Preservation and Interpretive Plan for the Dill Tract
Civil War Earthworks on James Island, South Carolina

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PRESERVATION AND INTERPRETIVE PLAN
FOR THE DILL TRACT CIVIL WAR EARTHWORKS
ON JAMES ISLAND, SOUTH CAROLINA

for the
DEPARTMENT OF PARKS
CITY OF CHARLESTON, SOUTH CAROLINA

SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA

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Prepared by the
SOUTH CAROLINA INSTITUTE OF ARCHAEOLOGY AND ANTHROPOLOGY
UNIVERSITY OF SOUTH CAROLINA

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ABSTRACT

Beginning in the late fall of 1862 the Confederate Army defending Charleston began work on a line of earthworks and batteries across James Island, South Carolina, from Secessionville to the Stono River. The lines were called the “New Lines” to distinguish them from other lines built in 1861. Today, approximately 3,000 feet of these lines still exist in very good condition on a 17.3 acre tract of land that represent a portion of the Dill Tract. The tract and earthworks (archaeological site 38CH195) are part of a noncontiguous district listed on the National Register of Historic Places and are owned by the City of Charleston. The City desires to protect and manage the earthworks in a manner that will allow for public visitation. This plan presents a preservation and interpretive plan for earthwork management. This plan is accompanied by an Interpretive Trail Map as a separate document.
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Steven D. Smith
CHAPTER I: PLAN INTRODUCTION

Introduction

This report presents a preservation plan for a line of Civil War earthworks located on a 17.3 acre tract of land owned by the City of Charleston on James Island, South Carolina (Figures 1.1, 1.2). The earthworks (archaeological site 38CH195) are part of a noncontiguous district listed on the National Register of Historic Places as the outer defenses of Charleston. The lines were built by the Confederate Army for the defense of Charleston, South Carolina, beginning late in 1862. This surviving section of lines formed a part of a continuous defensive position that ran from Secessionville to the Stono River and were known historically as the "New Lines." The lines were anchored by Battery Lamar on the eastern end and by Battery Pringle on the western end at the Stono River. Along the lines were a series of smaller batteries. Two of these batteries, Battery No. 1 and an unnamed battery, are within the 17.3 acre tract. Today, this tract, and a 68.8 acre parcel of city property immediately adjacent to it, are commonly known as the "Dill Tract" after its former owners, the Dill family (from pre-1887 to the 1970s). There is some confusion in the use of this name as the Dill family land historically included a much larger parcel, part of which is now owned by The Charleston Museum (along the Stono River). The museum portion is also often referred to as the "Dill Tract." For the purposes of this report, the "Dill Tract" only refers to the land under the ownership of the City of Charleston.

The goals of this preservation plan are primarily focused on the City's preservation and interpretation of the 17.3 acre linear section of land that contains visible Civil War earthworks. However, preservation and interpretation can not be successful without accounting for the City's plans for 36 acres of upland found within the 68.8 acre tract adjacent the 17.3 acre tract, and the preservation of Civil War resources in Charleston as a whole. Furthermore, the 36 acre area contains clear archaeological evidence of a Confederate camp occupied by the soldiers who manned the earthworks (Butler 1999). Any preservation plan must therefore incorporate these resources into its interpretive program. For this reason the preservation plan takes a broader perspective than the 17.3 acres.

This preservation plan was developed by the South Carolina Institute of Archaeology and Anthropology under a Letter of Agreement with the City of Charleston. Funding was provided by the U.S. Department of the Interior, National Park Service, American Battlefield Protection Program, through a grant to the City of Charleston.
Figure 1.1. Project Area.
Figure 1.2 City Plat Showing 17.3 and 36 Acre Section of the Dill Tract.
Specific objectives of this plan were as follows: 1) compile historical research conducted as a result of a previous archaeological survey of the 36 acre tract for the City of Charleston (Butler 1999); 2) identify landscape features that may be used for future interpretation; 3) apply data collected to existing landscape to create a "historical base map" of the earthworks and surrounding area (defined here as a map of the earthworks and 36 acre tract showing a hypothetical interpretive trail); and, 4) conduct detailed analysis and prepare a final report on the best approaches and/or strategies to be utilized for preservation and interpretation. The greatest emphasis in this report was to be on objective 4, the preparation of a preservation management plan. Funding limitations precluded extensive historical research, which will be needed eventually for site interpretation. This research will assist in any final plans for on-site interpretation. Also, while archaeological investigation of the 36 acres north or 'behind' the lines has been conducted, no archaeological work has been done within the lines. Such work will also assist in the final interpretation plans. Finally, the base map is provided as a separate document and entitled, “Interpretive Trail Map.”

This plan consists of the following chapters. Concluding this chapter are brief environmental and other background sections that are necessary for understanding the plan’s goals and directions. Chapter II provides a historical summary focusing on the Civil War period as a context for understanding the significance of the resource. Chapter III is the heart of the plan, containing a detailed discussion of the site's potential and a series of options for site preservation and interpretation. The final chapter summarizes the recommendations in Chapter IV. Two appendices are provided: 1) sample draft text that might be used for signage; and, 2) a glossary of terms.

Environmental Setting

Butler (1999:4-7) provided an environmental setting for the Dill Tract describing the project area as being on James Island, a part of the sea island complex zone along South Carolina’s lower coastal plain. James Island is an erosional remnant island defined as being separated from the mainland by a complex of interlacing tidal flats, marshes, and creeks that lead to the ocean. Major named watercourses that roughly define the island include the Stono River on the west, Charleston Harbor on the east, Folly River to the south and Wappoo Cut on the north. These creeks and marshes were initially formed as a result of sea level changes from the last 10,000 years (Kovacik and Winberry 1989:24-25). James Island is protected from the ocean by Folly Island, a barrier island which takes the brunt of wind, wave, and tides.

Topographically, James Island is almost flat. Areas of more than 6% slope are rare in Charleston County as a whole and more rare on James Island. The James Island base consists of layers of sedimentation consisting of marine sands, silts, and muds, formed some 180 million years ago when the sea reached inland to the South Carolina Piedmont. Sea level has in general
receded ever since, though fluctuations have occurred. The most influential to the present-day landscape were those fluctuations in the last 6,000 years, which according to Brooks et al. (1989) have been on the order of two meters periodically, on a 400 to 500 year cycle.

Soils in the project area consist of Kiawah loamy fine sand that is poorly drained and Wando loamy fine sand that is excessively drained, both usually found in wooded setting like the tract (Miller 1971:17, 31). Crops do well in such soil if drainage is assisted by land modification. For the Civil War soldier, it would have made for relatively easy digging, but it also would have been difficult to keep in place. Currently the project area is also covered with a thick understory of brush intermixed with downed trees as a result of hurricane Hugo.

Climate in the region is subtropical, mild and temperate throughout the year with ample rainfall. The prevailing winds in the city of Charleston are northerly in fall and winter and southerly in spring and summer. Ocean breezes modify hot, humid summer days that reach an average daily temperature of 81 degrees in July and August, while the coldest winter days still reach a mean high of 48 degrees in January (Kovacik and Winberry 1989:Maps 3.2 and 3.4). Average participation is 124.7 cm with rain most frequent in the summer months. This makes for a growing season of 266 days (Butler 1999:4-5; Miller 1971:72-73). As noted, hurricanes threaten annually and have caused major damage to both landscape and man within the recent past. Within the last twenty years there have been two major hurricanes, Gracie in 1979 and Hugo in 1989. Within the memory of the author the area has at least been threatened by a hurricane most years. Charleston also has a history of earthquakes the most devastating being in 1886.

Despite such natural occurrences, Charleston and James Island are highly desirable places to live because of their culture, climate, and history. For this reason, there is great pressure for increased residential development, the most recent threat to the project tract being the new construction of an apartment complex immediately behind its eastern portion (Figure 1.2). New residents on James Island increase demand for services. The city sees the 36 acres of land behind the earthworks as a desirable location for public recreational facilities. Thus the need for this plan is seen in that what makes Charleston a desirable place to live and visit--its history and services--is threatened by those desiring to live and visit there.

Previous Archaeological Research

Within the 17.3 acre project tract, the earthworks were first identified as an archaeological site in 1977 by C. Paysinger (SCIAA Site Form 38CH195). However, formal archaeological investigations have not been attempted within the earthworks. Brockington and Associates, Inc., (Butler 1999) did map the earthworks using GPS technology (Figure 1.3).
Figure 1.3 Brockington and Associates, Inc. GPS Map of the Dill Tract Earthworks.
Previous archaeological work in the immediate vicinity has securely established the presence of significant Civil War period archaeological resources. Archaeological pedestrian survey on the adjacent western property, owned by The Charleston Museum, discovered 16 sites dating from the prehistoric Woodland period to post civil war homesteads, but more critical to this plan, the survey revealed the presence of Civil War Battery Pringle (38CH464) and Leroy (38CH465) (Calhoun 1986a and b; Hacker and Zierden 1986). A survey prior to the construction of a K-Mart® on Folly Road, immediately east of the tract, resulted in the identification of 38CH1439, which appears to be an easterly extension of the Dill Tract earthworks (Gunn 1992). Site 38CH196, known as Battery No. 2, once part of the these same Confederate lines, was located just south of the K-mart®, but has been destroyed (Figure 1.4).

