Environmental Evaluation
for Compliance with 10 CFR 51 Requirements
N.S. Savannah
U.S. NRC License No. NS-1

Prepared to Support a
License Amendment and Proposed Changes
in Technical Specifications for
S.C. Patriots Point Development Authority
and
Maritime Administration
U.S. Department of Commerce

July 1981

General

The N.S. Savannah, which is scheduled to be located at the S.C. Patriots Point Development Authority's Naval and Maritime Museum, is only one of such vessels which will be displayed at the park complex. Development of the entire complex required prior approval and permits from regulatory agencies and authorities. Therefore, the following discussions and copies of attached documents are submitted to support a negative declaration as required pursuant to 10 CFR 51.

1. Provide a discussion of the expected non-radioactive wastes to be generated by the facility in its intended use. Indicate the type and amount of waste and frequency of its discharge. If none, so state.

   As a part of the S.C. Patriots Point Development Authority Naval and Maritime Museum park complex, the N.S. Savannah will be operated as a museum and provide lodging of visitors and employees as a hotel, and restaurant and concession facilities. Therefore, the facility will discharge non-radioactive waste in the form of untreated sewage on a daily basis. The overall water demand for the N.S. Savannah is indicated in the engineering loading study for the Patriots Point pier extension request to the town of Mt. Pleasant, South Carolina, which is attached as Enclosure 1.

2. Provide a description including the name, type, location of the waste treatment/disposal facilities to be used by the facility in its intended use.

   Waste generated as the result of the operation of the N.S. Savannah as a museum, hotel and restaurant will be treated at a package, sewage treatment plant operated by the town of Mt. Pleasant, and located as indicated on the map attached as Enclosure 2. This treatment plant is designed to treat waste from the entire complex of which the N.S. Savannah is a part.

3. Provide a description of the land based or water based facilities to be constructed directly as a result of the placement and operation of the facility in its intended use. If none, so state. (e.g., water/sewer lines; wharfs; pump stations)

   There will be no additional land based or water based waste water treatment facilities constructed as a result of the placement and operation of the facility in its intended use. However, a concrete pier is being extended and mooring dolphins are being constructed to accomodate the vessel. Water and sewer lines will be extended to include the N.S. Savannah, which has received approval from appropriate authorities. Dredging to provide an access channel from existing channels to berth the N.S. Savannah has received approval from appropriate authorities and has been completed.

4. Provide a list of all environmental certifications, approvals or permits that have been obtained or will need to be obtained for the facility. Provide a copy of all such documents obtained to date.

   The following environmental certifications, approvals and permits obtained thus far are attached as indicated. Additional sanitation permits issued by the local health department will be required prior to the ship being operated as a hotel and restaurant.

   A. Letter dated January 25, 1980 to J.E. Guerry from Town of Mt. Pleasant, Enclosure 3.

   B. Letter dated February 29, 1980 to J.E. Guerry from Town of Mt. Pleasant, Enclosure 4.

   C. Public Notice of Proposed work dated October 1979. Enclosure 5.

   D. Department of the Army Permit 79-3H-251, Enclosure 6.

   E. S.C. Coastal Council Permit 79-3H-251, Enclosure 7.

5. Indicate and provide the bases therefor, whether the proposed action will affect any of the following:

   a. any threatened or endangered species as listed by the State of South Carolina or the U.S. Department of the Interior or any species proposed for inclusion on such lists.

   b. habitat used by any species listed in (a).

      Evaluation of the above is addressed in the "Preliminary Environmental Assessment, Patriots Point Development Authority, Mt. Pleasant" attached as Enclosure 8.

   c. any facility or location on or proposed for inclusion on the National Register of Historic Places.

      It has been determined by the South Carolina State Historic Preservation Officer that the Patriots Point facility has no effect on the National Register properties. A copy of this declaration is attached as Enclosure 9.

Patriots Point
Pier Extension

H2O INSTANTANEOUS DEMAND
Existing 8" CI LINE

USS. Yorktown		1800 gpd
N.S. Savannah		
Resturant	150 seats @ 50 gpd/seat	7500 gpd
Rooms	30 @ 100 gpd	3000 gpd
Destroyer		1800 gpd
Golf Course		20880 gpd
Total Domestic load		34980 gpd

PEAK Domestic Load

34980 G/D ÷ 1440 m/D x 2.5 = 60.8 gpm

Fire flow 500 gpm

Total flow 561 gpm

From hydrant flow Test by Seabrook dated 3/5/80

Static 60 PSIG Residual 19 PSIG

Rate 680 gpm V(calc) = 4.34 ft/sec

Enclosure 1

For Total inst. Demand of 561 Gpm

V = 3.64 ft/sec

Δh = ~ 0.4 ft/100 ft x ~ 48 hundred ft. (Length of 8" line = 19.2 ft gain in head x 0.43 lbs/ft = 8.25 psig gain

New hydrant to be 800± ft from Existing

Calculated residual at Existing hydrant @ 561 Gpm = 19 + 8 = 27 psig

@ = 568 gpm h loss = 1.06 ft/hundred ft.
At new hydrant 800 ft beyond Existing hydrant Δh loss = 8 x 1.06 ft x 0.43 lbs/ft = 3.6 psig Δh

Residual = 27 - 3.6 = 23.4 psig, ≥ 20 psig required

OAM

Patriots Point H2O Inst. Demand

Calculations Confirmed May 14 80 by hydrant flow test.

Note: Between Seabrook's of 3/5/80 and todays of 5/14/80 Snee Farm Plant has increased capacity allowing Elevated Tank at Wando High School to provide improved stabalizing effect in this direction.

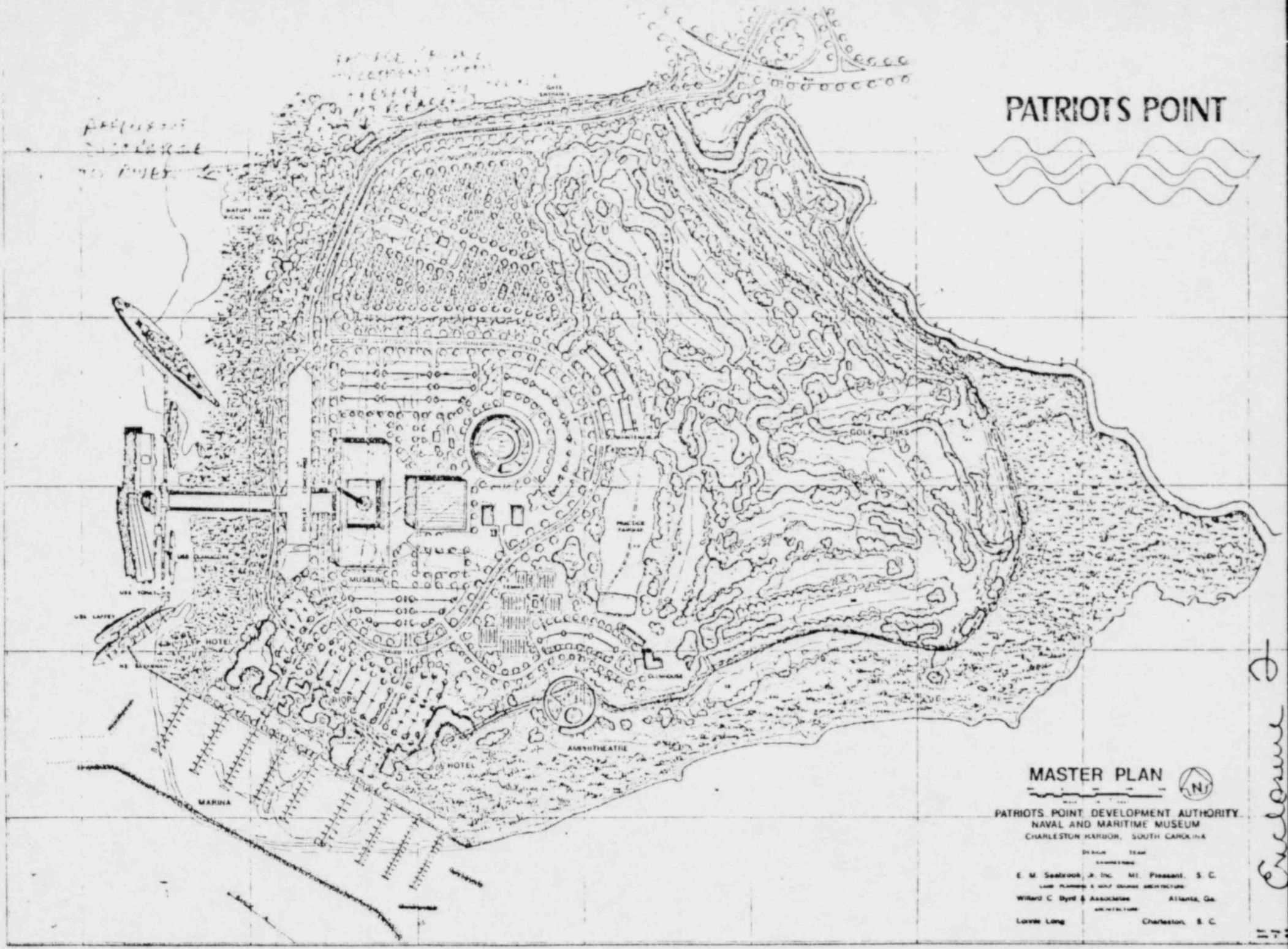
Test Data

Static 60 psig

Residual @ 560 gpm (Domestic & Fire Flow) 30psig

Residual @ 640 gpm 20psig

WAM


PATRIOTS POINT
MASTER PLAN
N
PATRIOTS POINT DEVELOPMENT AUTHORITY
NAVAL AND MARITIME MUSEUM
CHARLESTON HARBOR, SOUTH CAROLINA
DESIGN TEAM
ENGINEERING
E. M. Seabrook, Jr. Inc. Mt. Pleasant, S. C.
LAND PLANNING & GOLF COURSE ARCHITECTURE
Willard C. Byrd & Associates Atlanta, Ga.
ARCHITECTURE
Lonnie Long Charleston, S. C.
GOLF LINKS
MUSEUM
HOTEL
AMPHITHEATRE
MARINA
NATURE AND PICNIC AREA
PARK
USS YORKTOWN
USS LAFFEY
Enclosure 2

MOUNT PLEASANT WATERWORKS AND SEWER COMMISSION

Commissioners
Charles H. Hindman, Chairman
Robert S. Bell, Jr.
Charles E. Montgomery

Manager
Ronald E. Bycroft

P. O. Box 336
Mount Pleasant, S. C. 29464

Area Code 803
Phone: 884-9626

January 25, 1980

Mr. J. E. Guerry, Jr.
Executive Director
Patriots Point Development Authority
Post Office Box 634
Mount Pleasant, South Carolina 29464

RE: Water and Sewer availability for NS Savannah

Dear Mr. Guerry:

This is to inform you that this Commission will be able to service the NS Savannah with water and sewer as per your engineers preliminary hydraulic loading study. However, we will require submission of plans and specifications to this Commission for approval for the extension of these services.

