

CASTLE PINCKNEY RESTORATION

-A Development Program-

Prepared for the Fort Sumter Camp,

Sons of Confederate Veterans

by Wilbur Smith and Associates

February 1978

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February 16, 1978

Mr. Julian V. Brandt, III, Chairman  
Committee for the Restoration of Castle Pinckney  
Fort Sumter Camp, Sons of Confederate Veterans  
Post Office Box 417  
Charleston, South Carolina 29402

Dear Mr. Brandt:

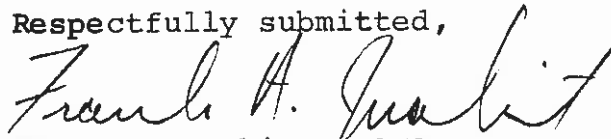
We are pleased to submit herewith our report on the Economic Feasibility and Development Alternatives for Castle Pinckney. We have concluded from our studies that the restoration of Castle Pinckney should be given even more emphasis during the coming years so that it may assume its rightful place among the historical attractions of Charleston and contribute more meaningfully to recreational activities in Charleston County as well as to tourism and the economy of the coastal area.

Our analyses have included investigations of the historical background of Castle Pinckney, proposed archaeological studies, existing site conditions, tourism activity in the Charleston area, and the required review and approvals procedures necessary to allow development activities on Shute's Folly. This analysis also outlines a number of development alternatives for Shute's Folly and identifies potential opportunities and constraints associated with these alternatives. The study concludes with a recommended development plan for Castle Pinckney as well as a recommended development strategy.

The normal constraints associated with similar restoration projects are greatly multiplied in the case of Castle Pinckney because of its location on an island in the Charleston Harbor. Rather than simply allow these constraints to prove the project infeasible, we have attempted to recommend alternative development options which can be implemented and which will assist in achieving the goals established for Castle Pinckney.

We trust that the recommendations contained in this report will be of assistance to the Fort Sumter Camp of the Sons of Confederate Veterans as you continue with this important undertaking. It has indeed been a pleasure working with you.

Respectfully submitted,

  
Frank A. Inabinet, AIA  
Director of Planning

FAI:dlp

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## INTRODUCTION

Castle Pinckney exists today as a deteriorating horeshoe-shaped brick fortress situated approximately one mile off shore, East Battery, on Shute's Folly Island. This historically-significant structure is one of the few remaining castle-type fortresses in America. Today it is listed in the National Register of Historic Places.

The beginnings of Castle Pinckney date back to colonial times prior to the Revolution. Even though events connected with Castle Pinckney have not been as dramatic as those connected with some other historic structures, such as nearby Fort Sumter, the Fort does occupy a significant place in the historical development of Charleston.

In 1969, Castle Pinckney and its five and one-half acres of land were deeded by the South Carolina Ports Authority to the Sons of Confederate Veterans for the intention of restoration as a museum. Since that time, the Sons of Confederate Veterans, with very limited resources, have made considerable progress towards this objective. A number of physical improvements have been made to the structure and the island, including the removal of some extraneous material which has resulted in improved safety conditions. They have also begun the partial excavation of portions of the interior of the historic structure. The Sons of Confederate Veterans, with the assistance of the South Carolina State Department of Archives and History, have been successful in having Castle Pinckney placed on the National Register of Historic Places. In addition, they have initiated preliminary archaeological investigations. Most recently, they have been successful in obtaining a technical grant from the Coastal Plains Regional Commission, which has made this study possible.

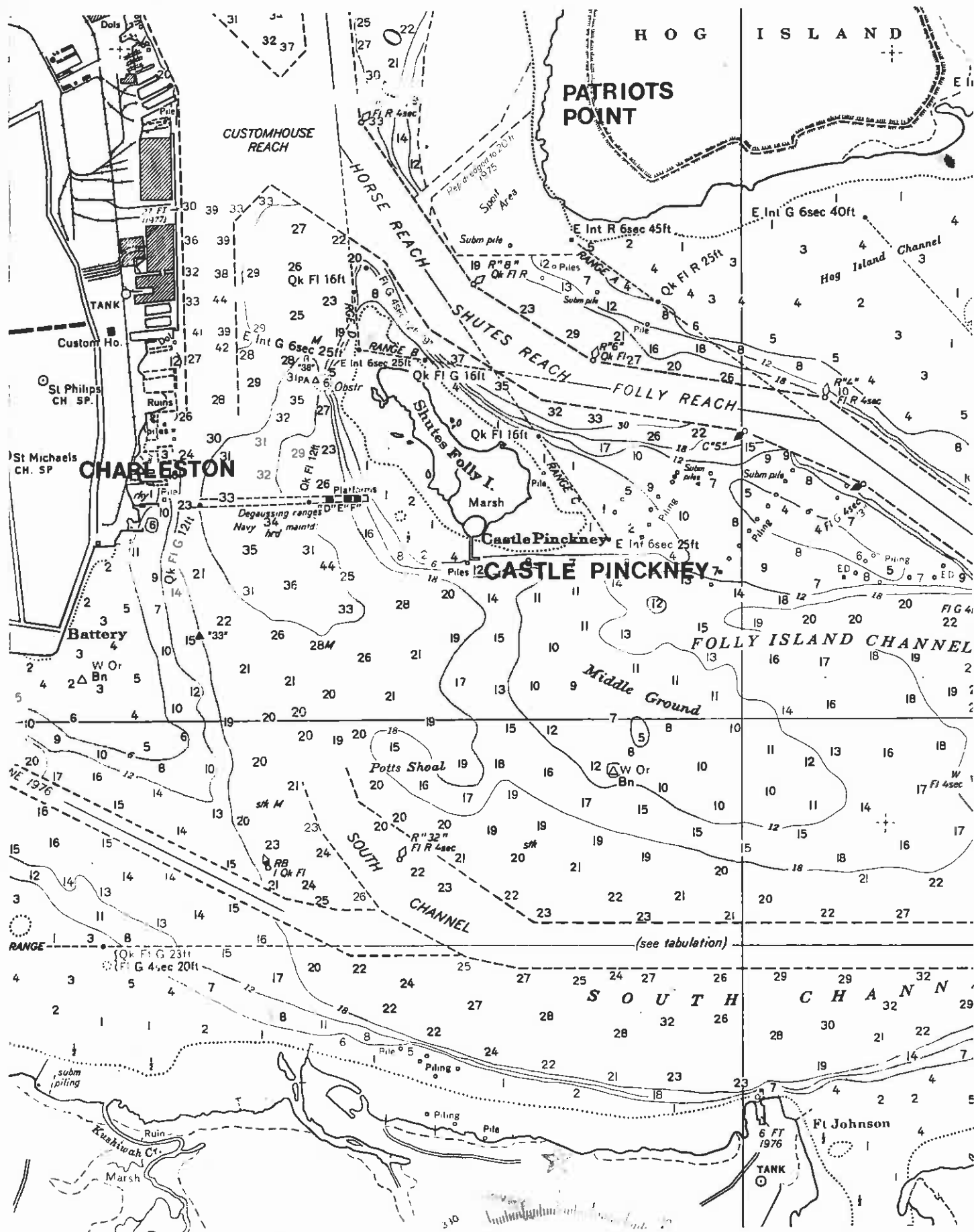


FIGURE 1 - SITE LOCATION

One of the goals of the Sons of Confederate Veterans is to completely restore Castle Pinckney so that it can complement all of the other significant historic attractions in the Charleston area. It is further the goal of the Sons of Confederate Veterans to make Castle Pinckney accessible to the general public, so that its historical significance can be enjoyed and so that potential recreational opportunities on Shute's Folly can be made available to the citizens of Charleston County and to visitors in the Charleston area.

The Fort Sumter Camp of the Sons of Confederate Veterans realized that there would be tremendous physical difficulties with the restoration of Castle Pinckney, primarily because of its exposed location in the center of the Charleston Harbor, with access only by water. It was further realized that there would be tremendous financial difficulties in achieving the stated goals, since it was not likely that massive federal funds could be made available for the effort, as has been the case with the restoration of Fort Sumter and Fort Moultrie by the National Park Service. In view of the numerous possibilities for Fort Sumter, and in view of the need for revenue-producing activities to assist in achieving the stated goals, it was decided that a study of the economic feasibility and development alternatives should be undertaken. Following this introduction there is a summary of the findings and recommendations of this study.

The text of this report consists of nine chapters, containing a discussion of the analysis and investigations conducted during the study period. The first chapter is entitled "Historical Perspective." This brief summary of the history of Castle Pinckney and Shute's Folly Island attempts to define the role they played in the historical development of Charleston.

The second chapter of this report outlines the primary findings and recommendations of the draft report prepared by Dr. Robert L. Stephenson and his staff at the Institute of Archaeology and Anthropology at the University of South Carolina. In addition to the findings contained in that draft report, information was gathered by a number of on-site inspections conducted by the study team. These findings have been documented in the third chapter of this report, "Existing Site Conditions."

Tourism activity has been increasing dramatically in the Charleston area in recent years for a number of reasons, as outlined in this report. It was recognized early in the study effort that tourism visitation would be an important factor in redevelopment efforts on Shute's Folly. For this reason, an overview was made of tourism activity in the Charleston area to determine potential market support for Castle Pinckney. These efforts are outlined in Chapter 4, "Tourism Overview."

Shute's Folly Island consists almost entirely of marsh grasses and shell banks. Any activities in these ecologically-sensitive areas will require extensive review and approvals procedures, and these procedures are outlined in Chapter 5.

Chapter 6 of the report discusses a number of the development options for Shute's Folly which appear to have the most obvious potential, and which repeatedly made themselves apparent during the analysis. Chapter 7 describes a number of combinations of these options and a series of alternative sketch plans. The purpose of the preparation of these alternative sketch plans was to provide a basis for discussions with the Committee for the Restoration of Castle Pinckney, and with other interested and concerned officials and agencies during the study process. As a result of those discussions and discussions with other interested and



concerned officials and agencies, a number of these alternatives were eliminated from further consideration.

The Recommended Development Plan is discussed in Chapter 8. In addition to the recommended development plan, a Recommended Development Strategy is discussed in Chapter 9, and is intended as a strategy to assist the Sons of Confederate Veterans in achieving their stated goals for Castle Pinckney.

## FINDINGS

The purpose of this study was to determine the feasibility of preservation and development activities at Castle Pinckney. During the course of the study, and through analyses of various opportunities and constraints to development, a number of conclusions were reached. These findings are summarized as follows:

Castle Pinckney exists today as a deteriorating, horse-shoe shaped, brick fortification located in the Charleston Harbor. Castle Pinckney and Shutes Folly have participated in historic events in the Charleston Harbor since the early fortifications were first constructed in 1742. The present structure is worthy of restoration, not only because of its historical background and role in the development of Charleston, but also because of its architectural significance.

A considerable amount of work has been done to date by the Sons of Confederate Veterans relative to the restoration and preservation of Castle Pinckney. It is the ultimate goal of the Committee for the Restoration of Castle Pinckney to restore the historic structure so that it can be fully appreciated for its historic value, contribute to the tourism industry in the area, and provide recreation for local residents and visitors to Charleston.

Tremendous physical constraints make the achievement of this goal very difficult. The provision of easy access to the island is a primary constraint since the construction of a bridge is not feasible. In addition, the provision of utilities such as water, sewer, electricity, and gas is not feasible under normal methods (i.e., utility lines on the harbor bottom), since the cost would be well in excess of \$1,000,000.

Another constraint is the fact that any development which encroaches upon the marsh on Shutes Folly will be essentially prohibited under current state law.

This study has determined that there are alternative means of providing access and utilities. These would include, respectively, the establishment of a ferry boat service and the installation of a self-contained utility system on the island.

The most promising means of providing regular ferry boat service to the island appears to be through an arrangement with Patriots Point to take advantage of their plan for ferry service to Charleston.

Deterioration as a result of wave and tidal action is now occurring at the base of the Castle Pinckney structure. Immediate corrective action will be required to prevent further deterioration.

Part of the success of any improvements at Castle Pinckney will depend on tourism visitation and overall tourism activity in Charleston. Tourism, and the travel industry, is considered Charleston's second most valuable industry and it is reasonable to expect that this industry will continue to grow and attract additional visitors to the area. Castle Pinckney, upon completion of the recommendations outlined herein, should expect to attract its share of the tremendous visitation to historic attractions to the Charleston area.

The study concludes that there exists substantial demand in the Charleston area for marina facilities. At the same time, there also exists tremendous physical and economic constraints to the development of a marina facility on Shutes Folly which appear to make such an undertaking unfeasible.

It is also the finding of this report that there would appear to be adequate tourists and local market support for a restaurant on Castle Pinckney. Again, physical and economic considerations would

make such a development unfeasible at this time. It is recommended, that this idea be reinvestigated at some point in the future, at which time it may be more feasible.

The establishment of pier fishing activities appears to be one viable way to provide for recreation and to produce revenue for historic preservation activities on Shutes Folly. Passive recreation, such as picnicking, bank fishing, crabbing and nature observation could also be provided on the island around Castle Pinckney.

The improvements recommended for Castle Pinckney will require coordination and implementation by an agency possessing the necessary resources for such an undertaking. It would appear from this analysis that the Charleston County Park, Recreation and Tourism Commission is the most logical agency to coordinate implementation.

## RECOMMENDATIONS

It is the recommendation of this report that the Castle Pinckney structure should be restored and that other complimentary improvements be made in order that the facility can assume its rightful place among the historical attractions of Charleston, can be appreciated for the role it played in the development of the city, can contribute to tourism activity, and can become another recreational resource for the area.

A five year development program should be established for the implementation of initial improvements to Castle Pinckney. The feasibility of additional improvements after the first five year period will depend in large part upon detailed investigations during this time. In this regard it is recommended that the Castle Pinckney project be evaluated after the first five year development period to determine the most appropriate direction at that time.

The primary elements in the Recommended Master Plan for the first five year period include a new concrete dock to replace the existing deteriorated wooden dock. A new fishing pier with restrooms, snack-shop, and bait and tackle shop is also recommended. In addition, it is recommended that a small area around the base of the existing structure be secured with rip rap protection and filled with the sand and other contents of the fort structure. After detailed architectural, engineering and archeological investigations it is recommended that the structure itself be restored as appropriate and a museum constructed to accommodate tourists and other interested visitors. Boardwalks extending from the structure through the marsh grass are also recommended to provide access to the shell banks for fishing and recreation.

In order to facilitate implementation of the recommendations of this report the following activities are recommended in chronological order:

- Charleston County Park, Recreation and Tourism Commissions should be designated as the implementing agency to undertake improvements at Castle Pinckney;
- A working relationship should be established, possibly through the formation of an adhoc committee, between all interested agencies including the Sons of Confederate Veterans, Patriots Point, The City of Charleston, The Corps of Engineers, The South Carolina Coastal Council, The South Carolina Department of Wildlife and Marine Resources, The National Park Service and others as appropriate;
- Undertake detailed archeological, engineering and architectural studies prior to making physical improvements to Castle Pinckney;
- Replace the existing deteriorated dock with a new concrete dock;
- Install rip rap protection around the base of the existing structure;
- Construct a fishing pier on the southern end of the island including a bait and tackle shop, snack shop, and restrooms;
- Construct a self contained utility system for the provision of water and sewer and install an initial gas lighting system;
- Initiate ferry service and public pier fishing activities;

- Design and construct a museum and souvenir shop within, on, or adjacent to, the existing Castle Pinckney structure; and,
- Evaluate the development activities completed at that time and determine the feasibility of proceeding with further developments and restoration activities.

## HISTORICAL PERSPECTIVE

The name Shute's Folly which labels the small sandy marsh island of approximately 64 acres, was derived from its second owner, Joseph Shute. The term "folly" was common in describing the Carolina sea islands during colonial times.

Evidence of interest in developing a strongpoint on the islet near the City dates back as early as 1736. It was not until 1742, however, that a horseshoe battery was conceived and erected at Shute's Folly, primarily as a defense against possible invasion by Spaniards, pirates, and Indians. Early records indicate that this first fort on Shute's Folly was constructed of timber and earth. It was not until the latter years of the War of American Independence when, during the defense of Charles Town, the strongpoint played a significant part in the defense of the colony.

After the Revolution concern over the lack of defense along the Atlantic Coast led to the erection, on the southern shoreline of Shute's Folly, a fort which was named Castle Pinckney, in honor of Charles Cotesworth Pinckney. This fortification, built with palisades and sand, was destroyed by a violent hurricane in 1804, and rebuilt of masonry with an enclosure for two tiers of guns. Though this facility was considered the most important fortification in the harbor of Charleston in 1811, it saw no action during the war of 1812. As early as 1826, the War Department began to appraise Castle Pinckney as a fortification of secondary importance in the defense of Charleston Harbor, yet important enough to justify regular maintenance.

As the 1830's rolled around and the nullifiers began sweeping the State elections, concern developed over possible defections



in the armed forces stationed in and around Charleston. The possible threat of surprise seizure of the Fort by South Carolina militia prompted President Jackson to order local garrisons replaced by detachments of unquestioned loyalty. In an effort to greatly improve Castle Pinckney's defense, a heavy battery of 24 pound guns was mounted along with the erection of timber palisade to afford protection for the rear wall of the structure. Castle Pinckney continued to be maintained as a garrisoned and fortified Fort until 1836, when it began 25 years of inactivity, an uneventful period that was not to be terminated until the opening days of the War Between the States.

In the waning months of 1860, the small horseshow fort was armed but ungarrisoned. Official Washington believed that a small force might well secure the fort against surprise attack, but that any such move to strengthen Castle Pinckney would immediately construed as an overt act and would precipitate an irreversible crisis. Tensions continued to mount between Washington and military and State personnel in South Carolina. Governor Pickens, adamant in his stand to maintain and separate independence of South Carolina, ordered patrol and surveillance of the harbor from Castle Pinckney to Fort Sumter for the purpose of preventing removal of men, ammunitions and general reinforcements from Fort Moultrie to either of the two forts.

Following the Ordinance of Secession on December 20, 1860, events swiftly began to pyramid toward crisis. Major Robert Anderson abandoned Fort Moultrie and began occupation of Fort Sumter. South Carolina militia quickly reacted to prevent further occupation of Charleston fortifications by US forces. Under the command of Colonel J. J. Pettigrew and Major Ellison Capers, The First Regiment Rifles, South Carolina Militia scaled the walls with ladders and took possession of Castle Pinckney, held by

Lieutenant Meade and 35 or so men. A red flag with a single large star was raised to signal formal occupancy of the fort. At the time of its seizure, Castle Pinckney was considered in excellent condition. This act is considered by many historians to be the first overt act of the War.

The "cold war" continued in the Charleston Harbor until April 12, 1861, when the batteries on Morris, James, and Sullivan's Islands opened fire on Major Anderson's garrison at Fort Sumter. Apparently, no shots were fired from Castle Pinckney. After 34 hours of incessant bombardment, Fort Sumter agreed to surrender terms and both the Confederate Stars and Bars and the Palmetto flag were raised. Castle Pinckney had commenced its role of an incidental participant in the only war to which it ever was to be directly exposed.

