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Fickle Forts on Windmill Point: Exploratory Archeology at Fort Johnson, South Carolina

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by

Stanley A. South

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FOREWARD

WAS THIS TRIP REALLY NECESSARY?

by Robert L. Stephenson

Archeological research was conducted at the site of the several forts called Fort Johnson on Windmill Point at the mouth of Charleston harbor by the Institute of Archeology and Anthropology, University of South Carolina. It was done at the request of, and partially funded by, the College of Charleston and the South Carolina Department of Wildlife and Marine Resources. The Institute contributed approximately 60% of the funds, a portion of which were derived from the National Park Service, Department of the Interior under provisions of the National Historic Preservation Act, through the South Carolina Department of Archives and History.

In the Introduction Stanley South comments that this was a two week project. The field work was planned for and, indeed, took two weeks. The laboratory analysis and report preparation were planned for an additional six weeks but the correlations of historic documents with the records revealed in the ground became so complex that twelve weeks were devoted to that work. In total it was a fourteen week project and it cost $10,515.

At this point in a project it is well to ask the soul-searching question- Was it worth it? Why did we do this project and did the results warrent the expense? Abundant historical data, including maps of the various forts, were at hand before the project began. Some architectural remains could be seen on the ground that represented ruins of some of these forts. Were not these visible ruins and the historic maps and other documents sufficient data for a proper knowledge of Fort Johnson? The answer can only be a firm and resounding "No!"

It was assumed, to begin with, that additional physical evidence of the forts lay beneath the ground but it was not known what or where these remains were. The identities and dates of the above-ground structures were matters of conjecture as was the existance of any prehistoric occupation of this area. Maps and documents were available from various periods of the site's history but they had not been correlated nor could they be until the surface and sub-surface ruins had been identified with some precision. There was, no way to respond to the College or the Department when they asked "Will we be destroying historic remains if we build buildings on this location?" Only archeological research could be expected to solve any of these problems.

This was a minimal project and even though it took twice as long as anticipated, it has provided a wealth of information about Windmill Point that could be obtained in no other way at any price. Prehistoric occupations have been located. The powder magazine has been identified with a time period. Tabby, stone, and brick structure fragments remaining above ground have been identified and correlated with various construction periods indicated on the several maps. The construction sequences implicit on the successive maps have been correlated with the ruins remaining in the ground. A much clearer understanding of the many historic documents has resulted from this archeological research. We can now respond with reasonable assurance, as to the effect that a proposed structure will have on historic remains if built in this portion of the Fort Johnson area.

The report of this project has answered the sponsor's original inquiry as to the effects of proposed construction. It will assist in answering similar questions about future construction in this limited area. But most important of all it has provided an increase and diffusion of knowledge about a significant historic site of South Carolina's great heritage.

ACKNOWLEDGEMENTS

Stanley South

This project was made possible through the efforts of Dr. Theodore Stern, President of the College of Charleston, and Dr. James A. Timmerman, Director of the South Carolina Wildlife Resources Department, in cooperation with Dr. Robert L. Stephenson, Director of the Institute of Archeology and Anthropology, at the University of South Carolina. I would like to thank crew members David Miller, David Mullis, and Travis Bianchi, for their assistance in the field toward carrying out the project. The crew consisted of eight students from the College of Charleston, Charleston Baptist College, and the University of South Carolina. These were James Bigalow, Foster Folsom, Alan DeLoach, Leonard Henry, Leroy Humpheries, Alan Hinnant, Joe Jay, and Belton Zeigler.

Valuable logistic and research assistance was provided by Mr. W. J. Keith of the Wildlife and Marine Resources Department, who furnished copies of documents, and historical document expertise throughout the project. Mr. Otis Martin of the Wildlife Department was very helpful in providing logistic assistance on the site during the project.

I would like to thank members of the Institute of Archeology and Anthropology staff for their help with this project: Maryjane Rhett for help with documentary research, Leslie Beuschel for processing the artifacts, Gordon Brown for printing the photographs, and Darby Erd for drafting the profiles in Figure 14. I would like to thank Alice Boggs and Sharon Howard for typing the manuscript, and Carleen Sexton for handling the paperwork related to financing the project.

FICKLE FORTS ON WINDMILL POINT:
EXPLORATORY ARCHEOLOGY AT FORT JOHNSON, SOUTH CAROLINA

INTRODUCTION

On May 21, 1973 a two week exploratory archeology project was carried out on the site of Fort Johnson, an historic fort site located on the south side of Charleston Harbor, between Parrot Point Creek and James Island Creek (Fig. 1). The project was a joint endeavor of the Institute of Archeology and Anthropology at the University of South Carolina, and the College of Charleston, as well as the Marine Resources Division of the South Carolina Wildlife and Marine Resources Department. The two latter agencies were planning building construction on their property at Fort Johnson, and wanted to place the buildings where they would cause the least amount of damage to historical features that might lie beneath the surface of the ground on the site.

The Institute of Archeology and Anthropology agreed to conduct exploratory archeology in a two week project beginning May 21, 1973, with the primary purpose being to attempt to locate architectural features that could be related to one or more of the existing maps of Fort Johnson, so that the location of important historical features could be achieved. This information would be of value not only in the immediate construction projects, but in future construction plans, allowing for avoidance of areas of greatest historical and archeological importance. Also of concern was the recovery of data relating not only to the historic time period for which documentation exists, but to the prehistoric occupation of the peninsula, the Fort Johnson site offering ideal conditions for the recovery of such evidence of Indian occupation.

Although abundant historical data attests to the military importance of the Fort Johnson site throughout the eighteenth and nineteenth centuries,

the frequent battering of the peninsula by hurricanes has resulted in the destruction of virtually all but a few remnants of these historic fortifications and associated occupation architecture (Courtenay 1883: 472). This destruction has been so complete that there is only a single surviving building, the powder magazine, from any of the many forts called Johnson that have existed on the site. This brick structure alone is not sufficient to allow identification as to when it was constructed, and much speculation has centered around this point. The dating of the period when this powder magazine was built was also a focal point for the exploratory archeology at Fort Johnson.

The goals of the exploratory archeology project can be summarized as follows:

1. Evaluate the impact of the construction of a building to the south of the South Carolina Wildlife and Marine Resources Department Research Laboratory on the historical and archeological integrity of the site.

2. Evaluate the impact of the construction of a building to the east of College of Charleston's Grise Marine Research Center on the historical and archeological integrity of the site.

In order to be able to provide such an evaluation it was necessary to

3. Locate as many architectural features as possible in the two week project through archeological trenching to provide a means of correlating archival maps of various Forts Johnson with the site so that the positioning of past features shown on the maps could be carried out.

4. Archeologically date the powder magazine building through examination of the adjacent ground to recover artifacts stratigraphically associated with the layer through which the foundation trenches were cut.

5. Determine whether evidence exists for prehistoric occupation of the site, such as might be expected from its geographical location, and from nearby excavations at Charles Towne Landing, and from archeological site surveys in the area.

As a result of exploratory trenches cut in the area south of the South Carolina Wildlife and Marine Resources Laboratory building, and more extensive

trenches cut in the area of the powder magazine on the College of Charleston property, and the evaluation of the data revealed in relation to the goals of the project, the co-sponsors of the project were notified on June 6, 1973 (six days after completion of the field work) that the construction of the buildings would constitute relatively little adverse impact on the historical and archeological values the site contained (South 1973a). Later, a summary of the work carried out on the South Carolina Wildlife and Marine Resources property was written, since nothing of historical or archeological interest was recovered in the exploratory trenches on this property (South 1974a). The present report presents the data recovered on the property of the College of Charleston relating to the goals of the exploratory project.

The exploratory project revealed the foundation of a barracks building, a well, and a small section of a large tabby wall. The use of these features along with the surviving fragments of tabby sea wall, and the surviving powder magazine and two tabby cisterns, allowed a correlation to be made with maps of 1800, 1821, 1849, and 1865. Stratigraphic data and evaluation of historical maps allowed the powder magazine to be properly pinpointed as to the time of its construction. The discovery of Awendaw pottery revealed that the site has on it evidence for Indian occupation as early as around 1800 B.C. (Crane and Griffin 1964: VI, 9-10). The goals of the project were met, therefore, and this report presents the data whereby this was accomplished, and on which the historical and archeological evaluation of the impact of new building construction on the site was made.

DESCRIPTION OF THE SITE

The site of Fort Johnson is located on the south side of Charleston Harbor on a peninsula jutting northward into the harbor, abutting the deep water channel of the Ashley River. This deep water channel immediately offshore at Fort Johnson has made the site an ideal one for protecting the city of Charleston from possible attack by way of the sea (Fig. 1). From 1708 the peninsula, known as Windmill Point, has had a series of frequently changing forts for this purpose, though today it is used by the Medical University of South Carolina, the College of Charleston, and the South Carolina Wildlife and Marine Resources Department for educational and research purposes (Courtenay 1883: 472; Thornton and Morden 1695).

The exposed position of the peninsula has resulted in its receiving the brunt of many hurricanes through the centuries, but its location at the deep water edge of the river, and surrounded by salt-water marsh on the east and west sides, makes the site an ideal location for obtaining the maximum advantage to be derived from high ground, deep water, and salt-water marsh. These factors make it an ideal site for prehistoric Indian occupation remains, due to these environmental advantages. However, as is often the case with sites so situated, the evidence for this would be buried under layers of wind and water deposited sand, as was the case at Charles Towne (South 1971).

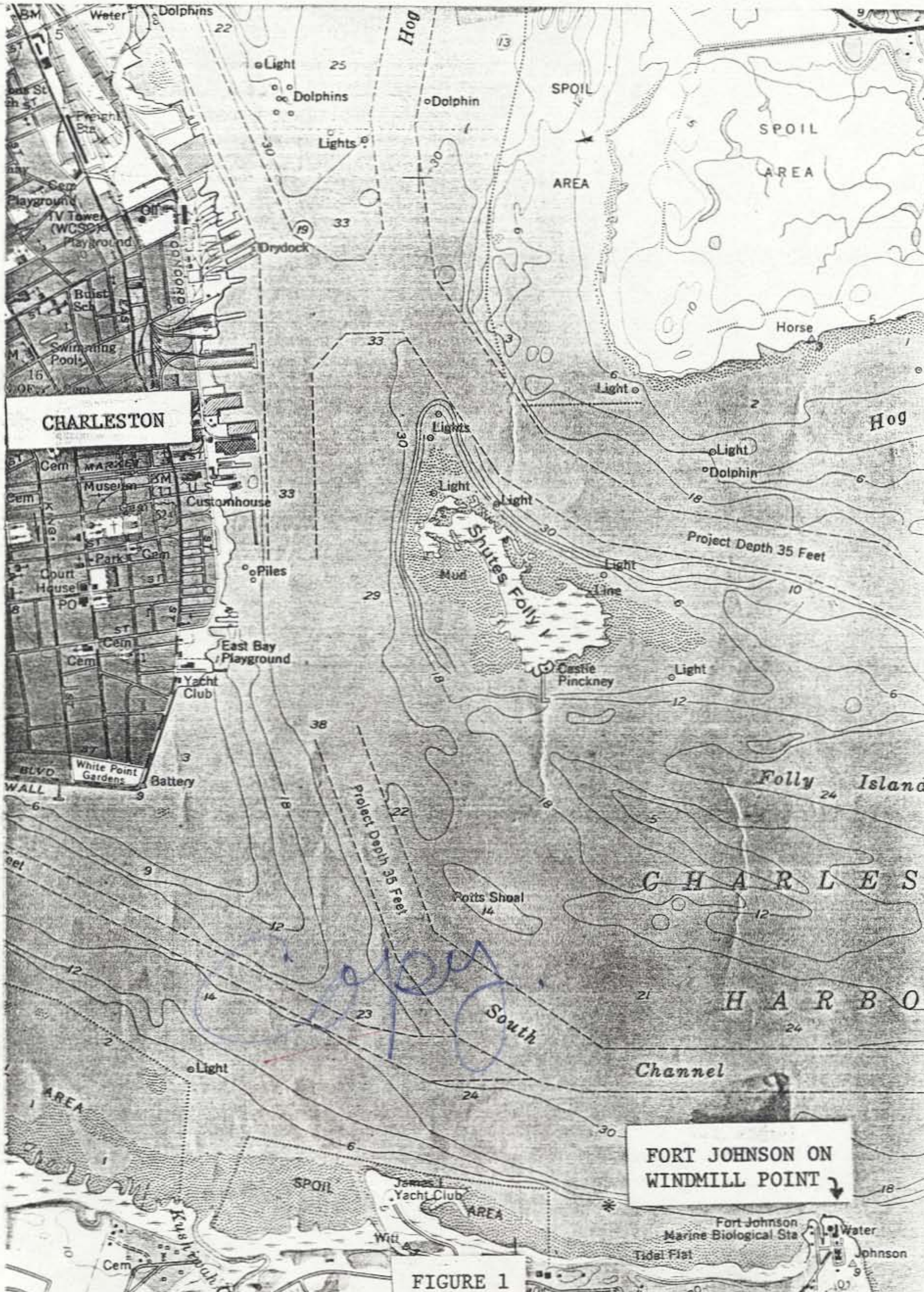
The vegetation on the site consists of the live oak, yaupon, myrtle, dogwood, and other native species found throughout the area, the interesting aspect being the presence of exotic plants, such as the camphor tree, fig, and oleander. The salt-water marsh is still replete with many water birds, pelicans, cranes, etc., particularly at low tide, and the surrounding forest has raccoon and opossum , with nests of quail eggs being found literally against

the side of the College of Charleston Marine Research Center and at the edge of the parking lot (Fig. 2).

With the end of the use of the site as a military defense position and quarantine station and garrison (Cooper 1837: IV, 28), the present function as a research center developed. The three present agencies have built or are using structures, none of which (except for the powder magazine) is of historical interest. The virtual absence of surviving buildings from the military periods places the historical emphasis on the powder magazine and the surviving ruins below the surface of the ground. Therefore, any consideration of the historical importance of any piece of ground at Fort Johnson relates to the archeological rather than surviving historical structures. As can be seen from the historical summary section of this report there is no scarcity of historical data relating to the Fort Johnson site, and an evaluation of the importance of the site certainly must take such history into account. However, such an evaluation must also be made considering the present use of the site, and the present buildings on it in relation to any values the archeological ruins may pose. In describing an historic site such as Fort Johnson, therefore, the buildings now on the site have a direct bearing on the relative value of the historical features that may be archeologically located. More will be said of this point in a later section.