If we may be of further assistance, please contact.

Yours truly,

MOUNT PLEASANT WATERWORKS
AND SEWER COMMISSION

Ronald E. Bycroft
Manager

REB:sm

Enclosure 3

TOWN OF MOUNT PLEASANT

SOUTH CAROLINA
29464

JOHN J. DODDS, JR.
MAYOR

POST OFFICE BOX 745

February 29, 1980

Mr. J. E. Guerry, Jr.
Director
Patriots Point Development Authority
P. O. Box 986
Mount Pleasant, South Carolina 29464

Dear Mr. Guerry:

The proposed extension of the pier and placement of three more ships at Patriots Point complies with the Town of Mount Pleasant land use designation and therefore, is supported by the Town of Mount Pleasant.

We are able to provide fire and police service to the proposed expansion. If our garbage and trash ordinance is complied with, we will also be able to provide that service.

Sincerely,

John J. Dodds, Jr.

John J. Dodds, Jr.
Mayor
TOWN OF MOUNT PLEASANT

JJD,Jr./bf

Encl. item 4

THE CHARLESTON EVENING POST
AND
THE NEWS AND COURIER

State of South Carolina
COUNTY OF CHARLESTON

Personally appeared before me

L. A. WEEKS *advertising Clerk*

of The Charleston Evening Post, a newspaper published in the City of Charleston, County and State aforesaid, who, being duly sworn, says that the advertisement of

COPY ATTACHED

appeared in the issues of said newspaper on the following day(s): OCTOBER 16, 17, 18, 1979

Subscribed and sworn to before me this 19th *day of* OCTOBER *A. D.* 1979

L. A. Weeks

Jacob W. Peters
NOTARY PUBLIC, S.C.

NOTARY PUBLIC FOR SOUTH CAROLINA
My Commission expires September 9 1982

Form No. 3030

Exclosure 5

Notice of Proposed Activity Located In Floodplain Final Notice

The Patriot's Point Development Authority is preparing an application to the Economic Development Administration. The proposed action is located at Patriot's Point (formerly Hog Island) south of U.S. Highway No. 17, adjacent to Charleston Harbor, Mt. Pleasant, Charleston County, South Carolina. The work proposed will consist of an extension to the pile supported concrete pier and pile supported breasting and mooring dolphins. Dredging will be required to provide an access channel from an existing access channel to the berthing facility and to provide adequate anchorage depth for permanent mooring of the N.S. Savannah, USS Lefley and USS Clamagore. The estimated quantity of dredged material is approximately 200,000 cubic yards and dredged material will be deposited at an existing landfill spoil area located approximately 3,500 feet north of the project. In order to mitigate the impact of the project, dredging will be done hydraulically and the excavated material pumped through a floating pipeline to the existing landfill spoil area. The projected starting date of the project is January 15, 1980, and it is estimated to be completed by October 15, 1980. It is necessary to locate this project in a floodplain in order to provide berthing spaces for additional vessels. Significant facts considered in making this determination include location of present dock, channel depth and configuration, location of existing spoil area, and location of proposed marina and future development at Patriot's Point. This action conforms to applicable floodplain protection standards. The present design of the project will create a negligible impact affecting floodplain and wetlands. Other agencies involved in this project are the Coastal Plains Regional Commission and the Maritime Administration of the U.S. Department of Commerce.

Comments on the proposed project will be accepted for 30 days and should be addressed to Mr. John C. Cole, Regional Environmentalist, Economic Development ADMINISTRATION, South Eastern Regional Office, 1365 Peachtree Street N.E., Atlanta, Georgia 30309, phone (404) 881-7667. Additional information is available from the Patriot's Point Development Authority, P.O. Box 986, Mt. Pleasant, South Carolina 29464, phone (803) 884-2727.

X 1016301

Application No. 79-311-251

Name of Applicant Patriots Point Development Authority

Effective Date

Expiration Date (If applicable) 31 December 1982

DEPARTMENT OF THE ARMY
PERMIT

Referring to written request dated 30 August 1979 for a permit to

(X) Perform work in or affecting navigable waters of the United States, upon the recommendation of the Chief of Engineers, pursuant to Section 10 of the Rivers and Harbors Act of March 3, 1899 (33 U.S.C. 403);

(X) Discharge dredged or fill material into waters of the United States upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 404 of the Federal Water Pollution Control Act (86 Stat. 816, P.L. 92-500);

( ) Transport dredged material for the purpose of dumping it into ocean waters upon the issuance of a permit from the Secretary of the Army acting through the Chief of Engineers pursuant to Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (86 Stat. 1052, P.L. 92-532);

Patriots Point Development Authority
P. O. Box 986
Mt. Pleasant, South Carolina 29464

is hereby authorized by the Secretary of the Army to excavate an access channel and extend an existing concrete pier to add Naval Ships to the Naval and Maritime Museum facilities at Patriots Point

in Charleston Harbor

at Patriots Point, on Hog Island, adjacent to Hwy. #17 North, approximately one (1) mile west of the City of Mt. Pleasant, Charleston County, South Carolina,

in accordance with the plans and drawings attached hereto which are incorporated in and made a part of this permit (on drawings give file number or other definite identification marks.)

entitled: Proposed Addition to Patriots Point Berthing Facility in Cooper River Charleston County, South Carolina. Application by: Patriots Point Development Authority, dated 30 August 1979,

subject to the following conditions:

I. General Conditions:

a. That all activities identified and authorized herein shall be consistent with the terms and conditions of this permit, and that any activities not specifically identified and authorized herein shall constitute a violation of the terms and conditions of this permit which may result in the modification, suspension or revocation of this permit, in whole or in part, as set forth more specifically in General Conditions j or k hereto, and in the institution of such legal proceedings as the United States Government may consider appropriate, whether or not this permit has been previously modified, suspended or revoked in whole or in part.

(EM 1141 - 1011)

ENG FORM 1 JUL 72 1721 EDITION OF 1 APR 74 IS OBSOLETE.

Enclosure 6

b. That all activities authorized herein shall, if they involve, during their construction or operation, any discharge of pollutants into waters of the United States or in ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, pretreatment standards and management practices established pursuant to the Federal Water Pollution Control Act of 1972 (P.L. 92-500, 86 Stat. 816), the Marine Protection, Research and Sanctuaries Act of 1972 (P.L. 92-532, 86 Stat. 1052), or pursuant to applicable State and local law.

c. That when the activity authorized herein involves a discharge during its construction or operation, of any pollutant (including dredged or fill material), into waters of the United States, the authorized activity shall, if applicable water quality standards are revised or modified during the term of this permit, be modified, if necessary, to conform with such revised or modified water quality standards within 6 months of the effective date of any revision or modification of water quality standards, or as directed by an implementation plan contained in such revised or modified standards, or within such longer period of time as the District Engineer, in consultation with the Regional Administrator of the Environmental Protection Agency, may determine to be reasonable under the circumstances.

d. That the discharge will not destroy a threatened or endangered species as identified under the Endangered Species Act, or endanger the critical habitat of such species.

e. That the permittee agrees to make every reasonable effort to prosecute the construction or operation of the work authorized herein in a manner so as to minimize any adverse impact on fish, wildlife, and natural environmental values.

f. That the permittee agrees that he will prosecute the construction or work authorized herein in a manner so as to minimize any degradation of water quality.

g. That the permittee shall permit the District Engineer or his authorized representative(s) or designee(s) to make periodic inspections at any time deemed necessary in order to assure that the activity being performed under authority of this permit is in accordance with the terms and conditions prescribed herein.

h. That the permittee shall maintain the structure or work authorized herein in good condition and in accordance with the plans and drawings attached hereto.

i. That this permit does not convey any property rights, either in real estate or material, or any exclusive privileges, and that it does not authorize any injury to property or invasion of rights or any infringement of Federal, State, or local laws or regulations nor does it obviate the requirement to obtain State or local assent required by law for the activity authorized herein.

j. That this permit may be summarily suspended, in whole or in part, upon a finding by the District Engineer that immediate suspension of the activity authorized herein would be in the general public interest. Such suspension shall be effective upon receipt by the permittee of a written notice thereof which shall indicate (1) the extent of the suspension, (2) the reasons for this action, and (3) any corrective or preventative measures to be taken by the permittee which are deemed necessary by the District Engineer to abate imminent hazards to the general public interest. The permittee shall take immediate action to comply with the provisions of this notice. Within ten days following receipt of this notice of suspension, the permittee may request a hearing in order to present information relevant to a decision as to whether his permit should be reinstated, modified or revoked. If a hearing is requested, it shall be conducted pursuant to procedures prescribed by the Chief of Engineers. After completion of the hearing, or within a reasonable time after issuance of the suspension notice to the permittee if no hearing is requested, the permit will either be reinstated, modified or revoked.

k. That this permit may be either modified, suspended or revoked in whole or in part if the Secretary of the Army or his authorized representative determines that there has been a violation of any of the terms or conditions of this permit or that such action would otherwise be in the public interest. Any such modification, suspension, or revocation shall become effective 30 days after receipt by the permittee of written notice of such action which shall specify the facts or conduct warranting same unless (1) within the 30-day period the permittee is able to satisfactorily demonstrate that (a) the alleged violation of the terms and the conditions of this permit did not, in fact, occur or (b) the alleged violation was accidental, and the permittee has been operating in compliance with the terms and conditions of the permit and is able to provide satisfactory assurances that future operations shall be in full compliance with the terms and conditions of this permit, or (2) within the aforesaid 30 day period, the permittee requests that a public hearing be held to present oral and written evidence concerning the proposed modification, suspension or revocation. The conduct of this hearing and the procedures for making a final decision either to modify, suspend or revoke this permit in whole or in part shall be pursuant to procedures prescribed by the Chief of Engineers.

l. That in issuing this permit, the Government has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and/or the Government may, in addition, institute appropriate legal proceedings.

m. That any modification, suspension, or revocation of this permit shall not be the basis for any claim for damages against the United States.

n. That the permittee shall notify the District Engineer at what time the activity authorized herein will be commenced, as far in advance of the time of commencement as the District Engineer may specify, and of any suspension of work, if for a period of more than one week, resumption of work and its completion.

