interpretive benefits:

- Will the clearing result in a loss or fragmentation of wildlife habitat?
- Can the potential loss of topsoil and reduction in water quality due to increased runoff during clearing be mitigated to an acceptable degree?
- Can the potential loss or damage of archeological resources due to clearing, stump removal, and seedbed preparation be mitigated to an acceptable degree?
- What is the financial cost of meeting Section 106 compliance in testing, collecting, and inventorying environmental and archeological resources?
- What is the financial cost of monitoring by specialists during clearing?
- Can the costs of clearing be offset by the sale of the timber harvested?
- What is the financial cost of establishing the new desired land cover?
- What is the financial cost of managing new fields by mowing and/or prescribed burning?



Source: Autocad Base Map, USGS Topographic Data

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Diagram of Clearede Areas for Implementation Project No. 3

Figure 320

Location. Three primary areas of woodland clearing are recommended as part of the CLR treatment plan. These include the earthworks, artillery positions, and approaches associated with 1) Old Jackson Road/Battery DeGolyer/Third Louisiana Redan (with Old Jackson Road to Pemberton Avenue being of the highest importance); 2) Railroad Redoubt/Fort Garrott; and 3) Graveyard Road/Stockade Redan. Additional limited tree removal is also proposed near the Water Battery overlooking the Mississippi River northwest of Fort Hill, and around South Fort. Also under consideration is careful and judicious thinning and limbing of tree cover along Confederate and Union Avenues where visitors might access the view and gain an understanding of the opposing lines (See section B. below).

Additional Studies Recommended.

- By law, any landscape management activity that moves, breaks, or disturbs soil requires some level of Section 106 and/or NEPA compliance before activities can begin. An EA has been prepared in conjunction with the treatment plan identified in this CLR.

- Consider conducting a seen-area analysis, such as a DEM (Digital Elevation Model) using ArcGIS Spatial Analyst and 3-D Analyst extension, to help determine the available views and viewsheds important to interpreting the 1863 military landscape from tour road locations and other visitor use areas.

- Coordinate the seen-area analysis with fieldwork to determine appropriate locations for establishing sight lines that will support visitor understanding and interpretation of 1863 military events.

- After identifying the boundaries of the area to be cleared as part of the initial phase of the adaptive strategy, work with botanists/ ecologists to perform necessary environmental impact assessments. All potential cultural and natural resource impacts should be evaluated before making final determinations regarding which sites will be cleared.

- Prepare a set of best management practices (BMPs) identifying the most appropriate methods of tree removal and erosion control given local soils, hydrology, and vegetation types that will minimize the impacts and threats to cultural and natural resources and known and potential archeological resources. Determine how to dispose of the cleared trees, prior to beginning work (see section C. below).

- Engage a team of specialists, potentially including an ecologist, rare plant specialist, hydrologist, forester, archeologist, and historical landscape architect, to delineate the boundaries of the sites to be cleared. The team should also collectively delineate the locations and alignments of all timber haul roads and skid trails, loading areas, streamside management zones, and other related conditions of the tree removal effort. The team should also evaluate the woodlands identified for clearing to ensure that there are no federal or state threatened, endangered, or rare species present, or rare habitats that are likely to support such species, and that there are no cultural resources that will be adversely affected. If endangered or threatened plant or wildlife species are identified, recommended actions that may alter their habitats should be reevaluated.

- Establish protocols to preserve, protect, and maintain cultural features such as monuments in areas undergoing woodland clearing.

Woodland Clearing Options.

- **Clear-cutting.** Although clear-cutting is potentially the quickest and most-efficient method of removing forest, the following must be taken into consideration:

    - Clear-cutting leads to a drastic change in appearance that can disturb visitors.

    - Invasive species can become opportunistic within surrounding woodland stands.

- Clear-cutting can be more expensive than gradual removal due to the need for heavy machinery and increased labor.

- **Gradual removal.** Gradual removal does not provide the immediate gratification of clear-cutting and may take five to ten years to complete. It also requires continual maintenance and periodic hiring of tree removal labor. A management plan for removal may be required to adequately address issues involved with this type of tree removal, but offers other advantages such as:

  - The method will likely have less impact on the surrounding woodlands and environment.

  - It will be a less abrupt change for visitors.

Project Implementation Process. After an area has been identified as suitable for clearing, the following steps are recommended:

1. Engage a tree removal service to conduct the clearing that can demonstrate successful experience working at historically significant sites. Ensure that tree clearing and erosion control BMPs developed for this project are an integral component of the process to be conducted by the tree removal contractor.

2. Ensure that appropriate measures to stabilize the soil and minimize erosion are established by the contractor prior to clearing.

3. Regularly inspect tree removal operations to monitor compliance with the terms of the contract and applicable laws. An archeologist, soil scientist, and/or other professionals should participate in monitoring and regular inspections of the tree clearing operations.

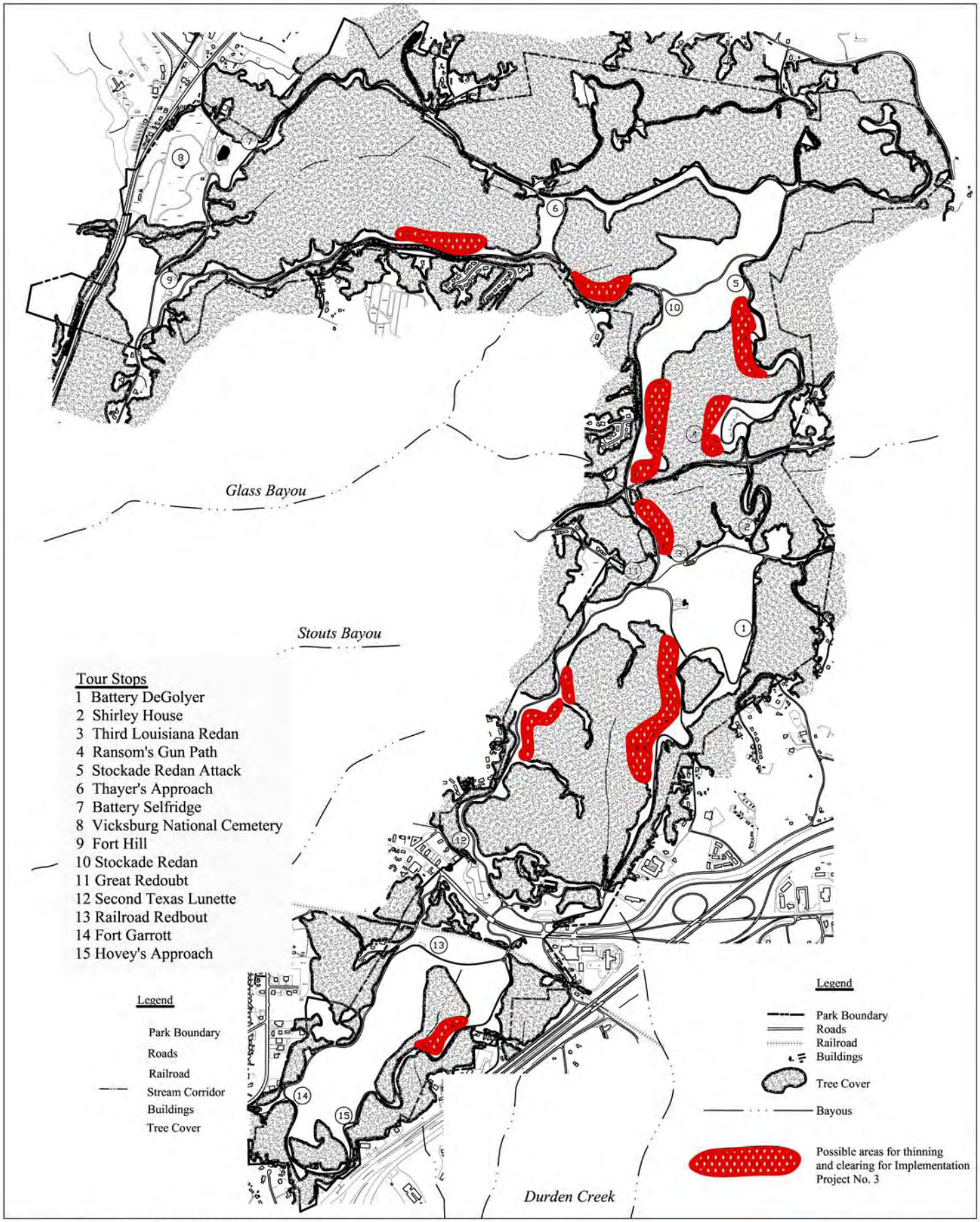
4. Begin immediate establishment of desired new landcover in areas where trees have been removed (see Implementation Project No. 3 below). Minimize disturbance to the soil surface when planting new landcover.

B. Thin Woodland to Establish Viewsheds for Interpretation

Description. Interpretation of the Vicksburg military landscape will be enhanced through increased visual accessibility of the opposing lines of fortifications, and their connection to each other and the surrounding landform and topography (Fig. 321). The park's existing woodland areas were generally open during the Civil War and today obscure important military views and relationships. As noted above, removal of non-contributing woodland is recommended in three key areas to support interpretation of 1863 military events. Some areas of non-historic woodland, however, have high natural resource values and should be retained, or will remain in woodland cover due to other considerations such as the park's maintenance capabilities. Other options exist to facilitate interpretation where existing woodland is recommended to remain. These include careful manipulation of existing woodland cover by site-specific thinning of trees, limbing up or pruning of the lower branches of canopy trees, removal of saplings and shrubs, removal of invasive species and dead or dying trees, and/or limited clearing along a targeted view corridor.

Considerations. Woodland thinning techniques presented herein are intended to render the ground plane and landform of important interpretive viewsheds more visually accessible in places where removing non-contributing woodland is not a viable option. In implementing these projects, care must be taken to avoid disturbing woodland areas that serve as habitat for species of special concern or that are important to protecting water resources.

Thinning within designated riparian buffer areas can be considered if an alternative buffer community is established. Alternative riparian buffer communities are described in Implementation Project No. 1 above.



Source: Autocad Base Map, USGS Topographic Data

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Diagram of Thinning and Clearing Along Tour Road for Implementation Project No. 3

Figure 321

Location. Thinning and clearing of specific sight lines may be desirable along Confederate and Union Avenues where woodland removal is not anticipated but views between the lines are possible.

Additional Studies Recommended.

- The identification of potential views and viewsheds should be determined as part of a seen-area analysis (using technology such as ArcGIS Spatial Analyst and 3-D Analyst extension).

- The park should prepare a Long-Range Interpretive Plan that describes the interpretive goals and programs associated with the cleared areas.

Project Implementation Process.

1. Engage an archeologist, natural resource specialist, and historical landscape architect to field-check and evaluate the areas to be thinned or cleared and ensure that no cultural or natural resources will be adversely affected prior to removal of woodland vegetation. Evaluate the likely efficacy of the clearing to establish the desired view. Adjust the planned thinning operation if the amount of vegetation in need of removal proves extensive or the operation is anticipated to become ecologically unsound or a financial burden.

2. Clear as little vegetation as possible to achieve the desired viewshed opening. Perform work in phases to ensure that the minimum amount of vegetation is removed to meet interpretive needs:

    - Phase One: Begin by removing exotic and invasive vegetation and trees that are diseased, unhealthy, present a danger to visitors, or are a windthrow hazard. Follow BMPs for vegetation removal and thinning. Remove the majority of saplings and shrubs. Prune and remove branches up to fifteen feet above the ground when the action will not result in damage to the tree. Revegetate with a desired new low growing landcover.

    - Phase Two: Evaluate the success of phase one thinning operations. Further enhance visibility as needed by selectively thinning additional trees. Continue to remove exotic, invasive, and diseased vegetation.

    - Phase Three: Evaluate the success of phases one and two thinning operations. If the viewshed remains obscured, continue to selectively thin trees without negatively affecting water quality and erosion problems until the viewshed meets interpretive needs. As woodland is opened, continue to revegetate with the desired new landcover to prevent soil erosion and establishment of unwanted opportunistic and invasive species. Maintain understory grasses by periodically removing woody competition as needed. Also thin woody cover on a periodic basis to maintain visual access.

    - Alternatively, opt to clear trees between a specific view point and a viewed landscape feature in a narrow corridor. Interpret the cleared area for visitors.

C. Best Management Practices associated with Tree Clearing

Description. Any tree clearing that occurs within the park should follow carefully considered best management practices (BMPs) to avoid soil erosion and impacts to wetlands. BMPs for tree clearing have been developed by the state of Mississippi that provide important guidance for planning and implementing tree clearing plans. The most current BMPs, prepared in September 2008 by the Mississippi Forestry Commission are titled *Mississippi's BMPs: Best Management Practices for Forestry in Mississippi*. Another good source of information for developing appropriate BMPs is the June 2005 *FSC Regional Forest Certification Standard for the Mississippi River Alluvial Valley and Gulf Coastal Plan (MAV Region)* (see principal 6 in particular.) Both of these documents are available on-line.

Considerations. Consideration should be paid to performing clearing or thinning operations in the fall and winter when fewer visitors are at the park, dormant trees are less likely to be damaged, there are no nesting birds or animals in the vegetation, and sufficient time would be available to remove ground vegetation before spring growth.

The use of heavy vehicles should be minimized, and consideration should be paid to using low tire-pressure vehicles. Operations should occur only when the soil is firm to reduce the degree of compaction. Also consider cutting stumps to the ground to avoid the need to uproot or grind them; treating stumps and sprouts with herbicide, such as glyphosate, to discourage and control woody regeneration; and removing felled trees without dragging, which gouges the ground surface.

Based on review of the Mississippi Forestry Commission report *Mississippi's BMPs; Best Management Practices for Forestry in Mississippi*, the following should be considered carefully in developing BMPs for tree clearing at Vicksburg National Military Park:

1. Do not allow surface water runoff from any type of soil disturbance to run directly into a watercourse.

2. Maintain the integrity of all streambeds and banks. When it is necessary to alter a stream's course for any reason, return the streambed and banks, as near as possible, to their original condition.

3. Do not leave debris of any type (logging or inorganic) in streambeds.

4. Do not spray chemicals directly into water or allow chemicals, herbicides, fertilizers, or petroleum products to degrade surface or groundwater.

5. Leave streamside management zones along watercourses both to filter sediment from overland flow and to maintain the inherent, normal temperature of water in all streams and other bodies of water.

6. Provide for rapid revegetation of all denuded areas through natural processes supplemented by artificial revegetation where necessary.[301]

Additional considerations derived from the *FSC Regional Forest Certification Standard* include:

- Establish safeguards that protect rare, threatened and endangered species and their habitats. Establish conservation zones and protection areas as needed. Void inappropriate timber extraction.

- Create or maintain conservation zones for existing sensitive, rare, threatened, and endangered species and other protected areas to enhance the viability of populations and their habitats including their connectivity within the landscape.

- Maintain, enhance, or restore ecological functions and their values.

- Prepare and implement written guidelines to control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.

- Conduct logging operations and construction of roads and skid trails only during periods of weather when soil is least susceptible to compaction, surface erosion, rutting, or sediment transport into streams and other bodies of water.

- Minimize construction of skid trails to the extent possible.

- Plan felling and extraction to minimize adverse effects on standing trees, ground cover, soil, and sensitive environmental features.

- Select silvicultural techniques and logging equipment according to slope, erosion-hazard

301. Mississippi Forestry Commission, "Mississippi's BMPs; Best Management Practices for Forestry in Mississippi." (Jackson: September 2008), 3, available online at www.mfc.state.ms.us.

rating, and/or risk of landslides in order to minimize soil disturbance and erosion, and avoid mass failure.

- Minimize impacts to forest resources by implementing the following mitigation measures:
    - Slash is concentrated only as much as necessary to achieve the goals of site preparation and the reduction of fuels to moderate or low fire hazard levels.
    - Scarification of soils is limited to the minimum necessary to achieve successful regeneration of desired species.
- Minimize removal and relocation of mineral and organic layers of soil during logging and site preparation.
- Design, construct, and maintain the transportation system to minimize the extent of the road network and its potential cumulative adverse effects.[302]

Both of the referenced guides suggest that preharvest planning is one of the keys to preventing soil erosion and sedimentation. Careful planning of road locations, logging, harvesting practices, and watercourse protection are recommended. To avoid non-point pollution problems such as excessive sediments, organic debris, chemicals, nutrients, and an increase in average water temperature, the guide recommends the establishment of streamside management zones (SMZs), which are vegetated areas adjacent to streams and watercourses that help protect them from pollutants. (See also riparian buffer section above.)

SMZs are zones that extend from both stream banks to a distance determined by the slope of the land. The zones are designed to trap sediments so are recommended to be thicker as the steepness of the adjacent slope increases due to the associated increased velocity of overland stormwater flow. The intent of SMZs is also to maintain sufficient overstory and understory crown cover to provide shade, maintain bank stability, and protect water quality. Additional benefits include enhancing wildlife habitat, creating wildlife corridors, and providing habitat diversity in harvested areas. The vegetation acts as a filter to trap sediments, chemicals, and nutrients before they reach the water. Some of this vegetation along perennial streams also provides the shade necessary to avoid adverse changes in water temperature.

The proper use of SMZs depends on the individual stream type. The guide considers two stream types in Mississippi: perennial (watercourse that flows in a well-defined channel throughout most of the year under normal climatic conditions) and intermittent (watercourse that flows in a well-defined channel during wet seasons of the year but not the entire year). The stream type will dictate the types of forestry activities that are appropriate.[303] The principals associated with SMZs within the guidelines include:

1. Never use a stream channel as a skid trail or road.
2. Always remove logging debris from stream channels.
3. Minimize the number of stream crossing points.
4. Cross streams only at a right angle.
5. Never block the flow of water through a stream channel.
6. Avoid rutting through streams.
7. Avoid high intensity fire in SMZ.
8. Minimize residual tree damage.
9. Harvest of any stems on the edge of a stream channel must be accomplished in such a

302. Forest Stewardship Council, "Regional Forest Certification Standard for the Mississippi River Alluvial Valley and Gulf Coastal Plain (MAV Region), v. 3.3" (June 1, 2005).

303. Mississippi Forestry Commission, "Mississippi's BMPs," 5.

manner as to minimize impact to the stream bank.[304]

Another topic addressed by the cited sources is the establishment of routes to haul cleared trees. These routes are referred to as skid trails and haul roads. Erosion control measures are needed in association with each of these constructed corridors. Skid trails are used for moving harvested materials from stump to landing. They need to be designed to avoid potentially sensitive areas and problem soils and to drain properly. Skid trails also require maintenance if they are to retain an effective drainage system.[305]

Haul roads are the primary roads used to transport timber from a site. Like skid trails, haul roads need to sited to avoid potentially hazardous areas and problem soils, and to accommodate drainage in such a way as to limit soil erosion. Haul roads should be constructed and used during dry periods as possible. These road surfaces will also require maintenance to avoid the development of ruts. Both road types should be revegetated after they are retired.[306]

The referenced guides provide additional guidance on establishing water control methods in association with roads established to support tree clearing that are intended to reduce sedimentation from logging activities. The methods described include slash dispersal, revegetation, silt fences and hay bales, water bars, water turnouts, and broad-based drainage ditches.

Slash is debris created in the process of a logging operation. Slash dispersal is an immediate solution for preventing soil movement on an active logging site. Scatter slash over exposed soil or use it to build water bars.

Revegetation is using seed or mulch to protect trails, roads, or other exposed soil.

Silt fences and hay bales reduce erosion and sedimentation. They can be used to stabilize exposed soil around stream crossings, or embedded roadways and trails.

Water bars are mounds of soil or placed wood to divert runoff water from a road.

Water turnouts are extensions of a drainage ditch into a vegetated area, providing for the dispersion and filtration of stormwater runoff.

Broad-based drainage ditches are carefully-constructed outslope sections of roads that serve as a water catchment and drainage channel.

For more information, see "Mississippi's BMPs; Best Management Practices for Forestry in Mississippi" available on-line at www.mfc.state.ms.us.

304. Ibid, 6.
305. Ibid, 8-9.
306. Ibid, 9-10.

4. Establish New Landcover where Woodland is Cleared using Best Management Practices

Description. Areas of the park slated for removal of non-contributing woodland will require immediate revegetation to protect against erosion. New vegetation established within these areas, to meet the goals and objectives of clearing, will need to be maintained at a relatively low height to allow visitors to personally see and experience the terrain. The plant species or communities established within newly cleared areas must also meet additional criteria such as viability within the park's natural environment, be efficacy in protecting the local soil from erosion, and within the park's maintenance capabilities (see the specific criteria for selection below). As with tree clearing, the establishment of new landcover in cleared areas should be effected in such a way as to promote environmental stewardship and avoid impacts to sensitive natural and cultural resources. Best management practices for establishing new landcover will be developed and followed as part of this project.

Considerations. One of the current conflicts inherent in the park's treatment of landcover within cleared areas is that the two primary species used to protect against erosion are Bermuda and bahia grass. Both of these are considered non-native invasive species in states other than Mississippi. Both offer little in the way of wildlife habitat, and their use constitutes a monoculture, which can be dangerous should the species be susceptible to loss due to a pest or pathogen. It is recommended that the park continue to consider a variety of plants and plant community types that meet the criteria for new landcover listed below in cleared areas. It may be necessary to convene a committee of wildlife biologists and ecologists with knowledge of local soils and plant communities to determine the range of plants and plant communities that might be considered for use within cleared areas of the park. In fact, the park's varied terrain and environmental conditions may be best served by the establishment of a variety of communities that are suited to local soil moisture, solar orientation, and slope conditions.

Investigation into the potential to establish oak woodland/savanna, warm season grass fields with combinations of Indiangrass, switchgrass, and bluestems on uplands and slopes, and moist forb and grass meadows in swales and drainages should be explored. Challenges such as long establishment periods can be met with techniques such as the planting of annual grasses to hold the soil, overseeding, or managing to promote warm-season grasses over cool-season grasses. While establishing, managing, and maintaining these communities may require specialized attention and practices, they will also likely yield worthwhile environmental and aesthetic benefits.

Location. This project is specifically intended to address the proposed cleared areas, but alternative land cover types could also be considered wherever non-native grasses or invasive plants currently exist.

Additional Studies Recommended.

- Preliminary studies such as soil analysis will be needed prior to determining the specific process for and species associated with establishing new landcover.
- A committee comprised of park personnel and scientists with local expertise in ecology should consider the options for new landcover that meets the following identified criteria:
    - Species must be able to be maintained at a height of three feet above the ground at or near the grade of the tour road and other visitor use areas, and up to fifteen feet at lower elevations where visitors could still see across the vegetation because of the lower elevation.
    - Species must be suited to loess soil, planting zone, and rainfall conditions (soil testing must precede species selection).
    - Species should be drought tolerant.

- Species must provide above ground cover and/or a root system that protects against soil erosion characteristics particular to loess soil.

- If the species provides long-term soil erosion protection but no short-term protection, there must be a viable annual or interim landcover option for the establishment period.

- The long-term cover species must be perennial or self-perpetuating, although temporary cover species may be annual.

- Preference will be given to a species that is relatively easy to establish.

- Preference will be given to species with greater benefits to wildlife.

- Preference will be given to a species that has less onerous maintenance requirements than the existing Bermuda grass, particularly concerning mowing frequency.

- Preference will be given to species that can be maintained through alternatives to mowing, such as prescribed fire.

- Preference will be given to native species over non-native species.

- Invasive species will not be used. (Bermuda grass is not currently listed as invasive within the state of Mississippi.)

- Consideration will be paid to establishing appropriate species compositions in different areas of the park: requirements for frequent mowing is less problematic on relatively level sites; on steeper sites, maintenance requiring less frequent mowing is more desirable.

- Consideration will be paid to replicating the character of local landcover at the time of the battle.

Native Warm-Season Grass and Forb Fields. One option to be considered for newly cleared areas is the establishment of warm-season grass and forb fields or meadows. Converting woodland to native warm-season grass and forb fields will allow the perpetuation of important open conditions while supporting NPS sustainability initiatives. The park expends a great deal of energy in the form of fuel and labor to regularly mow turf grass. Native warm-season grass and forb fields can be managed through mowing once or twice per year, or through a combination of mowing and prescribed burning.

Native warm-season grass and forb fields are generally composed of regionally-native perennial bunch grasses that are more ecologically sustainable than Bermuda grass. They can provide high-quality wildlife habitat, while also serving as components of riparian buffer plantings. Established using a modicum of soil amendments, warm-season grasses require few or no additional applications of herbicides, fertilizers, or pesticides. They are generally drought tolerant as well.

Native warm-season grass fields can be difficult to establish and maintain in the early stages. A temporary cover of an annual grass such as rye can be used during the early phase of establishment. The desirable mix of grasses and native prairie forbs can include bahia and/or Bermuda grass to help maintain even and complete coverage of the soil. (Refer to the list of Jackson Prairie species appropriate for use in the area, Appendix C.)

The conversion of woodland to warm season grass and forb fields should be undertaken in an adaptive or phased manner. Knowledge gained from the Railroad Redoubt clearing as well as other early-phase conversions can be applied to the on-going conversion of additional fields.

The park's interpretive plan should consider the role that native warm-season grass and forb fields can play in the interpretation of historic conditions. Mowing patterns, for example, can be utilized to create visual aids for interpreting missing historic conditions. Grass species with distinctions in texture, height, and/or color can be planted in limited areas in support of interpretive

needs to delineate former field patterns, military lines, or other missing features of the Civil War-era landscape. The seasonal nesting cover and food requirements of open-field wildlife in the park, such as birds and small mammals, should be accommodated when determining mowing schedules.

Project Implementation Process.

1. Determine the vegetation species and compositions for areas to be cleared using the criteria developed for the project.

2. Develop a set of BMPs for establishment and maintenance of the vegetation communities to be established. Consider the guidance offered in the state of Mississippi's Best *Management Practices for Forestry in Mississippi* available on-line at www.mfc.state.ms.us.

3. Establish the new vegetation in conformance with the BMPs developed.

5. Establish or Maintain Vegetative Screen Buffers to Protect the Park's Setting and Feeling

Description. Maintenance of the historic rural character of the park landscape depends on the control of views to adjacent and/or non-contributing properties and features (Fig. 322). Vegetative buffers are one of the primary tools for screening incompatible views. However, the park may also take into consideration the procurement of scenic easements, and/or coordination with local and regional planning authorities to control development within sight of the park.

Considerations. A seen-area analysis could be used to determine where visual buffers and possibly development controls are needed. Such a study could be used to evaluate existing buffers and identify areas where buffers may either exceed or be insufficient to the task of controlling non-contributing views. As the park weighs goals of removing non-contributing woodland, it may be desirable to diminish the current extent of perimeter woodland buffers, and/or extend buffers in other carefully-considered areas.

