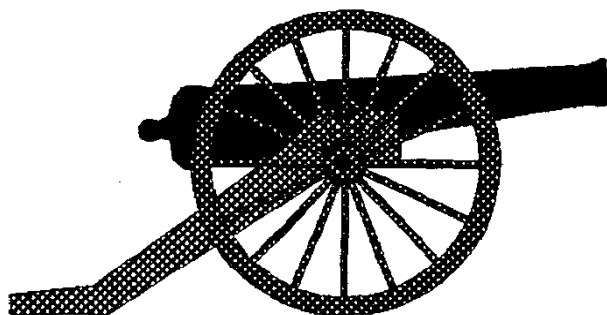


D-308

RESOURCE MANAGEMENT PLAN
PETERSBURG NATIONAL BATTLEFIELD



Recommended by:

Michael Hill
Superintendent

12/14/94
Date

Approved by:

for *Regional Director*
Regional Director
Mid-Atlantic Region

10/30/94
Date

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INTRODUCTION

Petersburg National Military Park (name later changed to Petersburg National Battlefield) was established by an Act of Congress on July 3, 1926. The purpose for the park, as stated in the Act, is:

"to commemorate the campaign and siege and defense of Petersburg, Virginia in 1864 and 1865 and to preserve for historical purposes the breastworks, earthworks, walls or other defenses or shelters used by the armies therein, the battlefields at Petersburg."

Administration was transferred from the War Department to the National Park Service by Executive Order No. 6228 on July 28, 1933. The name was changed to Petersburg National Battlefield by an Act of Congress (76 Stat. 403) on August 24, 1962.

The Petersburg Field of Battle Areas preserve some of the most important physical remains and locations of the Siege of Petersburg, one of the most decisive military campaigns of the Civil War. This campaign took place in a semicircle around the City of Petersburg in an area of approximately 170 square miles. Here the soldiers of General Ulysses S. Grant's Union Command and Robert E. Lee's Army of Northern Virginia engaged in the final climactic battles of the Civil War in the decisive Virginia theater. Although Lee conducted a masterful defensive operation for nine and one half months, Grant's operations eventually forced the Confederate commander to evacuate Petersburg and retreat westward.

Petersburg National Battlefield is comprised of eight units and two isolated monuments scattered throughout two cities and two counties. It is managed under two land classifications: a Development Zone which includes the Visitor Center/Maintenance compounds, Siege Road, various Special Use Permits, picnic area and residential areas; and the Historic Zone which includes all other areas.

Included in these major units are a National Cemetery and a plantation house with accompanying structures and grounds that have cultural and historical importance dating back to 1635. Additionally, pre-historic cultural remains on the grounds date back more than 5,000 years.

The main unit of the park, 1427.62 acres, stretches between Confederate Battery 5 and the Crater in the county of Prince George and the City of Petersburg. It preserves some of the most important physical remains and locations of the siege of Petersburg. It includes Fort Stedman, the scene of Lee's last offensive and the Crater, where Union troops tunnelled beneath Confederate earthworks in an attempt to explode a gap in the line, launch an assault and break the siege.

Poplar Grove National Cemetery, in Dinwiddie County, consists of 8.72 acres located one mile south of Petersburg on State Route 675. Interred are the remains of 6,142 Union and 36 Confederate soldiers. There have been a few more recent interments bringing the total number of headstones to 6,312. Poplar Grove is now closed to burials.

There are several outlying units which preserve examples of fortifications and fields of battle south and west of the city of Petersburg. These are Fort Wadsworth, 10.54 acres located at the junction of Halifax and Flank Road in the city of Petersburg, Long Flank Unit in Dinwiddie county, 22.40 acres which include Union Forts Urmston, Conahey, and Fisher (reputed to be the largest earthen fort in North America).

The Fishhook Unit, 14.42 acres, located off Church Road in Dinwiddie county includes Union Forts Welch and Gregg. Fort Wheaton, 1.15 acres, is located just east of the "Fishhook Unit." It was part of a temporary Confederate line constructed before the battle of Peebles Farm.

Confederate Fort Gregg, a 44.80-acre unit in Dinwiddie County, is located north of Boydton Plank road. On April 2, 1865, five thousand Union soldiers attacked Gregg and nearby Fort Whitworth which were defended by six hundred Confederates. When Fort Gregg fell, the Confederate hold on Petersburg ended as Lee escaped with his army.

The Five Forks Unit, 1,115 acres in Dinwiddie County, was authorized in 1962 but not acquired by NPS until 1991. Of the eight major battles which occurred during the Petersburg Siege, the battle of Five Forks, called by some historians "the Waterloo of the Confederacy" was the last and one of the most significant in its result. The Union victory there on April 1, 1865, was the final event in the 9 1/2 month Petersburg campaign. Eight days after Five Forks, Lee's army surrendered at Appomattox, ending the Civil War in Virginia.

The City Point Unit, 21 acres located in the City of Hopewell at the confluence of the James and Appomattox Rivers, was authorized in 1978. It was occupied by the Eppes family for a period of 344 years, and is interpreted as an example of Virginia tidewater plantation life. It is the site of the largest and most sophisticated supply and logistics operation of the Civil War, supporting the Union armies and serving as General Grant's headquarters for 9 1/2 months.

Two isolated monuments, the "Pennsylvania Monument" and the "Gowen Monument," stand amid the Petersburg business district and have no associated earthworks.

The Statement for Management lists a number of management

objectives for the park. Key objectives include:

Main Unit:

- Resource Preservation. Preserve military and civilian cultural resource in the Petersburg campaign of 1864-65; Restore/maintain the appearance of selected landscape elements that are critical to understanding the strategy of the siege, and to screen modern uses which would detract from the visitor experience.
- Visitor Use/Experience. Maintain the continuity of major resources and visitor experiences along the entire siege line in a way that allows visitors to understand the siege and defense of Petersburg
- Interpretation. Using what remains of the field of battle, commemorate and interpret the campaign and events, siege and defense of Petersburg (1864-65)
- Landscapes. Manage the landscapes to give visitors an understanding of the strategies, tactics, and events of the siege in a greater context of the Civil War.

City Point Unit:

- Interpretation. Interpret the logistical and supply operations supporting the Union armies and Grant's supreme headquarters during 1864-65; Interpret land use history as a means for providing visitors an understanding of the unit's broader historical context.
- Landscape. Bluff Area: Preserve the landscape elements that reflect City Point's land use history up until the last Eppes family member occupied the grounds.
- Waterfront Area: Develop the waterfront in such a manner that enables visitors to better understand City Point's pivotal role in supporting the Union armies with military supplies, communications, and transportation.
- Adjacent Land Use. Convey the historic setting in which Grant's Headquarters and supply operation were located

Five Forks Unit:

- Interpretation. Provide visitor access to and understanding of significant elements of the battlefield which allowed the Union Army to capture Lee's remaining railroad into Petersburg and thus precipitate the withdrawal of the Army of Northern Virginia from the Richmond/Petersburg area.

- . Landscape. Re-establish and manage the unit for its 1865 appearance.
- . Related Lands. Maintain the rural agrarian setting in which the battle occurred.
- . Cultural Resources. Preserve and maintain the integrity of the road alignments, earthworks, and fields as important elements of the strategic defensive positions of the Confederate forces. Preserve historical and archeological resources extant at the time of the engagement.

Poplar Grove Cemetery:

- . Provide a serene setting that emphasizes that the cemetery is the final resting place for veterans of the Civil War and other wars.

Cultural preservation has been clearly identified as the highest priority for the management of the park's resources. Management of the park's natural resources, however, is directly or indirectly linked to the preservation of the historic and cultural components. Therefore, within the context of this plan, cultural and natural resources will be managed in harmony to achieve the Battlefield's Management Objectives.

PRESENT RESOURCE STATUS

NATURAL RESOURCE BASELINE INFORMATION

Petersburg National Battlefield has a need for baseline information and monitoring efforts in all categories listed in the Servicewide Standards and Guidelines for Natural Resources Inventorying and Monitoring (NPS 75).

The Servicewide standards identify three major areas of inventory and monitoring needs: 1) Physical and Chemical, 2) Biological, and 3) Human Use. An assessment of the current status of baseline information for these three categories is included below.

1. Physical and Chemical Inventory and Monitoring

Aerial photographs (both CIR and B/W) were done for the entire park in 1991 as part of the Forest Management Plan data gathering phase. USGS topographic maps are also in house but will need to be updated soon to comply with the requirements of NPS 75.

Soils maps have been obtained through the US Soil Conservation Service (with the exception of that portion of the park lying within the City of Petersburg, for which there is no soil survey). Soil tests are conducted periodically on lawns, horse pastures, agricultural plots, and designated earthworks to determine pH and nutrient levels for establishing/monitoring desired vegetation.

There are a number of small streams entering or rising within the park's main unit. Two are of major significance, Poore and Harrison creeks. Harrison creek begins outside the park and flows north through the central section and empties into the Appomattox River. Poore Creek begins outside the park, enters south of the Crater and leaves the park northwest of Colquitt's Salient. Both streams played significant roles during the Siege of Petersburg.

The Five Forks Unit includes a section of Hatcher's Run which played a vital role in the battle there. An "inventory through description" is needed for each of these streams to meet the level I Servicewide standard.

Hydrologic and floodplain maps, are presently part of the park's database. These include U.S. Fish and Wildlife Service National Inventory maps, Federal Emergency Management Agency Flood Boundary and Floodway maps, and Soil Conservation Service Hydrologic Units maps.

2. Biological Inventory and Monitoring

A floral inventory of Petersburg National Battlefield was conducted in 1990 by the Virginia Tech Biology Department. The project was

well done but only included plants flowering over a two month period. Additional inventories are needed to complete the sample of the entire growing season.

A comprehensive Forest Management Plan was initiated in 1992, with an expected completion date of Spring 1995. When completed, it will furnish data concerning forest health, composition, distribution and hazard fuel loading. As part of the plan, a comprehensive vegetation cover map is being generated.

Fire weather statistics have been gathered for the past ten years. This information is used to determine the local wildfire potential.

An inventory of the rare, threatened and endangered species within the park was conducted in 1990 and 1991 by the Virginia Heritage Association. The inventory did not identify any Rare, Threatened, or Endangered species or any critical habitat located within the boundaries of the park.

An aquatic macroinvertebrate inventory was conducted in 1987. There is a need for baseline inventories for birds, fish, amphibians, mammals, and terrestrial macroinvertebrates.

3. Human Use Inventory and Monitoring

A visitor use survey was done for the park in 1990. It answered a number of questions concerning demographics, visitor expectations and activities undertaken while at Petersburg.

Excellent historic records of human use in and around the Petersburg area are located in the park library. At City Point, the Eppes family kept meticulous records and the park also has copies of some of these papers in the library.

A survey of adjacent land owners was conducted in 1991 and will be included in the park's Geographic Information System (GIS).

The following tables list the park's current status on Inventory and Monitoring of baseline data. Baseline data is described as either meeting or not meeting the minimal standards as established in the Servicewide "Standards for Natural Resources Inventorying and Monitoring," (NPS-75).

PETERSBURG NATIONAL BATTLEFIELD
ASSESSMENT OF EXISTING INVENTORYING & MONITORING PROGRAMS

Function	Level of Effort	
	Below Standard	Meets Standard
<u>Chemical Inventorying & Monitoring</u>		
Surface Waters		x
Atmospheric Deposition	x	
<u>Geo-Physical Inventorying & Monitoring</u>		
Natural event records	x	
Develop Maps:		
Imagery from satellites	x	
Topographic		x
Geology:		
Geologic Maps	x	
Soils	x	
Physical geology, mineralogy and soils:		
Soil analysis	x	
Sediment transport	x	
Principle mineral composition	x	
Geo-hazards	x	
Hydrology:		
Develop watershed maps		x

Function	Level of Effort	
	Below Standard	Meets Standard

Inventory through description:		
Streams	x	
Wetlands	x	
Groundwater	x	
Measure physical parameters:		
Temperature	x	
Turbidity	x	
Stage and Discharge		x
Create hydrological models of surface water	x	
Meteorology		
Indicate meteorological parameters:		
Precipitation		x
Air temperature		x
Atmospheric conditions (e.g. RH, wind direction, etc.)		x
<u>Biological Inventorying & Monitoring</u>		
Historical database	x	
Species:		
Inventory of vascular plants including distribution	x	

Function	Level of Effort	
	Below	Meets
	Standard	Standard
Inventory of mammals, birds, fish, amphibians and reptiles including distribution	x	
Listing of species that are threatened, endangered, endemic or non-native		x
Distribution map of plant and animal species	x	
Populations:		
For selected species:		
Distribution	x	
Population size/density/cover	x	
Age/stage/size/class structure	x	
Growth/recruitment/productivity	x	
mortality	x	
Communities		
Vegetation/land cover map	x	
Integration		
Qualitative community descriptions to correspond with vegetation map	x	
Geography:		
Location of resources associated with an appropriate base map series and coordinate system		x

Function	Level of Effort	
	Below Standard	Meets Standard
Resources mapped accurately to GIS standards		x
Accurate and comprehensive representation of park landscape (e.g. satellite, aerial photography, survey as appropriate)	x	
<u>Human Use</u>		
Event Records		x
Maps:		
Develop maps to indicate present areas of use	x	
Develop maps to indicate past areas of use		x
Human activities:		
Identify each type of activity present (e.g. farming, grazing, residential, recreation, etc.)	x	
Quantify the identified activities (e.g., yield/acre, density, number of visitors)	x	

Function	Level of Effort	
	Below	Meets
	Standards	Standards

Ownership:

Identify whether ownership is public

or private

x

Indicate owner for each area

x

Demography

x

Domestic Animals (e.g., livestock and others)

x

Legal Matters:

Cite acts, regulations, policies, etc.

x

Indicate management activities and planning

x

Education Activities

x

Regional Land Use Planning

x

Other Social Sciences Studies

x

List any human studies taking place

x

List any econometric studies taking place

x

NATURAL RESOURCES

The Main Unit of Petersburg National Battlefield is situated near the fall line of the Appomattox River and consists of gently rolling countryside. The northeastern boundary is adjacent to the floodplain of the Appomattox River, and it is here that the lowest elevation of 40 feet is found. The maximum elevation of 168 feet is in the southeastern section of the unit.

The predominant soil type in this area is Norfolk sandy loam. Most of the unit land is well drained but there are a few swampy areas. The water table during wet seasons can be as high as three feet but may drop to seventy feet during very dry weather. In order to secure a dependable source of water, wells are usually drilled to a depth of at least 100 feet. The winters in this area are relatively mild with the average frost penetration being three inches. The maximum known frost penetration is fifteen inches. Average annual rainfall is 44.21 inches; maximum snowfall is 28.5 inches/month.

This unit is more densely wooded today than it was in 1864-1865. At that time, most of the land was deforested for agricultural or military reasons. These same areas are now approximately 70 percent forested, the remainder being in grass or open fields in various stages of succession.

The loblolly pine is the dominant forest species. An undergrowth of deciduous hardwoods, which include red oak, willow oak, post oak, white oak, sweetgum, hickory, yellow poplar, black gum and elms, ultimately succeed the pure stands of pine.

The Five Forks Unit of the battlefield totals approximately 1,113 acres located in the north central part of Dinwiddie County, 23 miles southwest of Park headquarters. It is on the eastern edge of the Piedmont Region of southern Virginia.

Soils are well drained sandy loam with a clay loam subsurface. The terrain is gently rolling with major drainage into Hatcher's Run and Chamberlain's Bed (creek). Large granite outcroppings dot the fields and woods. Average winter temperatures are a high of 48°F and low of 28°. The average summer high is 87° and low 66°. The year-round average relative humidity is 65-70%, with summer values frequently exceeding 85%.

The terrain within this unit is equally divided between woodland and open fields. Most of the woods are pine and many of the cleared fields have been recently timbered. Numerous logging roads have been cut into the wooded areas.

The fields that were open in April 1865 will be maintained as such whenever practical. The areas which were wooded will be allowed to return to that state.

The natural resources that play an important role in park management at PETE include native forest ecosystems, water quality and historic landscapes (including earthworks).

The health of the forest is of primary importance to the management of the park. It serves as both a visual and auditory buffer against urban encroachment. The Forest Management Plan, initiated in 1992, will provide both a comprehensive evaluation of the forest health and prescriptions designed to maintain the desired forest types.

NPS policy and guidelines mandate that we protect all water resources from pollution and degradation. Five streams are found in the Main Unit. Three are very small (branch of Harrison Creek near Battery 5, another near Fort Friend at Battery 8, and a branch of Poore Creek near Fort Haskell). The other two are medium sized creeks (Harrison Creek running from the south boundary near the Administration Office to the north boundary, and Poore Creek running from the N & W railroad south to the north-western boundary). These two creeks played an important role during the siege. Upstream urbanization along Poore Creek has degraded this watershed and is a major concern. Stream channelization and reduced water quality are serious threats to the resource that are currently being addressed.

At Five Forks, beaver activity has created a marshy wetland around Hatcher's Run. A recent floral inventory identified the beaver marsh as containing excellent habitat for many wetland plants.

The City Point Unit is located on a peninsula at the confluence of the Appomattox and James Rivers and contains approximately 21 acres. The unit's grounds are intensively managed to maintain a well manicured lawn, historic specimen trees and native plantings. Due to its location, water related resource considerations are paramount. These include waterborne pollution, erosional tidal concerns and riparian habitat stability.

The Park's mixed hardwood/loblolly pine forest type combined with ample water sources provide habitats for a wide variety of wildlife. Commonly encountered species include rabbit, squirrel, fox, opossum, raccoon, skunk, groundhog, turkey and numerous species of songbirds which vary with the seasons. Many nesting species are present in season. Common species include Mockingbird, Crow, Cardinal, Blue Jay, Robin, Starling, Grackle, Cowbird, Turkey Vulture, Red-tailed Hawk, Red-bellied and Pileated Woodpeckers as well as Flickers. Bald Eagles and Osprey are not uncommon at the City Point Unit.

Whitetailed deer have flourished within the Main Unit. In 1965 park records indicate only occasional deer sightings within the unit. On an average day in 1992, one could expect to see between twenty and thirty deer. Management, anticipating a continued

increase in deer numbers, has instituted a monitoring program to gather trend data on deer populations.

Natural resources at PETE are managed to protect and complement the historic landscapes. Existing historic viewsheds will be maintained. At Five Forks, the present mosaic of forest and fields will be manipulated by various methods prescribed in the Forest Management Plan to reflect the conditions that were present in 1865.

Park forests and open fields have periodically been disturbed providing opportunities for invading alien species to establish themselves. Ailanthus and Japanese honeysuckle have reached a level that eradication would be prohibitively expensive. Kudzu vine has been identified near PETE and will be eradicated should it enter the park.

Due to the highly urbanized environment at PETE, the human-related threats to the natural resources are profound. Continued and intensive urbanization of the area adjacent to the park is impinging visually and audibly on the historic scene. The long range trend is to completely surround the main unit of the park with high density housing making it increasingly an island in the urban development of the Tri-City area. The most detrimental effects to the physical resource are caused by urban population pressure and problems typical to the urban scene. These include wearing down of the resources; littering; urban crimes such as theft, arson, vandalism, and pollution. Air pollution is especially damaging to the park's flora and historic structures.

CULTURAL RESOURCE BASELINE INFORMATION

The principal park planning document, then called the "Master Plan" is 29 years old, being written in 1965. It ceased to be a viable planning document fifteen or more years ago. A new General Management Plan study is scheduled to begin in 1995. Because of the continued slippage of the park in Regional planning priority setting, it became necessary to do piecemeal planning for separate Battlefield Units in order to move forward with development needs and to maintain reasonable management control. Visitor use trends and public expectations demanded this tactic.