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o. That if the activity authorized herein is not started on or before 30th day of November, 19 80 (one year from the date of issuance of this permit unless otherwise specified) and is not completed on or before 31st day of December, 19 82 (three years from the date of issuance of this permit unless otherwise specified) this permit, if not previously revoked or specifically extended, shall automatically expire.

p. That this permit does not authorize or approve the construction of particular structures, the authorization or approval of which may require authorization by the Congress or other agencies of the Federal Government.

q. That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition t hereof, he must restore the area to a condition satisfactory to the District Engineer.

r. That if the recording of this permit is possible under applicable State or local law, the permittee shall take such action as may be necessary to record this permit with the Register of Deeds or other appropriate official charged with the responsibility for maintaining records of title to and interests in real property.

s. That there shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein.

t. That this permit may not be transferred to a third party without prior written notice to the District Engineer, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferee subscribing to this permit in the space provided below and thereby agreeing to comply with all terms and conditions of this permit. In addition, if the permittee transfers the interests authorized herein by conveyance of realty, the deed shall reference this permit and the terms and conditions specified herein and this permit shall be recorded along with the deed with the Register of Deeds or other appropriate official.

II. Special Conditions: (Here list conditions relating specifically to the proposed structure or work authorized by this permit).

a. That silt curtains be installed during dredging for containment of silt within the dredge area.

b. The disposal area associated with the project will be pumped into in the early springs of 1980 and 1981.

c. Upon completion of the project, the area containing the dredged spoil will be covered by a layer of sand sufficient to prevent fissuring.

d. That prior to commencement of the dredging operations, the applicant shall furnish the District Engineer, Corps of Engineers, an updated survey of the area to be dredged, quantities of material to be dredged, and an as-built survey of the embankment and disposal area with computations of the capacity of the disposal area. The review of the above information shall be accomplished jointly between Patriots Point Development Authority and the Corps of Engineers and approval granted by the Corps of Engineers before start of the dredging.

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The following Special Conditions will be applicable when appropriate.

STRUCTURES IN OR AFFECTING NAVIGABLE WATERS OF THE UNITED STATES.

a. That this permit does not authorize the interference with any existing or proposed Federal project and that the permittee shall not be entitled to compensation for damage or injury to the structures or work authorized herein which may be caused by or result from existing or future operations undertaken by the United States in the public interest.

b. That no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized by this permit.

c. That if the display of lights and signals on any structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.

d. That the permittee, upon receipt of a notice of revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the United States and in such time and manner as the Secretary of the Army or his authorized representative may direct, restore the waterway to its former conditions. If the permittee fails to comply with the direction of the Secretary of the Army or his authorized representative, the Secretary or his designee may restore the waterway to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.

e. Structures for Small Boats. That permittee hereby recognizes the possibility that the structure permitted herein may be subject to damage by wave wash from passing vessels. The issuance of this permit does not relieve the permittee from taking all proper steps to insure the integrity of the structure permitted herein and the safety of boats moored thereto from damage by wave wash and the permittee shall not hold the United States liable for any such damage.

MAINTENANCE DREDGING.

a. That when the work authorized herein includes periodic maintenance dredging, it may be performed under this permit for _____ years from the date of issuance of this permit [ten years unless otherwise indicated];

b. That the permittee will advise the District Engineer in writing at least two weeks before he intends to undertake any maintenance dredging.

DISCHARGES OF DREDGED OR FILL MATERIAL INTO WATERS OF THE UNITED STATES

a. That the discharge will be carried out in conformity with the goals and objectives of the EPA Guidelines established pursuant to Section 404(b) of the FWPCA and published in 40 CFR 230;

b. That the discharge will consist of suitable material free from toxic pollutants in other than trace quantities;

c. That the fill created by the discharge will be properly maintained to prevent erosion and other non-point sources of pollution, and

d. That the discharge will not occur in a component of the National Wild and Scenic River System or in a component of a State wild and scenic river system.

DUMPING OF DREDGED MATERIAL INTO OCEAN WATERS.

a. That the dumping will be carried out in conformity with the goals, objectives, and requirements of the EPA criteria established pursuant to Section 102 of the Marine Protection, Research and Sanctuaries Act of 1972, published in 40 CFR 220-228.

b. That the permittee shall place a copy of this permit in a conspicuous place in the vessel to be used for the transportation and/or dumping of the dredged material as authorized herein.

This permit shall become effective on the date of the District Engineer's signature.

Permittee hereby accepts and agrees to comply with the terms and conditions of this permit.

_____ _____

PERMITTEE DATE

Patriots Point Development Authority

BY AUTHORITY OF THE SECRETARY OF THE ARMY

_____ _____

WILLIAM W. BROWN, Colonel DATE

DISTRICT ENGINEER
U.S. ARMY CORPS OF ENGINEERS

Transferee hereby agrees to comply with the terms and conditions of this permit.

_____ _____

TRANSFEREE DATE

South Carolina Coastal Council

James M. Waddell, Jr.
Chairman

H. Wayne Beam, Ph D
Executive Director

November 7, 1979

Patriots Point Development Authority
Post Office Box 986
Mt. Pleasant, South Carolina 29464

Gentlemen:

The South Carolina Coastal Council has reviewed your permit application 79-3H-251 for a permit to excavate an access channel and extend an existing pier (description of work) located Charleston Harbor. The Coastal Council has found that the project would have no severe negative impacts on coastal resources, and is not inconsistent with Council policies for the critical areas of the coastal zone.

Two copies of the permit, as issued, are enclosed. Please carefully read the permit and sign and date both copies on page four of the permit in the signature block entitled "Permittee" if you wish to accept the permit as issued (please note Special Conditions on Page 3).

YOU ARE NOT AUTHORIZED TO COMMENCE WORK UNDER THE PERMIT UNTIL I HAVE RECEIVED A COPY SIGNED AND ACCEPTED BY YOU.

Upon my receipt of the permit signed by you, I will immediately forward to you a permit placard which must be posted on the permit site and which authorizes you to commence work under the permit as issued.

The receipt of this permit does not relieve you of the responsibility of acquiring any other applicable federal or local permits that may be required.

You are notified that a U. S. Army Corps of Engineers permit is also required as stated in 79-3H-251. To commence work without acquiring this authorization would be in violation of federal law.

Sincerely,

Duncan C. Newkirk
Permit Administrator

Enclosure 1

DCN:ebg
enclosure

cc: Senator James M. Waddell, Jr., Chairman
Dr. H. Wayne Beam, Executive Director

PERMIT NUMBER: 79-3H-251

PUBLIC NOTICE NUMBER: 79-3H-251

NAME OF APPLICANT: Patriots Point Development Authority

DATE OF ISSUANCE: November 7, 1979

EXPIRATION DATE: November 7, 1982

SOUTH CAROLINA COASTAL COUNCIL PERMIT

This permit is issued under the provisions of Act 123 of the 1977 South Carolina General Assembly and the Interim Rules and Regulations of the South Carolina Coastal Council. Furthermore, this permit authorizes the above named applicant, hereafter called the Permittee, to perform works shown on the sketch hereof and made a part hereof, more particularly described as follows:

County: Charleston

Location: at Patriots Point, on Hog Island, adjacent to Highway #17 North, approximately one mile west of the City of Mt. Pleasant, South Caro
Nearest body of water: Charleston Harbor

Description of project: a permit to excavate an access channel and extend an existing concrete pier

GENERAL CONDITIONS:

The permittee agrees to the following general conditions:

1.) That if the activity authorized herein is not completed on or before 7th day of November, 19 82 (three years from the date of issuance of this permit unless otherwise specified) this permit, if not previously revoked or specifically extended, shall automatically expire. A request, in writing, for an extension of time shall be made not less than sixty days prior to the expiration date.

2.) That the structure or work authorized herein shall be maintained in good condition and in accordance with the plans and drawings attached hereto. Failure to maintain the structure in this condition shall be grounds for revocation of the permit.

3.) That every reasonable effort will be made to conduct the work authorized herein in a manner which minimizes, to the fullest extent possible, any adverse impact on fish, wildlife and water quality.

4.) That all activities authorized herein shall, if they involve a discharge or deposit into navigable waters or ocean waters, be at all times consistent with applicable water quality standards, effluent limitations and standards of performance, prohibitions, and pretreatment standards established pursuant to applicable federal, state, and local laws.

5.) That extreme care shall be exercised to prevent any adverse or undesirable effects from this work on the property of others. This permit authorizes no invasion of private property or rights in property.

6.) That this permit is granted subject to the rights of the State of South Carolina in navigable water and shall be subject, further, to the rights for which purposes the waters and submerged land thereunder are held by the State. This permit does not relieve the permittee from the requirement of obtaining a permit from the U. S. Army Corps of Engineers or other applicable federal agency nor from necessity of compliance with all applicable local laws, ordinances, and zoning or other regulations.

7.) That this permittee, in accepting this permit, convenants and agrees to comply with and abide by the provisions and conditions herein and assumes all responsibility and liability and agrees to save the South Carolina Coastal Council and the State of South Carolina, its employees or representatives, harmless from all claims of damage arising out of operations conducted pursuant to this permit.

8.) That this permit does not convey, expressly or impliedly, any property rights in real estate or material, nor any exclusive privileges; nor does it authorize the permittee to alineate, diminish, infringe upon or otherwise restrict the property rights of any other person or the public; nor shall this permit be interpreted as appropriating public properties for private use.

9.) That the permittee shall permit the Council or its authorized agents or representatives to make periodic inspections at any time deemed necessary in order to assure that the activity being performed is in accordance with the terms and conditions of this permit.

10.) That authorization for activities or structures herein shall constitute a revocable license. The Coastal Council may require the permittee to modify or remove activities or structures authorized herein if it is determined by the Council that such activity or structure is in violation of the public health, safety, and welfare. Modification or removal under this condition shall be ordered only after reasonable notice stating the reasons therefore and providing the permittee with opportunity to respond in writing.

11.) That if and when the permittee desires to abandon the activity authorized herein, unless such abandonment is part of a transfer procedure by which the permittee is transferring his interests herein to a third party pursuant to General Condition 12 hereof, he/she must restore the area to a condition satisfactory to the Coastal Council.

12.) That this permit may not be transferred to a third party without prior written notice to the Coastal Council, either by the transferee's written agreement to comply with all terms and conditions of this permit or by the transferree subscribing to this permit and thereby agreeing to comply with all terms and conditions of this permit.

13.) That if the display of lights and signals on any structure or work authorized herein

is not otherwise provided for by law, such lights and special signals as may be prescribed by the United States Coast Guard shall be installed and maintained by and at the expense of the permittee.

14.) That the permit placard or a copy of the placard shall be posted in a conspicious place at the project site during the entire period of work. Display of a placard is not necessary if a permit for the work has been issued by the U. S. Army Corps of Engineers and a Corps placard is posted in a conspicious place at the site.

15.) That before revocation, suspension, or modification of this permit, the Coastal Council shall provide written notification to the permittee of intention to revoke, suspend, or modify the permit, and the permittee shall be given an opportunity to present a written explanation to the Coastal Council.