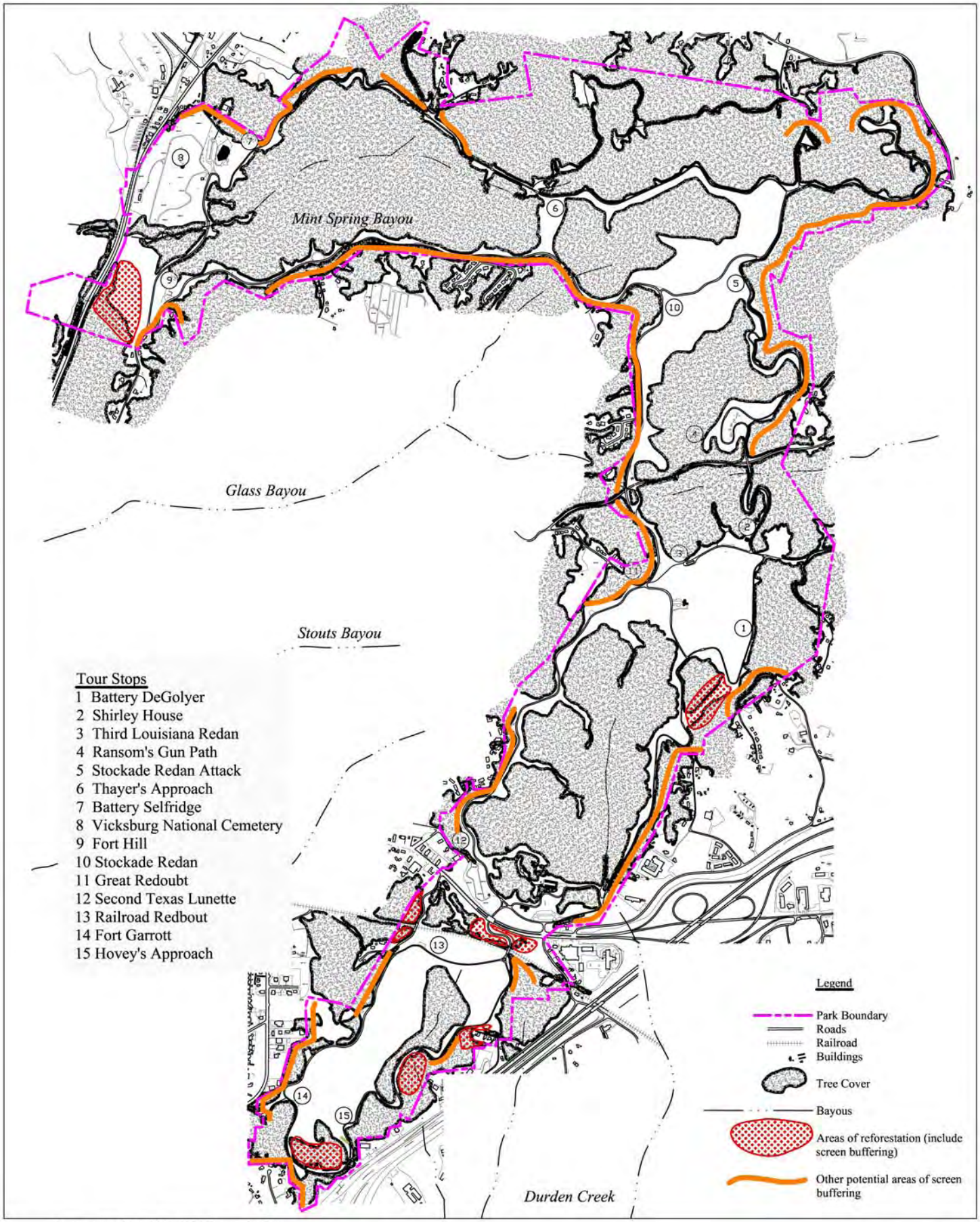
Many of the park's existing buffers benefit from the evergreen character of privet, an invasive alien species that should be removed from the park if possible. A suitable native species replacement for privet should be identified.

Location. Vegetative screen buffers are in place along the majority of the park's boundaries. Development pressures with the potential to impact views are occurring along the eastern, southern, and northwestern park boundaries.

The park proposes to establish woodland areas in specific locations to enhance screening of features such as the park visitor center. Establishment of woodland in these areas should follow the same guidance as buffer establishment.

Additional Studies Recommended.

- Minimize development impacts adjacent to and near the park by working with developers during the planning process, suggesting increased setbacks and the least intrusive location and character for new structures and roads.
- Monitor and participate in regional planning activities in order to protect adjacent resources and the larger setting of the park.
- Develop working relationships with adjacent landowners to yield information that may determine where additional buffers should be established to most effectively screen proposed development.
- Coordinate with adjacent and nearby property owners to determine if they are amenable to selling or donating scenic easements on their land to help fulfill the park's interpretive mission.
- Obtain scenic easements for all adjacent property that will remain visible from the interior of the park. Scenic easements are legal documents stating that the owner of a property agrees not to build anything on their land that will be visually intrusive to the owner of an adjacent or nearby property.
- Coordinate with planning authorities on the development and construction of new features within the landscape that may impact the park visually or physically such as roads, zoning changes that may result in higher density residential or non-residential uses, sale of land to non-governmental entities, and cell towers or antennae.
- Design a woodland vegetation plan for park screen buffers. Include native evergreen and deciduous trees and shrubs with a dense character that are suited to local conditions. Plant trees in groves rather than in rows to present a more natural appearance. Plant evergreen understory trees and shrubs where a solid screen is needed. Avoid planting monocultures of a single tree species, such as pines. Not only is this practice ecologically unsound, but it may create a distracting view that does not blend with the surrounding



Source: Autocad Base Map, USGS Topographic Data

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Cultural Landscape Report
Vicksburg National Military Park

Diagram of Areas Needed for Buffer Enhancement for Implementation Project No. 5

Figure 322

woodland character. Consider the following native evergreen species for inclusion within the plan:

- American holly (*Ilex opaca*)
- Eastern red cedar (*Juniperus virginiana*)
- Southern magnolia (*Magnolia grandiflora*)
- Loblolly pine (*Pinus taeda*)
- Carolina cherrylaurel (*Prunus caroliniana*)

And consider the following locally and regionally native deciduous vegetation to supplement the evergreen material:

- Oaks: black (*Quercus velutina*); cherrybark (*Q. pagoda*); chinkapin (*Q. muehlenbergii*); northern red (*Q. rubra*); Shumard's (*Q. shumardii*); southern red (*Q. falcata*); water (*Q. nigra*); and white (*Q. alba*)
- Sycamore (*Platanus occidentalis*)
- Tulip poplar (*Liriodendron tulipifera*)
- Pecan (*Carya illinoiensis*)
- Sassafras (*Sassafras albidum*)
- Flowering dogwood (*Cornus florida*)
- Redbud (*Cercis canadensis*)
- Deciduous holly (*Ilex decidua*)
- Rusty black haw (*Viburnum rufidulum*)
- Rough-leaved dogwood (*Cornus drummondii*)

- Assessment and protection of cultural features should precede planting.

Project Implementation Process

1. Evaluate the current effectiveness of visual screening along the park perimeter. Determine where sufficient screening of intrusive views exists and where it should be reinforced with additional plantings, particularly as privet is removed.

2. Delineate the extent of each area where screen plantings are to be established, using a historical landscape architect, archeologist, and botanist/ecologist.

3. Remove all invasive species within the area designated for buffer establishment or to be converted to woodland

4. Implement the re-vegetation plan, either by allowing woodland to develop through secondary succession, or by planting saplings of native trees. Follow proper plant installation methods, including mulching and watering techniques, to ensure survival of newly planted vegetation.

5. Initiate a periodic monitoring program to evaluate the development of the woodland and to look for evidence of colonization by invasive species.

6. Manage vegetation to promote the establishment of stable, healthy woodland comprised of species typically found in similar natural areas.

6. Establish New Interpretive Trails

Description. Expansion of the existing opportunities for visitors to access and learn about the park's significant historic resources is recommended in the CLR treatment plan (Fig. 323). To address this topic in sufficient detail, the Long-Range Interpretive Plan (LRIP) currently under development will be needed. Expanding these programs will likely encompass a range of physical features including new trails, parking pull-offs, exhibits, land cover and vegetation management, and sign systems. The design of these new site improvements will be driven by the LRIP as it examines the park's interpretive systems as a whole.

The final designs for new trails will respond to more precise information developed in the LRIP about the manner in which the park is to be interpreted. The CLR recommendations emphasize resource-driven interpretation of the military events of 1863; meaning that trail alignments should provide connections between the tour road and sites that are of interpretive value.

Considerations. Trail recommendations and guidelines must consider the advantages and disadvantages of all proposed routes, identify problems to avoid, provide connections to interpreted resources and meet other interpretive goals, consider the potential for making the route universally accessible, and indicate connections to main roads and parking. Trail designs should ultimately distinguish between primary routes comprised of universally-accessible trails that provide access to the park's most important resources and stories and that are connected to safe and convenient parking areas; and secondary routes that may not necessarily be universally accessible, but may offer a range of challenge levels that could provide an extended tour for interested visitors.

Trails can require a certain amount of modification of the landscape, such as grading, to ensure a well-drained and relatively even tread and prevent erosion. It is currently anticipated that most new trails will be unimproved, non universally-accessible mown paths leading from universally-accessible trailheads at or near existing parking pull-offs or minimal new pull-offs. The routes followed by these trails should still be evaluated for any potential impacts to cultural or natural resources.

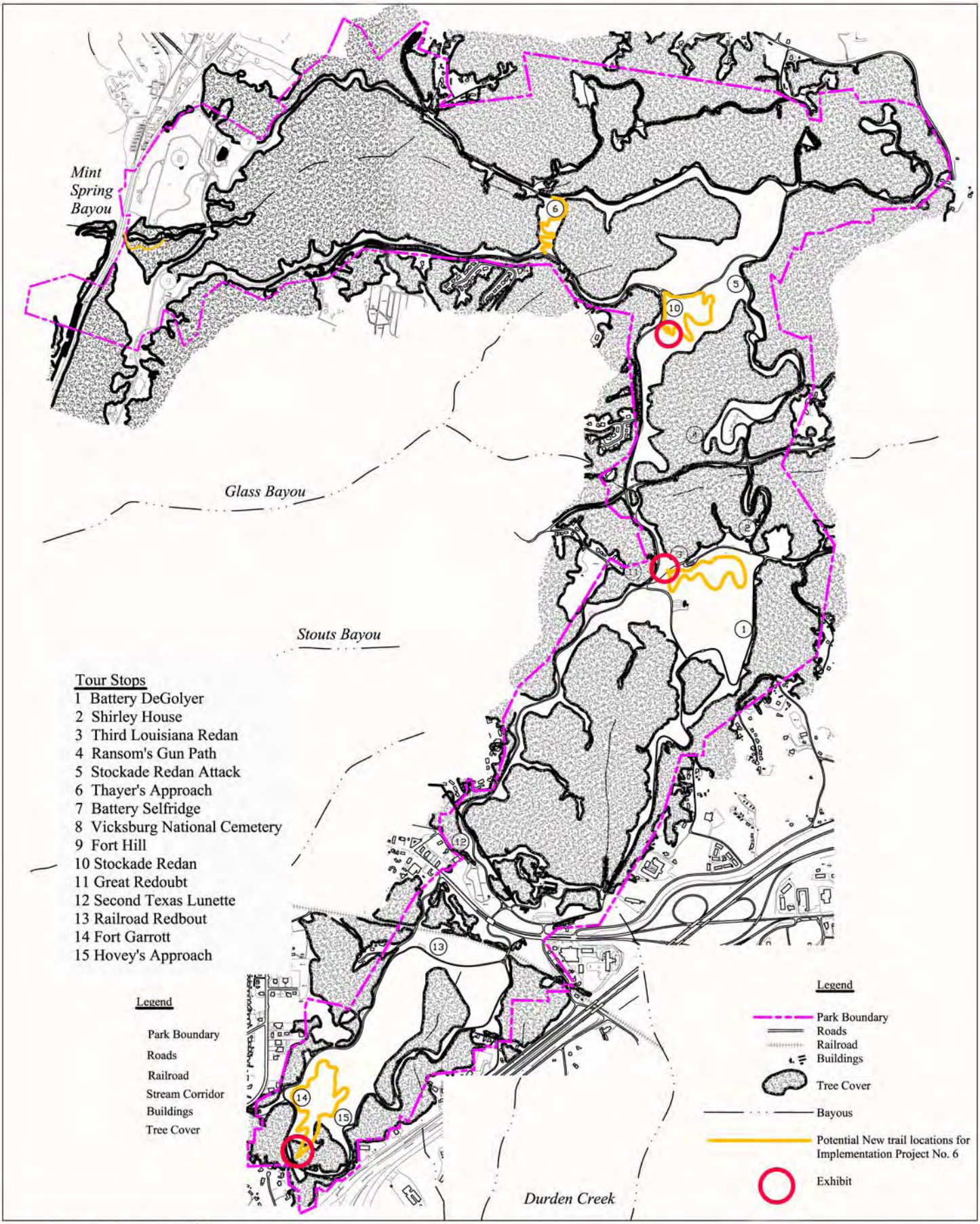
Location. Proposed new trails will extend into existing or proposed cleared areas where interpretation of the events of spring and summer 1863 is desirable.

Additional Studies Recommended.

- Complete a Long-Range Interpretive Plan.
- Conduct necessary research and archeological investigations to determine if any resources will be adversely affected by trail establishment.
- Identify potential impacts to archeological resources within the proposed trail corridor and recommend actions to protect those resources.
- Engage a historical landscape architect to design the new trail.

Project Implementation Process

1. Stake the trail in the field. Engage a qualified archeologist to perform archeological assessment of the site.
2. Grade the trail if necessary to ensure positive drainage.
3. Revegetate any graded areas with the desired landcover type.
4. Install interpretive signage in accordance with the resource-driven plan for the trail.
5. Maintain the new trail corridor in good condition.



Source: Autocad Base Map, USGS Topographic Data

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Vicksburg National Military Park

Potential New Trail Locations for Implementation Project No. 6

Figure 323

7. Enhance Interpretation within the Park Emphasizing the Cultural Landscape

Description. There are numerous sites of interest within the park where features important to the events of 1863 are no longer present. These include the landscape associated with the Shirley House as well as military engineering features of the fieldworks and camps for soldiers such as the shebangs known to have existed on the embankment below the Shirley House. The park generally has a good understanding of these features and their role in the events of spring and summer 1863 and has conveyed an interest in developing new means for sharing an understanding of the resources and their history with the visitor. Living history demonstrations, creative interpretation of missing features, and the establishment of removable exhibits are three examples of interpretive programs that feature the cultural landscape in storytelling (Fig. 323). These activities can be tied to the recommended tree clearing and thinning enhancements noted in projects described above. A Long-Range Interpretive Plan will be needed to integrate all of these ideas, as well as the new trails discussed above, into the park's interpretive experience.

Considerations. While clearing vegetation to re-open views may enhance interpretation efforts, there remain many important historic features that are no longer present within the landscape that visitors may have trouble imaging without interpretive aids. Conveying what is known about their form, configuration, materials, intended and actual use, and spatial organization to visitors would enhance existing interpretive programs at the park. There are various means to mark the locations of missing features that may be employed to convey this information without jeopardizing the integrity of the park. The existing commemorative monuments may be employed in some cases.

Interpretation of missing features should occur through creative exhibit design that depicts the general locations of and physical relationships between missing features as well as what is known and not known about the sites. Options for representing missing features include outlining the footprint or three-dimensional form of a missing feature, providing an artist's rendering of the feature, marking the corners or foundation of a missing feature, or establishing plant material that contrasts with its surroundings that indicate the former location of a missing feature. These options not only avoid historical inaccuracy, they are often less expensive in terms of initial installation and maintenance.

Determination of the features to be interpreted and the most appropriate representation methods should be made as part of the preparation of the Long-Range Interpretive Plan.

Location. Possible sites of interest for enhancing interpretation include the Shirley House, the major fieldworks, various artillery positions, and soldier encampment areas.

Additional Studies Recommended.

- The Long-Range Interpretive Plan should assess which features should be interpreted by determining those that have the most significant educational value.
- Archival research should occur as part of the data collection required to support development of new interpretive exhibits, along with archeological investigations of the sites of missing military features and features associated with the Civil War-era landscape.
- Archeological inventory and assessment should be conducted throughout the park, particularly in association with sites where new features are proposed to be established to ensure protection of potential resources.

Project Implementation Process.

1. Prepare designs for new interpretive and access improvements. Enlist an exhibit designer, in coordination with park staff, to plan representative features. Consider interpreting missing features using

documentary or archeological information, through various means, including:

- Foundation outlines. When the dimensions and location of the footprint of a missing feature are known, an outline or other demarcation such as corner markers or plantings can be placed on the ground to aid interpretation. Foundation outlines should clearly be a product of their own time so they are not confused with historic foundations or ruins.

- Markers. When locations of missing structures are known, but overall dimensions cannot be determined, consider installing metal signs or medallions in the ground. These may be coordinated with installation of an interpretive wayside featuring an artist's rendering of the interpreted feature to represent its character and bring the historic scene to life.

- Ghost structures. When the overall dimensions, roofline, and massing of a missing building or structure are known, consider developing a three-dimensional "ghost structure" on the site.

- Alter vegetation management regimes, such as mowing schedules and planting palettes, in such a way as to yield a diversity of appearances.

- Supplement existing interpretive media and programs with new materials to enhance the depiction of the life and work of the inhabitants of the area when the battle began. Locate new interpretive media in as unobtrusive a manner as possible to avoid detracting from the historic scene.

2. Conduct archeological investigations to determine the potential impacts of proposed site improvements.

3. Establish the new interpretive exhibits and materials. Enlist a qualified archeologist to monitor ground-disturbing activities during construction.

4. Establish interpretive trails to link the new exhibits to the existing tour road.

5. Provide directional and regulatory signage along trails, as well as interpretive information. Enlist qualified park staff or a landscape contractor to install the chosen representative features, as well as any wayside signage.

8. Establish Design Guidelines for Contemporary Park Features

Description. Implementation of new interpretive and access improvements within Vicksburg National Military Park will require the NPS to consider the design and character of the physical features associated with the improvements. Preparation of a design guide that establishes a comprehensive standard for contemporary landscape features and systems would facilitate the addition of necessary new features, as well as the replacement of non-historic features currently in poor condition. The guide would illustrate standards for new landscape features and systems to accommodate park visitor use, interpretation, and management and maintenance. Features to be considered in the guide include paths, walks, trails, road surfaces, parking and pull-off areas, contemporary fencing, site furnishings such as benches, and parking area features such as bollards, wheelstops, and curbing. The guide would identify products, materials, and dimensions for non-historic site furnishing, and include typical details and installation information. Use of the guide would enhance the park's unique identity, and serve to simplify the palette of materials within the park, which in turn would diminish the impact of non-historic features on the historic scene.

Considerations. Design guidelines for contemporary park features at Vicksburg National Military Park would need to be compatible with NPS system-wide standards as well as the existing character of the park. New features should always clearly be a product of their own time, and as simple, sturdy, and unobtrusive as possible. The design guidelines would address appropriateness of scale, materials, and physical composition to ensure visual compatibility, consistency, and integration with the overall character of the battlefield landscape. Park-wide standards for signage should also be developed.

Location. This project applies to the park as a whole.

Additional Studies Recommended.

- In anticipation of preparing these design guidelines, the park should collect the information available regarding NPS standards for contemporary landscape features.

Project Implementation Process

1. Assemble a design team, including a landscape architect, architect, and park maintenance staff to develop the park-wide design guidelines.

2. Consider carefully the character and identity that is appropriate for necessary non-historic features associated with Vicksburg National Military Park.

3. Review photographs of current examples of site furnishings, fencing, road edging materials, circulation surfacing, signage, and visitor use and interpretation features. Consider whether to use these existing features as park-wide standards.

4. Review product catalogues for images of additional appropriate features.

5. Review the individual elements proposed for inclusion within the design guideline.

6. Develop details, installation procedures, and other supporting information for each standard feature.

7. Consider the palette in its totality to ensure the individual elements are cohesive and work well together, and are consistent with NPS standards, before making final selections.

8. Develop a comprehensive signage program, and follow the recommendations included therein, as well as the guidance offered in the NPS Sign Standards Reference Manual, NPS Uniguide Sign Program, NPS Uniguide Standards Manual, and NPS Graphic Identity Program.

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Appendices

Appendix A: Resource Inventory and Analysis

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Natural resources									
Mint Spring Bayou and associated ravine and bottomlands	^				N/A	pre-settlement		good/fair	
Glass Bayou and associated ravine	^				N/A	pre-settlement		good/fair	
Stouts Bayou and associated ravine	^				N/A	pre-settlement		good	
Durden Creek (Big Bayou) and associated ravine	^				N/A	pre-settlement		fair	soil disturbance has degraded this water resource
Wet meadows, vernal pools, riparian areas	^				N/A	pre-settlement		fair/good	generally good except where sedimentation has occurred
Springs and seeps	^			^	N/A	pre-settlement		good	springs and seeps may have been affected by sedimentation from clearing
Forested wetlands		^			N/A	pre-settlement	cleared during the siege	fair	infested with invasive plants
Mint Spring Bayou waterfall	^				N/A	pre-settlement		good	
Limestone geology	^				N/A	pre-settlement		good	
Loess bluffs characterized by highly erodible soils	^				N/A	pre-settlement		fair	
Two major ridge networks encircling city, with east-west trending ridges	^				N/A	pre-settlement		good/fair	
Relatively level slopes of some upland areas	^				N/A	pre-settlement		good	
Mixed mesophytic forest, partially derived from CCC planting efforts		^			N/A	late 19th c.; 1933–38		fair	invasives
Successional forest derived from reduced maintenance			^		N/A	since 1960		fair	invasives
Bottomland forest	^				N/A	pre-settlement; post 1863		good	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Responses to Natural Resources									
Siting of farmsteads along ridgelines with cultivation of fields along relatively level slopes				^	N/A	pre-Civil War		N/A	
Siting of roads (Graveyard Road, Jackson Road, Baldwin Ferry Road) along east-west trending ridgelines	^			^	Not listed	circa 1812–1863		fair/poor	Baldwin Ferry Road no longer retains integrity within the park
Establishment of bridges and culverts to cross ravines and wet areas (pre-Civil War)				^	N/A	circa 1812–1863		N/A	need establishment dates
Siting of Shirley House on a ridgeline with access to a good spring	^				N/A	1837–1838		fair/poor	is spring site still known/available?
Siting of Confederate earthworks and rifle pits on elevated terrain for military advantage, and fortified earthen defensive structures to defend likely avenues of approach (road, river, and railroad corridors)	^			^	Some listed	1862–1863		fair/poor	
Confederate introduction of obstacles to movement into the potential avenues of approach (i.e. abatis, cables, downed brush, cheveaux-de-frise)				^	N/A	1862–1863		N/A	
Union establishment of zigzag trenches and other approach routes through sapping and mining and use of sap rollers for concealment				^	Not listed	1863		N/A	archeological evidence survives
Use of high points for observation and lookout positions and towers during the Civil War	^			^	N/A	1862–1863		fair	locations remain interpretable
Use of high points to site observation towers for the park				^	N/A	1900s	razed 1963–1966	N/A	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Clearing of forest cover to establish fields of fire for artillery (ridgelines and level topography were mostly clear at the beginning of the siege due to agricultural use. Clearing began with ridges and upper side slopes, progressing to ravines and bottomlands over the course of the siege. Some woodland and slash retained to create obstacles to approach.				^	N/A	1862–1863			
Construction of bridges and culverts to cross ravines and wet areas in support of park development		^		^	Not listed	1903–1908; 1937		fair/poor	four steel bridges and one Melan arch bridge established as part of early park development have been demolished
Establishment of drain structures, curbs, and paved channels to convey stormwater away from erodible soil		^		^	Not listed	1901–1903; 1933–1938		good/poor	
Extensive soil erosion control efforts by Civilian Conservation Corps, including terracing, importation of soil, regrading, sodding, and planting of trees to hold resculpted landforms.		^			Not listed	1933–1938		good/fair	
Stabilization of park soils; establishment of additional curbing, drain structures, and paved channels			^			1960s–present			
Tree clearing for park restoration			^		N/A	2000–2007		good/fair	2005–2006: 10-11 acres cleared at Railroad Redoubt
Invasive plant control programs resulting in plant removal and management			^		N/A	1960s–present		fair	
Topography and Topographic Modifications									
Loess bluffs formed after retreat of last glaciation	^				N/A	pre-settlement		fair/good	
Dissected landforms and ravines formed from overland flow of stormwater and groundwater-sourced springs and seeps	^				N/A	pre-settlement		fair/good	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Grading during Civil War by Confederates to establish fortifications, batteries, rifle pits, trenches, glacis, fields of fire	^				N/A	1862–1863		fair/poor	
Grading during Civil War by Union army to establish batteries, rifle pits, trenches, glacis	^				N/A	1863		fair/poor	
Approach trenches, saps, and mines constructed by Union army to approach Confederate fortifications	^			^	Not listed	1863		poor	primarily archeological resources
Severe erosion of portions of the battlefield between the Civil War and the 1930s due to agricultural activities and a lack of protective land cover			^		N/A	1863–1930s		N/A	
Erosion control measures conducted by CCC, various locations documented in primary source reports:		^			Not listed	1933–1939		fair/good	
Along Pemberton Avenue									
At the intersection of Pemberton Avenue and Jackson Road									
At the intersection of Confederate Avenue, Jackson Road, Louisiana Avenue, and Pemberton Avenue									
At the intersection of Confederate Avenue and Jackson Road									
North of the Wisconsin State Memorial									
Along the road leading to Tower No. l									
Behind the Illinois State Memorial									
Along Graveyard Road									
East of the 37th and 38th Mississippi trench line									
Slope stabilization			^		N/A	1963		good/fair	described as "throughout the park"
Regrading of landform near the former Indiana Circle to establish a new park Visitor Center			^		N/A	1968–1970		good	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Construction of an earthwork exhibit near the Visitor Center as an interpretive aid			^		N/A	1968–1970		good	
Regrading primarily using fill to establish Clay Street along park margin			^		N/A	1967		good	
Grading to construct the U.S.S. *Cairo* museum and exhibit			^		N/A	1980		good	
Patterns of Spatial Organization									
Indian village sites existed in the vicinity				^	N/A	pre-settlement		N/A	
French and Spanish military fortification sites (Fort Hill)				^	N/A	18th century		N/A	
Antebellum farmsteads. Small subsistence-level farms including cultivation on relatively level terrain. Pasturage for livestock. Cotton plantations to the east.				^	N/A	early to mid 19th century		N/A	
System of batteries established by the Confederate army on the bluffs overlooking the Mississippi to protect the city from attack and maintain control over the river	^			^	N/A	1861		fair/poor	many are potential archeological resources or were lost to erosion
Beginning in September 1862, Confederate construction of the defensive system of earthworks, batteries, rifle pits on the ridgelines to the north, east, and south of the city of Vicksburg	^			^	N/A	1862–1863		fair/poor	many are potential archeological resources or were lost to erosion
Positioning of Union troops in a semicircle around the Confederate defensive system on elevated positions; avenues of approach created leading toward heavily defended fortifications stationed to protect against the best routes for entering the city by land. These avenues included zigzag trenches and other sapping methods	^			^	N/A	1863		fair/poor	many are potential archeological resources or were lost to erosion
Federal attack focused on the fortifications protecting Jackson Road	^			^	N/A	1863		fair/poor	many are potential archeological resources