Meanwhile, Castle Pinckney remained sedately in the background, unperturbed, unharmed, but prepared for an eventuality. It saw little activity in 1861 with the exception of guarding Federal prisoners taken during the Battle of First Manassas (Bull Run). During 1862, the defenses of Charleston Harbor were being reorganized and strengthened to withstand the long impending Federal attack upon this strategic port. In this plan, Castle Pinckney was considered only a part of the second line of defense of the City and not important to the overall plan and thus its armaments were systematically reduced.

The character of Castle Pinckney began to change as early as the spring of 1864. With the capture status of other harbor forts and the virtual sea of futility which had begun to engulf the people of Charleston in light of Sherman's advancements, a desperate but futile effort was made to strengthen and remodel

Castle Pinckney. A sand embankment was added to the exterior to provide extra protection from the new rifled cannon of that time. However, these efforts were too late to be of any value to the desperate Confederate forces of Charleston and on February 17 and 18 the Harbor and City were evacuated.

The only war it ever actually experienced was at an end for Castle Pinckney. Due to its location in the inner harbor, and the weakness of its armament and garrison, Castle Pinckney had been forced to occupy a position of secondary importance throughout the War.

In 1878, a transfer of rights from the US Department of War to the Light House Board within the US Treasury Department was made for the purpose of using Castle Pinckney as a site upon which to maintain a light station and supply depot. A new harbor light was erected in 1880 near the pier on the south side of the island.

In January, 1917, the Light House service relinquished control of Castle Pinckney and it reverted to the War Department, which delegated control to the Corps of Engineers.

During the administration of President Calvin Coolidge, Congress enacted legislation which elevated Castle Pinckney to the more distinguished status of a national monument. The act was signed by the President on October 15, 1924.

In 1933, the Castle Pinckney National Monument, along with other national monuments, was transferred to the National Park Service. During the 25 years which followed, the Park Service did nothing toward developing the fortress and, finally, it was

sold to the South Carolina State Ports Authority for the purpose of establishing a museum at the site.

Subsequently, the South Carolina Ports Authority deeded Castle Pinckney and its five and one-half acres of land to Fort Sumter Camp 1269, Sons of Confederate Veterans for the care and restoration of the monument. The Fort Sumter Camp has succeeded in clearing two of the large non-historic buildings from the top of the fortress. They have also cleared the grounds on several occasions and made a number of repairs to the outer walls to prevent further destruction by storms and tidal action.

The existing wharf, made of heart pine, by this time was partially deteriorated. In 1976 the Charleston District, Corps of Engineers, notified the Fort Sumter Camp that it should remove deteriorated portions of the wharf, which was done. The main section of the wharf still exist and while it is not presently a threat to shipping or navigation in the harbor, it is in need of demolition.

The Sons of Confederate Veterans and the South Carolina Department of Archives and History have been successful in having Castle Pinckney placed on the National Register of Historic Places. This significant accomplishment allowed Castle Pinckney and its owners to qualify for certain tax incentives outlined in the Tax Reform Act of 1976 as well as additional Federal funds for planning studies and restoration activities.

In January of 1977, the Fort Sumter Camp of the Sons of Confederate Veterans made application to the Coastal Plains Regional Commission for funds to undertake additional studies relative to Castle Pinckney. Those funds were utilized to make

this report possible as well as the report prepared by the University of South Carolina's Institute of Archeology and Anthropology.

SOURCES: Sandlapper Magazine, Sandlapper Press, Inc., July, 1969.  
Application to Coastal Plains Regional Commission,  
January, 1977.

## ARCHEOLOGICAL INVESTIGATIONS

The Institute of Archeology and Anthropology at the University of South Carolina has recently completed preliminary investigations of Castle Pinckney and the surrounding Shute's Folly. Their report, "An Archeological Assessment of the Castle Pinckney Site", was conducted with the intent of aiding the Sons of Confederate Veterans in the preliminary phase of planning for the development of Castle Pinckney. One of the ultimate objectives of the Sons of Confederate Veterans is to develop Castle Pinckney as a restored historic site. In order to accomplish interpretive development of the site, it will first be necessary to compile and assess all pertinent forms of data relating to Castle Pinckney and its various occupations. The discovery, recording, and stabilization of archeological features for interpretive purposes should be an integral part of the Castle Pinckney research design.

The assessment, prepared by the Institute of Archeology and Anthropology, serves to formulate a research design for conducting archeological research and outlines the nature of each stage of proposed archeological work required in presenting a complete anthropological approach to the investigation of the historic past of this unique facility.

Findings of the Report conclude that sufficient evidence indicates that the site of Castle Pinckney has undergone at least six, and perhaps as many as eight, separate occupations in the past. This cannot be determined until archeological excavations and records are examined. Because Castle Pinckney was gradually filled with earth through time, it is likely that earlier zones of occupation were literally buried beneath those that were laid down subsequent to them. For this reason it will be necessary

to excavate through, and consequently destroy, evidence of later occupations in order to reach those of an earlier date. This condition requires that the exploration of each zone of occupation in the fort be completed before the next is begun. Once the level at the base of the massive Civil War deposits is reached, it is likely that continuous occupations zones will not exist over the entire fort area and that several such zones in different areas may be exposed simultaneously.

The archeological report's recommendations suggest that the analysis of the site be organized into phases that reflect the development of the site as a whole. Seven phases of archeological research are proposed. Because of the assumed superposition of zones containing progressively more recent cultural deposits at the site and the obvious necessity of dealing with the most recent material first, the research phases will be organized in the reverse order of their chronological occurrence.

Phase I will begin with the most recent occupation of Castle Pinckney--the light station that existed there from 1880 to 1917. Evidence of this occupation should consist of the structural remains that lie atop the fill or situated adjacent to it. Though the primary interest centers around the Civil War fortress, the archeological resources of subsequent periods should not be ignored. This subsequent period of occupation is one of the most interesting with regard to scientific research.

In addition to the archeological work associated with Castle Pinckney, it is recommended that underwater investigations be conducted off the southern end of Shute's Folly to determine the extent to which remains of the eroded portions of the island might exist, particularly the 1797 battery. This underwater work

must be completed prior to the undertaking of stabilization work on the island.

Phase II research will include the identification of the post-1864 Civil War fort and the subsequent post-Civil War prison occupation of the site. This period of Castle Pinckney's history is considered the most complex to examine archeologically because it involves an early occupation within the fort, as extensively modified in 1864.

The second occupation is associated with the sand and turf embankment erected over three sides of the fort's interior to form the base of a barbette battery. Following the war the earthen wall outside of the fort was removed, exposing the original brick wall underneath. The interior embankment, however, was apparently left in place to form a portion of the surface upon which the light station buildings were constructed. The actual gun positions do not seem to have been disturbed and the guns sank into the sand below when their wooden carriages disintegrated.

It is during this phase that evidence may appear of burials of 23 executed mutinous soldiers that took place in the spring of 1865. The South Carolina Historical Society is now in possession of a letter dated April 23, 1865, to a Mrs. Rosa M. Pringle from a Mrs. E. M. Ravenel, in which reference is made to "The Plot". The letter indicates that 23 of "The Negro Soldiery" were executed by Union Forces at Castle Pinckney. No other factual basis for the rumor exist at this time. However, if such an event did occur, then the bodies may have been buried on the island. If in the case of the latter, grave pits should be excavated before the further removal of fill is attempted.



Phase III research will include the pre-1864 Civil War occupation of Castle Pinckney. Though closely related to the period that followed, it involves a large portion of the fort that lies beneath the massive earthen wall erected in 1864. This occupation includes the brief prison occupation in 1861 and the subsequent use of the fort as a defensive position after that time. In order to investigate this early Civil War occupation, the earthen embankment covering the remainder of the fort's interior must be removed, probably with the use of heavy equipment. It is possible that, during this intensive excavation of the Civil War period, deposits may reveal the nature and distribution of activities associated with that occupation, such as the form and extent of prison occupation and architectural modifications resulting from this occupation as well as the subsequent re-armament.

Phase IV of research would be directed at exploring the original 1809 fortress and those modifications made prior to the Civil War (1809-1860). Documentary information indicates that both the interior of the fort and the area to the rear of it were extensively utilized during this period. Significant aspects outside the fort to be investigated are the fortification wall with the single bastion and associated facilities that did not extend into the Civil War period.

Phase V would involve investigation concerning early forts on Shute's Folly Island. Apart from the 1806 plan relatively little documentary information is available. All that is known about the first fort is that it was constructed on or near the site of the 1809 castle and that it was constructed of earth and timber. The 1797 fort was an earth and timber crescent-shaped battery built at the south end of the island. It is presumed that the buildings of this early fort may be beneath the present

fortress. However, since this existence was for a relatively short period of time, it is likely that, apart from architectural evidence, there will not be substantial archeological deposits associated with these two early forts.

Phase VI should investigate the extent of historic occupation on Shute's Folly Island prior to the construction of the first fort. Records from 1711 to 1780 only indicate the entire island was owned by various members of several families, however, there is no record of their activities, if any, there. The presence of a pre-military historic occupation must be determined on the basis of archeological evidence.

Phase VII would involve the investigation of prehistoric occupations on Shute's Folly Island. The association of estuarine habitation sites with the presence of shell midden deposits suggest that the occurrence of such deposits may indicate the presence of an aboriginal occupation on the island. This would likely be evidenced during the sampling of the site.

In summary, seven phases of archeological research are presented by the Institute of Archeology and Anthropology in a design for the investigation of the material remains of past occupations on the site of Castle Pinckney. Each phase is intended to investigate completely a significant period in the occupation of the Castle Pinckney site, while at the same time revealing the presence and general distribution of the remains of earlier occupations. Because each phase is essentially a complete operation, it will be possible to suspend the archeological investigations and stabilize the site at the close of each phase if it is decided for financial, interpretive, engineering, or scientific reasons that further work should not, or cannot, be attempted.

The preliminary report prepared by the Institute of Archeology and Anthropology also recommended a detailed schedule of archeological work to be carried out at Castle Pinckney. However, only time requirements of the first phase can be specified now, since the scope of the subsequent phases of work will be based upon the results of previous phases. It is anticipated that Phase I would require two to two and one-half years of archeological effort, of which seven months would be required to complete field investigations. Estimated cost for completing Phase I would be in the range of \$150,000 to \$180,000. It could well be determined that upon completion of Phase I activities, further phases may become tremendously limited in scope.

SOURCE: An Archeological Assessment of the Castle Pinckney Site,  
Draft Report, Institute of Archeology and Anthropology,  
University of South Carolina, October 1977.

## EXISTING SITE CONDITIONS

Castle Pinckney is located on an island in the Charleston Harbor known as Shute's Folly. The island has an area of approximately 66.3 acres consisting primarily of marsh grasses. The acreage consists of three land parcels, two of which belong to the Hastie family estate, and comprise approximately 60.8 acres. The remaining parcel, of approximately 5.5 acres, and on which Castle Pinckney is located, is owned by the Fort Sumter Camp, Sons of Confederate Veterans.

A site analysis was conducted to determine existing physical characteristics of Castle Pinckney and Shute's Folly. Figure 2 graphically delineates some of these physical characteristics.

Nearly all of the Shute's Folly island, with the exception of the Castle Pinckney structure itself, is marsh grass. This marsh grass covers the entire island, except for a small area adjacent to the Castle Pinckney structure, and some exposed shell banks around the periphery of the island. Within the marsh grass area there are a number of small creeks which drain into the surrounding harbor. The most significant creek exists on the western side of Shute's Folly island, just north of the Castle Pinckney structure. A smaller creek, or tidal pond, exists on the southern edge of the island and just east of the Castle Pickney structure. There are no other significant creeks or high areas within the island.

As shown in the illustration, there are a number of shell banks around the periphery of the island. These shell banks are made of shells deposited as a result of storms, currents and tidal action. The ecologically sensitive marsh areas will not support

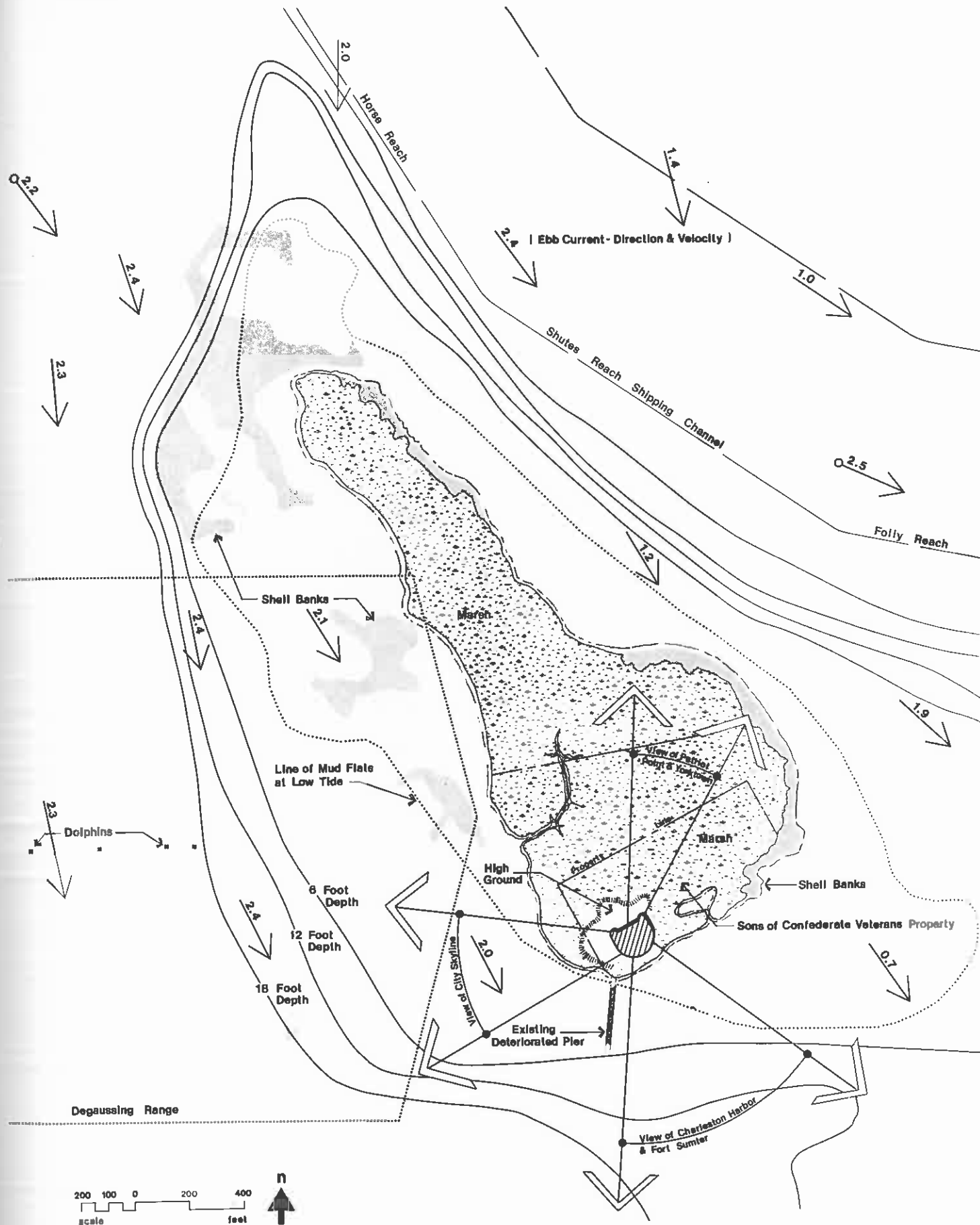


FIGURE 2  
SITE ANALYSIS

human pedestrian activity. The shell banks are more stable, and it is believed that limited pedestrian activities, such as fishing, picnicing, or beaching of boats, would not be detrimental to this area.

The area immediately east of Shute's Folly island, between the island and the Charleston peninsula, is known as the Degaussing Range. This area is maintained by the U. S. Navy, and utilized in their technical operations having to do with electromagnetic fields and the analysis of the hulls of some of their ships. The area is outlined on the site analysis map, and has been designated as a non-interference area, with restrictions on any interference of magnetic material and magnetic-electric field sources. Regarding ships and pleasure crafts, the following regulations apply:

- . Ships transiting the area will proceed without delay and shall not, except as noted below, lie-to or anchor within the area.
- . Pleasure craft under 50 feet LOA will not normally be affected; however, such craft may be required to stand clear upon notification in the event they are interfering with range operations.
- . Anchored commercial ships will be allowed to swing into the non-interference area at the Shute's Folly island site when the range is not in use. Shute's Folly range usage will be indicated by range house display of the international flag, and the DELTA signal flag.<sup>(1)</sup>

The main shipping channel for Charleston Harbor lies just to the east of the Shute's Folly island. Care should be taken in

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(1) 28 October 1976 Public Notice by Department of Army, Charleston District Corps of Engineers.

any development of Shute's Folly or Castle Pinckney to ensure that there is no interference with this main shipping channel. For this reason, piers or other structures extending into the water would not be advisable on the channel side of Shute's Folly. It was the opinion of the harbor pilots that any structures in this area might potentially interfere with shipping activities.

As for the Castle Pinckney property itself, it is visually impossible to distinguish, on the ground, the property owned by the Sons of Confederate Veterans and the remainder of Shute's Folly island owned by the Hastie family estate, since the area is covered with marsh grass. The property lines are designated on the site analysis map. It should be noted that any use of the Hastie family property will require the acquisition of the property or at least the acquisition of the right to use this property in the form of easement, lease or some other type of right-of-way agreement.

Harbor depths around Shute's Folly make docking for most pleasure craft difficult. The six-foot depth contour extends generally 300 to 350 feet from the northeast side, and 600 to 800 feet from the west-southwest side of the island. The six-foot depth contour is closest to the island on the southern end in the vicinity of Castle Pinckney. It is probably for this reason that the existing pier was located here, since the pier extends to just beyond the six-foot depth. To facilitate docking, the existing pier should be repaired or replaced, or extensive dredging will be required.

The fort itself is horseshoe-shaped, and is fairly typical of small fortifications of its period. It was constructed of brick and most of the wall remains intact. Also remaining on the eastern side of the exterior of the fort is an additional layer of brick which was added after the original

construction as additional protection for the powder magazine inside the fort walls. The fort was designed for two tiers of guns, one in the casement and one in the barbett. The open end of the horseshoe, which faces in a northerly direction, was the location of the main gate to the fort and the soldier's quarters. The casements and quarters faced inward to an open courtyard as shown in Figure 3. This interior courtyard is presently filled with sand, concrete and other debris. Some artifacts have already been uncovered in the interior of the fort, including a 10-inch Columbiad gun, which is partly visible. Part of the original entrance to the fort has been opened, and there is some limited access into the structure at this point. Access to the top of the structure is now provided by a metal stairway at the western side of the structure. The stair is in a state of deterioration and should be removed for safety reasons.