FIELD METHODS FOR DATA RECOVERY

Horizontal control was established by using U.S.G.S. marker #1 and #2, located to the east of the powder magazine (Fig. 2). A third U.S.G.S. marker was present at the edge of the tree line in the same area, but was not used due to its inaccessibility to sight-lines on the site. From these

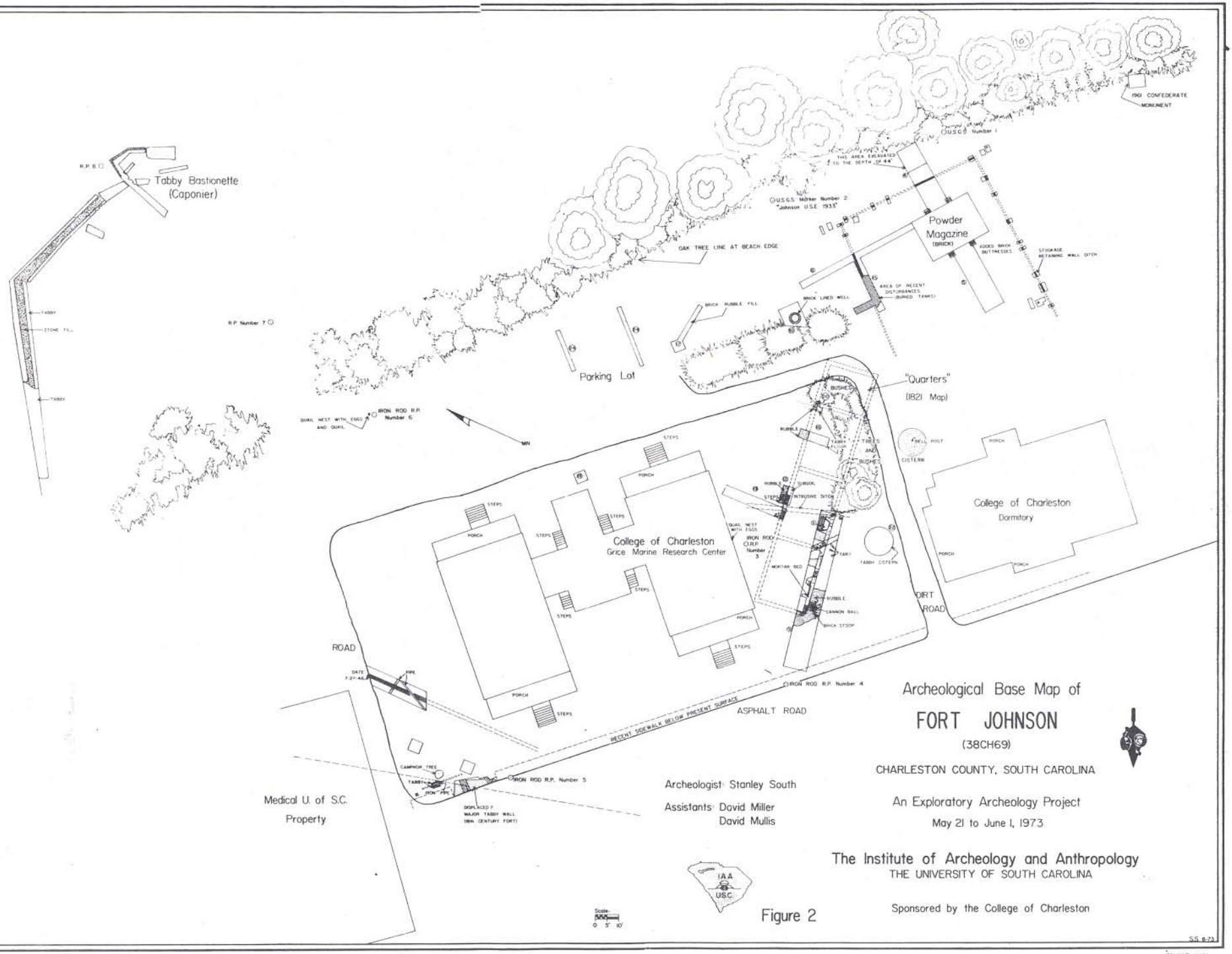

CHARLESTON
FORT JOHNSON ON WINDMILL POINT
Dolphins
Light
Dolphin
Lights
Hog
SPOIL
AREA
SPOIL AREA
Drydock
Horse
Light
Hog
Lights
Light
Dolphin
Shutes Folly I
Mud
Line
Project Depth 35 Feet
Customhouse
Piles
East Bay Playground
Yacht Club
Castle Pinckney
White Point Gardens
Battery
Folly Island
Project Depth 35 Feet
Potts Shoal
CHARLES
HARBO
South
Channel
Light
AREA
SPOIL
James I Yacht Club
AREA
Fort Johnson Marine Biological Sta
Tidal Flat
Water
Johnson
Playground
TV Tower (WCSC)
Swimming Pool
Museum
Court House
PO
Cem
Park
FIGURE 1

two reference points a number of iron rod reference points were established and these were used to map any features located archeologically, and existing structures, roads, etc. for mapping the site (Fig. 2).

The stratigraphic data needed for dating the powder magazine was obtained by excavating trenches 4 and 5 abutting the east and west sides of the building (Fig. 2). Trench 4 revealed a stockade retaining wall ditch below the topsoil zone, and this was followed by cutting short trenches at a right angle to the line of the stockade ditch (Fig. 2).

The steel probe was used to feel beneath the surface of the ground to locate remains of masonry walls, and in this manner a major structure was located just to the south of the Grise Marine Research Center. A wide trench designated #9 was cut above a section of this ruin, and other exploratory trenches were cut to examine various parts of the structure in order to determine its extent.

In cutting deep trenches for exploring the area to the east of the College of Charleston building, in the parking lot area, a backhoe was used. This was necessary because of the depth of the fill of rubble and sand in this area. It was hoped that these deep trenches might locate deeply buried remains of fortification walls or other features from hurricane destroyed fortifications, but no such features were discovered in this area. This area had been hit by hurricane storms and sand washed away to a depth of from three to four feet below present surface of the parking lot. The present surface level had been achieved by filling the low area with rubble and sand. This information allowed this area to be confidently cleared for construction purposes, since such construction would merely cover fill soil placed in the area in order to push back the encroachment of Charleston Harbor.


Tabby Bastionette
(Caponier)
R.P. 8
R.P. Number 7
TABBY
STONE FILL
TABBY
1961 CONFEDERATE MONUMENT
USGS Number 1
THIS AREA EXCAVATED TO THE DEPTH OF 4'4"
USGS Marker Number 2
"Johnson U.S.E. 1933"
OAK TREE LINE AT BEACH EDGE
Powder Magazine
(BRICK)
ADDED BRICK BUTTRESSES
STOCKADE RETAINING WALL DITCH
AREA OF RECENT DISTURBANCES (BURIED TANKS)
BRICK LINED WELL
BRICK RUBBLE FILL
Parking Lot
"Quarters"
(1821 Map)
IRON ROD R.P. Number 6
QUAIL NEST WITH EGGS AND QUAIL
MN
BUSHES
RUBBLE
TABBY FOUNDATION
TREES AND BUSHES
WELL POST
CISTERN
STEPS
PORCH
College of Charleston
Grice Marine Research Center
College of Charleston
Dormitory
INTRUSIVE DITCH
QUAIL NEST WITH EGGS
IRON ROD O.R.P. Number 3
MORTAR BED
TABBY CISTERN
RUBBLE
CANNON BALL
BRICK STOOP
DIRT ROAD
ROAD
DATE 7-29-46
PIPE
IRON ROD R.P. Number 4
ASPHALT ROAD
RECENT SIDEWALK BELOW PRESENT SURFACE
CAMPHOR TREE
TABBY
IRON PIPE
IRON ROD R.P. Number 5
DISPLACED 7' MAJOR TABBY WALL 18th CENTURY FORT
Medical U. of S.C.
Property
Archeologist: Stanley South
Assistants: David Miller
David Mullis
Archeological Base Map of
FORT JOHNSON
(38CH69)
CHARLESTON COUNTY, SOUTH CAROLINA
An Exploratory Archeology Project
May 21 to June 1, 1973
The Institute of Archeology and Anthropology
THE UNIVERSITY OF SOUTH CAROLINA
Sponsored by the College of Charleston
I.A.A.
U.S.C.
Scale
0 5' 10'
Figure 2
SS 8-73

Each of the exploratory trenches was assigned a provenience number, and a data card was kept for each number assigned. This card contained the notes, measurements, comments, and other data relating to that particular trench or feature. A transit anchored into the base markers through the iron rod reference points, and an engineer's tape were used to record all data for use in constructing the archeological base map (Fig. 2). The provenience numbers were assigned to each area excavated, with stratigraphic layers being indicated by a letter attached to a number. Since the only area where critical artifact analysis was considered important was the powder magazine where specific dating was needed, no sifting of artifacts was carried out except in the squares 4 and 5 near the powder magazine. Artifacts from other exploratory trenches were kept as seen by the excavator, with specific provenience numbers being assigned for analysis purposes only where the artifacts were in direct association with the architectural ruin, such as the hearth area of the barracks ruin, designated as provenience #11 (Fig. 2). In all other areas the tremendous amount of disturbance during the past one hundred years, and before, was clearly revealed in the range of artifacts recovered from the layers above the ruin being examined. For this reason only proveniences 4, 5, and 11 were analyzed from an artifact point of view in this study. The remaining nineteenth and twentieth century artifacts have not been analyzed, not considered relevant to the questions being asked in this project.

A SHORT SUMMARY OF HISTORICAL DATA TO 1865 RELATING TO THE FORT JOHNSON SITE

No attempt will be made here to present an historical survey of events relating to the Fort Johnson site, since such an undertaking would easily form the basis for a doctoral dissertation. However, some of the highlights taken from the published "Mayor Courtenay's Annual Review" of 1883, and the maps published there, have been abstracted (Courtenay 1883: 472), and combined with research notes taken by Mrs. Maryjane Rhett from data in the South Carolina Archives, to form the following calendar of events relating to the questions asked by the goals of this study. An important contribution to the accumulation of historical data was made by Willis J. Keith, Shellfish Biologist with the Marine Resources Division of the South Carolina Wildlife and Marine Resources Department, who has made a special study of Fort Johnson, accumulating many notes, documents, and maps on the site, and who shared these data, allowing the maximum correlation between historical and archeological data to be undertaken.

1708 A fort was first begun on Windmill Point in 1708 (Mustard 1963: 64, No. 3: 129).

1724 Fort Johnson being damaged by the sea, recommendations for repairs made (Salley 1944: 6, 9, 29-30, 37).

1725 Fort Johnson in bad repair, repairs ordered (Salley 1945: 50-51).

1726 Fort Johnson in bad repair, repairs ordered (Salley 1946: 78-80).

1737 Fort Johnson in a ruinous condition due to neglect and hurricane damage (Easterby 1951: 174, 234, 239, 261, 262, 273).

1739 Fort Johnson salaries and supplies paid for (Easterby 1951: 578, 619-20, 657).

1740 Captain's House at Fort Johnson not worth repairing, barracks, kitchen, and store house ordered built (Easterby 1952: 269).

1742 Fort Johnson is put in a good posture of defense (Easterby 1954: 18).

1743 Ballast stone needed to protect the works, fort, bastions, lines, etc. (Easterby 1954: 177).

1744 Financial accounting of moneys raised for building barracks at Fort Johnson (Easterby 1955: 83).

1745 Fort Johnson garrisoned by no more than 25 men, 33 pieces of cannon (Easterby 1955: 477).

1746 Governor James Glenn recommends enlarging barracks at Fort Johnson (Easterby 1956: 109).

1749 Fort Johnson lately finished and in good order except for some gun carriages (Easterby 1962: 272).

1759 Tabby work built at Fort Johnson in 1759 shown on map of 1800 as ruins (Courtenay 1883: 472, Map B).

1759 Tabby work said to have been triangular in plan, as shown on a map of 1787 (Courtenay 1883: 472, Map A).

1778 Work of palmetto logs and sand built by William Moultrie? (Courtenay 1883: 472, Map B; Kennett 1965: 109).

1778 Fort Johnson built of palmetto log cribs filled with sand, as was Fort Moultrie, contained a double battery, but was smaller than Fort Moultrie (Kennett 1965: 109).

1787 1759 and Revolutionary War forts not shown on a map of planned new battery (Courtenay 1883: 472, Map A).

1793 Fort built by William Moultrie (Courtenay 1883: 475, Map B).

1794 Battery built by U.S. Government (Courtenay 1883: 475, Map B).

1796 Fort repaired by U.S. Government (Courtenay 1883: 475, Map B).

1796 Barracks built by U.S. Government (Courtenay 1883: 475, Map B).

1800 Hurricane damaged Fort Johnson (Courtenay 1883: 475, Map B).

1803 Hurricane damaged Fort Johnson (Courtenay 1883: 475, Map B).

1807 Fort Johnson in ruins (Courtenay 1883: 475).

1812 Fort Johnson ordered to be repaired; 2000 pound appropriation (Cooper 1839: 67).

1812 Two batteries reported to be ready soon (Courtenay 1883: 475).

1813 Hurricane again reduces Fort Johnson to ruins (Courtenay 1883: 476).

1821 Map of Fort Johnson shows barracks, store house, and powder magazine, and quarters (National Archives: Record Group 77, Drawer 67, Sheet 9).

1847-1849 Correspondence of A.H. Bowman regarding breakwater under construction at Fort Johnson (National Archives: Record Group 77, letters of A.H. Bowman).

1849 Map of proposed field work at Fort Johnson by J.D. Kurtz, dated by a letter enclosing the map from A.H. Bowman, dated February 12, 1849 (National Archives: Record Group 77, letters of A.H. Bowman, Map Drawer 67, Sheet 34).