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Vicksburg National Cemetery established in 1866 over a portion of the Union line		^			N/A	1866		good	
Vicksburg National Military Park established in 1899 over a large portion of the siege landscape		^		^	N/A	1899		good/poor	loss of southern land area
The park donated 2 parcels to the city for a school and highway weighing station			^		N/A	1958			lands totaled 3.1 and 1.32 acres
Vicksburg NMP gained 544 acres of land to the north of the original park, and quitclaimed 154 acres of land in the southern portion of the park to the city of Vicksburg in 1963			^		N/A	1963			lands quitclaimed totaled 154 acres; gained totaled 544 acres
Vicksburg NMP quitclaimed ownership of 24 acres along Sherman Avenue north of Sherman Circle to Warren County in 1963			^		N/A			N/A	
The park acquired lands associated with Grant's failed efforts to construct a by-pass canal along the Mississippi River			^		Not listed				lands totaled 2 acres
The park acquired Confederate General Pemberton's Headquarters located in downtown Vicksburg.	^		^		Not listed	2002		good	Willis House used by General Pemberton as his headquarters during the siege
Land Uses and Activities									
Residential villages of the Natchez and Choctaw Indians are said to have been located in the region prior to European settlement of the area. French and Spanish military posts in the region likely included barracks for soldiers stationed there.				^	N/A	pre-settlement to early 19th century		N/A	
Agriculture occurred within the area encompassed by the park prior to and after the Civil War. Agricultural land uses occurred within the park until the last of the life leases expired in the 1930s.				^	N/A	19th and early 20th centuries		N/A	
Farmsteads represented a residential land use prior to and after the Civil War until life leases ended in the 1930s.				^	N/A			N/A	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Military land uses continued to be associated with the area, including Union occupation of Fort Hill after the siege, and use of the park for staff rides involved in military training.	^	^			N/A	1861–1865; 1899–present		poor	
Cemetery land uses have been associated with the area since before the Civil War. The Vicksburg National Cemetery includes over 17,000 interments. The Shirley House is the final resting place of the Shirleys. The Anshe Chesed Cemetery is established in 1864 on land adjacent to the future park.	^	^			N/A	pre-settlement to present		good	
Four CCC camps were established at the park in the 1930s where hundreds resided.				^	N/A	1833–1939		N/A	
Union and Confederate soldiers resided near their military earthworks and batteries prior to and during the siege. Union troops continued to occupy the area after the Civil War.				^	N/A	1861–1865		N/A	
National Park Service personnel resided within the park until the 1960s.				^	N/A	1933–1960s		N/A	
Commemoration of the siege began with the placing of a monument to mark the surrender interview site in 1864.			^	^	N/A	1864; 1867		N/A	the first monument was a marble shaft. It was replaced with a cannon tube between 1867 and 1940.The tube was later moved to other sites, and returned to this location in 1990.
Veterans gathered periodically at Civil War battlefields after the war including Vicksburg. An important gathering occurred at Vicksburg in 1890, and another in 1917. Veterans formed the Vicksburg National Military Park Association in 1895.				^	N/A	late-19th through early 20th centuries		N/A	
Establishment of the park in 1899 focused on commemorating the events of the siege.		^			N/A	1899		good	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Along with commemorating the siege, establishment of the park required the development of administrative, maintenance, and educational land uses.		^			N/A	1899		good	
The park was also used by the public for passive recreation, through use of the tour roads for walking and driving, and later picnic grounds. Horseback riding and camping were once permitted within the park.		^		^	N/A	1903		good	horseback riding and camping are no longer permitted land uses within the park.
Park land uses include visitor services.		^			N/A	1933		good	
Circulation									
Vicksburg & Meridian Railroad line (now Kansas City Southern Railroad) passes through the park landscape	^	^			Not listed	pre-Civil War		good	date of origin?
Yazoo City Road				^	N/A	pre-Civil War		N/A	portions of this road now part of Fort Hill Drive
Mint Spring Bayou ford				^	N/A	pre-Civil War		N/A	
Jackson Road	^	^			Not listed	pre-Civil War	1970	fair	road through the park follows historic alignment in many locations. No longer connects to former route outside of park boundaries.
Modern Jackson Road			^			1970			overpass built through the park in 1972.
Graveyard Road	^	^			Not listed	pre-Civil War		fair	altered by CCC; repaved and regraded
Baldwin Ferry Road	^			^	Not listed	pre-Civil War	1960s	fair	altered during park circulation changes; regraded and realigned as the east/west connection from Confederate Avenue to the Visitor Center and Union Avenue 1969
Halls Ferry Road	^	^			Not listed	pre-Civil War		fair	has been altered by regrading as city road
Warrenton Road	^	^			Not listed	pre-Civil War		fair	now part of Washington Avenue and US Business Route 61; portions have been realigned or lost
Small-scale residential circulation (Shirley House driveway and walk)				^	Not listed	pre-Civil War		N/A	contemporary walk may be sited on 19th century alignment
Internal roads network servicing Confederate defensive line				^	N/A	1862–1863		N/A	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Union attack routes developed through trenching				^	N/A	1863		N/A	
Vicksburg National Cemetery entrance drive marked by arch		^			Not listed	1866; 1920			
Union Avenue		^			Not listed	1903	1933–1938; 1959; 1963; 1969; 2003	fair	CCC regraded and paved 1934–1938; section between Graveyard and Jackson Roads reconstructed 1959; failure of section north of Mint Spring Bayou 1962 repaired; direction reorientation 1963; southward extension to Highway 80 removed and section between Grant Avenue and the US Navy Monument and south of Railroad Redoubt reconstructed 1969; landslide 2003 repaired
Confederate Avenue		^			Not listed	1903	1927; 1934–1938; 1963; 1969	fair/poor	sections known as Louisiana and Mississippi Avenues integrated into Confederate Avenue through repair in 1930s; paved with concrete 1931; regrading and paving by CCC, direction reorientation; southward extension to Highway 80 removed 1969
Circle drives at various monuments				^	N/A	early 20th century	Removed between 1940 and 1978	N/A	
Indiana Circle				^	N/A	early 20th century	Removed 1968–1970	N/A	
Alabama Circle				^	N/A	early 20th century		N/A	
Iowa Circle				^	N/A	early 20th century		N/A	
Maloney Circle						early 20th century			
Mississippi Circle				^	N/A	early 20th century		N/A	
Minnesota Circle				^	N/A	early 20th century		N/A	
Tilghman Circle				^	N/A	early 20th century	Removed 1940	N/A	
Logan Circle				^	N/A	early 20th century		N/A	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Missouri Circle				^	N/A	early 20th century	Removed 1940	N/A	
Arkansas Circle				^	N/A	early 20th century	Removed 1940	N/A	
Ohio Circle				^	N/A	early 20th century		N/A	
Kansas Circle				^	N/A	early 20th century	Removed 1940	N/A	
New York Circle				^	N/A	early 20th century	Removed 1940	N/A	
Tennessee Circle			^		N/A	early 20th century		N/A	
Observation Towers 1 & 2				^	N/A	early 20th century	Removed 1963–1966	N/A	
Sherman Circle		^			Not listed	early 20th century		N/A	
Illinois Circle				^	N/A	early 20th century		N/A	obliterated by shopping mall development
Wisconsin Circle				^	N/A	early 20th century	Removed 1959	N/A	
Pennsylvania Circle				^	N/A	early 20th century	Removed 1940	N/A	
Pemberton Circle		^			Not listed	early 20th century		good	surrounds the Pemberton Statue
Connecting Avenue		^			Not listed	early 20th century	1961; 1962; 1980; 2005		road reconstructed 1961; landslide damage repaired 1962; reconstructed 1980
Grant Avenue		^			Not listed	early 20th century	1961–1962		northern loop reconstructed 1961–1962
Grant Circle		^			Not listed	early 20th century			
Sherman Avenue		^			N/A	19th century	1961; 1963	N/A	reconstructed 1961; northern section beyond Sherman Circle quitclaimed to Warren County
Sherman Circle		^			Not listed	early 20th century			
Kentucky Avenue				^	N/A				
Pemberton Avenue		^			Not listed	early 20th century	1935		paved
South Confederate Avenue		^			Not listed	early 20th century			transferred to city of Vicksburg as part of quitclaim of southern third of the park in 1963
Indiana Avenue		^			N/A	early 20th century			transferred to city of Vicksburg as part of quitclaim of southern third of the park in 1963

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Wisconsin Circle		^			N/A	early 20th century			transferred to city of Vicksburg as part of quitclaim of southern third of the park in 1963
Halls Ferry Road		^			N/A	early 20th century			area around the road quitclaimed to the city in 1963
Iowa Avenue		^			N/A	early 20th century			transferred to city of Vicksburg as part of quitclaim of southern third of the park in 1963
North Frontage Road		^			N/A	early 20th century			transferred to city of Vicksburg as part of quitclaim of southern third of the park in 1963
Louisiana Circle access road		^			Not listed	by 1903	paved, 1930s	fair/good	
Navy Circle access road		^			Not listed	by 1903	paved, 1930s	fair/good	
Mission 66 Road			^		N/A	1979			
Cairo exhibit parking			^		Not listed	1980		good	
Curatorial and shop complex parking			^		Not listed	circa 1990s		good	
South Confederate Avenue					Not listed				
US Highway 80/Clay Street		^	^		N/A	undetermined	1968–1970		
Visitor Center parking lot and new entrance			^		N/A	1968–69			
Cultural Vegetation									
Agricultural cultivation to grow grains, fruits, vegetables, and cotton				^	N/A	pre-siege and post-siege to 1933			
Ornamental plantings associated with farmsteads (notable plantings associated with the Shirley House)				^	N/A	pre-siege and post-siege to 1933			
Surrender interview site oak				^	N/A	pre-siege to 1864			
Mown grass of park landscape		^			N/A	early twentieth century; additions by CCC in 1930s	1930s	good	area maintained under grass cover has diminished since the 1930s
CCC-generated forested areas		^			N/A			good/fair	infested with invasives
Ornamental plantings associated with Old Administration Building and Visitor Center			^		N/A	circa 1960s		good	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Views									
Views to fortifications and between the opposing lines of Confederate and Union artillery positions	^	^		^	N/A	established during the siege		fair/poor	tree cover has affected the extent of views available
View along Graveyard Road	^	^			N/A	established during the siege		fair/good	tree cover has affected the extent of views available
View along Thayer's Approach	^	^			N/A	established during the siege		fair/good	tree cover has affected the extent of views available
View toward Third Louisiana Redan	^	^			N/A	established during the siege		fair/good	tree cover has affected the extent of views available
View from Battery De Golyer	^	^			N/A	established during the siege		fair/good	tree cover has affected the extent of views available
View to Railroad Redoubt	^	^			N/A	established during the siege		fair/good	tree cover has affected the extent of views available
View between Fort Garrott and Hovey's Approach	^	^			N/A	established during the siege	1998	good	clearing was conducted in 1998
Views to the river from Fort Hill, Battery Barnes, Water Battery	^	^			N/A	established during the siege		fair/good	river now Yazoo River Diversion Canal to north
Buildings									
Residences in area during early settlement				^	N/A	19th century		N/A	
Shirley House	^				LCS001362	1837–1838	1902; 1931; 1938; 1966; 1983; 2006	Poor	used as a Union hospital; Superintendent's Residence, NPS housing
Willis House/Pemberton's Headquarters	^				Not listed	1835–1836	2002; 2006–2007	Good	acquired by NPS 2002; repaired 2006–2007
Riddle House				^	N/A			N/A	
Edward House				^	Not listed			N/A	
Lynd House				^	N/A			N/A	
First park Visitor Center in Mississippi River Commission headquarters building				^	N/A	1929	1944–1970; 1976	N/A	served as park visitor center 1944–1970; demolished 1976
Cemetery Superintendent's Lodge		^			LCS007290	1927			need condition information
CCC camp buildings (barracks and other facilities)				^	N/A	1933–1939		N/A	demolished after CCC activities ended
Old Administration Building		^			Not listed	1934–1936	1944–1978; 2000s	fair	served as superintendent's residence 1944–1970; stabilized 2000s
Maintenance complex		^			Not listed	1934–1936	1964	good/fair	additions added 1964
Residences for park employees				^	N/A	pre-1930s	circa 1960s	N/A	

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Mission 66 Visitor Center			^		N/A	1968–1970	1980; 1995; 1997	good/fair	elevator added, roof replaced
Cairo Museum			^		N/A	1980		good?	
Curatorial Management Facility			^		N/A	1998		good?	
Garage near Cairo			^		N/A	circa 1990s		good?	
Open storage shed			^		N/A	circa 1990s		good?	
Structures									
Fort Mount Vigio on Fort Hill				^	N/A	18th century		N/A	
Fort McHenry replaced Fort Mount Vigio				^	N/A	1797	1862	N/A	
Fort Nogales battery				^	N/A			N/A	
Levees along river to protect crop fields				^	N/A	1800–1863		N/A	
Outbuildings associated with Shirley House (cistern, hen house, stable)				^	N/A			N/A	
Confederate fortifications including fortification, batteries, rifle pits	^				Many not listed	1862–1863; early 1900s; 1933–1936		fair/poor	features partly archeological resources; repaired during early park development period and by CCC
Fort Hill	^				LCS001360	1790s	1862; 1933–1936	good	CCC renovated structure; see LCS
Second Texas Lunette	^				Not listed	1862		fair	
Great Redoubt	^				LCS007287	1862	1933–1936	good	CCC renovated structure; see LCS
Third Louisiana Redan	^				Not listed	1862		fair	
Green's Redan	^				Not listed	1862		fair	
Stockade Redan	^				Not listed	1862		fair	
Twenty-seventh Louisiana Lunette	^				Not listed	1862		fair	
Fort Garrott	^				LCS007292	1862	1933–1936	good	CCC renovated structure; see LCS
Railroad Redoubt	^				LCS007286	1862	1933–1936	good	CCC renovated structure; see LCS
South Fort	^				Not listed	1862		fair	
Louisiana Circle	^				Not listed	1862		fair	
Water Battery	^				Not listed	1862		?	condition and status unknown
Federal earthworks including batteries, rifle pits, trenches	^				Not listed	1863			features partly archeological resources; repaired during early park development period and by CCC
Battery Selfridge	^				Not listed	1863		fair	
Battery De Golyer	^				Not listed	1863		fair	
Battery Benton	^				Not listed	1863		fair	
Vicksburg National Cemetery includes numerous structures including the arch placed in 1920 to mark the entrance		^			some features listed	1866		fair/good	
Surrender Interview Site Monument		^			LCS091212	1864; 1867			Cannon relocated; replaced on site in 1990

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Three observation towers erected in the early 1900s		^			N/A				
No. 1 (east of Fort Hill)				^	N/A	1900s	1963–1966	N/A	demolished
No. 2 (south of Jackson Road)				^	N/A	1900s	1963–1966	N/A	demolished
No. 3 (south of current park boundaries)				^	N/A	1900s	1963–1966	N/A	demolished
Melan arch bridges		^							
No. 1 (Union Avenue north of Visitor Center		^			Not listed	1903			
No. 2 (Union Avenue north of Pemberton Avenue)		^			Not listed	1903			
No. 3 (Union Avenue north of Thayer's Approach)		^			Not listed	1903			
No. 4 (Union Avenue west of No. 3)		^			Not listed	1903			
No. 5 (Union Avenue west of No. 4)				^	Not listed	1903	Demolished 1997		replaced with box culvert
No. 6 (Confederate Avenue over Glass Bayou)		^			Not listed	1903			
No. 7 (Union Avenue east of Indiana State Monument)		^			Not listed	1903			
No. 8 (Union Avenue near Hovey's Approach)		^			Not listed	1903			
No. 9 (Union Avenue north of No. 8)		^			Not listed	1903			
No. 10 (Union Avenue north of No. 9)		^			Not listed	1903			
Maloney Circle Bridge (over rail line)		^			Not listed	1908			
Halls Ferry Road Bridge		^			Not listed	1937			
Stout's Bayou Steel Bridge				^	Not listed	1903	1938		
Confederate Avenue Steel Bridge				^	LCS091215	1903	Demolished 2002		
Steel bridge (Confederate Avenue across Glass Bayou)				^		1900s	1970s; 2003	N/A	closed to traffic 1970s; demolished 2003
Steel bridge (N. Union Avenue between Wisconsin and West Virginia monuments)				^		early 1900s		N/A	demolished, replaced with culvert
Iron bridges (3)						early 1900s	1970s	N/A	replaced with culverts
Confederate Avenue bridge across Mint Spring Bayou				^					
Union Avenue bridge across Jackson Road				^					
Confederate Avenue bridge across Jackson Road				^					
Massachusetts State Monument		^			LCS007275	1903			
New Hampshire State Monument		^			LCS003778	1904			
Pennsylvania State Monument		^			LCS003833	1906			

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Ohio State Monuments		^				1906			Ohio erected 39 regimental monuments, each with a distinctive design, rather than a single state monument. Each has its own LCS number
Iowa State Memorial		^			LCS007269	1906			
Illinois State Memorial		^			LCS007276	1906			
Minnesota State Monument		^			LCS007272	1907			
Virginia State Monument		^			LCS003842	1907			
Rhode Island State Memorial		^			LCS007278	1908			
Mississippi State Memorial		^			LCS007274	1907–1912	1954; 2001		
Wisconsin State Memorial		^			LCS007268	1911			
U.S. Naval Memorial		^			LCS007282	1911			
Maryland State Monument		^			LCS003708	1914			
Michigan State Memorial		^			LCS007279	1916			
Missouri State Memorial		^			LCS007270	1917			
New York State Memorial		^			LCS007271	1917			
Louisiana State Memorial		^			LCS007273	1920	1999		
Memorial Arch		^			LCS007285	1920	1967	good	relocated from original location
Cemetery Entrance Arch		^			LCS007288	1920			
West Virginia State Memorial		^			LCS003316	1922			
North Carolina State Monument		^			LCS003779	1925			
Indiana State Memorial		^			LCS007257	1926			
South Carolina State Memorial		^			LCS003834	1935			
Alabama State Monument		^			LCS007280	1951			
Arkansas State Memorial		^			LCS007281	1954			
Florida State Monument		^			LCS003466	1954			
Texas State Monument			^		LCS007277	1961	1984		rehabilitated
Kansas State Memorial			^		LCS003694	1960			
Georgia State Memorial			^		LCS003364	1962			
Tennessee State Monument			^		Not listed	1996			
Kentucky State Monument			^		Not listed	2001			
Mississippi African American Monument			^		Not listed	2004			
Connecticut State Monument			^		Not listed	2008			located on the Grant's Canal parcel
USS Cairo tensile canopy			^		N/A	2003			repairs made to tears sustained
Interpretive landform at the Mission 66 Visitor Center					N/A	1968–1970			
Entrance kiosks (two, at Clay Street entrance, at Fort Hill Drive entrance)					N/A	1987			
Union Army Monument					LCS091209				
Confederate Army Monument					LCS091210				
Tunnel near Thayer's Approach		^			Not listed	by 1863	1930s	fair	reconstructed
Cemetery wall		^			LCS090461		2006		rehabilitated

Current Name	*Contributes-Primary POS*	*Contributes-Secondary POS*	*Non-Contributing*	*Missing*	*LCS #*	*Date of Origin*	*Modifications*	*Condition*	*Notes*
Small-scale Features									
Iron and bronze tablets and position markers		^		^	LCS091214	early 20th century	1942	good/fair	140+ were contributed to World War II metal drive needs
Monuments and other battlefield markers		^	^		Not listed	20th and 21st century		good/fair	those established by 1959 are contributing resources; those with stone components have their own LCS numbers
Statues		^	^		Not listed			good/air	those established by 1959 are contributing resources; each statue has its own LCS number
Busts and Reliefs		^	^		Not listed			good/fair	those established by 1959 are contributing resources; each bust and relief portrait has an individual LCS number
Equestrian Statues		^	^		Not listed			good/fair	those established by 1959 are contributing resources; each equestrian statue has its own LCS number
Emplaced Cannon		^	^		Not listed			fair	those established by 1959 are contributing resources
Culverts and drainage structures		^	^		Not listed			fair	those established by 1959 are contributing resources
Retaining walls		^	^		Not listed			fair	those established by 1959 are contributing resources
Shirley House gravestone		^			LCS003454	1888		good	
Park operation features and site furnishings			^		Not listed			good/fair	most post-date the period of significance
War Department boundary markers		^			Not listed	early 20th century		fair	

Appendix B: Native Warm-season Grass Restoration in Mississippi

NATIVE warm-season Grass Restoration IN MISSISSIPPI

Natural resource managers often promote establishment and management of native warm-season grasses for wildlife habitat. This is because a diverse mixture of native grasses and forbs generally provides better food and cover resources for wildlife species than nonnative grasses such as bermudagrass and tall fescue. Nonnative grasses were introduced for soil stabilization and livestock forage because they were easily established and highly productive, and because they could be grazed heavily. However, because nonnative grasses provide poor habitat for most wildlife, there has been greater interest in restoring native grasses for wildlife habitat.

Native warm-season grasses also provide excellent forage for livestock, making them more compatible for operations striving to produce livestock forage and good wildlife habitat simultaneously. With some careful planning and preparation, native warm-season grasses can be successfully established to meet your grassland habitat goals. Many assistance and cost-share opportunities are available to help you meet these goals. Thus, native warm-season grasses can be successfully managed for multiple objectives in Mississippi.



What Are Native Warm-Season Grasses?

Native warm-season grasses are annual and perennial grasses that were native to Mississippi prior to the introduction of nonnative grasses. "Warm-season" means these grasses primarily grow during summer months (but also during portions of spring and fall). Typically, the native forbs (e.g., broadleaf plants like wildflowers and legumes) that historically occurred with these grasses are included when someone generically refers to native warm-season grass management or restoration. Some examples of native warm-season grass species include: big bluestem, little bluestem, broomsedge, indiangrass, switchgrass, and eastern gamagrass. Some native forbs include partridge pea, beggarweeds, and blackeyed susan.

Presently, native grassland systems are some of the most highly degraded ecosystems in Mississippi. When people think of grasslands, they often may think of pastures or open prairies. Indeed, native warm-season grasses were the dominant plant species that historically covered the Black Belt and Jackson Prairie regions of Mississippi. However, the understory (ground layer) communities of many fire-adapted forest systems (e.g., longleaf and loblolly pine) in Mississippi were also historically composed of grasses and forbs that were maintained by fire. Many of the same native warm-season grass species (little bluestem, indiangrass, etc.) that occurred in nonforested grasslands were also prevalent in the understory of pine-grasslands.

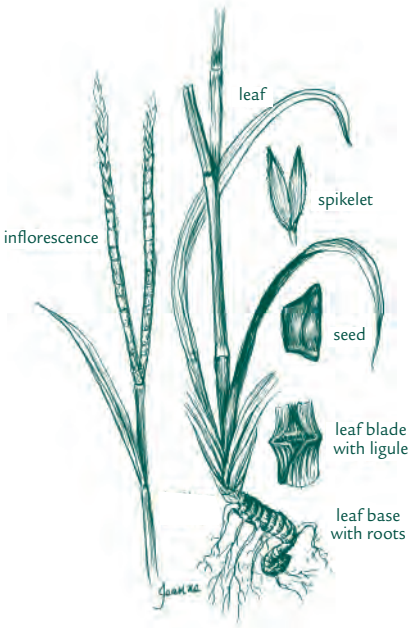
Many native warm-season grass species historically were prevalent in the understory of fire-maintained forests.



Most of the historic native prairies in Mississippi have been converted for agricultural uses. In modern agricultural landscapes, native warm-season grasses typically either exist in mixed stands with or have been completely out-competed by nonnative forage grasses. Most historically longleaf pine-dominated systems have been converted to slash or loblolly pine, and most pine-grasslands in general have been negatively affected by fire suppression and high

Some Examples of Native Warm-Season Grasses





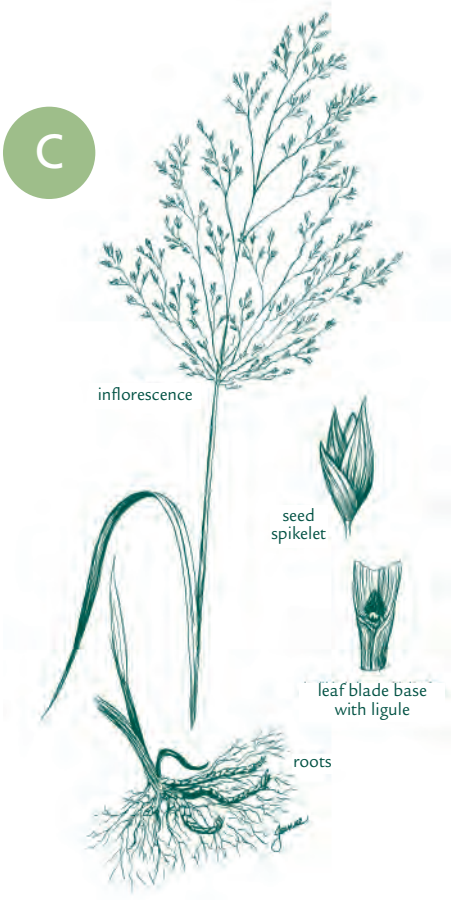
A. Big Bluestem

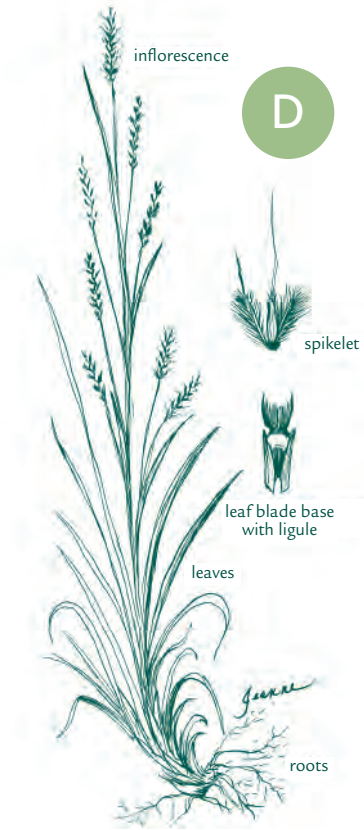
B. Eastern Gammagrass

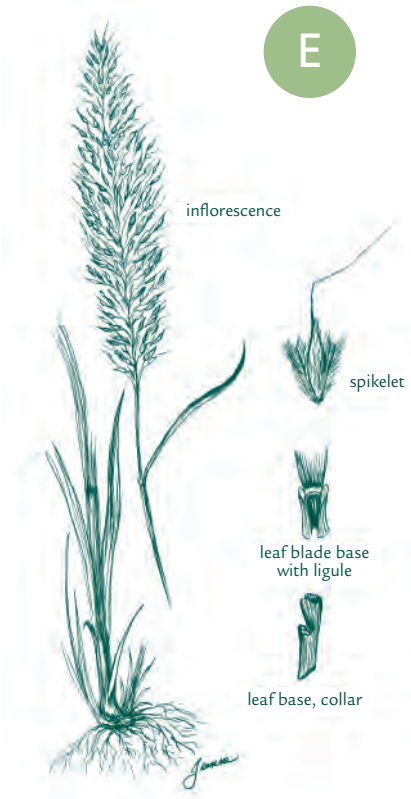
C. Switchgrass

D. Little Bluestem

E. Indiangrass







stocking densities. Pine forest communities also have been adversely affected by invasive, nonnative vegetation. Converting stands of nonnative grasses to native grasses and forbs and restoring pine-grasslands can greatly improve the quality of such stands as wildlife habitat and grassland ecosystems. Sites restored to native warm-season grasses also can be very productive hay and grazing lands with proper management. However, native warm-season grass restoration need not be limited to large acreages. Restoring only portions of agricultural fields (e.g., buffers along field edges) to native warm-season grasses can integrate grassland wildlife habitat with agricultural production.



Native warm-season grasses were the dominant plant species that historically covered the Black Belt and Jackson Prairie regions of Mississippi.

Why Restore Native Warm-Season Grasses?

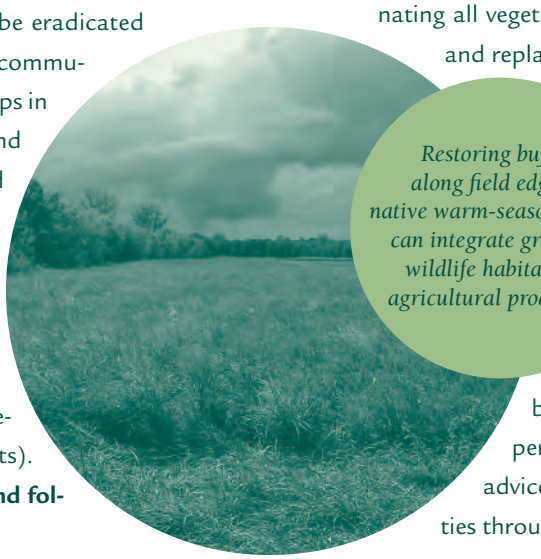
Restoration of native warm-season grasses can accomplish one or more goals for landowners. Some examples of specific goals to be achieved through native warm-season grass restoration include: 1) wildlife habitat (e.g., bobwhite quail, grassland songbirds, butterflies); 2) livestock forage (native warm-season grasses provide high-quality forage during summer and produce high-quality hay); and 3) ecosystem restoration (e.g., prairie, oak woodland savannah, or pine woodland savannah restoration).