Most significantly, the 36 acre upland area owned by the city behind (north) of the lines has been surveyed by Brockington and Associates, Inc. (Butler 1999), and the remains of the Confederate occupation have been located in the form of artifacts and features (38CH1723). In addition, sites 38CH1710, 38CH1711, and 38CH1713, also behind (north) of the lines and adjacent to the city property, contained artifacts representing the Confederate occupation of the area. The evaluation of these resources has determined that the site 38CH1723 is eligible for the National Register of Historic Places under criterion A and D at the national level of significance. The lines themselves are already listed as part of a multiple property nomination.

In addition, informants with knowledge of the area have indicated that Civil War relic collectors have found buttons and small items, but not in great quantities (Willis Keith, personal communication, February, 1998). Mr. William Judd, who has mapped the area (Figure 1.5), has indicated that depressions exist behind (north of) Battery No. 1 and that they are probably associated with a magazine (William Judd, personal communication, February, 1998).

From these past investigations, the City of Charleston can be assured that the earthworks within the 17.3 acre tract will have an archaeological component. This fact must be taken into account in any preservation and interpretation of the site.

But beyond the obvious earthworks, past historical and archaeological investigations in the region practically guarantee that significant archaeological remains are present in both the earthwork and 36 acre tracts. Archaeological investigations at Federal encampments in South Carolina have revealed wells, trash pits, post holes, tent platforms, roads, and latrines (sinks) (Legg and Smith 1989; Legg et al. 1991). Locally, work behind portions of the Confederate lines near Secessionville and Fort Johnson have revealed features associated with camps and military activities (Trinkley 1996, Trinkley, Adams, and Hacker 1994). Hagood indicates that "The troops on James Island were generally huted..." (1989:172) and archaeological evidence for these “huts” were seen by Trinkley at Secessionville (Trinkley 1996).
Figure 1.4 Archaeological Sites Surrounding the Dill Tract (Butler 1999:Figure 9, p. 50).
Figure 1.5 Survey Drawing of the Dill Tract Earthworks by William Judd.
Civil War Earthworks and Preservation Planning

Rapid development across the southeast has meant that the physical remnants of the Civil War are increasingly under threat. Meanwhile, tourism at Civil War heritage parks grows annually. Civil War books are a burgeoning area of publishing. A growing national obsession with all aspects of the Civil War has drawn increasing public pressure to preserve those remnants that are still in existence. Preservationists and private citizens are rallying to save and expand portions of national treasures like Gettysburg and the fortifications around Richmond. The National Park Service has reacted to this public interest in a variety of ways. Civil War parks are being re-landscaped to the Civil War era look. National initiatives, such as the recent conference "Holding the High Ground" are working toward new, broader interpretive programs. Most importantly, a program within the National Park Service called the American Battlefield Protection Program was initiated in 1990. This program focuses on managing and preserving battlefields in the public trust, and on assisting in the acquisition of endangered battlefields (Townsend 1997). All in all, the Civil War is an important part of our national heritage, and for this reason, efforts to save any part of that history are essential and will become more important in the future.

Charleston is "synonymous with history" (Zierden and Calhoun 1984:115). A major part of that history is the history of Charleston during the Civil War. Secession began there. The war began in its harbor. The city endured the longest siege of the war. Across the county reminders of the war still are present. Because the Civil War is so important to our nation and because so much of it happened in Charleston, the City of Charleston has an obligation to the American people to preserve what remnants remain. Accordingly, preservation planning has been critical to Charleston's development for some time. The national effort to preserve historic housing in the city was one of, if not the first, organized efforts in the nation. Recently archaeology has been recognized as a part of this process. One of the first efforts to incorporate archaeological resources into city planning was Martha Zierden and Jeanne Calhoun's archaeological preservation plan for Charleston (Zierden and Calhoun 1984). This plan reviewed what was known about the archaeology of the city at that time and made recommendations for the future. One of the more important recommendations made was that all earthmoving within the city be considered to have potential for archaeological resources (Zierden and Calhoun 1984: 115-116), and should trigger documentary search followed by archaeological excavation or monitoring during construction.

While Zierden and Calhoun's plan was targeted for the downtown region, a county-wide archaeological plan was developed in 1992 (Stine 1992). This plan was an effort to make city and county officials aware of the vast range and variety of archaeological resources that were present across the county. This plan recommended a systematic survey of Charleston County so that city planners would have knowledge of archaeological resources prior to any future development. A county preservation ordinance was also recommended.
The 1992 archaeological plan also recommended a program of site interpretation, especially for Civil War sites and the Dill Property was included in that recommendation (Stine 1992:108-109). It was concluded at that time that Charleston was not making full use of its Civil War archaeological resources as a part of their tourism program. Fort Sumter, was of course, well known, but throughout the surrounding the region were, and still are, numerous batteries, lines and other locations that could be interpreted in a holistic manner. Driving tours and interpretive centers could be created to tell the whole story of Charleston in the Civil War. In this framework, isolated sites like the Dill Tract are better understood within a larger context. This still holds true today.

As part of the National Park Service's American Battlefield Protection Program a commission was formed in 1991 to study the nation's battlefield sites. This commission traveled the country to identify important battlefields that were under threat of development. The commission developed a rating system to rank the importance of these sites in conjunction with their need for preservation action. Among those sites listed as Priority I sites, those that needed preservation action by the year 2000, was South Carolina's Secessionville battlefield on James Island (Townsend 1997:9). The Dill Tract is, of course, a part of this battlefield. Fortunately, Battery Lamar, at the focal point of the battle of Secessionville, has been acquired by the South Carolina Heritage Trust. Other points of the battlefield, and other locations of important earthworks related to the Civil War are not so protected. Hopefully this plan, specifically focused on the Dill Tract's earthworks, will instigate a broader program of Civil War preservation for the City.
CHAPTER II: HISTORICAL OVERVIEW

The siege of Charleston, South Carolina, eventually became the longest siege of the American Civil War. The town would not fall to the Union until February 1865, long after the city's military importance was of any consequence. Even then, it was abandoned only because Union General William T. Sherman's army had captured Georgia and was penetrating the South Carolina lowcountry. When Charleston fell, the war was all but over.

But in 1861, Charleston was of critical importance to both the North and South. Without major industrial strength of its own, the South had to rely on other nations, primarily in Europe, for rifles, swords, cannon, medicines, and even food. Ports like Wilmington, Savannah, and New Orleans were important distribution points where materials arrived from overseas and were shipped to Confederate armies throughout the South. Charleston was clearly the most important of these South Atlantic seaports. From Charleston's protected harbor, a railroad network ran north to North Carolina and Virginia, and south to Georgia. Some sixty-three steam blockade runners operated in and out of this port of call. Charleston, "That viper's nest and breeding place of rebellion," was as crucial to Southern morale to hold, as it was to Northern morale to take. The capture of Charleston would be a "deathblow" to the rebellion, according to Thomas Dudley, the United States consul at Liverpool (Wise 1988:122).

But Charleston was well protected from naval attack, both by natural features and by man-made fortifications built long before the war (Figure 2.1, 2.2). Central to its defenses was Fort Sumter, sitting formidably on the south side of the main channel. Castle Pickney on Shutes Island, and Fort Moultrie on Sullivans Island completed the brick forts defending Charleston. Confederate General P.G.T. Beauregard added to these key fortresses earthen batteries around the perimeter of the harbor. These batteries included additional works at Fort Moultrie and Battery Beauregard on Sullivans Island, Fort Johnson on James Island, and Batteries Wagner and Gregg on Morris Island.

Protecting Charleston from a land attack was more problematic. Without adequate troops, the Confederacy could not cover all possible invasion scenarios. So it concentrated on protecting Charleston from attack via James Island, the most likely route of attack, and left the outer islands like Edisto Island, Johns Island, Folly Island, and Coles Island uncontested. On James Island the rebels built an extensive line of earthworks to protect Fort Johnson. These lines ran along the Folly Island road and intersected the Fort Johnson road. There they awaited the arrival of Union forces.

Abraham Lincoln quickly recognized the importance of denying the Confederacy access to Europe's markets and in April 1861 ordered a blockade of all Southern ports. Later that year the Federal Navy occupied Port Royal, South Carolina, while the Army landed at Hilton Head, thus establishing a base for operations in the southern Atlantic. Soldiers, sailors and supplies crowded into these bases and prepared for the capture of Charleston. The campaign began on December 20, 1861, though it was hardly an auspicious beginning. The Union Navy sunk a number of otherwise useless old whaling ships and merchantmen in the main harbor channel in an attempt to block-off entry. This action, and a similar attempt a month later, did little to block the harbor. The wrecks were sunk in place with stone and once the wooden hulks gave way, the current rushing against the stone scoured the channel. The North had unintentionally improved navigation.