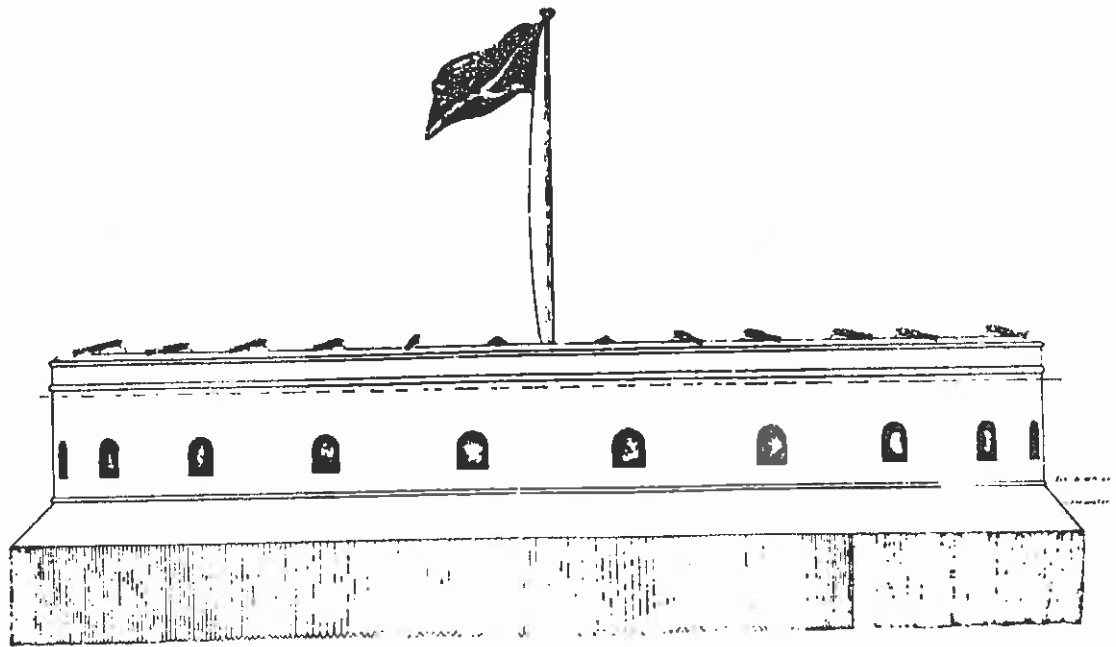
Visual inspections of the structure have indicated there may be some structural damage to the original fort walls, most likely due to settlement. This structural damage is evidenced by cracks in the exterior walls. It is impossible to determine the exact structural condition of the walls without conducting extensive structural testing and partial excavations of the interior. It may be possible that the structure is sound and will stand on its own once the interior is excavated. On the other hand, it is possible that the interior fill material is holding the structure intact, and the removal of this material could result in collapse of all or parts of the brick structure. It is recommended that a structural engineer be involved during portions of the archaeological investigations and excavations in order that a precise determination of structural soundness can be made.

There is evidence that the original brick structure has settled considerably and in fact is at a much lower elevation than

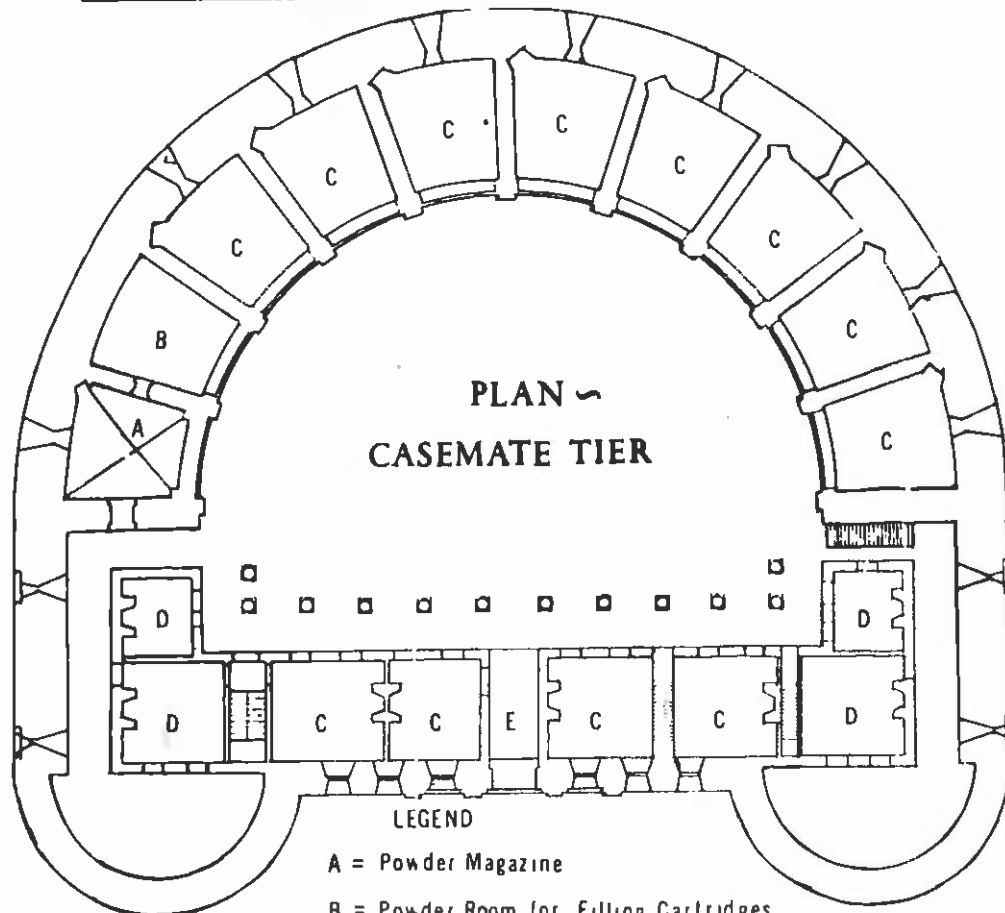


IN THE HARBOR OF  
CHARLESTON, S.C.  
1810

## Castle Pinckney



ELEVATION ~ SOUTH GORGE



### LEGEND

- A = Powder Magazine
- B = Powder Room for Filling Cartridges
- C = Quarters & Lower Tier of Guns
- D = Officers' Quarters
- E = Gateway

FIGURE 3 - FORT PLAN

when it was originally constructed. Officials of the South Carolina Wildlife and Marine Resources Department have reported that there is a net vertical change of approximately 3.63 feet since 1870. This change consists of mean sea level change as well as settling of the structure. It is further their opinion that the majority of the net change is due to settling of the structure, and that this settling may have been a result of the extra weight of the sand and other material used to fill in the courtyard. It is highly possible that structural damage has resulted from variation in differential settling of the structure. It is also highly possible, without making exact measurements, that the original level of the interior courtyard of the structure could be at, or below, the high water mark. This condition would result in periodic flooding of the original courtyard floor if complete excavation is carried out. An alternative to full excavation to the original floor level of the courtyard might be to partially excavate the interior. Of course, this would limit ceiling heights in the casement areas and would seriously limit their potential for development as a museum or other use.

The view from atop the existing structure is most impressive in nearly all directions. The prime view, of course, is the view to the west of the skyline of historic Charleston. This is an impressive view at all times of the day, but most notably at early morning when the rising sun highlights features on the peninsula; in the late afternoon, when the skyline is silhouetted against the western sunset; and at night, when the lights of the city come on. There are also impressive views to the southeast towards Fort Sumter and the largest part of the Charleston Harbor. Of course, the view to the north and northeast of the Patriot's Point development, including the carrier Yorktown, is equally impressive. It is recommended that these views become prime considerations in planning for the redevelopment of Castle Pinckney.

Portions of a wooden pier extending from the structure due south into the Charleston Harbor remain intact. Portions of this pier have been destroyed over the years, and portions were removed by the Sons of Confederate Veterans because of a potential hazard to shipping in the harbor. The remaining part of the wooden pier appears to be in a fairly stable condition, but it will probably prove most practical to replace the entire pier if access to Castle Pinckney is to be provided.

Alternate pier locations and configurations will be discussed later in this report. However, it should be noted that the present location of the existing pier is probably the most desirable location in terms of harbor depth. Exposure to wind and currents is a rather critical problem for boats attempting to dock at Castle Pinckney. There is, however, no location on Shute's Folly which would be any more protected than the present location since the entire island is very much exposed to prevailing winds and currents. Because of the very strong currents and accompanying siltation and sediment in the vicinity of Castle Pinckney, dredging for boat access becomes a very expensive and questionable activity. This would, however, be an alternative to a pier extending into the harbor.

## TOURISM OVERVIEW

Much of the success of the restoration and development of Castle Pinckney will depend on the tourist industry in the Charleston area. This section of the report is intended to provide a general overview of the local tourist industry. Tourism is a vital industry to the national, state and local economies. Many communities, like Charleston, would experience a tremendous adverse economic impact should the tourism industry come to a halt. Barring unforeseen events, it is not considered likely that this will happen. Even with continually rising gasoline prices, it is believed that Americans will continue to travel and that tourism will continue to be a health industry. The greatest percentage of travelers coming to Charleston, South Carolina, arrive by automobile. Extremely high gasoline prices might change these percentages, and in this event, it is likely that the percentage of travelers arriving by air and rail could increase.

Charleston has a great legacy of history. It has been said that there are few cities where visitors can walk the streets of colonial America in a thriving metropolitan city. Charleston has been promoted not as a restored city, but as a preserved city in which Charlestonians live amid their history. The history of the unique peninsula city, along with pleasant climate, easy access, fine restaurants, water activities, and a considerable number of attractions, and events, offer tremendous appeal to tourists.

While tourism thrives in Charleston, it is not a new industry for the city. Even before the War Between the States, Charleston was the destination of wealthy plantation families. The plantations and flower gardens of Charleston become quite well known in the early

1900s. In addition, there was considerable publicity generated by the West Indian Exposition of 1902. The tourist trade continued to grow, and in 1937 the News and Courier used for the first time the travel slogan, "America's Most Historic City."

Part of Charleston's present day appeal to travelers can be credited in part to the decline of wealth in the city immediately after the War Between the States. Compared to residents of other American cities, Charleston could not afford to build new homes, but rather continued to keep their existing homes in good repair. As a result, Charleston has one of the finest collections of preserved colonial and ante-bellum homes in the country.

According to Chamber of Commerce figures, growth in visitor traffic to the city was relatively irregular through the first half of the 1970s. There were, however, rather dramatic increases in tourist visitation beginning in mid-1974 and continuing through the present time. While it is not obvious why there has been such dramatic increases, there is some reason to believe that these gains are associated with the Bicentennial activities of 1976, as well as the result of additional promotional efforts on the part of the Charleston County Parks, Recreation and Tourism Commission (PRT), the Charleston Trident Chamber of Commerce, South Carolina PRT and other public and private sectors of the community.

During the early 20th century, most of Charleston's visitors came to the area during the spring months to enjoy the flower blooming season. This trend is changing, however, as the majority of Charleston's tourists today visit during the summer months. It appears that the major interests of Charleston visitors are Charleston's colonial and ante-bellum homes; plantations and historic places throughout the area; Ft. Sumter-Ft. Moultrie tours; the harbor

cruises; the horse-drawn buggy and bus tours; three internationally famous gardens; Charlestown Landing; Patriot's Point development; nearby beaches; restaurants; and in general, the environment in the "Holy City".

During 1977, considerable publicity for the city was generated as a result of the Miss USA Contest (of the Miss Universe Contest), and the internationally famous Spoleto Festival from Italy. Efforts are currently underway to have the Miss USA contest returned to Charleston in 1978. It has also been decided that the Spoleto Festival was successful and that it will be returning in May and June of 1978 and subsequent years. It is anticipated that this renowned festival will grow in popularity and recognition, again resulting in increased visitation to the Charleston area.

For whatever reasons, the increase in visitation to Charleston has been substantial. The South Carolina State Department of Parks, Recreation and Tourism (State PRT) maintains records of travelers in South Carolina and provides estimates of numbers and destinations. State PRT figures indicate that in 1972 there were 8,024,815 "visitors" (non-resident travelers destined for South Carolina) entering the state, and of these, 12.9 percent, or 1,035,225 were destined for Charleston. In 1976, there were 12,570,406 visitors to South Carolina, and of these the percentage destined for Charleston had increased to 17.5 percent, or 2,199,750. Thus, in four years there has been an increase in the percentage of out of state travelers destined for Charleston and a doubling of actual out of state visitors to the city.

After governmental employment, tourism and the travel industry is considered Charleston's second most valuable industry. According to the State PRT, the number of Charleston's "tourist dollars"

increased 30 percent per year between 1973 and 1975. Visitor expenditures were estimated to be approximately \$57,774,000 in 1973 and \$122,339,000 in 1975.

Castle Pinckney certainly occupies a place in the history of Charleston and the State of South Carolina. The fort, as a restored historic attraction, will be of great interest to residents of the Charleston area, and of the entire state. In addition to the general tourism market discussed above, these residents represent a considerable market which should also be considered in attempts to attract visitation to Castle Pinckney. In 1970, there were 2,931,000 residents of South Carolina, according to the 1970 census. Also in 1970, there were approximately 336,000 residents in the Charleston-Berkeley-Dorchester County area.

In 1972, a report was prepared by LBC&W Inc. for the Charleston County Parks, Recreation and Tourism Commission relative to the Feasibility of the Hog Island development in Charleston Harbor, now generally known as Patriot's Point. This report expressed a hope that the entire population of South Carolina would visit the site at least once during the first 10 years of operation, and further, that this would average out to slightly more than 20,000 visitors per month. This would mean an average of 666 persons per day from South Carolina alone. Of these, a small percentage traveling to Castle Pinckney from Patriot's Point would result in a substantial visitation for the small fort.

There are a number of attractions in the Charleston Harbor, and in the Charleston Area in general, which have appeal similar to that which could be offered by a restored Castle Pinckney. It is reasonable to expect that a percentage of visitors to these

attractions would also be interested in visiting Castle Pinckney.

### Fort Sumter

Fort Sumter is one of the best known and most widely recognized historic attractions in the Charleston area. It is located near the mouth of the Charleston Harbor, and like Castle Pinckney, on an island with no land access. Fort Sumter, however, is generally considered more significant, historically, since it was here that the War Between the States started.

The construction of Fort Sumter began in 1829 and continued until 1860, at which time Union troops under Major Robert Anderson assumed command of the nearly completed structure. Confederate forces demanded that the Union troops vacate Fort Sumter, but they refused. It was this refusal that led to the first shot of the War Between the States fired by Confederate forces at nearby Fort Johnson. After a steady bombardment, Major Anderson surrendered and Confederate troops took over Fort Sumter, which they were to hold until the evacuation of Charleston in 1865. One of the longest sieges in the history of warfare was to occur during this period. Fort Sumter was bombarded by Union forces on Morris Island from 1863 to 1865. It was during this siege that Fort Sumter became a symbol of resistance and courage to the Confederate forces.

Fort Sumter is now a national monument managed by the National Park Service. Fort Sumter Tours, under contract with the National Park Service, provides boat access to Fort Sumter from the Charleston Municipal Marina. The number of trips per day varies from one during the off season to six in the peak tourist season from June 15 to Labor Day. The access to the facility itself is free, but the only means of access is via the tour boat, which charges \$3.50 per adult and \$2.00 per child for the round trip tour. Other historic attractions in the harbor are also pointed out on the 2 1/4 hour boat trip.



Officials at Fort Sumter Tours were contacted regarding the possibility of combining access to Fort Sumter with a stop at Castle Pinckney. These officials did not consider this a reasonable possibility since they were under contract with the National Park Service to provide access to Fort Sumter only. In addition, they believed that the additional time required to stop at Castle Pinckney would make the total time of the trip excessive and thus undesirable for the average tourist. According to State PRT, Fort Sumter had 116,817 visitors in 1976, which is an increase over the 1975 visitation of 110,156.

### Fort Moultrie

Fort Moultrie is located across the entrance to Charleston Harbor from Fort Sumter on the southern tip of Sullivan's Island. Originally, Fort Moultrie was a Palmetto-log and beach-sand fortress. Early colonists repelled assaults by the British army and navy in 1776 to win what is considered the first decisive American victory of the revolution. This victory has been credited with convincing the Continental Congress that a victory over England might be possible.

The original fortress was replaced with a brick fort which played a role in the assault on Fort Sumter that initiated the War Between the States: Fort Moultrie continued under Confederate occupation throughout the War and was never captured. It was not until the Confederate forces had evacuated Charleston near the end of the War that the facility was ever occupied by Union troops.

The famous Seminole Indian war leader, Osceola, died at Fort Moultrie in 1838 while being held prisoner. This, along with other historic facts and the story of American Seacoast Defense,

are now reflected in displays at the fort. Fort Moultrie is also managed by the National Park Service as a part of the Fort Sumter National Monument.

Fort Moultrie is open daily, during summer and winter, and admission is free. Access to this facility is provided for the automobile via the causeway connecting the mainland with Sullivan's Island. State PRT statistics indicate that there were 83,118 visitors to Fort Moultrie during 1976.

#### Patriot's Point

Patriot's Point Naval and Maritime Museum, opened in 1976, on the east side of the Cooper River, is presently best known for the famous aircraft carrier Yorktown, which is on permanent display. The Yorktown is open daily, from 9:00 am to 6:00 pm, and admission fees are \$2.00 and \$1.00. According to State PRT, there were 236,264 visitors to Patriot's Point in 1976. Patriot's Point officials estimate their 1978 visitation to be in the range of 250,000.

The existing development at Patriot's Point is just the initial phase of a proposed 500-acre attraction area. The development will consist of a convention-type hotel, marina, recreational vehicle park, and an oceanarium. Officials further estimate ultimate visitation of over one million people annually.

The marina at Patriot's Point is scheduled to begin construction in 1978. Three hundred and seventy-five boatslips are planned for the marina, and approximately 25 spaces for public and private tour boats, ferry boats, and other such craft.

Upon completion of the marina, Patriot's Point intends to establish regularly-scheduled ferry service connecting the development with downtown Charleston. Patriot's Point would not

manage the ferry service directly, but would contract with a private concessionaire, similar to the Fort Sumter Tours arrangement with the National Park Service. It is premature to determine the per person rate for use of this ferry service, since this will be established through identification of market demand and negotiations with the concessionaire. Patriot's Point officials have indicated, however, that they would have no objection whatsoever to allowing this ferry boat service to stop at Castle Pinckney. A fee for the stop at Castle Pinckney could be charged in addition to the regular fee for the ferry ride between Patriot's Point and the peninsula. This may well prove to be the best solution for providing public access to Castle Pinckney. Parking for the ferry service will be provided on the Patriot's Point site. This parking could also serve for visitors to Castle Pinckney.