Most of the historic native prairies in Mississippi have been converted for agricultural uses.

Restoring Native Warm-Season Grasses

Where nonnative forage grasses or other undesirable vegetation is present, the undesirable vegetation must be eradicated before attempting to establish native plant communities. This is one of the most important steps in native warm-season grass restoration, and consultation with a professional experienced in native warm-season grass management prior to beginning any restoration efforts is recommended. Most often, control of undesirable vegetation is achieved through herbicide treatments (although in some cases, treatments such as disking or prescribed fire may produce the desired results). **When using herbicides, be sure to read and follow product labels.**



Restoring buffers along field edges to native warm-season grasses can integrate grassland wildlife habitat with agricultural production.

Releasing Existing or Establishing New Native Plant Communities

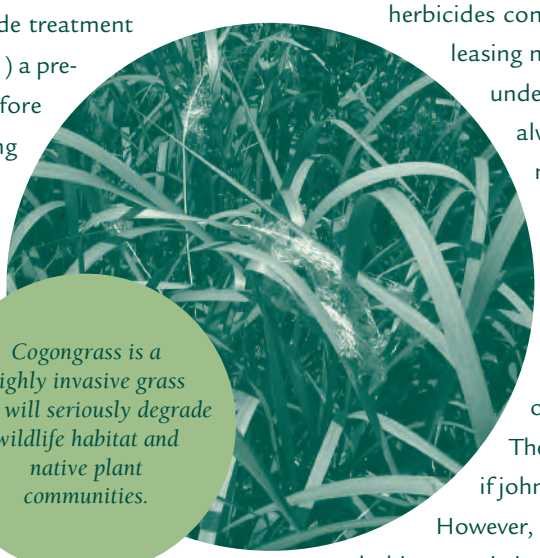
At some sites, a native warm-season grass and forb community is already present, but it is being suppressed by competition with nonnative forage grasses. In this case, an herbicide treatment to release the native plants may satisfactorily restore the native plant community. Grasses such as broomsedge and forbs such as partridge pea may potentially be released from competing nonnative grasses such as tall fescue. Once undesirable vegetation is controlled, additional plantings may enhance the existing native plant community.

A wildlife biologist or other experienced professional can provide technical advice to determine if a particular site might be restored to a good native plant community through herbicidal treatments. When attempting to release an existing stand of native grasses from nonnative grass competition, the selectivity of the herbicide and timing of application are critical. Nonnatives can be controlled and native grasses released either by using a selective herbicide to which native warm-season grasses are tolerant (i.e., imazapic) or by applying a nonselective herbicide (i.e., glyphosate) during a time when nonnative, cool-season vegetation (e.g., tall fescue) is actively growing and native warm-season grasses are dormant.

For some sites, native plants are not sufficiently abundant, or undesirable species cannot be controlled without essentially eliminating all vegetation. In these cases, herbicidal treatment and replanting with desirable vegetation may be the only alternative. If bermudagrass or cogongrass is present, native grasses will almost always have to be replanted due to the intensive herbicidal requirements to control the nonnative grasses. After undesirable vegetation is controlled, a native plant community may be replanted. A wildlife biologist or other experienced professional can provide technical advice for restoration of native plant communities through herbicidal treatments.

Controlling Nonnative Grasses

In general, herbicides are most effective when applied to actively growing plants in a manner that achieves maximum contact of the herbicide with foliage and/or soil surface (depending on whether the herbicide is foliar or soil active). For any of the following herbicide treatment options, one of the following management practices applied two to four weeks prior to herbicide treatment will usually increase herbicide effectiveness: 1) a prescribed burn during fall to early spring before herbicide application; 2) grazing; 3) haying and raking; or 4) mowing. These treatments reduce dead plant material (except mowing) and allow for new plant growth, which improves the foliar contact surface for herbicides. It should be noted that cogongrass burns at extremely high temperatures, so burning cogongrass in woodland stands may not be advisable due to potential damage to trees. Grazing will likely not be effective on cogongrass either, given that cogongrass has practically no forage value. Extreme care should be used if cogongrass must be mowed; avoid moving cut plant parts to new areas and spreading this noxious grass. After initial herbicide treatments of nonnative, invasive grasses, follow-up treatments (e.g., spot spraying) may be necessary to effectively remove residual plants. Periodic monitoring of treated sites is essential to determine whether undesirable grasses are still present; if still present, they should be further treated with herbicides to reduce future spread.



Cogongrass is a highly invasive grass that will seriously degrade wildlife habitat and native plant communities.

Tall Fescue *(Schedonorus phoenix)*

Actively growing tall fescue can be eradicated with combined fall and spring treatments of glyphosate (e.g. Roundup®) at a labeled rate. Apply one treatment of glyphosate in the fall, then another the following spring to control tall fescue that may germinate from seed. These treatments should be adequate to release existing native warm-season grasses or to prepare a site for planting native warm-season grasses if tall fescue is the only grass problem present. However, some apparently tall fescue-dominated sites may have a bermudagrass component that is not easily recognizable underneath the tall fescue canopy. If there is any presence of nonnative, warm-season grasses such as johnsongrass, bahiagrass, or bermudagrass, it is best to treat the site as recommended below for these species after the tall fescue has been controlled.

Johnsongrass *(Sorghum halepense)*

Johnsongrass may be controlled with sulfosulfuron (e.g., Outrider®) after full green-up. Imazapic (e.g., Plateau®) applied before seeds germinate is effective for controlling johnsongrass establishment from seed. Glyphosate (e.g., Roundup) applied after seedhead initiation may also be effective for controlling johnsongrass. Although herbicides containing glyphosate can be effective for releasing native warm-season grass seedlings growing underneath johnsongrass, be aware that there is always a risk of killing or injuring established native warm-season grasses if herbicides containing glyphosate are applied when native warm-season grasses are growing. Sulfosulfuron applied at appropriate label rates will not harm native warm-season grasses and thus can be applied over developing native warm-season grass seedlings. The previous treatments likely will be adequate if johnsongrass is the only grass problem present. However, if there is any presence of bermudagrass or bahiagrass, it is probably best to treat the site as recommended below.

Bahiagrass *(Paspalum notatum)*

For bahiagrass-dominated sites, apply a labeled rate of metsulfuron methyl (e.g., Escort®) in spring after full green-up. Native warm-season grasses are mostly tolerant of metsulfuron methyl, but observe applicable replanting intervals on the product label. Metsulfuron methyl can be absorbed through the roots, so be cautious of applications around desirable hardwood trees and shrubs. Closely note label indications if using near nontarget trees or shrubs. Applied at lower rates (less than 1 ounce per acre), metsulfuron methyl will probably not injure most desirable hardwood trees. However, if there is any doubt, do not apply within two times the width of the drip line of any desirable hardwood trees.

In desirable hardwood areas that cannot be treated by metsulfuron methyl or if johnsongrass is also present, apply a labeled rate of imazapic (e.g., Plateau) or imazapic plus glyphosate (e.g., Journey) after bahiagrass has reached full green-up. These treatments may be adequate to release existing native warm-season grasses or to prepare a site for planting native warm-season grasses if bahiagrass is the only grass problem present. Be aware that herbicides containing glyphosate may kill native warm-season grasses if applied when they are actively growing. Another treatment option for areas that cannot be treated by metsulfuron methyl is application of a labeled rate of glyphosate after bahiagrass seedhead initiation. However, multiple glyphosate-only applications will likely be required to control bahiagrass, and this treatment will also kill any desirable

vegetation. If there is a significant presence of bermudagrass, it is best to treat the site as recommended below; otherwise, spot-treat bermudagrass if it occurs in patches.

Bermudagrass *(Cynodon dactylon)*

Bermudagrass is very competitive and difficult to control with a single application of most herbicides. Because of its aggressive nature and warm-season growth pattern, it is absolutely essential to completely eradicate bermudagrass before planting native warm-season grasses. However, sites dominated by bermudagrass can be converted by applying labeled rates of imazapyr (e.g., Arsenal®, Chopper®). Imazapyr applications for bermudagrass control are most effective if applied during July through September.

If imazapyr is used, the application should be made a growing season prior to establishing native warm-season grasses. The residual soil activity of imazapyr will kill germinating native warm-season grasses if planted within six months (plus or minus) of application of imazapyr. Closely note label precautions if using near nontarget trees or shrubs. Imazapyr will kill hardwoods and should not be applied within two times the width of the drip line of any desirable hardwood trees. In areas that cannot be treated by imazapyr, apply a labeled rate of glyphosate (e.g., Roundup) after bermudagrass seedhead initiation. Glyphosate will not eradicate bermudagrass as effectively as imazapyr, and multiple applications of glyphosate will be required.

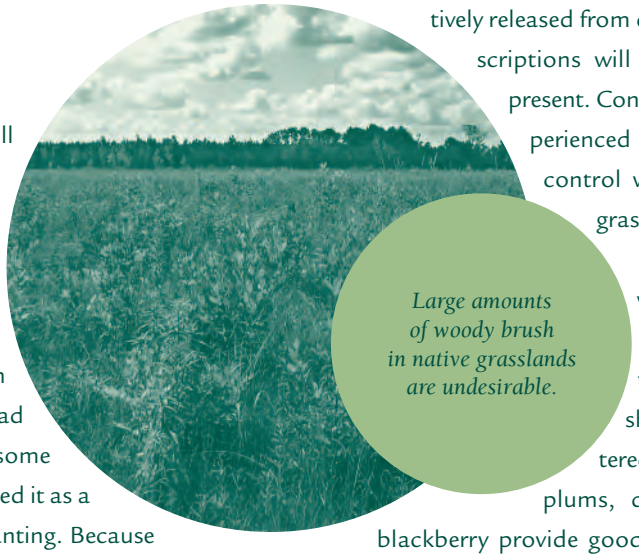
Cogongrass *(Imperata cylindrica)*

Cogongrass is a highly invasive grass that will seriously degrade wildlife habitat and native plant communities. It has no forage value to livestock or wildlife. Cogongrass spreads by wind-blown seeds and rhizomes that are transported by mowing or logging equipment that has come into contact with seeds or the plant. This grass was also spread as an ornamental and forage plant in some states until federal and state regulations listed it as a noxious weed, restricting its intentional planting. Because this grass can degrade property values, limit land use alternatives, and damage forest resources and wildlife habitat, landowners should learn to recognize it and take immediate actions to control it. Cogongrass is still sold by some nurseries under the name Japanese blood grass. Do not use this grass for ornamental plantings.

Treat cogongrass with labeled rates of imazapyr (e.g., Arsenal) plus glyphosate (e.g. Roundup) during late summer or early fall. Although imazapyr will kill desirable hardwood trees and shrubs, it may be worth sacrificing desirable plants in order to control the spread of cogongrass. The sooner this invasive pest is treated, the more effective control efforts will be. After initial herbicide treatments, treated cogongrass stands should be carefully monitored, as further herbicide treatments will likely be necessary for effective control. If you suspect you have cogongrass on your property, contact a natural resources professional to verify this and assist you with developing a cogongrass eradication plan. Fact sheet 1999-01 is available from the Mississippi Department of Agriculture and Commerce to help landowners identify cogongrass. For more information about cogongrass, contact—

- Mississippi Department of Agriculture and Commerce
  Bureau of Plant Industry, Plant Pest Programs
  Mississippi State, MS 39762-5207

  (662) 325-7765
  www.mdac.state.ms.us/index.asp



Large amounts of woody brush in native grasslands are undesirable.

Controlling Woody Brush

Due to lack of management, dense infestations of woody brush such as elm, sweetgum, eastern red cedar, and green ash degrade the value of native grassland communities. Hardwood brush shades the ground and inhibits growth of desirable grasses and forbs in grass fields and upland pine forests. Appropriate herbicidal, mechanical, or prescribed fire treatments are required to control woody brush, and in some cases a native grassland community can be effectively released from dense brush cover. Treatment prescriptions will depend on the types of brush present. Consult a wildlife biologist or other experienced professional to develop a plan to control woody brush and restore native grassland communities.

Although large amounts of woody brush in native grasslands are undesirable, creating and protecting some scattered patches of shrubby cover is desirable. Scattered thickets of native shrubs like wild plums, dogwoods, winged sumac, and blackberry provide good escape and loafing cover for a number of grassland birds. Maintaining about 10 to 20 percent of grasslands in shrubby cover will provide good cover for wildlife. Protect some existing shrub thickets from fire and herbicide treatments or plant suitable shrubs to enhance protective cover in native grass stands.

Species Selection and Planting

Native grass planting rates are expressed in terms of pounds of pure live seed (PLS) per acre. The percentage PLS reflects the amount of viable seed along with stems and other inert matter mixed in with the seed. For example, to achieve 3 pounds PLS per acre, you may actually have to plant 4 pounds of bulk seed product. However, when you purchase native warm-season grass seed, it is usually in terms of "pounds PLS per acre." So usually you will just need to know how many acres and at what rate (PLS) you are going to plant when purchasing seed. Seed vendors will usually mix several grass species for you based on percentages of grasses you want to comprise a specific PLS planting rate. Try to select cultivars or varieties of native warm-season grasses that originated close to your region, if available, as these varieties may be better adapted to your climate (see Table 1 for some suggested varieties). A seed vendor representative or other experienced professional can help you choose among available, suitable varieties.



A native warm-season grass seed drill is specially designed to handle these seeds.

Native warm-season grasses should be planted from mid-April to early June (they also can be planted December through February during the dormant season). To reiterate, competition control is essential before planting native warm-season grasses. If substantial competing vegetation remains after initial site preparations, an application of imazapic plus glyphosate (e.g., Journey) or glyphosate (e.g., Roundup) alone may be applied just prior to or right after planting native warm-season grasses to help control competing weeds. Imazapic applied at appropriate rates prior to planting generally has few negative effects on native warm-season grasses. However, closely follow label recommendations if attempting to establish switchgrass, eastern gamagrass, or sideoats grama, as higher label rates of imazapic can have adverse effects on these species (switchgrass is especially sensitive to imazapic).

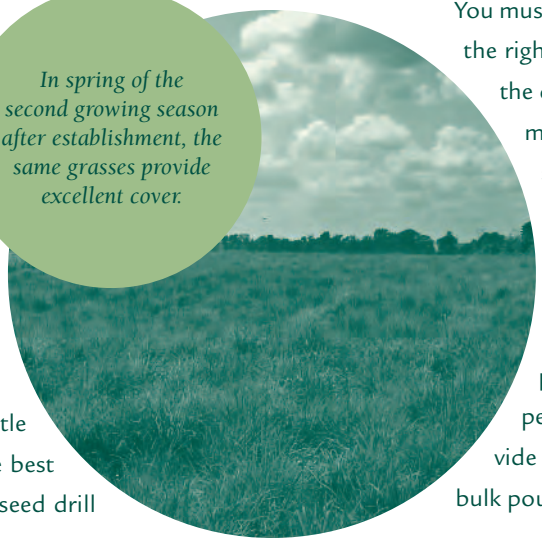
The fluffy seeds of big bluestem, little bluestem, indiangrass, and purple top are best planted with a native warm-season grass seed drill specially designed to handle these seeds. It is important not to plant these seeds too deep (no deeper than one-fourth to one-half of an inch; shallower is better). When planting these seeds with a native warm-season grass seed drill, it is acceptable if some of the seed is visible on the surface. Many of these drills are capable of planting seeds via no-till planting. However, if you must plow the site before planting (e.g., there is too much litter for no-till planting), use a roller or cultipacker to firm and smooth the seedbed before planting.

A firm seedbed is essential because you do not want the seeds to be buried too deep in a loose seedbed (this is especially important if planting with drills, which may weigh over a ton). If using a native warm-season grass drill, it is not necessary to pack the seed after planting if the drill is equipped with packing wheels. If a drill is unavailable, a less effective method of planting is broadcast seeding. Prepare a firm seedbed as previously described; broadcast seed with a carrier such as cracked corn or 0-13-13 fertilizer and pack **lightly** with a roller.



In late summer of the first growing season, these native warm-season grasses do not exhibit much above-ground vegetative growth.

Eastern gamagrass is best planted with a corn planter, whereas switchgrass, sand lovegrass, and sideoats grama can be planted with a drill or broadcast seeder (a carrier is not necessary). Eastern gamagrass should be planted about 1 inch deep, whereas switchgrass, sand lovegrass, and sideoats grama should be planted no deeper than one-fourth of an inch. Follow the instructions above if planting into a prepared seedbed is necessary.



In spring of the second growing season after establishment, the same grasses provide excellent cover.

You must calibrate planting equipment to distribute the right amount of bulk seed in order to achieve the desired PLS rate. Refer to equipment documentation or consult an experienced professional for calibration instructions. The ratio of PLS to bulk seed should be printed on a label accompanying the seed when it is purchased, or the label should at least provide purity (PP) and total germination (GP) percentages. Multiply PP by GP to find the percent PLS in 1 bulk pound of seed, then divide 1 by the percent PLS to figure how many bulk pounds of seed are equal to 1 pound PLS.

After planting, **BE PATIENT**. Do not expect a dense stand of grasses by the end of the first growing season (although it is possible under ideal conditions). Native warm-season grass seedlings spend most of the first growing season developing a root system and may not exhibit much above-ground vegetative growth. Often, a perfectly good stand of native warm-season grasses is developing although it may appear that the planting was unsuccessful. Native warm-season grasses planted at forage rates **might** develop quickly and almost completely cover a site during the first year given good growing conditions, but stands planted at lower rates for wildlife will likely contain significant bare ground areas. However, bare ground is good for wildlife habitat, and by the second growing season, these stands will likely be excellent cover.

Wildlife Habitat and Ecosystem Restoration

Generally, the total amount of all grasses planted should be in the range of 3 to 6 pounds PLS per acre for wildlife habitat. More sparse stands of grass are desirable for wildlife because dense grass growth shades out desirable forbs that produce wildlife food, and dense grass limits access for species that travel and forage along the ground. Indiangrass can become especially dense and outcompete other grasses if planted too heavily. Thus, indiangrass should comprise no more than 10 to 20 percent of native warm-season grass seed mixtures planted specifically for wildlife.

A mixture of grass species is best for wildlife because the structure and composition of mixed stands creates more diverse, usable habitats than a single species stand. See Table 2 for some suggested grass mixtures. See Table 3 for some suggested forb species.

Forb seeds can be mixed with native grass seeds for planting (drill or broadcast); alternatively, many native grass drills have separate forb boxes, but these are often hard to accurately calibrate for mixtures of large and small seeds. Forbs increase habitat diversity and provide wildlife foods in the form of seeds, nectar, and green forage. A diversity of forbs also attracts numerous insects that are important foods for other wildlife or attractive species for wildlife viewing (e.g., butterflies). Establishing or protecting scattered patches of native shrubs (e.g., wild plum, blackberry, and dogwood) and trees (e.g., oak and pine) in open landscapes (e.g., pastures) restored to native grasses will also enhance habitat value for wildlife by adding more diverse cover and food resources.

Livestock Forage

Native warm-season grasses provide excellent warm-season forage once established. Average daily weight gains for cattle grazing native warm-season grasses can be equal to or greater than gains reported for cattle grazing bermudagrass or bahiagrass. Native warm-season grasses work best as one component of a rotational grazing system that includes both cool-season and warm-season paddocks. Generally, 67 to 75 percent of the forage base should be cool-season forage, whereas 25 to 33 percent should be warm-season forage. Cool- and warm-season grasses should be planted in separate paddocks and not in mixed stands.

Eastern gamagrass, switchgrass, big bluestem, and indiangrass are good native warm-season grass species for forage production. Many cultivars of native grass species have been developed specifically for forage production. For livestock forage, plant native warm-season grasses (singularly or in combination) at a total rate of 8 to 12 pounds PLS per acre. Mixed species stands of these grasses (or different single-species paddocks) will likely be advantageous because species mature at different times (possibly increasing summer forage availability), and some species may retain better forage quality during dry weather periods. Switchgrass and eastern gamagrass can be established and used more effectively when planted as single-species stands. A good combination of native warm-season grass species for both livestock forage and wildlife habitat is 3 pounds PLS per acre big bluestem, 3 pounds PLS per acre indiangrass, and 2 pounds PLS per acre little bluestem. Big bluestem and indiangrass flower later than most other native warm-season grasses, so these two species may be good choices if both hay and wildlife are the objective. Waiting until July to cut these grasses for hay allows grassland birds to have good nesting cover through the peak of the nesting season. However, grasses like switchgrass and eastern gamagrass will be past their best quality by July. Producers should weigh their objectives accordingly when trying to manage native warm-season grasses for both forage and wildlife habitat.

Maintenance and Use of Native Warm-Season Grass Stands

Once established, native grassland communities must be maintained through periodic disturbance such as disking, prescribed fire, or grazing. To manage for grassland wildlife and ecosystem restoration, periodic disturbance is essential to maintain grassland communities by controlling invading brush and trees (scattered shrubs and trees can be beneficial in grassland communities), minimizing litter accumulation, recycling nutrients, and by stimulating new herbaceous plant growth. Disking should not be used to manage sensitive areas such as remnant native prairie or wiregrass communities because it may destroy rare or sensitive plants in these systems. Prescribed fire is a cost-effective tool for managing wildlife habitat and native prairie, controlling woody brush, and improving forage quality. However, prescribed burning should always be supervised by a certified prescribed burn manager, who will develop a written burn plan and obtain appropriate permits before burning.

Check with the Mississippi Forestry Commission for more information about prescribed burning regulations.

Use of nitrogen (N) fertilizer during the first year of establishment is not recommended, although moderate amounts of phosphorus (P) and potassium (K) fertilizer may be beneficial during the first year. For forage production, N-P-K may be applied as needed during subsequent years to enhance production. However, native warm-season grasses do not require as much supplemental fertilization as nonnative forage grasses. In most cases, native warm-season grasses will probably not be available for substantial grazing or haying during the first growing season after planting. It is important not to graze native warm-season grasses shorter than a height of 8 inches; a rotational grazing system in which several native warm-season grass paddocks are available is the most efficient way to use native warm-season grasses for livestock forage.

The best-quality hay is produced from native warm-season grasses by harvesting when seed heads first begin to show. A professional experienced in native warm-season grass management can provide prescriptions for maintenance of native warm-season grass stands tailored specifically to your objectives.

Technical Assistance

This guide is primarily an introduction to native warm-season grass establishment and management. An excellent, more detailed reference is "Native warm-season grasses: identification, establishment, and management for wildlife and forage production in the mid-South" by Harper et al. (2007) (http://www.utextension.utk.edu/publications/wildlife/default.asp). For professional assistance with native warm-season grass establishment and management, the following agencies are available to provide technical and programmatic assistance:

- Delta Wildlife, Inc.
  http://www.deltawildlife.org/
  (662) 686-3370

- Mississippi Department of Wildlife, Fisheries, and Parks
  http://www.mdwfp.com/
  (601) 432-2400

- Mississippi Forestry Commission
  http://www.mfc.state.ms.us/
  (601) 359-1386

- Mississippi State University
  Forest and Wildlife Research Center
  http://www.cfr.msstate.edu/fwrc/fwrc.htm
  (662) 325-2952

- Mississippi State University
  Wildlife and Fisheries Extension
  http://msucares.com/
  (662) 325-3174

- USDA-Farm Service Agency
  http://www.fsa.usda.gov/
  (601) 965-4300

- USDA-Natural Resources Conservation Service (NRCS)
  http://www.ms.nrcs.usda.gov/
  (601) 965-4339

- Wildlife Mississippi
  http://www.wildlifemiss.org/
  (662) 686-3375

Seed Sources

It is recommended that you first contact an experienced professional from one of the agencies listed above to facilitate selection of grasses and forbs that are appropriate for your property. In many cases, one or more of these organizations may be able to handle procurement of seed for you. However, if you prefer to purchase seed on your own, following are some seed companies (this list is not exhaustive) that can help you with selecting and purchasing native warm-season grass and/or forb seeds.

Specializing in Native Grasses and Forbs

- Bamert Seed Company
  http://www.bamertseed.com/
  (800) 262-9892
  1897 CR 1018
  Muleshoe, TX 79347

- Bohmont Ranch Warm-Season Grass Seed
  http://www.bohmontranch.com/
  (417) 278-3887
  939 Bohmont Road
  Sparta, MO 65753

- Ernst Conservation Seeds
  http://www.ernstseed.com
  (800) 873-3321
  9006 Mercer Pike
  Meadville, PA 16335-9299

- Roundstone Native Seed
  http://www.roundstoneseed.com
  (270) 531-2353
  9764 Raider Hollow Road
  Upton, KY 42784

- Sharp Brothers Seed Company
  http://www.sharpbro.com
  (800) 462-8483
  396 SW David Street
  Clinton, MO 64735

- Star Seed Company
  http://www.gostarseed.com
  (800) 782-7311
  101 Industrial Avenue
  Osborne, KS 67473

- Turner Seed Company
  http://www.turnerseed.com/
  (800) 722-8616
  211 County Road 151
  Breckenridge, TX 76424-8165

- Warner Brothers Seed Company
  http://www.wbseedco.com/
  (800) 467-7250
  P.O. Box 101
  Lawton, OK 73502

Selected Native Legumes for Wildlife Plantings

- Seeds, Inc
  (800) 238-6440
  761 Walnut Knoll Lane
  Memphis, TN 38018

- Wax Company, Inc
  (662) 256-3511
  212 North Front Street
  Amory, MS 38821

Financial Assistance

A number of conservation programs are available that may provide cost-shares or incentives for native warm-season grass establishment. The Conservation Reserve Program (CRP) is available only for land that satisfies an agricultural cropping history requirement or is marginal pastureland. Several CRP buffer practices (such as CP21 - Filter Strips and CP33 - Habitat Buffers for Upland Birds) can be established in native warm-season grasses to develop wildlife habitat and conserve soil and water quality. CRP grass stands that are established in nonnative grasses such as tall fescue or bermudagrass (such as CP10 - Existing Grasses) can be enhanced by converting to native warm-season grasses. CRP also provides cost-shares to manage (such as prescribed fire) CRP conservation covers. The Wildlife Habitat Incentives Program is available to any nonindustrial private landowners (dependent on funding) and provides cost-shares for native warm-season grass establishment and management. The Environmental Quality Incentives Program (EQIP) and Conservation Security Program (CSP) may also have practices that can be used to establish and manage native warm-season grasses for wildlife habitat, sensitive areas protection, or grazing. The Landowner Incentive Program (LIP) is practical for restoration of native warm-season grasses in order to enhance, restore, and protect imperiled habitats and benefit at-risk wildlife species on private lands.

The Farm Service Agency (FSA) administers CRP. The Natural Resources Conservation Service (NRCS) administers CSP, EQIP, and WHIP. Contact the NRCS or FSA office at your USDA Service Center, or a wildlife biologist with one of the agencies listed in the Technical Assistance section, about availability of federal assistance programs. If native warm-season grass plantings are established with financial assistance from USDA conservation programs, planting rates and practices must be consistent with NRCS practice standards. The Mississippi Department of Wildlife, Fisheries, and Parks, in cooperation with Wildlife Mississippi, administers LIP. Delta Wildlife (in the Delta region) and Wildlife Mississippi (in the prairie and longleaf pine regions) are active in native warm-season grass restoration. Contact these agencies about native grassland restoration programs they might have available.

Additional References

Missouri Department of Conservation. 1984. Native warm-season grasses for Missouri stockmen. Available online at http://www.mdc.mo.gov/ (April 2007).