1865 Map of breakwater or sea wall and works of Civil War period at Fort Johnson (Courtenay 1883: 472, Map C).

This summary of the historical highlights relating to the site at Fort Johnson emphasizes the period prior to the Civil War, beginning with the fort constructed in 1708. This first fort was said to be triangular, as indicated on a map of 1787 (Courtenay 1883: 472, Map A). The historical summary also reveals that damage to the fort by hurricanes was a continual problem, and in specifying repairs needed in the 1720's only three bastions are ever mentioned, the northwest, the northeast, and southwest, clearly revealing the triangular shape of the first Fort Johnson (Salley 1944: 29-30; 1946: 78-79).

In his summary of 1883 Courtenay assumes that the tabby fort built in 1759, the ruins of which were shown on the map of 1800, was also triangular (Courtenay 1883: 473). However, the ruins of the 1759 fort shown on the map of 1800 clearly indicate a square, four-bastioned fort was involved. This is determined by reversing the ruins shown on the 1800 map and aligning the bastion fragments shown on the map, the result being a square fort, not a triangular one.

By the time of the Revolution, in 1778, the tabby fort was apparently also in a condition that required new construction at that time, since Fort Johnson was said to have been constructed the same time as Fort Moultrie, which was built of palmetto log cribs filled with sand (Kennett 1965: 109; South 1974). A palmetto works shown on the 1800 map may well be remaining from the Revolutionary War period. By 1787 the tabby fort and the Revolutionary War fort were apparently not in such a condition that either was

considered worth showing on a map of that date proposing the construction of an enclosed battery of eight guns (Courtenay 1883: 472, Map A).

New fortifications were built in the 1790's by William Moultrie, which were later taken over by the United States Government, with repairs undertaken, and new barracks being built in 1796. However, these were again damaged by hurricanes in 1800 and 1803, and by 1807 Fort Johnson was again in ruins (Courtenay 1883: 475, Map B).

The War of 1812 brought new repairs, with new batteries being constructed. The following year, however, the fort was again in ruins following hurricane assaults (Courtenay 1883: 475-76). A map of 1821 reveals remnants of earlier fortifications and barracks, quarters, a powder magazine, and a store house (National Archives: Record Group 77, Drawer 67, Sheet 9). Some of these same features are shown on a map of 1849, which proposed new works at the site, and a map of Civil War works on the site in 1865 reveals the position of a sea wall constructed in the 1840's (National Archives: Record Group 77, letters of A.H. Bowman; Map Drawer 67, Sheet 34; Courtenay 1883: 472, Map C).

The historical documentation summarized here will be used, as it relates to the archeologically revealed features, to produce a composite map from which various historical fortification features can be correlated with the present site of Fort Johnson. The construction of such a map is a primary objective of this exploratory project, anticipated to be relevant not only to the present construction plans, but to any future alterations of the site as well.

The following Figures 3 through 7 are taken from maps of the Fort Johnson site, dating from 1787 to 1865, and are considered relevant to the questions asked in this study.

Figure 3

Part of the 1787 Map of the Fort Johnson Site (Courtenay 1883:472, Map A).

B

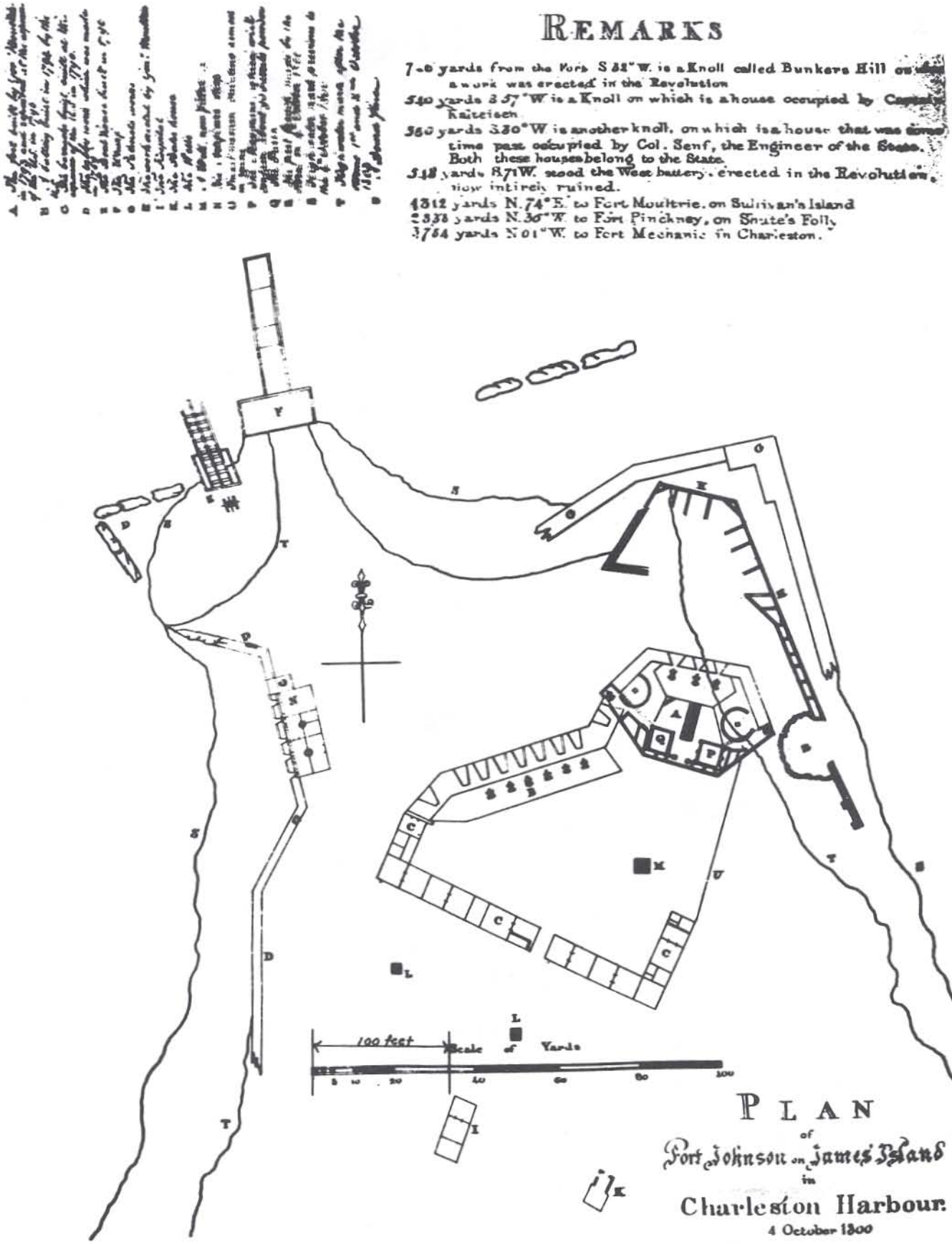


Figure 4

The 1800 Map of the Fort Johnson Site (Courtenay 1883:472, Map B).

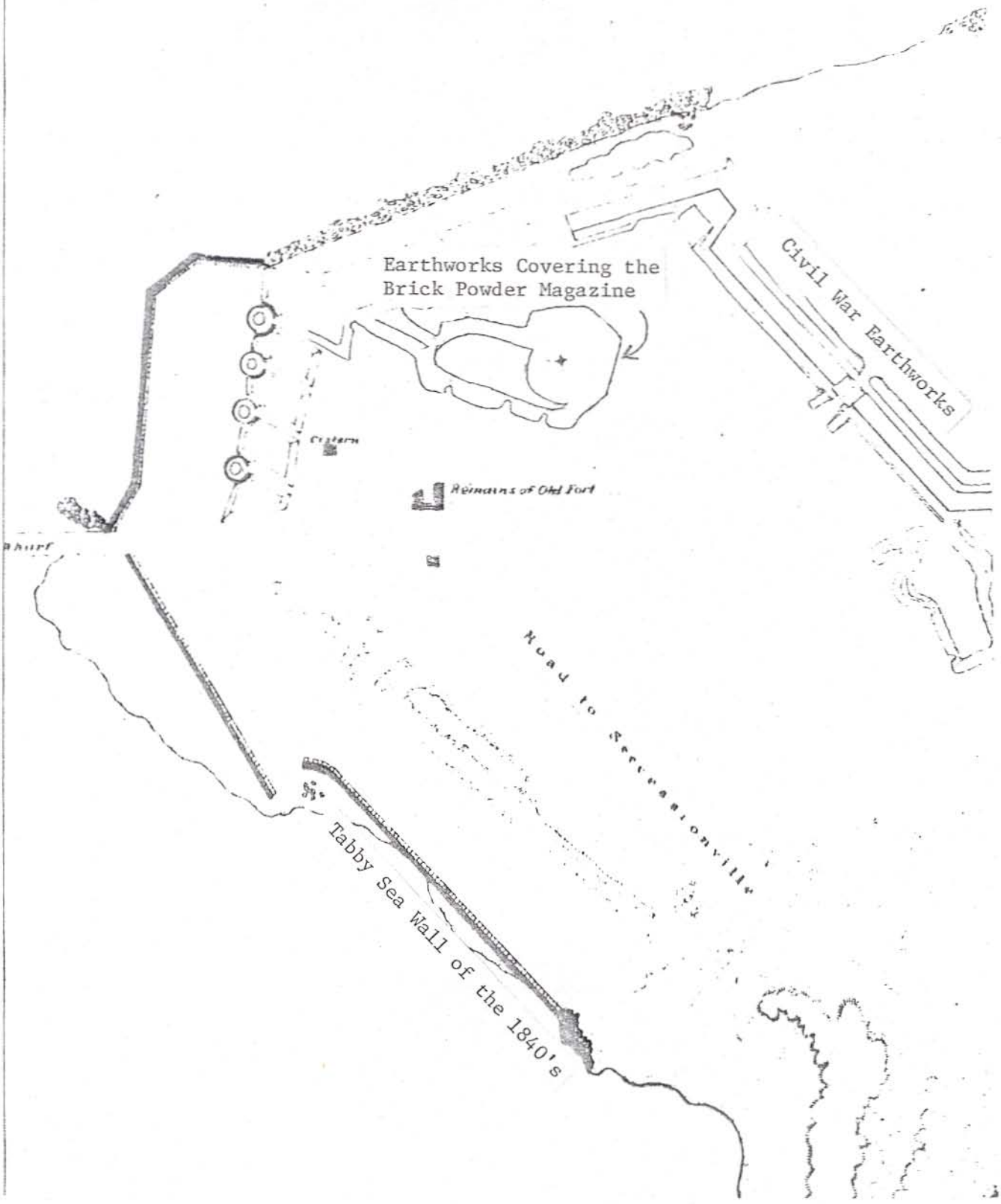


Figure 5

Part of the 1865 Map of Fort Johnson (Courtenay 1883:472, Map C).

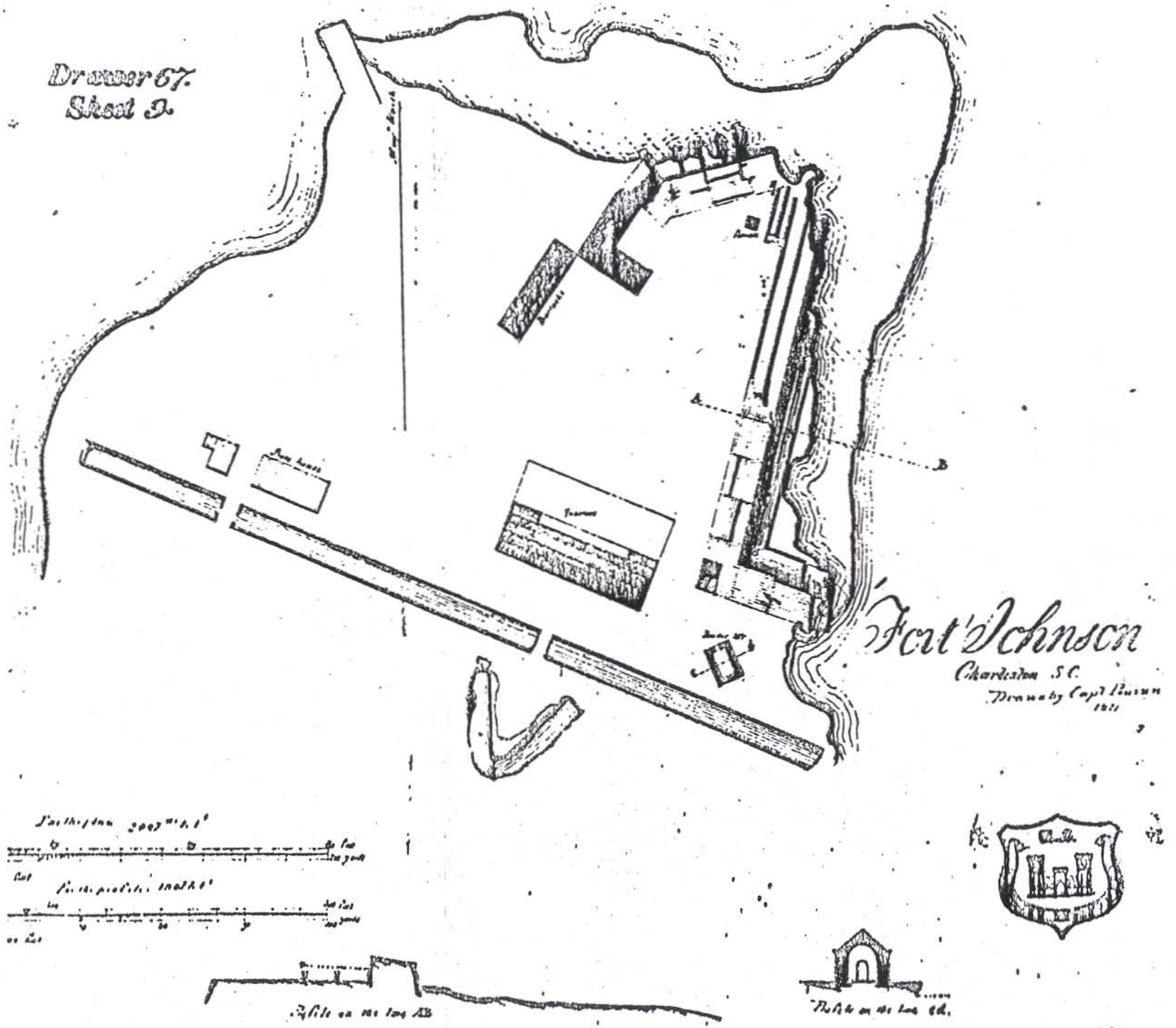


Figure 6

The 1821 Map of Fort Johnson (National Archives: Record Group 77).