Figure 2.1 Map of the Defenses of Charleston Harbor (Davis et al. 1978:Plate IV).
Needing a victory to strengthen Northern war resolve Lincoln demanded more action. So General Henry W. Benham led a 7,500 man force up the Stono River and landed on James Island on June 2, 1862. Benham skirmished with the Confederates, but failed to attack in force. He was being held back by General Hunter, Commander of the Department of the South, who wanted Benham to wait for reinforcements before making a move. Meanwhile, unimpressed by the Union beachhead, the Confederates took the initiative and attacked first on June 10th. The Confederate thrust was quickly repulsed, and accomplished little except to encourage the North that victory would be easy. So on June 16, 1862, Benham made his move inland in what might be called a reconnaissance in force. Unfortunately he ended up ramming his army against the strong Confederate fort at Secessionville (Brennan 1996; Power 1992). In a furious three and one half hour battle the Federals suffered some 683 casualties. One Confederate, who toured the battlefield afterward wrote his mother "such a sight I do not wish to see again. I saw men laying in all kinds of postures, some in the very act of shooting off their Guns, some loading & some looked as though they were praying after they were wounded & died" (Power 1992:168). The Confederate defenders also took heavy casualties, losing some 204 men.

For the next ten months, the Union leaders bickered over strategy. Assistant Secretary of the Navy, Gustavus V. Fox, ordered Admiral Samuel F. Du Pont to run his squadron of ironclads into Charleston Harbor, past the ring of Confederate fortifications. Du Pont, recognizing the madness of such an unsupported move, delayed. Fox finally agreed to support the naval attack with a simultaneous landing of troops on Morris Island, and for a short while, a massive land and sea attack was being planned. The idea was that during the ironclad attack, Confederate Battery

Figure 2.2 Map of the Defenses of Charleston City and Harbor, 1862-5 (Roman 1884:81).
Wagner on Morris Island would be captured after an amphibious landing, and then siege guns would be placed there to finish the job of neutralizing Fort Sumter. Without Fort Sumter, Charleston would fall. But the plan fell apart when both the Army and Navy lost heart in their ability to get troops en masse onto Morris Island. Eventually, a joint move was decided, though less bold. On April 6 and 7, 1863, Colonel Joshua B. Howell's XVIII Army Corps and part of General Alfred Terry's X Army corps, some 10,000 soldiers, landed on Folly Island (Legg and Smith 1989). They immediately marched to the north end for an assault against Morris Island planned the following day, after a naval attack by Du Pont. Despite feeble attempts to keep concealed, Confederate pickets watched the entire affair. They were well prepared for the Union's next move.

Du Pont, unconvinced that a naval assault into Charleston Harbor would work, quickly fulfilled his own prophecy. In less than two hours, the assault was over. From protected positions, with guns ranged and sighted, the Confederate cannon registered 520 hits against Du Pont's hesitantly attacking fleet, severely damaging five of his seven ironclads. The Union Navy returned only 139 shots against the intensive Confederate fire. In an understatement, Du Pont was left to write "I have attempted to take the bull by the horns, but he was too much for us" (O.R. Series 1, Volume 14 1890:437). With the defeat of the ironclads, the Union infantry on Folly Island was left to dig in, hold, and await further orders.

The order to take the offensive again would not come until July. By that time the soldiers on Folly Island were under a different command. General Israel Vogdes [pronounced vog-days] was placed in command of the troops building defensive positions on Folly Island, while General Quincy A. Gillmore was placed in command of the Department of the South. Union troops continued to land on Folly Island, Coles Island, and North Edisto Island. Folly Island became the staging area for the rest of the campaign, and suffered from the Union's intensive occupation, which denuded the island of its forest cover.

General Gillmore's strategy for the capture of Charleston was similar to previous proposals. Specifically, the North would cross over to Morris Island in force, supported by masked batteries on the north end of Folly Island. To keep the Confederates guessing, a detachment of troops would feint an attack on James Island at the same time. Once on Morris Island, they would immediately move northeast along the beach to capture Battery Wagner, and from there begin the process of silencing Fort Sumter through bombardment.

Preparations for the attack concentrated on the north end of Folly Island. Working at night, and in total silence, their "...duty was quite arduous," wrote one Connecticut soldier (Caldwell 1875:61). Gillmore attempted to conceal more than 11,000 soldiers and his ten batteries of some 47 field rifles and mortars, each with 200 rounds available. They were hardly invisible.
Throughout the preparations, Confederates watched the activities, pickets taunted the Unionists that "General Beauregard had such an exalted opinion of the Yankees on Folly Island that he was coming over...[to give them] all a 'farm six feet by two'" (Caldwell 1875:65).

Even though all evidence pointed to an imminent assault on Morris Island, Confederate General Beauregard was still worried that the main assault against Charleston would be through his lines on James Island. With that still possible, he could not afford to move too many troops from James Island into his fortifications on Morris Island. There was little he could do but wait while his soldiers taunted the Federals.

The attack came on July 8, 1863. It began with General Alfred H. Terry's feint onto James Island, with 3,800 men. A landing in force on Morris Island was to follow Terry's demonstration, but the weather would not cooperate and the main attack did not go until July 10th. After a two-hour bombardment by the guns on Folly Island in addition to gunboats, the amphibious landing was not strongly challenged. The Union forces soon pushed through the Confederate fortifications on the south end of Morris Island, and proceeded up the beach toward Battery Wagner.

The battle for Battery Wagner is now well documented (Wise 1994). The Federals attacked the next day and were repulsed after heavy casualties. Then a week later on July 18th, the African American 54th Massachusetts Volunteer Infantry was among other Union regiments that were severely blooded in another frontal attack against the Battery. Over forty percent of the regiment was lost, many buried by the Southerners along with their commander Colonel Robert Shaw. The New York Tribune reported that the 54th "made Fort Wagner such a name for the colored race as Bunker Hill has been for ninety years to the white Yankees" (Ward, Burns, and Burns 1990:248).

With the loss of more than 1,500 men in two attacks against Battery Wagner, in addition to the losses at Secessionville, the offensive spirit of the Union waned. A long siege began that was to last some nineteen months. During the siege, Charleston and Fort Sumter were subjected to sporadic bombardments while the Confederate defenders returned fire. In September the Confederates abandoned Battery Wagner after the Union army had spent months zigzagging their trenches closer and closer. For the Confederates, Battery Wagner had fulfilled its mission well, costing the Union much time, effort and blood.

Throughout the attacks and bombardments, the Confederates had not stood still, but continued entrenching and strengthening lines where they could. Much of this activity was seen on James Island, where the Confederates always believed the Union would eventually attack. Back in March of 1863, General Beauregard had assembled a board to review the Charleston defenses. The board recognized the inadequacy of General Pemberton's old lines and suggested a line of defenses beginning with a strong battery at Grimballs Landing and pushing on to Secessionville.
Figure 2.3 Map of New Lines by Dana MacBean Compiled From Hotchkiss, Wilcox, Ripley, Keith, Brennan, and MacBean (Draft August 1998).

(Wise 1998). But opposition to the plan delayed its implementation. Through the summer of that year bickering continued but in the end it was Colonel Charles H. Simonton of the 25th South Carolina who successfully pushed for and designed the New Lines. Construction began in the late summer of 1863 (Figure 2.3). Orders were first issued in August of that year, stating that "The chief engineer was instructed to lay out and erect a line of works on James Island, from Secessionville to Dill's house on the Stono, in lieu of present defensive lines; to consist of lunettes with closed gorges; disposed at one-half to three-quarters of a mile apart and connected by cumulative infantry lines" (Hagood 1989:150). Furthermore, on August 14, 1863, "Brigadier-General Ripley was instructed as to the armament of certain portions of the new lines on James Island..." (Roman 1884 v2:151). From that hot August throughout the fall and winter, the lines continued to be strengthened. For instance, in September, 1863, Brigadier Johnson Hagood wrote:

On James Island, with which the writer is most familiar, these [lines] became very complete. Pemberton's and Ripley's lines from Secessionville, by way of Royall's house to Fort Pemberton, were abandoned. Starting at Secessionville a line much shorter was carried to Dill's, just above Grimballe's
on the Stono. This was a cremaillere [crenelated] infantry breastwork of strong profile, with heavy enclosed redoubts securing that flank (Hagood 1910:171).

Construction proceeded apace and by September Battery Pringle, named for Robert Pringle, was ready for arming (Wise 1988). During October the Confederacy had some 4,000 slaves laboring to complete the lines. By the end of that month guns were being placed along the New Lines (Ripley 1986:66-67). The following month, the men on James Island received a visit from the President of the Confederacy himself, Jefferson Davis. It is quite possible that the President visited the lines along the Dill tract earthworks as it is recorded that he "...inspected the works closely, going at a rapid gallop with his cortege from battery to battery and stopping long enough to receive a salute and ride around the regiments which were drawn up along his route, each near its post" (Hagood 1910:171). Upon completion the lines stretched some 2.5 miles across James Island.