Harper, Craig A., Gary E. Bates, Michael P. Hansbrough, and Mark J. Gudlin. 2005. Native warm-season grasses in the mid-South. University of Tennessee Extension PB1746 (http://www.utextension.utk.edu/publications/wildlife/default.asp), Knoxville, TN.

May, Jimmy R. and Jeffery D. Sole. Grazing and haying of native warm-season grasses for livestock and wildlife. Kentucky Department of Fish and Wildlife Resources.

USDA-Natural Resources Conservation Service, PLANTS database. Available online at http://plants.usda.gov/index.html (April 2007).

Summary

Native warm-season grasses are a vital part of natural grassland and woodland ecosystems in Mississippi. By managing competition from undesirable vegetation and following proper planting procedures, native warm-season grass stands can be successfully established. With proper management, native warm-season grasses are compatible with both wildlife habitat and livestock forage goals. Consult a natural resources professional to develop a plan for native warm-season grass management that will best fit your objectives.

Recommended Plantings for Restoring Native Plant Communities

Following are brief lists of native grasses and forbs that are generally available for purchase. In some instances, introduced forb species may be acceptable (e.g., kobe lespedeza). Always consult a natural resources professional before planting introduced species. Consult a natural resources professional or seed company representative to decide which species and cultivars or varieties of available native warm-season grass seed and forbs will best fit your objectives.

Table 1. Recommended native warm-season grasses for Mississippi.

Common Name	Scientific Name	Varieties or Cultivars	Planting Depth	Planting Method
big bluestem	*Andropogon gerardii*	**Kaw**, **Earl**, Pawnee, Rountree	0.25 inch	**drill**; broadcast
little bluestem	*Schizachyrium scoparium*	**Aldous**, Cimmaron, Camper, Blaze	0.25 inch	**drill**; broadcast
broomsedge	*Andropogon virginicus*	Limited seed availability; readily colonizes most sites in Mississippi naturally	0.25 inch	**drill**; broadcast
indiangrass	*Sorgastrum nutans*	**Lometa**, **Osage**, Americus, Cheyenne, Rumsey	0.25 inch	**drill**; broadcast
switchgrass	*Panicum virgatum*	**Alamo**, **Kanlow**, Blackwell, Pathfinder	0.25 - 0.5 inch	**drill**; **broadcast**
eastern gamagrass	*Tripsacum dactyloides*	**Highlander**, **Jackson**, Iuka, Pete	1 inch	grain planter
sideoats grama	*Bouteloua curtipendula*	Haskell, Trailway, Butte	0.25 - 0.5 inch	**drill**; **broadcast**
sand lovegrass	*Eragrostis trichodes*		0.25 inch	**drill**; **broadcast**
purple top	*Tridens flavus*		0.25 inch	**drill**; broadcast

Bold Varieties - indicate proven performance at sites in Mississippi.
Bold Planting Methods - indicate planting methods that yield the best results.

Table 2. Example native warm-season grass mixtures for different uses.

	Grass Mixtures (pounds PLS/acre)
tallgrass prairie or Delta mixture	little bluestem (1.5 lbs), big bluestem (1.5 lbs), indiangrass (0.5 lb), switchgrass (0.5 lb)
shortgrass prairie or Delta mixture	little bluestem (2 lbs), sideoats grama (1 lb), big bluestem (0.5 lb), indiangrass (0.5 lb)
average soils mixture (e.g., red clay soils)	little bluestem (2 lbs), purple top (1 lb), indiangrass (0.5 lb), switchgrass (0.5 lb)
sandy/degraded soil mixture	little bluestem (2 lbs), sand lovegrass (0.5 lb), purple top (1 lb), switchgrass (0.5 lb)
grazing mixture, heavy soils	big bluestem (4 lbs), indiangrass (4 lbs), little bluestem (2 lbs), or eastern gamagrass or switchgrass in single-species stands
grazing mixture, average soils	little bluestem (2 lbs), indiangrass (8 lbs), or eastern gamagrass in single-species stands
grazing mixture, dry soils	little bluestem (2 lbs), indiangrass (6 lbs), sand lovegrass (2 lbs), or eastern gamagrass in single-species stands

Rates may be adjusted based on desired seeding rate. If approximate bulk seed volume output rates can be obtained for the drill being used, this will help determine amount of seed to purchase. Remember that pure live seed will have to be estimated from bulk seed volume, and pure live seed rates will have to be approximated as close to the desired rate as possible based on bulk seed output by specific drill settings.

Calculating Bulk Pounds of Seed for Planting

Multiply pure seed percentage by total germination percentage. If pure seed is 70 percent and total germination is 85 percent, then 0.70 multiplied by 0.85 equals 0.595 or 59.5 percent pure live seed in 1 bulk pound of seed. Divide 1 by the percentage of pure live seed in 1 bulk pound to determine bulk pounds of seed that equal 1 pound of pure live seed.

In this example, 1 divided by 0.595 equals 1.68 bulk pounds. Thus, there is 1 pound of pure live seed in 1.68 bulk pounds. To plant at a rate of 4 pounds pure live seed per acre, plant approximately 7 bulk pounds of seed per acre (1.68 multiplied by 4). The actual rate that can be planted will depend on equipment used. For example, the lowest output setting on a native grass drill may be 5 bulk pounds, while the next output setting may be 8 bulk pounds. In this example, 5 bulk pounds would equal approximately 3 pounds of pure live seed (5 multiplied by 0.595), and 8 bulk pounds would equal approximately 5 pounds of pure live seed (8 multiplied by 0.595).

Table 3. Some native forbs recommended for wildlife habitat enhancement or ecosystem restoration in Mississippi.

Common Name	Scientific Name	Form (Varieties)	Soil Adaptation*
wild bergamont	*Monarda fistulosa*	mint, broadleaf forb	L, M, H
oxeye	*Heliopsis helianthoides*	aster, broadleaf forb	M, H
ragweed	*Ambrosia artemisiifolia*	aster, broadleaf forb	L, M, H
blazing star	*Liatris spp.*	aster, broadleaf forb	M, H
purple coneflower	*Echinacea purpurea*	aster, broadleaf forb	M, H
coneflower	*Radtibida spp.*	aster, broadleaf forb	M, H
coreopsis	*Coreopsis spp.*	aster, broadleaf forb	M, H
compass plant	*Silphium laciniatum* and other *Silphium spp.*	aster, broadleaf forb	H
maximilian sunflower**	*Helianthus maximiliani*	aster, broadleaf forb	M, H
common sunflower	*Helianthus annuus*	aster, broadleaf forb	M, H
narrow leaved sunflower	*Helianthus angustifolius*	aster, broadleaf forb	L, M
butterfly milkweed	*Asclepias tuberosa*	aster, broadleaf forb	M, H
blackeyed Susan	*Rudbekia hirta*	aster, broadleaf forb	L, M, H
Illinois bundleflower	*Desmanthus illinoensis*	legume	H
Florida beggarweed	*Desmodium tortuosum*	legume	L, M, H
smooth ticktrefoil	*Desmodium laevigatum*	legume	L, M, H
stiff ticktrefoil	*Desmodium obtusum*	legume	L, M, H
partridge pea	*Chamaecrista fasciculata*	legume (Lark)	L, M, H
roundhead lespedeza	*Lespedeza capitata*	legume	L, M, H
slender lespedeza	*Lespedeza virginica*	legume	L, M, H
white prairie clover	*Dalea candida*	legume	H
purple prairie clover	*Dalea purpurea*	legume	H
white indigo	*Baptisia alba*	legume	L, M

* **L** = light soils (drier, sandy, and silty soils; may not be suitable for extremely droughty soils);
M = medium soils (well-drained loam and clay soils);
H = heavy soils (moderately drained, heavier clay soils such as prairie or Delta soils)

** Not native to Mississippi, but native to western United States; not known to be invasive in Mississippi.

Consult a natural resources professional for more information about appropriate plant materials for your site.

All species may not be commercially available.

Photos

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Rick Hamrick
Wes Burger
Bryan Watkins
Sam Riffell

Illustrations

Jeanne Jones

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Publication 2435

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Appendix C: Species Lists of Native Trees and Jackson Prairie

Native Trees Species List

Common Name	Technical Name	Abundance	Native/Exotic	Habitat
Box Elder	*Acer negundo L.*	Common	Native	forested area on the edge of an open field
Red Maple	*Acer rubrum L.*	Scattered	Native	disturbed; open
Southern Sugar Maple	*Acer barbatum Michx.*	Common	Native	disturbed; roadside
Smooth Sumac	*Rhus glabra L.*	Common	Native	disturbed; roadside
Pawpaw	*Asimina triloba (L.) Dunal*	Common	Native	Mesic forest along small stream
American Holly	*Ilex opaca Aiton.*	Scattered	Native	disturbed; open
Deciduous Holly	*Ilex decidua Walt.*	Common	Native	mesic wooded area
Ironwood or Blue Beech	*Carpinus caroliniana Walt.*	Common	Native	disturbed; roadside; forested mesic north slope
Black Haw	*Viburnum prunifolium L.*	Scattered	Native	mesic forested north slope
Elderberry	*Sambucus canadensis L.*	Common	Native	disturbed; roadside; east facing slope;
Rusty Black Haw	*Viburnum rufidulum Raf.*	Scattered	Native	on east slope; along small stream; in forest.
Flowering Dogwood	*Cornus florida L.*	Common	Native	disturbed; open
Rough-leaved Dogwood	*Cornus drummondii Meyer*	Common	Native	disturbed; mesic
Eastern Red Cedar	*Juniperus virginiana L.*	Scattered	Native	disturbed; open
Persimmon	*Diospyros virginiana L.*	Common	Native	disturbed; roadside; forested mesic north slope
Black Locust	*Robinia pseudo-acacia L.*	Common	Native	disturbed; roadside
Honey Locust	*Gleditsia triacanthos L.*	Scattered	Native	disturbed; roadside
Redbud	*Cercis canadensis L.*	Common	Native	mesic forested north slope
Beech	*Fagus grandifolia Ehrh.*	Rare	Native	mesic north slope; on stream
Black Oak	*Quercus velutina Lam.*	Common	Native	disturbed; roadside; mesic north slope
Cherrybark Oak	*Quercus pagoda Raf.*	Scattered	Native	disturbed; open
Chinkapin Oak	*Quercus muehlenbergii Engelm.*	Common	Native	on edge of mesic woods
Northern Red Oak	*Quercus rubra L.*	Common	Native	north slope; mesic drainage; in forested area
Shumard's Oak	*Quercus shumardii Buckl.*	Scattered	Native	disturbed; open
Southern Red Oak	*Quercus falcata Michx.*	Common	Native	forested area on the edge of an open field
Water Oak	*Quercus nigra L.*	Common	Native	mesic wooded area
White Oak	*Quercus alba L.*	Common	Native	disturbed; open
Sweetgum	*Liquidambar styraciflua L.*	Common	Native	disturbed; open
Witch-hazel	*Hamamelis virginiana L.*	Scattered	Native	mesic forested north slope
American Hydrangea	*Hydrangea arborescens L.*	Common	Native	very mesic north slope
Oak-leaved Hydrangae	*Hydrangea quercifolia Bartram*	Common	Native	mesic forested north slope
Bitternut Hickory	*Carya cordiformis (Wang.) K.Koch*	Scattered	Native	mesic wooded area
Black Walnut	*Juglans nigra L.*	Scattered	Native	mesic wooded area
Pecan	*Carya illinoinensis (Wangenh.) K. Koch*	Scattered	Native	disturbed; open
Sassafras	*Sassafras albidum (Nutt.) Nees.*	Common	Native	disturbed; forest edge/drainage
Spice-bush	*Lindera benzoin (L.) Blume*	Scattered	Native	in mesic forested northwest slope
Southern Magnolia	*Magnolia grandiflora L.*	Scattered	Native	mesic wooded area
Tulip Tree or Yellow Poplar	*Liriodendron tulipifera L.*	Scattered	Native	disturbed; open
Red Mulberry	*Morus rubra L.*	Common	Native	mesic wooded area
White Ash	*Fraxinus cf. americana L.*	Rare	Native	disturbed; open
Loblolly Pine	*Pinus taeda L.*	Scattered	Native	disturbed; roadside
Sycamore	*Platanus occidentalis L.*	Scattered	Native	disturbed; roadside
Carolina Buckthorn	*Frangula caroliniana Walt.*	Common	Native	mesic wooded area
Carolina Laurel Cherry	*Prunus caroliniana Aiton*	Common	Native	Mesic forest along small stream

Common Name	Technical Name	Abundance	Native/Exotic	Habitat
Chickasaw Plum	*Prunus angustifolia Marsh.*	Scattered	Native	disturbed; roadside
Wild Black Cherry	*Prunus serotina Ehrh.*	Common	Native	disturbed; mesic
Black Willow	*Salix nigra Marsh.*	Scattered	Native	Mesic forest along small stream
Eastern Cottonwood	*Populus deltoides Marsh.*	Scattered	Native	disturbed; roadside
Southern Buckthorn	*Bumelia lycioides (L.) Gaertn.*	Scattered	Native	disturbed; roadside
Bald Cypress	*Taxodium distichum (L.) Rich.*	Scattered	Native	disturbed; open
Basswood	*Tilia americana L.*	Common	Native	north slope; mesic drainage; in forested area
American Elm	*Ulmus americana L.*	Scattered	Native	disturbed; open
Slippery Elm or Red Elm	*Ulmus rubra Muhl.*	Scattered	Native	disturbed; roadside; forested mesic north slope
Southern Hackberry	*Celtis laevigata Willd.*	Common	Native	disturbed; mesic
Winged Elm	*Ulmus alata Michx.*	Common	Native	disturbed; roadside

Jackson Prairie Species List

Species	Common Name	Family
Agalinis oligophylla Pennell	ridgestem false foxglove	Scrophulariaceae
Agalinis purpurea (L.) Pennell	purple false foxglove	Scrophulariaceae
Allium canadense L. var. mobilense (Regel) Ownbey	meadow garlic	Liliaceae
Amorpha fruticosa L.	desert indigobush	Fabaceae
Andropogon gerardii Vitman	big bluestem	Poaceae
Andropogon glomeratus (Walt.) B.S.P.	bushy bluestem	Poaceae
Andropogon virginicus L.	broomsedge bluestem	Poaceae
Antennaria plantaginifolia (L.) Richards.	woman's tobacco	Asteraceae
Apocynum cannabinum L.	Indianhemp	Apocynaceae
Aristida oligantha Michx.	prairie threeawn	Poaceae
Aristida purpurascens Poir.	arrowfeather threeawn	Poaceae
Asclepias hirtella (Pennell) Woods.	green milkweed	Asclepiadaceae
Asclepias tuberosa L.	butterfly milkweed	Asclepiadaceae
Asclepias verticillata L.	whorled milkweed	Asclepiadaceae
Asclepias viridiflora Raf.	green milkweed	Asclepiadaceae
Asclepias viridis Walt.	green antelopehorn	Asclepiadaceae
Blephilia ciliata (L.) Benth.	downy pagodaplant	Lamiaceae
Bouteloua curtipendula (Michx.) Torr.	sideoats grama	Poaceae
Brickellia eupatorioides (L.) Shinners	false boneset	Asteraceae
Buchnera americana L.	American bluehearts	Scrophulariaceae
Carex cherokeensis Schwein.	Cherokee sedge	Cyperaceae
Carex leavenworthii Dewey	Leavenworth's sedge	Cyperaceae
Ceanothus americanus L.	New Jersey tea	Rhamnaceae
Centrosema virginianum (L.) Benth.	spurred butterfly pea	Fabaceae
Cercis canadensis L.	eastern redbud	Fabaceae
Chamaecrista fasciculata (Michx.) Greene	partridge pea	Fabaceae
Chamaesyce maculata (L.) Small	spotted sandmat	Euphorbiaceae
Chasmanthium latifolium (Michx.) Yates	Indian woodoats	Poaceae
Chasmanthium sessiliflorum (Poir.) Yates	longleaf woodoats	Poaceae
Cirsium horridulum Michx.	yellow thistle	Asteraceae
Clematis virginiana L.	devil's darning needles	Ranunculaceae
Clitoria mariana L.	Atlantic pigeonwings	Fabaceae
Cocculus carolinus (L.) DC.	Carolina coralbead	Menispermaceae
Conoclinium coelestinum (L.) DC.	blue mistflower	Asteraceae
Coreopsis lanceolata L.	lanceleaf tickseed	Asteraceae
Cornus drummondii C.A. Mey.	roughleaf dogwood	Cornaceae
Crotalaria purshii DC.	Pursh's rattlebox	Fabaceae
Croton capitatus Michx.	hogwort	Euphorbiaceae
Croton monanthogynus Michx.	prairie tea	Euphorbiaceae
Cyperus pseudovegetus Steud.	marsh flatsedge	Cyperaceae
Dalea candida Michx. ex Willd.	slender white prairieclover	Fabaceae
Dalea purpurea Vent.	purple prairieclover	Fabaceae
Daucus pusillus Michx.	American wild carrot	Apiaceae
Desmanthus illinoensis (Michx.) MacM. ex B.L. Robins. & Fern.	prairie bundleflower	Fabaceae
Desmodium ciliare (Muhl. ex Willd.) DC.	hairy small-leaf ticktrefo	Fabaceae
Desmodium marilandicum (L.) DC.	smooth ticktrefoil	Fabaceae
Desmodium paniculatum (L.) DC.	panicledleaf ticktrefoil	Fabaceae
Dichanthelium aciculare (Desv. ex Poir.) Gould & C.A. Clark	needleleaf rosette grass	Poaceae

Species	Common Name	Family
Echinacea purpurea (L.) Moench	Echinacea purpurea (L.) Moench	Asteraceae
Elymus virginicus L.	riverbank wildrye	Poaceae
Eragrostis spectabilis (Pursh) Steud.	purple lovegrass	Poaceae
Erigeron philadelphicus L.	Philadelphia fleabane	Asteraceae
Erigeron strigosus Muhl. ex Willd.	prairie fleabane	Asteraceae
Eryngium yuccifolium Michx.	button eryngo	Apiaceae
Erythrina herbacea L.	redcardinal	Fabaceae
Eupatorium altissimum L.	tall thoroughwort	Asteraceae
Eupatorium serotinum Michx.	lateflowering thoroughwort	Asteraceae
Euphorbia corollata L.	flowering spurge	Euphorbiaceae
Eurybia hemispherica (Alexander) Nesom	southern prairie aster	Asteraceae
Fimbristylis puberula (Michx.) Vahl var. puberula (Michx.) Vahl	hairy fimbry	Cyperaceae
Galactia volubilis (L.) Britt.	downy milkpea	Fabaceae
Gaura angustifolia Michx.	southern beeblossom	Onagraceae
Gaura biennis L.	biennial beeblossom	Onagraceae
Geranium carolinianum L. var. carolinianum L.	Carolina geranium	Geraniaceae
Hedyotis nigricans (Lam.) Fosberg	diamondflowers	Rubiaceae
Helenium autumnale L.	common sneezeweed	Asteraceae
Helenium flexuosum Raf.	purplehead sneezeweed	Asteraceae
Helianthus angustifolius L.	swamp sunflower	Asteraceae
Helianthus atrorubens L.	purpledisk sunflower	Asteraceae
Helianthus divaricatus L.	woodland sunflower	Asteraceae
Houstonia purpurea L.	Venus' pride	Rubiaceae
Hypericum punctatum Lam.	spotted St. Johnswort	Clusiaceae
Hypericum sphaerocarpum Michx.	roundseed St. Johnswort	Clusiaceae
Iva annua L.	annual marshelder	Asteraceae
Iva frutescens L.	bigleaf sumpweed	Asteraceae
Liatris aspera Michx.	tall gayfeather	Asteraceae
Liatris spicata (L.) Willd.	dense gayfeather	Asteraceae
Liatris squarrosa (L.) Michx.	scaly gayfeather	Asteraceae
Liatris squarrulosa Michx.	Appalachian gayfeather	Asteraceae
Linum medium (Planch.) Britt.	stiff yellow flax	Linaceae
Linum sulcatum Riddell	grooved flax	Linaceae
Lobelia spicata Lam. var. leptostachys (A. DC.) Mackenzie & Bush	palespike lobelia	Campanulaceae
Lythrum alatum Pursh var. lanceolatum (Ell.) Torr. & Gray ex Rothrock	winged lythrum	Lythraceae
Manfreda virginica (L.) Salisb. ex Rose	false aloe	Agavaceae
Matelea gonocarpos (Walt.) Shinners	angularfruit milkvine	Asclepiadaceae
Melilotus alba Desr.	white sweetclover	Fabaceae
Monarda fistulosa L.	wildbergamot beebalm	Lamiaceae
Monarda citriodora Cerv. ex Lag.	lemon beebalm	Lamiaceae
Neptunia lutea (Leavenworth) Benth.	yellow puff	Fabaceae
Onosmodium bejariense DC. ex A. DC. var. hispidissimum (Mackenzie) B.L. Turner	softhair marbleseed	Boraginaceae
Panicum anceps Michx.	beaked panicum	Poaceae
Panicum virgatum L.	switchgrass	Poaceae
Paspalum laeve Michx.	field paspalum	Poaceae
Passiflora incarnata L.	purple passionflower	Passifloraceae
Penstemon laxiflorus Pennell	nodding beardtongue	Scrophulariaceae
Polygala boykinii Nutt.	Boykin's milkwort	Polygalaceae
Polygala grandiflora Walt.	showy milkwort	Polygalaceae

Species	Common Name	Family
Polypremum procumbens L.	juniper leaf	Buddlejaceae
Polytaenia nuttallii DC.	Nuttall's prairie parsley	Apiaceae
Prunus americana Marsh.	American plum	Rosaceae
Prunus angustifolia Marsh.	Chickasaw plum	Rosaceae
Prunus mexicana S. Wats.	Mexican plum	Rosaceae
Pycnanthemum tenuifolium Schrad.	narrowleaf mountainmint	Lamiaceae
Pyrrhopappus carolinianus (Walt.) DC.	Carolina desertchicory	Asteraceae
Ratibida pinnata (Vent.) Barnh.	pinnate prairie coneflower	Asteraceae
Rhus copallinum L.	flameleaf sumac	Anacardiaceae
Rhus glabra L.	smooth sumac	Anacardiaceae
Rhynchosia tomentosa (L.) Hook. & Arn.	twining snoutbean	Fabaceae
Rhynchospora compressa Carey ex Chapman	flatfruit beaksedge	Cyperaceae
Rosa carolina L.	Carolina rose	Rosaceae
Rudbeckia fulgida Ait.	orange coneflower	Asteraceae
Rudbeckia hirta L.	blackeyed Susan	Asteraceae
Ruellia strepens L.	limestone wild petunia	Acanthaceae
Sabatia angularis (L.) Pursh	rosepink	Gentianaceae
Salvia azurea Michx. ex Lam.	azure blue sage	Lamiaceae
Salvia lyrata L.	lyreleaf sage	Lamiaceae
Schizachyrium scoparium (Michx.) Nash	little bluestem	Poaceae
Scleria oligantha Michx.	littlehead nutrush	Cyperaceae
Scutellaria integrifolia L.	helmet flower	Lamiaceae
Setaria parviflora (Poir.) Kergu,len	yellow bristlegrass	Poaceae
Silphium asteriscus L.	starry rosinweed	Asteraceae
Silphium integrifolium Michx.	wholeleaf rosinweed	Asteraceae
Silphium laciniatum L.	compassplant	Asteraceae
Silphium trifoliatum L. var. latifolium Gray	whorled rosinweed	Asteraceae
Sisyrinchium angustifolium P. Mill	narrowleaf blueeyed grass	Iridaceae
Solidago canadensis L.	Canada goldenrod	Asteraceae
Solidago nemoralis Ait.	Dyersweed goldenrod	Asteraceae
Sorghastrum nutans (L.) Nash	yellow Indiangrass	Poaceae
Spiranthes lacera (Raf.) Raf. var. gracilis (Bigelow) Luer	northern slender ladiestresses	Orchidaceae
Strophostyles umbellata (Muhl. ex Willd.) Britt.	pink fuzzybean	Fabaceae
Symphyotrichum novae-angliae (L.) Nesom	New England aster	Asteraceae
Symphyotrichum concolor (L.) Nesom	eastern silver aster	Asteraceae
Symphyotrichum dumosum (L.) Nesom	rice button aster	Asteraceae
Symphyotrichum patens (Ait.) Nesom	late purple aster	Asteraceae
Symphyotrichum pilosum (Willd.) Nesom	hairy white oldfield aster	Asteraceae
Symphyotrichum praealtum (Poir.) Nesom	willowleaf aster	Asteraceae
Tridens flavus (L.) A.S. Hitchc.	purpletop tridens	Poaceae
Tridens strictus (Nutt.) Nash	longspike tridens	Poaceae
Triodanis perfoliata (L.) Nieuwl. var. biflora (Ruiz & Pavȼn) Bradley	clasping Venus' lookingglass	Campanulaceae
Ulmus crassifolia Nutt.	cedar elm	Ulmaceae
Verbena simplex Lehm.	narrowleaf vervain	Verbenaceae
Vernonia gigantea (Walt.) Trel.	giant ironweed	Asteraceae

Appendix D: National Register Nomination

Form No. 10-306 (Rev. 10-74)

PH0355623

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR FEDERAL PROPERTIES

FOR NPS USE ONLY
RECEIVED FEB 5 1976
DATE ENTERED Approved 12/9/77

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC **

VICKSBURG NATIONAL MILITARY PARK

AND/OR COMMON

2 LOCATION

STREET & NUMBER N and E of Vicksburg
Vicksburg National Military Park — NOT FOR PUBLICATION

CITY, TOWN
Vicksburg — VICINITY OF

CONGRESSIONAL DISTRICT
4

STATE	CODE	COUNTY	CODE
Mississippi	28	Warren	149

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
X DISTRICT	X PUBLIC	__OCCUPIED	__AGRICULTURE	__MUSEUM
__BUILDING(S)	__PRIVATE	X UNOCCUPIED	__COMMERCIAL	X PARK
__STRUCTURE	__BOTH	__WORK IN PROGRESS	__EDUCATIONAL	__PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	__ENTERTAINMENT	__RELIGIOUS
__OBJECT	__IN PROCESS	X YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	__YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		__NO	__MILITARY	__OTHER:

4 AGENCY

REGIONAL HEADQUARTERS: *(If applicable)*
Southeast Regional Office
STREET & NUMBER
1895 Phoenix Boulevard
CITY, TOWN
Atlanta — VICINITY OF
STATE
Georgia

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.
Warren County Courthouse
STREET & NUMBER
1009 Cherry Street
CITY, TOWN
Vicksburg
STATE
Mississippi

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

DATE
__FEDERAL __STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS

CITY, TOWN
STATE

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	__UNALTERED	X ORIGINAL SITE
X GOOD	__RUINS	X ALTERED	__MOVED DATE_____
X FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

See continuation sheets for Item 7, page 1-18

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
__PREHISTORIC	__ARCHEOLOGY-PREHISTORIC	__COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION	
__1400-1499	__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE	
__1500-1599	__AGRICULTURE	__ECONOMICS	__LITERATURE	X SCULPTURE	
__1600-1699	__ARCHITECTURE	__EDUCATION	X MILITARY	__SOCIAL/HUMANITARIAN	
__1700-1799	__ART	__ENGINEERING	__MUSIC	__THEATER	
X 1800-1899	__COMMERCE	__EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION	
__1900-	__COMMUNICATIONS	__INDUSTRY	__POLITICS/GOVERNMENT	__OTHER (SPECIFY)	
		__INVENTION			

SPECIFIC DATES 1863 BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

Vicksburg was the key to control of the Mississippi River. At the time of the Civil War the Mississippi was a vital artery of transportation. To protect this lifeline, the Confederacy had erected a series of fortifications at readily defensible locations along the river from which the Union advance could be checked. Pushing southward from Illinois by land and water, and northward from the Gulf of Mexico by river, Union army and naval units attacked the Confederate strong points. They captured strategic forts and cities until by June of 1862, Vicksburg alone barred complete Union possession of the Mississippi River.