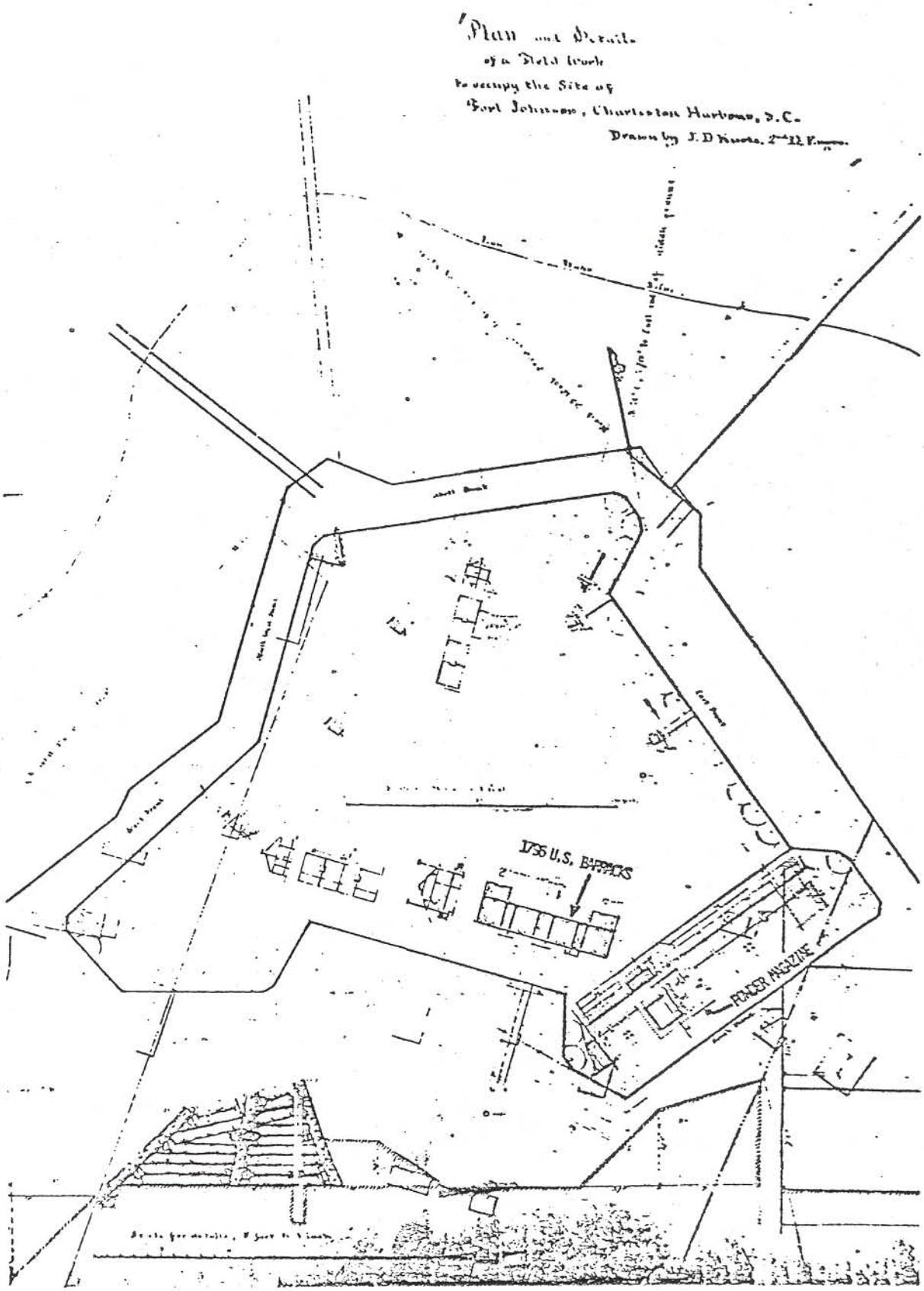


Figure 7

Part of the Planned Fort of 1849, Showing Structures Already Standing (National Archives: Record Group 77, Map Drawer 67, Sheet 34).

SURVIVING ARCHITECTURAL DATA ON THE FORT JOHNSON SITE

The Powder Magazine

The brick building known as the powder magazine on the Fort Johnson site is the only structure surviving from the use of the site as a fort. No measured drawings were made of this structure in this project, and none are apparently available. The exterior is 19.5' by 27.5', with two buttresses on each side that were added after the original structure was built. The interior is domed, and has had an additional supporting facing of bricks added to provide strength. No other details are known of the interior since the archeologist did not have access to the structure, which is presently being used as a storage shed for equipment. The three sides have a small window, and the fourth, facing northwest, has a door. Popular legend has the date of construction of the magazine as prior to the Revolution, popular legend, however, often originates from misinterpretation of partial data or from pure guesswork. At best it is suspect.

The powder magazine was shown in plan and profile on the 1821 map and the 1849 map (Figs. 6 and 7), but was not indicated on the 1800 map (Fig. 4), unless a square powder magazine with three buttresses on each side rather than two could be construed to be the same structure. Determining whether the surviving magazine was or was not the magazine shown on the 1800 map was one of the architectural goals of the project, relating to the positioning of the 1800 map on the present Fort Johnson site. The position of the powder magazine in relation to the present site features is seen in Figure 2. It is illustrated in Figure 8. The Powder Magazine was listed in the National Register of Historic Places in 1972.

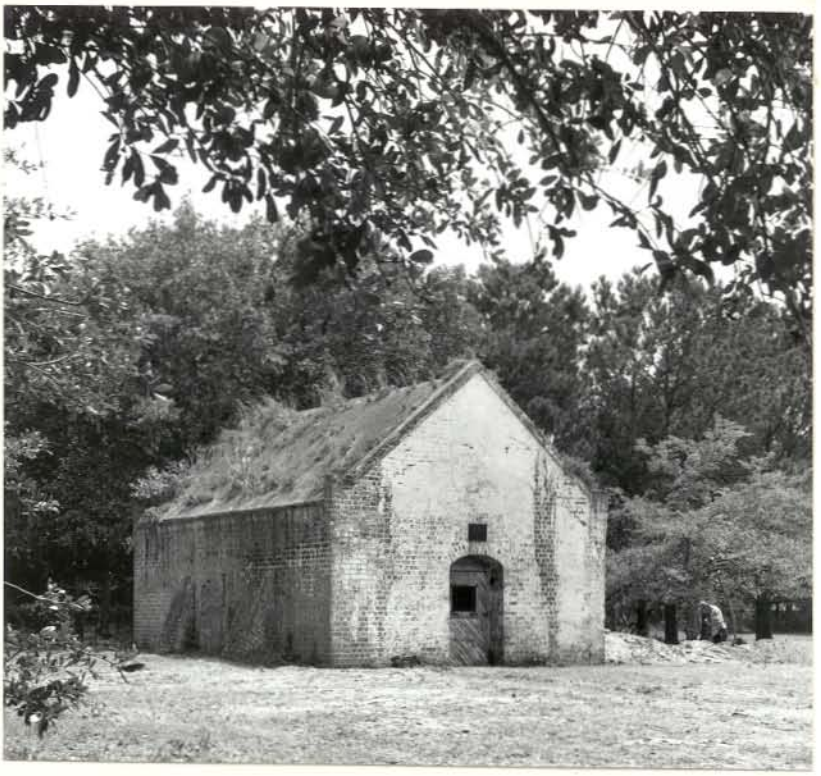


FIGURE 8

A View of the Fort Johnson Powder Magazine

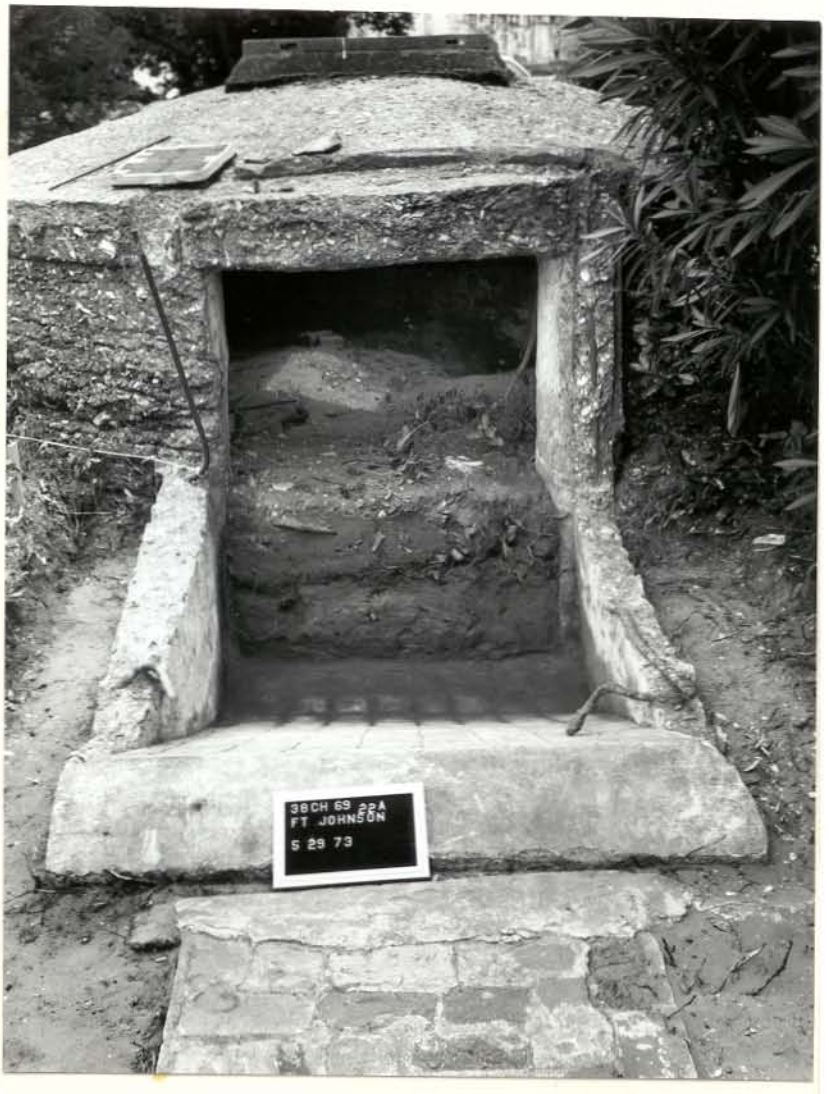


FIGURE 9

The Tabby Cistern #22, for the 1796 U.S. Barracks, Showing Ramp and Brick Walkway.

Tabby Cisterns

Two tabby cisterns twelve feet in diameter are located on the site at Fort Johnson to the west of the powder magazine. The position of these cisterns on the site is seen in Figure 2, and one is illustrated in Figure 9. The time of their construction had not been known prior to the exploratory archeology project, and some clue to this was anticipated from the archeology.

Tabby Sea Wall

A tabby sea wall surviving from past attempts to hold back the sea during storms can be seen on the site at low tide. This oyster shell lime wall has a broad base and sloping sides, and can be seen at two places, on the tidal slope to the north of the College of Charleston Marine Research Center building on the east side of the peninsula (Fig. 2), and to the south of the Wildlife and Marine Resources Laboratory building (Fig. 25), on the west side of the peninsula. The sea wall on the east side of the point is illustrated in Figure 10. The surviving section at the eastern side of the peninsula forms an obtuse angle, with the arms of the angle being 85 and 65 feet in length (Fig. 2). At the easternmost end of the wall a small tabby bastionette or caponier is located, apparently to provide a defensive position from which to fire along the exterior wall of the sea wall, making the wall clearly what would be called a defensive sea wall (Fig. 11).

Civil War Earthworks

A number of earthen embankments were constructed on the Fort Johnson site during the 1860's, but none of these survive on the end of the peninsula of concern in this exploratory survey. However, some works of considerable size are located on the Fort Johnson site further toward the south from the

FIGURE 10

tip of the peninsula. No correlation of these existing works with maps of the Civil War period is attempted in this study, our concern being primarily with correlating archeological and architectural data with maps prior to the 1860's period. With this exception, therefore, the correlation of the surviving architectural features in the form of the powder magazine, the tabby defensive sea wall, and the cisterns with surviving documentary data, in conjunction with any archeologically revealed data, was the primary goal of this project.

THE ARCHEOLOGICALLY REVEALED DATA ON THE FORT JOHNSON SITE

The exploratory archeology project revealed stratigraphic data at the powder magazine that allowed the construction date of the magazine to be determined. A Civil War period stockade retaining wall ditch around the powder magazine was also discovered, as well as a well, located 65 feet in front of the powder magazine. The major feature revealed was a 23 by 110 foot barracks or quarters building ruin located in the yard to the south of the College of Charleston Grice Marine Research Center (Fig. 2). The fourth feature of concern to the goals of this project was the discovery of a large tabby wall at the northwest corner of the lot on which the Grice Marine Research Center building is located (Fig. 2). This heavy tabby wall with the typically sloped face of fortification walls had been located some time prior to the project by crews digging telephone lines in the area, and through the help of Willis J. Keith, who pointed out the location, a section was exposed for measurements to be taken (Fig. 22). These features will be described and discussed here relative to their contribution toward achieving the goals of the project.