All lists, catalogs and registers concerning Cultural resources at Petersburg National Battlefield are current with the exception of documentation of resources on the National Register of Historic Places. Documentation was prepared for the City Point Unit and submitted to the Regional Office for review but as yet comments on format and content have not been forthcoming.

To date, approximately 20 percent of the park has been surveyed to identify cultural resources. The following basic documents concerning Cultural resources at Petersburg National Battlefield are in need of revision:

- Archeological Overview and Assessment; Although reasonably current for the City Point Unit, no such overview has been done in other units.

- Archeological Identification Studies; some have been done for the City Point and Main units.

- Archeological Evaluation Studies; partial studies completed for the City Point and Main Units but not the Five Forks Unit.

- Historical Base Maps exist for all units of the park. Only one Special History Study is current and that deals with participation of black civilian workers at City Point during the Civil War.

- The Park Administrative History needs to be updated to reflect significant land acquisitions.

- The Scope of Collection Statement also needs to be updated.

A number of special resource studies and plans are needed. A Collection Storage Plan and a Collection Condition Survey are principal among these. The Collection Management Plan and Historic Furnishings Plan for Grant's Cabin are current. Several Special History Studies relating to the Main and City Point Units are needed. Upon completion of the General Management Plan additional Special History Studies relating to the Five Forks Unit will be specified.

A. EARTHWORKS

During the siege of Petersburg, over 100 miles of earthworks were constructed by the opposing armies. Today, less than six percent are under the protection of the National Park Service. They have all been subject to varying degrees of deterioration by various forces. Some have completely disappeared under the plow or through construction of roads or buildings. Only historical sketches or photos remain for reference by present and future generations. Additionally, a network of World War I trenches, the full extent of which is yet undetermined, is located in the eastern portion of the Main Unit.

In order to preserve the existing earthworks entrusted to the care of the National Park Service, constant vigilance is required.

Alertness must be maintained against all threats, whether natural or human caused, now and in the future. The human impacts have in the past and present, caused the greatest deterioration of those fragile earthen mounds erected over a hundred and thirty years ago. These impacts can be expected to accelerate in the future. Various methods have been attempted to combat this problem with varying degrees of success. A vegetative cover must be maintained. The type of vegetative cover may vary. The impacts caused by humans are as varied as those caused by nature.

The park visitor who comes for historical enlightenment generally causes adverse impacts by venturing off designated trails and onto high points to get a better view of the battle scene. The park visitor who lives in the region or immediately adjacent to the park come to the park generally for recreational pursuits. A small percentage of these visitors view the park as an extension of their yards or a regional playground. They come into the park to sunbathe, picnic, exercise their pets, have parties, fly kites, play ball and a variety of other reasons. The neighborhood children dig in the earthworks and other areas and cut down trees to build forts and tree houses. Some of the park neighbors use the park to dispose their unwanted household items. This is especially apparent near the areas of high density housing. Another type of human caused adverse impact is caused by people who come to collect artifacts. These people generally know they are violating the law but disregard that fact or the fact that they are doing tremendous damage to the resource.

Natural impacts are caused in a variety of ways. Where the resource is exposed, freezing, thawing, wind, and rain cause deterioration. These areas must be revegetated to protect them. Earthworks heavily vegetated by woody growth are inaccessible to the visiting public and create an inappropriate management condition. Efforts must be directed toward the right combination of the two situations. Another problem is caused by wildlife. Ground hogs burrow into the earthworks and accelerate erosion. Deer have favorite areas where they cross over the earthworks,

which creates a cut-out area.

Various ways have been tried to mitigate these problems. The human caused impacts are the most serious. Signs, fences, steps with hand rails, and walkways have been developed. The public has been notified of the problem through the television and radio media as well as through interpretive programs and signs, brochures and trailers on audio tapes in the field.

Roving patrols oversee the protection of some of the historic resource on a daily, weekly, or monthly basis. Present funding and staffing do not permit a more comprehensive protection program. The recent acquisition by the Park of seven horses will permit horse patrols on a regular basis.

Available funding and staffing in the maintenance division also limits what can be accomplished in maintaining the resource.

Earthworks preservation has been an ongoing problem for over two decades. Earthworks preservation conferences began in earnest in 1974, when a group of managers, scientists, historians and other experts met at Petersburg to tackle the problem. In 1976, an Interpretive Earthworks Preservation Guide was pulled together as part of a Master's degree program at Clemson University. In 1986, an Earthworks Management Manual was completed by Andropogon Associates.

The park is currently using the Earthworks Management Manual as a guide in managing these fragile, historic resources.

B. HISTORIC BUILDINGS

Historic buildings in the Battlefield exist in two basic conditions or states. The first condition may be described as intact buildings at least 50 years old. The second condition is that of a ruin or house site which is either known or may require archeological investigation to locate. In the interest of consistency, the categories of Historic Structures used in the List of Classified Structures will be adopted in this document. The four categories which will apply are defined as follows:

1. Category A: Structures that must be preserved and maintained. Structures meeting any of the below criteria must be classified Category A.

a. The structure's preservation is specifically mandated by legislation.

or

b. The structure is directly or indirectly related to the area's legislatively defined significance through association with persons, events, historic scene, or monumentation.

or

c. The structure is nationally significant as defined by National Historic Landmark criteria.

or

d. The structure is of less than national significance but contributing to a nationally significant theme or purpose in a park.

or

e. The structure is an aboriginal ruin significantly characteristic of a cultural type, adaption, trend, or institution.

2. Category B: Structures that should be preserved and maintained. Structures must meet All of the following criteria to be classified Category B. A failure to meet any of these conditions moves it to a lower category.

a. The structure meets the National Register criteria individually or as part of a network, district, or multiple resource.

and

b. The structure is not incompatible with a primary park theme.

and

c. The structure has a continuing or potential use with benefits for the park or a leased operation based upon design, condition, location and use.

3. Category C: Structures that may be preserved and maintained. Either of the following conditions places the structure in Category C.

a. The structure meets National Register criteria, but because of condition, location, or other factors does not qualify under B.

or

b. The structure is of less than National Register significance but one whose preservation is desirable to meet management needs.

4. Category D: Structures that should be or have been disposed of, demolished, or altered for some other management purpose. A structure that meets any of the following criteria may be placed in Category D. Structures that have been lost or disposed of shall remain on the LCS as a matter of record of their removal from their site and as a reference to the site.

a. The structure is an irreparable hazard to public health and safety.

or

b. The structure has lost all significance or integrity

or

c. The structure is a physical or visual intrusion on a prime park value.

or

d. The structure has been disposed of by planned action.

UNIT 1 - The Main Battlefield Unit contains only historic buildings of the A category. The original structures were either destroyed by artillery fire in action during the Siege of Petersburg, dismantled by Union soldiers occupying the area for the lumber and bricks used in their camps, or destroyed after the Civil War by fire by the Army after the establishment of Fort Lee, or by the National Park Service.

1. JORDAN HOUSE - Built in the mid-1700's, it was one of two identical 3-story, 16-room houses built by brothers on two adjacent hills. It may have served as Major General William F. Smith's 18th Corps Headquarters the first day or so of the attack on Petersburg, June 15, 1884. General Smith later moved his headquarters to the adjacent Friend House. The Jordan House was destroyed by Union troops, rebuilt after the Civil War on a nearby site but was destroyed by fire five years later. It was then rebuilt on the original foundation. The last structure was dismantled during the 1920's by the U.S. Army when the land was a part of Camp Lee.

The existing remains of the house consist of a brick foundation and basement which has been filled with earth. The walls of the foundation rise slightly above ground. The Jordan House cemetery is located approximately 200 yards east of the house site. The Jordan House ruin will be managed as a Category A historic building.

2. FRIEND HOUSE - Built in the mid-1700's, it was one of two identical 3-story, 16-room houses built by brothers on two adjacent hills. It served as Major General William F. Smith's 18th Corps headquarters and a signal station was built on the roof. The house survived the Civil War although it was gutted during the Union occupation. The Friend family returned to the structure to live until the establishment of Camp Lee. The house was dismantled by the Army in 1918.

The existing remains of the house consist of the subterranean basement, steps down into the basement, basement floor, and

portions of old pipes. The foundation remains are of several materials; brick, stone and concrete. The foundation has not been filled with earth. The Friend House foundation will be managed as a Category A historic building.

3. GIBBON HOUSE - There are two "GIBBON" house sites in the park. The first is located just east of Harrison Creek, north of present day Highway 36 and shows on historic maps of the Civil War period. No surface trace of the house site can be found. It is possible that construction of a Petersburg to Hopewell trolley line in the early 1890's obliterated the house site. With the possibility that underground features of the house site remain, the site will be managed as a Category A historic building site.

4. DUNN HOUSE - This house site along Attack Road is located 1/4 mile south of Tour Stop 3 and 50 yards west of Confederate Battery 11 on the Dimmock Line. A rectangular depression in the ground in the area of the house site is thought to be the location of the structure. Some exploratory checks were done by NPS archeologists but a complete archeological examination has not been undertaken at the site. It will be managed as a Category A historic building site.

5. GIBBON HOUSE - This "GIBBON" House site is situated some 100 yards south of Tour Stop 4 and a short distance east of Harrison Creek. The exact location of this house site is unknown. There is no surface physical evidence of the house foundation or other buildings. The site will be managed as a Category A historic house site.

6. HARE HOUSE - The O.P. Hare, Sr. house site and foundation is located approximately 100 yards north of Fort Stedman, at Tour Stop 5. The Hare mansion was a wooden structure two stories high, 42 feet long by 22 feet wide, with a half-story basement underground of brick. Other major structures in the immediate vicinity of the house were a kitchen-laundry, 32 x 18 feet, of wood, and a stable, 28 x 28 feet, of wood.

The house lay about 1 mile within the original Confederate defenses but on June 17th and 18th, 1864 Confederate forces retreated past the house and entrenched several hundred yards west, which was held throughout the Siege of Petersburg.

Situated between the lines for the siege, the house and outbuildings were destroyed by a combination of artillery fire and pillaging by Union troops. It was never rebuilt.

An archeological dig for the house in 1977 located the corners of the foundation and resulted in the collection of numerous artifacts which have been treated and included in the park collection. To date, the outbuildings have not been located.

The Hare House site will be managed as a Category A historic house

site.

7. TAYLOR HOUSE - The Civil War period Taylor House was located in the vicinity of the present day Taylor house ruins. The 1864 structure was severely damaged by shell fire and partially burned. The remaining portion was dismantled and the material incorporated into the Union works. It is not known whether the house was wood frame or brick. Union correspondence and reports refer to the "Taylor Chimneys" in plural. The existing ruin has but one.

The house that was destroyed in 1864 was replaced immediately after the war and stood until 1950 when it was dismantled by the National Park Service.

An archeological survey was performed in 1978 in an attempt to locate the possible Civil War house location with negative results. In 1979 subsequent investigation by means of ground penetrating radar was attempted with inconclusive results.

In 1981 archeological excavations were conducted in the area indicated by the radar survey. The foundations of the actual Taylor residence were located 60 feet north of the standing ruined structure. The Taylor house was a sizable building measuring 54 feet x 20 feet. The great majority of the structure's brick has been robbed so that no visible surface trace remains.

The Taylor House site will be managed as a Category A historic house site.

UNIT 2 - Poplar Grove National Cemetery contains historic structures of several types. The cemetery came into existence when the U.S. Army Burial Corps was created to search out graves, disinter them and move them to the vicinity of Poplar Grove Church and rebury them in the newly formed Poplar Grove National Cemetery. From July of 1866 until June of 1869, the burial corps searched the battlefields of the Petersburg campaign. Their task was carried out in nine Virginia counties and bodies were brought in from as far away as Lynchburg.

1. POPLAR GROVE CHURCH - This log structure was built in February of 1865 by the 50th New York Engineers who were camped nearby. It was named in honor of nearby Poplar Springs Church which had been destroyed during the previous year's fighting. Built in the Gothic style, the church was capable of holding 225 individuals, and was used for both religious and recreational purposes. Officials felt that the presence of the church would lend an atmosphere of solemnity to the grounds which they had selected for the cemetery. The church, one of the most distinctive landmarks of the area, remained until 1868. When faced with mounting costs to maintain the structure, the Quartermaster Department decided to have the structure torn down.

No above-ground remains of the church exist. The exact location of the church is not known but is thought to have been in the vicinity of the existing flag pole. In the event there are underground features remaining, the Poplar Grove Church site will be managed as a Category A historic house site.

2. POPLAR GROVE LODGE - The caretaker's lodge was constructed in 1872. A two-story structure, 30 x 32 feet, of granite with a mansard style tin roof, the lodge is located just inside the wall of the cemetery, just south of the entrance gate. Many interior changes have been made in the lodge and a 14 x 14 ft. kitchen was added to the south side in 1914. The lodge will be managed as a Category B historic building.

3. PUBLIC RESTROOMS - STORAGE - FURNACE ROOM - This elongated one-story, rectangular structure, 14 x 24 ft., is located south of the lodge and was built in 1929. As it is 55 years of age it qualifies as a potentially historic structure. The building is strictly utilitarian with no historic significance but will be managed as a Category B historic building. Its eligibility for treatment as a historic structure is yet to be determined.

4. BANDSTAND - The bandstand or Rostrum was constructed in 1877 of brick with granite floor. An iron frame supports in tin roof. The plan of the rostrum is octagonal, 15'7" across. In 1977 all mortar joints were cleaned and re-pointed. The bandstand will be maintained as a Category B historic building.

5. GARAGE - The garage was constructed at approximately the same time as the lodge, in the 1870's. Originally a carriage house and stable, it is rectangular in shape, 22 x 38 ft., 1-1/2 stories high, constructed of brick covered with stucco. Approximately 2/3 of the original dirt floor is covered by a concrete slab. The roof is of tin. The garage now functions as a maintenance shop and vehicle/material storage building. The building will be managed as a Category B historic building.

6. CEMETERY WALL - The brick wall was erected in 1876 as a permanent structure to replace an osage orange hedge around the perimeter of the cemetery grounds. It is 3,700 feet long and has but one opening adjacent to the lodge, on the west side, in which wrought iron gates are hung. During the favorable weather months of 1978-1980 the entire length of the wall was cleaned, repointed, had some bricks replaced and repaired in a low area where improper drainage had caused subsidence. As the wall has direct significance to the cemetery's historic scene, it will be managed as a Category A historic structure.

UNIT 3 - This unit known as the City Point Unit of Petersburg National Battlefield, lies within the City of Hopewell at the junction of the Appomattox and James Rivers. Virtually all structures standing within the City Point Unit authorized boundary are historic or qualify for consideration as historic buildings.

All existing buildings have been added to the List of Classified Structures (LCS).

1. BARN SITE - Located between Cedar Lane and the bluff of the Appomattox River, the site of the wooden horse barn built in the 1870's is well known. Although no physical evidence of a foundation remains, the site and appearance of the structure are documented by existing photographs. The barn was destroyed by fire in 1975. The site of the barn will be managed as a Category A historic building site.

2. GARAGE - This rectangular one-story structure approximately 40' x 20' is situated at the edge of the Appomattox River bluff line 150' southwest of the Manor House. There is a concrete floor with a concrete-lined ice storage area beneath the floor. The exact age of the building is not known but it is thought to have been built shortly after the turn of the 20th century. In 1980 some repairs were done on the roof and provisions for security from intrusion and fire have been made. The west wing of the Garage was removed in 1982. The Garage will be managed as a Category B historic building.

3. DETACHED KITCHEN/LAUNDRY - This building is the oldest intact structure located within the City Point Unit. Built prior to 1735 the detached kitchen probably served a house which predates the existing Manor House. Approximately 20 x 40 feet with outside brick chimneys and a brick foundation, the 1-1/2 story structure has two upstairs rooms which were used as living quarters by those who worked as servants in the kitchen. It is located approximately 30 ft. west of the Manor House.

In 1980, stabilization work was done on the detached kitchen. A new wood shingle roof was installed. A sagging fireplace opening was repaired and the deteriorating masonry work was repointed. The structure received two coats of paint. Some broken plaster was repaired in the living quarters. An intrusion and fire alarm system has been installed. More recent restoration work in 1990 revealed a portion of an (apparently) earlier foundation and root cellar. The exterior nature of the structure for which the remnant was a part has not yet been determined. The Detached Kitchen will be managed as a Category A historic building.

4. OLD SMOKE HOUSE - Of unknown age, the square, one-story structure, approximately 12 x 12 feet, is the one, in a row of three small outbuildings, which is the closest to the bluff. It is about 80 feet west of the house and has a wood roof and a dirt floor. The Old Smoke House will be managed as a Category A historic building.

5. NEW SMOKE HOUSE - Of unknown exact age, this structure was present during the Civil War period occupation of the Union Army and appears on the Army map made at that time. Approximately 15 x 15 feet square, the one-story building has smoke escape holes

drilled under the eaves and is covered by a wood shingle roof. The new smoke house will be managed as a Category A historic building.

6. DAIRY HOUSE - Built approximately the same time as the new Smoke House, the Dairy House is 12 x 12 feet square with a raised wooden floor and removable louvered panels under the eaves to control air circulation. It is one story high and was designed for storage of milk and dairy products. It has a wood shingle roof. The Dairy House will be managed as a Category A historic building.

7. MANOR HOUSE - This 1-1/2 story, wood frame, "U"-shaped structure has beaded clapboard siding, a wooden shingle roof and a masonry foundation and basement. The house was constructed in three main phases. The oldest section is the center section, which bears the date 1763 in a masonry chimney. The next section built was the east wing which is said to date to 1840. The last wing was added to the west side in 1912. The house now contains 21 rooms. The Eppes (Appomattox) Manor House will be managed as a Category A historic building.

8. SUMMER HOUSE SITE - Located approximately 150 feet northwest of the Manor House, a building known only as the "summer house" is shown as an "L"-shaped structure on the 1865 U.S. Army map of the area and it shows on other maps as well. There are no known photographs or drawings of the structure and no surface evidence of its location exists today.

Because of the possibility that some underground features still exist, the Summer House site will be managed as a Category A historic building.

9. GAZEBO - Built about the turn of the century, this structure is of rustic materials designed to withstand the weather. The floor plan is octagonal with a raised floor of tongue-and-groove flooring, high in the center and sloping slightly downward in all directions. The roof is tongue-and-groove sheeting covered with wood shingles. The supporting columns are eastern red cedar tree trunks. Decorative work with small cedar branches is found between the supporting posts under the eaves and from handrail height down to the floor.

In 1980 some sections of the roof sheeting was replaced in kind and the roof was re-shingled. New steps were added. The Gazebo was moved back from the bluff in 1984 and re-roofed in 1989.

The Gazebo will be managed as a Category B historic building.

10. GRANT'S CABIN - Built during the fall of 1864, Lt. Gen. U.S. Grant's winter quarters was one of the 19 log cabins built on the site of his headquarters. Replacing wall tents which were used earlier, the cabins were arranged in an elongated "U" shape with three cabins on either end and 13 cabins along the center row. Grant's Cabin was "T"-shaped with an office in front and sleeping

quarters in the back. A brick fireplace and chimney was located in the center of the structure. Construction was rustic but weather-tight with the walls built of logs set vertically in the ground, palisade fashion. A raised wooden floor kept dampness out and the roof was shingled. There were windows on two sides and the rear.