When Union forces marched victoriously into the city on July 4, 1863, after a 47-day siege, it was one of the turning points of the Civil War. Tactically and strategically the results of the campaign were decisive. The Mississippi River was again open to Northern commerce. The vast resources of the trans-Mississippi were denied to the Confederates, as the Confederacy was cut in two. Victory brought to Grant and the Union army a major conquest of the war in the west. Abraham Lincoln, his cabinet and people in the North were enheartened after long months of defeat and discouragement. Coupled with the defeat of Lee at Gettysburg on July 3, 1863, the Confederacy suffered a blow from which it would never recover.

The monuments in the park are impressive in number, size, cost and architectural design. A feel for the action that took place here can be achieved by studying the monuments and markers. The monuments have an historic significance all their own for they represent an attempt to immortalize the deeds of the men who participated here. Beginning in 1903 with the Massachusetts Monument through 1963 when the Texas Monument was erected, the desire to perpetuate the memory and sacrifice of the men who fought and died here is evident. Contributions for the monuments came from individuals, large corporations and appropriations from the state and federal governments.

The sculpture in Vicksburg National Military Park is one of the most significant collections of such monuments in the country. Theo Alice Ruggles Kitson, who created over 50 public monuments in various parts of the U. S., is well represented here with 69 relief portraits or busts. Her husband, Henry Hudson Kitson, did two of the statues here and other busts and relief portraits. He has many works throughout the country, including the "Minute Man" at Lexington, Massachusetts. Other well known sculptors such as F. C. Hibbard and Adolph Weinman are represented here.

(Continued)

9 MAJOR BIBLIOGRAPHICAL REFERENCES

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John J. Hollister, "Vicksburg On Your Own," May 1971, Battlefield Guide.
Stephen D. Ambrose and Editors of Civil War Times, "Struggle for Vicksburg," 1967, Historical Times, Inc.
F. F. Wilshin, "The Shirley House," Vicksburg, MS., Oct. 28, 1939.
National Park Service Manuscripts, Historian's File, Vicksburg National Military Park.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 1,869

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	15	704150	3583350
B	15	703850	3579500
C	15	697400	3572020
D	15	700575	3583250

VERBAL BOUNDARY DESCRIPTION

Vicksburg National Military Park borders the city of Vicksburg on the northern and eastern sides, approximately two-thirds of the way around the corporate limits, paralleling Confederate and Union Avenues in an irregular manner.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME / TITLE

Nancy Aiken Miller, Interpretive Specialist

ORGANIZATION

Vicksburg National Military Park

STREET & NUMBER

P. O. Box 349

CITY OR TOWN

Vicksburg

DATE

9-1-76

TELEPHONE

601 - 636-0583

STATE

Mississippi 39180

12 CERTIFICATION OF NOMINATION

STATE HISTORIC PRESERVATION OFFICER RECOMMENDATION

YES____ NO____ NONE____

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

In compliance with Executive Order 11593, I hereby nominate this property to the National Register, certifying that the State Historic Preservation Officer has been allowed 90 days in which to present the nomination to the State Review Board and to evaluate its significance. The evaluated level of significance is ✓ National ____State ____Local.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE Deputy Assistant Secretary

DATE DEC 17 1976

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

DATE 12/9/77

ATTEST:

KEEPER OF THE NATIONAL REGISTER

DATE 12.5.77

Form No. 10-300a
(Rev. 10-74)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED DEC 29 1976
DATE ENTERED

When General Grant's Union troops approached Vicksburg from the east on May 18, 1863, they met the Confederate forces strongly entrenched on a commanding ridge behind the naturally defensible city.

The geographic position of Vicksburg determined its importance to both sides. Located on steep, high bluffs 200 feet above the Mississippi River, the Confederate guns there controlled the river approaches, making the city practically impregnable to successful attack from that quarter.

The Confederate defense line began at the Mississippi River about two miles north of Vicksburg and extended in an arc along the crest of a ridge nine miles to a point on the river to the south of the city. Anticipating the Union attack, General Pemberton, commander of the Army of Vicksburg, had constructed a strong defense line consisting of a number of forts and artillery emplacements to cover the roads and railroad leading into the city. These forts were connected by trenches manned by infantry. In front of the defense line were deep ravines through which Union troops would have to pass to reach the Confederates.

The Union siege lines paralleled the Confederate defense line at an average distance of about 500 yards at the beginning of the battle, but this distance was gradually reduced as the siege wore on. The Union siege line consisted of artillery protected by earthworks and rifle pits manned by infantry.

Vicksburg National Military Park, established in 1899, includes 1,860 acres. The park, bordering the city of Vicksburg and its suburbs on the northern and eastern sides, includes the Confederate defense line and Union siege line. Three detached areas, Navy Circle, Louisiana Circle, and South Fort, approximately one acre each, are also part of the park. These areas are located on the bluffs overlooking the Mississippi River just north of the bridge.

Present park land was once largely utilized for farming and pasturage. A number of houses and farm structures dotted the area. Of these structures, only the Shirley House is extant. Built in the 1830's, the house fortunately escaped destruction during the siege.

Badly damaged, it was abandoned and soon fell into ruin. In 1902 the house was restored to its 1863 appearance as a war memorial.

The general topography of the park is extremely rolling and hilly with steep bluffs. Before the war, ridge tops and slopes were generally clear while hollows were choked with trees and vegetation. The Confederate soldiers leveled trees near their lines to permit a clear line of fire. Presently a substantial part of the area lying between the Union and Confederate lines, both ridge and ravine, is overgrown.

The tour route through the battlefield parallels the Union siege line and Confederate defense line at a short distance. Of the 1,860 acres in the park, 700 are mowed to provide a setting for the 1400 monuments, markers and iron tablets that interpret the struggle that took place here.

Eighteen statues, comprising one of the most significant collections of such monuments in the country, were erected at various locations on the battlefield in the early 1900's. Thirteen statues honor men from the northern states and five honor Southerners. Fourteen major state memorials were constructed, ranging from the magnificent Illinois State Monument, modeled after the Pantheon in Rome, to the Rhode Island Memorial, the simple bronze figure of a soldier carrying forward the fallen colors.

Regimental monuments (approximately 270) are located in the general area where each unit was positioned. They vary greatly in size and design, but each generally gives details as to unit name, commanders, casualties, and a brief summary of that units' history in the campaign. Regimental markers (approximately 230) give the precise location for a specific unit at a certain time during the siege. These are small granite stones or in some cases bronze tablets. All of the regimental monuments and markers and the state memorials were constructed by the respective states.

Nine-three relief portraits and sixty-two busts honor various commanders on both sides. Approximately 750 iron tablets, blue for Union and red for Confederate, indicate trench lines and battery and

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infantry positions; more detailed tablets summarize combat activity in a particular locale.

Napoleons, 3-inch rifles, and 12-pounder howitzers are the most common type of cannon found in the park. The cannon (128) are positioned at actual battery sites. However, only one of the cannon, the Widow Blakely, can positively be identified as having been in the siege. The others are authentic Civil War tubes mounted on iron carriages constructed in 1905-1908 period. In addition, partially reconstructed forts, earthworks, trenches, approaches, and battery positions throughout the battlefield help one to visualize the siege operations that took place here.

Statuary:

HS 31 Maj. General U. S. Grant

Bronze equestrian statue of General Grant on a granite pedestal, struck in a characteristic pose.

Commanded Union forces during struggle for Vicksburg.

Good Condition

Significance: 2nd order

Erected: 1918

Sculptor: F. C. Hibbard

HS 2 Jefferson Davis Statue

Standing bronze figure, left arm around the Confederate flag. Heroic size. Mounted on a granite pedestal

President of the Confederacy

Good Condition

Significance: 2nd order

Erected: 1926

Sculptor: Henry H. Kitson

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HS-3 Lt. General John C. Pemberton Statue

Bronze life-size figure mounted on a gray and black granite base
Commanded the Confederate forces defending Vicksburg
Good Condition
Significance: 2nd Order
Erected: 1917 Sculptor: Edmond T. Quinn

HS-4 Oliver P. Morton Statue

A large heroic size bronze statue of the war time govenor of the state of Indiana

Good Condition
Significance: 2nd Order
Dedicated: 1926
Sculptor: George T. Brewster

HS-5 Major General John A. McClernand Statue

Bronze equestrian statue on a gray granite pedestal
Commanded the Union 13th Corps in the siege of Vicksburg
Good Condition
Significance: 3rd Order
Erected: 1918
Sculptor: E. C. Potter

HS-6 General Stephen D. Lee Statue

Bronze life-size standing figure of Lee, sword in hand
Mounted on a pedestal of unpolished pink granite

Commanded General Pemberton's artillery at Vicksburg. The youngest Lieutenant General of the Confederacy.

Good Condition
Significance: 3rd Order
Erected: 1909. A gift of his son and friends in twenty seven states.
Sculptor: H. H. Kitson

HS-7 Brigadier General Lloyd Tilghman Statue

Heroic size equestrian statue mounted on a granite pedestal. The dismounted figure of Tilhgman is struck in a dramatic pose. A broken gun carriage

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lies under his horse's forefeet. Commanding the 1st Brigade of Major General William Loring's Division, he was killed May 16, 1863, near the close of the battle of Champion's Hill.

Good Condition
Significance: 3rd Order
Erected: 1926 Sculptor: F. W. Sievers

HS-8 Major General John H. Forney Statue

Over life-size bronze statue mounted on a gray granite base. Forney directed a division of General Pemberton's Army.

Good Condition
Significance: 3rd Order
Erected: 1951
Sculptor: Steffen Thomas

HS-9 Captain Anderw Hickenlopper Statue

Bronze statue mounted on a gray granite pedestal. Sword in one hand, binoculars in the other.

Major General McPherson's 17th Corps Chief Engineer, in charge of Vicksburg siege operations. He was Judge Advocate for the Army of the Tennessee and later Chief of Artillery for the Dept. and Army of the Tennessee.

Good Condition
Significance: 3rd Order
Erected: 1219 Sculptor: William Couper

HS-10 Major General John A. Logan Statue

Life-size bronze figure struck in a characteristic pose. Granite pedestal has benches of same material adjoining each side.

Commander of the 3rd Division of the 17th Corps
Good Condition
Significance: 3rd Order
Erected: 1919 Sculptor: Leonard Crunelle

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HS-11 General Edward O. C. Ord Statue

Heroic size bronze statue. Holding hat in one hand, other rests on the hilt of his sword.

Mounted on polished pink and black granite pedestal.

Replaces McClernand as Commander of the XIII Corps during the siege of Vicksburg.

Good Condition
Significance: 3rd Order
Erected: 1916 Sculptor: Anton Schaaf

HS-12 Major General Frederick Steele Statue

Heroic size bronze figure. Drawn sword in one hand, hat in the other, Pedestal made of Milford Pink Granite with a rubbed finish.

Commanded a division of Sherman's forces in the attack on Chickasaw Bluffs. During the siege he directed a division of the XV Corps.

Good Condition
Significance: 3rd Order
Erected: 1212 Sculptor: Frank Elwell

HS-13 Lt. Col. W. F. Vilas Statue

Striking bronze figure on a granite pedestal. Memorial is approached by a flight of granite steps flanked by a bronze cannon on each side. Vilas commanded the 23rd Wisconsin Infantry during the later part of the siege of Vicksburg.

Good Condition
Significance: 3rd Order
Erected: 1212
Granite work by A. J. Martin
Sculptor: Adolph A. Weinman

HS-14 Major General C. C. Washburn

Life-size bronze figure on a small granite base.

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Commanded the 16th Corps. He commanded the Yazoo Pass expedition during Grant's initial attempts to take Vicksburg on the land side.

Good Condition
Significance: 3rd Order
Erected: 1919
Sculptor: George T. Brewster State Monuments

HS-15 Wisconsin State Memorial (1911)

The monument is constructed of light gray Winnsboro granite. On the inside of the four and one-half foot high walls that enclose three sides of the platform are bronze plaques enumerating the name, rank, company, and regiment of the 9,075 officers and men from Wisconsin who participated in the Vicksburg campaign. On either side of the monument stands a bronze figure of heroic size, a cavalryman and his horse on one side, an infantryman on the other. Rising from the center the platform is a shaft of gramite 57' 6" height. It is formed like a slender column. Perched on top of the column is a 6' bronze reproduction of "Old Abe" the war eagle mascot of the 8th Wisconsin Infantry. The sculptor was Julius C. Loester.

Good Condition
Significance: 2nd Order

HS-16 Iowa State Memorial (1906)

A Greek-Doric semiellipsed structure. Tells the story of the Iowa Troops in the Vicksburg campaign. Inset in the walls of the memorial are six bas-reliefs and one dedicatory tablet. The center foreground holds a mounted standard bearer symbolic of America. The battle tablets depict all branched of the service except the cavalry. Both Federal and Confederate soldiers are shown in the bas-reliefs.

Architect: Guy Lowell
Sculptor: H. H. Kitson
Good Condition
Significance: 2nd Order

HS-17 The Missouri Memorial (1914)

The monument consists of a pylon about 42 feet in height flanked on either side by an exedra wall about 15 feet high. At the base of the pylon and exedra wall, there is a continuous seat, above which are placed motifs

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of shields and torches. The whole monument is place upon a platform with three steps. On the front of each of the exedra walls is placed a large bronze panel; the one on the left representing the Union army in attack, the one on the right the Confederate army in defense. Between these reliefs in the front of the pylon is a Roman galley surmounted by a bronze statue symbolic of the Spirit of the Republic. The pylon bears, on the front near the top, the carved coat of arms of the State of Missouri, and above this is inscribed the word "Missouri". This is the only monument in the park which is dedicated to the troops on both sides. The material is Missouri Red Granite from Graniteville, Missouri. A. J. Martin set the bronze figure. Hellmuth and Hellmuth were the architects.

Good Condition
Significance: 2nd Order

HS-18 New York State Memorial (1908)

This structure is in the form of an obelisk. The stone used for it is Mt. Airy (North Carolina) granite. The monument is 43' in height and has two bronze inscription tablets measuring 5' 7" x 2' 4". Plans for monument were prepared by A. J. Zarbriskie.

Good Condition
Significance: 2 Order

HS-19 Minnesota State Memorial (1907)

Granite obelisk of rough stone standing 90 feet high. In front of the monument is a bronze statue of Peace holding the symbols of offense, defense, and peace. Bronze work by William Couper.

Good Condition
Significance: 2nd Order

HS-20 Louisiana State Memorial (1920)

The monument is a large Corinthain column topped by a brazier, all of granite.

Constructed by Albert Weiban Marble and Granite Co.
Good Condition
Significance: 2nd Order

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HS-21 Mississippi State Memorial (1909)

Constructed of Mount Airy granite; 76 feet high. The enclosure balustrade is 4 feet 6 inches high and 40 feet in length. On each of the four sides, teher is a walkway 7 feet wide between the balustrade and the monument. On the front of the monument is a heroic figure of Clio, the Muse of history, recording Mississippi's sons on a honor roll. On three sides of the monument beneath the figure of Clio are bronze bas-reliefs, "vividly depicting the struggles of the noble defenders, battlefield scenes commenorative of the conditions existing at the time and emblematic of the courage, valor, and sacrifice of the defenders." On the front of the monument, below the bas-reliefs and located in the center is the coat of arms of the state of Mississippi.

Sculptor: F. E. Triebel
Poor Condition: (Bronze work vandalized)
Significance: 2nd Order

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HS-22 Massachusetts State Monument (1903)

The monument is a bronze figure of an American volunteer soldier mounted on a granite boulder. The large granite boulder on which the monument is erected was hauled from the railroad siding to the site by ten yoke of oxen. It is the oldest state memorial in the park.

Sculptor: Theo Alice Ruggles Kitson

Good Condition

Significance: 2nd Order

HS-23 Illinois Memorial (1906)

Modeled after the Pantheon in Rome. Circular in form on the exterior and dodeconal on the interior. It is of the Roman-Doric order of architecture. The base and long flight of steps are of Stone Mountain Georgia granite, the entire exterior above the base is of white Georgia marble. The approach steps are 24 feet wide and 47 in number; they lead to the portico, which is 32 feet wide and projects 15 feet from the building proper. Six monolith columns 2 feet 6" in diameter by 20 feet in height support the pediment and entablature of this portico. Upon the pediment of this portico is a group of three female figures in white marble. The central figure represents history recording the deeds of the reclining figures, representing the North and South, reunited in peace. Above these, upon the apex, with wings outspread is a solid bronze eagle, guilded with gold leaf. This eagle is 5 feet high. Around the exterior of this temple runs a frieze band bearing the inscription in large sunken letters of "with charity for all and with malice toward none," and "let us have peace." The entrance is 11 feet high and 7 feet wide and is closed by bronze gates. Above this doorway are three large marble panels containing bas-relief busts of Lincoln, Grant, and Yates, the War Governor of Illinois. The interior of the structure is 50 feet, 6 inches in diameter. From the floor to the eye of the dome is 55 feet in height. The floor is a mosaic of imported marble, the center forming the great seal of the State of Illinois, 6 feet in diameter. Around ten of the twelve sides of the wall are set 60 bronze tablets bearing in bronze letters the names of the Illinois soldiers who participated in the campaign and seige of Vicksburg. Architects were W. L. B. Jenney (who had been Gen. Sherman's

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chief engineer during the camgaign and siege) and W. B. Mundie. Sculptors involved were Charles J. Mulligan (female figures, medallion busts) and Fred C. Hibbard (bronze eagle).

Good Condition

Significance: 2nd Order

HS-24 Texas State Monument (1961)

Eleven steps leading to the monument honor the sister states of the Confederacy. The bronze statuary, symbolizing all who served here, is designed to capture the spirit of the sealing of the breach. Three panels, separated by two columns on either side of the center panel, bear inscriptions. The left panel deals with the sealing of the breach, the center contains a tribute to those who fought here, and the right panel enumerates the Texas units engaged in the Vicksburg campaign. Made of Texas red granite. Lundgren and Mauer, architects.

Sculptor: Herring Coe

Good Condition

Significance: 2nd Order

HS-25 Rhode Island State Memorial (1908)

The figure on the monument represents a soldier who has just picked up the fallen colors and is carrying it forward. He is holding the tattered flag high in his right hand, his rifle on the other. Bronze statue mounted on a pedestal.

Sculptor: F. Edwin Elwell

Good Condition

Significance: 2nd Order

HS-26 Michigan State Memorial (1916)

The monument is an obelisk of white granite over 37 feet in height. Standing in front of the obelisk is the symbolic figure of Michigan, eight

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feet high, bringing laurels to her sons. The figure and the obelisk rest upon a base bearing an inscription: "Michigan's tribute of Honor to Her Soldiers who served in the Campaign and Siege of Vicksburg". Made of White Bethel Granite. Sculptor was Herbert Adams.

Good Condition

Significance: 2nd Order

HS-27 Alabama State Memorial (1951)

Made of bronze, it depicts "the death stand of Alabama troops". It shows the heroic men from Alabama being inspired by a woman who represents the state itself. Base of Stone Mountain granite.

Sculptor: Steffen Thomas

Good Condition

Significance: 2nd Order

HS-28 Arkansas State Memorial (1954)

Twin granite pylons represent North and South. Between the pylons is a sword, mounted like a cross, which symbolizes the sword of war and the cross of faith in a restored Union. Depicted in bas-relief on the left are Arkansas soldiers repelling a Union assault; on the right, the Confederate ram Arkansas. Erected by McNeel Company, Marietta, Georgia.

Good Condition

Significance: 2nd Order

Miscellaneous

HS-29 Union Navy Memorial (1917)

A 202 foot shaft, 20' x 20', modeled after the Washington Monument; in the form of a granite obelisk. Eight foot bronze statues of the four fleet commanders surround the base. Admiral Farragut was done by Henry H. Kitson, Flag Officer Foote by William Couper, F. Edwin Elwell did Flag Officer Davis' statue, Lorado Taft sculpted Commander David Dixon Porter.

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Good Condition

Significance: 2nd Order

HS-30 The U. S. S. Cairo

Type and class: Ironclad river gunboat, city class.

Length: 175 ft.; breadth: 51 ft. 2"; Tonnage: 512

Armament: 3 4-pounder Army rifles, 3 64-pounder Navy smoothbores, 6 32-pounder Navy smoothbores, and 1 30-pounder Parrott. Paint colors: black exterior, whitewashed interior, colored bands for identification on chimneys. Thickness of plate armor: 2½ inches. Commissioned January 16, 1862.

Role in Civil War: Cairo fired a few shells at the riverbank at Eastport, took her share of guard duty at Fort Pillow, and played a rather inconspicuous part in the battle at Plum Point and later that at Memphis. In December 1862, the Cairo became the first warship in history to be sunk by an electrically detonated mine. One of ironclad gunboats built by James B. Eads. The Cairo was raised in 1964, suffering extensive damage in the process; cables being used to lift the vessel cut deeply into the wooden hull. It was finally decided to cut the Cairo into three sections after all hope of raising the ship intact was lost.

Present location: Ingalls Shipbuilding Corporation Shipyards, Pascagoula, Mississippi, pending appropriation of funds needed to restore the gunboat and move it to a permanent display area at the base of the hill near the Union Navy Monument--see photograph #45.

Present condition: Poor, a decaying pile of timbers. Deterioration occurred while the wreakage awaited temporary stabilization.

Significance: 1st Order

HS-1 Shirley, James House (Built in late 1830's)

Only surviving ante-bellum structure in Vicksburg National Military Park. Built after the southern fashion, 40 x 60 feet, a story and a half in height, a wide hall in the center, large rooms on each side, ceiling high, upper and lower porch in front and veranda in rear. Caught between the cross-fire of the Union Army advancing from the east and the

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Confederates firmly entrenched in the third Louisiana Redan, the house suffered extensive damage during the siege. Loyal to the Union and determined to remain, Mrs. Shirley and her 15 year old son occupied the house for three days after the fighting began. Later the house was used by Union Officers as an observation point, served as headquarters for the 45th Illinois, served at one time as General Logan's headquarters, and was a temporary field hospital. The Shirleys did not return to the house after the siege ended and the house soon fell into partial ruin. The house was again the scene of violence during a Reconstruction riot in Vicksburg in December, 1864, when seven negroes taking refuge in the house were killed. Following this episode the house sank into a period of further dilapidation and ruin. It was purchased by the Federal Government in 1900 and the Secretary of War authorized its restoration as a war memorial in 1902. In 1931, however, with numerous alterations it became the Superintendent's residence and briefly served as park headquarters. Much of the original character of the house has been lost as a result of these alterations. The outside of the house was restored to its original condition in 1966. The inside is presently in poor condition.

Significance: 1st Order

HS-32 Memorial Arch (1920)

Imposing structure made of Stone Mountain (Ga.) granite. Made in large block form with a doric column on each side of the entrance. Inscribed on one side of the top is "Vicksburg National Military Park," on the other is "Memorial to the National reunion of Union and Confederate Veterans of the Civil War Oct. 16-19, 1917". The arch serves as an entrance to the park, originally located on city property (Clay St. and Confederate Ave.) it was moved to its present position in the park in 1966. The arch was built with the unexpended balance of reunion appropriations.

Architect: Charles L. Lawhon - Albert Wieblen Marble and Granite Co.

Good Condition

Significance: 2nd Order

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Earthworks

The Confederate defenses of Vicksburg in 1863 consisted of nine earthworks along the roads entering the city, connected by nine miles of rifle pits and trenches. The earthworks were dirt and log parapets with firing steps for infantry and embrasures for cannon. Ditches and other man-made obstructions in front of the lines were designed to impede the enemy's advance.

HS-33 The Railroad Redoubt

Constructed to prevent the Union advance along the Southern Railroad of Mississippi, the Railroad Redoubt is a fish hook shaped earthwork lying south of the railroad. The shank of the hook points east while the open side lies to the south. Traverses for artillery are still visible, and the location of the only Union breakthrough at Vicksburg is clearly marked. Generally a reconstruction.

Significance: 3rd Order

HS-34 The Great Redoubt

This was the largest earthwork in the Confederate defenses. It lies west of Confederate Avenue a short distance south of the Jackson Road, which it was intended to defend. The exterior slope of the parapet is clearly defined, and the rear of the earthwork is completely open. Generally a reconstruction, precise details are lacking.

Significance: 2nd Order

HS-35 Fort Hill

This earthwork was the northern anchor of the Confederate defense lines. As a Confederate fort, it was open to the rear, but after Union occupation, the earthwork was enclosed. The earthwork is square in shape, and the line of the parapet is easily determined. At the center of the fort was an excavation, probably a bombproof or a magazine. The depression left by the collapse of this excavation is still visible. Generally a reconstruction, precise details are lacking.

Significance: 2nd Order

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HS-41 Fort Garrott

Square in shape. Unlike the other earthworks which were constructed along the roads entering the city, Fort Garrott was constructed to fill a gap in the defenses. It was built about half-way between the Railroad Redoubt and the salient works on Hall's Ferry Road. Manned by soldiers of the 20th Alabama Infantry, it was named after Colonel Isham Garrott of that regiment who was killed in the Fort.

Condition: Fair; extensive reconstruction has taken place. The parapet and ditch are clearly visible and well-defined.

Significance: 2nd Order

The National Cemetery

The National Cemetery was established at Vicksburg in 1866. It is comprised of 117 acres and contains the historic structures described below.

HS-36 Cemetery

Situated on a high bluff, the Cemetery overlooks the Yazoo Canal which follows the former channel of the Mississippi River. Due to the rugged nature of the terrain, extensive landscaping was necessary to prepare the grave sites; terraces were constructed, and a great variety of trees planted. The Cemetery was closed for future burials except for outstanding grave site reservations in 1961. At that time the Civil War interments totaled 17,077, of which 12,909 were unknown. An additional 1,280 graves were occupied by soldiers who had participated in the Indian and Spanish American Wars, World War I, II, and the Korean Conflict. A government headstone marks every grave, the known having the number of the grave, name of the soldier, and the state from which he came inscribed. The unknown have simply the grave number.

Significance: 1st Order

HS-37 Cemetery Arch (old main gate entrance) (Built in 1880)

Built of Alatawa (fossiliferous) limestone at a cost of $7,000. 36 feet 6 inches height. Two solid stone columns 17 feet in height, 2 feet 8 inches in diameter on each side of the arch. Inscription: "Here Rest

In Peace 16,600 Citizens Who Died For Their Country In the Years 1861 - 1865".

Good Condition

Significance: 1st Order

HS-38 Gardener's Cottage (1883)

Originally a simple red brick cottage containing ~~two~~ rooms, with a fireplace in the sleeping room and a stove pipe flue in the living room. The interior walls were plastered. The exterior included a plain front porch with steps. Described in 1889 as being 18 feet 4 inches by 35 feet 5 inches with tool and forage rooms, stables, cart and wood sheds attached. Improvements in 1931 include the reconstruction of the second floor and front porch, and the installation of plumbing and electricity. The second floor, which had been constructed as one large room, was divided into two separate bedrooms with a bathroom between. Remodeling in recent years include paneling and floor tile.

Good Condition

Cottage is presently serving as park housing quarters

Significance: 3rd Order

HS-39 Lodge (originally called Superintendent's Lodge) (1928)

Two story house of frame construction. Seven rooms, full size basement, front porch. Inside remodeled in recent years. Serves as park quarters.