THE STRATIGRAPHIC DATA AT THE POWDER MAGAZINE

Trench #4

A trench 9 by 30 feet was opened abutting the powder magazine on the center of the east side (Fig. 2). The purpose of this trench was to examine the stratigraphic relationship of the soil layers in this area so that a better understanding of the present surface in relation to the past hurricane storms and occupations could be obtained. Hopefully the artifacts would reveal the periods of occupation represented by each layer, and help answer the question of when the powder magazine was built. Stratigraphic control here would also allow interpretation of other layers elsewhere on the site through reference to the strata recovered in this Trench #4.

The profile was begun by stripping the dark humus layer from the top of the trench, during which process the stockade retaining wall ditch was discovered crossing the trench at a right angle (Fig. 2). This resulted in only the easternmost ten feet of the trench being excavated to a depth sufficient to reveal the stratigraphic layers, in order to preserve the stockade wall ditch data. The top layers, 4 and 4A, were fill layers apparently designed to raise the level of the ground in this area. These layers contained glazed pantiles, apparently from the original roof of the powder magazine (Figs. 12 and 15).

The first occupation layer was layer 4B, containing humus and rubble, as well as ceramics and other artifacts from occupation of the site. Layer 4C, beneath, was a humus filled layer representing a stable occupation zone with oyster shell midden and broken ceramics, etc., at a time when the surface of the ground was far lower than at present. This layer rested on a thin layer of ocean laid beach, with characteristic marine shell fragments

19025

FIGURE 12

seen on beaches today. Layer 4C clearly was the earliest occupation remaining in this area, post-dating the scouring of the area by hurricane storms,

The Stratigraphic Chronology in Trench #4

Knowing that the top layers of the trench, Layers 4 and 4A, were very likely the result of the Civil War sand embankment that once covered the powder magazine, as revealed by the maps of the 1860's, these layers would be expected to contain artifacts dating from the years prior to the 1860's when the embankment was thrown up over the magazine building. The occupation layers of layer 4B and 4C should contain ceramics and other objects representing the period during which these layers formed an occupation surface layer onto which scraps of meals, broken dishes, bottles, and other refuse were thrown as a result of human occupation of the site. With these general interpretive expectations regarding chronology of the strata in mind, a specific analysis of the artifacts should determine whether these expectations were realized. A primary question was whether artifacts associated with the lowest (oldest) occupation zone would reveal eighteenth century occupation in the area, as early as the Revolution, or whether this area of the site was not used extensively until a later period.

In order to arrive at answers to these question the artifacts from the strata were examined. The primary artifacts of value for dating such strata are ceramics, about which considerable reliable information is known (Noël Hume 1970; South 1972). The following ceramic analysis combines the data from layers 4 and 4A, and compares it with ceramics from layer 4B and layer 4C, to arrive at three chronological periods represented by these layers. The ceramic types are not illustrated here, being well known types better illustrated in basic works on ceramics, such as in the

book by Ivor Noel Hume (1970).

Ceramics from Layers 4 and 4A in Trench #4 at Fort Johnson, South Carolina

Type No.	Ceramic Type	Range	Median Date	X	Sherd Count	=	Product
19	Blue and Green Edged Pearlware	c.1780-c.1830	1805	X	1	=	1805
17	Underglaze Blue Hand Painted Pearlware	c.1780-c.1820	1800	X	2	=	3600
20	Undecorated Pearlware	c.1780-c.1830	1805	X	1	=	1805
12	Underglaze Polychrome Pearlware	c.1795-c.1815	1805	X	1	=	1805
11	Transfer-Printed Pearlware	c.1795-c.1840	1818	X	5	=	9090
10	"Willow" Transfer-Printed on Pearlware	c.1795-c.1840	1818	X	2	=	3636
2	Whiteware	c.1820-c.1900	1860	X	3	=	5580
2	Transfer-Printed Whiteware	c.1820-c.1900	1860	X	6	=	11160
2	Blue-Edged Whiteware	c.1820-c.1900	1860	X	1	=	1860
2	Annular Whiteware	c.1820-c.1900	1860	X	6	=	11160
3	Transfer-Printed Ironstone	c.1813-c.1900	1857	X	4	=	7428
3	Ironstone	c.1813-c.1900	1857	X	2	=	3714
TOTALS					34		62643

Using the South Mean Ceramic Date Formula the sum of the Product is divided by the total ceramic count to obtain the Mean Ceramic Date, which has been found to equate fairly well with the median occupation date represented by the ceramic sample (South 1972; 1974). $\frac{62643}{34} = 1842.44$

If we take the *terminus post quem*, the date after which the latest ceramic type was manufactured (1820), and use this as an interpreted beginning occupation date, along with the mean ceramic date of 1842, we find that by adding the difference to 1842, we arrive at an *interpreted* occupation date represented by the ceramics from layers 4 and 4A, as c.1820 to c.1864.

Other types present but not used in the formula were a porcelain teapot spout fragment, a fragment of Oriental porcelain, a fragment of yellowware, and a transfer printed earthenware fragment marked with "FRENCH PORCELAIN", an eagle, and a shield.

Ceramics from Layer 4B in Trench #4 at Fort Johnson, South Carolina

Type No.	Ceramic Type	Range	Median Date		Sherd Count		Product
17	Underglaze Blue Hand Painted Pearlware	c.1780-c.1820	1800	X	3	=	5400
11	Transfer Printed Pearlware	c.1795-c.1840	1818	X	5	=	9090
20	Undecorated Pearlware	c.1780-c.1830	1805	X	3	=	5415
15	Lighter Yellow Cream-ware	c.1775-c.1820	1798	X	3	=	5394
13	"Annular Wares" Pearl ware	c.1790-c.1820	1805	X	1	=	1805
2	Blue and Green Edged Whiteware	c.1820-c.1900	1860	X	7	=	13020
2	Transfer Printed Whiteware	c.1820-c.1900	1860	X	1	=	1860
2	Whiteware	c.1820-c.1900	1860	X	2	=	3720
TOTALS					25		45704

Using the South Mean Ceramic Date Formula $\frac{45704}{25} = 1828.16$

With a mean ceramic date of 1828 and a *terminus post quem* date of 1820 for the latest ceramic type, and adding the difference to 1828, we arrive at an interpreted occupation period represented by the ceramics of from c.1820 to c.1836 for layer 4B. Other types present were Albany slip-stoneware (1), and brown salt-glazed stoneware (2).

Ceramics from Layer 4C in Trench #4 at Fort Johnson, South Carolina

Type No.	Ceramic Type	Range	Median Date		Sherd Count		Product
15	Lighter Yellow Cream-ware	c.1775-c.1820	1798	X	5	=	8990
19	Blue and Green Edged Pearlware	c.1780-c.1830	1805	X	1	=	1805
20	Undecorated Pearlware	c.1780-c.1830	1805	X	1	=	1805
12	Underglaze Polychrome Pearlware	c.1795-c.1815	1805	X	1	=	1805
11	Transfer-Printed Pearlware	c.1795-c.1840	1818	X	1	=	1818
13	"Annular Wares" Pearl-ware	c.1790-c.1820	1805	X	1	=	1805
2	Transfer-Printed Whiteware	c.1820-c.1900	1860	X	1	=	1860
2	Annular Whiteware	c.1820-c.1900	1860	X	1	=	1860
2	Whiteware	c.1820-c.1900	1860	X	1	=	1860
TOTALS					13		23608

Using the South Mean Ceramic Date Formula $\frac{23608}{13} = 1816.0$

Using the Mean Ceramic Date of 1816 as the mean, and 1820 as the time after which the latest ceramic type was first manufactured, the difference is subtracted from the mean to arrive at an interpreted occupation range represented by the ceramics from layer 4C from c.1812 to c.1820. Also recovered in this layer but not used in determining the date for the ceramics were three sherds of brown salt-glazed stoneware.

From the ceramic data recovered from the three layers in trench #4, using the South Mean Ceramic Date Formula and the *terminus post quem* date for the latest ceramic type, the following interpreted occupation periods are derived.

		Mean Ceramic Date	Interpreted Occupation Period
Layers 4 and 4A	The top layers of intentional fill soil thought to represent the soil thrown up to cover the powder magazine at the time of the Civil War, representing occupation prior to the 1860's.	1842.44	c.1820-c.1864
Layer 4B	An old occupation layer with oyster shell midden, representing an early nineteenth century occupation.	1828.16	c.1820-c.1836
Layer 4C	A humus and rubble filled occupation layer representing the oldest occupation zone immediately above a hurricane laid beach.	1816.0	c.1812-c.1820

From this sequence of interpreted occupations represented by the strata in Trench #4, it is apparent that if there was a pre-War of 1812 period occupation on the site, it is not presently represented by an archeological stratum. Such a layer may well have been cut out prior to the period around 1812 by the hurricane that formed the beach on which

the post-1812 occupation occurred. Since the documents indicate a severe hurricane in 1800, and again in 1803 (Courtenay 1883: 475), it was suspected in the field, and this ceramic analysis certainly supports the interpretation of the beach at the bottom of Trench #4 as dating from the 1800-1803 hurricanes. The post-1812 period of occupation, represented by the layer lying immediately on this beach, suggests that the powder magazine adjacent to Trench #4 was likely constructed in the period of the War of 1812.

Trench #5

In order to obtain a profile immediately abutting the powder magazine, Trench #5 was cut on the west side of the building to determine what strata were cut into by the construction ditch of the magazine (Fig. 2). Only the three foot unit nearest the building was taken down to a depth of 3.6 feet (Figs. 13 and 14). This trench revealed a dark humus zone at the surface, with a sand layer filled with rubble beneath. This layer beneath the surface zone contained primarily objects from the middle to late nineteenth century, indicated by a high percentage of ironstone china characteristic of this period. The dating of this upper layer by means of the Mean Ceramic Date Formula was not attempted due to the high percentage of later nineteenth century material, the formula not being designed to provide dates for occupations beyond the first half of the century (South 1972).

Architectural data were recovered here through the positive identification of the buttresses as additions to the powder magazine at a later time than its construction date, as indicated by the higher position of the buttresses in the ground (fig. 14).

A ditch paralleling the wall of the powder magazine was revealed in the profile (fig. 14) that had been cut in order to allow the magazine

mortar joints to be pointed (Fig. 14). This pointing operation did not extend deep enough, however, to securely waterproof the deeper courses of brick. This pointing was apparently done in the late nineteenth or early twentieth century.

Dating the Powder Magazine Through the Intrusion of the Construction Ditch Through Occupation Layer 5A

From the profile drawing of Trench #5 in Figure 14, it can be seen that the construction ditch for the powder magazine was intrusively cut into the lower part of Layer VI, and completely through Layer VII at the time the magazine was built. The junction of Layer VI and VII was characterized by a darker humus stain, apparently representing an old occupation surface, for it was in this darker area of these layers that ceramic fragments were found, along with a military button, a bone button blank fragment, and Indian sherds several thousand years old. This buried surface zone (5A) represents occupation prior to the time the magazine was constructed, as indicated by the intrusion of the magazine construction ditch through this zone (Fig. 14). Therefore, the latest object recovered from this layer will provide a *terminus post quem* date for the construction of the powder magazine (the date after which the building had to have been built). To date the powder magazine's likely period of construction, therefore, requires that the provenience zone 5A be dated relative to the latest object in it.

Ceramics from Provenience Layer 5A at Fort Johnson, South Carolina

Type No.	Ceramic Type	Range	Median Date		Sherd Count		Product
19	Blue and Green Edged Pearlware	c.1780-c.1830	1805	X	3	=	5415
20	Undecorated Pearlware	c.1780-c.1830	1805	X	2	=	3610
13	"Annular Wares" Pearlware	c.1790-c.1820	1805	X	1	=	1805
12	Underglaze Polychrome Pearlware	c.1795-c.1815	1805	X	2	=	3610
15	Lighter Yellow Creamware	c.1775-c.1820	1708	X	6	=	10788
49	Decorated Delftware	18th century	1750	X	1	=	1750
TOTALS					15		26978

Using the South Mean Ceramic Date Formula $\frac{26978}{15} = 1798.5$

Also found in this layer, but not used in the determination of the formula date, were two sherds of lead glazed earthenware, one of trailed slipware, one of gray stoneware, and three sherds of Awendaw Punctated pottery (Indian).

Using the beginning manufacture date for the latest ceramic type, Underglaze Polychrome Pearlware (1795), and the Mean Ceramic Date of 1798.5, an occupation period of from c.1795 to 1802 is suggested by the ceramics. This indicates that the powder magazine was certainly built after 1795, and if we allow some time after the introduction of Underglaze Polychrome Pearlware for the ceramics to have come into use at Fort Johnson, and to become broken, a date early in the nineteenth century would be indicated.

Supporting this first decade of the nineteenth century interpretation is a single button found in the 5A zone, requiring that a post-1802 date be assigned to the powder magazine construction. This button is South's Type 8, cast brass, with the eye intact (South 1964: 117). The device is an eagle on a cannon with six cannon balls beneath the barrel, and a drum and two flags at the rear of the cannon. Beneath is "1.Reg^{t}." This is Albert's Button #AY19 (Albert 1969: 47-48), and is illustrated in Figure 16

of this report. This First Regiment of Artillery button, with this device, was used only between 1802 and 1808 (Albert 1969: 46), and had to have been inserted in the context of layer 5A after 1802. Since the powder magazine construction ditch cut through the layer 5A in which the button was already deposited, the magazine could not have been an eighteenth century structure.

This archeologically derived interpretation is supported by a map of 1800 (Courtenay 1883: 475, Map B), which does not show the powder magazine on the site at Fort Johnson. The 1821 map, however, does show the magazine (Fig. 6), revealing that it had been constructed by that time. The construction period is narrowed, therefore, to between 1802 and 1821, a 19-year period which centers at the War of 1812. From the documents we know that 2000 pounds were appropriated in 1812 for repairs at Fort Johnson, and that two batteries were constructed that same year (Cooper 1839: 67; Courtenay 1883: 475), but that in 1813 a hurricane had again reduced the fort to ruins (Courtenay 1883: 476). The powder magazine might well have been one of the "repairs" effected in 1812, which survived the hurricanes to follow. With the exposed side of the magazine revealing in Trench #4 that a post-War of 1812 occupation of that side of the magazine

is indicated by occupation debris lying on a beach, the beach may well be the hurricane beach of 1813. However, Trench 4 reveals that the construction ditch for the powder magazine intrudes through this beach, and therefore if the beach dates from 1813, the magazine was constructed after 1813. This being the case, it is more likely that the beach seen in Trenches 4 and 5 is the hurricane beach of the 1800 and 1803 period, and that when the powder magazine was built around 1812, the construction ditch cut through this beach. This interpretation is supported by the fact that the construction ditch also cut through a layer lying above the beach (5A) containing ceramics dating after 1802, probably having been deposited after the hurricane of 1803. The archeological and historical evidence, therefore, strongly indicates that the powder magazine at Fort Johnson was constructed during the War of 1812. No evidence of any kind exists that it was built prior to the nineteenth century.