16.) That the permittee, upon receipt from the Coastal Council of written notification of intent to revoke, suspend or modify the permit, shall cease all work under this permit. Furthermore, work shall not be resumed under this permit until final disposition of the proceeding has occurred.

17.) That the permittee, upon receipt of a notice or revocation of this permit or upon its expiration before completion of the authorized structure or work, shall, without expense to the Coastal Council and in such time and manner as the Coastal Council or its authorized representative may direct, restore the area to its former condition. If the permittee fails to comply with the direction of the Coastal Council or its authorized representative, the Coastal Council or its designee may restore the affected area to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.

18.) That in issuing this permit, the Coastal Council has relied on the information and data which the permittee has provided in connection with his permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete, or inaccurate, this permit may be modified, suspended or revoked, in whole or in part, and the Coastal Council, may, in addition, institute appropriate legal proceedings.

19.) That any modification, suspension or revocation of this permit shall not be the basis for any claim for damages against the Coastal Council or the State of South Carolina or any employee, agent, or representative of the Coastal Council or the State of South Carolina.

SPECIAL CONDITIONS:

1) Provided that the disposal area associated with the project will be pumped in the early springs of 1980 and 1981.

2) Provided upon the completion of the project, the area containing the dredged spoil will be covered by a layer of sand sufficient to prevent fissuring.

THE PERMITTEE, BY ACCEPTANCE OF THIS PERMIT AGREES TO ABIDE BY THE TERMS AND CONDITIONS CONTAINED HEREIN (ATTACHMENT 1) AND TO PERFORM THE WORK IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS ATTACHED HERETO AND MADE A PART HEREOF. ANY DEVIATION FROM THESE CONDITIONS, TERMS, PLANS, AND SPECIFICATIONS SHALL BE GROUNDS FOR REVOCATION, SUSPENSION OR MODIFICATION OF THIS PERMIT AND THE INSTITUTION OF SUCH LEGAL PROCEEDINGS AS THE COASTAL COUNCIL MAY CONSIDER APPROPRIATE.

Accepted this 1st day of November, 1979

Permittee

J.E. GUERRY, JR.
Executive Director

Issued this 7th day of November, 1979
STATE OF SOUTH CAROLINA,
COASTAL COUNCIL. JAMES M.
WADDELL, JR., CHAIRMAN

By: Duncan C. Newkirk
Duncan C. Newkirk
Permit Administrator

(P/N #79-3H-251, Patriots Point
Development Authority)

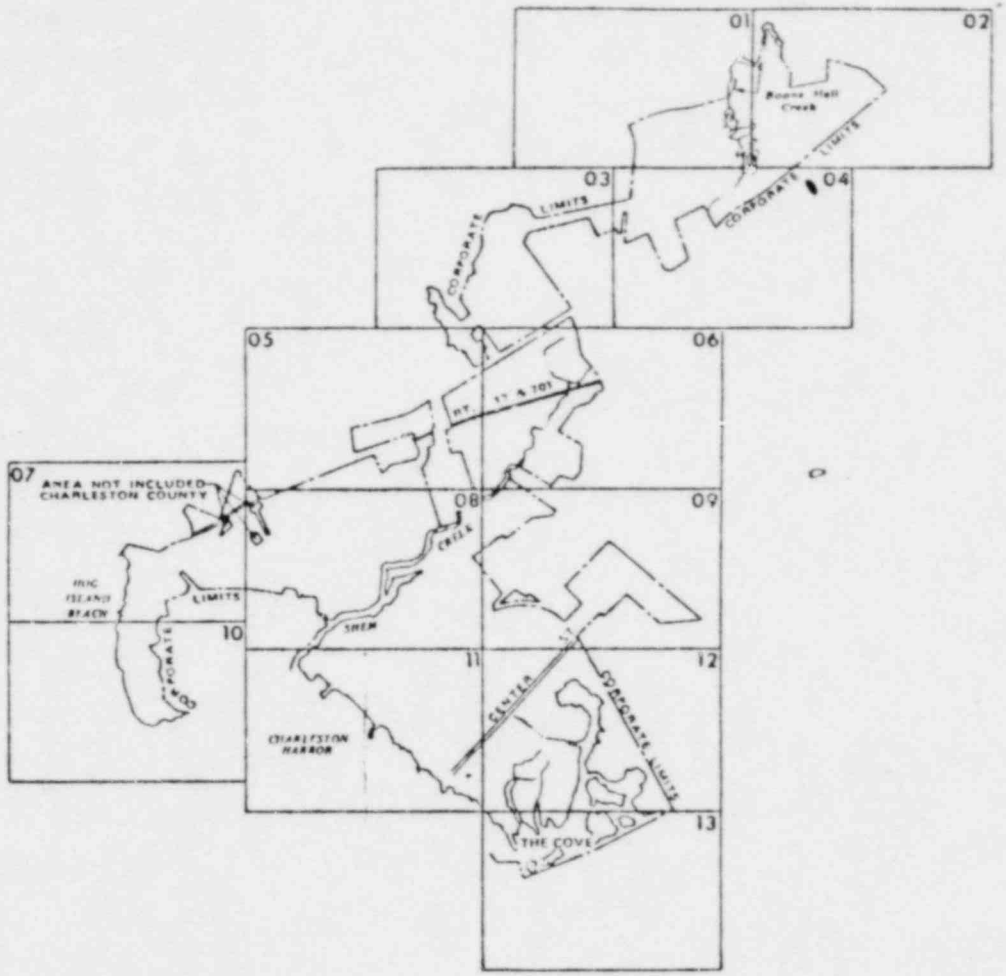
ATTACHMENT 1:

The plans submitted by you, attached hereto, show the proposed work to consist of extending an existing concrete pier approximately 700' and the addition of four (4) timber pile dolphins, two (2) concrete breasting platforms and two (2) mooring dolphins. Prior to the extension of the existing berthing facility, a 1500' access channel with varying widths will be dredged in order to facilitate the permanent berthing of three (3) more vessels at the Yorktown pier site. The proposed channel will be dredged hydraulically to depths ranging from -17' mean low water to -24' mean low water. The dredged material, consisting of approximately 200,000 cubic yards of silt and sand, is to be pumped to an existing disposal area shown on Sheet 4 of 5. No dredged material will be deposited around the newly berthed vessels. The purpose of this project is to add the Naval Ships, USS LAFFEY, USS TIRU (submarine), and Maritime Nuclear Ship SAVANNAH to the Naval and Maritime Museum facilities at Patriots Point which were initiated by the berthing of the Aircraft Carrier, USS YORKTOWN.

SPECIAL CONDITIONS:

1) Provided that the disposal area associated with the project will be pumped in the early springs of 1980 and 1981.

2) Provided that upon completion of the project, the area containing the dredged spoil will be covered by a layer of sand sufficient to prevent fissuring.



KEY TO SYMBOLS

ZONE B

ZONE A1
DATE

ZONE AB

ZONE B

ZONE DESIGNATIONS* WITH DATE OF IDENTIFICATION
[illegible]

Base Flood Elevation Line — 513 —

Base Flood Elevation (513' MSL)

Elevation Reference Mark RM7

River Mile - M 1.5

*EXPLANATION OF ZONE DESIGNATIONS

A flood insurance map displays the zone designations for a community according to areas of designated flood hazards. The zone designations used by FIA are:

Zone Symbol	Category
A	Area of special flood hazards (SFHA) and inshore base flood elevations determined.
A1 through A30	Area of special flood hazards (SFHA) with base flood elevations. Zones are designed according to flood hazard factors, and done on SFHA identification map.
AO	Area of special flood hazards that have shallow flood depths (less than two feet) and/or unpredictable flow paths. Base flood elevations are not determined.
V	Area of special flood hazards with velocity (that are inundated by tidal floods). Zones are designed according to flood hazard factors and done on SFHA identification map.
B	Area of moderate flood hazards.
C	Area of minimal flood hazards.
D	Area of undetermined, but possible, flood hazards.

CONSULT NFIA SERVICING COMPANY OR LOCAL INSURANCE AGENT OR BROKER TO DETERMINE IF PROPERTIES IN THIS COMMUNITY ARE ELIGIBLE FOR FLOOD INSURANCE.

INITIAL IDENTIFICATION DATE: APRIL 2, 1971
MAY 28, 1973

INITIAL IDENTIFICATION DATE OF ANNEXED AREAS: APRIL 27, 1971

INTERIM MAP REVISION EFFECTIVE JULY 1, 1974 TO CHANGE ZONE DESIGNATIONS

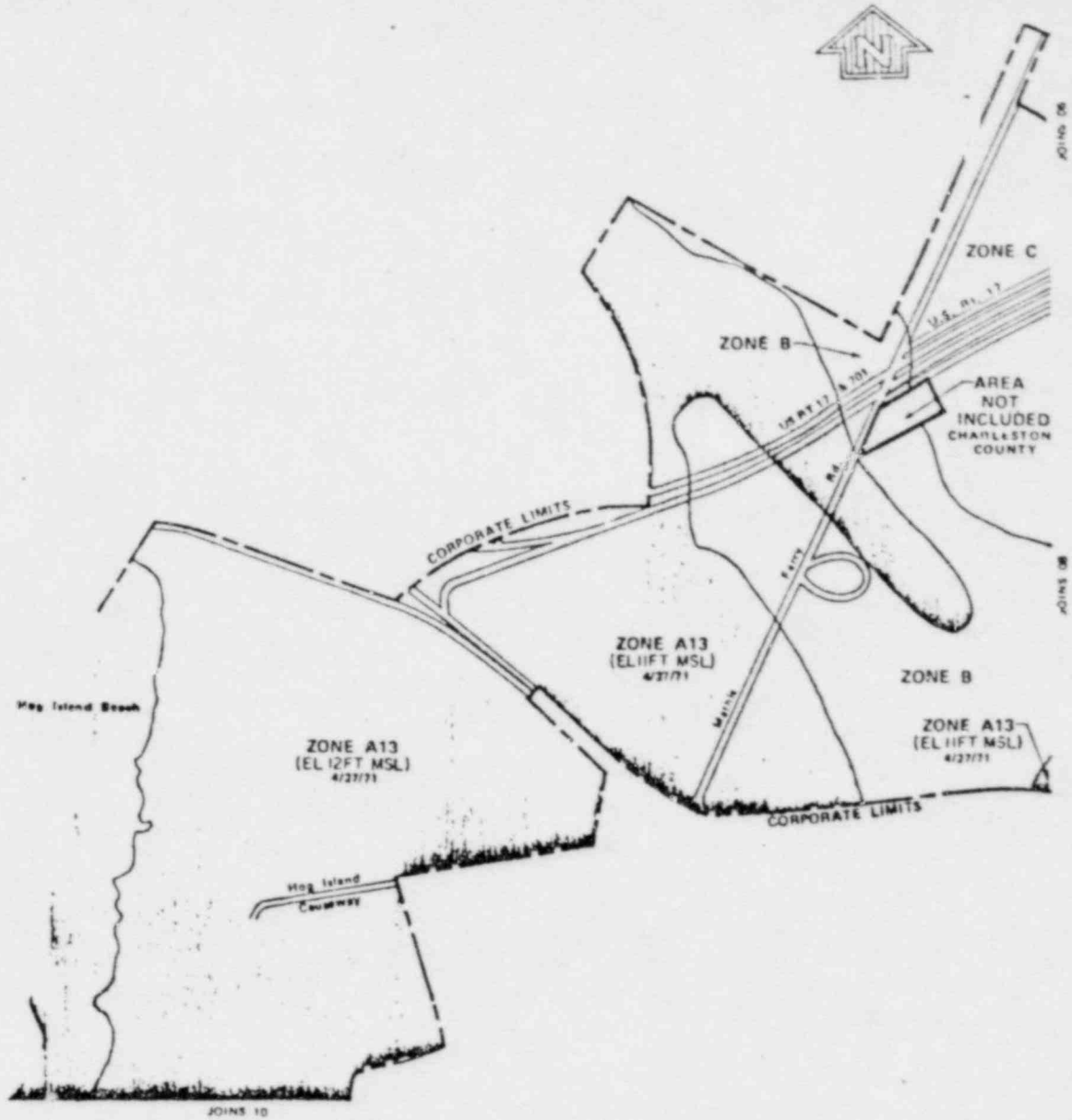
MAP REVISED SEPTEMBER 3, 1974 TO REFLECT CURVILINEAR FLOOD BOUNDARY AND TO ADD SFHA.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