Although there is little mention of the New Lines for the next six months it is known that the lines were continually occupied by a small force. In April, 1864, Company G of the 2nd Regiment, South Carolina Artillery, was inspected by Major Edward Manigault. Company G was stationed at "Batteries Nos. 1 & 2, New Lines, James Island." Battery No. 1 held five siege guns including two 12 pounder smooth bores; 1 rifled 12 pounder and two 24 pounder smooth bores. Manigault reported that the magazine was in good order but the ammunition chests were not, and the bomb proof was unfinished. Why this had not been completed during the late fall and winter is not known. There certainly was enough time. Perhaps the explanation lay in Manigault's comments regarding the troops there. Major Manigault found them "Only Moderately well disciplined & instructed..." with a motley assortment of personal arms and indifferent clothing, although accouterments were "tolerably good" (Ripley 1986:146-147).

In August, 1864, Major Manigault again inspected the lines and reported that Battery No. 1 held 7 guns, having added two 8 inch howitzers. But again the ammunition chests were a problem. The magazine was "dry, but not floored," water was flowing in and the bomb proof was still incomplete" (Ripley 1986:237). Apparently, little had been done between April and August. The garrison along the lines was still a detachment of Company G. Under the inspection report of Battery No. 2 Manigault found the quarters clean and comfortable and sinks provided. Still his assessment of the troops had not changed.

During this inspection, Manigault also inspected "Battery Zero" several times. Where on the New Lines this was located is not known but it is very likely to have been Battery Leroy, now on The Charleston Museum property across from the Dill Tract. Manigault's sketch on the lines (Figure 2.4) shows the relationship of No. 1 and an unnumbered battery, which is the location of Battery Leroy. (During this time, the lines were complete all the way to Battery Leroy.) While
Figure 2.4 Sketch of Defenses of Charleston by Manigault, 1864 (Ripley 1986:inset 101).
Manigault's sketch is not very accurate, but it does imply that Battery Leroy and Battery Zero are the same. In any case, on August 12, 1864, Battery Zero contained one 8 inch Columbiad, one 32 pounder cannon mortar, and one 10 inch mortar (Ripley 1986:221). Later that month, records indicate that Battery Zero was garrisoned by Company I, 2nd SC Artillery. Added to the armaments was one 8 inch Navy gun, not mounted. The magazine was in good condition but unlikely to remain so during heavy rains, the quarters were tents and the "matter of sinks attended to" (Ripley 1986:236-237).

Other than the fragmentary reports by Major Manigault, there is very little known about the lives of the Confederate soldiers manning the lines along the earthworks. The archaeological survey work clearly indicates that they were encamped behind the lines, probably behind Battery No. 1 (Butler 1999). If so, it appears that the camp was small, but large enough to accommodate Captain G.W. Stalling's Company G, consisting of four officers (1 Captain, 3 Lieutenants), 5 sergeants, 4 corporals, and 134 enlisted. Hagood mentions that they "were generally hutted, and, from the facility of getting private supplies from home (they were chiefly Georgians and South Carolinians), lived tolerably well. The commissariat supply was irregular and bad...[the commissariat] knows that on James Island, had it not been for private sources of supply, the troops would have often been on siege rations" (Hagood 1910:173). This is an interesting statement and could be used to pose archaeological hypotheses to be answered by the artifact assemblages recovered. The artifact assemblage also could be compared to those recovered from the archaeological assemblages of Union troops at Folly Island (Legg and Smith 1989).

Throughout the siege, the Union maintained soldiers on Folly, Morris, and Coles Islands and would occasionally probe the rebel lines on James Island. Artillery duels and bombardments were traded back and forth. Whether or not the guns of Battery No. 1 were ever fired in anger at the Union is not known, but it is likely that they at least were occasionally tested and ranging rounds were fired. It is certain that the Union never came near the battery in any major probe. The only attempt to attack the lines besides the battle of Secessionville came in the summer of 1864, but the Union again attacked the eastern portion of the lines near Secessionville and were again thrown back.

With few engagements against the North other than the possibility of occasional artillery duels, life along this part of the lines was mostly watching and waiting. It is again interesting that Major Manigault reports that the bombproofs were unfinished and then poorly maintained. From this and other statements, we can assume that moral was not high along the lines on James Island, perhaps the result of the long siege. Moral was not necessarily high with the Union army at this time either. But it should be noted that life along the James Island lines was not all drudgery and boredom as during lulls in the firing batteries, town ladies would visit the lines in carriages, and there was horse racing and gambling, and hunting for small game (Hagood 1910:173).
As the troops along the lines waited for Union attacks, events of war elsewhere in the South continued to make Charleston less and less important to the final outcome of the war. This might also explain the poor morale. During the winter of 1864, the Union began to thin the number of units besieging Charleston until there was only enough men to man the guns and to occasionally skirmish with the Confederates. The Confederate defenders were also experiencing troop withdrawals as the war was coming to a close both from the north in Virginia and the south in Georgia. Eventually, the forces of General William T. Sherman in Georgia captured Savannah and turned their attention to South Carolina. Charleston was now threatened from the rear rather than from Morris and Folly Islands. On February 17, 1865 the siege ended when the rebels abandoned the city and the coast to the Northern forces entering South Carolina from Georgia. By then, Charleston was not the prize so desperately needed in 1862, for in two months, Lee would surrender his army to Grant.
CHAPTER III: PRESERVATION PLAN

Introduction

A successful preservation plan should begin with clear, specific, reachable goals that will guide the future of the resource. The City of Charleston's goals for the Dill Tract earthworks are to: 1) preserve the earthworks in perpetuity; 2) interpret the earthworks for public understanding of their national historic significance; and 3) achieve a balance between the first two goals that will be compatible with other City responsibilities and goals. In order to reach these goals this plan outlines a series of considerations and options for the City to adopt that will sustain the earthworks. Integrated with this is a program for public interpretation.

Planning Considerations

The following are points to consider in the development of a preservation plan for a fragile earthwork with archaeological components like the Dill Tract earthworks.

Site Description

The 17.3 acre tract is a long, narrow linear property that runs approximately 3,600 feet east-west along Riverland Drive on James Island (Figures 1.1, 1.2). Its widest point is approximately 250 feet but it tapers considerably on both ends. The existing Civil War lines are entirely within the tract, however historically they continued east and west beyond the tract, meeting Battery Leroy to the west and the fortifications around Secessionville to the southeast. Today the lines beyond the tract are almost completely obliterated, with Batteries Leroy, Pringle and Lamar (Secessionville) isolated. In other words, the earthworks within the Dill Tract represent the last contiguous remnant of a once quite extensive system of Confederate lines. The tract is heavily wooded, predominately pine, and during the summer months there is a thick, sometimes impenetrable (without clearing tools) understory, throughout the tract. The canopy is well developed and thick in the summer. This canopy protects the earthworks from heavy downpours. Downed trees are also well represented, some of these the result of Hurricane Hugo. The ground surface has an leaf mat that is thick in some areas and thin in others but there are no large uncovered areas. The present understory keeps many unwanted visitors out and there is currently no sign of dirt bike trails (as yet). There is little evidence of regular human visitation, except a large amount of trash around the fringes of the property.
Along the crenelated, zig-zagged lines there are two batteries that project beyond the lines. These batteries are known as Battery No. 1 and the 'unnamed' battery. The lines between the two batteries are well protected by leaf matter, understory weeds, thorny bushes, and vines. The lines are in good condition and show little sign of active erosion. Their ditches are deep and in good condition also. Battery No. 1, which is also in good condition, has distinctive features like embrasures, ramps, salients, salley ports, and traverses, all well represented and visible for easy public interpretation. It is a massive battery and its height from the bottom of its front ditch to the parapet top may be as much as thirty feet. A depression behind, and north of, the battery is most likely a magazine. While the battery is in good condition, there are signs of erosion and it appears that some areas of the battery are very fragile. A large looter's pit on the interior has expanded in size, probably as a result of erosion. The most fragile area is the front escarpment, or battle side of the battery. The sides there are covered with a thin leaf mat, however, beneath this mat there is nothing but loose dirt. The escarpment's high, sharp angle will not support pedestrian traffic. Some type of vegetative stabilization is most likely going to be necessary to preserve this face.

The unnamed battery also has well defined traverses and gun ramps. The parapet on this battery is much lower than Battery No 1. and the escarpments are not as sharp. From the back floor of the battery to the parapet top is probably only four feet. The top of the parapet and the escarpments are also protected by a well developed leaf mat. This area is not as thickly overgrown presently and is quite attractive in its current condition.

Between the two batteries may be another battery of three parapets (Figure 1.3). This portion of the lines, however, does not have visible embrasures, traverses, or ramps, so it is difficult to tell if this section is a separate battery, or simply a salient for infantry.

There are some impacts to the lines in the form of road cuts and drainage ditches. Unfortunately, the most severe is a drainage ditch that slices Battery No. 1's western parapet (Figure 1.3). There are also small road or trail cuts between Battery No. 1 and the unnamed battery. Since these impacts are already present, they should be used to channel traffic across the battery so as to allow visitors a chance to view both sides without disturbing the earthworks. The road cut intersecting the lines nearest the eastern parapet of Battery No. 1 may actually be part of a historic road.