Patriot's Point intends to establish a recreational vehicle (RV) park, and it is envisioned that the ferry service would allow tourists to visit downtown Charleston while leaving their vehicles at Patriot's Point. This would help relieve traffic congestion in the peninsula. It is also possible that many of the visitors utilizing the ferry service would take advantage of the opportunity to stop at Shute's Folly.

#### Charles Towne Landing

This large recreational and historic oriented park was established in 1970 in celebration of South Carolina's Tricentennial. It is located just west of the peninsula of Charleston on the western bank of the Ashley River. This location was the site of the first settlement of Charleston in 1670. It was not until 10 years after this time that the settlement of Charleston was moved to the peninsula.

A number of facilities are offered for the enjoyment of the public at Charles Towne Landing, including an open-air pavillion with underground exhibits which display artifacts found during the archaeological excavations of the area. Near the reconstructed fortifications of the original settlement, there is moored a full-scale replica of a 17th century trading vessel. The development includes crop gardens, flower gardens with camellias and azaleas, bicycle trails, tram tours, picnic areas, and an animal forest with indigenous animals, such as wolf, puma, bear, bison, deer and alligator. Concerts, banquets, conventions, and a number of entertainment productions and shows are held at Charles Towne Landing during the year.

The park is open daily from 9:00 am to 5:00 pm, with longer hours during the summer. The admission is \$1.50 for adults, and 75¢ for children. State PRT statistics indicate that Charles Towne Landing had a total of 267,260 visitors in 1976.

#### Middleton Place

Further west on the banks of the Ashley River is located Middleton Place, home of Henry Middleton, who become president of the first Continental Congress. Here is America's oldest landscaped garden, which was laid out in 1741. The terraces and ornamental lakes reflect the symmetry and elegance of earlier French and English gardens. These gardens, in which the first camellia brought to the New World was planted, required the efforts of 100 slaves for 10 years to construct.

The part of the main house at Middleton Place which is still standing was built in 1755. The original house was destroyed by Sherman's army in 1865.

The house, gardens, and stableyards are open daily, except that the house is closed on Monday mornings and during late winter. Admission to all facilities is \$4.00 for adults and \$2.00 for children. Admission to the gardens and stableyards only is \$3.00 for adults and \$1.50 for children. State PRT figures indicate that Middleton Place enjoyed a visitation of 103,107 in 1976.

#### Others

There are a number of other substantial attractions in the Charleston area, which are recreation and historic oriented. Some of these are as follows:

- . Boone Hall Plantation - An historic cotton plantation consisting of 17,000 acres located north of Charleston on Highway 17;
- . Fort Dorchester - A 1696 Congregationalist settlement located on a high bluff on the east bank of the Ashley River;
- . Cypress Gardens - A swamp garden located 23 miles from Charleston off Highway 52;
- . Magnolia Plantation and Gardens - Which offers, in addition to its famous gardens, a petting zoo, a mini-horse range, canoe trips, and walking and bicycle trails; and
- . Fort Johnson - Located on James Island, and generally recognized as a place from which the first shot of the War Between the States was fired.

Fort Johnson, along with other attractions in the Charleston Harbor area, are viewed daily from aboard sight-seeing boats, run by the Gray Line Harbor of History Tour. The two-hour regularly scheduled, lectured tours depart from the Battery at the foot of King Street. Castle Pinckney is one of the attractions viewed from this tour boat.

All of these attractions and the many others in the Charleston area combine to provide sightseers, tourists, and history buffs with a tremendous collection of attractions in a concentrated area. Upon the completion of the restoration of Castle Pinckney, with adequate access, and with carefully planned and developed facilities for visitors, it can expect to attract its share of the tremendous visitation to other facilities in the Charleston area.

## REVIEW AND APPROVALS PROCEDURES

Nearly all of the marshy island surrounding Castle Pinckney is classified as "wetlands." Because of this, and because of the proximity of Castle Pinckney to navigable waters, almost any proposed improvement to Shute's Folly must be subjected to extensive review and approvals procedures. Any proposed improvement below the mean high water mark, such as dredging, docks, piers, discharge, or similar activity must be permitted through an application to the Corps of Engineers of the Department of the Army. In addition, any deposit of soil or dredged material in wetlands areas must receive prior authorization from the Corps of Engineers. The removal of sand from the interior of Castle Pinckney and deposit onto the grass area adjacent to Castle Pinckney would require a permit from the Corps.

At the time of this writing, the regulations outlined above are in force. There are, however, proposals to modify the review and approvals procedures somewhat, so that non-controversial improvements to wetlands would be permitted through the South Carolina Coastal Zone Council directly, without input from the Corps of Engineers. It is possible that this change could come about sometime early in 1978. Of course, major projects, such as marinas and public docks, will still require the approval of the Corps of Engineers. It is the recommendation of this report that the Corps of Engineers be contacted prior to any improvement to Castle Pinckney in order to determine the review and approvals process in force at that particular time.

As it stands now, the permit application (ENG Form 4345) is submitted to the Charleston District Engineer for public notice (usually for 30 days). The Corps of Engineers will also distribute copies of the application to their standard mailing list of some



200 interested individuals, groups, and agencies. Major federal agencies which will receive copies of the application include:

1. Environmental Protection Agency (EPA);
2. US Fish and Wildlife Service - Department of the Interior;
3. National Marine Fisheries - NOAA;
4. US Coast Guard;
5. US Navy;
6. Federal Power Commission; and,
7. Others.

The Corps of Engineers will also distribute copies of the application to interested state agencies. The most significant of these will be the South Carolina Coastal Zone Council. This relatively new agency has jurisdiction over all coastal counties, and must approve any development associated with the wetlands in South Carolina. The Coastal Zone Council has established specific criteria which any proposal must meet. The application provided by the Corps of Engineers will be reviewed by the Coastal Zone Council to determine if the proposal does meet their criteria. If so, they will then authorize, or certify, that the proposed improvement meets their criteria and is in conformance with their coastal zone plan. If it does not meet their criteria, then they will probably deny the application. If this occurs, the Corps of Engineers also automatically denies the application. Approval by the Coastal Zone Council does not necessarily mean approval by the Corps of Engineers, however. The Corps may deny an application based on other criteria or comments from other agencies or interested individuals. The Corps also reviews comments received in response to the public notice. Any substantive negative comments received by the Corps of Engineers are furnished to the applicant to allow him an opportunity to resolve or rebut the comments.



If requested, public hearings must be held to afford interested parties full opportunity to express their views and to develop pertinent data to evaluate the permit application. If there are no substantive objections to the proposed activity, and the necessary state and local approvals are obtained, a permit can usually be issued within 60 to 90 days after receipt of a completed application. However, if the application becomes controversial, a public hearing or public meeting will be necessary, and an environmental impact statement may be required. Should this occur, the processing of the application could take up to one year or more.

During this study process, the consultant prepared a number of alternative concept plans as potential improvements to Castle Pinckney.. These alternative concept plans were reviewed on the site with representatives of the Coastal Zone Council and the South Carolina Wildlife and Marine Resources Department. It was determined during these reviews that any major dredging and/or filling of marsh areas on Shute's Folly would probably be disapproved by these agencies. Due to this unofficial opinion, those alternative concept plans (discussed later in this report) which proposed significant dredging and fill in the marsh areas will be eliminated from final consideration.

It is also the unofficial opinion of representatives of these agencies that there would be no problem encountered with the development of piers in the marsh area, so long as they conformed to certain construction criteria. In addition, piers or docks into the harbor area would probably be permitted as long as they do not interfere with shipping channels or other governmental interests. It was also their unofficial opinion that some minor fill might be allowed in the immediate vicinity of the Castle Pinckney structure in order to restore this area to some of its

early development forms. Of course, this was only an opinion, and it was emphasized that the improvements proposed would have to be clearly delineated and included in an application to these agencies for their review.

## DEVELOPMENT OPTIONS

During the course of this analysis, a number of development options and potential activities were considered for Castle Pinckney and Shute's Folly. Of course, throughout the study, the primary objective has remained as that of ultimately restoring Castle Pinckney and making it available to the public so that it can be properly appreciated for its role in the history of Charleston, and so that it can contribute meaningfully to the tourism industry in the area. In order to achieve this goal, it is recognized that there are a number of activities which would complement historic preservation and recreation on Shute's Folly while assisting in achieving the goal itself.

Some of the development options which were investigated thoroughly will be discussed here. Some of these options will be included as recommendations for development on the island, and others will be eliminated for various reasons. Those reasons will also be discussed here. In addition, there are a number of pertinent factors, such as access, utilities, wetlands and so forth which require consideration in any analysis of Castle Pinckney. These factors and the development options for Castle Pinckney will be discussed in terms of potential "opportunities and constraints." It is the analysis of these opportunities and constraints which lead to alternatives for Castle Pinckney and the recommended development plan.

### Fort Restoration and Museum (Historic Tourist Attraction)

As mentioned earlier, the ultimate goal of the Committee for the Restoration of Castle Pinckney is just that--to restore the historic structure so that it can be fully appreciated for historic reasons, contribute to the tourism industry in the area, and provide recreation for local residents and visitors to the Charleston

area. During the course of the analysis, it was learned that a number of people believed that Castle Pinckney is not of sufficient historic significance to compete with other fortifications in the Charleston Harbor, such as Fort Sumter and Fort Moultrie. It is also the opinion of the consultant that this belief is probably true. However, it is the recommendation of this report that Castle Pinckney be restored, not so much to compete with Fort Sumter and Fort Moultrie, but to complement these historic attractions.

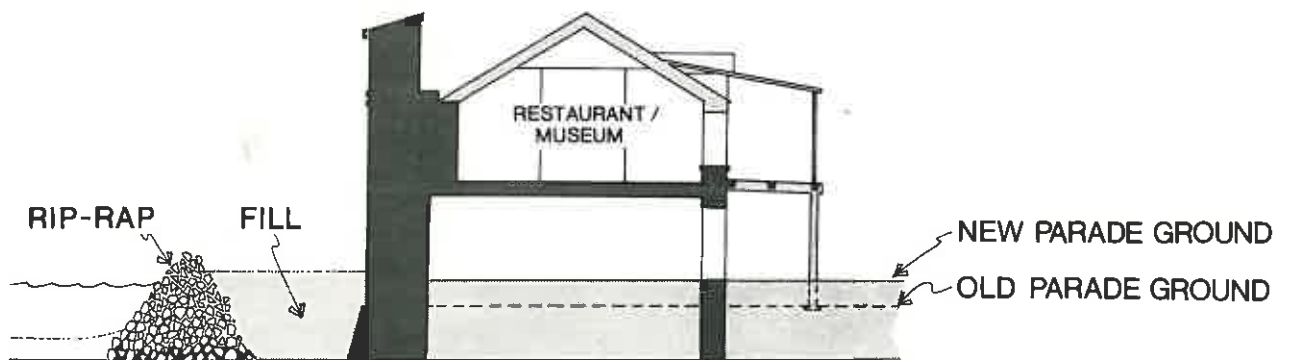
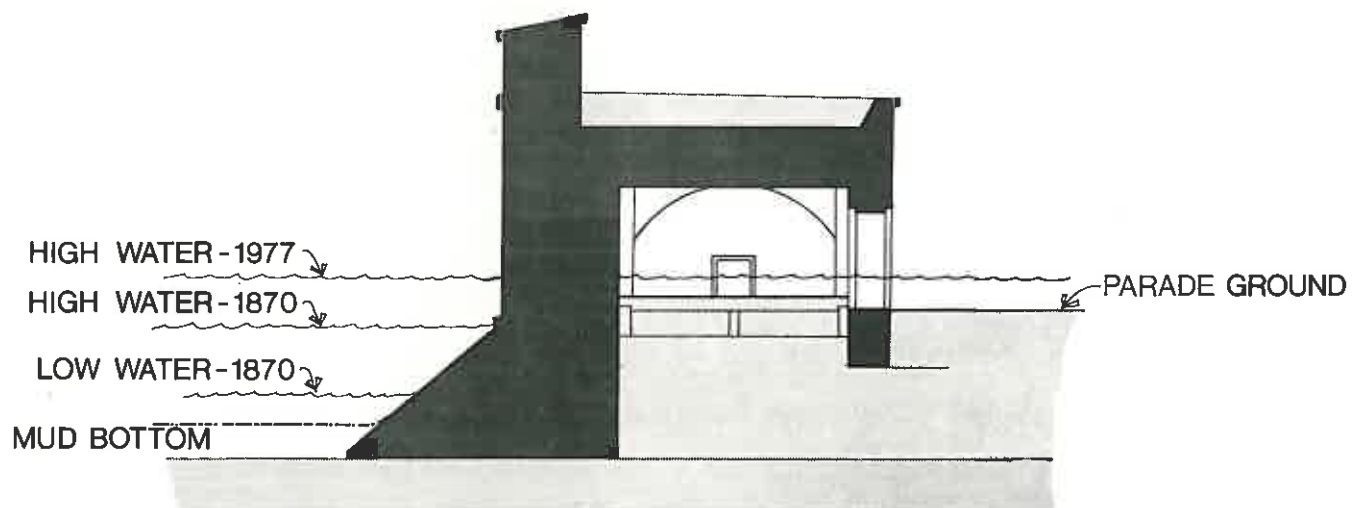
As stated in Chapter 1, Castle Pinckney is of historical significance for a number of reasons. These reasons include the fact that it dates back to before the Revolution when the original horseshoe battery was constructed in 1742 as a defense against possible invasion by Spaniards. Although never participating directly in battle, the fort was later used during the Revolution as a terminal anchor for eight ships which were sunk in the harbor to form a barrier to the British fleet. The present structure, built in 1804, saw relatively little action until the South Carolina Militia siezed the Union-occupied structure in 1860 in what many consider the first overt act of the War Between the States. Castle Pinckney also saw relatively little action during this war with the exception of acting as a holding place for Federal prisoners taken during the battle of Bull Run in 1861.

There is an opportunity here to restore the fort as an armed fort/prison type of museum representative of the period around 1861. This would be unique in itself, since Castle Pinckney was one of three or four union prisons in the South. Employees and guides in the museum could be dressed as Confederate guards. Displays should emphasize not Castle Pinckney alone, but the role the fort played in the historical development of Charleston and the Charleston Harbor, again to complement other historic attractions.

There are constraints to be considered. In the operation of such a museum, it would appear desirable for the National Park Service to take the lead role, since they are presently involved in the management of Fort Sumter and Fort Moultrie. However, it is the expressed opinion of National Park Service officials that it would be "highly unlikely" they would develop and/or manage Castle Pinckney. Part of the reason for this opinion is due to the fact that the National Park Service once controlled Castle Pinckney and turned it back to the State of South Carolina. In addition, the National Park Service would not desire that the present concessioned ferry service to Fort Sumter also be allowed to serve Castle Pinckney.

Congressional action, which is always possible, would probably be the only way to get the National Park Service involved, and this appears unlikely. However, should this be deemed an appropriate course of action, then sufficient enlightenment of Congressional representatives might result in a change of attitude within the National Park Service.

Another real constraint with the development of Castle Pinckney as a museum would be the physical accommodation of activities within the present structure. This may, or may not, be possible, and this determination cannot be made without further, more detailed structural analyses. One alternative would be to excavate the interior of the structure and establish the museum within some of the casements. The potential constraints here are that, upon excavation, the structure may prove to be unstable and could indeed collapse. This condition would require structural reinforcement of the fort, or retaining the existing fill on the interior. Again, detailed structural evaluations will be required to reach this determination. Possibly, these investigations could be made concurrent with archaeological investigations.



**FIGURE 5**  
**SECTIONS THROUGH FORT WALL**

Even if the structure could be excavated and made structurally sound, there may exist a problem with sufficient ceiling height in the casement area, since the structure itself has sunk over three feet. Excavation to the original parade ground and floor level is probably not possible because the mean high tide level may result in flooding at this elevation. Alternatives to a casement location for the museum would include reconstruction of the wooden officer's barracks within the structure to house the museum, or the construction of a new structure on top of the existing fort or adjacent to it outside the existing fort walls. This possibility is shown in Figure 5.

#### Marina

Marina facilities at Castle Pinckney were considered primarily because of the apparent demand for such facilities in the area. Existing marinas are filled to capacity and have long lists of people waiting for up to two years or longer to obtain slips. The inadequate facilities force not only local residents, but transient boaters as well, to bypass Charleston during peak traffic seasons along the inland waterway in the fall and spring.

In 1975 a Boating Facilities Task Force was set up by the Trident Chamber of Commerce to evaluate present and future marina requirements and to study the problems confronting local and transient boaters. Each marina in the Charleston area was inventoried with the exception of private boat and yacht clubs. The following table presents the results of this study.

Table 1

## CHARLESTON MARINA CHARACTERISTICS

<u>Marina</u>	<u>Total No. Slips</u>	<u>Size Boats Accommodated</u>	<u>Percent Occupancy</u>	<u>No. on Waiting List</u>	<u>No. Transient Boats Accommodated</u>
Ashley*	6	up to 30'	U.C.	250	Unk
Botany Bay	13	up to 70'	100	3	5-6
Mt. Pleasant	190**	15' - 40'	100	200	0
Municipal	314	10' - 130'	100	300	30
Ria Scott***	80	13' - 24'	U.C.	--	0
TOTAL	603			753	35-36

\* Under construction, 200 slips planned over next two years.

\*\* Following completion of dredging.

\*\*\*Dry stack marina, under construction. Estimated completion, January 1978.

At the time the survey was conducted, there were 603 slips existing or near completion to meet the needs of local boat owners. Each marina at full capacity has every slip rented and the number of people on waiting list totals up to 750. The Charleston Municipal Marina is virtually the only existing marina which accommodates transient boats to any great extent. The records of this marina reveal that 20,343 yachts stopped at the Municipal Marina from 1970 through 1974. Of this total, only 1,101, or 5.4 percent, stayed one week or longer. If additional dockage space with a full line of services were offered at existing or new marinas, more boats would be inticed to stop and perhaps stay longer. This would represent yet another economic boost to the community.

It is projected that two hundred additional slips will be added to the Trident area marina inventory over the next two years with expansion of the Ashley Marina. In addition, a 375 slip marina at nearby Patriot's Point is scheduled for construction beginning in 1978. Beyond this there are marina plans within the overall development plans for the resort developments on Kiawah,



Seabrook Island and Isle-of-Palms. Slips in the marinas planned for these islands could likely be limited to property owners. They will therefore do little or nothing to relieve the shortage faced by the general public. Furthermore, any transient boats stopping at these marinas will most likely do so in order to utilize the various recreational facilities offered by the respective resorts.

It can be concluded that there exists substantial demand for slips in local marinas. Even if one assumes that up to one-half of the total number of names on waiting lists represents duplicate registration, it is still obvious that a considerable unmet demand exists. Furthermore, there is no way to determine the exact number of local residents who desire to own boats requiring marina space but do not buy them because of long waiting lists.