After the close of the Civil War, Grant's Cabin was Donated to the head of the U.S. Christian Commission who removed it from the Manor grounds and reassembled it on the grounds of Fairmount Park in Philadelphia, PA.

Recent studies of the cabin have shown that approximately 10% of the existing structure is original fabric. The cabin was donated to the National Park Service in 1981 and was reassembled on the original spot at City Point in 1983. Grant's Cabin will be managed as a Category A building.

11. NALDARA DUPLEX - This 2 1/2 story wood frame house was built in 1912 as a rental property by the Eppes family. Approximately 60 x 40 feet, the structure is divided in half by a center wall, and arranged for two-family occupancy. It has a brick, divided basement also. In 1980 work was done on the two furnaces and two coats of paint were applied to the clapboard outside of the house. This building now serves as employee quarters. In 1992 it was discovered that the structure contained a high concentration of leaded paint on the interior and exterior walls. The park is currently working with MARO to mitigate the problem. The Duplex will be managed as a Category B historic building.

On the west side of the detached kitchen there are the remains of a brick foundation. Additional archeological studies of this area are needed to ascertain the extent and history of the site.

Unit 4 - This unit, known as the Five Forks Unit of Petersburg National Battlefield, lies entirely within the County of Dinwiddie and contains 1,115 acres. There are no prominent structures within the unit today, but it does contain sites of 3 houses existing at the time of the battle there on April 1, 1865. There are 8 structures present now but not existing at the time of the battle, including 7 standing structures and one site where only a standing chimney remains.

1. VISITOR CONTACT STATION - Located at the northeast corner of the Five Forks junction, this structure has undergone several major alterations since its construction in the mid-1940's. It was originally constructed as a gas station/country store, was later converted to a hunt club building, and, under NPS ownership, refurbished in 1992 to its present status as a Visitor Contact Station. It will be managed as a Category C structure.

2. TENANT FARMHOUSE A - This 1-1/2 story woodframe structure sits in a large field approximately 1/4 mile from White Oak Road in

the northeast quadrant of the Five Forks junction. It was built before the turn of this century by the Gilliam family as a residence for farm workers on the estate. It was at some later date enlarged to almost double its original size. When acquired by NPS, it was in an advanced state of deterioration. There are no plans for any restorative work on the building, and it will be managed as a Category D structure.

3. TENANT FARMHOUSE B - This two-story woodframe structure approximately 150 feet from the intersection of White Oak Road and Dinwiddie Courthouse Road. It has been dated to the early 1920's, and was built by the Gilliam family for farm workers on the estate. Associated with this structure are small outbuildings used for the keeping of livestock. All buildings will be managed as Category D structures.

4. TENANT FARMHOUSE C - This structure is located in the northwest quadrant of the Five Forks junction, some 150 yards north of White Oak Road, approximately 1/2 mile west of the Five Forks intersection. This house was built by the Gilliam family for farm workers on the estate. It burned sometime prior to its acquisition by the NPS. The only remaining structures remaining at the site are the house chimney and accompanying outbuildings. It will be managed as a Category D structure.

5. TENANT FARMHOUSE D - Located approximately 100 yards north and 3/4 mile west of the Five Forks junction, this 1-1/2 story woodframe house was built by the Gilliam family for farm workers on the estate. It is now inhabited by a tenant with life tenure. Eventually, it is intended to be managed as a Category D Structure.

6. HAY BARN - This medium-sized hay/storage barn is located in the west half of the southwest quadrant of the Five Forks junction, approximately 200 yards from the road intersection. It is believed to have been constructed in the mid-1950's. Since it is a non-contributing structure standing within an important part of the battlefield, it is desirable that it be removed from the historic scene. It will be managed as a Category C Structure.

7. LOG CABIN - This building is located in the west half of the southwest quadrant, approximately 75 feet south of White Oak Road and 1/2 mile west of the Five Forks junction. The Log Cabin is owned by the seller of the battlefield lands and is presently occupied with a right of life tenure. When this agreement is terminated, disposition of the structure will be addressed. It will be managed as a Category C Structure.

8. TOBACCO BARN - This is a vernacular log structure used for the curing of tobacco grown on the estate. It was acquired with the property. It is in sound condition, but no immediate plans have been formed for adaptive use. It is located in the southern half of the southwest quadrant of the Five Forks junction, approximately 1/4 mile from the junction.

C. HISTORIC ROADS

As the area along the James and Appomattox Rivers had been settled by Europeans and occupied for over 250 years prior to the Civil War, travel routes from farm to farm throughout the counties and to major cities such as Petersburg and Richmond were well established and utilized by both Armies during the war. A large number of our present day highways follow the routes of the old roads and turnpikes. Some have been phased out completely. Those abandoned historic road traces which remain in the Battlefield will be managed on an individual basis.

1. JORDAN POINT ROAD - Originally this road ran from Jordan Point, the next prominent point along the southern shore of the James River east of City Point, to a junction with the Prince George Courthouse Road about three miles east of Petersburg. Approximately 1/4 mile of the road trace is within the boundaries of the Battlefield. A CCC project in the 1930's opened up the roadway section, clearing out trees, grading and paving with gravel. The road is at a standard which is passable to vehicles but is maintained as a part of the Battery 9-Meade Station circuit walking trail.

The Jordan Point Road will be maintained as an interpretive trail, unpaved, free of downed trees and blocked off at both ends to prohibit motor vehicle travel. It is in management Category A.

2. PRINCE GEORGE COURTHOUSE ROAD - A main road between the county seat of Prince George County and Petersburg. Approximately 1/2 mile of the original road is within the Battlefield. Part of the road runs from Meade Station to Stop 3 on the park tour road. Another section runs from Stop 5 on the tour road out of the park adjacent to Lee School. The section between Stops 3 and 5 has been incorporated into the tour road and paved. Leaving the park the old road becomes a city street known as Courthouse Road, and ends at East Washington Street on Va. Highway 36 within the city of Petersburg.

Along with the Jordan Point Road, this road was rehabilitated by CCC workers in the 1930's. It is now blocked off to vehicular traffic but maintained as an interpretive trail with wayside exhibits from Meade Station to Stop 3. The remaining section of road from Stop 5 to the boundary is blocked off to vehicles and is receiving basic maintenance (mowing/trail work). It is managed at the Category A level.

3. BAXTER ROAD - Also known as the SUSSEX ROAD and the NORFOLK STAGE ROAD, this road trace runs from the boundary just south of the park exit, east, generally parallel to the tour road until it crosses the Norfolk and Western railroad tracks. After crossing the tracks the road turns southeast becoming a park trail

in the vicinity of Union Battery 16 and exits the park next to the junction of Highway 109, (Hickory Hill Road) and U.S. 460.

All of the road trace except that portion which is incorporated into the park trail system has been allowed to revert to a natural state. The remaining portion is to be managed as a park hiking/biking trail at the Category A level.

D. WATER SYSTEMS - The park maintains five water systems. These systems are utilized for public and residential purposes. The public system (drilled wells) are located at Fort Stedman, Crater and Poplar Grove National Cemetery. A drilled well, at Quarters 32, is the only residential system still being used. All other former residential systems have been phased out and replaced by municipal systems. A drilled well hand pump is used at Stop 3 for interpretive use during the summer seasons only. There is also a drilled well at Quarters 44 that is used strictly for non-drinking purposes. These systems are managed in accordance with NPS Staff Directive 76-9.

E. SEWAGE SYSTEM - The park maintains four sewage systems (septic tanks) at present. These are still necessary for park operations and are located at Poplar Grove National Cemetery, Operations building, City Point Manor and Quarters 32. The remaining park operations requiring sewage treatment are connected to the municipal system.

F. PONDS - The park has a small pond located on a tributary of Harrison Creek, at Soldiers Springs. It has a surface area of approximately one acre. Date of construction of this earthen dam has not been determined. The dam has been inspected by professional engineers. Located on the southern edge of the pond is historic Soldiers Springs, this lake is not open to the public as it is located in the backyard of Quarter's # 32. Being less than 50 years old, it is not believed eligible for treatment as a historic structure. The dam is scheduled for removal.

G. STREAMS - There are a number of small streams entering or rising within the park's Main Unit; however, only two are of any significance. These streams are Harrison's and Poore Creeks. Harrison's Creek begins outside the park on the southside and flows north through the central section, finally emptying into the Appomattox River. Average width is approximately six feet. This stream played a significant role in the early days of the Petersburg Campaign. During the initial attack in June 1864, southern troops were driven from the eastern defense lines by the attacking Union forces and forced to retreat westward to Harrison's Creek. At the creek, they dug in until a new line of defense could be constructed near Poore Creek.

Poore Creek begins outside the park, enters south of the Crater, winds northeasterly, leaving the park northwest of Colquitt's Salient. It continues northward to the Appomattox River.

Averaging approximately twelve feet in width, this stream was located about midway between the opposing armies during the siege. Elliott's Salient (The Crater) is located just north and west of the creek while Fort Morton site is situated south and east.

A sewage pump station owned and operated by the City of Petersburg has occasionally had malfunctions, dumping raw sewage into Poore Creek. The park developed a stream monitoring program designed to identify sewage spills. Since its inception, a number of otherwise un-reported spills have been detected and the proper authorities notified. Pending municipal funding, The City of Petersburg plans to upgrade the system which, when in place, should reduce the frequency of sewage spills.

These two historic streams have been altered through the years, but to what extent is unknown. During the past 20 years, several major highways, commercial businesses and housing have been constructed around the park boundary. In this construction boom, water run-off and siltation have dramatically increased and with it have come some alteration of Poore Creek. The City of Petersburg continues its construction program south of the unit.

H. RIVERS - The City Point Unit has a common boundary on the James and Appomattox Rivers. Significant shoreline erosion has jeopardized the bluff area at City Point. To reduce erosion, a 1500 foot long breakwater was constructed in 1990 at the junction of the two rivers. A shoreline protection study to protect the proposed waterfront development was completed by the Corps of Engineers in 1991. The plan calls for a sheet pile bulkhead with an extensive tie back system to secure the shoreline of the newly acquired James River waterfront. Compliance will be required with NEPA, Section 106 of the National Historic Preservation Act, the Rivers and Harbors Act of 1899, and provisions of the Chesapeake Bay Preservation Act.

I. A Development Concept Plan (DCP) for the City Point Unit was completed in 1992. The Management objectives are as follows:

1. To commemorate and interpret the logistical and supply operations supporting the Union armies and Grant's command headquarters during 1864-65.
2. To interpret land use history as a means of providing the visitor with an understanding of the broader historical context for City Point.
3. To preserve the landscape elements of the Bluff area that reflect City Point's land use history up until the last Eppes family member occupied the grounds.
4. To develop the waterfront in such a manner as to enable visitors to better understand City Point's pivotal role in supporting the Union armies.

CULTURAL CONTEXT/THEME

Petersburg National Battlefield's cultural resources are represented in the NPS Thematic Framework, as follows:

I. Peopling Places

As evidenced by their implements found on-site, human beings have inhabited the shores of the rivers of eastern North America for at least 8,000 years. Various projectile points from the archaic period have been recovered and documented in the City Point Unit. The greatest concentration of artifacts from the period have been found on the northwest quadrant of the point of the bluff at the junction of the Appomattox and James Rivers.

Artifacts of the Woodland period are abundant in the City Point Unit as well as all other units of the Battlefield. Projectile points and pottery are documented.

The earliest English settlements in North America, along the James River, came under an extremely well coordinated simultaneous attack in 1622 which wiped out some settlements and seriously threatened others. This was the only major Indian uprising in the area.

City Point was one of the first points of contact between English settlers and indigenous American peoples. In 1635, Francis Eppes received a land grant of 1700 acres from the government of England, the foundation of the Eppes agricultural empire that would expand for several generations. Eppes acquired the land by paying for the passage of poor English people to Virginia who would work for the Eppes family as indentured servants.

These servants would gradually be replaced by African slaves by the mid-17th century. Descendants of Francis Eppes owned the land for 344 years, until it was acquired by the U.S. Government in 1979.

During the European-American occupation of the lands around Petersburg, the agricultural-based economy was much the same as found on the James River plantations. Similar crops were grown, some families owned slaves, and prior to the Civil War, the economy prospered.

II. Creating Social Institutions and Movements

Not applicable

III. Expressing Cultural Values

The transplanted Englishmen who originally settled City Point in the 17th century brought with them their Anglo-Saxon culture. A diary kept by Richard Eppes contains a wealth of information on 19th century plantation culture, including the operation of a plantation, agriculture, slavery, architecture, and formal gardens.

Ancestors of African-Americans, brought as slaves to the American colonies, retained certain aspects of their African culture, but gradually were forced by their owners to assimilate into a European culture.

IV. Shaping the Political Landscape

In the final stages of the Revolutionary war in 1781, a British army passed through the area and a fleet of British ships came up the James River, firing on the Eppes estate in the process. A land battle was fought at Petersburg in April 1781 and the armies eventually moved to Yorktown, Virginia, where the final major action of the war was fought and the surrender of the British army took place. With the independence of the colonies assured, a strong federal government was established, which became the foundation of the modern American democratic political system.

The principal theme of Petersburg National Battlefield is the last year of Civil War. Although not the scene of active fighting until the last year of the war, the Petersburg campaign lasted nine and one half months and pitted the largest northern and southern armies together throughout the whole of that time. The logistical and supply operation, communication system and hospital system of the Union army were the largest and best of the war. The end of this campaign led to the surrender of the Army of Northern Virginia and the end of the war, which settled the controversy of the power of the state versus the federal government.

V. Developing the American Economy

The Eppes family, after becoming established at City Point, became large landholders with much acreage in labor-intensive crops. Maintenance of a large slave holding was required under the system to work the land, so that at the time of the Civil War a population of 130 slaves inhabited the plantation. The Civil War ended the slave system and prompted the gradual development of modern mechanized agriculture and diversity of crops. The sale of the Eppes family Hopewell farm to the Dupont family, who in turn built the world's largest gun cotton factory prior to World War I, was the beginning of the industrial era in the Hopewell area.

VI. Expanding Science and Technology

Not applicable

VII. Transforming the Environment

Not applicable

VIII. Changing Role of the United States in the World Community

Not applicable

RESOURCE MANAGEMENT PROGRAM

Overview of Current Program and Needs

Natural Resources

The natural resource management program at Petersburg National Battlefield is based upon legal mandates of the NPS Organic Act, Redwoods Act Amendment of 1978, the enabling legislation and other regulatory legislation.

The entire park (excluding the developed zones) is zoned "Historic." No "Natural" zone exists. However, the aforementioned mandates and the need to protect cultural resources requires that a substantial and active natural resource program be implemented at PETE.

The natural resource management goals of Petersburg National Battlefield are as follows:

- To maintain a viable program which provides sound information and alternatives pertaining to natural resources that will assist in the development and implementation of management strategies.
- To conduct long term monitoring of the resource in order to detect changes or potential problems.
- To maintain a professional staff qualified to address and implement the requirements of the legal mandates imposed by legislation.
- To manage the natural resources in a manner that complements and protects the cultural resources and historic scene.

The natural resource management program functions as a Branch of the Resource Management and Visitor Protection Division. The resource management staff has grown in the past few years. Prior to 1988 the resource management responsibilities were performed by various Law Enforcement Rangers as a collateral duty. At present, resource management duties are shared by a GS-401-11 Resource Management Specialist, a GS-401-9 Resource Management Specialist, a GS-401-7 General Biologist, Student Conservation Association volunteers, CO-OP students and occasional assistance from the law enforcement and maintenance staffs. In addition, a substantial volume of work has been completed under contract (floral surveys, Forest Management Plan), and this avenue will continue to be used as is necessary and as funding is available.

As the program has grown in scope and complexity, the need for additional FTE's has become an issue. GIS plays an increasing role in park planning and management, and has substantially

increased the Resource Management Branch's workload. The system now includes a 486DX computer, digitizing board, color plotter, color printer, Global Position System, and associated ATLAS GIS software.

The Resource Management Branch's staffing and budget levels are adequate to complete the Battlefield's routine monitoring program as it is currently structured. The Resource Management Plan calls for a number of projects designed to meet several System-wide Natural Resource Issues. Park Base funds are not adequate to cover the additional costs that would be necessary to undertake many of these projects and, therefore, some will not be initiated without funding from Regional Base, Fee Revenue, NRPP or other sources.

Critical to the assessment of resource problems is the development of good baseline data (Resource Issue N-20). This process was initiated at PETE with a partial floral inventory completed in 1990 and the beginning of a three year Forest Management Planning process in 1992. The GIS digital database includes a full range of baseline data, with new data continually being digitized for inclusion into the system. The park is lacking information pertaining to fauna and flora (N-02), air quality (N-14), alien species (N-05), and adjacent land issues (N-16). The Resource Management Plan project statements address these areas of concern and develop methods and timetables to increase the park's resource database.

Resource Monitoring is an important component of the resource management program at Petersburg. The program includes monitoring stream water quality, flow and channelization parameters (N-11), fire weather (N-07), potable water systems, gypsy moth (N-04), acid rain, deer population trends (N-01), and earthwork conditions (N-08).

NPS policy and guidelines mandate that wherever feasible, generalized environmental monitoring to assess subtle changes over time should be performed. To this end, the Forest Management Plan's fieldwork will design and develop long-term monitoring plots throughout the park (N-20). The need for long term air quality monitoring is addressed in the project statement section of the RMP. The use of GPS technology to accurately locate and monitor earthworks and other physical features will likely be an integral part of any monitoring activity.

Implementation of the Earthworks Landscape Management Action Plan is a high priority and critical to the protection of these resources. Park Base funds have been used when available for emergency crisis management (tree removal, severe erosion control). However, to fully implement the program, alternative funding sources must be found. Cyclic Maintenance funds were used in 1992, 1993, and 1994 to implement the Action Plan at Battery Five, Fort Wadsworth, and Confederate Ft. Gregg. The Battlefield plans to pursue additional funds in FY 95 and beyond to continue the

project.

The General Management Planning process was begun in 1992. A completed plan is anticipated in 1997. Many concerns expressed as project statements (Landscape Plans for City Point and Poplar Grove, Earthwork Management) will be identified as priority goals for the Battlefield and as such should merit a higher level of consideration for Regional project funding in future years.

The following project statements reflect the prioritization of the currently unfunded needs identified within the plan. These priorities may be re-evaluated and changed as Management priorities evolve. Projects that fail to secure funding will be deferred until adequate funding becomes available.

CULTURAL RESOURCES

The primary responsibility for Cultural Resource Management lies with the Resource Management branch of the Resource Management and Visitor Protection Division. A GS-401-11 Resource Management Specialist, a GS-401-9 Resource Management Specialist, and a GS-401-7 General Biologist comprise the Branch for a total of 3 FTEs. In addition, one permanent GS-025 and three permanent GS-170's share resource management duties associated with the park museum collection, i.e. military artifacts, weapons, cloth and paper goods and various house furnishings. Approximately 10-15% of their time is spent caring for, inventorying, securing, acquiring and providing for study by the public of these resources for a total of approximately .4 FTEs.

The funding for the Cultural Resource Management Program at Petersburg National Battlefield is obtained from four sources: Park Base Cultural Resources; Park Base Other; Cultural Cyclic and Fee Revenues. The Park Base Cultural Resource and Other funds provide for fixed personnel costs and limited project support/program administration costs. Were it not for Cyclic funding, the Cultural Resource Management Program would not be able to accomplish some significant projects.