FLOOD HAZARD BOUNDARY MAP H -01-13
FLOOD INSURANCE RATE MAP I -01-13

MAP INDEX
TOWN OF MOUNT PLEASANT, SC
(CHARLESTON CO.)

COMMUNITY NO. 455417B

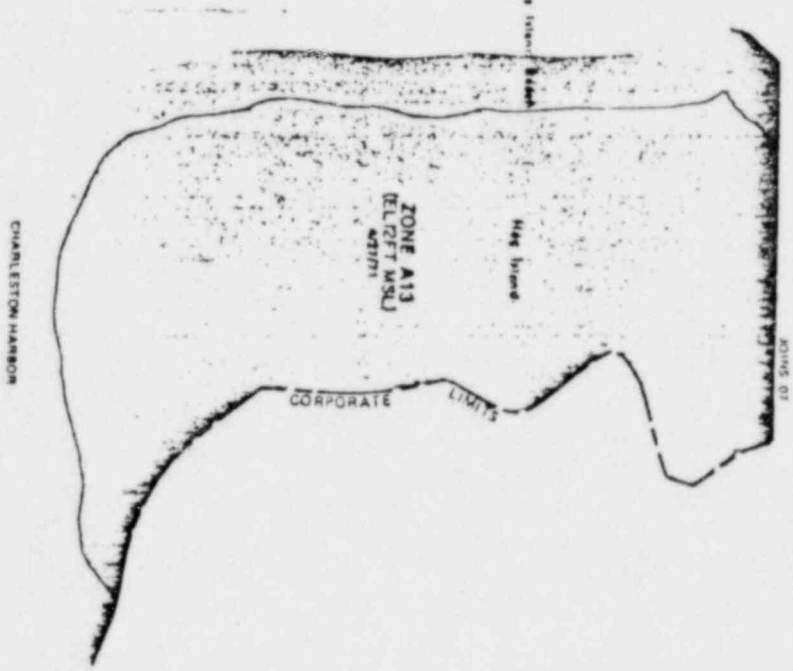


FLOOD HAZARD BOUNDARY MAP
FLOOD INSURANCE RATE MAP
CITY OF MOUNT PLEASANT
CHARLESTON COUNTY, S.C.

APPROXIMATE SCALE
0 500 1000 2000 3000 4000 FEET

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

H&I-07



DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
Federal Insurance Administration

TOWN OF
MOUNT PLEASANT, SC
(CHARLESTON CO.)

APPROXIMATE SCALE
800 0 800 1200 1600 FEET

FLOOD HAZARD BOUNDARY MAP H -10
FLOOD INSURANCE RATE MAP I -10

MAP REVISED
SEPTEMBER 3, 1976

I, FRANK K. SLEIGHT, Deputy Attorney General of S.C.

representing Patriot's Point Development Authority,

(hereinafter the "Owner") do hereby certify that:

1. I have examined the title to the site or sites, rights-of-way, easements [illegible] project for which being indicated on: *(check one)*

☐ The description furnished in Part One of this certificate; or

☑ The survey/site plan (strike out one) dated _____ and approved by EDA.

2. By examination of the official ownership records, or an abstract thereof, of the property described herein for the period commencing the year 1985 and ending Nov. 28, 1979 [illegible] that the Owner has

a. Acquired fee simple title to the following property:*

See Attachments "B", "C", "D" & "E" hereto.

b. Obtained valid option(s) to purchase, or contract of sale for, the following property by fee simple:*

3. Where easements or rights-of-way are involved and title to such have not actually been acquired, I hereby certify that I have also examined the official ownership records, or an abstract thereof, for the purpose of determining the correctness of: *(Check one or both as appropriate)* See Attachment "A"

☐ Where such property has been conveyed to the Owner, the name(s) of the grantor(s) of such property or properties.

☐ Where the Owner has obtained option(s) to acquire such property, the name(s) of the record Owner(s) thereof.

Such properties as are required by the project and are not otherwise covered by this paragraph have been or can be acquired by condemnation. This is to further certify that I have examined the instruments creating the aforesaid easements or rights-of-way and it is my opinion that said instruments are valid as to form and substance for the purposes intended.

4. The extent of said title examination is sufficient for the purpose of establishing the validity of the title to said properties and for the purpose of determining outstanding restrictions, liens, encumbrances, and ownership interests pertaining thereto.

5. Based upon said title examination, I am of the opinion that title to the aforementioned property is good and merchantable and free and clear of all encumbrances except for:*

Certain obligations of Patriot's Point Development Authority to

Attachment "A"

S. C. ELECTRIC & GAS CO.
P. O. Box 760
Charleston, S. C.

Book 107 Page 312

1.50

State of South Carolina,
County of

Personally appeared before me
and made oath that he saw the within named
sign, seal and
as his act and deed deliver the within
for the uses and purposes therein mentioned, and that he with
the presence of each other, witnessed the due execution thereof.

Sworn to before me this
day of A. D. 19

Notary Public for S. C.

STATE OF SOUTH CAROLINA,
Charleston County.

Personally appeared before me A. H. McCain
and made oath that he saw the within named Patriots Point Development Authority
by the hand of J. E. Guerry, Jr., Sec., C.T. Mauro, Member; Charles F. Byott, Chairman; A.C. Crouch, Vice-Chairman sign, affix the
corporate seal, and as the act and deed of said corporation deliver the within written instrument for the uses and purposes therein
mentioned, and that he with John D. Libs, witnessed the execution thereof and
subscribed their names as witnesses thereto.

Sworn to and subscribed before me, this 19th.
day of May A. D. 1975
(L. S.)

Notary Public for S. C.

State of South Carolina,
County of

I, , do hereby certify
unto all whom it may concern that , the wife of the within named
did this day appear before me, and, upon being privately and
separately examined by me, did declare that she does freely, voluntarily and without any compulsion, dread or fear of any person or
persons whomsoever, renounce, release and forever relinquish unto the within named
her term and estate, all her interest and estate, and also all her right and claim of dower, in or to all and singular the premises
within mentioned and released.

Given under my hand and seal this
day of A. D. 19

Notary Public for S. C.

Recorded
Page
in Book
Pauline J. Hogan
Auditor Charleston County

Line: MT. PLEASANT DISTRIBUTION 23 KV
County: Charleston
RIGHT OF WAY GRANT
(Parcelate Point)

PATRIOTS POINT DEVELOPMENT AUTHORITY

TO

South Carolina Electric & Gas Company

Dated: Day 19 , 19 75

Recorded in the Clerk's Office of the County
of
South Carolina, on the
day of
at
and recorded in the
for said County in Page

Filed, Indexed and Recorded
June 30 19 75 11:40
Book 3107 Page 312
Register of Mesne Conveyance
Charleston County, S. C.

INDENTURE, made this 16th, day of May, 19 75

by and between Patriots Point Development Authority of the City of Charleston, County of Charleston and State of South Carolina (hereinafter called Grantors), and the SOUTH CAROLINA ELECTRIC & GAS COMPANY, a South Carolina corporation, having its principal office in Columbia, South Carolina (hereinafter called Grantee).

WITNESSETH

That, in consideration of the sum of One Dollar ($1.00) received from Grantee, Grantors, owning a tract or development known as PATRIOTS POINT DEVELOPMENT AUTHORITY situate in the County of Charleston, State of South Carolina, shown on a certain plat or various plats filed or to be filed in the office of the Clerk of said County and generally described as A tract of land in Charleston County known as Patriots Point Development Authority-Patriots Point Naval Museum. Said tract of land containing approximately 130 acres, more or less and being bounded as follows: North by Mercantile-Safe Deposit Trust Company & Marjorie A. Leland Etal; South by Charleston Harbor; East by Hugh E. Smith Etal and on the West by Cooper River. The width of the right of way shall be 10 feet on either side of all overhead lines and 6 feet on either side of all underground lines. Grantor agrees to keep area immediately adjacent to transformer pads free of any encumbrances which might interfere with operation and maintenance of installations placed thereon with a 15-foot clearance in front of transformer doors.

The Grantor hereby grants and conveys to Grantee, its successors and assigns, the right, privilege and authority, from time to time, to enter upon, construct, extend, inspect, operate, replace, relocate, repair and perpetually maintain upon, over, along, across, through and under any and all property lines as indicated on the plat referred to above, and upon, over, along, across, through and under any and all streets, alleys, roads, or other public ways or places of said development now existing or hereafter laid out, various pole lines with such wires, cross arms, guy wires, push brace underground cables, conduit, transformer pads and other usual fixtures and appurtenances as may from time to time be or become convenient to the construction of its lines or that of municipal, public, or private systems for communication of intelligence, together with the right of ingress, egress, and access to and from such right of ways across and upon lands of Grantor as may be necessary or convenient for the purposes connected herewith.