Additional marina space would not only go a long way toward meeting the recreational aspirations of many local residents, but would also provide a substantial monetary infusion into the local economy. New marina space easily accessible from the inland waterway should provide adequate space to accommodate transient tourists. It would open up new yacht sales, with the secondary consequence of adding to personal property tax revenues. Sales of other marine related equipment, supplies and services would also increase. These increased revenues would subsequently be reflected in other segments of the local economy via a multiplier effect.<sup>(1)</sup>

From the above it is apparent that there exists substantial demand in the Charleston area for marina facilities. At the same time, there also exists tremendous physical constraint to the development of such a facility on Shute's Folly, not the least of which is the likelihood that regulatory agencies would not approve

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(1) Source: "Charleston Trident Area Salt Water Marina Survey," prepared by Charleston Trident Chamber of Commerce, 1975.

any dredging of the marsh area on the island for a marina basin. An alternative to dredging for an interior basin would be to construct seawalls and bulkheads into the harbor to provide protection for boats. Because of the island location (with lack of land access), this construction would be more expensive than usual for marinas in the area. There are also substantial problems associated with the transport and storage of fuel for boats, construction of maintenance facilities, and the provision and treatment of considerable amounts of water and effluent. In addition, should bulkheads be constructed into the harbor, it is believed that problems with accumulations of siltation would occur, adding to operating expenses.

These constraints all signify increased construction and operating costs of a marina at Castle Pinckney, placing such a facility at an economic disadvantage with other marinas in the area. It is believed that the planned marina at Patriot's Point would be in a much more competitive position to provide marina facilities in this immediate area of the harbor.

#### Restaurant

The obvious advantages of a restaurant at Castle Pinckney are that such an establishment would increase visitation to the restored fortress, and that part of the proceeds from such a private enterprise might help cover development costs and operating expenses involved in the restoration effort.

Access and space limitations suggest that such a restaurant would be relatively small, perhaps serving a limited number of patrons at one sitting. The restaurant could be unique, promoting a theme of a confederate prison in which waiters would be dressed as Confederate guards and restaurant patrons could be considered

prisoners from the time they were herded aboard the ferry for transport until the time they were returned to the mainland upon the completion of their sentence several hours later. Riding the ferry boat itself could be an adventure in which an after-dark tour of the harbor could be made while cocktails were served on board. In addition, a restaurant on the island would offer an unparalleled evening view of the city of Charleston. Such a restaurant would surely be well accepted in a city already renowned for its fine and unique restaurants. Recent restaurant development activity in Charleston also indicates a continued demand for this type of restaurant facility.

There are, however, some very obvious constraints to the development of a restaurant on Castle Pinckney. First, there is the question of the physical feasibility of the construction and how the restaurant structure would relate to the existing fort structure. The constraints which apply to the development of a museum within the fort structure also apply here. In assuming that the structure could be made sound, there is again the potential for a ceiling height problem in the casement area. Again, the restaurant could also be included in the wood framed officer's barracks area within the fort. Two alternatives to this would be to construct a restaurant facility on top of the existing Castle Pinckney or on fill outside the existing walls. While this may be possible, extensive architectural studies should be made to ensure that such a structure would be aesthetically compatible with Castle Pinckney, and not detract from the architectural and historical integrity of the fort.

An additional problem with the restaurant facility is the provision of the required utilities, such as water, electricity, gas, and substantial sewage treatment capabilities. All of these combine to increase the development cost of a restaurant on

Castle Pinckney far beyond that normally encountered in such a project. Since many restaurants are financially marginal operations anyway, the problems outlined here would render a restaurant physically and financially unfeasible. Of course, any substantial subsidy from some as-of-yet unidentified source would change this conclusion.

Thus, it is the finding of this report that while there would appear to be adequate tourist and local market support for a restaurant on Castle Pinckney, physical and economic considerations would make such a development unfeasible at any time in the near future. It is recommended, however, that this idea be reinvestigated at some point in the future, possibly after completion of archaeological investigations and the restoration of the basic structure. At that time, one possible approach might be to allow private entrepreneurs to submit proposals for the design and development of a restaurant at Castle Pinckney which would be most financially advantageous to the owners as well as most compatible with on-going historical preservation efforts.

#### Pier Fishing Demands

The establishment of pier fishing activities appears to be one viable way to provide for recreation for the public and to produce revenue for historic preservation activities. There is a noticeable lack of pier fishing opportunities in the Charleston Harbor area. Most fishing now is from private boats or from the Battery in the vicinity of White Point Gardens. Discussions with regulatory agencies indicate that piers could be constructed in the marsh area on Shute's Folly as well as into the harbor.

Though pier fishing has been largely concentrated along the Grand Strand area, extending from the North Carolina state line southward to Georgetown, South Carolina, its growing popularity

is reaching the entire coastal area of the state. The ease with which one may fish from piers, coupled with the relatively inexpensive tackle that is required and the fact that this sport provides action throughout the year, bring thousands of anglers from out of state and noncoastal areas of South Carolina to the coast to participate in fishing activities. At most piers, annual and daily admission tickets are available. Annual tickets generally cost from \$15 to \$25, while daily rates usually run \$1.25 per person. Piers sell a variety of bait and fishing tackle and rent rod and reel outfits by the day. Snack bars or restaurants are also usually available at the piers.

In October 1976 the South Carolina Marine Resources Center conducted a survey and published a report "An Economic and Biological Evaluation of the South Carolina Pier Fishery." It was the intent of this study to assess the direct economic impact to the area by the pier industry, utilizing pier admission tax records and direct personal interviews with the anglers.

Conclusions are that the pier fishing industry is a significant marine recreational activity in South Carolina. Approximately 25,000 people participated in this activity during the eight months from April through November, 1974. Obviously, many of these people made a number of fishing trips since total attendance at public piers during this period was 227,911. Over 8,000 of these anglers came from other states specifically to enjoy the pier fishing opportunities in South Carolina. Pier anglers injected \$2.4 million directly into the local business economy. Of this amount, \$1.3 million can be directly attributed to the presence of the pier fishing industry.

This survey showed definite socio-economic patterns among the anglers. The average out-of-state angler resided between 150 and 200 miles from the pier and spent six nights in the area staying at a motel or campground. He averaged fishing 6.2 times from a pier

annually, spending \$69.21 during the stay. In-state anglers averaged spending four nights in the area of the piers, staying at either a motel or a campground and spending \$41.97 during the visit. The in-state anglers fished an average of 18.5 times a year on South Carolina piers. Local pier anglers averaged fishing 68.7 times from piers in South Carolina annually while spending an average of \$3.09 during each trip. As a whole, pier anglers averaged staying five nights in the area and spent \$46.37 during the stay.

Obviously, the pier industry plays an important role in the state's recreational and tourism business. Not only does it attract large numbers of people to South Carolina, but it also offers an additional recreation outlet to those who came to the area for other reasons. In Charleston, where tourists play a strong role in the city's economy, the Isle-of-Palms Pier is the only public pier available to fishermen in the Trident area.

From discussions with varied interest groups as to possible activities that might occur at Castle Pinckney, pier fishing has been strongly recommended as a viable source of revenue. Excellent fishing has been reported in the general area and the following marine species, among others, have been taken with some regularity in the channels flanking Castle Pinckney in recent years:

1. Atlantic Croaker (Micropogon undulatus);
2. Spot (Leiostomus xanthurus);
3. Kingfishes (Menticirrhus spp.)
4. Silver Perch (Bairdiella chrysura);
5. Bluefish (Pomatomus Saltatrix);
6. Jack Crevalle (Caranx hippos);
7. Amberjack (Seriola spp.); and,



It would appear from this analysis that pier fishing activities would be beneficial to the local economy, and further, that the area around Castle Pinckney would be suitable for such an activity due to the availability of desirable marine species. It was also apparent from this general overview that there exist adequate market support in the Charleston area for a fishing pier located at Castle Pinckney. It was beyond the scope of this study to analyze in any detail the market and financial feasibility of this specific undertaking. Since market conditions will probably change during the next five years, it is recommended that more detailed investigations be made just prior to implementation of the fishing pier.

This general overview did entail a thorough review of the 1976 report, "An Economic and Biological Evaluation of the South Carolina Pier Fishery", as well as discussions with South Carolina Wildlife and Marine Resources Department officials, tourist-oriented businesses and a number of persons directly involved in the ownership and management of the fishing piers. It was the general consensus of everyone that pier fishing in the Charleston Harbor area would certainly be a viable activity. This opinion resulted, in part, from the fact that such a large concentration of people live in the Charleston Metropolitan Area and that this concentration is presently served by the only one fishing pier, that one being at Isle-of-Palms. It is considered that a pier more centrally located, in the Charleston Harbor area, would prove attractive, not only to the large number of local residences, but to the significant amount of tourist visitation expected in the coming years.

It is significant that of the 12 existing fishing piers along the South Carolina coast, eleven are located in the Myrtle Beach/Grand Strand area. This area has a permanent

year around population of approximately 38,000 and a peak seasonal population of almost 300,000.<sup>(1)</sup> The Charleston Metropolitan area, has a permanent year a round population of approximately 276,200 and an additional seasonal peak population which has not been estimated. (2) This would indicate that the Charleston area could support more than one fishing pier.

For discussion purposes, an analyses was made of relevant statistics and estimates for selected piers in the Grand Strand area. These statistics are illustrated in table 2. These three piers are the largest in the Myrtle Beach area. Managers of these piers were interviewed and these statistics represent the manager's best estimates for the year 1976.

As can be seen from the table, approximately 129,000 tickets were sold for daily admission to these three piers. Visits by season ticket holders were estimated to be approximately 45,000 for that year representing a total estimated visitation of approximately 174,000. In view of the fact that Charleston population is significantly larger than that of Myrtle Beach and the fact that tourism visitation to the Charleston area is increasing annually, the potential annual visitation projected for a pier at Castle Pinckney is considered conservative. Likewise the potential annual revenues from the proposed fishing pier is also conservative. With regard to the revenues generated

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(1) SOURCE: Myrtle Beach Chamber of Commerce

(2) SOURCE: Berkley-Charleston-Dorchester Council and Governments



Table 2

## SELECTED PIER STATISTICS

<u>PIER LOCATION</u>	<u>SIZE</u>	<u>1976 PAID VISITATION</u>	<u>REVENUE FROM FISHING PIER</u>	<u>REVENUE FROM BAIT AND TACKLE SHOP</u>	<u>TOTAL REVENUE</u>
Surfside Beach	850 ft.	32,000 tickets plus 130 Season Tickets	\$40,000	\$100,000-150,000	\$140,000 to \$190,000
Myrtle Beach State Park	735 ft.	40,000 plus 30 Season Tickets	\$50,000	\$ 40,000	\$ 90,000
Springmaid Beach	1,000 ft.	57,000 plus 500 Season Tickets	\$87,500	\$250,000	\$337,500
Proposed Pier at Castle Pinckney	400 ft.	75,000 plus 500 Season Tickets	\$100,000	\$ 75,000	\$175,000
			<u>POTENTIAL ANNUAL REV. FROM PIER</u>	<u>POTENTIAL ANNUAL REV. BAIT &amp; TACKLE SHOP</u>	<u>TOTAL POTENTIAL ANNUAL REVENUE</u>

by the bait and tackle shop, it is important to note that this projection is significantly less than at least two of the piers near Myrtle Beach. It was discovered during the interviews that the Myrtle Beach fishing piers also include a concession operation which caters to people using the beach as well as to fishermen. Obviously, these swimmers and sun-bathers would not be as prevalent at Castle Pinckney. Also, at least one of the fishing piers contacted (Surfside) indicated that their 1977 visitation had probably increased as much as 20% over 1976.

There are a number of factors which contribute to the success or failure of a pier fishing operation. One of the most significant factors, other than location, is the weather. Unusually severe winter weather will result in much lower attendance figures. In addition, the success of pier fishing at any given pier will generally increase with the age of that pier. The pier structure itself acts much as a reef underwater and will continue to attract fish with age.

It was determined through discussions with the pier operators that the average operating cost for a fishing pier and bait and tackle operation would be in the range of \$50,000 excluding insurance cost. This figure would include all wages, utilities, maintenance and other costs. The insurance cost would generally range from \$12 to 18,000 per year. It is considered possible that these operating costs could be reduced at Castle Pinckney through the utilization of summer students in the field of recreational/park administration. It is understood that such students at Clemson University are being required to fulfill a ten week internship in the field, which might possibly be done at Castle Pinckney. In addition, students from the College of Charleston and the Citadel may also be utilized in a similar fashion.

## Passive Outdoor Recreation

Passive recreation, such as picnicing, bank fishing, crabbing and nature observation could also be provided on the island around Castle Pinckney. Regulatory agencies have already indicated that piers could be extended into the marsh area. These piers could provide for nature walks through the marsh area, as well as for access to the shell banks on the edges of the island. Pedestrian activity in the marsh area is not desirable since any type of encroachment would tend to destroy the marsh grasses in time. The shell banks, however, are more sturdy and could withstand pedestrian activity. The shell banks and other beach areas on the island could provide a place to beach small boats while picnicing and enjoying the other facilities on the island.

There are no major constraints to this type of recreational activity unless the numbers of people grow so large that there becomes a danger of encroachment on the marsh area. Thus, visitation should be carefully managed to avoid any damage to the marsh area.

## Access

Access will remain as one of the major constraints to the development of Castle Pinckney. The only reasonable means of access will be by boat or ferry. In order for this to occur on a regular basis, three major elements are necessary: A launching point for

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- (2) Source: "An Economic and Biological Evaluation of the South Carolina Pier Fishery," by Donald L. Hammond and David M. Cupka, South Carolina Marine Resources Center; October 1976.

the boat or ferry craft, facilities at Castle Pinckney for docking, and the craft itself. In addition to a launching point, it will be necessary to provide space for vehicular storage for those people arriving by automobile.

In the opinion of the consultant, it is not considered practical for the Committee for the Restoration of Castle Pinckney to develop such facilities or even to acquire a ferry craft large enough to transfer sufficient numbers of visitors to Castle Pinckney. The alternative would be to arrange for these services to be provided by current operators, or others, in the Charleston Harbor area, such as the Grey Line Tours or the Fort Sumter Tours.

Discussions with Fort Sumter Tours indicate their reluctance to provide such a service to Castle Pinckney. Fort Sumter Tours is under contract with the National Park Service to provide access to Fort Sumter only. Fort Sumter Tours officials indicated one reason for not providing this service is that an additional stop at Castle Pinckney would increase the time of their two hour and fifteen minute trip, which is too long now. In addition, National Park Service officials have indicated their desire that the Fort Sumter Tours boat not stop at Castle Pinckney.

Officials of Grey Line Tours have indicated their interest in incorporating a possible stop at Castle Pinckney. Grey Line Tours has boats which they could make available for a regularly-scheduled run to Castle Pinckney. Of course, negotiations would have to be conducted with Grey Line Tours to determine the frequency of service, the fees charged, and other considerations.

The most promising approach to regular boat service appears to be an arrangement with Patriot's Point, as discussed previously in the tourism overview. Patriot's Point intends to contract for regularly-scheduled service between their development and the peninsula. Patriot's Point officials indicated that it would be reasonable to negotiate an agreement with their concessionaire for a stop at Castle Pinckney. Under this arrangement, visitors to Castle Pinckney could board the ferry boat at Patriot's Point or in Charleston. This arrangement satisfies all the requirements for regular service, since the concessionaire would own the boat, Patriot's Point would provide sufficient space for parking of vehicles, and the restored dock at Castle Pinckney would provide docking space for the craft.

Rebuilding the dock at Castle Pinckney appears to be the most reasonable approach to providing docking space. As discussed previously, marina facilities appear to be unfeasible at this time. Of course, access to Castle Pinckney should continue to be allowed for small craft who would beach their craft on the island or tie up to the new dock.

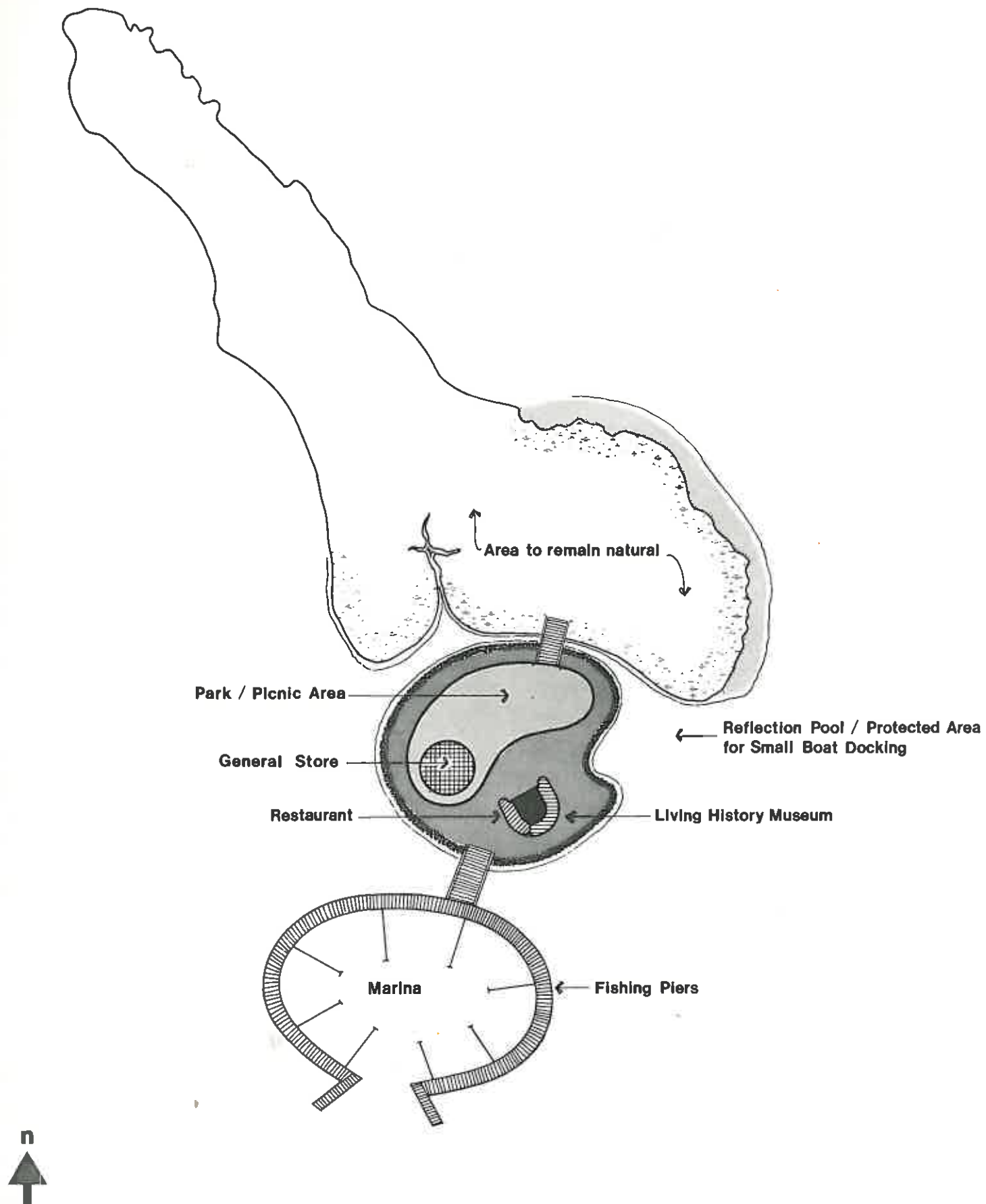
## ALTERNATIVE CONCEPT PLANS

A series of six alternative concept plans were prepared for Shute's Folly. These plans were prepared in a conceptual form to illustrate the various potential uses for Shute's Folly in addition to a variety of alternative arrangements of these uses. Each of these alternatives was analyzed carefully with respect to existing site conditions, the potential tourism market in the area, the necessary review and approval procedures and the various opportunities and constraints for development on Shute's Folly and Castle Pinckney. During this analysis many of the alternatives presented here proved to be unfeasible and thus were eliminated from consideration in the preparation of the recommended master plan. The six alternative concept plans are discussed in this section of the report along with the positive and negative aspects of each.