Currently, all units of the park are on the National Register of Historic Places, but documentation is incomplete. Draft documentation for the City Point Unit has been completed and submitted. The results of Regional review have not been received to date. Documentation of all other units will be held in abeyance until the City Point document has been critiqued.

Each unit of the Battlefield receives its own pattern of usage. By a large margin, the Main Unit experiences the greatest visitation, variety of uses, vandalism, relic hunting and other adverse use. Extensive earthworks of both the Civil War and World War I are the principal cultural resources requiring vigilance and active management efforts to protect. A current Earthworks Management

Manual and Earthworks Landscape Management Action Plan document recent studies on earthwork protection and prescribe management of vegetative cover. Projects to remove trees from earthworks and establish a turf groundcover have begun in two locations and work will continue as funding is available. Paved trails leading to and passing through fortifications have helped to minimize foot traffic over the most heavily visited earthen features.

Illegal relic hunting activity is a continuing problem at Petersburg. Archeological Resource Protection Act funding has made possible additional law enforcement coverage for night patrols and investigative functions. Continuation of this funding is vital to the program. An Archeological Overview and Assessment is needed for the Main Unit. Unidentified house sites, mapping of all earthworks using ground surveys, aerial photos and global positioning techniques should be a high priority cultural resource project for all park units. The capabilities of the parkwide Geographic Information System, which is recently on line, will enhance both cultural and natural resource management efforts.

At the City Point Unit, historic structures in need of stabilization and restoration work are the primary areas of concern. They have, and will continue to require substantial cyclic funding. Projects most pressing are associated with the structures "Bonaccord" and Appomattox Manor. The entire interior of "Bonaccord" will require refurbishing. Due to the age of the structure, lead abatement treatment will be required throughout the interior and exterior of the structure.

Appomattox Manor, a much older structure, is used adequately as a Visitor Center/Visitor Contact Station, exhibit area and office. Better environmental controls, specifically room air conditioners and a natural gas furnace, have been recently added to protect historic furnishings and to provide visitor comfort throughout the year. Equipment was specifically selected that would minimize any effects on the historic fabric of the structure. A central sprinkler system for fire protection should be included in future planning efforts.

The nearby dependencies--kitchen, garage, laundry, dairy and smokehouses--are in fair condition but will require additional work before they come under a program of adaptive use.

At the Five Forks Unit, preliminary work on a Forest Management Plan has been done. The FMP is a critical document at this early stage of Five Forks development as the majority of forested land is young second growth and at the most manipulable stage. Long range plans call for restoration of the pattern of forest and open field throughout the battlefield to display it as it existed on April 1, 1865. Extensive documentation gathered during the G. K. Warren hearings in 1881 provide excellent descriptions and maps from which baseline information may be obtained.

Agricultural permits have been issued to maintain open fields. Prohibitions on the use of pesticides limit the types of crops which can be grown using the customary local techniques. At the present time, hay production is a successful alternative to more pesticide-intensive crops such as tobacco, corn and soybeans.

Interpretive plans call for wayside exhibits at five different locations along the roads within the unit. All will require some site preparation, but new pull-offs, with proper sight distance, etc., and meeting State highway standards, must be constructed for at least four of them. A preliminary archeological survey was completed which revealed no known subterranean features. When pull-off construction is underway, close supervision by qualified archeologists will be necessary to assure that no loss of artifacts occurs.

In all units of the Battlefield, vigilance will be required to prevent future degradation of the resources. The park Land Protection Plan must be updated to include the Five Forks Unit. The more urbanized Main Unit and Long Flank Units are perhaps the most vulnerable to adjacent development. Good community relations and awareness of proposed plans early in the developmental stage are the best protection for those sites.

TABLE 1
NPS RESOURCE PERSONNEL
FY 95

PARK: PETE
REGION: MARO

TYPE OF NPS EMPLOYEE	FTEs OF RESOURCES WORK		
	Natural	Cultural	Total
Research Scientists	0.0	0.0	0.0
Resources Specialists	1.5	1.5	3.0
025 Park Rangers Res Mgmt	0.0	0.0	0.0
025 Park Rangers Res Prot	1.0	1.0	2.0
025 Park Rangers Res Interp	0.0	0.1	0.1
Maintenance Personnel	2.0	2.0	4.0
Total of RES Personnel	4.5	4.6	9.1
TOTAL PARK FTE: 40.0			
PERCENT	11.2%	11.5%	22.7%
End of data			

TABLE 2

NATURAL AND CULTURAL
CURRENT YEAR FUNDING
(\$ in thousands - by activity type)

FY: 95
PARK: PETE
REGION: MARO

FUNDING SOURCE	TOTAL	RES	MIT	MON	PRO	INT	ADM
SCRP	20.00	0.00	0.00	0.00	0.00	0.00	20.00
POF1	12.00	0.00	0.00	0.00	12.00	0.00	0.00
RMCM	20.00	0.00	20.00	0.00	0.00	0.00	0.00
RNRM	27.40	27.40	0.00	0.00	0.00	0.00	0.00
PRN2	5.00	5.00	0.00	0.00	0.00	0.00	0.00
TOTAL	84.40	32.40	20.00	0.00	12.00	0.00	20.00

End of data

PROGRAMMING SHEET 1

CULTURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)FY: 95
PARK: PETE
REGION: NARO

PROJECT NUMBER	PROJECT TITLE	PKG NUM	CULT RES	SYSTEM WIDE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995	OUTYEAR 1 1996	OUTYEAR 2 1997	OUTYEAR 3 1998	TOTAL
			TYPE	ISSUE			\$\$ PTE	\$\$ PTE	\$\$ PTE	\$\$ PTE	\$\$ PTE
001.000	COMPUTERIZATION OF MUSEUM		OBJC	C03	C09 CRPP	ADM	20.00	0.0			20.00 0.0
002.000	COLLECTION MANAGEMENT, CITY POINT UNIT		COMB	C09	C12 No data						
003.000	PROVIDE STORAGE FOR WAYSIDE EXHIBIT PAINTINGS		OBJC	C16	No data						
004.000	SURVEY AND CATALOG WWI SURVEY TRAINING TRENCHES		COMB	C01	C02 No data						
005.000	CONDUCT ARCHEOLOGICAL RESOURCE PROTECTION PATROLS		COMB	C12	C18 No data						
006.000	NATIONAL REGISTER DOCUMENTATION		COMB	C01	No data						
6 projects printed							Grand Total	20.00	0.0	0.00 0.0	0.00 0.0

End of data

PROGRAMMING SHEET 1
 NATURAL and CULTURAL
 CURRENT YEAR FUNDED ACTIVITIES
 (\$ in thousands)

FY: 95
 PARK: PETE
 REGION: MARO

PROJECT NUMBER	PROJECT TITLE	PRG	CULT	SYSTEM	FUNDING	ACT	CURRENT YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL
		NUM	RES	WIDE	SOURCE	TYP	1995	1996	1997	1998	
			TYPE	ISSUE			\$\$ PTE	\$\$ PTE	\$\$ PTE	\$\$ PTE	\$\$ PTE
001.000	DEVELOP PARK GEOGRAPHIC INFORMATION SYSTEM				N20	No data					
002.000	ADJACENT LANDS STUDY				N06 N20	No data					
2 projects printed							Grand Total	0.00	0.0	0.00	0.0
								0.0	0.0	0.00	0.0

End of data

PROGRAMMING SHEET 1

NATURAL
CURRENT YEAR FUNDED ACTIVITIES
(\$ in thousands)

FY: 95
PARK: PETE
REGION: MARO

PROJECT NUMBER	PROJECT TITLE	PRG NUM	CULT RES	SYSTEM WIDE	FUNDING SOURCE	ACT TYP	CURRENT YEAR 1995	OUTYEAR 1 1996	OUTYEAR 2 1997	OUTYEAR 3 1998	TOTAL						
							\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE	\$ \$ FTE					
001.000	AIR QUALITY MONITORING				N14 N20 No data												
002.000	DEVELOP CULTURAL LANDSCAPE REPORT FOR CITY POINT		COMB	N08	C11 PKBASE-OT PRO		12.00	0.3	12.00	0.4	12.00	0.4	48.00	1.5			
003.000	EARTHWORK VEGETATION MANAGEMENT		COMB	N08	RG-REG-MT MIT		20.00	0.0	20.00	0.0	20.00	0.0	80.00	0.0			
004.000	MONITOR EXTERNAL EFFECTS ON PARK STREAMS				N11 N20 No data												
005.000	FLORA AND FAUNA INVENTORY (INCLUDING R.T.&E)				N03 N20 No data												
006.000	FIRE MANAGEMENT PLAN				N07 No data												
007.000	HAZARD TREE MANAGEMENT PROGRAM				N06 N22 No data												
008.000	PUBLIC DRINKING WATER QUALITY				N11 No data												
009.000	DEVELOP CULTURAL LANDSCAPE REPORT FOR POPLAR GROVE				CULL N08 C11 No data												
010.000	INTEGRATED PEST MANAGEMENT				N04 N05 No data												
011.000	FOREST MANAGEMENT PLAN		N20	N08	RG-RM-NAT TEMPS-NR	RES	27.40	0.0	0.00	0.0	0.00	0.0	0.00	0.0	27.40	0.0	
							5.00	0.0	0.00	0.0	0.00	0.0	0.00	0.0	5.00	0.0	
					Subtotal		32.40	0.0	0.00	0.00	0.00	0.0	0.00	0.0	32.40	0.0	
012.000	INVENTORY WETLANDS FLOODPLAINS				CULL N20 N06 No data												
12 projects printed							Grand Total	64.40	0.3	32.00	0.4	32.00	0.4	32.00	0.0	160.40	1.5

End of data

PROGRAMMING SHEET 2

CULTURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

FY: 95
PARK: PETE
REGION: MARO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM-	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL						
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP											
				TYPE	ISSUE			\$	\$	\$	\$	\$						
								PTE	PTE	PTE	PTE	PTE						
1	005.000	CONDUCT ARCHAEOLOGICAL RESOURCE PROTECTION PATROLS		COMB	C12	C18	PKBASE-NR CRPP	PRO	5.00 0.0	0.0 0.0	0.0 0.0	0.0 0.0	5.00 0.0	0.0 0.0	10.00 0.0	0.0 0.0		
							Subtotal		5.00	0.0	5.00	0.0	5.00	0.0	15.00	0.0		
2	002.000	COLLECTION MANAGEMENT, CITY POINT UNIT		COMB	C09	C12	TEMP5-CR	PRO	0.0	0.0	5.00	0.0	0.0	0.0	0.0	0.0		
3	004.000	SURVEY AND CATALOG WWI TRAINING TRENCHES		COMB	C01	C02	FED-OTHER CRPP	PRO	25.00 0.0	0.0 0.0	0.0 20.00	0.0 0.0	0.0 0.0	0.0 0.0	25.00 20.00	0.0 0.0		
							Subtotal		25.00	0.0	20.00	0.0	0.00	0.0	45.00	0.0		
4	003.000	PROVIDE STORAGE FOR WAYSIDE EXHIBIT PAINTINGS		OBJC	C16		RG-CR-MTN	PRO	6.00	0.0	5.00	0.0	0.0	0.0	11.00	0.0		
5	001.000	COMPUTERIZAT- ION OF MUSEUM RECORDS		OBJC	C03	C09	CRPP	ADM	0.00	0.0	10.00	0.0	10.00	0.0	20.00	0.0		
8	006.000	NATIONAL REGISTER DOCUMENTATION		COMB	C01		TEMP5-CR RG-RM-NAT	PRO PRO	5.00 5.00	0.0 0.0	5.00 0.0	0.0 0.0	0.0 0.0	0.0 0.0	10.00 10.00	0.0 0.0		
							Subtotal		10.00	0.0	10.00	0.0	0.00	0.0	20.00	0.0		
6 projects printed									Grand Total									
									46.00	0.0	55.00	0.0	15.00	0.0	0.00	0.0	116.00	0.0

End of data

PROGRAMMING SHEET 2

NATURAL and CULTURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

FY: 95
PARK: PETE
REGION: MARO

PK	PROJECT	PROJECT TITL	PRG	CULT	SYSTEM	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL			
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP								
				TYPE	ISSUE			\$\$	PTE	\$\$	PTE	\$\$	PTE		
1	001.000	DEVELOP PARK GEOGRAPHIC INFORMATION SYSTEM		N20		GIS	RES	20.00	0.0	10.00	0.0	5.00	0.0		
						PKBASE-NR	RES	5.00	0.0	5.00	0.0	0.00	0.0		
						Subtotal		25.00	0.0	15.00	0.0	5.00	0.0		
2	002.000	ADJACENT LANDS STUDY		N06 N20		RG-CR-MTN	ADM	0.0	0.0	10.00	0.0	10.00	0.0		
						RG-NS-RES	ADM	0.0	0.0	15.00	0.0	0.0	0.0		
						RG-RM-NAT	ADM	0.0	0.0	0.0	0.0	10.00	0.0		
						Subtotal		0.00	0.0	25.00	0.0	20.00	0.0		
2 projects printed															
Grand Total								25.00	0.0	40.00	0.0	25.00	0.0	95.00	0.0

End of data

PROGRAMMING SHEET 2

NATURAL
UNFUNDED ACTIVITIES
(\$ in thousands)

FY: 95
PARK: PETE
REGION: MARO

PK	PROJECT	PROJECT TITL	PKG	CULT	SYSTEM	FUNDING	ACT	STARTING YEAR	OUTYEAR 1	OUTYEAR 2	OUTYEAR 3	TOTAL			
PRI	NUMBER		NUM	RES	WIDE	SOURCE	TYP								
				TYPE	ISSUE			\$	PTE	\$	PTE	\$	PTE		
1	008.000	PUBLIC DRINKING WATER QUALITY		N11		PKBASE-OT ADM		2.00	0.0	2.00	0.0	3.00	0.0	9.50	0.0
2	007.000	HAZARD TREE MANAGEMENT PROGRAM		N06	N22	PKBASE-NR PRO		5.00	0.0	0.00	0.0	5.00	0.0	10.00	0.0
						RG-RM-NAT PRO		0.00	0.0	10.00	0.0	0.00	0.0	20.00	0.0
						Subtotal		5.00	0.0	10.0	0.0	5.00	0.0	30.00	0.0
3	003.000	EARTHWORK VEGETATION MANAGEMENT		COMB	N08	RG-CR-MTN MIT		30.00	0.0	30.00	0.0	30.00	0.0	120.00	0.0
4	004.000	MONITOR EXTERNAL EFFECTS ON PARK STREAMS		N11	N20	PKBASE-NR MIT		1.60	0.0	1.60	0.0	1.60	0.0	6.40	0.0
						WATER-RES ADM		34.00	0.0	30.00	0.0	29.00	0.0	93.00	0.0
						Subtotal		35.60	0.0	31.60	0.0	30.60	0.0	99.40	0.0
5	011.000	FOREST MANAGEMENT PLAN		N20	N08	RG-RM-NAT RES		0.00	0.0	25.00	0.0	25.00	0.0	50.00	0.0
						RG-CR-MTN MIT		0.00	0.0	0.00	0.0	0.00	0.0	25.00	0.0
						RG-NS-RES MIT		0.00	0.0	0.00	0.0	35.00	0.0	35.00	0.0
						Subtotal		0.00	0.0	25.00	0.0	25.00	0.0	110.00	0.0
5	012.000	INVENTORY WETLANDS/ FLOODPLAINS		CULL	N20	N06	WATER-RES PRO	20.00	0.0	15.00	0.0	0.0	0.0	35.00	0.0
6	005.000	FLORA AND FAUNA INVENTORY (INCLUDING R.T.#E)		N03	N20	NR-I&M MON		10.00	0.0	10.00	0.0	0.0	0.0	20.00	0.0
						PKBASE-NR RES		5.00	0.0	0.00	0.0	0.0	0.0	5.00	0.0
						Subtotal		10.00	0.0	10.0	0.0	0.0	0.0	25.00	0.0
7	006.000	FIRE MANAGEMENT PLAN		N07		TEMP5-NR ADM		1.00	0.0	0.00	0.0	0.50	0.0	2.00	0.0
						PKBASE-OT ADM		0.00	0.0	1.00	0.0	0.00	0.0	1.00	0.0
						Subtotal		1.00	0.0	1.0	0.0	0.50	0.0	3.00	0.0
8	010.000	INTEGRATED PEST MANAGEMENT		N04	N05	PKBASE-OT MIT		3.00	0.0	3.00	0.0	3.00	0.0	12.00	0.0
9	002.000	DEVELOP CULTURAL LANDSCAPE REPORT FOR CITY POINT.		COMB	N08	C11	RG-CR-MTN ADM	0.0	0.0	10.00	0.0	0.00	0.0	10.00	0.0
						RG-CR-MTN MIT		0.0	0.0	45.00	0.0	25.00	0.0	95.00	0.0
						Subtotal		0.00	0.0	55.00	0.0	25.00	0.0	105.00	0.0
10	009.000	DEVELOP CULTURAL LANDSCAPE REPORT FOR POPLAR GROVE		CULL	N08	C11	RG-CR-MTN ADM	10.00	0.0	0.0	0.0	0.0	0.0	35.00	0.0
11	001.000	AIR QUALITY MONITORING		N14	N20	RG-NS-RES RES		2.00	0.0	0.00	0.0	0.00	0.0	2.00	0.0
						AIR-QUAL RES		0.00	0.0	10.00	0.0	0.00	0.0	10.00	0.0
						RG-NS-RES MON		0.00	0.0	5.00	0.0	5.00	0.0	10.00	0.0
						PKBASE-NR MON		0.00	0.0	0.00	0.0	2.00	0.0	7.00	0.0
						Subtotal		2.00	0.0	15.00	0.0	7.00	0.0	29.00	0.0
	12 projects printed					Grand Total		118.60	0.0	202.60	0.0	129.00	0.0	612.90	0.0

End of data

PROJECT STATEMENT SHEET

PETE-C-001.000

PS Page: 0001

PROJECT NUMBER: PETE-C-001.000

TITLE: COMPUTERIZATION OF MUSEUM RECORDS

FUNDING STATUS: FUNDED: 20.00 UNFUNDED: 20.00

SERVICEWIDE ISSUES: C03 MUS CATALOGING C09 NEED COLL MGMT

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The Museum Catalog records for Petersburg National Battlefield are not computerized. The records kept in the park are the Accession book and the blue working copies of the catalog cards. The original white cards are held in the National Park Service repository in Harpers Ferry, West Virginia. Although this record keeping method is accurate and permanent, it lacks modern applications such as sorting for certain categories of artifacts, for artifacts acquired from a certain source, for items of a certain monetary value, etc. A program exists which is adapted to this purpose and can be acquired and used on a park P.C. Long hours of accurate, detailed data entry will be required.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Once funded, the park will purchase the appropriate database program to complete the project. A seasonal skilled in data entry or a contract employee will be hired to input the data required to produce a fully accessible catalog record. Permanent park staff will need to be trained to use the system.

BUDGET AND FTEs:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	CRPP	ADM	20.00	0.0
Year 2:				
Year 3:				
Year 4:				
Total:			20.00	0.0
-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-C-001.000
PS Page: 0002

Year 1:	CRPP	ADM	0.00	0.0
Year 2:	CRPP	ADM	10.00	0.0
Year 3:	CRPP	ADM	10.00	0.0
Year 4:				

Total:			20.00	0.0
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(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 B(2)

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-C-002.000

PS Page: 0003

PROJECT NUMBER: PETE-C-002.000

TITLE: COLLECTION MANAGEMENT, CITY POINT UNIT.