Good Condition

Significance: 3rd Order

HS-40 Brick Rest Pavillion (1931)

Also called the cupola. Open square structure of red brick standing atop a high earth mound (erroneously called an Indian Mound) in the cemetery. Two opposite sides have rounded arches serving as entryway. Other two sides each have two arched windows. Concrete benches under each set of windows. Concrete floor. Shingled roof comes to a point; has a pointed wooden ornament on top.

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Good Condition

Significance: 3rd Order

HS-42 Pemberton - Grant Surrender Interview Site Monument (1863-1864)

Erected by the Union soldiers occupying Vicksburg, Granite obelisk approximately ten feet in height surmounted by a sphere which rests on a pedestal design: in relief, an American eagle, one claw holding a laurel, the other a shield, beak holds a pennant. This monument originally marked the site of the interview between Generals Grant and Pemberton. It was moved into the cemetery in 1868 and returned to its original location in 1940.

Poor Condition: weathered, chipped by vandals

Significance: 1st Order

Statement of Significance (Continued)

Present park boundaries include the major combat areas of the siege. Approximately the southern one third of the Confederate defense line, which experienced only minor activity during the siege, is now outside the park boundary. In 1966 this area which was originally part of the park, was involved in land trades with the city. The exchange was made to geographically fill in the park boundary and provide a more logical tour route for park visitors. Presently some monuments and markers owned and maintained by Vicksburg National Military Park are located on city property.

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Appendix E: Panoramic Views and Maps

E1 Panorama of the park looking northwest from Observation Tower No. 2, 1910.
E2 Panorama of South Fort, 1910.
E3 Panorama of the northeast portion of park, 1910.
E4 Panorama looking south from Railroad Redoubt, 1910.
E5 Panorama of Grant Avenue, with monuments, 1910.
E6 Panorama of the Surrender Interview Site, 1910.
E7 Bird's eye view of the park, 1925.
E8 1903 Vicksburg National Military Park Commission Map (6 sheets)
E9 1935 USGS Topographic Map

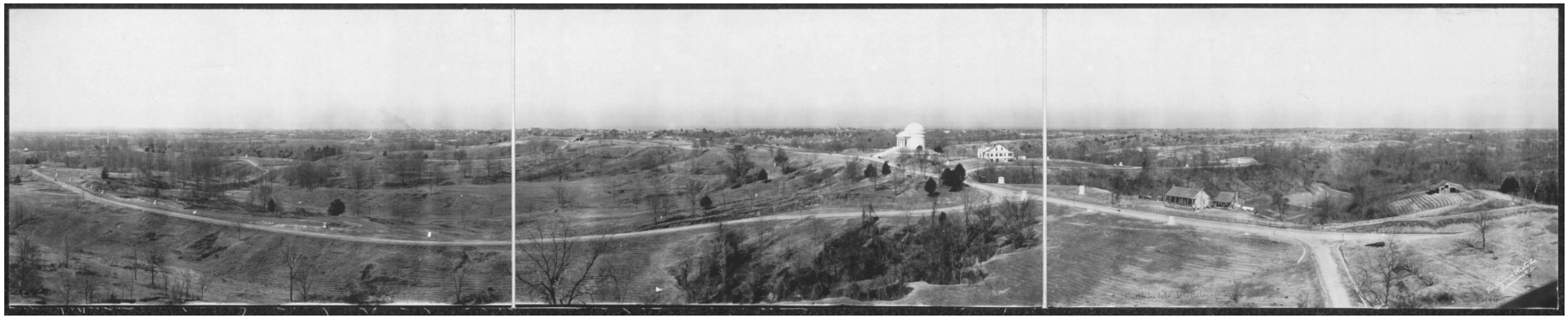


FIGURE E1. Panorama of the park looking northwest from Observation Tower No. 2, 1910. Union Avenue is in the foreground. Old Jackson Road with the Illinois Monument and the Shirley House are in the center. Also note the farm buildings on Old Jackson Road at right, the agricultural fields separating clusters of woodland.



FIGURE E2. Panorama of Grant Avenue, with (from left to right) the New Hampshire, Pennsylvania, and Massachusetts monuments, 1910.



FIGURE E3. Panorama of South Fort, 1910. Note that this view is misidentified as Fort Hill in the Library of Congress caption.



FIGURE E4. Panorama looking south from Railroad Redoubt, 1910. The Iowa State Monument is visible at left.



FIGURE E5. Panorama of the northeast portion of park, 1910. Note the mixture of open agricultural fields and wooded hillsides. Grant Avenue and the Pennsylvania and New Hampshire monuments are visible in the distance at right.



FIGURE E6. Panorama of the Surrender Interview Site, 1910. The Great Redoubt is at right, and the Mississippi State Memorial is visible in the distance at center.

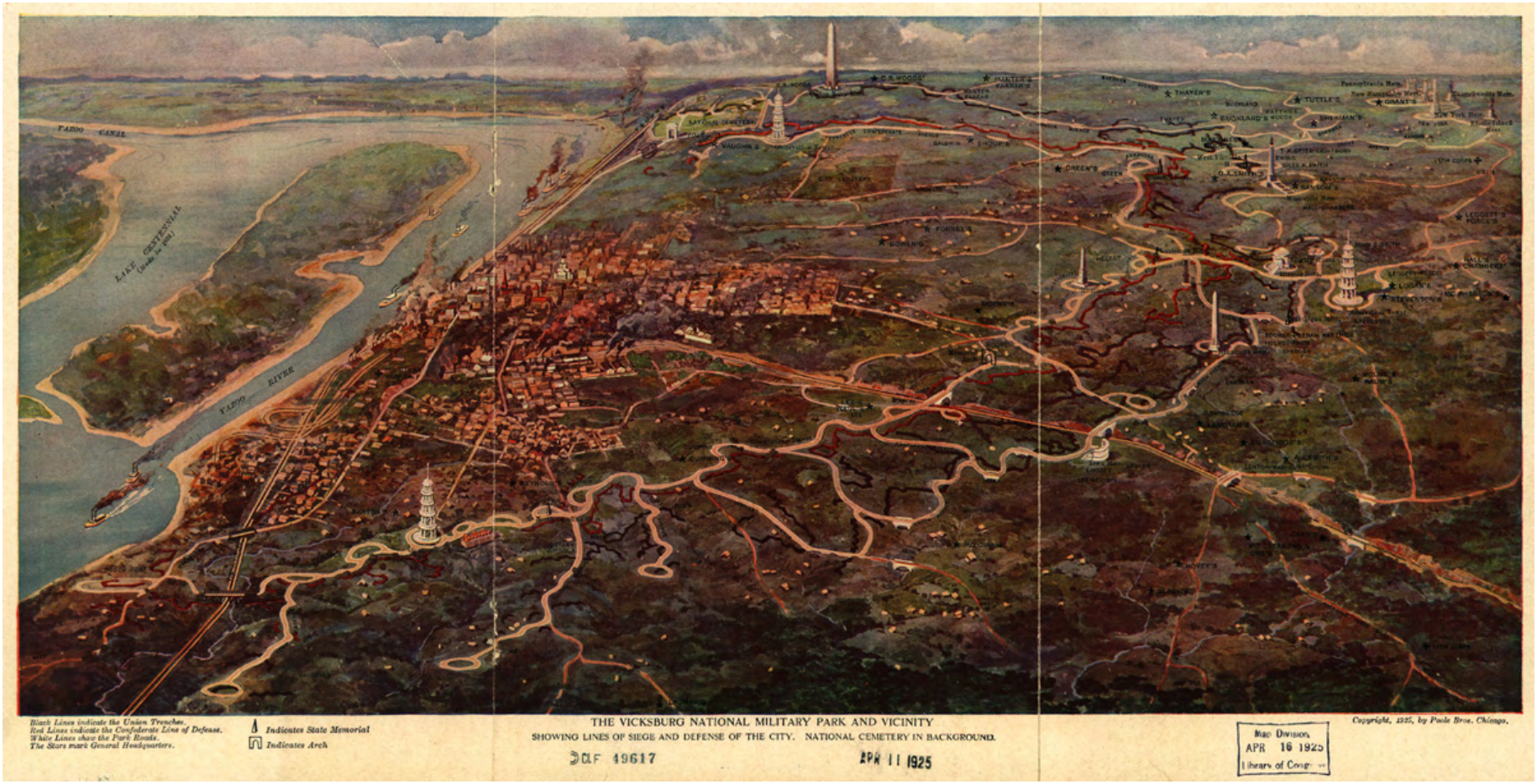


FIGURE E7. Bird's eye view of the park, 1925.

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Sheet 1

MAP NUMBER 1.

VICKSBURG NATIONAL MILITARY PARK

BY THE PARK COMMISSION

UNDER THE DIRECTION OF THE SECRETARY OF WAR

CONTOUR INTERVAL 10 FEET. DATUM, SEA LEVEL.

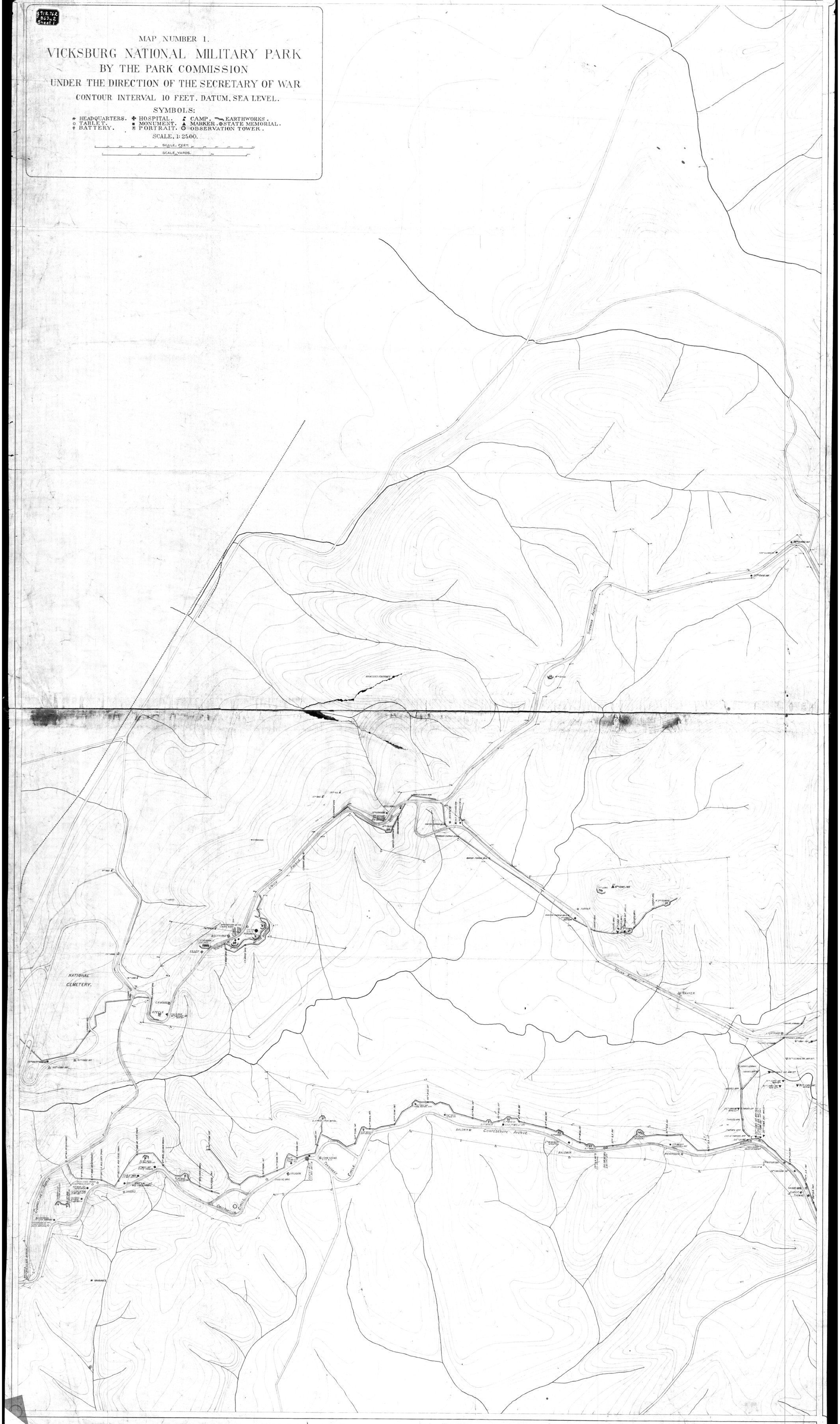
SYMBOLS:

★ HEADQUARTERS. ✠ HOSPITAL. CAMP. EARTHWORKS.
○ TABLET. ■ MONUMENT. ▲ MARKER. ⊛ STATE MEMORIAL.
ǂ BATTERY. ▣ PORTRAIT. ⊙ OBSERVATION TOWER.

SCALE, 1:2500.

SCALE, FEET.

SCALE, YARDS.



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Sheet A

MAP NUMBER 2.

VICKSBURG NATIONAL MILITARY PARK

BY THE PARK COMMISSION

UNDER THE DIRECTION OF THE SECRETARY OF WAR

CONTOUR INTERVAL, 10 FEET. DATUM, SEA LEVEL.

SYMBOLS:

★ HEADQUARTERS. ✣ HOSPITAL. CAMP. EARTHWORKS.
○ TABLET. ■ MONUMENT. ▲ MARKER. ⊙ STATE MEMORIAL.
BATTERY. ▣ PORTRAIT. ○ OBSERVATION TOWER.

SCALE, 1:2500.

SCALE, FEET.

SCALE, YARDS.

Library
University of Illinois

MAP NUMBER 3.

VICKSBURG NATIONAL MILITARY PARK

BY THE PARK COMMISSION

UNDER THE DIRECTION OF THE SECRETARY OF WAR.

CONTOUR INTERVAL, 10 FEET. DATUM, SEA LEVEL.

SYMBOLS:

★ HEADQUARTERS. ✣ HOSPITAL. ⛺ CAMP. ⌒ EARTHWORKS.
○ TABLET. ■ MONUMENT. ▲ MARKER. ◎ STATE MEMORIAL.
ǂ BATTERY. ☺ PORTRAIT. ○ OBSERVATION TOWER.

SCALE, 1:2500.

SCALE, FEET

SCALE, YARDS.

MAP NUMBER. 4.

VICKSBURG NATIONAL MILITARY PARK

BY THE PARK COMMISSION

UNDER THE DIRECTION OF THE SECRETARY OF WAR.

CONTOUR INTERVAL, 10 FEET. DATUM, SEA LEVEL.

SYMBOLS:

★ HEADQUARTERS. ✢ HOSPITAL. ⌇ CAMP. ⁓ EARTHWORKS.
○ TABLET. ▪ MONUMENT. ▲ MARKER. ◎ STATE MEMORIAL.
⁜ BATTERY. ⊞ PORTRAIT. ⊙ OBSERVATION TOWER.

SCALE, 1:2500.

SCALE FEET

SCALE YARDS.

LEE'S HEADQ'S

TAYLOR

CUMMINS

McCLERNAND'S

HOVEY'S

SLACK'S

A.J. SMITH'S

CARR'S

STEVENSON'S 15TH A.(NAT CORPS.

MAP NUMBER. 5.

VICKSBURG NATIONAL MILITARY PARK

BY THE PARK COMMISSION

UNDER THE DIRECTION OF THE SECRETARY OF WAR.

CONTOUR INTERVAL, 10 FEET. DATUM, SEA LEVEL.

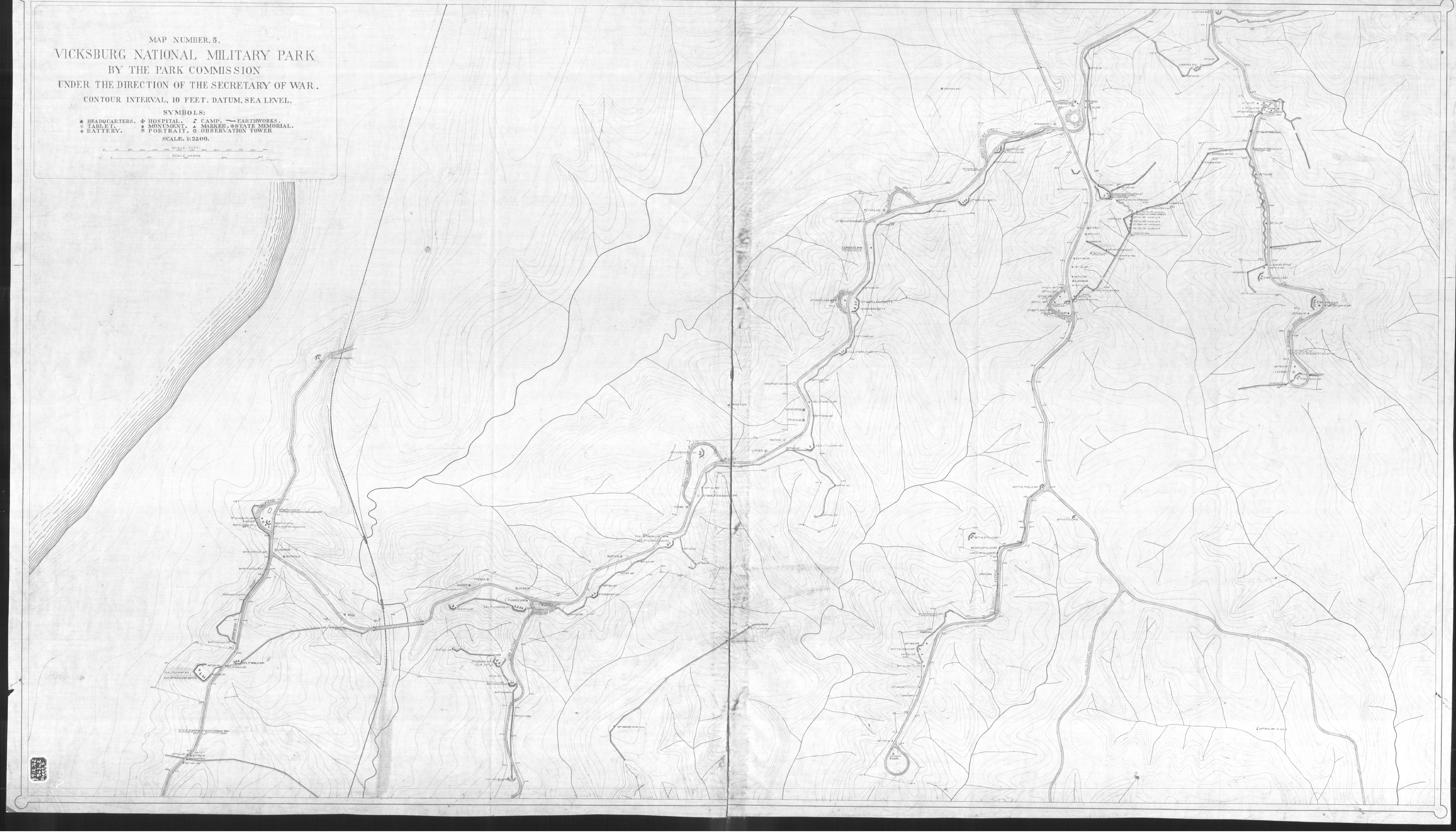
SYMBOLS:

★ HEADQUARTERS. ✠ HOSPITAL. ⌐ CAMP. ⁓ EARTHWORKS.
○ TABLET. ▪ MONUMENT. ▲ MARKER. ⊛ STATE MEMORIAL.
⸸ BATTERY. ▯ PORTRAIT. ⊙ OBSERVATION TOWER

SCALE. 1:2500.

SCALE FEET

SCALE YARDS


REYNOLDS
STEVENSON
STERLING
GRANT
MARTIN
BUFORD
LORING
PEMBERTON
PEMBERTON'S HEADQUARTERS
CRUMP'S LANDING
CONFEDERATE BATTERY
CONFEDERATE MAGAZINE
CONFEDERATE MAGAZINE AND BOMB PROOF
CONFEDERATE MAGAZINE AND BOMB PROOF (RESTORED)
CONFEDERATE MAGAZINE (RESTORED)
CONFEDERATE MAGAZINE (RESTORED) AND BOMB PROOF
CONFEDERATE MAGAZINE AND BOMB PROOF (RESTORED)
CONFEDERATE MAGAZINE AND BOMB PROOF
CONFEDERATE MAGAZINE (RESTORED)
CONFEDERATE MAGAZINE AND BOMB PROOF (RESTORED)
CONFEDERATE MAGAZINE AND BOMB PROOF

MAP NUMBER 6.

VICKSBURG NATIONAL MILITARY PARK

BY THE PARK COMMISSION

UNDER THE DIRECTION OF THE SECRETARY OF WAR.

CONTOUR INTERVAL, 10 FEET: DATUM, SEA LEVEL.

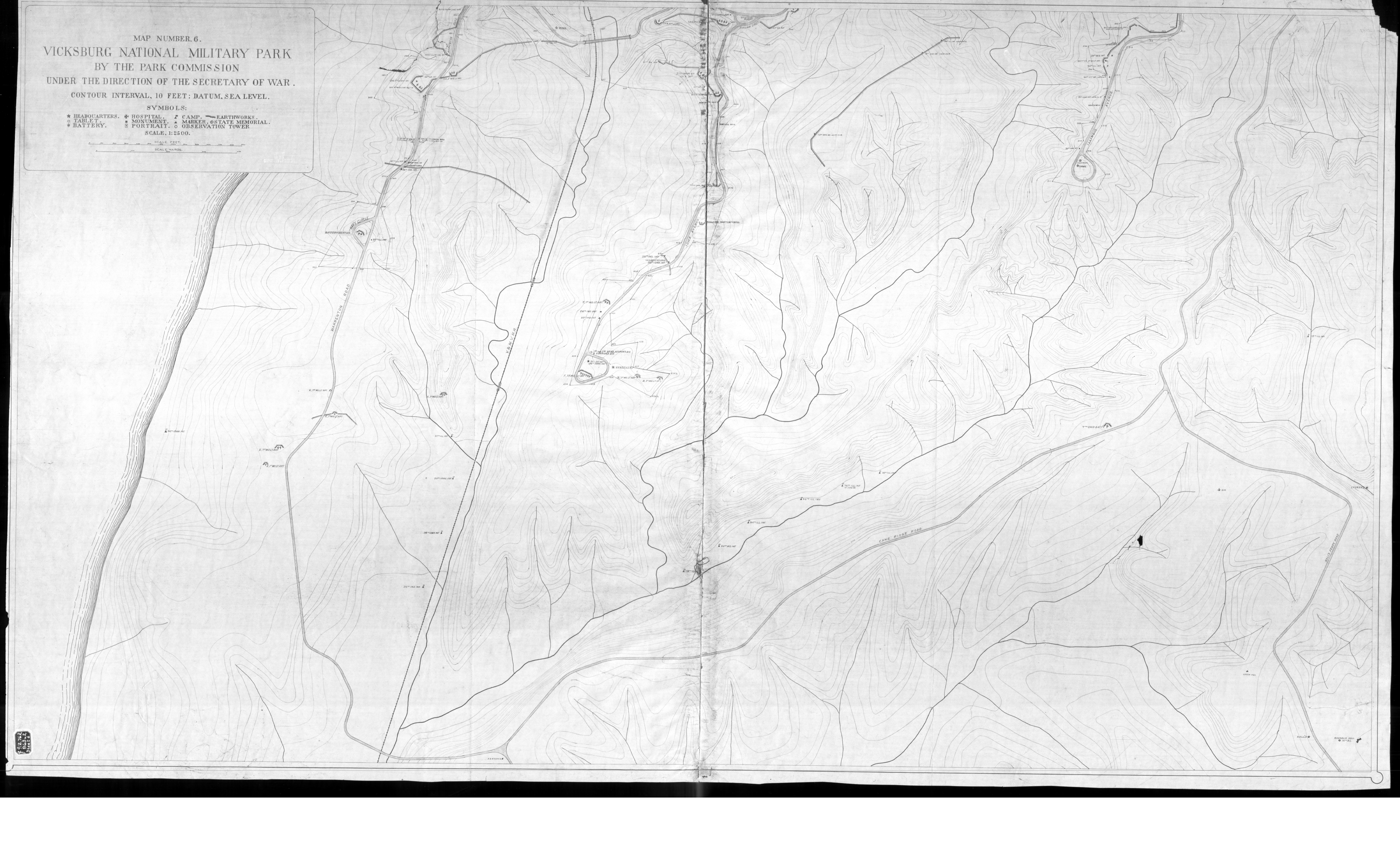
SYMBOLS:

★ HEADQUARTERS. ✠ HOSPITAL. ⌐ CAMP. ⁓ EARTHWORKS.
○ TABLET. ▪ MONUMENT. ▲ MARKER. ◎ STATE MEMORIAL.
✱ BATTERY. ⧉ PORTRAIT. ○ OBSERVATION TOWER.

SCALE, 1:2500.

SCALE FEET.

SCALE YARDS.



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1903

DEPARTMENT OF THE INTERIOR
U. S. GEOLOGICAL SURVEY

Advance sheet.
Subject to correction.