Prehistoric Indian Occupation at the Fort Johnson Site

Three sherds of Awendaw Finger Punctated Indian pottery were found in the 5A layer of Trench #5. Awendaw pottery is sand tempered, and is decorated with finger-pinching, gouging, and jabbing (Waring in Crane and Griffin 1964: 9), and has been radiocarbon dated at 1820 B.C. The presence of this early Indian pottery in this layer overlying the beach shell we have been discussing above as being of the early nineteenth century raises the question as to whether this beach can be better understood as a geological beach several thousand years old, over which a layer of sand accumulated, on which Indians lived and made pots around 1800 B.C. In such a case when the first trash was thrown onto the ground in this area by occupants at Fort Johnson around the time of the War of 1812, it joined Indian debris already lying on the sand.

This pottery is of particular interest in that it is often associated with shell rings, the dated sample having come from such a ring at Porcher's Bluff in Charleston County, South Carolina, on the mainland across from the Isle of Palms, north of Charleston. Whether or not a shell ring was once located on Windmill Point on the Fort Johnson site is not known, but the presence of this early Indian pottery on the site at this level suggests that evidence for Indian occupation would be buried at least as deep as the level of the 5A layer from which this pottery was recovered.

The Fort Johnson site has been known for many years as the location of Indian occupation sites, Miss Emma B. Richardson having reported site 38CH16 just inside the gate of the Government Reservation in 1928. This site revealed pottery from the Deptford, Cape Fear and Wilmington Ware Groups (South 1973), dating from c.1000 B.C. to the time of Christ, as did site 38CH34, reported on the site 1/4 mile southwest of the U.S. Quarantine station by W.H. Ritter (Institute of Archeology and Anthropology Site Files).

The most impressive site containing Awendaw pottery is located on Lighthouse Point (38CH12), about a mile southwest of the Fort Johnson Site. This shell ring site contains punctated sherds of the Thom's Creek Ware Group (South 1973), including Awendaw finger punctated sherds (Anderson 1975). This site contained a ring of shell and earth, similar to a number of others along the South Carolina coast. It may have been seen and reported as early as 1696 by Elder William Pratt, who visited William Russell on James Island, and during his travel around James Island saw:

> ...a place wher ther seemed to have ben a fort mad for [illegible] an acre of land and the walls about it was mad with oistershels and earth...(Salley 1959: 198).

This description certainly sounds like the oyster shell ring on Lighthouse

Point may well have been seen and thought to have been an old fort. No fort of European origin is known to have been on the island prior to 1696, and it seems quite likely that Mr. Russell would have been able to tell Elder Pratt the origin of any fort built since the first Charles Towne settlement only 26 years before (Chevis 1897). The windmill from which Windmill Point got its name is seen on the 1695 Thornton and Morden map, but the oyster shell "fort" is not shown.

The presence of three Indian Awendaw sherds on the Fort Johnson site might not appear at first to be significant; however, Awendaw pottery is among the earliest dated ceramics in North America, and is, along with the shell rings and associated data, the subject of considerable interest by researchers at the Institute of Archeology and Anthropology and elsewhere concerned with the prehistory of North America. For this reason alone the Fort Johnson site is of interest in that it may have, buried two or more feet beneath the surface, more extensive evidence for Indian occupation of the site at a time approaching four thousand years ago. Any future disturbance of the Fort Johnson site through construction and development should certainly consider the potentially important Awendaw and other Indian site data that may lie beneath the surface of the site as we see it today. As more projects are undertaken by the owners, and more environmental impact studies undertaken to evaluate the archeological resources being affected by such projects, more data on the early Indian occupation of the site will no doubt emerge.

The Civil War Stockade

In cutting exploratory trenches in the area of the powder magazine a ditch was discovered that enclosed the powder magazine in an area 65 feet by,at least,75 feet (Fig. 2). The powder magazine was discovered in 1931

when sand forming the mound over it was removed, revealing the brick structure (Charleston Evening Post: March 11, 1931). The map of 1865 (Fig. 5) reveals an earthworks beneath which the powder magazine was discovered. When the ditch around the magazine was found and followed, it was interpreted as a stockade retaining wall ditch, designed to hold the embankment of sand over the magazine. The strengthening of the interior walls of the magazine with a brick lining may have been carried out at the time the sand earthworks were placed over the magazine. The buttresses of brick were added to the walls by 1849, since they are shown on the map of that date (Fig. 7).

The Brick Lined Well

A brick lined well was located 65 feet northwest of the front of the powder magazine, and was filled with brick bats and other rubble, and from the artifacts it appears to have been filled about the time of the Civil War. No analysis of the contents of the well was undertaken for this report since the objects did not lend themselves to providing answers to questions the project was designed to answer. The well was excavated to the 6-1/2 foot level, at which point the water level was located. A profile drawing of the well, and the artifacts are on file at the Institute of Archeology and Anthropology. The well could not be directly correlated with any of the maps of the site (Figs. 2 and 21).

The Barracks Ruin

A brick ruin was located south of the College of Charleston's Grise Marine Research Center, and trench #9 was opened to reveal a portion of the ruin (Figs. 2, 17, 18, 19, and 20), and exploratory slot trenches intersected other areas. The bricks were held together with oyster shell

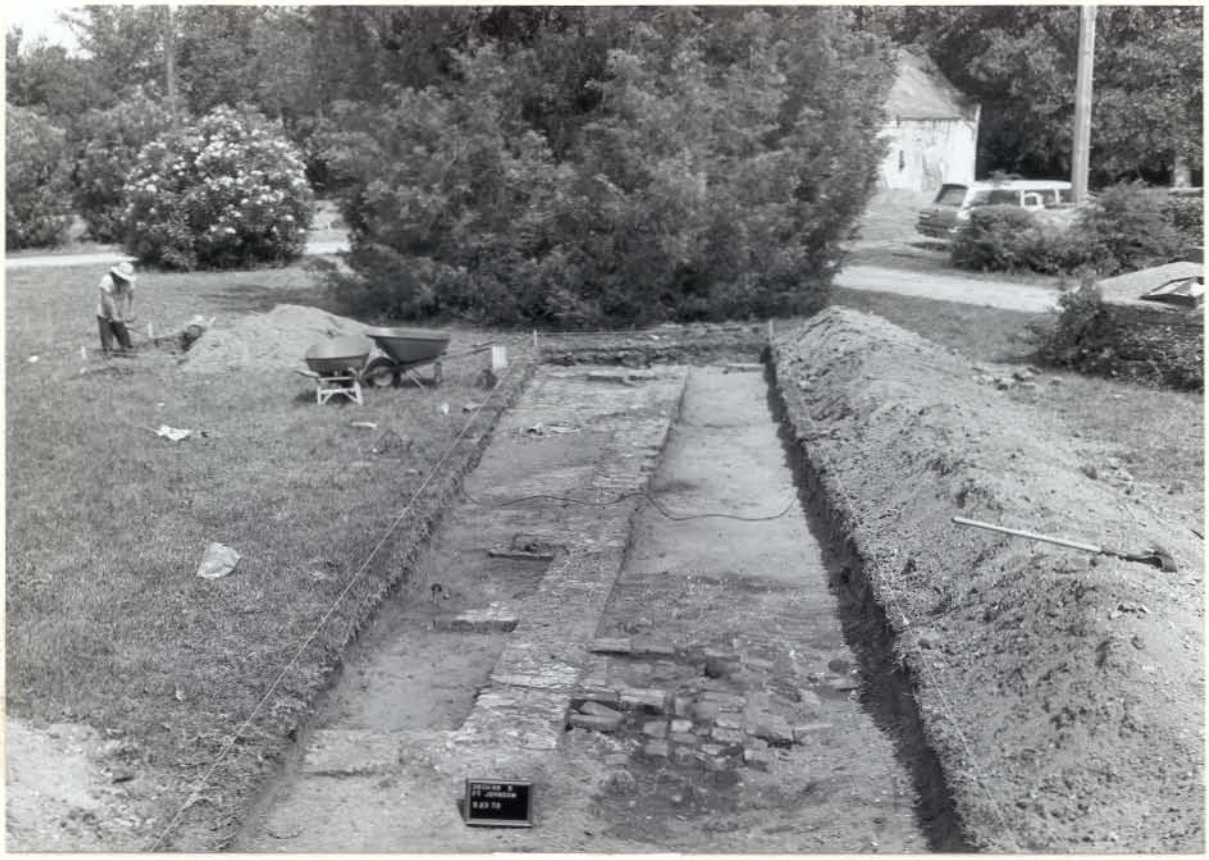


FIGURE 17

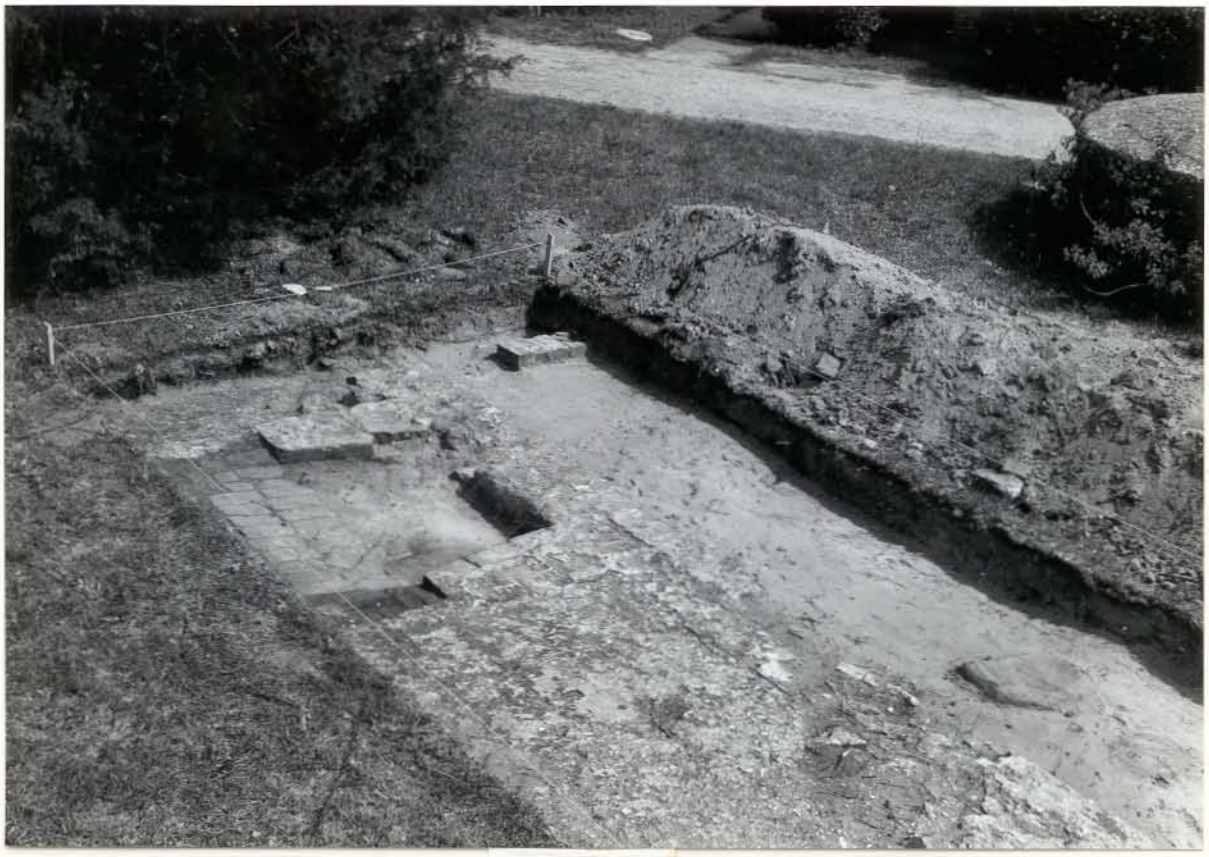


FIGURE 18

FIGURE 19

FIGURE 20

mortar, and the exposed fragments of the ruin indicated a width of 23 feet, and a length of 90 feet (Fig. 2). Using the size of the "Quarter" shown on the 1821 map, and the measurements shown on the 1849 map (Fig. 6), an additional seventeen feet was conjectured for the structure. Chimney bases and hearths were located against the south wall in the two westernmost rooms (Figs. 18 and 20). Exploratory trenches #16 and #20 revealed a tabby floor, as did the area around the hearth in the eastern room in trench #9. Brick step remains were located in trench #12.

A brick stoop and paved area at the southwest corner of the structure suggested an entryway at the ground floor level at this location (Figs. 2, 19, and 20). An 18-pounder solid artillery shot was found lying on the bricks of the paved entryway area and was the only evidence suggesting a military associated function for the structure.

Since the date of the ruin was unknown, artifacts associated with it can be used to suggest a time of occupation provided they are in direct association by means of occupation debris. Such an association can be seen in the ashes recovered from the east hearth of the ruin (Fig. 18). A smooth brass button (South Type 18) with "TREBLE GILT" and an eagle on the back was recovered from these ashes. This type button is characteristic of the period after c.1800 (South 1964: 120-21). Five sherds of transfer printed pearlware with a dominant blue pattern characteristic of the first decades of the nineteenth century were in the ashes, as well as three sherds of lighter yellow creamware that had been fire-damaged by the heat of the fire in the fireplace (South 1972). Using the South Mean Ceramic Date Formula with these eight sherds produces a date of 1810.5 as a suggested median occupation date represented by this limited sample. Since the blue-dominant transfer printed pearlware of the type

made by William Adams dates primarily in the 1820's, an interpreted date of c.1830 is suggested for an end date represented by the ceramics (Laidacker 1951, Part II: 1). With a mean ceramic date of 1810.5, an interpreted occupation range of c.1790 to c.1830 is suggested by these ceramic data found in the hearth of the ashes of this structure. From documentary and correlation data to be presented in a later section, we will find that the actual use of the structure continued until the period of the Civil War, and that its earliest function was that of a barracks. This suggests that the level of the hearth exposed through archeology was not that used by later occupation to the mid-century, and that this earlier level of the fireplace may have been buried beneath a later raised hearth. Since the map of 1821 indicates, here, a "Quarters" as a function of the structure, alterations may well have been made to convert the structure from a barracks to an officers quarters.