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 5.00

SERVICEWIDE ISSUES: C09 NEED COLL MGMT C12 PRESERVE MGMT

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The museum collection items having City Point provenience are stored in various locations in Appomattox Manor. There are two furnished rooms on exhibit to the public. Environmental controls are satisfactory in these areas.

Additional furniture is stored on the second floor without benefit of heat in the winter or air conditioning in the summer.

Artifacts from archeological digs within the unit are stored in Hollinger Boxes on metal shelves in a secure room in the basement. Although temperatures are fairly constant, high humidity during summer months is difficult to regulate.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

To adequately preserve the museum collection, it is critical that the park establish a secure storage area at Appomattox Manor and provide for proper environmental controls which will allow long term storage without degradation of the objects.

A dehumidifier with sufficient capacity to operate continually in the basement storage area should be acquired. A system would be selected which would minimize any impact on the historic fabric of the structure.

BUDGET AND FTEs:

	Source	Act	Type	Budget (\$1000s)	FTEs
Year 1:					
Year 2:					
Year 3:					
Year 4:					

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-C-002.000

PS Page: 0004

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Total:	0.00	0.0
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-----UNFUNDED-----

	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:	TEMP\$-CR	PRO	5.00	0.0
Year 3:				
Year 4:				

=====

Total:	5.00	0.0
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(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-C-003.000

PS Page: 0005

PROJECT NUMBER: PETE-C-003.000

TITLE: PROVIDE STORAGE FOR WAYSIDE EXHIBIT PAINTINGS.

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 11.00

SERVICEWIDE ISSUES: C16 MUS STORAGE

CULTURAL RESOURCE TYPE CODE: OBJC

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Petersburg National Battlefield owns six large (4'x 8') original paintings by artist Sidney King, which were commissioned for the purpose of using them as wayside exhibits. The present day policy of curatorial specialists is to retire these paintings from service and the natural elements and replace them with smaller copies that are easily reproduced.

It is felt that Mr. King's status as an artist is such that his original works should be considered museum objects and accorded the protection customarily given paintings in storage. Because of the sheer size of the works and the fact that the paintings are on several different surfaces nailed to plywood, special handling will be required.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

It has been determined that funding should be sought to preserve and store the paintings. The specialized expertise required to design a storage area, supporting structures for the paintings and environmental controls will necessitate securing the services of a qualified conservation consultant. Recommendations should be implemented either on contract or by qualified park staff. Provision must be made to monitor the condition of the paintings on a regular cyclic basis.

BUDGET AND FTEs:

	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-C-003.000

PS Page: 0006

Total:	0.00	0.0
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-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	RG-CR-MTN	PRO	6.00	0.0
Year 2:	RG-CR-MTN	PRO	5.00	0.0
Year 3:				
Year 4:				

Total:	11.00	0.0
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(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-C-004.000

PS Page: 0007

PROJECT NUMBER: PETE-C-004.000

TITLE: SURVEY AND CATALOG WWI TRAINING TRENCHES.

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 45.00

SERVICEWIDE ISSUES: C01 INADEQUATE DOC C02 INADEQUATE INV

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

In 1916 the US Army established Camp Lee (now known as Ft. Lee), a training facility necessitated by world events which foreshadowed America's entry into World War I.

In 1917, training trenches were dug in various places throughout Camp Lee, in some areas adjacent to or even superimposed upon Civil War earthworks. These trenches and tunnels have never been surveyed or mapped. We do not know the arrangement, extent, location or construction details of the trenches.

These artifacts are now over seventy-five years old. A military historian at Fort Lee, knowledgeable on the subject, has made the statement that these training trenches, together with others located within Fort Lee, may be the only WWI training trenches remaining anywhere in the country.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

As these WWI training trenches are rare and possibly unique to the park and Fort Lee, the park has determined that funding be sought to complete a comprehensive survey of the resources. The survey would be a joint project with Fort Lee.

The project would include a historic documents/records search, surveying, photography, and mapping of the trenches. Surveying would be by means of a ground survey and Global Positioning System (GPS), in a format which will allow data entry into the park Geographic Information System (GIS).

When the extent and overall condition of the trenches is determined, steps will be taken to evaluate their National Register Status. Resources management and interpretive strategies may be developed in the the future.

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BUDGET AND FTEs:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
Total:			0.00	0.0

-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	FED-OTHER	PRO	25.00	0.0
Year 2:	CRPP	PRO	20.00	0.0
Year 3:				
Year 4:				
Total:			45.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION: SECTION 110

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-C-005.000

PS Page: 0009

PROJECT NUMBER: PETE-C-005.000

TITLE: CONDUCT ARCHEOLOGICAL RESOURCE PROTECTION PATROLS.

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 15.00

SERVICEWIDE ISSUES: C12 PRESERVE MGMT C18 CTRL VIS IMPAC

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Petersburg National Battlefield is rich in a variety of archeological resources. Through archeological research it has been determined that the City Point Unit contains artifacts dating back 8,000 years B.C. and records human habitation of the area for 10,000 years.

The duration of the siege of Petersburg (292 days) contributed to the wealth of Civil War era artifacts located within the boundaries of the Battlefield. Archeological resource damage is quite common due to the popularity of Civil War artifact hunting in the area.

Much of the park is remote and heavily wooded, making looting difficult to observe. The evidence of such illegal activity (disturbed earthworks, freshly excavated holes) has been documented throughout the park. Observations of the condition of these irreplaceable resources must be carried out constantly to prevent serious damage and to deter future looting.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

All areas of the Battlefield will be patrolled on a regular basis, with the frequency of coverage based upon the vulnerability of the individual archeological resources. A variety of means will be used to carry out these patrols including foot, horse, vehicle, and covert actions.

All protection rangers will attend the Archeological Resource Protection training course offered by the Federal Law Enforcement Training Center (FLETC). This training provides the knowledge and sensitivity to archeological resources needed to conduct an aggressive anti-looting program.

BUDGET AND FTEs:

-----FUNDED-----
Source Act Type Budget (\$1000s) FTEs

Proposal Date: 94

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Year 1:

Year 2:

Year 3:

Year 4:

Total:

0.00

0.0

-----UNFUNDED-----

	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	PKBASE-NR	PRO	5.00	0.0
Year 2:	CRPP	PRO	5.00	0.0
Year 3:	CRPP	PRO	5.00	0.0
Year 4:				

Total:

15.00

0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.4

Proposal Date: 95

PROJECT STATEMENT SHEET

PETE-C-006.000

PS Page: 0011

PROJECT NUMBER: PETE-C-006.000

TITLE: NATIONAL REGISTER DOCUMENTATION

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 20.00

SERVICEWIDE ISSUES: C01 INADEQUATE DOC

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

All historic resources in Petersburg National Battlefield are embraced by the National Register of Historic Places and are on the Register by virtue of that fact. Only the major structure are specifically listed, however. Many sites, road traces, earthworks, or other structures which are on the National Park Service's "List of Classified Structures" are not documented for inclusion on the Register.

Documentation of the historic resources lying within the City Point Unit has been done. To date, this work has not emerged from the review process and still awaits approval. Nonetheless, the rest of the Battlefield must be properly documented to comply with National Park Service standards. The extent and complexity of the project require that professional historians/historic architects be engaged to do the work.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Document all historic structures, sites, roads, monuments, geographic features, and fields of battle within the Main Unit, Short Flank Unit, Long Flank Unit, Poplar Grove National Cemetery, Fort Gregg Unit, and the Five Forks Unit. Documentation will include a description of the features, its age, significance to the Petersburg Campaign, condition, and whether or not it is a contributing feature.

BUDGET AND FTEs:

	Source	Act	Type	FUNDED Budget (\$1000s)	FTEs
Year 1:					
Year 2:					
Year 3:					
Year 4:					

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Total:

0.00

0.0

-----UNFUNDED-----

	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	TEMP\$-CR	PRO	5.00	0.0
	RG-RM-NAT	PRO	5.00	0.0
		Subtotal:	10.00	0.0
Year 2:	TEMP\$-CR	PRO	5.00	0.0
	RG-RM-NAT	PRO	5.00	0.0
		Subtotal:	10.00	0.0

Year 3:

Year 4:

Total:

20.00

0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION:

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-I-001.000

PS Page: 0013

PROJECT NUMBER: PETE-I-001.000

TITLE: DEVELOP PARK GEOGRAPHIC INFORMATION SYSTEM

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 50.00

SERVICEWIDE ISSUES: N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Over the years, Petersburg National Battlefield has collected a variety of maps of park resources including, among others, topography, soils, earthworks, trails, cultural sites, and boundaries. Usefulness of these hard copy maps is severely restricted, however, since they are of different sizes, scales, and coordinate systems, making the integration of various themes cumbersome, time consuming, and unreliable. Additionally, since the paper material on which the maps is drawn is deteriorating with time, it becomes increasing expensive and impractical to manually maintain them.

Using hard copy maps only, changes in the park resources due to external and internal influences are not easily or accurately recorded. When park management requests mapped data to use in explaining and defending management practices or presenting proposals or positions, the park must rely on handmade schematics, which are marginally acceptable at best. Similarly, the ability to analyze and predict changes and trends is not readily available.

The implementation of an automated mapping system can be the glue holding the park's spatial data management together. A Geographic Information System (GIS) can identify park resources, and be used to predict possible future trends and conditions. It can quickly, easily, and inexpensively retrieve mapped data into different formats. Park management, cultural, and natural resource managers and the maintenance division can greatly benefit from having quick access to accurate, relevant data in mapped format.

Park management anticipates using the GIS to create, analyze, and display various mapped themes including adjacent land ownership, boundaries, soils, roads, topography, streams, trails, title information, ROW's, earthwork management, wildfire fuel loading models, sensitive archeological sites, current vegetation, and historic vegetation for each park unit.

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DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

In 1992, park management determined that the acquisition of a GIS was a high priority for the park. Since that time, the park has begun acquiring various components of a GIS. The GIS's ability to provide management with an up-to-date, accurate and precise picture of the entire spectrum of park resources should prove invaluable in the planning process and day-to-day decision making.

The battlefield has recently acquired a long sought after addition to the park, the 1,115 acre Five Forks Battlefield. As a completely new unit, the park has the unique opportunity to use a comprehensive approach to the planning process at Five Forks. Having a GIS on board will be a great asset in the development of the Historic Landscape, Forest Management, Trails, Interpretive, and Cultural Landscape plans.

Since making the decision in 1992 to acquire a GIS system, park management has taken significant strides in bringing the system into full use. The park's technical consultant in GIS matters is North Carolina State University, which serves as the Field Technical Support Center for parks in the southern portion of the Mid-Atlantic Region. Under this arrangement, a training/survey procedure was implemented to determine park GIS needs and data requirements. Following N.C. State's advise, initial computer hardware and software have been purchased and several natural resource data layers have been developed. N.C. State is also developing a GIS Implementation Plan (currently in final draft) for the park.

The park's GIS is currently comprised of a 486DX computer, a C size digitizing tablet, an A-E size pen plotter, a A-B size color inkjet printer, and a 2-5 meter accuracy Global Positioning System (GPS). The GIS software is Atlas*GIS for DOS.

The park's GIS development has proven quite successful and an expansion of the current effort to develop complete park coverage of all cultural, natural, and historical data is anticipated. It is intended that GIS mapping procedures will replace the sketched paper mapping efforts that currently dominate management analysis.

In order to bring the GIS capability fully on line, funding is needed for the following project components:

- A) Software (including, but not limited to)
 - an update from Atlas*GIS DOS to Atlas-GIS Windows
 - possible acquisition of second copy of Atlas*GIS for other park divisions

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--raster capability to complement the current vector capability of Atlas*GIS, primarily to utilize digital orthophotos

- B) Hardware (including, but not limited to)
--Large format (D size) color inkjet printer
- C) Procure and digitize baseline data in order to complete the basic thematic databases (boundary, soils, topography, roads, trails, streams, earthworks, buildings/structures, current vegetation, historic vegetation, and adjacent ownership).
- D) Contract to film and develop current aerial photographs needed as a source to current data to be used in developing the thematic maps.
- E) Training as needed

BUDGET AND FTEs:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
Total:			0.00	0.0
-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	GIS	RES	20.00	0.0
	PKBASE-NR	RES	5.00	0.0
	Subtotal:		25.00	0.0
Year 2:	GIS	RES	10.00	0.0
	PKBASE-NR	RES	5.00	0.0
	Subtotal:		15.00	0.0
Year 3:	GIS	RES	5.00	0.0
Year 4:	GIS	RES	5.00	0.0

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Total: 50.00 0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: per 516 DM2 App. 2, 1.6

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-I-002.000

PS Page: 0017

PROJECT NUMBER: PETE-I-002.000

TITLE: ADJACENT LANDS STUDY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 45.00

SERVICEWIDE ISSUES: N06 LAND USE PRAC N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

External threats to the park's cultural and natural resources have increased recently due to development on or adjacent to the various unit boundaries. The outlying units in Dinwiddie County and the newly acquired Five Forks Unit are still relatively rural with the majority of the adjacent land uses being agricultural.

Residential and industrial development pressures have accelerated throughout Dinwiddie County and are likely to continue. Patrol rangers currently monitor external land threats such as new construction, land sale signs, boundary encroachment, vegetation damage and off road vehicle use.

Data concerning land use, zoning, property ownership and valuation is lacking. Due to manpower constraints, little effort has been dedicated to developing relationships with public and private organizations to encourage compatible land use adjacent to park boundaries.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Funding will be sought to develop and implement an Adjacent Lands Plan/Inventory. The goal is to minimize, and where feasible eliminate adverse impacts on the park's resources and historic settings resulting from incompatible and uncontrolled access, rights-of-way and visual intrusions. All boundary surveys need to be reviewed and, where necessary, resurveyed and monumented. A planting regimen needs to be implemented to screen incompatible developments and views from the park visitor.

Data will be collected for inclusion into the park's GIS. A land protection theme will include park boundaries and legal descriptions, adjoining landowners tax maps, Rights-of-Way, historic and current vegetation, topography, soils, earthworks and roads. The GIS will track current and proposed changes to lands adjacent to the park.

Alternative means of land protection should be investigated.

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Growth trends need to be identified to better plan protection strategies.

BUDGET AND FTEs:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
	Total:		0.00	0.0

-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:	RG-CR-MTN	ADM	10.00	0.0
	RG-NS-RES	ADM	15.00	0.0
		Subtotal:	25.00	0.0
Year 3:	RG-RM-NAT	ADM	10.00	0.0
	RG-CR-MTN	ADM	10.00	0.0
		Subtotal:	20.00	0.0
Year 4:				
	Total:		45.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-N-001.000

PS Page: 0019

PROJECT NUMBER: PETE-N-001.000

TITLE: AIR QUALITY MONITORING.

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 29.00

SERVICEWIDE ISSUES: N14 AIR POLLUTION N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Petersburg National Battlefield is situated in a highly industrialized area with a relatively high level of air pollution. As such, it is classified by the Virginia Department of Air Pollution Control as a Non-attainment area for ozone, and a Class II area for all other major air pollutants. A major source of pollutants is industrial plants in the nearby City of Hopewell, which both manufacture chemicals and use chemicals in industrial processing. Studies have determined the primary pollutants are sulfates, nitrates, chlorides, and iron.

Another main pollutant is vehicle emissions. The State and EPA have placed the Richmond/Petersburg area under a special vehicle fuel requirement beginning January 1, 1995.

Though little is known about the effects of air pollution on park resources such as historic structures, flora, and fauna, there is a growing body of information by the scientific community suggesting adverse effects on such resources. An air quality monitoring program within the park would provide baseline information for future comparisons to determine the effects of air pollution on park resources over time.

Park flora serves to help give the visitor an impression of the historic mosaic of forests and fields. It also acts as a visual and audio buffer or screen from modern intrusions that might conflict with the visitor's experience. Tree species within the park that are sensitive to air pollutants include loblolly pine, sweet gum, yellow poplar and ash.

The park visitor's enjoyment can be adversely affected by poor air quality which degrades historic scenic vistas and causes deterioration of the natural and cultural resources. NPS studies suggest that clean air and clear vistas are integral to the visitor's experience and enjoyment. Additionally, visitor health may be negatively impacted by air pollution.

The park air quality objectives are as follows:

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1. Determine the content, extent, and sources of air pollution and its possible impact upon cultural and natural resources.
2. Work with the Virginia Department of Air Pollution Control and EPA on any projects of mutual concern.
3. If negative impacts are quantified by such a project, devise a strategy to mitigate the problems.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The park's planned course of action will be to seek various sources of funding to develop and implement an in-park air monitoring program. The park will also seek funding to research the adverse impacts of air pollutants on cultural and natural resources.

When funding and labor become available, biomonitoring plots will be established using yellow poplar and lichen species to track trends in air pollution-caused flora damage. This research project was developed in 1985 by Bennett and Wallner and was scheduled to begin in 1989 but was put on indefinite hold due to funding limitations.

BUDGET AND FTEs:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0
-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	RG-NS-RES	RES	2.00	0.0
Year 2:	AIR-QUAL	RES	10.00	0.0
	RG-NS-RES	MON	5.00	0.0
		Subtotal:	15.00	0.0
Year 3:	RG-NS-RES	MON	5.00	0.0
	PKBASE-NR	MON	2.00	0.0

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Subtotal:	-----	-----
	7.00	0.0
Year 4: PKBASE-NR MON	5.00	0.0
Total:	=====	=====
	29.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.7

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-N-002.000

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PROJECT NUMBER: PETE-N-002.000

TITLE: DEVELOP CULTURAL LANDSCAPE REPORT FOR CITY POINT.

FUNDING STATUS: FUNDED: 48.00 UNFUNDED: 105.00

SERVICEWIDE ISSUES: N08 CULT LANDSCAPE C11 CULT LAND REPT

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The DCP for the City Point Unit calls for the development of a cultural landscape study that reflects City Point's land use history up until the last Eppes family member occupied the grounds.

The grounds of this unit have been somewhat neglected over time due to a lack of adequate funding. Reclaiming and improving the landscape has been an ongoing project concentrating primarily on cosmetic maintenance. The grounds have been brought to a condition of tidiness and order and is pleasing in appearance, but does not reflect any specific period for which there is documentation.

The Unit has extensive documentation of the historic landscape including the Eppes' family journal which sites specific plantings during the period between 1852 and 1891. Historic photographs and oral histories fill in the gaps in the historic landscape record.

In 1993, park management developed an Interim Landscape Management Plan for the City Point Unit, to provide guidance in landscape management until the final report is developed. The Regional Office is currently preparing a Cultural Landscape Inventory for the site.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The recommended action is to develop a Cultural Landscape Report for the unit and secure adequate funding for the implementation of the plan. A Cultural Landscape Report includes sections on 1) site history, existing conditions, and feature analysis, 2) recommendations for treatment, and 3) a record of treatment.

The report will need to include detailed descriptions of the plant types, locations of gardens and arbors and an implementation schedule. The report would likely include the following implementation techniques.

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Protection - arresting further deterioration of historic flora (stabilizing using cables, pruning dead wood, providing proper fertilization).

Preservation - maintaining and managing the grounds. Replacement may be necessary due to deterioration, overgrowth, disease, or plant loss. If replacement is necessary, replacement in kind should be used when possible. If not, replacement with period plants should be the goal.

Restoration - The removal of inappropriate additions and reintroduction of appropriate historic species in the landscape. The implementation of this section of the plan will be costly and labor intensive.

Screening - The historic scene will need to be protected from the visual intrusion of inappropriate features (maintenance buildings, parking lots, adjacent land development). Native vegetation may be necessary to screen these features to reduce their visual impact.