Together with the right, from time to time, to install guy wires upon lots in said development near the lot lines, to overhang lots with conductors, crossarms and service wires, with the right from time to time to trim, cut or remove trees, underbrush and other obstructions that are over, under, or through a strip of land extending See Above feet on either side of the center of wires, cables, or conduits, provided, however, any damage to the property of Grantors (other than that caused by trimming, cutting or removing) caused by Grantee in maintaining or repairing said lines, shall be borne by Grantee, provided further, however, that Grantors agree for themselves, their successors and assigns, not to build or allow any structure to be placed on the premises in such a manner that any part thereof will exist within the above specified number of feet of any wire strung on the said lines, and in case such structure is built, then the Grantor, or such successor and assigns as may be in possession and control of the premises at the time, will promptly remove the same upon demand of the Grantee herein.

Grantee's rights shall be subject to the lien of the mortgage indenture dated January 1, 1945 and supplements thereto entered into between Grantee and Central Hanover Bank and Trust Company (now Manufacturers Hanover Trust Company) which mortgage indenture is recorded in the office of the R.M.C. or Clerk of Court in the County and State aforesaid.

The words "Grantors" and "Grantee" shall include their heirs, executors, administrators, successors and assigns, as the case may be.

IN WITNESS WHEREOF, Grantors have caused this indenture to be duly executed the day and year first above written.

WITNESS:

PATRIOTS POINT DEVELOPMENT AUTHORITY:

By: (SEAL)
Secretary

(SEAL)
Member

(SEAL)
Chairman

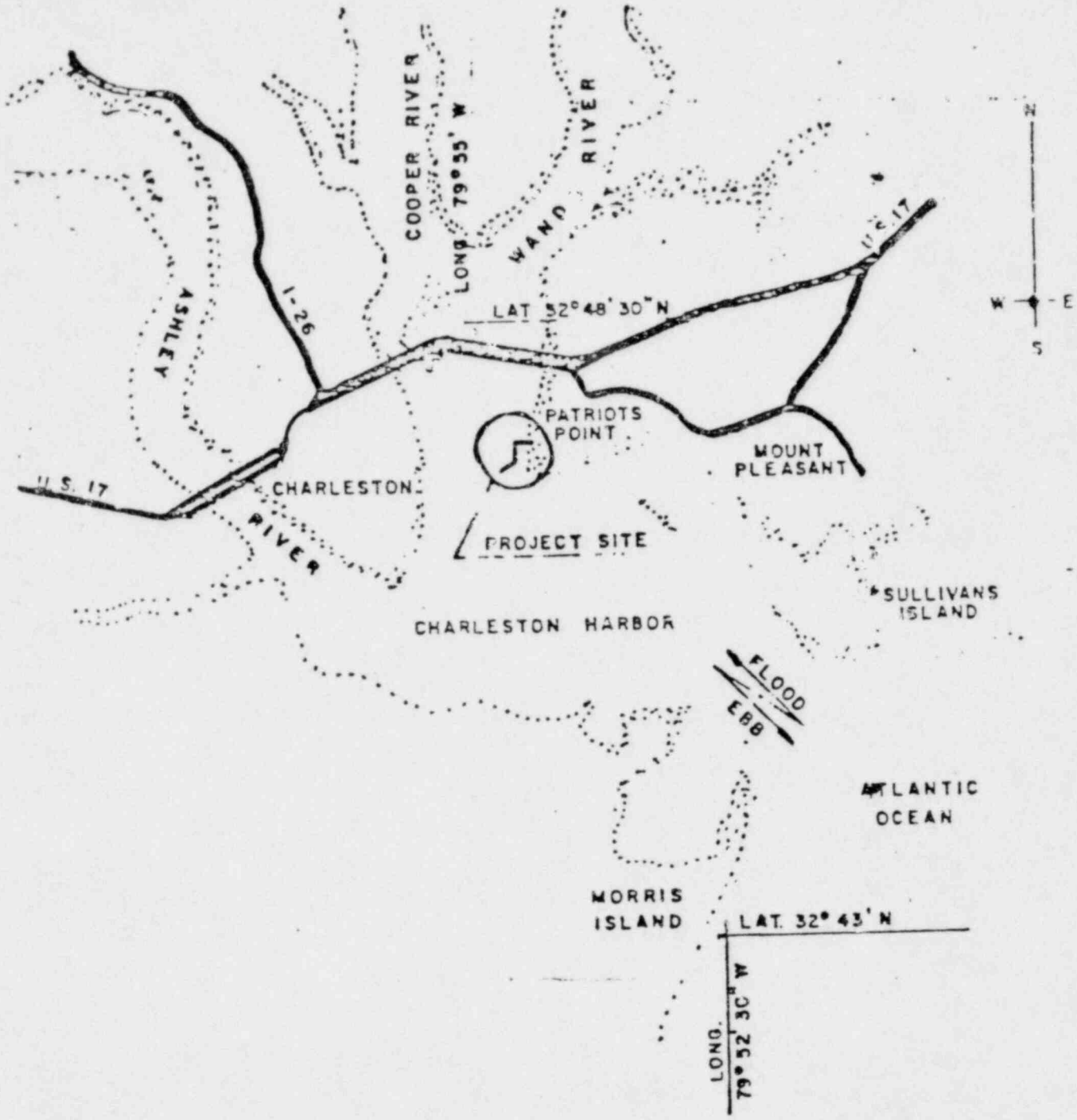
(SEAL)
Vice-Chairman

RW-5-E-DC-7-68

ADDITION TO PATRIOTS POINT BERTHING FACILITY

MT. PLEASANT, SOUTH CAROLINA

CUMMINGS & McCRADY, INC.
CHARLESTON, S.C.



VICINITY MAP

8000 0 8000

SCALE IN FEET

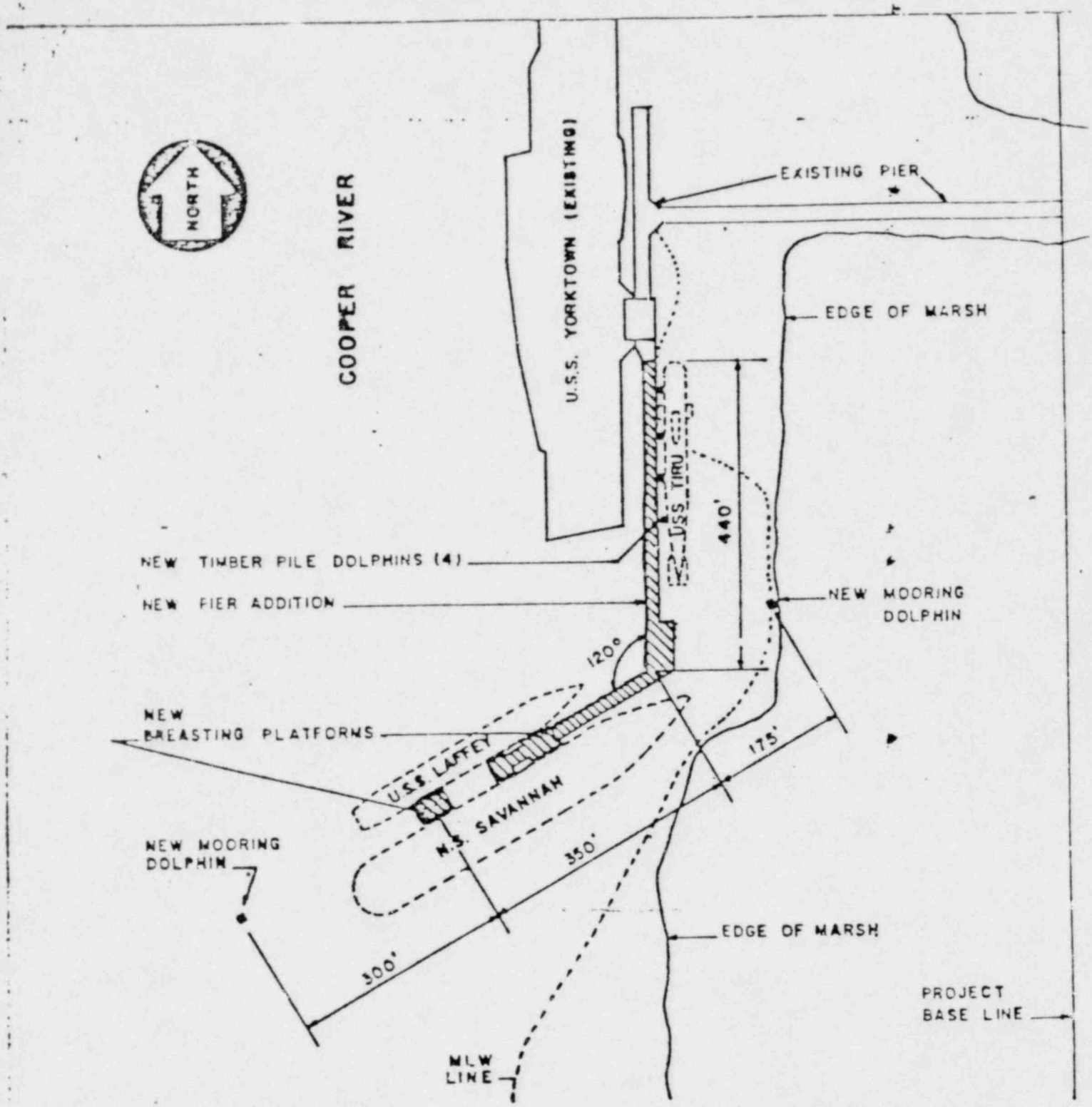
PROPOSED ADDITION TO PATRIOTS POINT BERTHING FACILITY

IN COOPER RIVER, COUNTY OF CHARLESTO
STATE OF SOUTH CAROLINA
APPLICATION BY: PATRIOTS POINT DEVELOPMENT AUTHO

SHEET 1 OF 5

DATE: 8-30-

75-3 251



PLAN

200 0 200

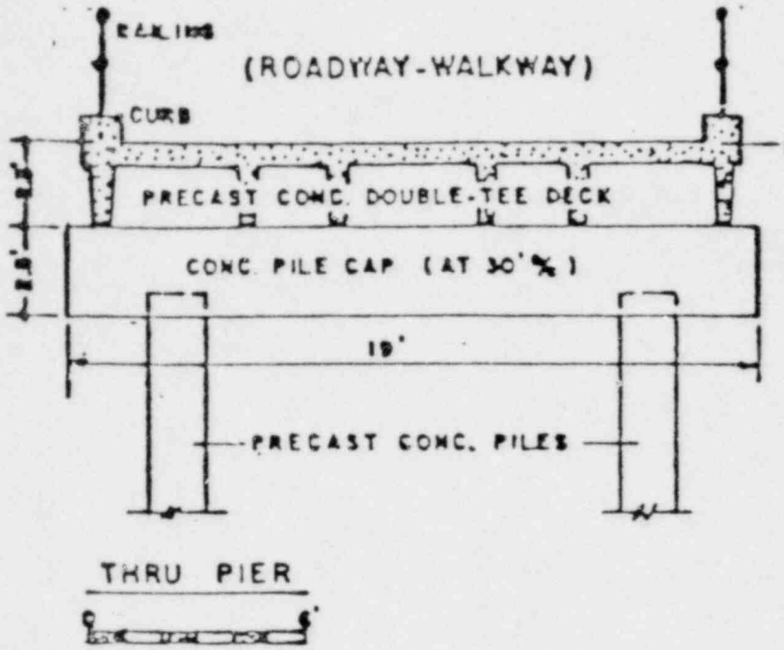
SCALE IN FEET

PROPOSED ADDITION TO PATRIOTS POINT BERTHING FACILITY

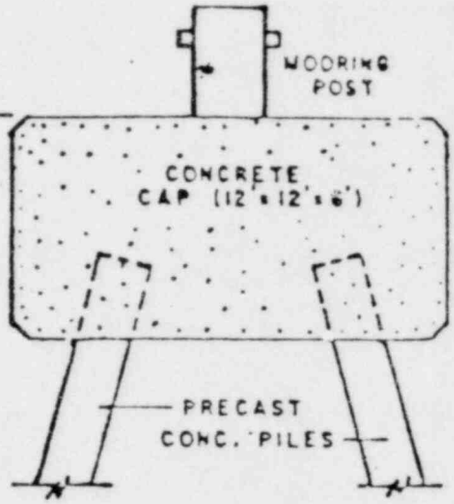
IN COOPER RIVER, COUNTY OF CHARLESTO
STATE OF SOUTH CAROLINA
APPLICATION BY: PATRIOTS POINT DEVELOPMENT AUTHOR