**Threats**

Threats to the resource will come in the form of cultural and natural elements. The Dill Tract is surrounded by both immediate and potential future threats all having to do with
the increased population and development of the island. As the earthworks are located
between a public road, an apartment complex, and in the future a recreational park, the
earthworks will surely see considerable impact from increased visitation.

Along the south property line is Riverland Drive. This road is a narrow country
road with narrow shoulders (66 foot Right of Way). Currently the road’s opposite side is
either in private housing or fields. Fortunately, part of this land is owned by The
Charleston Museum and will not be developed. The other properties may see development
in the future. Pressure to widen the road may increase as a result of on-going James Island
development here and north of the tract, however, the road has been designated a "Scenic
Highway," and this designation will hopefully preclude any widening. For the most part,
the Civil War lines run closer to the back (northern) portion of the property line, so that
there is a buffer between the road and the lines. However, Battery No. 1’s front ditch is
immediately adjacent to the road and forms part of the road drainage ditch. It will be
threatened in any road widening or routine road maintenance. This is also true for the
earthwork’s very western portion where Riverland Drive bends northward. The City
should carefully coordinate any road work with the appropriate agency, either the City
street management authority or the SC Department of Transportation, to insure that they are
aware of the historic significance of the lines and that they do not impact them
inadvertently.

Further, any communications work or sewer maintenance may also impact the site.
Re-excavation of buried cables may not impact the site any more than has already been
impacted but any deviation from these lines or new lines could impact undisturbed areas of
the earthworks. All public agencies responsible for communications, sewer, or road
maintenance need to be made aware of the potential hazards they pose to the historic
resource.

The most immediate threat comes from development in the back or along the north
line on the property’s east half. Immediately east of the tract is found a K-Mart ® store and
the property abuts the parking lot behind the store. From there and along the property’s
north line approximately to Battery No. 1 there is an apartment complex being constructed.
This is an immediate threat to the lines. Within the first 200 meters of the development,
the developer of this apartment complex has cleared the property within 10 to 30 feet of the
lines and at the current time there is absolutely no impediment between the lines and the
complex. Without a fence along the property line, we can expect to see significant damage
to the lines just as soon as the apartment complex is finished and renters move in. It is
understood that the apartment complex developers are required to build a fence along their
portion of the property line. However, the City tract’s extreme eastern portion abuts the K-
Mart ® property. The City will have to put up a fence along this section very soon. From approximately the unnamed battery westward for another 200 meters a dirt road exists within the property. Part of this road was lost to the apartment complex. This is not considered significant as the road is not believed by local historians to be a portion of the historic road that ran behind the lines during the Civil War (Dana McBean, personal communication, June 14, 2000).

West of this apartment complex the threat is not as immediate. For the moment, the property is wooded and has sections in heavy understory. This 68.8 acre tract, of which 36 acres are developable, is owned by the City. Careful planning of its development will be critical to the future of the earthworks in the 17.3 acre tract. As currently planned, a recreational park, consisting of ball parks and parking facilities will be built. There are two threats here. The first is the landscape modifications that will be necessary to turn this wooded area into an open recreation park. These modifications will impact the archaeological deposits (Confederate camp). The impact and recommendations to deal with this impact are discussed later in a section of this chapter entitled "Archaeological Research." The second impact will be from increased visitation to the earthworks as a result of publicly available facilities. A well planned site preservation and interpretation program will alleviate this problem.

Regardless of the City's plans, human visitation to the site will increase very soon from the apartment complex. Area children and young adults will find the earthworks a strong temptation for dirt bike activities. This impact can be severe on earthworks and must be prohibited. But prohibiting is not enough; a fence is essential.

A fence along the apartment complex property will go a long way toward easing the threats from that area. However, the apartment complex property line is a threat in itself. As can best be determined from GPS data (Figure 1.3 and Interpretive Trail Map), it appears that the property line runs very close to the lines, almost touching some of the northern-most earthwork parapets. This property line also turns north along the 68.8 acre City property right in the middle of Battery No. 1's magazine. (The actual property line was not marked clearly during the author's on-site visits, however, if the old survey flagging located by the author is accurate, the apartment complex property line intrudes into this magazine.) This means that a portion of the magazine's archaeological component is out of the City's control (but see Archaeological Research).

Although the site has not recently seen increased metal detecting, all Civil War earthworks are subject to such intrusions and it is known that the area has been detected in previous years. Metal detecting must be prohibited, except under conditions of controlled,
scientific work for site interpretation. In addition, digging, excavating, or any other intrusions into the earthworks must be prohibited and limited to scientific examination.

Natural phenomena most likely to threaten the earthworks are strong winds and rain. Keeping the area wooded will protect the area from rain, but strong winds in the form of hurricanes will be an on-going maintenance challenge. Another natural problem will be animals. Burrowing animals pose a threat to the earthworks. Venomous snakes pose a threat to visitors. Both of these issues are discussed further below.

**Principles of Earthwork Preservation**

The National Park Service has a long history of battlefield preservation in all types of cultural and natural environments. In 1998 the Park Service issued a draft manual for earthwork management entitled "Guide to Sustainable Earthworks Management." It behooves any public or private organization to examine this document prior to designing a program for the management of their earthworks. The following discussion summarizes the appropriate sections of that manual as they apply to the Dill Tract earthworks (National Park Service 1998).

The manual provides three general principles for the protection, sustainability and interpretation of earthworks that apply very well to Dill Tract management: 1) the works should be protected and preserved; 2) they must be managed using sustainable practices that consider (or are appropriate to) the local ecological system, and 3) earthworks that are for public interpretation should be legible. This latter principle means that the earthworks should be physically discernible and that on-site interpretation should be understandable. While it may not be popular, managers should also remember that preservation of the earthwork should take a higher priority than public interpretation. That is, any interpretive program should not cause harm to the earthworks. Or as one manager put it regarding earthworks preservation, "First do no harm."

With these principles in mind, there are four components of earthworks management that should guide the City's Dill Tract preservation program. The first of these is to perpetuate (or establish) a vegetative cover that stabilizes the soil and protects the earthworks from direct impacts of wind and water erosion (National Park Service 1998:18). The second is to minimize the impact of human activities on the earthworks including not only the obvious impacts of public visitation, but also those of the managers and maintenance crews. Third, to the extent possible, minimize potential impacts of natural phenomena.
Fourth, management activities on and near the earthworks must be in compliance with various cultural resource compliance regulations that require that the City take into account the impact its activities might have on the cultural resource. In this case, the site is listed on the National Register of Historic Places. Any excavation, earth moving, or digging may impact significant archaeological resources. While the City has conducted a survey on the adjacent property, no archaeological survey work was conducted along the lines. However, it can be assumed that the archaeological resources that might be there are significant and all management activities should proceed under that assumption. Each of these principles guide the following earthwork management discussion below. Readers are urged to follow the Interpretive Trail Map that accompanies this management plan.

Preservation and Management Plan

Currently, the earthworks are heavily covered by both trees and understory. The National Park Service has found that the best management program that preserves earthworks in a woodland is to leave the site in its wooded state and manage the woods. If interpretation is desired, low-level manipulation of the vegetation is acceptable, as long as visitation is directed and channeled along approved paths. Leaving the site in a wooded environment is also the most cost effective method of site maintenance. This management practice is highly recommended for the Dill Tract.

National Park Service experience has shown that the key to erosion control in a wooded environment is the natural forest floor. Preserving the forest floor and encouraging its development can reduce earthwork erosion to practically zero. To accomplish this, the forest is maintained in a manner in which the long-term goal is to create an semi-open forest with mature trees that provide shade and encourage a thick leaf mat. This environment also is free from heavy understory. Over time a leafy, matted forest floor is created and this is what protects the earthworks from erosion.

The key to the development of the forest floor is the trees. Management of the trees will require active maintenance and monitoring. The long-term goal of tree maintenance is to encourage the growth of mature trees around the lines to ensure the sustainability of the forest floor. At the same time, large trees on the earthwork parapets and escarpments will need to be removed, especially any that lean and are otherwise hazardous to humans or might be blown down. Damage from storm blow-downs often result in severe earthwork damage as the roots pull out large sections of the parapets. However, cutting the all the trees down on a line or battery at one time is intensive work that can also cause damage the earthworks, and be expensive. Thus, tree management on the earthworks is a process of long-term management. The goal is to eventually remove all
large trees (as a guide those over 12 inches in diameter) on the earthworks, while maintaining the canopy from nearby trees that will protect the battery from rainfall and continue to build the forest floor. This is done over several years in which dangerous (leaning and diseased) trees are first removed, then gradually, large trees on the lines or escarpments are trimmed and cut before they blow down, but not in a manner that exposes the lines to the open air.

A case could be made that tree removal on the earthworks should proceed apace because a direct hit from a hurricane could blow down many trees and cause severe damage to the earthworks in an instant. However, a slower program is still recommended. Again, it must be stressed that the goal of tree removal is not to expose the battery but to preserve the earthworks by removing the threat of tree blow down and uprooting. Trees around and near the batteries must be left in place to protect the earthworks with a leaf canopy and build up the forest floor with leaf fall. Therefore, removal of all trees on the property is not recommended.