The discovery of this barracks ruin solved the question of the tabby cisterns, which were found to parallel the alignment of the barracks structure. This obviously indicates an association between the cisterns and this barracks, placing them in the same time frame as associated features.

The Tabby Fort Wall

At Trench #13, a massive tabby wall with sloping sides was located (Figs. 2 and 22). Part of the wall had been displaced by crews erecting sewer and other utility lines across the wall, or perhaps by road building crews, since a major part of the wall extended beneath the present road. Part of the wall appeared to be in its original position, however, and a line was projected from this section for use in possible correlation with early maps of forts on the site (Figs. 2, 23, 25). The steel probe was used to locate the wall beneath the surface of the ground in the yard on

FIGURE 21

FIGURE 22

the property of the Medical University of South Carolina, but no excavation was carried out in this area. This wall is certainly a major remain of a fortification on the Fort Johnson site, and should be kept in mind if any occasion arises to examine more of it through construction or other disturbance of the ground on the Medical University property. The interpretation of this wall relative to the particular fortification it likely represents is presented in a later section of this report. The dating of the wall also depended on this correlation with a map, since no artifacts were found in direct contextual association with the wall to allow for suggested dating by that means.

THE INTERPRETIVE CORRELATION OF THE HISTORICAL, ARCHITECTURAL, AND ARCHEOLOGICAL DATA ON THE FORT JOHNSON SITE

In order to correlate the surviving architectural features, and the archeologically revealed ruins with the several surviving maps, a procedure of scaling each map to the same scale was involved. The features of concern were the powder magazine, the surviving tabby sea wall, the massive tabby wall, the barracks ruin, the cisterns, and the well. The maps used to correlate these features were the maps of 1800, 1821, 1849, and 1865 (Figs. 4, 5, 6, 7). By far the most accurate and detailed was the map of 1849, which showed structures standing at that time as well as planned fortifications not erected (National Archives: Record Group 77, Map Drawer 67, Sheet 34).

This map revealed not only the porches around the foundation plan, but gave measurements for each of the sixteen rooms the structure was said to contain. The section drawing of the building was also shown on the map, revealing a northward facing angle or "L" on each end of the building. Using the size of the rooms, and the sixteen inch measurement

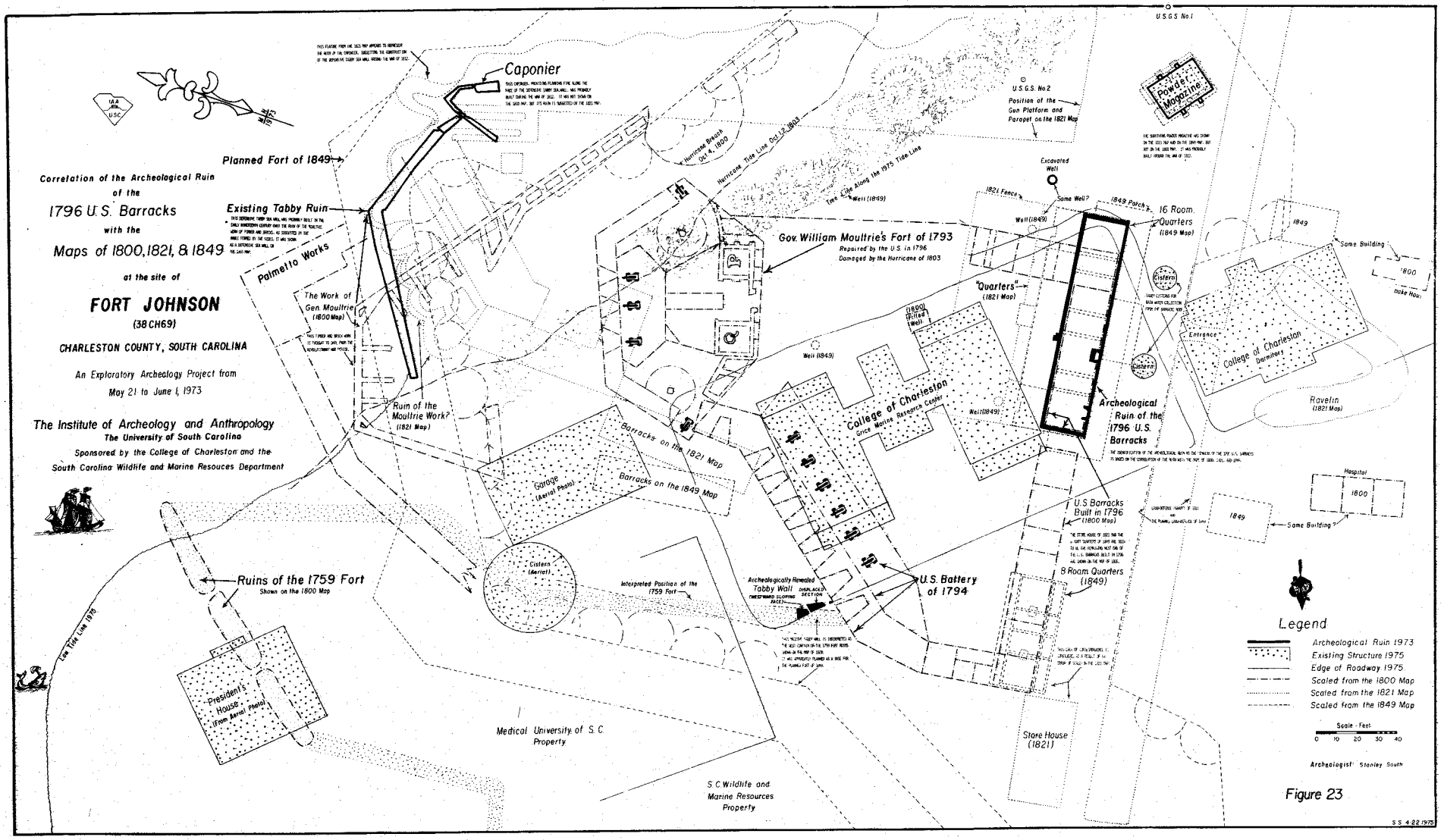

Correlation of the Archeological Ruin of the
1796 U.S. Barracks
with the
Maps of 1800, 1821, & 1849
at the site of
FORT JOHNSON
(38CH69)
CHARLESTON COUNTY, SOUTH CAROLINA
An Exploratory Archeology Project from
May 21 to June 1, 1973
The Institute of Archeology and Anthropology
The University of South Carolina
Sponsored by the College of Charleston and the
South Carolina Wildlife and Marine Resouces Department
Caponier
Planned Fort of 1849
Existing Tabby Ruin
Palmetto Works
The Work of Gen. Moultrie (1800 Map)
Ruin of the Moultrie Work? (1821 Map)
Hurricane Beach Oct 4, 1804
Hurricane Tide Line Oct 17, 1813
Tide Line Along the 1975 Tide Line
Well (1849)
U.S.G.S. No 1
U.S.G.S. No 2
Position of the Gun Platform and Parapet on the 1821 Map
Powder Magazine
Excavated Well
1821 Fence
Some Well?
1849 Patch
16 Room Quarters (1849 Map)
Gov. William Moultrie's Fort of 1793
Repaired by the U.S. in 1796
Damaged by the Hurricane of 1803
"Quarters" (1821 Map)
Cistern
Entrance
College of Charleston Dormitory
1849
1800
Some Building
Duke Hall
(1800) Filled Well
Well (1849)
College of Charleston
Grice Marine Research Center
Well (1849)
Archeological Ruin of the 1796 U.S. Barracks
Ravelin (1821 Map)
Barracks on the 1821 Map
Barracks on the 1849 Map
Garage (Aerial Photo)
Cistern (Aerial)
Ruins of the 1759 Fort
Shown on the 1800 Map
Interpreted Position of the 1759 Fort
Archeologically Revealed Tabby Wall
U.S. Battery of 1794
U.S. Barracks Built in 1796 (1800 Map)
8 Room Quarters (1849)
Hospital
1800
1849
Some Building?
Low Tide Line 1975
President's House (From Aerial Photo)
Medical University of S.C. Property
S.C. Wildlife and Marine Resources Property
Store House (1821)
Legend
Archeological Ruin 1973
Existing Structure 1975
Edge of Roadway 1975
Scaled from the 1800 Map
Scaled from the 1821 Map
Scaled from the 1849 Map
Scale - Feet
0 10 20 30 40
Archeologist: Stanley South
S.S. 4.22.1975

Figure 23

for the wall thickness, a length of about 107 feet is indicated.

The barracks ruin, the powder magazine, and the scale shown on the map were all used in order to get an idea of the best scale for each of the maps. The scale shown for each map was compared with the scale of the archeological base map (Fig. 2), and checked with the position register of the powder magazine, and some cases with the position of the remain of the existing tabby wall, and in this manner the proper scale for each map was arrived at. Once this scale was determined it was then used to superimpose the basic elements of the map onto the archeological base map of the site (Fig. 23).

An important correlation was effected when the "U.S. Barracks built...in 1796", as shown on the 1800 map (Fig. 4), was positioned over the archeological ruin shown as "16 rooms" on the 1849 map (Fig. 7), and as "Quarters" (Fig. 6) on the 1821 map (See Fig. 23 for this correlation). This important correlation allowed for the following:

1. Positioning of Governor William Moultrie's Fort of 1793 on the site
2. Positioning of the U.S. Battery of 1794 on the site
3. Positioning of the "work of General Moultrie" from the 1800 map
4. Positioning of the ruins of the 1759 fort as shown on the 1800 map
5. Positioning of the "Bake House" shown on the 1800 map
6. Positioning of the "Hospital" shown on the 1800 map
7. Interpretation of the "Store House" shown on the 1821 map, and the "8 rooms" structure shown on the 1849 map as the same structure, being the remains of the west end of the row of the "U.S. Barracks built...in 1796"
8. Interpretation of the "Hospital" on the 1800 map as being the same structure as that shown in the same area on the 1849 map
9. Interpretation of the "Bake House" shown on the 1800 map as likely the same building shown in the same area on the 1849 map
10. Positioning of the hurricane breach of October 4, 1800 and the hurricane tide line of October 1 and 2, 1803, on the site, revealing that the present tide line is in virtually the same position
11. Interpretation of the work of General Moultrie (thought to be timber and brick dating from the Revolutionary War Period), as the base for the tabby sea wall shown on the 1865 map (the angle of the Moultrie work being repeated in the later tabby work)
12. Allowed the tabby cisterns on the site to be dated from the construction of the U.S. Barracks in 1796, or shortly thereafter,

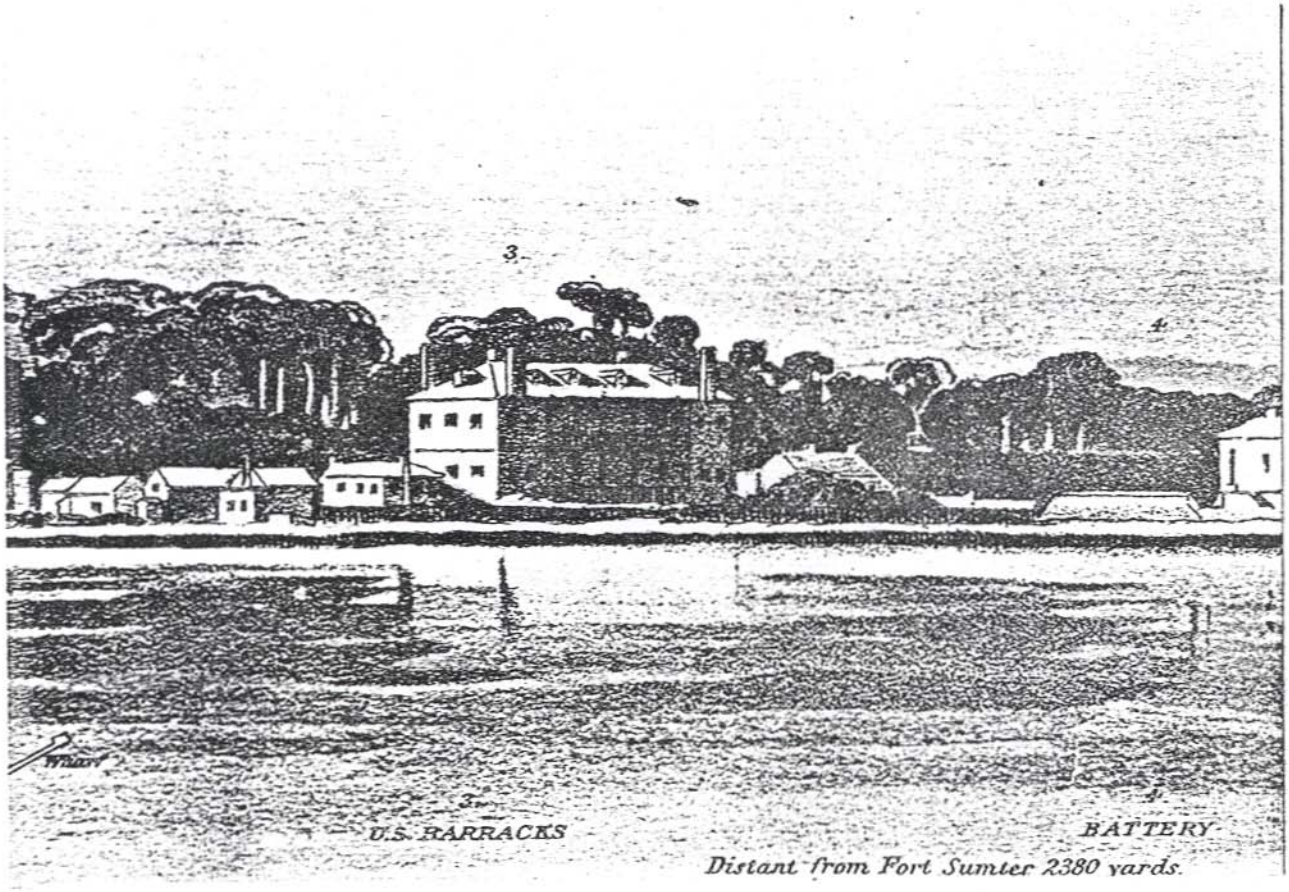

3
4
3
U.S. BARRACKS
4
BATTERY
Distant from Fort Sumter 2380 yards.