All of the six concepts were reviewed on-site with representatives of the Coastal Zone Council and the South Carolina Department of Wildlife and Marine Resources. During these reviews, it was determined that a number of these concept plans were unfeasible due to the requirements of these agencies relative to dredging and filling in wet land areas. It was determined that any plan which recommended significant dredge or fill operations outside of the immediate vicinity of the Castle Pinckney structure would not be approved by these agencies or the Corps of Engineers.

### Concept Plan No. 1

Concept Plan No. 1, like Nos. 2 and 3, incorporates a marina into its design. The circular-shaped marina extends south from Castle Pinckney. This alternative proposes that Castle Pinckney



**FIGURE 6**  
**CONCEPT PLAN - 1**



be detached from Shute's Folly by a small channel which could be used by small craft for docking purposes along sandy beach areas. A battery-park for picnicing and observation is proposed around Castle Pinckney by filling in marsh areas and stabilizing the filled areas with rip-rap revetment. Pedestrian access would be provided from Castle Pinckney to other areas of Shute's Folly.

Concept No. 1 was one of the plans eliminated because of the proposed channel to be dredged through the marsh area and the significant amount of fill proposed in what was identified as wetland areas.

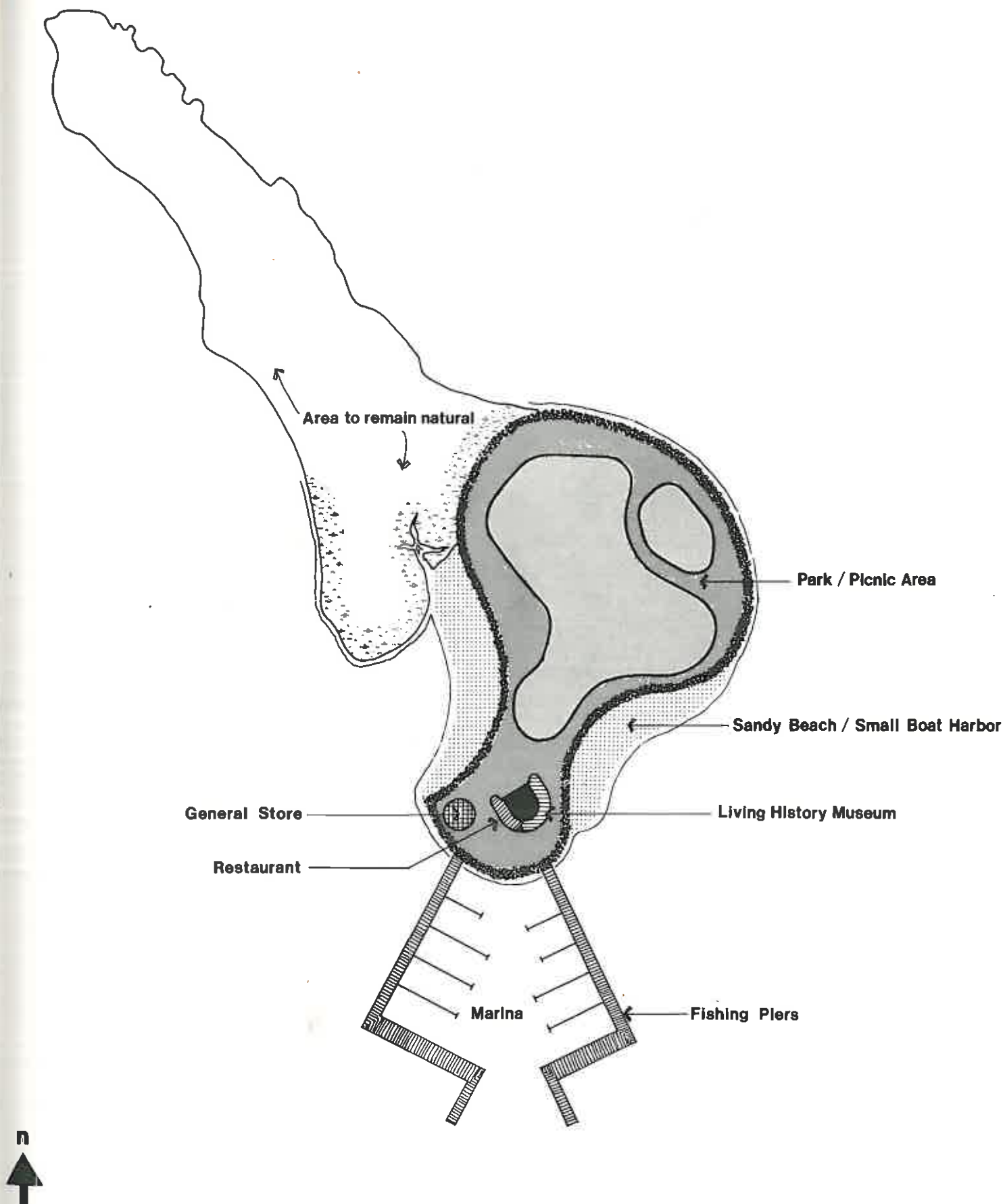
In addition, the marina as shown in Concept Plan No. 1 was not considered to be the most desirable location or configuration for any marina structure. All the problems associated with a marina at Castle Pinckney, in addition to periodic dredging requirements and exposure to the natural elements, led to the conclusion that this particular use should not be included on Shute's Folly.

#### Concept Plan No. 2

Concept Plan No. 2 incorporates a triangular-shaped marina to the south of Castle Pinckney. Located adjacent to the marina is a general store for servicing marina needs. A large battery-type park facility is proposed, flanked on both the southeast and northwest sides with sandy beach areas. The remainder of Shute's Folly would be left natural. A museum and restaurant are proposed to be located in Castle Pinckney.

Concept Plan No. 2 was eliminated from further consideration for almost the identical reason that Concept No. 1 was eliminated. While the configuration of the marina, and the fill area, is different, the problems associated with them are the same.





**FIGURE 7**  
**CONCEPT PLAN - 2**

### Concept Plan No. 3

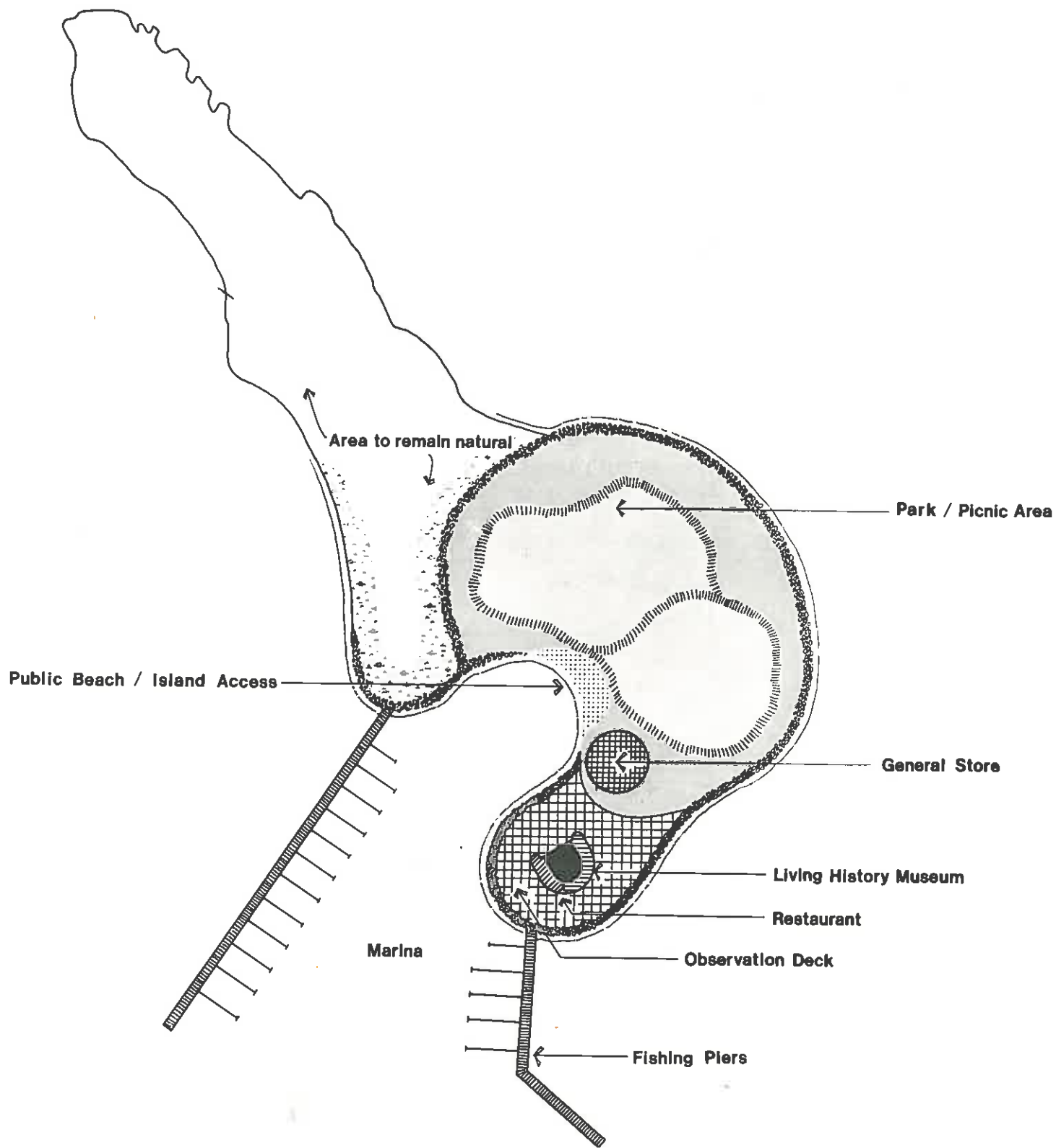
Plan No. 3, like 1 and 2, also proposes a marina basin. However, the basin consists of two piers extending out for boat docking and fishing. A beach area is created adjacent to the proposed park. Land reclaimed around Castle Pinckney will form an observation deck.

Again this plan proposed significant fill areas to create a part-picnic area and observation deck around Castle Pinckney. In addition, dredging is a part of this concept in order to create a marina area and public sandy beach area. The same problems exist with Concept Plan No. 3 as did the two previous concept plans and for these reasons it too was eliminated from further consideration.

### Concept Plan No. 4

Plan No. 4 incorporates an internal marina by relocating existing shell banks north and west of Shute's Folly. Shell banks would be used in forming a jetty, thus creating a channel through Shute's Folly for boat docking. This jetty would be stabilized by revetment and used as a park for picnicing and fishing. Pedestrian access is proposed from the built-up area to the remainder of the island.

The underlying concept for this alternative was an attempt to provide a natural channel from the northern tip of Shute's Folly to the southern edge through which the strong ebb current in the Charleston Harbor would flow, thus creating a natural current movement through the marina area. This would hopefully keep the channel and marina area free of siltation and negate the



**FIGURE 8**  
**CONCEPT PLAN - 3**

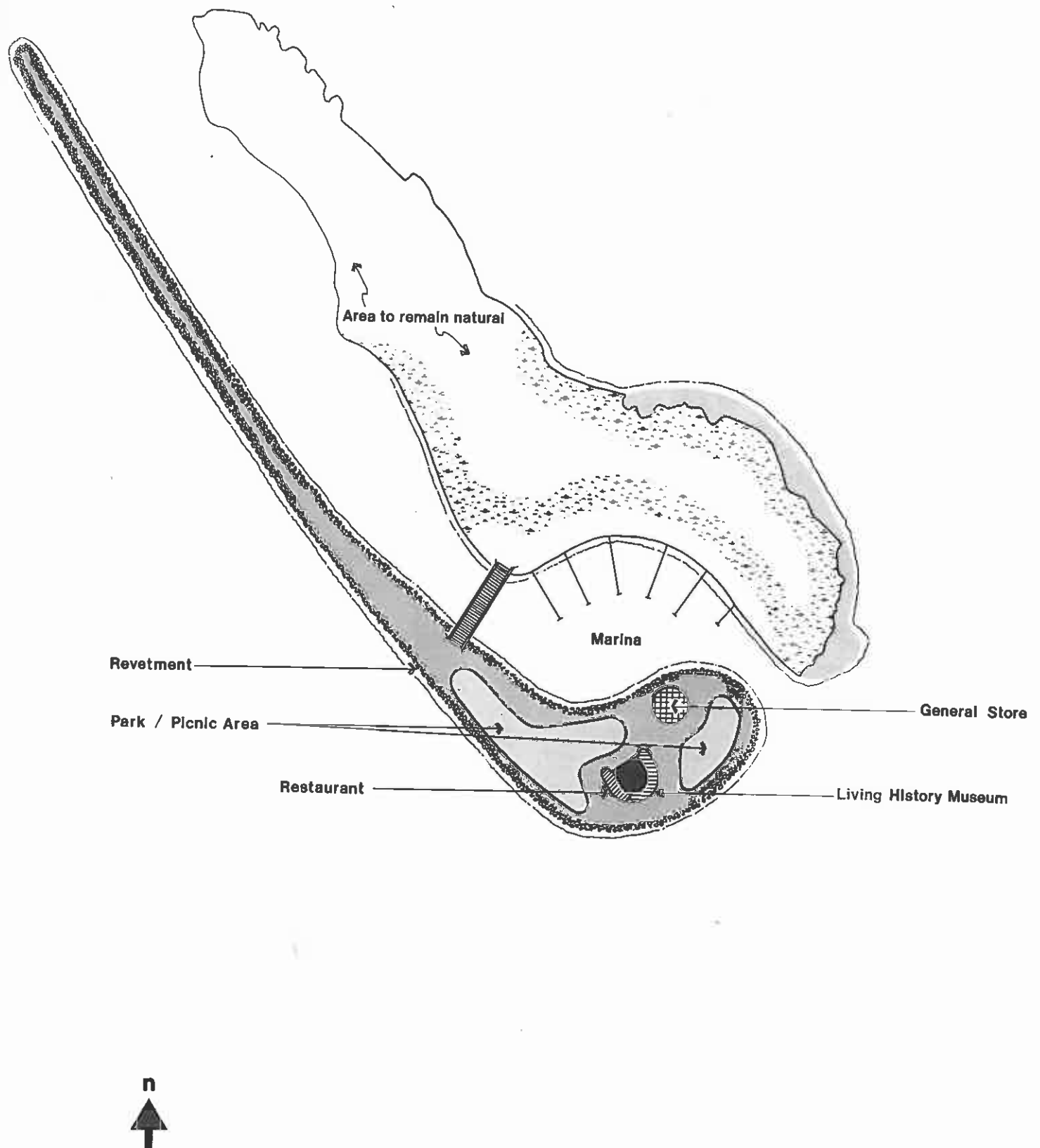


FIGURE 9  
CONCEPT PLAN - 4

necessity for periodic dredging. Of course, it was determined that this extensive dredging and fill would not be allowed by the various agencies involved. It was further determined that the impact the Harbor currents would have on the channel, and the rearranged shell banks, was almost impossible to measure. Without the support of exhaustive engineering studies, it is possible that this arrangement, rather than achieving the desired affect, might lead to the destruction of the entire island as a result of the Harbor currents and tidal action. For these reasons this concept was also eliminated.

#### Concept Plan No. 5

Plan No. 5 recommends the least amount of development. It proposes to reclaim only enough land around Castle Pinckney to achieve the 1861 setting, shortly after the State of South Carolina took possession of the fortification. This setting included a wooden barricade enclosing the rear area around the fortification. It is proposed that the existing dock be improved to accommodate ferry boat service to Castle Pinckney. This facility itself will be restored to accommodate a museum and restaurant.

It was determined through the on-side reviews that this alternative would "probably be approved" by the Coastal Zone Council and the Department of Wildlife and Marine Resources. For this reason this concept was retained for further consideration in the recommended master plan. The one deficiency with this particular concept is that it would contain few activities which would produce revenue to help support the restoration activities at Castle Pinckney.