The National Park Service recommends that hazardous trees and trees on earthwork escarpments or parapet that would damage the earthworks be hand removed. The use of a chainsaw is acceptable, but it must be done with care, so as not to harm the lines. Girdling, in combination with an herbicide is an option in areas where visitors are not planned. It is recommended that tree stumps be removed in a manner that does not uproot the tree roots. Stumps can either rot in place over time or can be assisted with a herbicide. In this manner, the roots are killed but the earthworks are not damaged. Wide-tired, light utility vehicles may be used to assist workers in debris removal. Narrow tires or other tires that might leave deep tracks should not be used. Obviously, these vehicles should not be driven on the earthworks, or driven onto the site immediately after a heavy rain. The important point is that tree removal needs to be conducted by hand labor, not with heavy machinery that could destroy good trees, the forest floor, and the archaeological deposits.

Vegetation Management and Site Interpretation

For the Dill Tract, three levels of vegetation management are prescribed. Each of these levels correspond to a different level of site interpretation (see below). The most intensive vegetative management area is the area around Battery No 1 (see Interpretive Trail Map), which also will be the focus of the most intensive site interpretation. For purposes of discussion this is designated Area A. The battery is located slightly north of the midpoint of the 17.3 acre tract and is also adjacent to the southeast corner of the proposed 36 acre recreation area. It is the most logical entry point for Dill Tract public visitation, a location away from most active recreational activities. It is here that a low-maintenance
A kiosk can be built on the 36 acre recreation tract that will lead to a path to Battery No. 1 (as shown on the Interpretive Trail Map). Parking and a picnic area should be provided as part of the larger tract. This kiosk should be the focus of site interpretation (draft text for the kiosk and other signage is provided in Appendix A). In this area, all understory should be cut and kept low—thorny vegetation, bushes, any downed trees, and all vines removed for maximum visibility of the battery. However, low vegetation on the battery parapets should remain to hold battery features in place. All clearing should be done by hand, and in special areas some herbicides can be used to control understory. It is very important that the floor mat be kept in place and, in fact, the vegetation cleared from this area should be left on the ground to build up the floor mat. Trees less than 12 inches in diameter in Area A should be removed to increase battery visibility.

Near the battery's rear, preferably near the ditch already created, a wooden platform should be built for battery viewing. A suggested location for the placement of the viewing platform is shown on the Interpretive Trail Map. This location may have to be modified based on actual ground conditions. As mentioned earlier, the exact location of the property line between the City plat and the apartment complex was not clearly marked during the author's site visits. Heavy underbrush also precluded the ability to determine the best place for the viewing platform and the path. Once the area is cleared, City planners should be able to best determine where the platform should go using the following guidelines: 1) no disturbance to the battery, 2) the best location to channel pedestrian traffic, 3) the best location for viewing, and 4) the best location to support a handicap ramp. The platform should be high enough to provide a good view of the entire battery generally at the eye level. A platform from three to five feet high would allow visitors to see over part of the parapet lines, for instance.

Shrubbery should be strategically placed along the rear of the battery so as to form an effective barrier to pedestrian traffic and bicycles. A suggested arrangement is provided on the Interpretive Trail Map. The hedge should be of a local species that is both hardy and densely limbed. Another option would be a wooden fence, built in the style of a typical farm fence of the Civil War era. However, a wooden fence may prove to be a climbing attraction for children.

Leaving the battery with a leaf mat cover is the best option. However, over the course of the park's life it may become evident that it will be impossible to keep some visitors away from the battery. Also, it may be that the steep escarpment on the front of the battery can not be maintained simply with a leaf mat cover. If erosion becomes evident, the only solution will be to plant grass or a low ground cover on the battery. If so, a hardy low maintenance grass, suitable for the local climate and the shade should be used. This
grass should be kept high, and rarely mowed. High grass is less attractive to visitors while a short golf course type grass attracts pedestrians. Also, mowing can cause damage to the battery by gouging so the grass should be cut using a weed-whip type device. The steep walls will probably preclude mechanical mowing in any event.

From the platform, a path should lead around the magazine and down a path that leads to the unnamed battery. This path should be made of a low maintenance mulch seen at many parks. This path may have to cross through the magazine, depending on the amount of room between the battery and the magazine, and the actual corner of the apartment complex property. A low bridge or wooden walkway would work here also.

The path, as drawn on the Interpretive Trail Map, leads to Area B, consisting of a trail that takes visitors on a tour of the earthworks between Battery No. 1 and the unnamed battery. Again, the rear (north) property line comes very close to the earthworks. Bridges may be necessary along this path where the property line and fence are too close to the earthworks to allow a pathway. The final placement of the path will have to be determined after the property line is better marked. The path as shown on the Interpretive Map assumes there is room but does cross the earthworks twice. Wooden bridges must be built over the earthworks at these locations so that the only ground intrusion will be the posts for the bridges. There must be a bridge built even if the path crosses over the lines where a path already exists. These areas where the lines have already been breached are still sensitive to continued traffic. A bridge will control future erosion of the lines by pedestrian traffic and help to keep pedestrians on the path.

As drawn on the map, the path crosses the lines on one path, leads down the front of the lines, crosses a ditch and then crosses the earthworks again. The path along the front of the lines needs careful consideration. A path along the front is best for increasing path length and for visitors to see a representative portion of the earthworks from various angles. However, bringing the path to the front of the lines may increase the City's liability since it will place visitors closer to Riverland Road. It is the author's opinion that between fencing and a well designed path this is not a problem.

From the front path a single path leads to a sign describing the unnamed battery and then another path leads back to Battery No. 1. At the unnamed battery, another viewing platform should be constructed, quite close to the battery. The vantage from the location as shown on the Interpretive Trail Map, facing southeast, is very attractive and therefore it is recommended that the viewing platform be as high as the earthworks. Shrubbery or fencing will need to be placed strategically to block access to the battery.
Area B understory should be controlled but not as intensively managed as in Area A. The area should have the feel of a hiking trail, with desirable native understory prevalent, to keep pedestrians on the path, but thorny vines and poison ivies should be removed. All trees, except those endangering the earthworks (ie. on the parapets or leaning dangerously) should remain even if they are less than 12 inches in diameter. However, all downed trees should be removed.

Area C consists of the two extreme ends of the lines from the unnamed battery to the end of the east end of the property, and from Battery No. 1 to the western end of the property. Management of these areas should be minimal. Some clearing of the understory may take place along the earthwork front for better visibility from the road, but behind the lines, little clearing is necessary. These two areas should be left in a natural state, except that downed trees should be removed. No interpretation is recommended, nor should visitation be encouraged. As recommended elsewhere, a six foot or higher cyclone fence should be installed along the apartment complex rear portion of the property to block all access to the tract from the apartment complex. This fence should wrap around the front of the battery to near the unnamed battery. The fence will need periodic inspection to make sure that it has not been vandalized. Likewise a fence of this same type ( or something of equal strength) should be built along the rear of the lines on western side so as to control access to the lines from the recreational area. Essentially, the idea is to limit easy access by people using the park's 36 acre recreational area. A fence along the front is not recommended (except as described above on the eastern end). A fence there would distract passersby from seeing the lines. Access to the lines along Riverland Drive is possible but it would require the visitor to park along the road or to walk out and around the fences from the recreational area. Hopefully, the narrow road shoulders will keep unwanted visitors from attempting to enter the park from the road.

One final problem may occur regarding site maintenance as described above. The entire property appears at the present time to have an abundance of dead wood and tree limbs that may pose a fire danger. Removal of this debris in Areas A and B will be accomplished as part of the interpretive plan. However, as described above, no clearing is recommended except tree removal in Area C. Obviously, this recommendation will have to be balanced against potential fire danger. Controlled burning in the tract is not recommended as it may destroy the leaf mat that protects the earthworks. However, if fire danger builds, this may have to be reconsidered. Annual hand removal of downed limbs may preserve the forest floor while at the same time reducing fire danger. The City should contact local fire officials regarding the best method of reducing fire danger without destroying the forest floor.
Animal Control

Most indigenous species on the land are harmless and need no control. However, burrowing animals can cause significant impacts to the earthworks and will need to be eliminated either by trapping and removal or extermination, depending on City animal ordinances. This will be difficult as long as the neighboring areas are rural, but as development occurs elsewhere, this problem will be reduced. Venomous snakes are very likely on the property at the present time, but again they also will be reduced by increased human activity.

Human Activities

On a long-term basis, the City will want to use the site for enhancement of its cultural attributes. That is, the site is part of our Charleston historic heritage and it should be part a tourist and local residential attraction for teaching this heritage. Thus, completely sealing the site is not a good use of the resource. The solution is for controlled access to the site using easy points of entry and exit, and channeling foot traffic within the site for minimum impact to the earthworks as described above.

Hiking the trail and enjoying the historical signage should be the limits of human activity on the 17.3 acre tract. Signage should warn visitors that bicycles, littering, leaving the trails and walking on the earthworks, fires, metal detecting, digging, camping, are prohibited. Night visitation should also be prohibited. Picnic facilities should be limited to the 36 acre tract and not located within the 17.3 acre tract. Policing the area by local City officials and police will be necessary, and it is recommended that the City work with the local Civil War Trust to develop a citizens watch group. The Trust is very interested in the welfare of the remaining Civil War earthworks around Charleston and this interest can be very beneficially channeled for assistance in monitoring the site. It is highly recommended that staff be dedicated to this facility, both for maintenance and enforcement, much like park rangers.