BUDGET AND FTES:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTES
Year 1:	PKBASE-OT	MIT	12.00	0.4
Year 2:	PKBASE-OT	PRO	12.00	0.3
Year 3:	PKBASE-OT	PRO	12.00	0.4
Year 4:	PKBASE-OT	PRO	12.00	0.4
Total:			48.00	1.5

-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTES
Year 1:				
Year 2:	RG-CR-MTN	ADM	10.00	0.0
	RG-CR-MTN	MIT	45.00	0.0
Subtotal:			55.00	0.0
Year 3:	RG-CR-MTN	MIT	25.00	0.0
Year 4:	RG-CR-MTN	MIT	25.00	0.0

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Total: 105.00 0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION:

Proposal Date: 94

PROJECT STATEMENT SHEET

PETE-N-003.000

PS Page: 0025

PROJECT NUMBER: PETE-N-003.000

TITLE: EARTHWORK VEGETATION MANAGEMENT

FUNDING STATUS: FUNDED: 80.00 UNFUNDED: 120.00

SERVICEWIDE ISSUES: N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: COMB

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The Civil War earthworks are the most obvious tangible remains of the entrenched armies which fought during the Siege of Petersburg. They are a significant cultural resource and the NPS is required to preserve them by specific language in the park's enabling legislation.

The earthworks were originally constructed as temporary cover/fortifications which required constant repair throughout the siege. They are currently in various stages of preservation. Natural weathering, compaction, visitor misuse and undesirable vegetation all have contributed to their erosion. Some of the best preserved are heavily wooded and not easily accessible. Those that are open and easily accessible are among the most threatened by erosion caused by visitor misuse and improper or non-existent vegetative cover.

Park managers identified the need for a detailed management plan and in 1986 MARO funded a study of earthwork preservation problems at various battlefields. A result of that study was the "Earthworks Landscape Management Action Plan for Petersburg National Battlefield" prepared by Andropogon Associates. Ltd. and completed in April, 1988.

The plan details landscape management recommendations for each unit and recommends specific management actions, as well as a planning schedules. Implementation of the plan is well underway, but further implementation is threatened by a lack of funding and FTE's necessary to implement the approved recommendations.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The FY 1992 park goals have identified implementation of the Earthwork Landscape Management Plan as a high priority. Goals and priorities need to be established based on the plan. To assist in the management of the resources, earthworks will be identified by the park GPS/GIS (which is in the data gathering phase). The success of the earthworks vegetation program

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ultimately hinges on the ability of the park to obtain an adequate level of funding to fully implement the April, 1988 action plan.

BUDGET AND FTES:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTES
Year 1:	RG-REG-MT	MIT	20.00	0.0
Year 2:	RG-REG-MT	MIT	20.00	0.0
Year 3:	RG-REG-MT	MIT	20.00	0.0
Year 4:	RG-REG-MT	MIT	20.00	0.0
Total:			80.00	0.0

-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTES
Year 1:	RG-CR-MTN	MIT	30.00	0.0
Year 2:	RG-CR-MTN	MIT	30.00	0.0
Year 3:	RG-CR-MTN	MIT	30.00	0.0
Year 4:	RG-CR-MTN	MIT	30.00	0.0
Total:			120.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 C(4)

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PETE-N-004.000

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PROJECT NUMBER: PETE-N-004.000

TITLE: MONITOR EXTERNAL EFFECTS ON PARK STREAMS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 99.40

SERVICEWIDE ISSUES: N11 WATER QUAL-EXT N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

At the time of its establishment, Petersburg National Battlefield was in a rural setting, free from intensive development pressure. In the years since, a steady increase in population and development around the park has occurred. This development includes high and low density housing, commercial and industrial development, highways, etc.

This development requires a vast drainage system to carry off excess water. The area to the south of the Headquarters unit drains into two of the park's historic streams which subsequently flow northward through the unit. These two streams (Harrison and Poore Creeks) were historically important during the Siege of Petersburg in 1864-65. Both were used by the armies for defensive purposes. Earthworks were constructed across or along these streams and are, in some areas, still visible today. The increased runoff due to upstream manipulation of the watershed has begun to alter the natural configuration of the streambeds. It is especially apparent within Poore Creek.

In addition to the physical changes in the streambed, water pollution has also become a major problem. The City of Petersburg has located sewage pump stations along the creeks just upstream of the park boundary. Due to improper design and antiquated equipment, the pump stations have periodically failed, dumping raw sewage into both creeks. Oils, salts, and chemicals from highways, parking lots, streets, and lawns are carried into the streams during rainfall events, further compromising the quality of these streams, which flow first into the Appomattox River, then the James River, and eventually Chesapeake Bay.

In 1986 MARO contracted with North Carolina State University (NCSU) to conduct a study of the impact of upstream urbanization on the streams within the park. The study confirmed stream channelization, erosion of some earthworks along streams, exposure of Civil War artifacts, and degradation of water quality and aquatic ecosystems resulting from external development. It concluded that additional upstream urbanization would greatly

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exacerbate the problem, creating a condition increasing difficult and costly to mitigate. The study contained three main recommendations to mitigate the adverse impacts of past upstream development and to prevent further degradation of the streams' ecosystems. These included 1) developing a system to monitor and predict changes in hydrology and water quality in the watershed, both within and outside the park, 2) recommending that the City of Petersburg develop and implement a comprehensive stormwater and erosion and sediment control plan, and 3) installing detention basins in the channel of both streams.

Since completion of the study in 1988, park management continues to collect water data established in the NCSU study, as well as other key water quality parameters. These include fecal coliform bacteria counts, pH, temperature, specific conductivity, dissolved oxygen, streamflow, and rainfall.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

In 1993, NCSU developed a proposal to implement the first recommendation of its earlier study, i.e., develop a system to monitor and predict changes in watershed hydrology and water quality.

Funding will be requested to implement this proposal, which would develop a system to track and predict changes in hydrologic properties and water quality in the park, based on both internal and external conditions. On-going measurements of storm hydrographs and other water quality parameters would be incorporated into a computerized watershed model, which would provide park management with continuous information on the potential effects of proposed land use and zoning changes. The model would be incorporated into the park's GIS.

Additionally, the second recommendation of the NCSU study will be pursued, i.e., increased pressure will be applied to the City of Petersburg through the State Water Control Board and the Environmental Protection Agency to upgrade or remove the existing sewage pumping stations along Poore and Harrison Creeks.

BUDGET AND FTEs:

-----FUNDED-----				
Source	Act	Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				

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Total:	0.00	0.0
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-----UNFUNDED-----

	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	PKBASE-NR	MIT	1.60	0.0
	NRPP	ADM	34.00	0.0
		Subtotal:	35.60	0.0
Year 2:	PKBASE-NR	MIT	1.60	0.0
	NRPP	ADM	30.00	0.0
		Subtotal:	31.60	0.0
Year 3:	PKBASE-NR	MIT	1.60	0.0
	NRPP	ADM	29.00	0.0
		Subtotal:	30.60	0.0
Year 4:	PKBASE-NR	MIT	1.60	0.0
		Total:	99.40	0.0

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(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

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PETE-N-005.000

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PROJECT NUMBER: PETE-N-005.000

TITLE: FLORA AND FAUNA INVENTORY (INCLUDING R.T. & E.)

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 25.00

SERVICEWIDE ISSUES: N03 T&E PLANTS N20 BASELINE DATA

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

It is the policy of the National Park Service to gather, where possible, baseline inventory data describing the natural resources under its stewardship. A baseline survey will provide an indication of species diversity and habitat. It will also document the distribution of species throughout the park, identify endangered and threatened species, and determine critical habitat.

During the summer of 1990, a floristic inventory of the park was conducted by Rosenzweig and Porter of Virginia Tech. Since the survey was funded for the summer months only, most of the plants were not in flower. Therefore, the resulting species list, while being quite extensive, is not complete. Additional surveys during the spring and fall seasons need to be undertaken.

To date, there have been no fauna surveys conducted within the park. Each year more and more of the land surrounding the park becomes urbanized so that the Park is becoming a true island of green within the city. Fauna populations within park boundaries will become isolated and the need for management more critical as this trend continues.

The Endangered Species Act of 1973 requires that the Service identify all threatened and endangered species and their critical habitat within park boundaries. The Virginia Heritage Association has conducted a rare, threatened, and endangered species survey for both fauna and flora through a contract with the Mid-Atlantic Regional Office. Limited fieldwork within the park concluded that no critical habitat was present and the chances of rare, threatened or endangered species being located within the park are remote.

Management of the park's flora and fauna is necessary to insure maintenance of the natural distribution, abundance, diversity, and ecological integrity of its native species. The efforts to date have generated an incomplete species list. This insufficient baseline information on flora and fauna limits the

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ability of park management to make informed decisions concerning these resources.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The recommended course of action is to seek funding to conduct additional flora surveys to develop comprehensive species lists. Additionally, vegetation maps should be generated using the aerial photographs taken in 1992.

Fauna surveys should be conducted to include mammals, reptiles, amphibians, birds, fish and aquatic macroinvertebrates. The resulting inventories should be stored in computerized databases to make them more easily accessible.

Should surveying data reveal flora or fauna populations that threatened park resources, an IPM approach towards their management would be adopted.

References:

Rosenzweig, Michael S. Flora of Petersburg National Battlefield. Massey Herbarium, Dept. of Biology, Virginia Polytechnic Institute and State University, Research Paper 48 pp.

BUDGET AND FTES:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTES
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0
-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTES
Year 1:	NR-I&M	MON	10.00	0.0
Year 2:	NR-I&M	MON	10.00	0.0
	PKBASE-NR	RES	5.00	0.0
		Subtotal:	15.00	0.0

Year 3:

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Year 4:

Total:

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25.00

0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

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PROJECT NUMBER: PETE-N-006.000

TITLE: FIRE MANAGEMENT PLAN

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 3.00

SERVICEWIDE ISSUES: NO7 NAT FIRE REGM

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The Wildfire Management Plan of Petersburg National Battlefield was last updated/revised in 1989, though an updated plan is in final draft form. Since that time, changes have taken place at the Battlefield which make amendments to the plan advisable. These changes include personnel turnover and the addition of the Five Forks unit. New technologies have also made available automatic fire weather stations, which the Battlefield may wish to consider as a replacement for the labor intensive manual station now in use. The wildfire Management Plan is intended to be a fluid plan. Changes in the plan will need to be made annually to adjust for changes in personnel and to keep up with modern fire technologies.

The fire plan will be updated to reflect the fire related skills and responsibilities of the current staff at Petersburg. Fire management will be the responsibility of the resource management staff. At present, the Resource Management Ranger is serving as Fire Management Officer by virtue of his fire related experience and training.

The addition of the 1200 acre (approximate) Five Forks tract has necessitated several changes to the present Wildfire Management Plan. The Plan will be amended to include the Five Forks unit in the parkwide efforts of wildfire pre-suppression and suppression. The Battlefield will seek to formulate a cooperative wildfire suppression agreement with local wildfire authorities in Dinwiddie County. The Battlefield is also working with Virginia Polytechnic Institute and State University in formulating a parkwide Forest Management Plan. In part this plan will address the feasibility of using management ignited prescribed fire as part of the management regime within the Five Forks and Confederate Fort Gregg Units of the Park only. Fire could potentially be used in restoring/maintaining the 1865 mosaic of fields and forest, or in hazard fuels reduction. The recommendations of the Forest Management Plan, when completed, will be heeded in this area.

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In 1993, the park installed an automatic fire weather station at the Headquarters Unit. Compared to the manually operated system previously employed, this station has significantly reduced the staff time required to collect weather data. The automatic weather station has the additional advantage of collecting data consistently, resulting in the ability to monitor and predict fire danger more precisely. The possibility of installing such a system to meet the fire management needs at the Five Forks Unit will be explored.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The recommended course of action includes the following:

- A) Update the Wildfire Management Plan to reflect personnel changes and to include the Five Forks unit in the Battlefield wildfire management strategy.
- B) Closely monitor progress of the Forest Management Plan to ensure that any prescribed burning recommendations are consistent with Battlefield management strategy and NPS 18 guidelines.
- C) Conduct further study on the feasibility of expanding the capability of the automatic fire weather stations at the Headquarters unit to include the capability to record precipitation.
- D) Conduct further study on the feasibility of implementing an automatic weather station at the Five Forks Unit. This station would significantly improve the ability of the Battlefield to monitor and predict fire danger over a larger area. Sources of funding for the purchase and installation of the equipment should be sought and utilized.

BUDGET AND FTES:

-----FUNDED-----			
Source	Act Type	Budget (\$1000s)	FTES
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0

-----UNFUNDED-----			
Source	Act Type	Budget (\$1000s)	FTES

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Year 1:	TEMP\$-NR	ADM	1.00	0.0
Year 2:	PKBASE-OT	ADM	1.00	0.0
Year 3:	TEMP\$-NR	ADM	0.50	0.0
Year 4:	TEMP\$-NR	ADM	0.50	0.0
Total:			3.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 app. 7.4 B(10)

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PROJECT NUMBER: PETE-N-007.000

TITLE: HAZARD TREE MANAGEMENT PROGRAM

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 30.00

SERVICEWIDE ISSUES: N06 LAND USE PRAC N22 VIS USE-DEV ZN

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Petersburg National Battlefield totals approximately 2,700 acres, half of which is forested. The forest consists of primarily loblolly pine mixed hardwoods and is intersected by roads and numerous visitor use trails. In addition to roads and trails, there are other visitor use and employee developed areas, which include: a picnic area; visitor center/maintenance complex; parking lots; housing areas and interpretive waysides.

Due to the proximity of mature and overmature trees to these public use areas, threats from hazard trees to visitor safety, park structures and historic structures are a management concern.

The Federal Tort Claim Act (1946) indicates that the United States may be liable in the same manner as a private party for the negligent acts or omissions of its employees. The land manager must act with reasonable care to identify obviously hazardous conditions, provide ample warning of possible risks and take a corrective action to resolve the condition. Additionally, NPS Management Policies (1988) states that, "The National Park Service will strive to identify recognizable threats to the safety and health of persons and to the protection of property..." and "Where practicable and not detrimental to NPS mandates to preserve the environment, known hazards will be reduced or removed."

Management has long been aware of the hazard tree problem and has maintained an active hazard tree management program. The highest action priority has been given to the potential hazards in the areas listed above. Hazard trees not only have the potential to harm persons and property, but also, if located on or near earthworks, have the potential to destroy sections of these historic resources.

Trees located within the forest or fields where visitor access or use is minimal do not represent a hazard to life or property and therefore are not covered by this plan.

Large hazard tree removal and those which need specialized

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pruning are accomplished through commercial operator under contract. Smaller projects are handled by park staff. Identification of hazardous trees and prioritization for removal is usually done in late spring or early summer after new leaves appear. Trees with high hazard potential are removed immediately or have protective barriers placed around them until they can be removed. Those that are not an immediate danger are monitored and removed in priority order.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Develop a Hazard Tree Management Plan to systematically survey the park for hazard trees, and evaluate their threat to the safety of persons and property.

The program should be standardized using Paine's hazard tree removal publication. He states that hazard tree may be evaluated as the product of four factors: probability of tree failure, probability of target impact, damage potential, and the target value. The publication includes a field guide which provides a structured consideration of each of the factors and a numerical rating of the individual tree being evaluated.

The Chief Ranger, through the Resource Management Specialist, is responsible for managing the Hazard Tree Program. To be able to accurately determine hazard tree potential requires specialized training. The ability to recognize symptoms of tree defect or fault and the ability to evaluate the resulting loss in tree stability is critical to properly evaluating trees. Therefore, the park should seek professional training for the Resource Management Specialist in the evaluation and prioritization of hazardous trees.

References

Paine, Lee A. 1971. Accident Hazard: Evaluation and Control Decisions on Forested Recreation Sites. USDA, Forest Service, Pacific Southwest Forest and Range Experimental Station, Research Paper PDW-68. 10 pp.

BUDGET AND FTEs:

	Source	Act	Type	FUNDED Budget (\$1000s)	FTEs
Year 1:					
Year 2:					
Year 3:					
Year 4:					

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Total:	0.00	0.0
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-----UNFUNDED-----

	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	PKBASE-NR	PRO	5.00	0.0
Year 2:	RG-RM-NAT	PRO	10.00	0.0
Year 3:	PKBASE-NR	PRO	5.00	0.0
Year 4:	RG-RM-NAT	PRO	10.00	0.0
Total:			30.00	0.0

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(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 2.1

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PROJECT NUMBER: PETE-N-008.000

TITLE: PUBLIC DRINKING WATER QUALITY

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 9.50

SERVICEWIDE ISSUES: N11 WATER QUAL-EXT

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

It has been determined at Petersburg National Battlefield that the quality control and maintenance of a safe, lead-free potable water supply be under the purview of the Resource Management staff.

The park has one public drinking fountain (Poplar Grove) supplied by an NPS well, two drinking fountains located at the Visitor Center served by Fort Lee's water system, and one drinking fountain at the Crater served by the City of Petersburg. Additionally, a well currently supplies the Operations Building, which is a park facility only. This building is being converted to municipal water, and will be served by the City of Petersburg beginning in early 1995.

Fort Lee and the City of Petersburg monitor their respective systems for water quality. Park staff collects water samples at Poplar Grove and takes them to the State Water Lab for bacteriological testing once a month, and tests the chlorine residuals levels at each of the public fountains, Poplar Grove, and the Operations Building three times a week. Once a month, park staff takes samples from the Operations Building and the Visitor Center to the Appomatox River Water Authority for bacteriological testing.

The park system is in compliance with all State Waterworks requirements as well as the Safe Drinking Water Act (42 USC 300f-300j-10).

In 1989 the park tested all its drinking water (16 locations) for lead content to comply with the EPA maximum contaminant level (MCL) of 50 ppb. After some mitigation, all sample points were within the safe range.

In its Final Rule of Regulations for lead in drinking water, the EPA reduced the MCL to 15 ppb. The park has retested all 16 locations (10/91) and found that five locations were over the standard or close enough to it to warrant a re-test. Results

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from the re-test indicated that two sites at City Point were still over the standard. Consequently, these systems were taken off line. The plumbing at these locations is being replaced and the systems will be monitored before they go on line.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

It is the park's intention to close the restrooms at Poplar Grove to the public. This, along with the conversion of the water supply at the Operations Building to municipal water, would eliminate the use of all wells on the park to supply drinking water.

The park will, however, continue to test all drinking water to assure that it meets State and Federal Safe Drinking Water standards. Before any new systems are brought on line, consultations with State engineers and Federal Public Health officials will be held to insure compliance with applicable standards and regulations.

BUDGET AND FTEs:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:				
Year 3:				
Year 4:				
		Total:	0.00	0.0
-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	PKBASE-OT	ADM	2.00	0.0
Year 2:	PKBASE-OT	ADM	2.00	0.0
Year 3:	PKBASE-OT	ADM	3.00	0.0
Year 4:	PKBASE-OT	ADM	2.50	0.0
		Total:	9.50	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

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COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.7

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PROJECT NUMBER: PETE-N-009.000

TITLE: DEVELOP CULTURAL LANDSCAPE REPORT FOR POPLAR GROVE

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 35.00

SERVICEWIDE ISSUES: N08 CULT LANDSCAPE C11 CULT LAND REPT

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Poplar Grove National Cemetery's landscaped area is well defined by a brick wall enclosing the entire 8.7 acres. The trees within the cemetery date as far back as the 1890's. Additional plantings were done periodically through the 1960's.