MISSISSIPPI
(WARREN COUNTY)
VICKSBURG NATIONAL MILITARY PARK

EXPLANATION

Mon.—Nonument Mar.—Marker Bat.—Battery App.—Approach

No.	Mon.	Mar.	Name
1	x		U. S. Bat. B 1st Missouri Lt. Art.
2	x		U. S. Bat. B1st Missouri Lt. Art.
3	x		Wm. Vandever, U. S. Brig. Gen.
4	x		U. S. Bat. F Missouri Lt. Art.
5	x		19th 20th 34th-38th Inf. Iowa.
6	x		U. S. 37th Ill.-26th Ind.-20th Iowa-34th Iowa-38th Iowa-Bat. E Missouri-Bat. F Missouri-94th Ill.-19th Iowa-20th Wis.-Consin-Bat. B Missouri Lt. Art.
	x		Herron's Div. Army of Tenn.
7	x		U. S. Missouri Bat. B Lt. Art.
8	x		Indiana 26th Inf.
9	x		Indiana 26th Inf.
10	x		U. S. Bat. A 1st Missouri Lt. Art.
11	x		U. S. Union Yr. Vandever's Brig.
	x		26th Inf. Ind.
	x		38th Inf. Iowa.
12	x		C. S. Rifle Pit Barton's Brig.
13	x		C. S. Rifle Pit Barton's Brig.
14	x		Con. Tr. Barton's Brig.
15	x		Con. Tr. Barton's Brig.
16	x		C. S. Botetourt Va.: Art.
17	x		41st Georgia Con. Line.
18	xx		Stevenson's Div. 18 Co. B-22nd La.
19	x		41st Georgia Con. Line.
20	x		Co. B 22nd La.
21	x		C. S. Co. C Pointe Coupee Art.
22	x		La. Pointe Coupee Art. Co. C.
23	x		Botetourt (Va.) Art.
24	x		Francis G. Obenchain Lt. C. S.
25	x		C. S. Brig. Gen. Samuel B. Maxey.
26	x		C. S. Major Gen. Samuel G. French
27	x		Ebander McNair Brig. Gen. C. S.
28	x		41st Georgia Con. Line.
29	x		Stevenson's Div.
30	x		42nd Georgia Con. Line.
31	x		42nd Georgia Con. Line.
32	x		42nd Georgia Con. Line.
33	x		C. S. Brig. Gen. Seth M. Barton.
34	x		43rd Georgia Con. Line.
35	x		La. Co. A Pointe Coupee Art.
36	x		C. S. Col. Skidmore Harris.
37	x		La. Co. A Pointe Coupee Art.
38	x		43rd Georgia Con. Line.
39	x		C. S. Brig. Gen. Nathan G. Evans.
40	x		40th 41st 42nd 43rd Georgia.
41	x		43rd Georgia Con. Line.
		x	South Carolina.
42	x		C. S. Stevenson's Div.
43	x		C. S. Brig. Gen. States Rights Gist.
44	x		C. S. Major Gen. Wm. W. Loring.
45	x		52nd Georgia Con. Line.
46	x		Abraham Buford Brig. Gen. C. S.
47	x		La. Co. A Heavy Art.
48	x		C. S. Col. Arthur L. Reynolds.
49	x		C. S. Brig. Gen. W. F. Featherston.
50	x		C. S. Brig. Gen. W. F. Featherston.
51	x		52nd Georgia Con. Line.
52	x		52nd Georgia Con. Line.
53	x		Wm. W. Orme Brig. Gen. U. S.
54	x		Francis J. Herron Brig. Gen. U. S.
55	x		Iowa 20th Inf.
56	x		Iowa 19th Inf.
	x		Union Trench, Orme's Brigade.
57	x		Ill. 54th Inf.
58	x		U. S. 54th Ill.
59	x		U. S. Bat. B 1st Missouri Lt. Art.
60	x		Wisconsin 20th Inf.
61	x		U. S. Union Tr. Orme's Brig.
62	x		15th Ill. Cavalry Cos. F and I.
63	x		Bat. K 2nd Ill. Lt. Art.
64	x		U. S. Bat. K 2nd Ill. Lt. Art.
65	x		U. S. Bat. K 2nd Ill. Lt. Art.
66	x		U. S. Bat. K 2nd Ill. Lt. Art.
67	x		37th Ill. Inf.
68	x		U. S. Bat. Benton.
69	x		37th Ind. Inf.
70	x		37th Ill. Inf.
	x		Vandever's Brigade.
71	x		34th Iowa Inf.
72	x		11th-13th-15th-16th Iowa Inf.
73	x		C. S. 40th Georgia.
	x		Co. A 14th Miss. Lt. Art.
74	x		Co. G 1st La. Heavy Art.
	x		Co. G 1st La. Heavy Art.
75	x		C. S. 40th Georgia.
76	x		C. S. 1st Miss. Lt. Art.
77	x		Botetourt (Va.) Art.
	x		Botetourt (Va.) Art.
78	x		Botetourt (Va.) Art.
79	x		Wm. H. Jackson Brig. Gen. C. S.
80	x		John W. Whitfield Brig. Gen. C. S.
81	x		C. S. Col. Lawrence W. Ross.
82	x		C. S. 40th Georgia.
83	x		C. S. Marks Co. 22nd La.
	x		La. 8th Bat. Heavy Art.
	x		Capt. Toby Hart La.
	x		Fenner's Battalion La. Col. C. S.
	x		Howard's Brig. Ogden La. Maj. C. S.
	x		22nd La. Inf.
	x		La. River Bat.
84	x		Miss. Co. I Lt. Art.
85	x		59th Tenn. Inf.
	x		59th Tenn. Inf.
86	x		Co. I 1st Miss. Lt. Art.
87	x		59th Tenn. Inf.
88	x		Veldon's Miss. Bat.
	x		3rd Md. Bat.
	x		3rd Md. Bat.
89	x		31st Tenn. Inf.
90	x		Tenn. Monument Stevenson's Div.
	x		31st Tenn. Inf.
	x		Col. Randle Reynolds.
91	x		31st Tenn. Inf.
92	x		3rd Md. Bat.
93	x		Ohio 7th Bat.
	x		Ohio 7th Bat.
	x		Ill. 32nd Inf.
	x		Ohio 15th Bat.
	x		Wis. 12th Inf.
	x		Ill. 28th Inf.
	x		Ill. 14th Inf.
	x		Lauman's 3rd Par.
	x		Ohio 16th Bat.
	x		Ill. 14th Inf.
	x		Col. W. P. Johnson
	x		Ill. 46th Inf.
	x		Ill. 76th Inf.
	x		Ind. 53rd Inf.
	x		Lauman's Div.
94	x		Lauman's 3rd Parallel.
	x		76th Ill. Inf.
	x		53rd Ind. Inf.
	x		Lauman's Div.
	x		Col. George E. Bryant.
	x		Col. Tyrus Hall.
	x		53rd Ohio, Inf.
95	x		Lauman's Div.
	x		5th Bat. Ohio Lt. Art.
	x		Lauman's Div.
	x		Brig. Gen. Jacob G. Lauman.
	x		33rd Wis. Inf.
	x		1st,2nd 3rd Brig. 4th Div.
96	x		U. S. Fourth Division.
	x		Iowa 3rd Inf.
	x		5th Bat. Ohio Lt. Art.
	x		5th Bat. Ohio Lt. Art.
97	x		5th Bat. Ohio Lt. Art.
	x		Lauman's 9th Div.
	x		53rd Ill. Inf.
	x		Lauman's 2nd Par.
	x		Lauman's Div.
	x		Lauman's 2nd Par.
98	x		Ill. 53rd Inf.
99	x		Lauman's 3rd Par.
	x		76th Ill. Inf.
	x		3rd Iowa Inf.
	x		53rd Ill. Inf.
	x		15th Ill. Inf.
	x		Beginning Lauman's Left App.
	x		14th Ill. Inf.
	x		Lauman's 3rd Par.
	x		Lauman's Div.
	x		Lauman's Div.
100	x		End of Lauman's App.
	x		Cont. Salient Work.
	x		Stevenson's Brig.
	x		57th Georgia Inf.
	x		57th Georgia Inf.
101	x		3rd Tenn. Inf.
	x		3rd Tenn. Inf.
	x		3rd Tenn. Inf.
	x		Co. A 1st La. Heavy Art.
	x		Cherokee (Ga.) Art.
	x		North Carolina.
102	x		43rd Tenn. Inf.
	x		3rd Tenn. Inf. 5 Co.
	x		Stevenson's Div.
	x		Maj. Joseph W. Anderson.
	x		Stevenson's Div.
	x		Maj. Gen. Carter L. Stevenson.
103	x		57th Ga. Inf.
104	x		Col. Claudius C. Wilson.
	x		Ga. Johnson's Army.
	x		Maj. Gen. M. A. Stovall.
105	x		Ill. 41st Inf.
	x		Lauman's Div.
	x		Lauman's 3rd Par.
	x		Lauman's Div.
	x		Lauman's 2nd and 3rd Par.
	x		3rd Iowa Inf.
106	x		Lauman's 2nd Par.
	x		3rd Iowa Inf.
	x		Bat. E 2nd Ill. Lt. Art.
	x		Bat. E 2nd Ill.
	x		41st Ill. Inf.
	x		Col. Isaac C. Pugh.
	x		Lauman's Div.
107	x		56th Ga. Inf.
	x		Cumming's Brig.
	x		36th Ga. Inf.
108	x		36th Ga. Inf.
	x		Cumming's Brig.
	x		Mo. Wade's Bat.
	x		Mo. Wade's Bat.
109	x		Ga. Cumming's Brig.
	x		Brig. Gen. Alfred Cumming.
	x		Hdqrs. Cumming's Brig.
110	x		Cumming's Brig.
111	x		McGinnis' Brig.
	x		14th Ind. Inf.
112	x		McGinnis' Brig.
	x		Bat. A 1st Mo. Lt. Art.
	x		14th Ind. Inf.
	x		McGinnis' Brig.
	x		14th Ind. Inf.
	x		McGinnis' Brig.
113	x		1st Wis. Bat. Lt. Art.
114	x		11th Ind. Inf.
115	x		46th Ind. Inf.
116	x		39th Ga. Inf.
117	x		Cumming's Brig.
	x		Cumming's Brig.
118	x		36th Ga. Inf.
119	x		36th Ga. Inf.
120	x		36th Ga. Inf.
121	x		Brig. Gen. George F. McGinnis.
122	x		24th Ind. Inf.
123	x		McGinnis' Brig.
	x		11th Ind. Inf.
	x		46th Ind. Inf.
	x		24th Ind. Inf.
	x		McGinnis' Brig.
	x		McGinnis' Brig.
	x		McGinnis' Brig.
	x		McGinnis' Brig.
124	x		McGinnis' Brig.
125	x		29th Wis. Inf.
	x		U. S. 1st Brig.
	x		McGinnis' Brig.
	x		McGinnis' Brig.
126	x		Beginning Hovey's App.
127	x		Brig. Gen. Alvin P. Hovey.
	x		Co. C 1st Ind. Cav.
	x		Capt. William T. Rigby.
	x		12th Div. 13th A. C.
		x	Art. 12th Div.
	x		28th Iowa Inf.
	x		28th Iowa Inf.
	x		24th and 28th Iowa Inf.
	x		24th Iowa Inf.
	x		24th Iowa Inf.
	x		24th Iowa Inf.
	x		Slack's Brig.
	x		Chicago Mercantile Bat.
	x		Gen. Grenville M. Dodge's Staff.
128	x		Chicago Mercantile Bat.
	x		47th Ind. Inf.
	x		118th Ill. Inf.
	x		47th Ind. Inf.
	x		120th Ohio Inf.
	x		47th Ind. Inf.
	x		97th Ill. Inf.
	x		Slack's Brig.
129	x		Bat. A 1st Mo. Lt. Art.
	x		2nd Ohio Bat.
130	x		Slack's Brig.
	x		Brig. Gen. T. T. Garrard.
	x		Slack's Brig.
	x		97th Ill. Inf.
	x		1st Wis. Bat.
	x		1st Wis. Bat.
	x		Lindsey's Brig.
	x		16th Ohio Inf.
	x		69th Ind. Inf.
	x		Lindsey's Brig.
	x		114th Ohio Inf.
	x		Brig. Gen. George B. Crosby.
	x		Maj. Gen. John C. Breckinridge.
	x		Brig. Gen. Ben. H. Helm.
	x		54th Ind. Inf.
131	x		On Right Line of Hovey's App.
132	x		On Right Line of Hovey's App.
133	x		140 Angle in Right Line of Hovey's App.
	x		Hovey's App.
	x		On Right Line of Hovey's App.
	x		Hovey's App.
	x		On this Line of Hovey's App.
	x		Hovey's App.
	x		Hovey's App.
	x		Hovey's App.
	x		On Left Line of Hovey's App.
	x		Hovey's App.
	x		Hovey's App.
	x		Hovey's App.
	x		1st Angle in Left Line of Hovey's App.
134	x		11th-24th-34th and 46th Ind. Inf
134a	x		3rd Brigade Stevenson's Div.
135	x		Stevenson's Div.
	x		Vaiden's Bat.
	x		34th Ga. Inf.
136	x		36th Ga. Inf.
137	x		Cumming's Brig.
138	x		34th Ga. Inf.
139	x		Brig. Gen. Thomas H. Taylor.
140	x		Brig. Gen. Isham W. Garrot.
	x		30th Ala. Inf.
141	x		30th Ala. Inf.
142	x		23rd Ala. Inf.
143	x		Slack's App.
	x		Slack's App.
	x		End of Slack's App.
	x		23rd Ala. Inf.
	x		Slack's App.
	x		Slack's App.
	x		Slack's App.
144	x		31st Ala. Inf.
145	x		Slack's App.
	x		Slack's App.
	x		47th Ind. Inf.
	x		Beginning of Slack's App.
	x		54th Ind. Inf.
146			Valden's Miss. Bat.
147	x		Brig. Gen. Edward D. Tracy.
	x		Lee's Brig.
148	x		23rd Ala. Inf.
149	x		Valden's Miss. Bat.
150	x		Brig. Gen. Edward D. Tracy.
	x		Lindsey's Brig.
	x		42nd Ohio Inf.
	x		Lindsey's Brig.
151	x		49th Ind. Inf.
	x		Lindsey's Brig.
152	x		42nd Ohio Inf.
153	x		Lindsey's Brig.
154	x		Lindsey's Brig.
	x		Lindsey's Brig.
155	x		Slack's Brig.
156	x		Slack's Brig.
157	x		Lindsey's Brig.
158	x		Lindsey's Brig.
159	x		118th Ill. Inf.
	x		Lindsey's Brig.
	x		1st Brig. 9th Div.
		x	Col. James Keigwin.
	x		120 Ohio Infantry.
160	x		69th Ind. Infantry.
	x		68th-54th and 69th Ind. Inf.
	x		9th Div. Art.
	x		U. S. 9th Div.
	x		6th Mo. Cav.
	x		Brig. Gen. O. Peter J. Osterhaus.
	x		Lindsey's Brig.
	x		Ill. 3rd Cav.
	x		U. S. 9th Div. Cav.
	x		Ill. 2nd Cav.
	x		Col. Lionel A. Sheldon.
	x		2nd Div. 15th Div. 13th A. C.
		x	Ohio 11th Inf.
	x		Ohio 42nd Inf.
	x		Ohio 16th Inf.
	x		Iowa Gov. Sam J. Kirkwood.
	x		Ohio 16th Battery Lt. Art.
	x		7th Bat. Mich. Lt. Art.
	x		Iowa 23rd Inf.
161	x		Lindsey's Brig.
	x		22nd Iowa Inf.
	x		Lawler's Brig.
	x		Lawler's Brig.
162	x		Iowa.
	x		16th Bat. Ohio Lt. Art.
163	x		22nd Iowa.
	x		Lawler's Brig.
	x		U. S. Hdqrs. 13th A. C.
	x		Maj. Gen. A. McLernand.
	x		13th Army Corps.
	x		Co. 1, 3rd Ill. Cav.
	x		Lawler's Brig.
	x		Bat. A 1st Mo. Lt. Art.
	x		2nd Iowa 14th Div.
	x		31st Iowa Inf.
	x		Iowa 21st-22nd and 23rd Inf.
	x		Brig. Gen. Michael K. Lawler.
164	x		Lawler's Brig.
	x		Bat. A 2nd Ill.
165	x		Carr's App.
	x		Beginning Carr's App.
	x		Carr's App.
	x		Carr's App.
	x		Carr's App.
	x		Carr's App.
165a	x		Lawler's Brig.
166	x		Lawler's Brig.
167	x		Lawler's Brig.
168	x		Small work on Line of Lee's Brig.
	x		Small work on Line of Lee's Brig.
169	x		31st Ala. Inf.
170	x		Lee's Brig.
171	x		31st Ala.
172	x		Co. E 1st Miss. Lt. Art.
173	x		Lt. Gen. S. D. Lee.
	x		30th Ala. Inf.
174	x		23rd Ala. Inf.
	x		23rd Ala. Inf.
175	x		Co. E 1st Miss. Lt. Art.
	x		2nd Brig. Stevenson's Div.
	x		Valden's Miss. Bat.
176	x		22nd Iowa Inf.
177	x		Carr's App.
178	x		Col. T. N. Waul.
	x		Hdqrs. Waul's Texas Legion.
	x		4th Ala. Inf.
179	x		11th Wis. Inf.
	x		11th Wis. Inf.
180	x		Hudson's Miss. Bat.
		x	30th Ala.
	x		Hudson's Miss. Bat.
181	x		Waul's Texas Legion.
	x		Waul's Texas Legion.
	x		Texas Johnston's Army.
182	x		22nd Iowa Inf.
	x		Carr's App.
183	x		46th Ala. Inf.
	x		46th Ala. Inf.
	x		End of Carr's App.
	x		Lawler's Brig.
	x		Con. R. R. Redoubt.
	x		Langram's Brig.
	x		Waddell's Ala. Bat.
184	x		18th Ind. Inf.
	x		Benton's Brig.
185	x		11th Wis. Inf.
	x		Brig. Gen. T. E. Harris.
	x		14th Div. 15th A. C. Eugene A. Carr.
	x		U. S. Art., 14th Div., 13th Corps-Army of Tenn.
	x		Ill. 3rd Cav. Co. G.
	x		Col. David Shunk.
	x		Ind. 19th Inf. Camp.
186	x		18th Ind. Inf.
187	x		Col. Henry D. Washburn.
188	x		Brig. Gen. Eugene A. Carr.
189	x		33rd Ill. Inf. Camp.
	x		Bat. C, Maj. Gen. Wm. P. Benton.
	x		33rd Ill. Inf. Camp.
	x		Benton's Brig.
	x		Bat. A 2nd Ill. Lt. Art.
	x		Lawler's Brigade.
190	x		Carr's App.
191	x		Carr's App.
192	x		Carr's App.
	x		Beginning of Carr's Right App.
	x		1st Ind. Bat. Lt. Art.
	x		1st Ind. Inf.
	x		1st Brig. 14th Div.
	x		99th Ill. Inf.
	x		8th Ind. Inf. Camp.
	x		Benton's Brig.
	x		8th and 18th Ind. Inf.
	x		Benton's Brig.
193	x		Brig. Gen. Andrew J. Smith.
194	x		96th Ohio Inf.
195	x		17th Bat. Ohio Lt. Art.
	x		1st Brig. 6th Div.
	x		1st Brig. 6th Div.
	x		3rd Brig. 6th Div.
	x		Hdqrs. 2nd Brig.
	x		Bat. C 1st Mo. Lt. Art.
	x		Bat. C 1st Mo. Lt. Art.
	x		Co. G 11th Ill. Cav.
196	x		8th Ind. Inf.
	x		17th Bat. Ohio Lt. Art.
	x		Lt. Peter C. Hanes.
	x		Kentucky Pioneer Co.
197	x		42nd Ala. Inf.
198	x		Moore's Brig.
199	x		8th Ind. Inf.
200	x		42nd Ala. Inf.
201	x		99th Ill. Inf.
	x		Brig. Gen. Matthew D. Ector.
	x		Brig. Gen. John Gregg.
	x		Maj. Gen. Wm. H. T. Walker.
	x		Memorial Arch.
202	x		Brig. Gen. Steven C. Burbridge.
203	x		Lt. Col. Wm. F. Viles.
204	x		H. J. Smith's Div.
	x		U. S. Smith's Div.
	x		Beginning of A. J. Smith's left App.
205	x		2nd Ala. Inf.
206	x		2nd Texas Inf.
207	x		Art Co. Waul's Texas Legion.
	x		2nd Texas Inf.
	x		99th Ill. Inf.
208	x		Capt. Patrick H. White.
	x		Col. Thomas Lucas.
209	x		U. S. Smith's App.
	x		Chicago Mercantile Bat.
	x		99th Ill. Inf.
	x		Benton's Brig.
	x		Ind. 18th Inf.
	x		Wis. 23rd Inf.
	x		Ind. 16th Ill. Lt. Art.
	x		Burbridge's Brig.
	x		End of A. J. Smith's App.
	x		Confederate Lunette.
	x		Co. A 1st Miss. Lt. Art.
	x		14th Bat. Mat. Army of Vicksburg.
	x		99th Ill. Inf.
	x		Sanborn's Brig.
	x		48th Ind. Inf.
	x		A. J. Smith's App.
	x		End of A. J. Smith's App.
	x		Flag of Truce Challenged.
	x		A. J. Smith's Div.
	x		67th Ind. Inf.
	x		A. J. Smith's App.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		A. J. Smith's Right App.
	x		Beginning of A. J. Smith's Right App.
	x		83rd Ohio Inf.
210	x		99th Ind. Inf.
	x		2nd Texas Inf.
	x		1st Mo. Cav.
	x		Moore's Brig.
	x		Brig. Gen. John C. Moore
	x		3rd Mo. Cav.
211	x		Co. B Pt. Coupee Lt. Art.
	x		2nd Texas and 37th Ala.
212	x		A. J. Smith's Div.
213	x		83rd Ohio Inf.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
214	x		A. J. Smith's Div.
215	x		A. J. Smith's Div.
216	x		A. J. Smith's Div.
	x		Col. Wm. L. Landram.
217	x		2nd Brig. 10th Div.
	x		77th Ill. Inf.
	x		16th Ind. Inf.
218	x		67th Ind. Inf.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
219	x		A. J. Smith's Div.
220	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		17th Ohio Bat.
221	x		A. J. Smith's Div.
222	x		President Jefferson Davis.
	x		1st Miss. Lt. Art. Co. A
223	x		Co. A 1st Miss. Lt. Art.
	x		Miss. 1st Lt. Art.
224	x		Co. G 1st Miss. Lt. Art.
	x		Co. Bat.
225	x		37th Ala.
226	x		37th Ala.
	x		Moore's Brig.
227	x		Chicago Mercantile Bat.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		Ewing's Brig.
	x		Ewing's Brig.
	x		4th W. Va. Inf.
	x		4th W. Va. Inf.
	x		Ewing's Brig.
	x		47th Ohio Inf.
	x		54th Ohio Inf.
	x		Bat. A 1st Ill. Lt. Art.
	x		47th Ohio Inf.
	x		Ewing's Brig.
	x		2nd Iowa Bat.
	x		55th Ill. Inf.
	x		Ewing's Brig.
	x		Bat. A 1st Ill. Lt. Art.
228	x		113th Ill. Inf. Camp.
	x		16th Ill. Inf.
	x		47th Ohio Inf.
	x		A. J. Smith's Div.
229	x		99th Ohio Inf.
	x		60th Ind. Inf.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
230	x		A. J. Smith's Div.
231	x		17th Bat. Ohio Lt. Art.
	x		A. J. Smith's Div.
	x		Ill. 108th Inf.
	x		Ind. 90th Inf.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		A. J. Smith's Div.
	x		Ind. 48th and 59th Inf.
232	x		Col. Jesse I. Alexander.
	x		1st Brigade 7th Div.
	x		Quimby-J. E. Smith's Div.
233	x		Wis. 18th Inf.
	x		A. J. Smith's Div.
	x		Ill. 126th Inf.
	x		Ind. 16th Inf.
	x		67th Ind. Inf.
	x		A. J. Smith's Div.
	x		67th Ind. Inf.
	x		Chicago Mercantile Bat.
	x		10th Div.
	x		Chicago Mercantile Bat.
	x		7th 16th Div.
	x		Benton's Brig.
234	x		Col. Wm. Temple Withers.
	x		40th Ala. Inf.
235	x		40th Ala. Inf.
	x		Moore's Brig.
	x		Maj. Gen. Dabricut Meury.
	x		40th Ala. Inf.
236	x		Quimby-J. E. Smith's Div.
237	x		Col. John B. Sanborn.
		x	Minnesota.
	x		4th Minn. Inf.
238	x		Quimby-J. E. Smith's Div.
	x		Ohio 80th Inf.
	x		Col. Green B. Roum.
	x		Bat. Archer.
	x		Col. Samuel A. Holmes.
	x		Mo. 7th Div.
239	x		Mo. 7th Infantry.
240	x		Col. George B. Boomer.
	x		10th Bat. Wis. Lt. Art.
	x		Wis. 6th and 12th Bat.
	x		12th Wis Bat.
241	x		Quimby-J. E. Smith's Div.
	x		2nd Brig. 7th Div.
	x		7th Div. 17th A. C.
	x		Ill. Co. E 2nd Cav.
	x		56th Ill. Inf.
	x		Quimby-J. E. Smith's Div.
242	x		Quimby-J. E. Smith's Div.
	x		Quimby-J. E. Smith's Div.
	x		Quimby-J. E. Smith's Div.
	x		Art. 7th Div. 17th A. C.
243	x		Brig. Gen. Isaac P. Quimby.
	x		6th Wis. Bat.
	x		10th Mo. Infantry.
	x		Brig. Gen. Charles L. Mathies.
	x		Quimby-J. E. Smith's Div.
		x	51. 56th Inf.
244	x		Quimby-J. E. Smith's Div.
	x		Quimby-J. E. Smith's Div.
	x		Quimby-J. E. Smith's Div.
	x		Quimby-J. E. Smith's Div.
	x		Quimby-J. E. Smith's Div.
245	x		Quimby-J. E. Smith's Div.
	x		Iowa 17th Inf.
	x		Quimby-J. E. Smith's Div.
	x		Ill. 56th Inf.
	x		Quimby-J. E. Smith's Div.
	x		10th Inf.
	x		Ill. 33rd Inf.
246	x		Quimby-J. E. Smith's Div.
	x		Quimby-J. E. Smith's Div.
	x		Iowa 10th Inf.
	x		4th Minn. Inf.
247	x		40th Miss.
	x		Maj. Robert B. Campbell.
	x		Lt. Gen. John C. Pemberton.
		x	Army of Vicksburg.
		x	River Batteries.
		x	Defenses Tallahatchie Army of Vicksburg.
		x	Engagement of Raymond May 12.
		x	Battle of Champions Hill May 16.
		x	Engagement of Big Black River Bridge May 17.
		x	Assault on Con. Line May 19.
		x	Assault on Con. Line May 22.
		x	Siege Operations May 23- July 4.
		x	Summary of Casualties Mar. 29-July 4.
248	x		40th Miss. Inf.
	x		40th Miss. Inf.
	x		Maj. Gen. Hardee.
249	x	x	40th Miss. Inf.
	x		Mississippi.
250	x		Co. C 1st Tenn. Heavy Art.
	x		Maj. Samuel H. Lockett.
	x		35th Miss. Inf.
251	x		Moore's Brig.
	x		Quimby-J. E. Smith's Div.
	x		5th Iowa Inf.
	x		5th Iowa Inf.
	x		Sweet's Brig.
	x		59th Ind. Inf.
	x		10th Iowa Inf.
	x		Quimby-J. E. Smith's Div.
	x		49th Ind. Inf.
	x		Quimby-J. E. Smith's Div.
	x		10th Iowa Inf.
	x		26th Mo. Inf.
	x		Quimby-J. E. Smith's Div.
252	x		18th Wis. Inf.
	x		Miss. 35th Inf.
	x		Miss. 35th Inf.
	x		Co. C 1st La. Heavy Art.
	x		Missouri Landis Bat.
	x		Moore's Brig.
253	x		17th Iowa Inf.
	x		Quimby-J. E. Smith's Brig.
	x		63rd Ill. Inf.
	x		3rd Brig. 7th Div.
254	x		Col. Holden Putnam.
	x		Quimby-J. E. Smith's Div.
	x		Iowa 5th-10th-17th Inf.
	x		63rd Ill. Inf.
255	x		Quimby-J. E. Smith's Div.
	x		Yost's Ohio Bat.
	x		Yost's Ohio Bat.
	x		10th Iowa Inf.
	x		Mich. Mon.
	x		5th Iowa Inf.
	x		Michigan.
	x		8th Mich. Bat.
256	x		32nd Ohio Inf.
	x		3rd Bat. Ohio Lt. Art.
	x		3rd Bat. Ohio Lt. Art.
	x		7th Ill. Inf.
	x		Bat. L 2nd Ill. Lt. Art.
	x		Bat. L 2nd Ill. Lt. Art.
	x		Logan's Div.
	x		81st Ill. Inf.
	x		3rd Brig. 3rd Div.
	x		Logan's Div.
	x		8th Ill. Inf.
	x		11th Mo. Inf.
	x		Logan's Div.
	x		30th Miss. Inf.
	x		7th Miss. Battalion.
	x		Hdqrs. Moury's-Forney's Div.
	x		Brig. Gen. Lloyd Tilghman.
	x		7th Miss. Bat.
	x		Brig. Gen. Lloyd Tilghman.
	x		7th Miss. Batallion.
	x		21st La.
	x		Louisiana's Army, La.
	x		31st Ill. Inf.
	x		17th Ill. Inf.
257	x		21st La.
	x		Louisiana.
	x		21st La.
	x		Great Redoubt.
	x		Stevenson's Brig.
	x		Co's. C and D 22nd La. Inf.
	x		7th Mo. Inf.
	x		Co. B La. Art.
	x		Appeal (Ark.) Bat.
	x		Appeal (Ark.) Bat.
	x		Col. Louis Hebert.
	x		Maury's-Fourney's Div.
	x		Maury's-Fourney's Div.
	x		Where Grant and Pemberton met.
	x		Brig. Gen. John D. Stevenson.
	x		7th Mo. Inf.
	x		Logan's Div.
	x		Logan's Div.
258	x		Logan's Div.
	x		Logan's Division Center Position.
	x		Logan's Brig.
	x		Flag of Truce of Pemberton.
259