Interpretive Program

As described above, the best use of the 17.3 acre tract is for limited use as an historic interpretive trail that will describe the significance of the earthworks and their place in the history of Charleston during the Civil War. The following provides recommendations for a site interpretation program. Readers should use the Interpretive Trail Map to help visualize the discussion of the trail below.
Historic Research

Butler (1999) and this report provide a historic overview and context for the earthworks within the 17.3 acre tract. This preliminary research indicates that the site was not the location of any specific engagement during the siege of Charleston and that few sources are readily available to provide information about the lives of the soldiers who occupied these lines. This in no way detracts from the line's historic significance, but several conclusions regarding future site interpretation can be deduced. First, the City will need to fund a focused archival search for primary and obscure historic documents concerning the activities along this portion of the lines in order to enhance historic site interpretation. This research will have to be funded at a level that will allow travel to archives in Washington D.C. and possibly other states. Second, it may be that a program of archaeological investigation is the only method of learning more about the lives of the soldiers. More about this program is discussed below. Third, in order for the site's significance to be fully realized, the City's interpretive program will have to be integrated with other Civil War activities and programs that already exist in Charleston. In other words, the on-site interpretive program should link to other Civil War sites on James Island, like Fort Lamar, now under the jurisdiction of the South Carolina Heritage Trust and the Civil War Trust, and Batteries Leroy and Pringle, on The Charleston Museum property. Furthermore, activities like the annual reenactments of the Secessionville battle, can provided opportunities for on-site interpretation. This will increase site visitation and enhance the visitor experience.

Ultimately, the site should be part of a City sponsored Civil War driving tour. This would not be expensive, simply developing a brochure and map of various Civil War site locations and activities would be sufficient. Developing a brochure is always a good idea in that it provides details and text that can not be placed on an interpretive sign. In the far future, local school programs could be developed for guided or self-guided visits. School children could picnic on the adjacent 36 acre tract and then tour the site.

As recommended above and illustrated on the Interpretive Trail Map, a series of trail signs should be placed along the trail. Four stops are proposed, however, more could be added if desired. The first of these would be at the site entry where a kiosk should be placed. Here, text, maps and pictures could briefly describe the siege of Charleston, the construction of the "New Lines" and the soldiers who occupied the lines. At this location, visitors could be directed to other sites on James Island, and also rules for site visitation posted. The kiosk information should also link the site to other Civil War sites in the area via an attractive map. The sign would direct visitors to Battery No. 1. The second stop would be at Battery No. 1, on a wooden platform that allows a clear view of the battery.
At this second stop, a sign would inform visitors about the batteries and Civil War fortification in general. The sign could describe the types of guns that were at the site. The sign would also direct visitors down the path to the unnamed battery. At a convenient point along the path a third sign would be posted describing how the line was built. The fourth sign at the unnamed battery would provide additional details about Civil War fortifications. Preliminary draft text for these signs is provided as Appendix A. The text provided here is considered the least or most basic information that should be provided. More varied and detailed information could easily be developed.

While the site focus should be on historic site interpretation, there is no reason why the trail could not also operate as a nature walk. Small signs describing the native wildlife along the path would not only be appropriate and attractive but also broaden visitor site appreciation.

Archaeological Research

The City of Charleston has requested that this plan address future archaeology on both the 17.3 acre tract and the larger 36 acre tract. This is entirely fitting as the two are in fact one site from a historical perspective; the earthworks and camp simply being two different components of the same historic event. Archaeological research is usually conducted for one of two reasons, either to gain basic knowledge of the past, or as a result of a need to meet various federal and state cultural resource laws. As noted in Chapter 1, the earthworks are listed on the National Register of Historic Places. Also archaeological components associated with the Confederate camp located in the larger tract have been recommended eligible for the National Register. This section provides recommendations for meeting both compliance with the National Historic Preservation Act on the 36 acre tract and basic research that might be possible on the 17.3 acre tract. Since both efforts will ultimately assist in the interpretive program both are discussed here.

The City requested that recommendations for future archaeology on the larger tract be provided in regard to three possible development options: 1) absolutely no development; 2) development with soft materials such as ball fields, and 3) no restrictions on development.

Option 1: No development

From strictly a preservation perspective, no development is the best option for the archaeological resources. No development of the property would, if the site is monitored for unauthorized visitation, preserve the archaeological components of the Confederate
camp in perpetuity. But in this version neither the site's archaeological potential nor its recreational potential would be realized. A better version of this option is to develop both properties as a wooded park, with hiking and nature trails, and perhaps a small picnic area. This option would also preserve the archaeological components with minimum impact and at the same time allow for historical site interpretation. If tract maintenance becomes a problem, the City may want to consider donating the land to a preservation organization, like the South Carolina Heritage Trust, for long term care and maintenance. However, considering the land's value, and the expected continual pressure on the City for recreational facilities or for residential development, it seems unlikely that the no development option can be sustained.

Option 2: Development with Soft Surfaces
Option 3: No Restrictions on Development

Option 2 uses the site for ball fields or other (soccer) recreational fields. This option is the current proposed option under consideration by the city and is shown on the Interpretive Trail Map. Option 3 is for as yet unspecified but more intensive development. In separating out Options 2 and 3 the City assumes that ball fields would not impact the site as severely as say, total topsoil removal for more intense development.

Unfortunately, this assumption is false. From the perspective of the archaeological resources, these two options present the same level of site impact. The site is currently wooded (except for some cleared areas). In order to clear the site for ball fields the following landscape modifications would occur: 1) removal of almost all trees, 2) leveling the playing fields using heavy machinery, 3) construction of parking facilities, outbuildings, and a sprinkler system, and 4) installation of electricity to facilities and fields. Obviously, the archaeological components of the Confederate camp will be severely impacted by this effort. An area approximately 230 x 180 meters in the middle of the property (Figure 3.1) is identified for additional investigation. The archaeological deposits here are fairly shallow as described by Butler (1999:72-73). Features are revealed at the base of the plow zone from 30 to 40 cm below the surface (1 to 1.5 feet). Thus any development, whether ball fields or full development, will severely impact the site.

Assuming that the City will eventually want to develop the site either as a recreational area or other facility, further archaeological work will be necessary. Normally, this involves mitigating the adverse impact to the site that will be expected as a result of the development. This means intensive excavation. Butler (1999:72) has recommended a program of plowzone removal and feature excavation in the area identified as high potential, a method used in their previous testing project and one that has been used
Figure 3.1 Area Recommended For Additional Archaeological Investigation by Butler (1999:73).
successfully at Civil War sites elsewhere in South Carolina. This author agrees with this method, only adding that sufficient time and effort should be allowed for excavation of at least 75% of the area designated by Butler (Figure 3.1), mapping of all features exposed, and excavation of 50% all revealed features. Also, sufficient time for archival research should be incorporated into this effort. At least two to three months of full time research and writing will be necessary. A detailed Scope of Work for the archaeology will need to be negotiated as part of a Memorandum of Understanding between the City of Charleston and the State Historic Preservation Office.

In meeting compliance with the National Register of Historic Places Act, sufficient historical and archaeological research will have been completed for a full interpretive program for both the large tract and the earthworks tract. The research and artifacts gained through this effort will more than suffice for any popular literature that the city might want to produce for site interpretation. It is recommended, but not necessary for compliance purposes, that some effort be made to at least test excavate a portion of the earthworks as part of the archaeological excavations in the 36 acre tract.

Another area of potentially significant archaeological deposits is within the magazine (Figure 3.1). Previously, it was mentioned that a portion of this magazine appears to be beyond the City property and on the apartment complex property. It is highly recommended that the work necessary for the recreational facility development include excavations within the magazine area that is part of the apartment complex. Although this is beyond the scope of future compliance, the archaeological resources in this area will be lost without excavation and examination of this area is apt to be very rewarding.

The above archaeological effort in the 36 acre recreation area will be required by law if the site is impacted. In the future, the City might want to consider some access to the earthworks for basic archaeological research. Small efforts immediately behind the lines may prove fruitful. Archaeological field schools through The Charleston Museum or the College of Charleston might provide good publicity for the City and add to site interpretation. Field schools for high school or elementary school children are not recommended however. Field schools would not cost the City any additional funds. Any work on the earthworks themselves need to be carefully considered, as they will impact the features. The City will want to insure that any excavation into the lines restores the lines to their pre-exavcation shape and that the dirt is stabilized by seeding.
Restoration

In discussions with local citizenry about earthwork preservation, some indicated that they would like to see a restoration effort as part of the interpretive program (note they did not always use this exact word but meant by their descriptions, restoration as opposed to preservation). Restoration means returning the site or a portion of the site as close as possible to its wartime condition. Admittedly, restoration would attract tourists and be a valuable teaching aid for local schools. However, this author can not recommend this sort of effort for the following reasons:

1) Earthwork restoration will necessarily involve destruction of their very historic fabric, which must be preserved,
2) Accurate restoration involves careful historical research and detailed archaeological recovery of any and all areas where the restoration might occur in order to insure accuracy and document any archaeological features that will be harmed by the restoration,
3) Restoration will include intensive site clearing, which will begin the erosion process even if the site is seeded in grass,
4) Restoration can not be successful without a commitment of sufficient funds to maintain the restoration in an attractive condition, this might include staffing for interpretive purposes,
5) Restoration will mean significant and continuing maintenance funding.