Many of the trees, which were planted to provide a pleasing, aesthetic appearance to the cemetery are now over-mature giants. Their massive trunks and braided surface root systems have, in some instances, grown over some of the headstones and uprooted many others.

This condition is causing preventable damage to the historic headstones and adding to the workload of the maintenance staff.

A number of historic landscape maps dating from 1892, 1937, and the mid-1940's indicating the species, size, location, and condition of all plantings within the cemetery are available.

The park needs this planning document to guide Management in planning alternatives for the future.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The recommended action at this point is to seek funding for a Cultural Landscape Report that will determine the various alternatives available to manage the grounds within the cemetery.

MARO's Park Historic and Preservation Division will be consulted to obtain their input into development of the report.

Once the planning process is completed, the park will implement the recommended course of action.

BUDGET AND FTEs:

-----FUNDING-----				
Source	Act	Type	Budget (\$1000s)	FTEs

Year 1:

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Year 2:

Year 3:

Year 4:

Total:	0.00	0.0
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-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	RG-CR-MTN	ADM	10.00	0.0
Year 2:	RG-CR-MTN	ADM	0.00	0.0
Year 3:				
Year 4:	RG-CR-MTN	ADM	25.00	0.0
Total:			35.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): NHPA

EXPLANATION:

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PROJECT NUMBER: PETE-N-010.000

TITLE: INTEGRATED PEST MANAGEMENT

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 12.00

SERVICEWIDE ISSUES: N04 NON-NAT ANIMAL N05 NON-NAT PLANTS

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

Petersburg National Battlefield's management objectives list a number of management goals for the preservation and protection of the cultural and natural resources. These goals can be summarized by the following excerpt: "To manage the natural resources of the battlefield in a manner that will help protect the cultural resources and provide the visitor with a general impression of the appearance of the land during the Siege of Petersburg." The park has several pests that affect both the cultural and natural resources and may jeopardize the health and safety of visitors and employees.

According to the Department of Interior Manual, (1981) "It is the policy of the Dept. to use pest management research, control, education, and assistance programs to develop, support, and adopt integrated pest management (IPM) strategies wherever practicable." Additionally, Dept. of Interior Pesticide Use Policy (7/14/81) states "It is the policy of the Dept. to use pesticides only after full consideration of alternatives based on competent analysis of environmental effects, safety, specificity, effectiveness, and costs...When it is determined that a pesticide must be used in order to meet important management goals, the least hazardous material that will meet such goals will be chosen."

The park has developed an Environmental Assessment for the Integrated Pest Management program which is included in the appendix of the Resource Management Plan.

The park is committed to the IPM program outlined in the DOI 1981 Policy.

According to NPS Management Policies pests should be allowed to function unimpeded except 1) when human health and safety is concerned and 2) to protect cultural and natural resources.

There are three major pests which threaten human health and safety at PETE. 1. Poison ivy (*Toxicodendron radicans*) which can

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be found climbing many trees and growing along visitor use trails. Where it occurs near high visitor use areas, it is manually removed.

2. Ticks. Recently, a variety of tick-borne diseases have gained national attention creating a heightened visitor concern. Due to the large number of ticks encountered at PETE, a monitoring program was initiated looking specifically for the deer tick (*Ixodes dammini*) within the population. To date, there have been no confirmed deer tick captures within the battlefield.

3. Wasps, hornets and yellow jackets are frequently encountered throughout the park. They are controlled by the use of an approved pesticide.

The primary pests which threaten the cultural resources are subterranean termites and other wood boring insects. The resource management and maintenance staff actively monitor historic structures for signs of pest infestations. Once identified, they are controlled with an approved pesticide applied by a State certified applicator.

The battlefield's natural resources are threatened by two major pests. Outbreaks of southern pine bark beetle have occurred periodically within the park and, given the right conditions, could adversely impact the loblolly pine forest which provides a visual and auditory screen along the boundary. The Gypsy Moth infestation that began in the northeast has progressed into central Virginia. An active monitoring program in cooperation with the U.S. Forest Service has been implemented and is scheduled to continue.

Weeds are defined as any plants growing where they are not wanted. In this context, weed control is actively undertaken throughout the developed areas of the park. When deemed necessary, weeds are generally removed by mechanical means. The possible exception to this is the use of herbicides for revegetation of earthworks, as prescribed in the Earthwork Landscape Management Plan. On these occasions, permission is obtained by MARO and WASO IPM Coordinators prior to any application of herbicides.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The management goals of protecting and preserving historic structures and stabilizing the cultural and natural landscape will be aided through the implementation of the IPM Plan (see appendix) whenever possible.

In the event that survey data developed through Project Number PETE-N-005.000 (Flora and Fauna Inventory) identify any other flora or fauna at populations which threaten park resources, an IPM approach to their management would be adhered to.

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BUDGET AND FTES:

-----FUNDED-----
Source Act Type Budget (\$1000s) FTES

Year 1:

Year 2:

Year 3:

Year 4:

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Total:			0.00	0.0
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-----UNFUNDED-----
Source Act Type Budget (\$1000s) FTES

Year 1: PKBASE-OT MIT 3.00 0.0

Year 2: PKBASE-OT MIT 3.00 0.0

Year 3: PKBASE-OT MIT 3.00 0.0

Year 4: PKBASE-OT MIT 3.00 0.0

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Total:			12.00	0.0
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(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS:

If current procedures prove ineffective, alternative methods will be evaluated.

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM6 App. 7.4 E

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PROJECT NUMBER: PETE-N-011.000

TITLE: FOREST MANAGEMENT PLAN

FUNDING STATUS: FUNDED: 32.40 UNFUNDED: 110.00

SERVICEWIDE ISSUES: N20 BASELINE DATA N08 CULT LANDSCAPE

CULTURAL RESOURCE TYPE CODE: N/A

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

The historic visual scene of the park has changed, particularly within the Headquarters Unit since the Civil War, due to natural and man caused effects. The area has become heavily forested over the years in areas that were open fields during the siege. Natural processes (succession and forest pests) have caused substantial tree mortality. This has resulted in a high incidence of hazardous trees and a dangerous fuel loading condition.

The current forest condition is a result of benign neglect. It has been managed as a natural, non-manipulated ecosystem. With the passing of time, the forested landscapes have progressed successional to the point where they are approaching or have already passed into the next seral stage. This shift has meant an increase in natural mortality, disease, insect infestations, and fire potential, all of which may become serious management problems.

Due to urban encroachment, a forested screen to block the visual and audio intrusions of adjacent development has been planted in the Headquarters unit. A major objective is to maintain and improve a healthy and vigorous forested buffer along the perimeter of the park.

Because of the increased mortality within the park, a potentially serious fuel buildup has occurred over time. A plan for the systematic removal of this fuel load will have to be developed.

The park has recently acquired a long sought-after addition, the 1,115-acre tract of land centered around the Battle of Five Forks. An integral component of the planning process is the development of a Forest Management Plan.

In the 125 years since the battle, the mosaic of farmed fields and forested areas that played a vital role in the strategy, fighting, and ultimate Union victory have changed. Historically open fields are currently forested or have recently been logged

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and converted to loblolly pine plantations. Conversely, historically forested areas are now being farmed or have been cut over and are growing up into a tangle of scrub and briars.

An historic vegetation study has been completed. A comprehensive management plan is needed to return the battlefield to its historic blend of woodland and cropland. The area also has a serious fuel loading problem due to past logging practices.

Therefore, what is needed at this point is a comprehensive Forest Management Plan based on the park's management goals that will provide a prescription for maintaining a healthy forest, restoring the historic scene at Five Forks and maintaining the visual buffers throughout the park.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

The recommended course of action is to seek funding for implementing the recommendations of the Forest Management Plan. The planning component of the project was approved and funded in 1992. During the 1992 summer season fieldwork began and was completed in late 1993. The plan should be completed early in 1995 and the actual implementation of the plan's prescriptions would begin later in 1995.

BUDGET AND FTEs:

-----FUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	RG-RM-NAT	RES	27.40	0.0
	TEMP\$-NR	RES	5.00	0.0
		Subtotal:	32.40	0.0
Year 2:				
Year 3:				
Year 4:				
		Total:	32.40	0.0

-----UNFUNDED-----				
	Source	Act Type	Budget (\$1000s)	FTEs
Year 1:				
Year 2:	RG-RM-NAT	RES	25.00	0.0
Year 3:	RG-RM-NAT	RES	25.00	0.0

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Year 4:	RG-CR-MTN MIT	25.00	0.0
	RG-NS-RES MIT	35.00	0.0
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	Subtotal:	60.00	0.0
		=====	=====
	Total:	110.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

COMPLIANCE CODE(s): EXCL

EXPLANATION: 516 DM2 App. 2, 1.6

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PROJECT NUMBER: PETE-N-012.000

TITLE: INVENTORY WETLANDS/FLOODPLAINS

FUNDING STATUS: FUNDED: 0.00 UNFUNDED: 35.00

SERVICEWIDE ISSUES: N20 BASELINE DATA N06 LAND USE PRAC

CULTURAL RESOURCE TYPE CODE: CULL

10-238 PACKAGE NUMBER:

PROBLEM STATEMENT:

A general definition of wetlands is lands where saturation with water is the dominate factor determining the nature of soil development and the types of plants and animal communities living there. Floodplains can be defined as those relatively flat areas adjoining inland and coast waters that are subject to inundation by regulatory (100 and 500-year) floods.

Several federal laws and regulations govern NPS policy regarding wetland and floodplain management. Principal among these are the Section 404 of the Clean Water Act of 1972, Executive Order 11990 (Protection of Wetlands), and Executive order 11988 (Floodplain Management). NPS guidance for implementing these statutes is published as the "NPS Floodplain Management and Wetland Protection Guidelines," published in 1989, and the "Floodplain Management Guideline," published in 1993.

According to the 1989 guidelines, NPS units are required to inventory and manage wetlands "subject to public use and/or development where the magnitude of hazard and impact of human activities is likely to be greatest." In terms of floodplain management, the 1993 guidelines require that floodplains be delineated, preserved, and managed in order to avoid long and short-term environmental impacts.

These wetland and floodplain requirements becomes particularly relevant to Petersburg National Battlefield with the recent addition of the 1114-acre Five Forks Battlefield Unit. The park's Statement for Management calls for re-establishing and managing the Five Forks Unit as it appeared at the time of the battle in 1865. Meeting the objectives of restoring the historic scene, while at the same time adhering to the NPS policy of wetland and floodplain protection, will require a coordinated planning effort.

PETE has U.S. Fish and Wildlife Service 1:24,000 scale "National Wetlands Inventory" maps for the park. These maps are outdated, however, as they were produced in 1974 and do not reflect the

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current classification scheme for wetlands. USFWS has recently begun issuing updated maps, which will be obtained by the park as they are made available. Digital versions of these map (suitable for inclusion in a GIS database) are expected to become available, also.

The park also has floodway maps produced by the Federal Emergency Management Agency (FEMA), which depict 100 and 500- year flood boundaries within the park. The maps are of variable scale. FEMA has just begun a 10-year project to provide these maps in digital format, and so they are still unavailable.

DESCRIPTION OF RECOMMENDED PROJECT OR ACTIVITY:

Funding would be sought to undertake a comprehensive assessment and delineation of wetlands and floodplains in accord with NPS criteria, and meeting any federal or state requirements. This would provide baseline information necessary to make sound management decisions protecting these vital resources, while achieving overall park management objectives.

BUDGET AND FTEs:

-----FUNDED-----			
Source	Act Type	Budget (\$1000s)	FTEs
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total:		0.00	0.0
-----UNFUNDED-----			
Source	Act Type	Budget (\$1000s)	FTEs
Year 1:	WATER-RES PRO	20.00	0.0
Year 2:	WATER-RES PRO	15.00	0.0
Year 3:			
Year 4:			
Total:		35.00	0.0

(OPTIONAL) ALTERNATIVE ACTIONS/SOLUTIONS AND IMPACTS: N/A

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COMPLIANCE CODE(s): EA

EXPLANATION:

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HISTORICAL EVENTS BIBLIOGRAPHY

A. Area Bibliography

Much of the park's existing research manuscripts concerning historical events is located in the park library. Most of the studies found here were done in the early 1960's by National Park Service Historians, such as Ed Bearss and others.

1. Bearss, Edwin C., "The Attack on Petersburg, June 9, 1864," 29 pp typescript plus notes, February 1966.
2. Bearss, Edwin C., "The Battle of Boydton Plank Road, October 27-28, 1864," 97 pp typescript in 4 chapters, February 1966.
3. Bearss, Edwin C., "The Battle of Five Forks," 387 pp multilith, August 1966.
4. Bearss, Edwin C., "The Battle of Hatcher's Run, February 5-7, 1865," 92 pp typescript in 4 chapters, February 1966.
5. Bearss, Edwin C., "The Battle of the Jerusalem Plank Road, June 21-24, 1864," 82 pp typescript in 4 chapters, February 1966.
6. Bearss, Edwin C., "The Battle of Reams Station," 91 pp typescript, 1964.
7. Bearss, Edwin C., "The Battle of Peebles' Farm," 85 pp typescript, 1964.
8. Bearss, Edwin C., "Documentation for Battlefield Paintings," 126 pp typescript plus plates, October 1964,
9. Bearss, Edwin C., Documentation for Troop Movement Maps (Five areas bound separately): Battle of Fort Stedman, March 25, 1865, 26 pp typescript; Battle of the Crater, July 30, 1864, 36 pp typescript; The Union Breakthrough, April 2, 1865, 24 pp typescript; Union March 25, 1865, Attack on Confederate Pickett Line, 22 pp typescript; XI Corps' April 2, 1865, Attack on Petersburg, 19 pp typescript, February, 1966.
10. Bearss, Edwin C., "The June 15, 1864, Attack on Petersburg," 78 pp typescript plus notes, 1964.
11. Olsen, Herbert, "Poplar Grove National Cemetery History," 101 pp typescript, February 17, 1954.
12. Wallace, Lee A., and Herbert Olsen, "Study of the Taylor House Remains", and "Dating the Destruction of the Taylor House," 18 pp typescript, February 17, 1954.

13. Wallace, Lee A., and Martin Conway, "A History of Petersburg National Battlefield," NPS, 166 pp plus maps and illustrations, 1983.

14. Harrison, Thomas J., "Data For Documentary Painting on the Defense and Capture of Fort Gregg, April 2, 1865," 31 pp typescript plus maps, February 1961.

15. Harrison, T.J., and Lanford, C.B., "Crater Area Historical Report for Volume III, General Park information Master Plan for Preservation and Use of Petersburg National Battlefield." This report is in Historian file at the Battlefield.

16. Butowsky, Dr. Harry, "Appomattox Manor-City Point History," 269 pp typescript, 1978.

17. Williss, Frank, "Historical Base Maps," 153 pp plus maps and illustration, typescript, January, 1982.

18. Williss, Frank, and Richard Turk, "Historic Structures Report for Eppes Manor, Kitchen, Dairy House, Smokehouses (2), and Carriage House," NPS, DSC, October 1992.

19. Griffin, and Wilson, "Crater Tunnel Excavation," 13 pp typescript, July 13, 1962.

20. Wilson, Charles I., "Archaeological Investigations and Excavations Crater Area, Petersburg National Battlefield," 20 pp typescript, April 1976.

21. Blades, Brooke S., and Cotter, Dr. John L., "Archaeological Test Excavations at the Hare House Site, Petersburg National Battlefield," 56 pp, typescript plus illustrations, January 1978.

22. Blades, Brooke S., "Excavations at the Confederate Picket Line, Crater Area, Petersburg National Battlefield, Va.," 75 pp typescript, April 1981.

23. Blakes, Brook S., "Archeological Investigations at the Taylor House Site, Petersburg National Battlefield, Virginia," NPS, MARO, 69 pp typescript, 1993

24. Schwartz, Deborah, "Preliminary Archaeological Investigation of the City Point Unit," 11 pp typescript, December 4, 1980.

25. Ingle, John, and Michael Lee, "Report on Relocation and Restoration of Grant's Cabin," 203 pp, 1988.

26. Pfanz, Donald C., "Historic Furnishings Report, Grant's Cabin," 19 pp transcript plus illustrations, 1988.

B. Books and Documentary Resources in the Park

The park library consists of approximately 2,000 books and manuscripts. Primary categories in the library are the following:

- Manuals on guns and swords
- Military tactics, drills and manuals
- Buttons and belt buckles
- General histories of the Civil War
- Sectional histories of the Civil War
- Union biographies
- Confederate biographies
- History of Civil War battles other than Petersburg

LEGISLATIVE HISTORY

The citizens of the Commonwealth of Virginia, having experienced the full trauma of the country's only major civil conflict, realized that the most significant physical remains of the war's climatic campaign should be preserved for the appreciation of and study by future generations. This strong desire to set aside sufficient and appropriate historic ground to fully preserve and illustrate the siege of Petersburg was manifested as early as 1898, when Mr. Sydney Pond Eppes, the United States Congressman from the local Congressional District which included the Petersburg Battlefield area, introduced legislation in the 55th Congress (H.R. 5875) "to establish a national military park at Petersburg, Virginia." This bill proposed that fields of battle in the Petersburg area be preserved and suitably marked "...for historical and professional military study...", and described these fields of battle as those "...whereon were executed some of the most important maneuvers and occurred some of the most brilliant fighting in the war of the rebellion...."

H.R. 5875 did not pass the 55th Congress, so Mr. Eppes introduced a similar bill, H.R. 7345, in the 56th Congress on January 25, 1899, which provided for the establishment of "...about three thousand and forty acres, more or less." This bill provided that the park be established "...in order that the location of the battlefield surrounding the city of Petersburg, Virginia, where the engagements marking the closing scenes of the civil war were fought, may be definitely and permanently preserved, (and) that the scenes of this memorable conflict may be suitably marked for the purposes of historical and professional military study..."

H.R. 7345 also did not become law, but Congressional interest continued in the concept of a national park to preserve the battlefields around Petersburg. H.R. 83 was introduced into the 57th Congress in 1901. Congress subsequently introduced a number of joint resolutions for survey and examination of the battlefields around Petersburg so as to report whether it was advisable to establish a battlefield park. No introduced legislation became law, however, until February 11, 1925, when the "Act to provide for the inspection of the battlefields of the siege of Petersburg, Virginia" (43 Stat. 856) was signed into law.

On July 3, 1926, President Calvin Coolidge signed an Act (44 Stat. 822) "...to establish a national military park at the battlefields of the siege of Petersburg, Virginia...." The park was established "...to commemorate the campaign and siege and defense of Petersburg, Virginia, in 1864 and 1865 and to preserve for historical purposes the breastworks, earthworks, walls, or other defenses or shelters used by the armies therein, the battlefields at Petersburg...". The park was to be established "...whenever the title to the same shall have been acquired by the United States by donation and the usual jurisdiction over the lands and roads of the same shall have been granted to the United States by the State of

Virginia--that is to say, one hundred and eighty-five acres or so much thereof as the Secretary of War may deem necessary in and about the city of Petersburg, State of Virginia." The Secretary of War was authorized to accept "... on behalf of the United States, donations of lands, interests therein, or rights pertaining thereto required for the Petersburg National Military Park."

Thus, although legislation introduced into Congress as early as 1898 recognized and defined the total area necessary for protection of the battlefield around Petersburg as "...about three thousand and forty acres, more or less...", not including the site of the battle at Five Forks, by passage of the 1926 Act approximately one hundred and eighty-five acres was authorized to begin the existence of the park as a definable entity.