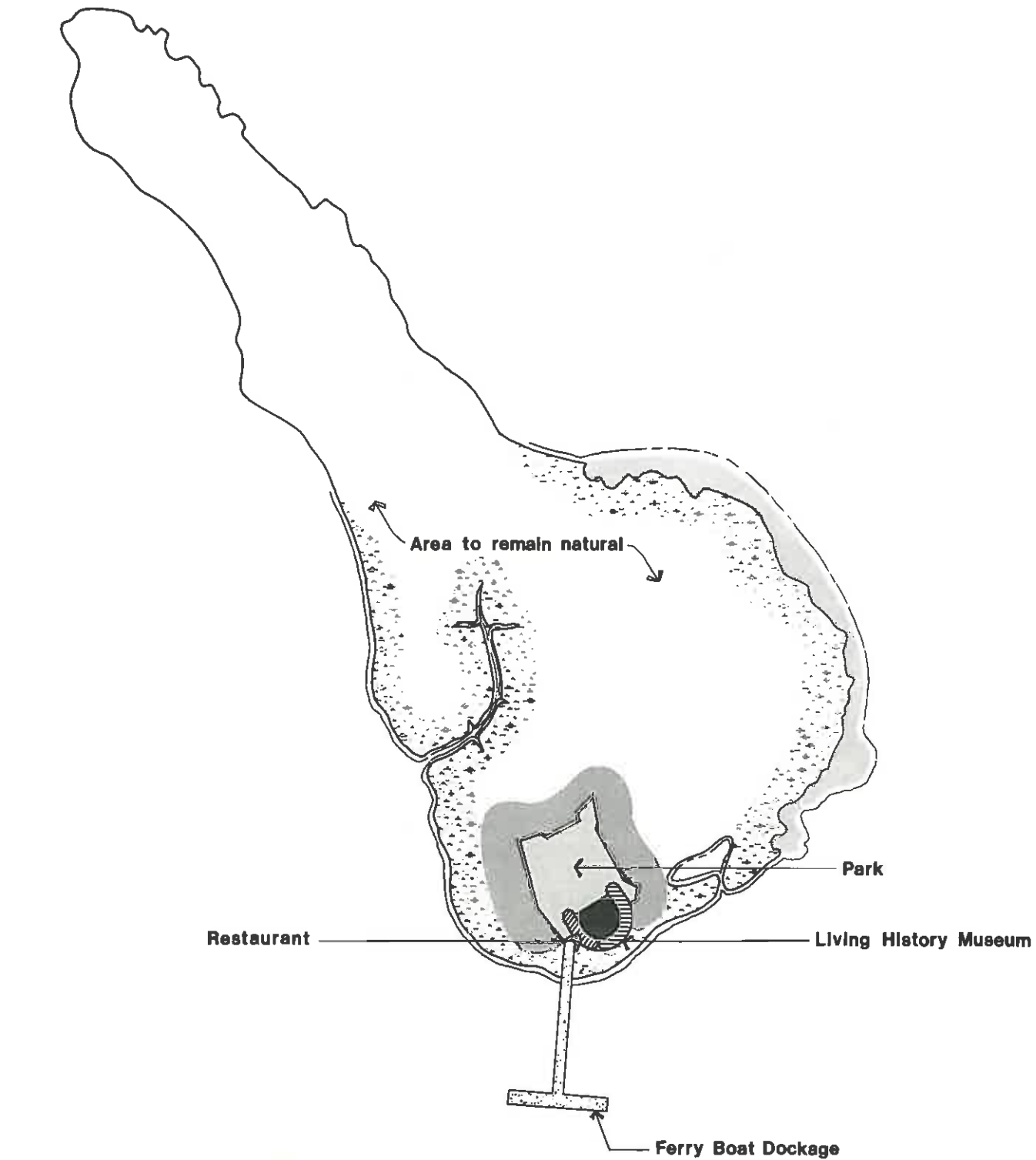


FIGURE 10  
CONCEPT PLAN - 5

### Concept Plan No. 6

Plan No. 6 purposes a slight deviation over Plan No. 5. In addition to reclaiming the land area included in the 1861 barricade, a larger area surrounding Castle Pinckney will be reclaimed. It is proposed that the existing dock be extended and improved to accommodate ferry boats. This plan proposes a series of elevated walking decks and fishing piers to criss-cross Shute's Folly Island. A general store is proposed to provide fishing needs and concessions.

This plan resulted, in part, from the realization that revenue producing activities would be needed on Shute's Folly. The fishing piers would provide the desired revenue. Agency officials on the site did indicate that walking decks and piers could be constructed through the marsh areas if these piers meet certain design criteria. On the other hand, these officials indicated that the fill area around Castle Pinckney would probably not be approved as shown on the plan.

Thus the small fill area shown in Concept Plan No. 5 and the fishing pier idea illustrated in Concept Plan No. 6 would be strongly considered for inclusion into the final recommended master plan with some modifications.

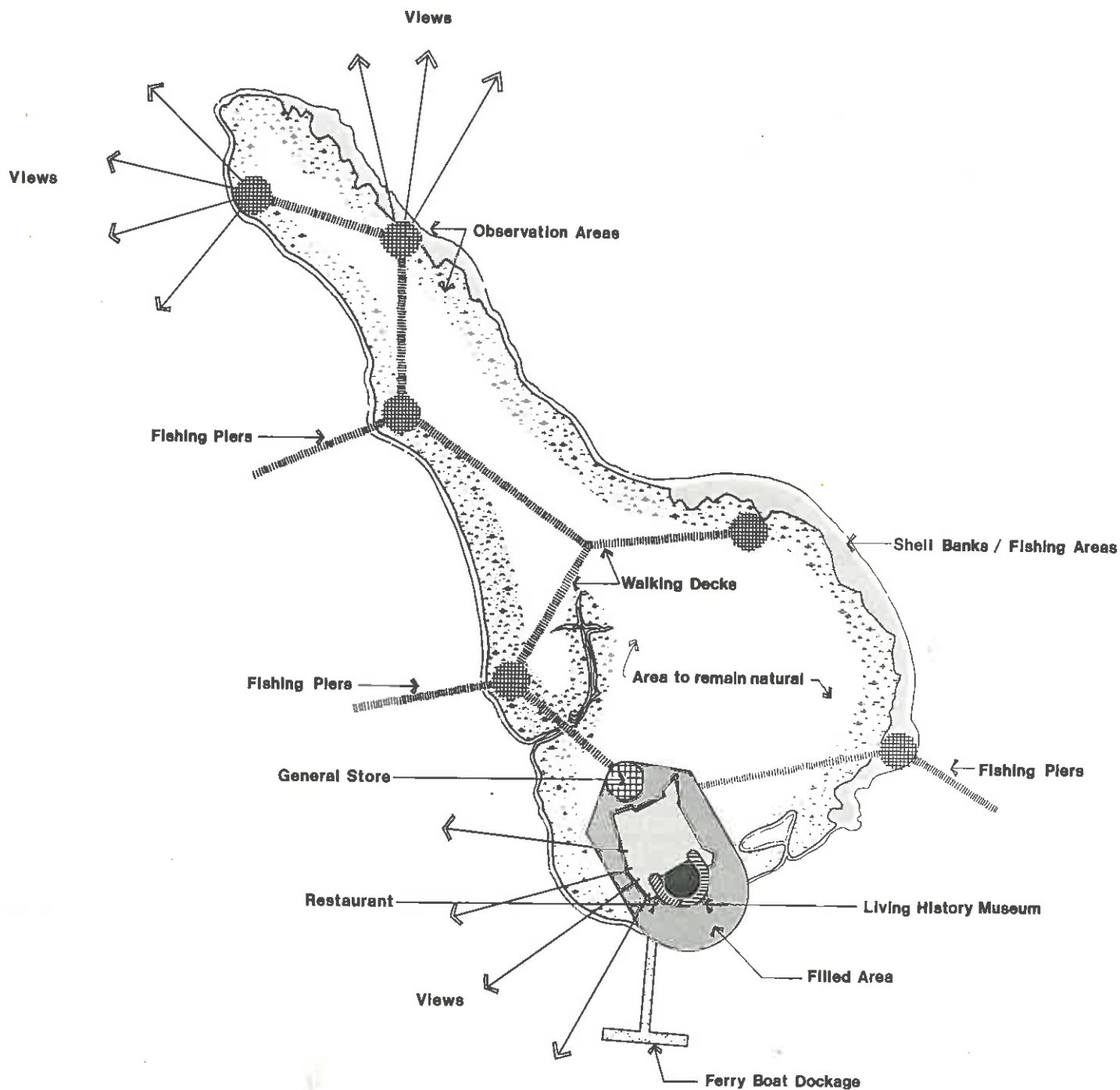


FIGURE 11  
CONCEPT PLAN - 6



## RECOMMENDED DEVELOPMENT PLAN

The final Recommended Development Plan, as presented in Figure 12, is a direct outgrowth of on-site review of the six conceptual development plans with environmentalists and engineers of the South Carolina Wildlife and Marine Resources Department and the Coastal Zone Council. In addition, valuable input was received from the Committee for the Restoration of Castle Pinckney, as well as numerous individuals and organizations contacted during the course of this study. Prior to final development of the property, of course, the details of this plan may be revised. However, given the environmental constraints, the development constraints with regard to this being an island facility, the fact that there already exist two restored forts in the Charleston Harbor, and the marketable demands for complementary recreational activity in the Charleston area, the basic concept derived herein provides the guidance for future development of the property. The proposed activities of the Master Plan include a restored fort/museum of Confederate artifacts, a restaurant incorporated within the fortification, and a series of piers and decks for fishing and picnicking which also includes a shop for Bait, tackle, and other fishing accessories.

As opposed to the Concept Plans, the Recommended Development Plan reflects more specifically market support and preliminary cost and revenue projections. It sets the stage for determine the feasibility of the restoration efforts. A phasing program will be offered, however. Development staging will depend to a great extent on the availability of funds, grants and provision for access from the Patriot's Point development to Charleston proper.

Accessibility to Shute's Folly and Castle Pinckney is a key element to its success. Patriot's Point is agreeable to

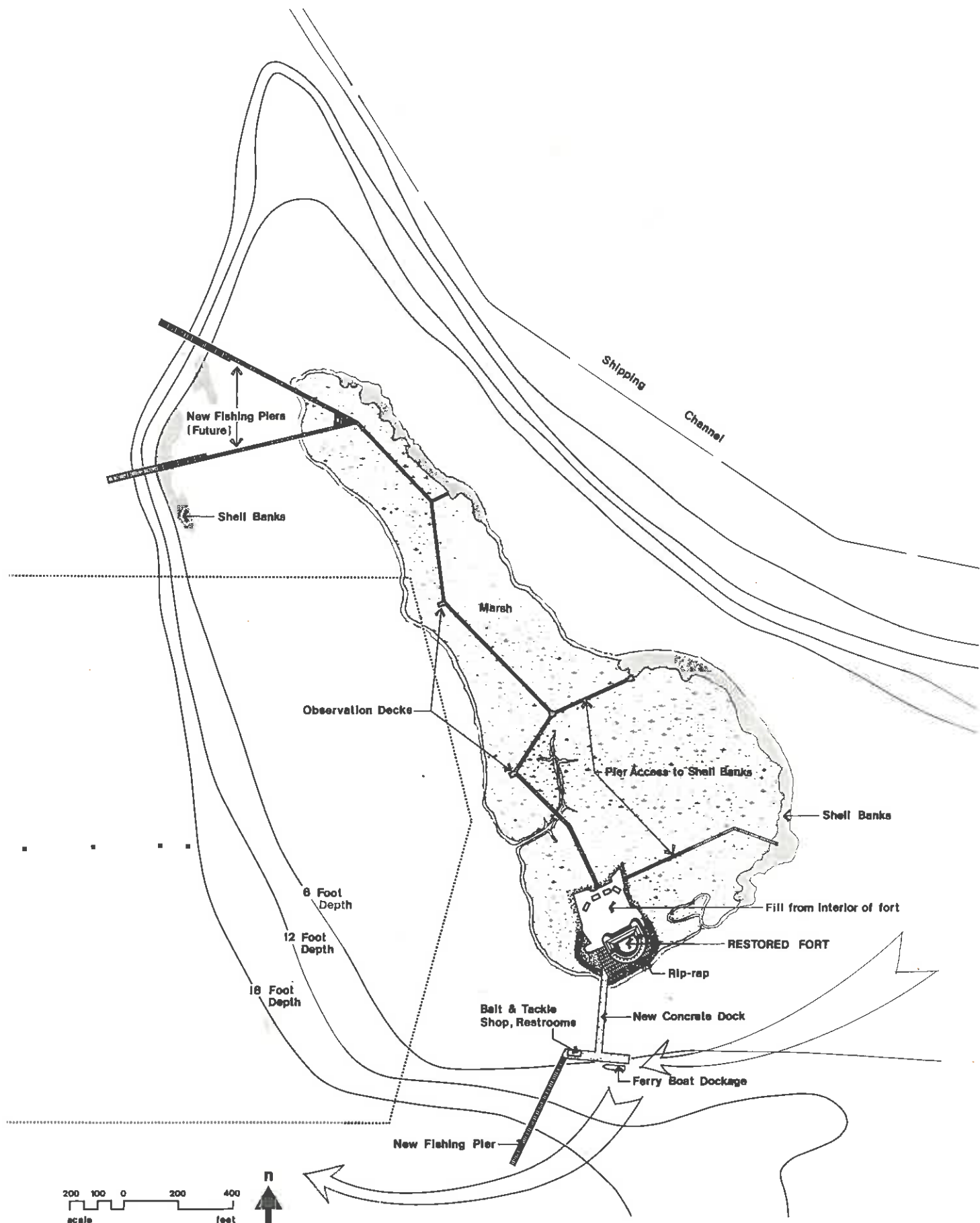


FIGURE 12  
RECOMMENDED MASTER PLAN

including regularly-scheduled stops at Castle Pinckney when it develops its own plans for ferry service to and from Charleston. A pier facility currently exists at the Yorktown. With modifications that might take up to 90 days, this facility can be made available to Castle Pinckney for use. By 1979 a second pier will be available for incorporating ferry service. This pier will be utilized for docking the S. S. Savannah. It is projected that by 1980 the Patriot's Point marina will be available to offer a ferry connection to Charleston. It is the intention of the Patriot's Point Development Authority to contract a concessionaire to provide the ferry services to Charleston. Their timetable for incorporating such an activity is approximately two to five years away.

The activities occurring at Patriot's Point will serve to greatly complement the proposed activities at Castle Pinckney. Of particular benefit will be the recreational-vehicle park for campers and the parking facilities available to the public. The facilities here--ship museums, oceanarium, marina/yacht and sports activities--will allow Castle Pinckney to stand out as a passive recreational retreat to the normal hectic pace of the Charleston-destined tourist.

As shown in Figure 12, the recommended master plan for Castle Pinckney contains a number of related elements, each of which can be implemented separately. In addition to the physical elements shown in the plan there are a number of activities which cannot be illustrated, such as archaeological investigations, which will be necessary during the implementation process. It is also apparent that certain activities will require completion before other activities and physical improvements can be implemented. For example, the provision of a new dock for boat access to the island is necessary before any other improvements to the island can occur.

It is recommended that most of the activities proposed for Castle Pinckney be implemented over a five year period. It is virtually impossible to project precise activities and market demands past the initial five year period. In this regard it is suggested that specific improvements be considered for the first five years with a re-evaluation program at the end of that time to determine the next most logical course of action.

Essentially, the recommendations for the first five years include the provision of access and the protection of the fort structure from further erosion and deterioration. It is also recommended that a fishing pier and bait and tackle shop with restrooms be provided in order to generate revenues for restoration activities on Shute's Folly. It may also be possible in the first five years to provide museum facilities related to the historic fort structure. It is anticipated that these activities can accommodate visitation by fishermen and tourists to Castle Pinckney.

It is not considered feasible to implement additional activities within the first five year period. However, it is recommended that other additional activities be considered following the first five year period to include a possible restaurant or other commercial activities connected with the fort. Also, the establishment of additional wooden walkways and fishing piers on the remainder of the island should be considered in order to increase the revenue producing capabilities of the project.

Following is a general description of activities to occur in each of the first five years. A more detailed description along with estimates of costs and revenues will be included in Chapter 9 having to do with the implementation process.

### Year One

As indicated, it will be necessary on the first of year implementation to provide a new dock in order to facilitate boat landings at Shute's Folly. It is recommended that the new dock be constructed at the location of the existing deteriorated wooden dock. It is further recommended that a concrete dock be considered at this location.

Also in Year One it will be essential to provide rip rap protection around the base of the structure itself in order to prevent further deterioration due to tidal and wave action in the harbor. Additional rap protection might be extended around the perimeter of the fort and slightly removed from the base in order to provide a location for deposit of the sandy material now contained inside the fort structure. Of course, before the new dock and rip rap protection can be provided it will be necessary to undertake detailed engineering studies for these improvements.

It is also essential that archaeological investigations occur in the first year prior to any physical improvements. It would be disastrous to destroy any archaeological evidence now existing on Shute's Folly through the construction of physical improvements. In this regard it is recommended that these archaeological investigations occur prior to any physical improvements and once the findings have been recorded then these improvements can occur.

It is anticipated that the construction of a new dock, the installation of rip rap protection, initial archaeological investigations and detailed engineering in the first year can be accomplished for approximately \$550,000. Of course the project will generate no revenue during this initial year.

### Year Two

It may not be possible to complete the entire required archaeological investigations within one year. In this regard it is recommended that these investigations continue into Year Two along with the engineering analyses required for the construction of the fishing pier which will connect to the new concrete dock. It is also recommended that construction on the fishing pier begin in Year Two along with the construction of the snack bar, bait and tackle shop, and gas lighting system for dock and other improvements on the island.

Gas is recommended for lighting since it will be extremely difficult to provide electricity to the island. The gas utilized for lighting can also be used to power the generators which will operate utility equipment, also to be installed in Year Two. The description of the restroom arrangements and utility system, is contained in Appendix A.

By the end of year two, it is anticipated that all of the archaeological investigations will have been completed along with the necessary engineering studies for the construction of the pier rip rap improvements. It is also anticipated that the new boat dock and fishing pier will be completed along with the snack bar, bait and tackle shop, restroom facilities, and lighting for night fishing and pier deliniation as required by the U. S. Coast Guard.

### Year Three

It is recommended that the development schedule for Castle Pinckney to be coordinated with other on going activities in the Charleston Harbor area. With such coordination, it may be possible to initiate ferry service to Castle Pinckney during the

third year of development activities. This would accommodate fishing and limited tourist visitation to Castle Pinckney. It is recommended that no physical development occur during the third year of the development process, but rather that the implementing organization concentrate on operating the pier fishing activities and the continuation of engineering investigations.

The operation of fishing activities in the Third Year and some tourist visitation will provide the implementing agency with a more precise indication of management problems and market demand for improvements at Castle Pinckney. It may be appropriate during the third year to modify the total development program for Castle Pinckney taking into consideration the experiences gained at this time.

#### Year Four

It is recommended that the museum and souvenir shop be constructed in Year four as a part of the Castle Pinckney structure if it is proved structurally feasible. It is also recommended that additional toilet facilities be provided to accommodate increased visitation projected during Year four. Of course many of the improvements programed for Year four will depend on the success of the project observed during the Year three.

Should the implementation process go according to plan the first phase of improvements to Castle Pinckney will be essentially complete at the end of Year four. Castle Pinckney will be provided with access in terms of a ferry service connecting Patriot's Point and the mainland of Charleston. Castle Pinckney can at that time provide an attraction to tourists in the form of a restored military structure and museum on the island. Castle Pinckney will also provide an attraction to



local and nonlocal fishermen through the provision of a fishing pier in the center of the Charleston Harbor. This should be significant in that this will be just one of two fishing piers in the entire metropolitan Charleston area.