Restoration of a Civil War earthwork is admittedly attractive. As an alternative to restoring the present earthworks, it is recommended that the City work with The Charleston Museum to build a new Civil War battery on either property to show tourists and school children how the earthworks originally looked when occupied by Civil War soldiers. A newly constructed battery could be built to exacting historic specifications and provide the same interpretive impact without harming the historic earthworks. A new earthwork allows for a broad range of interpretive possibilities that would not be advisable for the historic earthworks. For instance, an open profile of the battery could be included that would detail construction techniques. Construction of a new battery as opposed to restoring the historic batteries would be easier to maintain and less expensive, and not harm the original lines.
CHAPTER IV: SUMMARY

This chapter summarizes the recommendations made in the previous chapter regarding the preservation of the Dill Tract earthworks.

1) The earthworks should remain in a wooded condition with selected maintenance of the woods in order to preserve the earthworks while allowing for site visitation and interpretation.
   A. Dangerous (leaning, dead, diseased, downed) trees on the tract should be removed.
   B. Trees on the battery should be removed carefully by hand, using a program that will not cause harm to the earthworks.
   C. Trees near the earthworks should be maintained to provide a protective canopy over the earthworks and develop the forest floor.
   D. Selective clearing should be conducted as described in Chapter III.
   E. Burrowing animals must be removed from the property.

2) Access to the site should be controlled.
   A. A high fence should be placed around the site to bar access to the property from the apartment complex and partially from the road. The fence will need inspection periodically.
   B. Access to the site should be only from the recreation area to be built behind (north of) the tract.
   C. Eventually, the site may have to be fenced completely, however, it would be more attractive if no fence is built along Riverland Drive, until population in the area requires it.

3) A low maintenance path should be developed as an interpretive trail.
   A. The trail should cross the earthworks only at areas where the line has already been breached. Wooden bridges should be built at this point.
   B. Sturdy, vandal-resistant signs should be placed along the trail.
   C. The trail should commence and end in the recreation area, and lead to a wooden platform at Battery No. 1 then along the lines to the unnamed battery.
   D. Shrubs or appropriate fences should be strategically placed to bar access to the batteries.

4) An interpretive program should be developed.
   A. Archival research should be conducted to enhance site interpretation.
B. Archaeological excavations that will be necessary to meet federal compliance with the National Historic Preservation Act at the recreational area should provide sufficient and valuable information to enhance the interpretive program.

C. A kiosk should be placed at the designated access point, providing interpretation, park rules and regulations.

D. The kiosk should lead first to a wooden viewing platform for Battery No. 1.

E. The interpretive program should link to other Civil War sites in the area like The Charleston Museum property and the Department of Natural Resources, Fort Lamar.

5) No disturbance of the earthworks should be allowed to proceed without archaeological evaluation at the point of disturbance and prior to the disturbance. This includes intrusions as a result of building platforms or boardwalks. However, the latter could consist of monitoring by an archaeologist during the digging of platform postholes.

6) Security of the site will be required to ensure no vandalism, metal detecting, or bicycling.

A. The city should develop a security program, either independently using park rangers or in collaboration with the City Police Department.

B. The City should develop a citizens watch group with the local Civil War Trust.
REFERENCES CITED

Butler, Scott

Brooks, M.J., P.A. Stone, D.J. Colquhoun, and J.G. Brown

Brennan, Patrick

Caldwell, Charles

Calhoun, Jeanne A.


Davis, Major George, B., Leslie J. Perry, Joseph W. Kirkley, and Captain Calvin D. Cowles

Gunn, Joel

Hacker, Debbi and Martha Zierden

Hagood, Johnson

Kovacik, Charles F., and John J. Winberry
Legg, James B., Christopher T. Espenshade, Lynn M. Snyder

Legg, James B., and Steven D. Smith

Miller, Lawrence

National Park Service, U.S. Department of the Interior

O.R. (Official Record)

Power, J. Tracy

Ripley, Warren
1986 *Siege Train.* University of South Carolina Press, Columbia, SC.

Roman, Alfred

Smith, Steven D.
1996 "History and Archaeology: Edward Wild's African Brigade in the Siege of Charleston.”
*Civil War Regiments,* Volume 5, No. 2:20-70.

Stine, Linda France
1992 *Revealing Historic Landscapes in Charleston County: Archaeological Inventory, Contexts, and Management.* Prepared for the Charleston Planning Department, Charleston, South Carolina and the South Carolina Department of Archives and History. South Carolina Institute of Archaeology and Anthropology, Columbia.

Townsend, Jan

Trinkley, Michael
1996 *Management Summary of the Archaeological Data Recovery at 38CH1456, Secessionville, Charleston County, South Carolina.* Chicora Research Contribution 194, Columbia, South Carolina.
Trinkley, Michael, Natalie Adams, and Debi Hacker

Ward, Geoffrey, Ric Burns and Ken Burns

Wise, Stephen R.


Zierden, Martha and Jeanne Calhoun
APPENDIX A: PROPOSED WORDING FOR INTERPRETIVE SIGNS

Kiosk Signs (O.R. Map of Siege of Charleston should be shown with locations mentioned in text highlighted)

Charleston, South Carolina, was the Confederacy’s most important port for supplies and ammunition during the American Civil War. On April 6th and 7th, 1863 the first of some 12,000 Union soldiers landed on Folly Island, South Carolina, to begin what eventually became the longest siege of the war. Confederate soldiers held Charleston and James Island until February, 1865, when Union General Sherman’s Army threatened the city from the rear. The Union army made several attempts to seize James Island, the most costly being the battle of Secessionville on June 16, 1962. There, some 683 Union and 204 Confederate soldiers were killed or wounded.

An integral part of the Confederate defense of Charleston were the “New Lines” constructed during the late summer and fall of 1863. These lines were designed by Colonel Charles H. Simonton, of the 25th South Carolina Regiment, and built by some 4,000 African American slaves. As originally constructed they formed a continuous defense from Battery Pringle along the Stono River to Battery Lamar at Secessionville, some 2.5 miles across James Island. Today, Battery Pringle, Battery Leroy on The Charleston Museum property (west), the lines located on this property, and Battery Lamar under the care of the South Carolina Heritage Trust (east), are the only remaining portions of this once extensive fortification. In November 1863, Confederate President Jefferson Davis inspected the lines.

Battery No. 1 (picture of typical guns)

This massive earthen battery once held a 12 pound Smooth Bore Siege Gun on each end and between them two 24 pound Smooth Bore Siege Guns and one 12 pound Rifled Siege Gun. These guns could lob a 12 or 24 pound projectile as far as one and a quarter miles; their effective range was around 1,000 yards or over half a mile. The guns at this battery and along this portion of the New Lines were serviced by Company G of the 2nd South Carolina Artillery, under the command of Captain G.W. Stallings. The command consisted of Captain Stallings, three lieutenants, five sergeants, four corporals, and 134 enlisted men. They were from Barnwell County, South Carolina.

Magazine

This low area was probably the magazine for Battery No. 1. A magazine was used to store gun powder and ammunition for the guns at the battery. It was heavily fortified or bombproofed with logs and dirt to protect it from being destroyed by enemy fire and to protect the men from premature explosions.
Crenelated Lines (along the path)

The earthworks were constructed in a zig-zag fashion to allow the defender’s fire to intersect beyond the lines for maximum destruction of an attacking enemy.

Unnamed Battery

This battery is not recorded in any of the historical documents that can be found. Historians refer to it as the ‘unnamed battery.’ No other information is known about this battery but was probably also manned by members of Company G, 2nd South Carolina Artillery.
APPENDIX B: GLOSSARY

Battery-- An earthwork designed for artillery.

Bombproof-- A structure built of logs and earth to withstand artillery fire.

Ditch-- A trench in front or in the rear of a earthwork. These were both the result of creating the earthwork and also designed to provide an obstruction to infantry attempting to take the earthwork (front ditch) or to provide additional protection to the men occupying the earthwork (rear).

Earthwork-- A generic term for any fortification.

Escarpment-- The face or front slope of the parapet.

Embrasure-- An opening along a parapet that allows artillery to fire through the parapet.

Magazine-- A structure designed to hold gun powder and ammunition to protect it from enemy fire and to protect the men from premature explosions.

Parapet-- The wall of an earthwork.

Salient-- Part of the earthwork that projects out from the main line.

Sally port-- An opening in an earthwork to allow access into or out of the earthwork.

Traverse-- A short parapet perpendicular to the main parapet to prevent flanking fire and ricochets.