The Act of February 25, 1929 (45 Stat. 1301, 1305) authorized the Secretary of War "...to transfer to the Petersburg National Military Park such portion of the Camp Lee Military Reservation, Virginia, as in his discretion may be required in connection with the establishment of the Petersburg National Military Park, as authorized by the Act of Congress approved July 3, 1926." The Act of September 7, 1949 (63 Stat. 691) authorized the Department of the Army "...to transfer to the Department of the Interior, without reimbursement, two tracts of land, comprising two hundred six acres, more or less, situated on either side of Siege Road adjacent to Petersburg National Military Park, Virginia. Upon completion of such transfer, all lands, interest in lands, and other property in Federal ownership and under the administration of the National Park Service as a part of or in conjunction with Petersburg Military Park, in and about the city of Petersburg, Virginia, and comprising one thousand five hundred thirty one acres, more or less, upon publication of the description thereof in the Federal Register by the Secretary of the Interior, shall constitute the Petersburg National Military Park."

By the Act of June 5, 1942 (56 Stat. 322) and subsequent legislative and administrative actions, land was both added to and deleted from the park's land base. However, the Act of September 7, 1949, referenced in the previous paragraph, established the ceiling of 1,531 acres which exists today for the total of all Petersburg park units except the Poplar Grove National Cemetery, Five Forks Battlefield, and City Point (Eppes Manor). Poplar Grove National Cemetery, currently comprising 8.72 acres, was established pursuant to General Orders of the War Department; the Act of 1862, which gave the Army authority to establish the National Cemetery system; the Joint Resolution of Congress of April 13, 1866, which authorized and required the Secretary of War to preserve the graves of Union soldiers; and the Act to Establish and Protect National Cemeteries, approved February 22, 1867.

Executive Order No. 6166 of June 10, 1933, Reorganization of Executive Agencies, transferred the responsibility for operation and maintenance to the National Park Service. The National Park

Service follows the guidelines established by the Veterans Administration for the operation and maintenance of National Cemeteries. The mandate seems clear to preserve, protect and interpret the cemetery and its historic buildings and structures.

The Act of August 24, 1962 (76 Stat. 403), redesignated Petersburg National Military Park as the Petersburg National Battlefield. This Act also authorized the Secretary of the Interior "...to acquire by purchase with donated or appropriated funds, exchange, transfer, or by such other means as he deems to be in the public interest, not to exceed twelve hundred acres of land or interests in land at the site of the Battle of Five Forks for addition the Petersburg National Battlefield."

The National Parks and Recreation Act of 1978 (P.L. 95-625) authorized the Secretary of the Interior "...to acquire the historic Eppes Manor, and such other lands adjacent thereto, not to exceed twenty-one acres, for addition to the Petersburg National Battlefield...."

The 1916 Act establishing the National Park Service (39 Stat. 353) defines the purpose of the park, monuments and reservations under the administration of the Park Service as, "...to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generation." The mandate is clear to care for the parks, to help the public enjoy the parks and to do both in ways that insure their continued historic integrity for use beyond our time.

The Historic Sites Act of August 21, 1935 (49 Stat. 666) stated that "It is a national policy to preserve for public use historic sites, buildings, and objects of national significance for the inspiration and benefit of the United States."

CULTURAL RESOURCE DOCUMENTATION CHECKLIST

TITLE	CURRENT AND APPROVED	INCOMPLETE, NEEDS REVISION OR UPDATING	NEEDED
PLANNING DOCUMENTS			
Preauthorization and Authorization	X		
Statement for Management (SFM)		X	
Outline of Planning Requirements (OPR)			
General Management Plan (GMP)			X
Development Concept Plan (DCP)		X	
Resources Management Plan (RMP)		X	
Interpretive Prospectus (IP)			X
SERVICEWIDE INVENTORIES, LISTS, CATALOGS, AND REGISTERS			
Cultural Resources Bibliography		X	
Cultural Sites Inventory (CSI)			X
List of Classified Structures (LCS)			X
National Catalog of Museum Objects	X		
National Register of Historic Places			X
BASIC CULTURAL RESOURCE DOCUMENTS			
Archeological Overview and Assessment		X	
Archeological Identification Studies			
Archeological Evaluation Studies		X	
Ethnographic Overview & Assessment			

CULTURAL RESOURCE DOCUMENTATION CHECKLIST, cont.

TITLE	CURRENT AND APPROVED	INCOMPLETE, NEEDS REVISION OR UPDATING	NEEDED
BASIC CULTURAL RESOURCE DOCUMENTS, cont.			
Ethnographic Oral & Life Histories			
Historical Base Map	X		
Historic Resource Study (HRS)			
Park Administrative History		X	
Scope of Collection Statement		X	
SPECIAL RESOURCE STUDIES AND PLANS			
Archeological & Ethno. Collections Studies			
Archeological Data Recovery Studies			
Collection Management Plan	X		
Collection Storage Plan			X
Collection Condition Survey			
Cultural Landscape Report (CLR)			X
Ethonohistory			
Exhibit Plan			
Historic Furnishings Report		X	
Historic Structure Preservation Guide (HSPG)			X
Historic Structure Report	X		
Social Impact Study			
Special History Study	X		
Traditional Use Study	X		

INTEGRATED PEST MANAGEMENT PLAN

PETERSBURG NATIONAL BATTLEFIELD

Petersburg National Battlefield is listed on the National Register of Historic Places and is therefore zoned entirely Historic. There is a development sub-zone which includes roads, parking lots, trails, horse pastures, public use buildings, administrative buildings and special use permits. This sub-zone comprises approximately 15 % of the land base.

Approximately two thirds of the Battlefield is forested. The forest is predominately mixed hardwoods and loblolly pine. The understory is dense with honeysuckle and poison ivy as the dominant species. The remaining lands are mowed fields and developed areas.

The Battlefield is situated near the Appomattox River at Latitude 37 degrees N. and Longitude 77 degrees W.. The terrain is comprised of rolling hills with an elevation ranging between thirty feet and one hundred sixty feet above sea level.

The purpose of the Battlefield as stated in the enabling legislation of July 3, 1926 is "to commemorate the campaign and siege and defense of Petersburg, Virginia in 1864 and 1865 and to preserve for historical purposes the breastworks, earthworks, walls or other defenses or shelters used by the armies therein, the battlefields at Petersburg."

The many miles of earthworks constructed by the opposing armies are the primary historical resources that are mandated for preservation. Approximately eighteen Historic buildings and structures, as well as three Historic roads are also identified as important cultural resources.

According to the Department of Interior Departmental Manual, (1981) "It is the policy of the Dept. to use pest management research, control, education, and assistance programs to develop, support, and adopt integrated pest management (IPM) strategies wherever practicable." Additionally, Dept. of Interior Pesticide Use Policy (7/14/81), states "It is the policy of the Dept. to use pesticides only after full consideration of alternatives based on competent analysis of environmental effects, safety, specificity, effectiveness, and costs. The full range of alternatives including chemical, biological, and physical methods, and no action will be considered. When it is determined that a pesticide must be used in order to meet important management goals, the least hazardous material that will meet such goals will be chosen."

Petersburg National Battlefield's Management objectives list a number of Management Goals for the preservation and protection of the Cultural and Natural Resources. These goals can be summarized by the following excerpt:

" To manage the natural resources of the battlefield in a manner that will help protect the cultural resources and provide the visitor with a general impression of the appearance of the land during the Siege of Petersburg."

It is clear that the Dept. of Interior and the National Park Service will approve chemical usage only when all other alternatives have been considered and eliminated. Park Management strongly supports this policy, and will continue to do so in the future.

There are several situations within the park where pest management options should be considered.

1. Structural pest management is undertaken to protect the historic buildings from the devastating impacts termites and other wood boring insects can have on wood framed structures.

2. The Gypsy Moth infestation that began in the northeast has made its way into central Virginia. An active monitoring program in cooperation with the U.S. Forest Service has been in place at Petersburg and is scheduled to continue.

3. Outbreaks of Southern Pine Bark Beetle have occurred periodically within the Park and, given the right conditions, could adversely impact the historic loblolly pine which provides important visual buffer zones along park boundaries.

4. Weeds are defined as any plants growing where they are not wanted. In this context, weed control is actively undertaken throughout the developed areas of the Battlefield. Exotic plant species would also be considered for eradication.

5. Recently Lyme disease has gained national attention. Due to the great number of ticks encountered at Petersburg that have the potential to transmit Rocky Mountain Spotted Fever and Lyme Disease, a tick monitoring program has been initiated. The above mentioned situations have been identified by Management as candidates for the Integrated Pest Management Program.

The park has developed this plan to assist in preserving the historic features associated with the siege of Petersburg for which the Park was established. The biological systems associated with the historic scene must also be protected to insure that the integrity of the entire area remains. The Management goals of protecting and preserving historic structures, and stabilizing the cultural and natural landscape will be met with the assistance of prudent applications of IPM. The purpose of this environmental assessment is to evaluate potential impacts from certain management activities and to evaluate Management options within the existing regulatory framework.

Current Management Actions:

Structural Pests

Subterranean termites destroy cellulosic material including lumber, paper, cotton, and books. They can also spread wood rotting fungi. Termite damage to wood flooring and foundations reduce the structural soundness of the materials, which could lead to injury to visitors and park personnel who use the structures. Left uncontrolled, a termite infestation will result in a building being rendered structurally unsound.

The historic structures within the park are particularly susceptible to insect infestations. The Eppes Manor House, the old and new smokehouses, milkhouse, Grant's Cabin, and the garage are old, wood framed or log structures. They have been infested with termites in the past and recent activity has warranted immediate action to halt the infestation. These structures are classed as Category A structures (must be preserved). Therefore Management decided that eliminating the termites through chemical means would not be ruled out. Using the termite IPM Decision Tree, all preliminary control methods were pursued where practical, but as the infestation was active, the decision was made to use a chemical pesticide. A local pesticide contractor was hired to treat six structures with Dursban T.C. (EPA Reg.# 464-562). An annual inspection of structures for termites will be conducted to monitor the condition of the structures and to identify any new infestations that may occur.

Gypsy Moths:

The Gypsy Moth is an effective defoliator of hardwood and softwood trees. Repeated defoliation may result in increased susceptibility to other pest damage and actual tree mortality.

The Battlefield is currently located outside the high-risk area as determined by the U.S. Forest Service. Therefore, a low-density pheromone trapping program has been established. Traps are set throughout the park in early June, monitored weekly throughout the summer and collected in September. The resulting data is sent to the U.S. Forest Service Forest Pest Management Office in Asheville, N.C.. The data has shown a slight increase in captures over the past three years indicating that the infestation, though still well north of the park, is moving south.

The trapping and monitoring program will continue at its present level until a change in the number of captures warrants a more intensive response according to the Gypsy Moth IPM Decision Tree.

Southern Pine Bark Beetle:

The Battlefield is located within a highly urbanized area. The city of Petersburg adjoins the main unit. A buffer zone of predominately loblolly pine helps muffle a great deal of the noise

associated with an urban area and keeps it from distracting park

visitors. Additionally, the trees are a visual shield which help preserve the pastoral setting that is so important to the interpretation of the park.

A serious beetle infestation would threaten to destroy the trees and their buffering quality. It has been the policy in the past to intensively monitor the condition of the forest noting beetle activity and beetle caused tree mortality. Dead trees are cut down when they pose a threat to people or property. In the event of a major infestation, the Forest Pest Management office would be contacted as per the IPM Decision Tree. At that time various treatments would be considered, (cut and leave, cut-pile-burn), by Management to combat the infestation.

Weed Control:

Weed control has not been a major problem at Petersburg. All situations to date have been in the category of those that can be removed without causing surface or structural damage to the resource. Therefore, removal by hand has been the method of choice. Weeds growing in flower beds or along walkways have been removed manually. Plants adversely affecting the historic brick wall at Poplar Grove Cemetery have been removed by hand from 1985 to the present. This method of weed control will continue to be the method of choice in the future.

Ticks:

Visitor and employee safety are primary Management objectives. The presence of disease carrying ticks within the park has recently become a source of concern. The abundance of ticks in the area and the possible occurrence of Lyme disease has warranted the initiation of a tick monitoring program.

Ticks are collected using the "drag" method and the "dry ice" method. Collected ticks are then sent to a lab for analysis. This program is being conducted in conjunction with Fort Lee Army Post. Numbers of ticks collected, as well as percentages of ticks carrying Lyme disease, will be monitored over time to establish a treatment action level as enumerated in the Tick IPM Decision Tree. A public awareness program has been initiated in an attempt to make the park visitor aware of the potential health problems associated with ticks.

Alternatives.

Structural Pests:

A. Preferred Alternative.

The park will continue monitoring all structures in an attempt to identify new infestations at an early stage. Basements will be well ventilated. Water leaks will be controlled. All wood piles will be removed from around buildings. Any active infestations

will be treated with the safest recommended pesticide at the time.

B. No Action.

Under this alternative, all inspections and monitoring would cease. No preventative measures would be undertaken to control insects. This option would clearly be detrimental to the historic structures within the park and therefore would be contrary to the primary management objective of historic preservation.

C. Periodic Pesticide Treatment.

Under this alternative, each structure would be treated with an approved pesticide on a periodic basis as a preventative measure. No monitoring, inspections or other measures would be needed. This option is expensive and is in conflict with the stated Department of Interior policy referencing chemical applications. The possibility of soil and groundwater pollution would increase as unnecessary pesticides are added to the soil.

Gypsy Moths:

A. Preferred Alternative.

The park will continue to work closely with the U.S. Forest Service in the ongoing trapping and monitoring program. The program does not require many person-hours to administer and the data collected is an important indicator of the Gypsy Moth's southern progression.

B. No Action.

Under this alternative all trapping and monitoring would cease. The park would resign from the Forest Service's monitoring program. Management would have no idea what the level of Gypsy Moth infestation was within the park.

C. Increased Response.

This alternative would dictate that more traps would be located in the field and active egg mass counts would begin. All egg masses would be manually destroyed. This option would require a greater person-hour commitment and the added benefits may be negligible.

Southern Pine Bark Beetle:

A. Preferred Alternative.

Park Management has determined the preferred alternative to be a continuation of the current management actions. The forest will be monitored throughout the year for signs of Southern Pine Bark Beetle damage. If located, the damage will be documented and monitored to determine the extent of the infestation. Dead trees will be felled when they present a threat to persons or property. The U.S. Forest Service will be notified of large infestations and consulted to determine management options. This "minimum interference" option is consistent with Department and N.P.S. policy.

B. No Action.

Under this alternative, no forest monitoring or inspections would be conducted. Once a beetle infestation began, no control methods would be considered. This option might result in the loss of the

loblolly pine forest and its positive buffering effects. Hazard tree numbers would increase sharply creating new management problems.

C. Intensive Control.

Should this alternative be chosen, once a beetle infestation is discovered, aggressive control techniques would be initiated. Infected trees would be cut, limbed, and bucked. The trees would then be sprayed with the approved pesticide. This option insures that a major forest threatening infestation would not occur.

Southern Pine Bark Beetle occurs naturally in the area and therefore should not be extirpated whenever it is encountered. Historically, the park has had only small, widely spread infestations which kill very few trees. As a result, the forest canopy is opened, and pine regeneration is intensive. Therefore management has decided not to adopt this alternative.

Weed Control:

A. Preferred Alternative.

Weed removal by hand is the preferred alternative. Under certain circumstances, chemical applications would be more efficient and cost effective. Management has decided, however, to use chemicals only as a last resort, when all other methods of weed control are unsuccessful. This option is consistent with Department policy.

B. No Action.

Under this alternative, weeds would not be controlled. The walkways would become overgrown and present safety hazards to park visitors. Historic buildings would also become overgrown, accelerating their structural decomposition. This option disregards visitor safety and historic preservation and therefore cannot be adopted.

C. Chemical Control.

This alternative would permit the use of herbicides to control unwanted plants such as poison ivy, honeysuckle, bermuda grass and dandelion. Although chemical weed control is an efficient use of personnel, the weed control IPM Decision Tree authorizes the use of only a very few herbicides spot-treat stumps as a deterrent to resprouting. As management has determined that all weeds encountered within the park can be removed by hand, the chemical option is not available.

Ticks:

A. Preferred Alternative.

Lyme disease is a relatively new disease and as such, has not been adequately studied to determine its range. Additionally, the public has not been adequately informed about Lyme disease and

knows very little about its transmission, symptoms, and treatment. Rocky Mountain Spotted Fever, another tick borne disease, also has the potential to become established in the area. The preferred alternative is to continue the tick monitoring program initiated in 1988. Before any decisions can be made concerning tick control, baseline data as to species, relative numbers, and infected ticks must be collected. The public awareness initiative must also be continued. Due to the large numbers of ticks in the park, visitors need to be aware of the potential tick problem, and methods to employ which would reduce their chances of being bitten by a tick. Information will be made available concerning known tick habitats, personal protection methods and proper tick removal techniques.

B. No Action.

Under this alternative, monitoring and public awareness initiatives would cease. Park management would receive no data concerning tick populations and Lyme disease upon which to base health and safety decisions. The visiting public would receive no information concerning tick awareness and personal safety.

C. Chemical Alternative.

The chemicals fenthion, propoxur, and sumithion have been shown to provide effective tick control in fields and wooded areas. Since the park is known to contain large numbers of ticks, applications of pesticides to reduce the tick population would be initiated. This option would certainly reduce the tick population, but according to the Tick IPM Decision Tree, monitoring must occur to determine if there is a problem before other, more intensive alternatives will be considered.

Consequences.

The Management at Petersburg National Battlefield is strongly committed to the IPM philosophy and believes the NPS should be a leader and role model in this field. By documenting successful IPM solutions to challenges that would have, before institutionalizing IPM, been controlled with various chemical applications, we can influence other agencies to also adopt Integrated Pest Management techniques.

The consequences of implementing the preferred alternatives in each of the five IPM situations are as follows:

1. Park staff will be committed to an active resource monitoring program which will result in the accumulation of sound data to be used in formulating management decisions. The monitoring will also reveal any changes in the resource (insect infestations, weed encroachment) that might indicate an IPM problem.
2. The systematic use of the various IPM Decision Trees will result in procedural consistency with all areas using Integrated Pest Management.

3. In all but one situation (structural pests), chemical applications are not being considered, and the likelihood of future consideration is low.

4. Implementation of the preferred alternatives will not have a great impact on staff, as these techniques are currently in use.

The cumulative impact on the park's resources associated with adopting the IPM program is negligible.

Soils: There will be no impact on the soils except in the treatment of structural pests. The pesticide Dursban T.C. will be introduced into the soil around historic structures to control the insect infestations of the buildings.

Wildlife: The IPM program will have no significant impact on wildlife.

Vegetation: A small number of trees will be killed by Southern Pine Bark Beetles which will not be considered a negative impact.

Water: The possibility of an insecticide contaminating the water in treated areas is small. Should some chemical reach the ground water, it will not be in a concentration that is considered detrimental.

Recreation/Visitation: The implementation of the IPM program will have only positive impacts on the park visitor and his/her park experience. Visitor safety will be increased through weed control techniques and tick awareness programs. Historic structures will be preserved in a safe condition for future generations of park visitors to appreciate, which will achieve the primary purpose for which the National Battlefield was established.

Contacts and References

U.S. Forest Service, Asheville, N.C.

Integrated Pest Management Manual
National Park Service, Sept. 1985

Petersburg National Battlefield
Resource Management Plan, 3/28/87

Petersburg National Battlefield
Wildfire Management Plan, 7/8/87