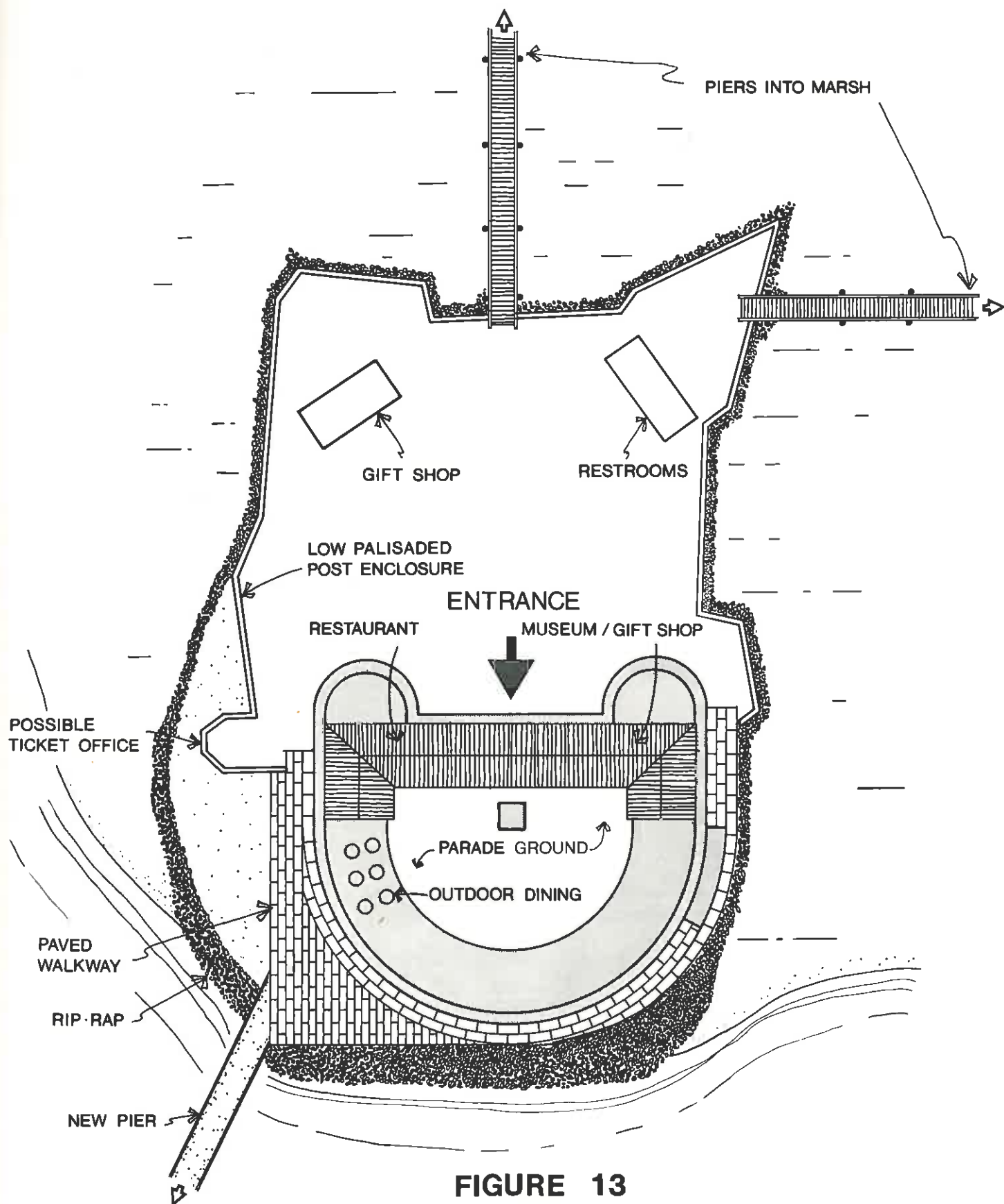
In addition, Castle Pinckney will be able to offer complete restroom facilities, snack shop and bait and tackle operations to accommodate those visitors to the island. At this time, and during the fifth year of operation it is recommended that activities at Castle Pinckney be restudied in order to determine the feasibility of continuing with additional development or maintaining the status quo at that time.

#### Year Five

It is recommended that no physical improvements occur during the fifth year of operation. This year will include the operation of the restored fort museum and the fishing pier in order to observe the revenue generating feasibilities of these improvements. Revenues generated during the fifth year and subsequent years should be retained and utilized for additional improvements at Castle Pinckney as seems appropriate. Studies can also be made during the fifth year to determine the feasibility of proceeding with the additional development activities.

One possibility would be the potential for a restaurant or other private enterprise type of attraction located within, on, or adjacent to, the Castle Pinckney structure. It is difficult at this time to anticipate the feasibility of such an undertaking primarily due to the lack of adequate water, sewer and electrical service to the island. It may be that these facilities can be provided more feasibly within 5 to 10 years and it is recommended that they be reconsidered at that time. One





**FIGURE 13**  
**FORT AREA PLAN**

possible approach might be to develop a restaurant or other similar commercial activities on Castle Pinckney. Charleston County PRT could accept that proposal most advantageous to the county and most beneficial to the future development of Castle Pinckney. By allowing private enterprise to become involved the potential public burden can be relieved.

In summary, the recommended master plan for Castle Pinckney includes those activities considered most reasonable at this time. In order to implement these activities it is recommended that initial development period be approximately five years. A five year initial development period allows for slow and steady progress at the same providing for coordination with other improvements programmed for Charleston and the Charleston Harbor area. This go-slow approach also allows for a re-evaluation of the present program during the development process and possible modifications to this program to accommodate fluctuating market demand and visitation. It is further recommended that total re-evaluation of the development program be conducted during the third and fifth year of the development process in order to determine the most appropriate course of action at that time.

## RECOMMENDED DEVELOPMENT STRATEGY

This section of the report is intended as a recommended strategy to be followed in the implementation of proposed improvements to Castle Pinckney. The recommendations will address the management of the implementation process and the recommended responsible agency. Also included will be a recommended chronological order of improvements which can be phased over a period of years in order to adapt to funding availability and shifts in market demand.

The question of the appropriate agency responsible for implementation was analyzed in some detail. One possible agency would be the Fort Sumter Camp of the Sons of Confederate Veterans. After careful consideration it was decided that the Sons of Confederate Veterans would not be the most appropriate agency to take on this responsibility. This organization has done a considerable amount of work leading towards the restoration of Castle Pinckney and it should continue to support, and be involved in, this effort. The implementation process outlined here, however, will require greater resources, including funds and day to day management expertise, than is available to the Son's of Confederate Veteran's. In addition, this organization is primarily an eleemosynary group whose members are involved in interests of their own which require most of their working time.

The National Park Service would also be a candidate for the implementation of improvements to Castle Pinckney. The National Park Service now owns and manages the facilities at Fort Sumter and Fort Moultrie in the Charleston Harbor. This agency would also have at its' disposal a considerable amount of park management experience and expertise. There would also

be an opportunity to combine Castle Pinckney with the attractions at Fort Sumter and Fort Moultrie in order to provide the visitor with a more complete picture of the historical and military background of these facilities.

Discussions with National Park Service officials reveal that they were not interested in assuming the management and implementation of improvements to Castle Pinckney. As was indicated earlier in the report the National Park Service did own Castle Pinckney at one time. The fact that National Park Service did release control of Castle Pinckney might make it difficult for them to acquire control again. In addition, it is the current position of the National Park Service to limit the acquisition of additional property. Thus it would appear that the National Park Service would not be the logical agency to assume the implementation process. It should be noted however that the activities of the National Park Service are controlled by the United States Congress and congressional action might modify this current policy.

The Patriot's Point Authority was also considered as a possible implementing agency. It has been recommended in this report that access to Castle Pinckney should be provided by an arrangement with Patriot's Point to take advantage of their proposed Ferry Service between Patriot's Point and in the peninsula of Charleston. In this regard, many visitors to Castle Pinckney will already be using some of the facilities at Patriots Point. It was learned, however, through discussions with Patriots Point officials, that any arrangements beyond these would be more difficult than would appear on the surface. To begin with, Patriots Point is well into their development process and these ongoing development activities require their full resources and attention. Officials expressed an opinion that

they would continue to concentrate on their current activities and not take on any additional responsibilities. It was also determined that a change in the charter of the Patriots Point Authority would be required in order to assume these additional responsibilities. Such a change would probably not be possible at this time. Thus it is recommended that Patriots Point not be considered further to implement facilities at Patriots Point.

Charleston County's Park, Recreation and Tourism Commission was also considered as an implementing agency. It appears that this agency is the most logical one to assume the responsibility of implementing and managing improvements to Castle Pinckney. It is the recommendation of this report that this agency be approached with such a request.

There are a number of reasons why Charleston County PRT is the most logical implementing agency. PRT is charged with providing and managing recreational facilities for Charleston County, in addition to concentrating on tourism related activities. The improvements recommended for Castle Pinckney would certainly constitute a considerable recreational resource for the people of Charleston by providing opportunities for fishing, picnicking, and other activities on Shutes Folly. In addition the establishment of Castle Pinckney as a tourism attraction in the Charleston Harbor would certainly provide an additional attraction which would tend to strengthen the total tourism market in Charleston.

Charleston County PRT has also recently taken on the management of specific recreational facilities in the county. One of these is a new developed park and recreation area east of the Cooper River. Discussions with representatives of Charleston County PRT have revealed that a similar arrangement at Castle Pinckney would not be outside of the realm of possibility but that such a decision would have to be made by the full commission of Charleston County PRT.

Charleston County PRT has received a number of grants from various agencies for the development of recreational resources. These agencies, and others could be approached again for funding assistance for implementation activities at Castle Pinckney. Some of the agencies which should be considered include the Bureau of Outdoor Recreation (BOR), The National Endowment for the Humanities, and the National Science Foundation. In addition revenue sharing funds are available to the county which could be applied to Castle Pinckney. Water craft funds can sometimes be made available as well as historic preservation grants which are normally channeled through the S. C. Department of Archives and History. In addition to these sources the Coastal Plains Regional Commission also has funds available for projects such as this. The allocation of Coastal Plains Regional Funds in the State of South Carolina is controlled by the office of the Governor. It is recommended that this office be approached with a request for funding to implement improvements at Castle Pinckney.

#### Priority of Improvements

It is recommended that a five year development program be established for the implementation of improvements to Castle Pinckney. The general activities recommended for each year were discussed in Chapter 8, the recommended development plan. This section of the report outlines in more detail the specific activities to be conducted during each year and a general estimate of the capital cost and operating cost for each of these activities. Also included is an estimate of potential revenue to be obtained from these activities.

The general estimate capital and operating costs and the estimated revenues are based on 1977 dollars. Obviously

inflation over the years will change these estimated amounts. The estimates are based on best professional judgments and are intended to establish order-of-magnitude cost and revenues. Without more detailed architectural and engineering investigations it is impossible to arrive at more precise estimates of costs and revenues. It is emphasized that these projected costs and revenues should be reviewed annually as the implementation process proceeds in order that more current and refined estimates can be obtained.

It is apparent from the following table that the first two years of improvements to Castle Pinckney will require substantial capital and operating costs with no revenue being generated by the project. These costs are necessary in the first two years in order to prepare Castle Pinckney for visitation for the general public. Revenues are projected to begin in the third year of operation increasing each year thereafter. It is significant that revenues in the fifth year of operation would substantially exceed cost. It is recommended that these excess revenues be utilized to provide additional improvements to Castle Pinckney such as adaptive reuse of the structure itself.

Because of the many significant difficulties associated with the restoration and reuse of Castle Pinckney it should be understood that the development process will require many years of effort. It will be virtually impossible to implement all of the desired improvements to Castle Pinckney within the first five years. The development process could consume 10 to 20 years in order to realize the full potential of this significant facility. It is anticipated however that the development program as outlined for the first five years will represent substantial beginning to this process.

The development process recommended for the first five years will be used as a general guide only. As in any good development plan the implementation process must remain flexible to change in order to adapt to changing conditions and market demands.



Table 3

## RECOMMENDED DEVELOPMENT PRIORITIES

ACTIVITY	COST		REVENUE	NOTES
	Capital	Operating		
Year 1				
. Commence Archaeological Investigations		90,000		1
. Engineering, Dock, Rip Rap		45,000		
. Replace Existing Dock	239,400			2
. Install Rip Rap Protection	175,000			3
Year 1 Totals	414,400	135,550		
Year 2				
. Continue Archaeological Investigations		90,000		
. Engineering, Structural Conditions, Pier		65,000		
. Construct Southern Fishing Pier	171,000			4
. Construct Snack Bar, Bait and Tackle Shop	6,000			
. Construct Utility System	35,000			5
. Install Initial Gas Lighting System	4,500			6
Year 2 Totals	216,500	155,000		
Year 3				
. Initiate Ferry Service			6,600	7
. Initiate Public Pier Fishing		25,400	100,000	8
- Insurance, \$150,000 Premium		12,000		
- Bait and Tackle Shop Inventory		50,000		
- Bait and Tackle Shop Sales			75,000	

Table 3, (Cont'd)

ACTIVITY	COST		REVENUE	NOTES
	Capital	Operating		
Year 3 (Cont'd)				
. Maintenance		5,000		9
. Design Museum, Souvenir Shop		25,000		
Year 3 Totals	0	117,400	181,600	10
Year 4				
. Ferry Service			6,000	
. Pier Fishing		37,400	100,000	
. Bait and Tackle Shop Sales			75,000	
. Maintenance		5,000		
. Construct Museum, Souvenir Shop	250,000			11
. Add Additional Toilet Unit	22,000			
Year 4 Totals	272,000	42,400	181,000	
Year 5				
. Ferry Service			15,000	12
. Pier Fishing		37,400	150,000	13
. Bait and Tackle Shop Sales			100,000	
. Maintenance		7,000		
. Souvenir Shop			500	14
. Museum		50,000		15
Year 5 Totals		94,400	265,500	16

Table 4

## NOTES

1. Underwater investigations, south end of island.  
Part of Phase IV, prior to rip rap improvement
2. New dock - 12,600  $\Phi$  @ \$19.00 = \$239,400
3. Rip-Rap - 3,500 tons @ \$50 = \$175,000
4. Fishing pier - 9,000  $\Phi$  @ \$19.00 = \$171,000
5. Sanitation System
 

- 1 unit, 3 toilets, 1 urinal	- 12,000
- Battery Charger, Generator,	
Fuel Tank	- 6,000
- Installation	- 5,000
	<u>22,000</u>

Water Supply	
- Tank, 5,000 gal.	- 3,000
- 24V air pump	- 300
- Controls	- 1,000
- Installation	- 4,000
	<u>8,300</u> round to \$10,000

Total Utilities	<u>\$35,000</u>
-----------------	-----------------
6. 20 Gas Lights and Standards - 2,000  
 1,150 feet of conduit - 2,300  
4,300 round to \$4,500
7. Revenue of 3% of Ferry Service Gross  
 Assume 200 Ave. Daily Visitation  
 Assume \$3.00 Ave. Ticket Price  
 = \$219,000 Gross X 3 % = 6,570 round to \$6,600
8. Operating Cost = \$25,000, Salaries  
 Revenue = \$100,000  
 Projected Annual Visitation of 75,000 @ \$1.25 to \$1.50 Ticket Price
9. Annual Maintenance
  - Water Supply Every Two Weeks
  - Waste Disposal Every Month
  - Equipment and Pier Maintenance
10. Represents Annual Positive Cash Flow of \$64,200.

Table 4 (Cont'd)

11. \$250,000 Established as a Budget Estimate for Discussion Purposes in this Analysis Only. Accurate Construction Cost of Museum and Souvenir Shop will be Impossible to Determine Without Detailed Structural Analysis of Castle Pinckney.
12. Based on Increased Visitation to 350/Day for Museum and Fishing with Increased Ferry Ticket Increase to \$4.00  
Gross = \$511,000 X 3% = 15,330 round to \$15,000
13. Based on Increased Annual Visitation to 100,000 And Ave. Ticket Price of \$1.50 = \$150,000
14. \$500 Annual Fee for Use of Gov. Property by Souvenir Shop Concessionaire
15. Salary and operating Cost for One Administrator-Manager, One Assistant Manager, Two Interpreter/Guides, One Maintenance Man and Partime Summer Help = \$50,000
16. Represents Positive Annual Cash Flow of \$171,000

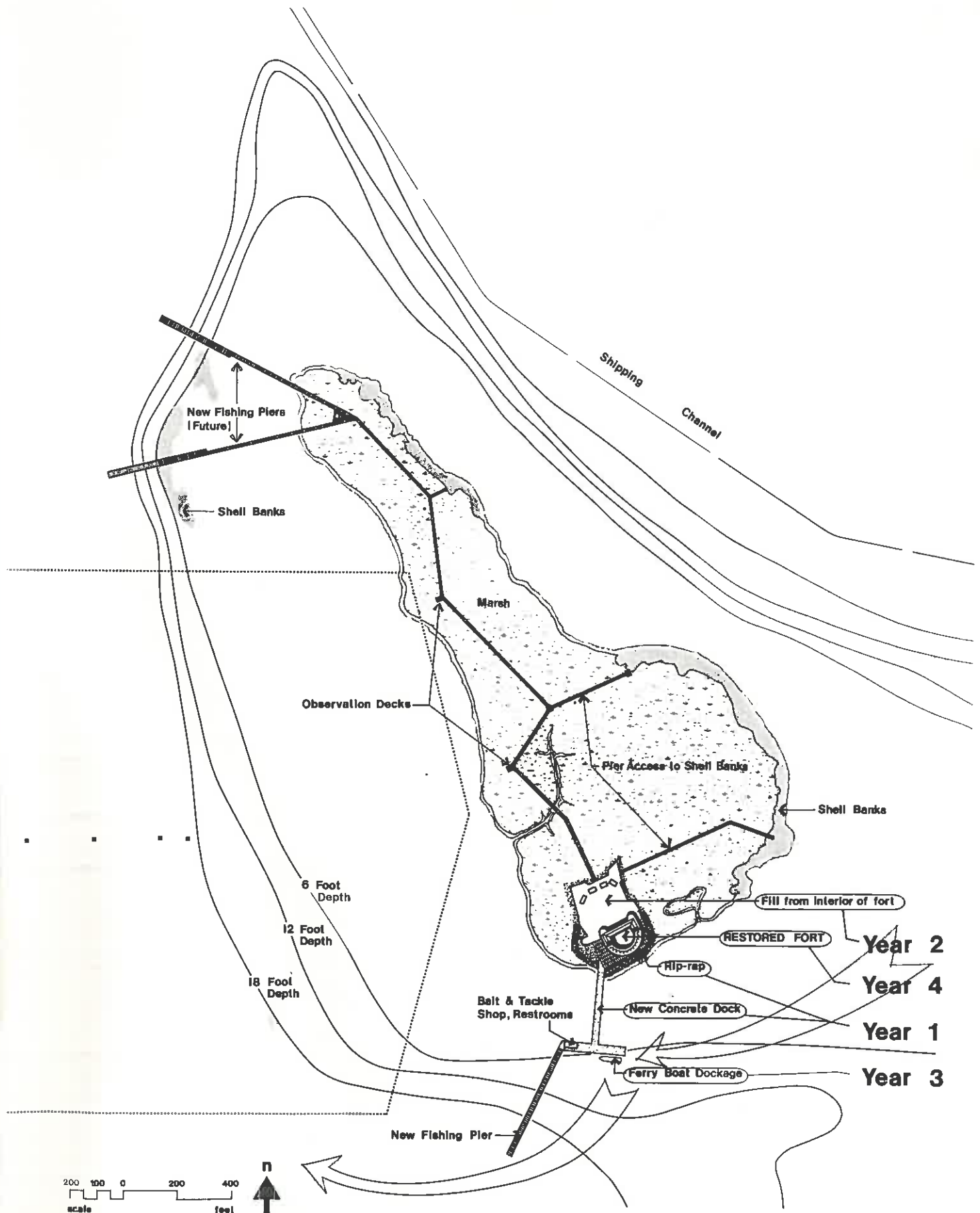


FIGURE 14  
DEVELOPMENT STRATEGY