Figure 24

> to catch water from the roof of the barracks by means of gutters fed into the cisterns, one cistern being placed exactly at the corner of the porch as shown by the position of the porch on the 1849 map.

The distance between the angle of the existing tabby sea wall and the archeological barracks ruin was used in this instance as an aid to scale determination. This resulted in the length of the barracks building as shown on the 1800 map being slightly shorter than that indicated by the later maps. The width of the barracks as shown on the 1800 map, however, in this case is entirely consistent with the width of the archeological ruin.

With the archeological ruin identified as the U.S. Barracks of 1796, and the shape of the building verified as having the shape of a row of rooms with a northward "L" at each end of the building, between which a porch is indicated, and the 1849 map plan and section revealing the building as a two story and garret structure containing sixteen rooms, we have a good idea of the appearance of the barracks. However, added to this is the drawing of the barracks made at the time of the Civil War, which completes the cycle of present data on this structure, archeological, architectural, and historical (Fig. 24) (Cowles 1891-92: Vol 1, Pl. 2).

The correlation between archeological ruin and the 1800 map is a significant one since there has been considerable concern regarding the relationship of this 1800 map to the Fort Johnson site as seen today. One of the questions has been whether the powder magazine shown on Governor William Moultrie's Fort of 1793 was the same as that still standing on the site today. From this correlation it becomes apparent that these are not the same structure. This being the case, and the still standing powder magazine not shown on the 1800 map, the date of its construction is clearly after the date of the map. As we have seen elsewhere, this structure was

built around the time of the War of 1812.

The Powder Magazine is shown on the 1821 map, as well as the "Quarters," and positioning these structures over the standing Powder Magazine and the archeological ruin to the same scale, allows this map to be superimposed over the present Fort Johnson site (Figure 23). This places the "Barracks" between the Grice Marine Research Center and the garage owned by the Medical University of South Carolina, with a roadway going directly over the site where the "Barracks" was once located (Figure 23).

This correlation of the 1821 map with the Fort Johnson site reveals that a series of contours on the map are positioned directly in the area of the surviving tabby sea wall and caponier bastionette (Fig. 23). This suggests that this bastionette was built as early as the War of 1812, but by 1821 was in a ruined state, which survives today. Caponiers provided flanking fire along the face of a fortification, two being built at Fort Moultrie during the Civil War for this purpose (Scott 1880: Vol. 1, 181).

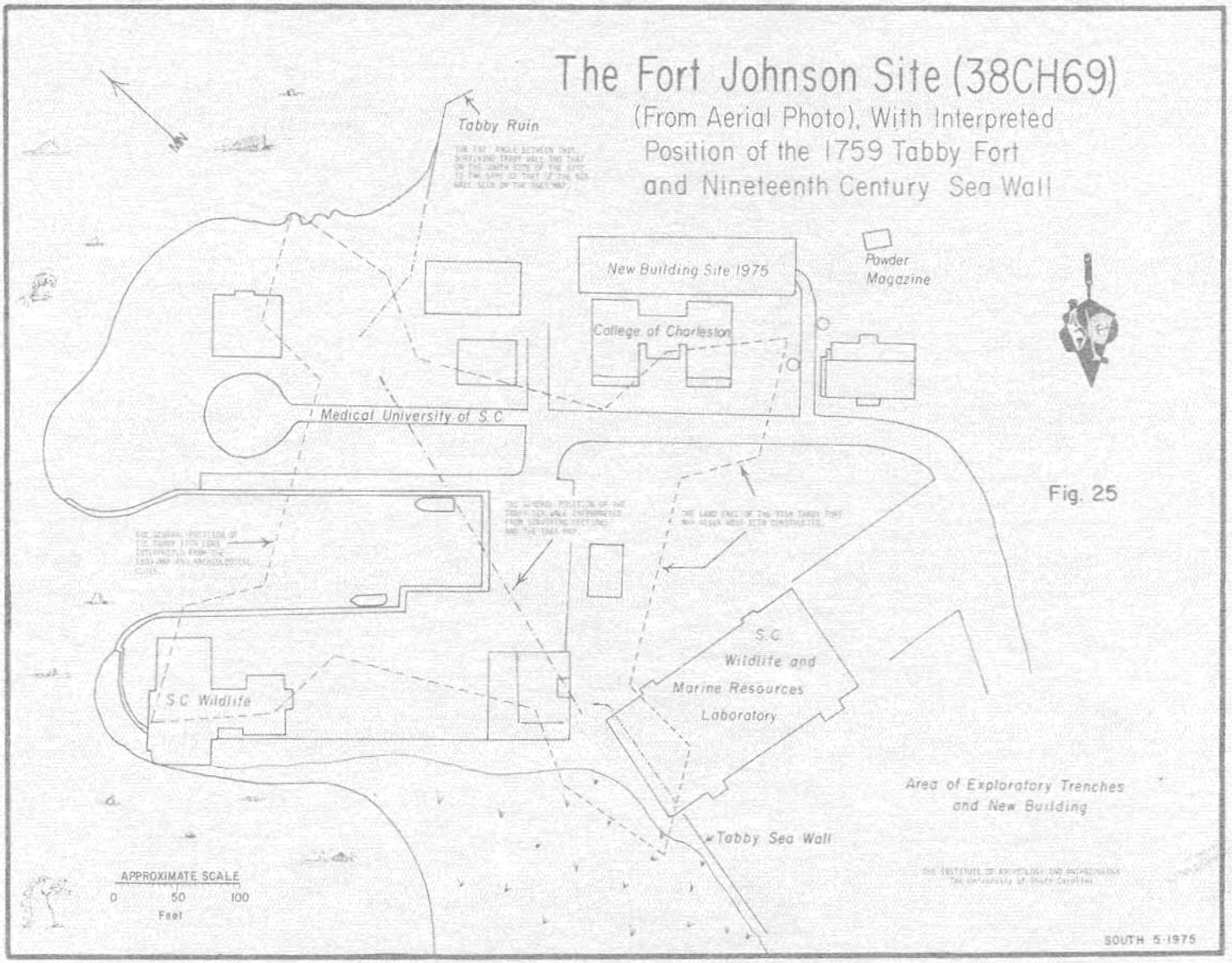
The 1849 map was the most detailed, allowing the positioning of the standing buildings at that time to be placed in relation to the present Fort Johnson site. This map also shows the barracks located between the Grise Marine Research Center and the garage for the Medical University of South Carolina (Fig. 23). It also reveals the same angle shown on the existing tabby ruin, and might be suspected to be the same feature were it not for the fact that the planned fort shown on the 1849 map was to be of timbers filled with sand. It is apparent, therefore, that the planned fort of 1849 was designed to utilize the angle of the sea wall already in place.

The planned west battery of the 1849 fort is at an angle suspiciously

paralleling the archeologically revealed tabby wall found at the corner of the lot on which the Grise Marine Research Center is located (Fig. 23). The ruins of the 1759 fort shown on the 1800 map have been interpreted in the manner shown in the drawings shown in Figure 23, and Figure 25, resulting in the massive tabby wall being part of the west curtain of the 1759 fort. This parallelism of the 1759 tabby wall and the 1849 planned fort battery suggests that those planning the 1849 fort anticipated using the tabby foundation of the 1759 fort as a base for the later fort.

The interpretation of the many earthworks constructed on the Fort Johnson site during the Civil War is a project not within the scope of the present study. However, a map of 1865 (Fig. 5) reveals a sea wall built prior to that time, probably in the 1840's (Willis Keith, personal communication regarding his archival research). This map correlates well with the existing tabby sea wall ruin seen both on the east side of the Fort Johnson peninsula, and on the west side along the marsh, south of the South Carolina Wildlife and Marine Resources Division Laboratory building (Fig. 25). This 1865 map clearly provides the interpretation of this wall as a sea wall, and not the remains of the 1759 fort shown on the 1800 map.

The correlation of the 1759 fort with the section of massive tabby wall found in the corner of the Grise Marine Research Center lot (Fig. 23) is seen in broader perspective in Figure 25, where the position of this mid-eighteenth century tabby fort is shown in relation to the present structures on the site. This drawing was made possible by an aerial photograph taken by the Wildlife and Marine Resources Division, and made available by Willis Keith of that agency. It is ironic that the Fort Johnson site has a wealth of maps showing various features through centuries of


The Fort Johnson Site (38CH69)
(From Aerial Photo), With Interpreted Position of the 1759 Tabby Fort and Nineteenth Century Sea Wall
Tabby Ruin
New Building Site 1975
Powder Magazine
College of Charleston
Medical University of S.C.
S.C. Wildlife and Marine Resources Laboratory
S.C. Wildlife
Area of Exploratory Trenches and New Building
Tabby Sea Wall
APPROXIMATE SCALE
0 50 100
Feet
Fig. 25
SOUTH 5-1975

time, but when a modern map accurately showing the relationship between features and buildings is needed we must turn to aerial photographs, no accurate map of the present site being in existence.

With this correlation made between the 1759 fort and the present site at Fort Johnson by means of the small clue provided by the massive tabby wall and the 1800 map, and the correlations effected above, the question arises as to whether the south land face of the 1759 fort was ever actually constructed since no attack by land was likely anticipated, these fortifications being primarily designed for coastal defense. It is suspected that this is indeed the case. The question cannot be answered without knowing more about what is going on beneath the ground relative to the massive tabby wall remaining from this fort.

The Environmental Impact of New Construction at Fort Johnson on Historical and Archeological Values

This glimpse into the history of the Fort Johnson site is hardly more than that considering the rich series of historical events that have occurred on this single spot of land. If the site were primeval wilderness today, having been abandoned after the Civil War, it would be a site so rich in potential for historical development and interpretation that any impact on such a setting by modern construction would be a serious violation of the site. However, the recently constructed buildings by the three present owners, agencies of the State of South Carolina, has so damaged the historical development potential of the site that the environmental, historical impact of yet another building takes on quite a different perspective than would be the case were the hypothetical primeval state outlined above still existing. This does not mean that we should ignore the possibility that further construction will likely damage

historical-archeological values yet to be revealed beneath the ground, on the contrary. It does mean, however, that the owners have a more intense responsibility toward the meagre data that remains, for the recovery of this information is not for the purpose of public interpretation through the development of an historical park, but rather for the contribution to knowledge that further excavation beneath the Fort Johnson soil may add to that we know from the written documents that have survived in some abundance. The value of the archeological data recovered in this small project toward unravelling the tangle of questions resulting from the many maps and documents relating to Fort Johnson should be ample testimony of the need to keep a close eye on future developments at the site from an archeological-historical perspective.

A specific example of this need can be seen in the positioning of the 1759 fort on the site as seen in Figure 25. This is primarily an hypothesis based on a small amount of archeological and historical data. To test it requires further examination below the surface of the ground. If the asphalt road now over the massive tabby wall thought to represent this fort is ever removed, the wall should be archeologically exposed to determine what it does beneath this road. Also, if construction is planned at some distant time on the Medical University of South Carolina property, a close look at this massive wall should be taken at that time. Disturbance of the ground for sewer lines, power lines, telephone cables, drain lines, etc. all will cut into this wall, which can be felt with the probe just beneath the grass.

Now that this and other features are located, at least to a general position, through the correlations seen in Figures 23 and 25, the owners have a far better idea of where specific data-producing areas of the site

are located relative to architectural ruins shown on maps, which should help in planning future development of the site as a research facility for marine resources and other uses designed by the present owners.

Because of these considerations the construction planned by both the Wildlife and Marine Resources Division and the College of Charleston was seen as offering no severe threat to archeological-historical values. When the barracks ruin was found plans were changed to allow construction over this site to be avoided, with the main construction taking place to the rear of the Grice Marine Research Center. Here there was a chance that a small area of the Governor William Moultrie Fort of 1793 would be impinged upon, but the hurricane damage in this area, the depth of the fill of rubble and sand gave clues to the fact that the shoreline was once much farther inland than it is now, nearer the Grice Marine Research Center. This would place the new structure over this disturbed fill, which would not damage any known values. In the area shown on the map in Figure 23, however, any future work in any specific area should be examined for remains of the fortifications known to have been in this area, as revealed in this study.

Summary

In this project the goals of the research were accomplished: 1) the possible impact of new construction was determined based on the archeological and historical data examined; 2) archeological features were located and maps of the site were correlated with these features in order to locate past features in relation to the existing site today; 3) the Powder Magazine was examined stratigraphically to determine the date of its construction, which was found to be during the War of 1812; and 4) evidence for prehistoric Indian occupation was found to extend to a period around

1800 B.C., revealing a long occupation period on the site. Future projects should consider such Indian occupation in evaluation of the research potential the site has to offer.

The Fort Johnson site on Windmill Point has had a rich history involving six major periods of construction of a variety of forts, from 1708 to the Civil War Period. These forts have been triangular, square, moated, palisaded, tabby, palmetto log filled with sand, draw-bridged, embanked, timbered, and mud-filled, for a fickle history of change. Little remains above ground today, however, to remind the visitor of the many changes the site has undergone as forts were built, repaired, altered, added to, destroyed by hurricanes, and rebuilt in a new form with new materials. Always, however, in spite of the fickle nature of the series of forts, the same goal was kept in mind, the defense of the harbor, Charleston, and Carolina.

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