SHEET 2 OF 5

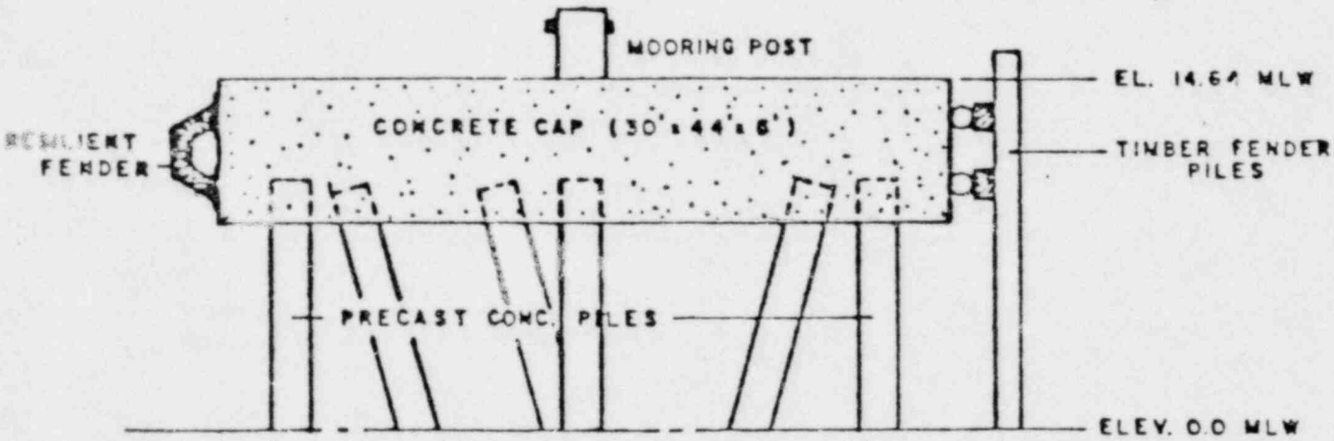
DATE: 8-30-7



THRU PIER



THRU MOORING DOLPHIN



THRU BREASTING DOLPHIN

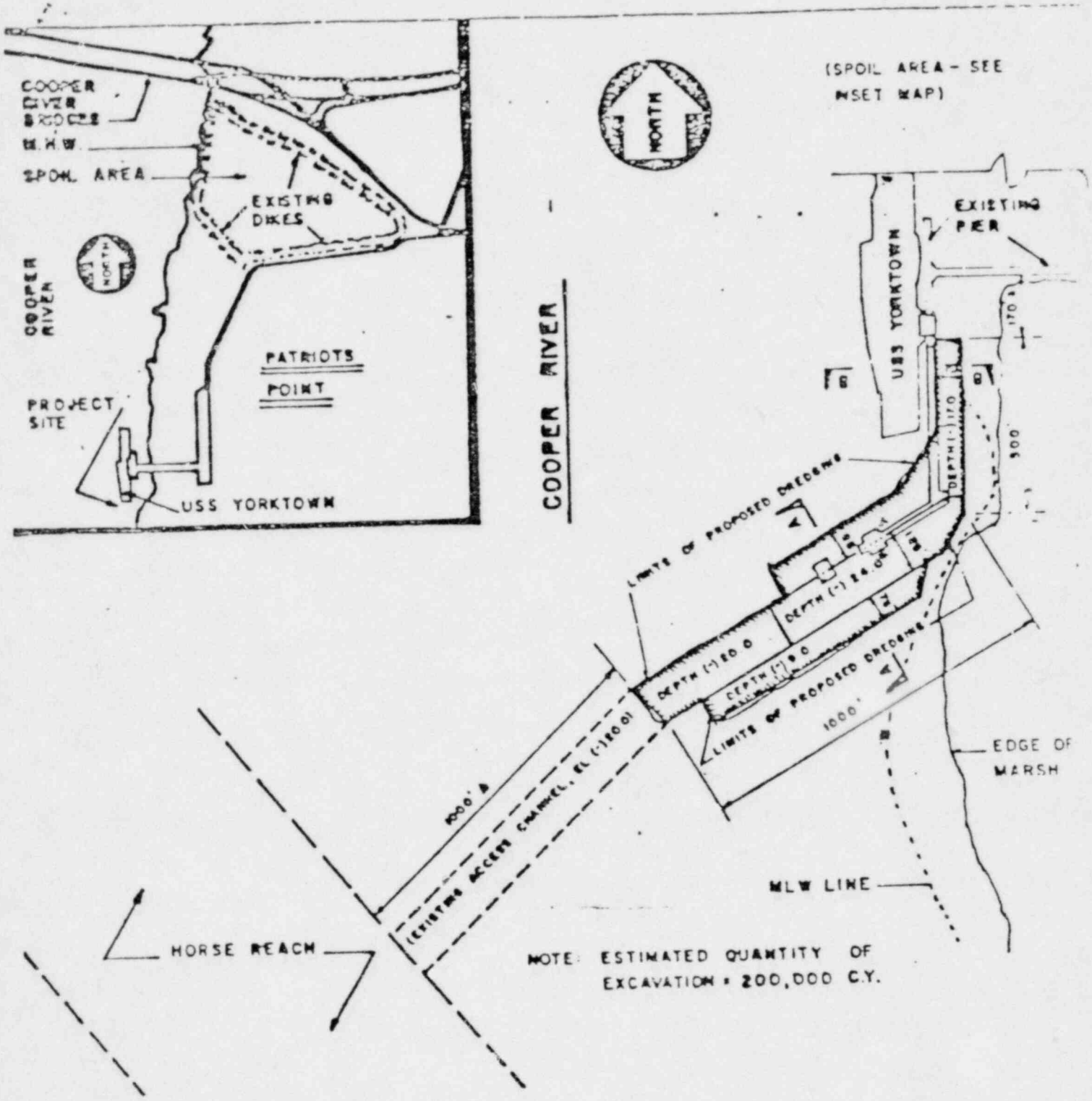
TYPICAL CROSS-SECTIONS OF STRUCTURES

PROPOSED ADDITION TO PATRIOTS POINT BERTHING FACILITY

IN COOPER RIVER, COUNTY OF CHARLESTON
STATE OF SOUTH CAROLINA
APPLICATION BY: PATRIOTS POINT DEVELOPMENT AUTHOR

SHEET 3 OF 8 DATE: 8-30-

79-3H 251



DREDGING PLAN

DATUM: MEAN LOW WATER

400 0 400

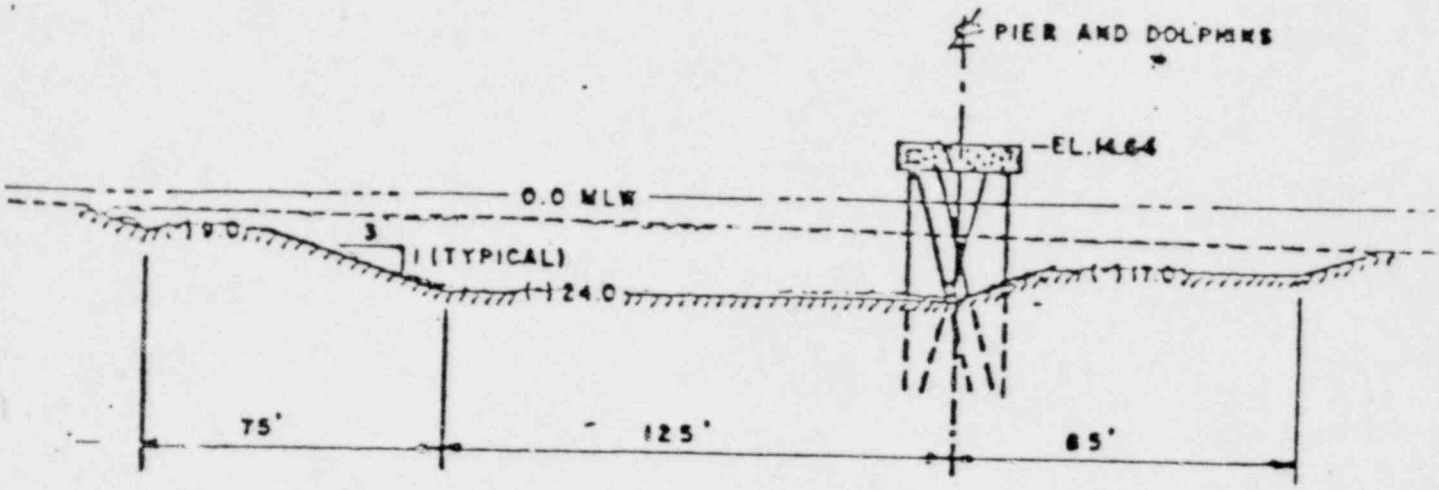
SCALE IN FEET

PROPOSED ADDITION TO PATRIOT POINT BERTHING FACILITY

IN COOPER RIVER, COUNTY OF CHARLE
STATE OF SOUTH CAROLINA
APPLICATION BY: PATRIOTS POINT DEVELOPMENT AUT

SHEET 4 OF 8 DATE 8-

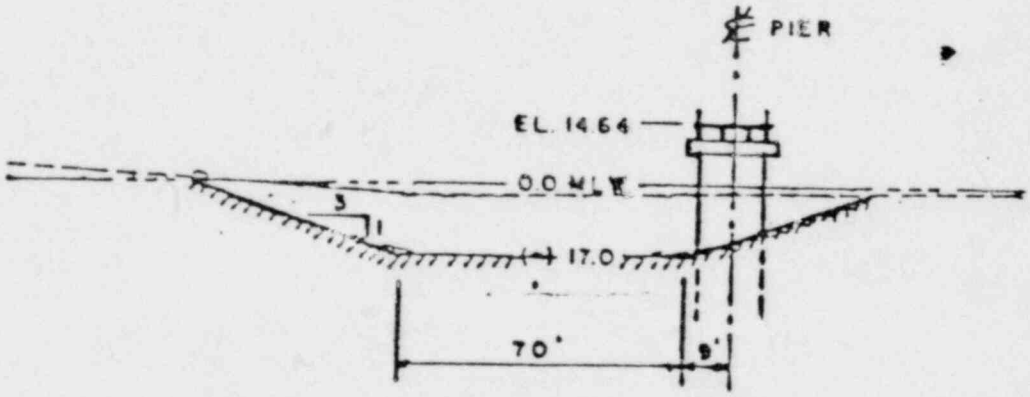
79-3H 251



SECTION A-A

50 0 50

SCALE IN FEET



SECTION B-B

50 0 50

SCALE IN FEET

LEGEND:

EXISTING BOTTOM

DREDGED BOTTOM

PROPOSED ADDITION TO PATRIOTS POINT BERTHING FACILITY

IN COOPER RIVER, COUNTY OF CHARLEST(
STATE OF SOUTH CAROLINA
APPLICATION BY: PATRIOTS POINT DEVELOPMENT AUTHORI

SHEET 8 OF 8 DATE: 8-30-

79-31 257

ADDITION TO PATRIOTS
POINT BERTHING FACILITY
CHARLESTON, SOUTH CAROLINA

OUTLINE SPECIFICATIONS:

SECTION 1. DREDGING

The work under this section will include hydraulic dredging and disposal of excavated materials. Excavated materials shall be pumped to an existing (approved) land fill area.

SECTION 2. PRECAST, PRESTRESSED CONCRETE PILING.

The work under this section will include precast prestressed concrete piling, complete. Piles shall be standard, square precast, prestressed concrete piles of sizes, length and number as required. Each pile shall be driven full length to the required cut-off elevation. Piles shall be driven with an approved air, steam, or diesel powered hammer.

SECTION 3. WOOD PILING AND TIMBERS.

This section will include treated wood piling and timbers.

SECTION 4. CAST-IN-PLACE CONCRETE.

The work under this section will include all labor, materials, equipment, and services necessary for all plain and reinforced cast-in-place concrete work.

SECTION 5. PRECAST, PRESTRESSED CONCRETE CHANNEL SLABS.

The work included in this section consists of furnishing all plant, labor, materials, tools and equipment and of performing all work necessary for the proper and complete fabrication, transportation, and erection of precast, prestressed concrete channel slabs.

SECTION 6 RESILIENT FENDERS

The work under this section will include resilient fender system, complete. Fenders will be fabricated from specially formulated butyl.

SECTION 7. METAL WORK.

The work under this section will include all metal work (railings, bolts, chains, etc.), complete.

SECTION 8. MECHANICAL.

The work under this section includes furnishing and installing a forced sewer line, a fresh water line, valves and other appurtenances. All work shall be complete and finished in all details, ready for operation. All labor, tools, equipment and other items required to properly execute this work shall be provided.

SECTION 9. ELECTRICAL.

The work covered by this section of the specifications consists in furnishing all labor, equipment, supplied and materials, and in performing all operations necessary for the installation of complete wiring systems, raceways, wiring electrical equipment in accordance with this section of the specifications and the accompanying drawings.

All work shall be done in accordance with the requirements of the latest edition of the National Electrical Code; the National Safety Act and Public Laws, and all local codes having jurisdiction.

Preliminary Environmental Assessment
Patriots Point Development Authority
Mt. Pleasant

I. PROJECT DESCRIPTION

The purpose of this project is to provide berthing space and refurbishing for the N.S. Savannah, U.S.S. Laffey, and U.S.S. Clamagore. The following specifically outlines the public works facilities involved in this project.

A. Extension of the present pier approximately 705 feet to provide additional berthing space. Two mooring - breasting platforms will be located on the extended pier, one mooring dolphin will be located in the harbor and one mooring dolphin will be located on land. Materials to be used in this pier extension include precast, pre-stressed concrete piling, wood piling and timbers, cast-in-place concrete, precast, pre-stressed concrete, channel slabs, resilient fenders and metal work (nailings, bolts; chains).

B. Dredging will be required to provide an access channel from an existing access channel to the berthing facility and to provide adequate anchorage depth for the permanent mooring of the new vessels. Dredging will be done hydraulically and the excavated material pumped through a floating pipeline to an existing approved landfill spoil area. The spoil area is located approximately 3500 feet north of the project site. An estimated 200,000 cubic yards of dredged material will be deposited at the landfill spoil area. Since the vessels will permanently moored, maintenance dredging will not be required.

C. The mechanical work includes furnishing and installing a forced sewer line, a fresh water line, valves and other appurtenances.

D. The electrical work includes the installation of complete wiring systems, raceways, electrical equipment to provide pier lighting and distribution system to the four ships.

While the Patriots Point Development Authority owns over 450 acres, the land used in this particular will be minimal. Approximately 45 square feet on land will be used to situate the mooring dolphin. The area in Charleston Harbor used to exter the pier and moor the ships comprises approximately 2.65 acres.

II. BENEFICIARIES

This project is intended to provide for increased tourism to the Charleston area, and thusly, serve to provide for increased employment in the area. All businesses and citizens of the area will be beneficiaries. At present no primary beneficiaries have been identified, though it is envisioned that the restaurant/lounge area and the staterooms of the N.S. Savannah will be leased to a private vendor for operation.

Enclosure 8

Air emmissions, solid wastes and wastewater effluent generated by the project and beneficiaries will be of a domestic quantity and quality and are considered minimal. Wastewater effluent and solid waste are presently disposed of by the Town of Mount Pleasant and the system is adequate to meet any increase. The Town of Mount Pleasant is in compliance with environmental regulations concerning wastewater and solid waste disposal.

III. DESCRIPTION OF PROJECT AREA

The project site is located on an 450 acre tract owned by the Patriots Point Development Authority. The accompanying maps give a detailed description of the location of the project.

The land surrounding the tract is predominantly residential with scattered commercial uses along U.S. Highway 17.

The project site is located in a Zone A13 floodplain as defined by the U.S. Department of Housing and Development. Other sensitive areas include the use of Charleston Harbor and a small area of adjoining wetlands.

This project has received the necessary permits from the U.S. Army Corps of Engineers and the S.C. Coastal Council for activities in navigable waters and wetlands (attached).

The tract of land which comprises Patriots Point is presently in use as the berthing site for the U.S.S. Yorktown, a golf course is under construction and permits and funding for a marina have been approved.

This project will not encroach upon surrounding land. Since the project area is a former landfill spoil site, no historical or archeological remains are present.

The following is a description of the nature of the effect on the resource for each box checked on Form ED-101A.

8. Recreational - Beneficial effect on recreational interests from the increased scope of the Patriots Point Museum.

9. Transportation - A slight increased traffic count of approximately 75 vehicles per day. Traffic patterns will not be altered nor will additional traffic control devices be necessary.

17. Shoreline - Project will exchange the view of a natural shoreline for the view of historic ships.

20. Estuary - The project will have a minor adverse effect of localized loss of plankton, invertegrates, and primary productivity, minor loss of lavual and juvenile fish near dredge and disposal areas. There will be a minor beneficial effect on fish feeding near dredges and minor improvement of invertebrate habitat near pilings.

22. Flood plain - It is necessary to locate the project in a floodplain in order to berth the ships, but no affect on the floodplain is anticipated.

28. Air Quality - There will be a temporary increase of suspended particulate matter during construction. There will be an additional marginal amount of pollution from vehicles of approximately 75 per day during fifth year of operation.

29. Solid Waste Management - There will be a minor increase of domestic type solid waste. The Town of Mount Pleasant handles solid waste collection and the facility is adequate to absorb this minor addition.

30. Energy Supplies - There would be a minor increase on energy consumption.

IV. ENVIRONMENTAL IMPACT

1) Air Quality:

The South Carolina Board of Health and Environmental Control has the overall responsibility for maintaining air quality in the State. Together with the Bureau of Air Quality Control and the Berkeley, Charleston, Dorchester Council of Governments, they promulgate ambient air quality standards, collect and discriminate air quality information, and review proposed developments for their air quality impacts.

The following table constitutes the ambient air quality standards for the State of South Carolina (Source: DHEC)

POLLUTANT	MEASURING INTERVAL	MICROGRAM/M^3* **
Sulfur Dioxide	3 hours	1300 ****
	24 hours	365 ****
	annual	80
Suspended Particulates	24 hours	250
	annual G.M. ***	60
Carbon Monoxide	1 hour	25000
	8 hours	10000
Photochemical Oxidant	1 hour	160
Non-methane Hydrocarbons	3 hours	160
Gaseous Fluorides	12 hours	3.7

POLLUTANT	MEASURING INTERVAL	MICROGRAM/M^3* **
(as HF)	24 hours	2.9
	1 week	1.6
	1 month	0.8
Oxides of Nitrogen	annual	100

* Arithmetic Average except in case of suspended particulates.
** at 25 C and 760 mm Hg.
*** Geometric Mean
**** Not to be exceeded more than once per year.

The closest air quality sampling site to Patriots Point is the Mount Pleasant Fire Station. The following table constitutes data received from the site from January 1, 1978 to December 1, 1979. (Source: DHEC)

	Particulates	Sulfer Dioxide	Nitrogen Dioxide
# of Readings	59	59	57
Highest Value	90.0	25.0	43.0
2nd Highest	35.0	16.0	34.0
Lowest Value	9.0	2.5	2.5
# (150) (365)	0	0	0
Arithmetic Mean		4.9	15.8
Geometric Mean	37.132	3.727	12.932
Sed Std Deviat.	1.533	1.948	2.020

The five year compilation of suspended particulate geometric means vg/m^3 for the Mount Pleasant site is as follows:

1978	1977	1976	1975	1974
37	36	36	31	43

(Source: DHEC)

Presently all of the Ambient Air Quality Standards for South Carolina are being attained and maintained in the East Cooper area of Charleston County. In evaluating the Patriots Point project, any potential air quality impact is likely to come from transportation used to visit the facility. Estimates made by the accounting firm of Laventhol and Horwath indicate that an average of 290 additional visitors per day during the fifth year of operation will visit Patriots Point due to the addition of the N.S. Savannah. While no estimates are available on the number of visitors per vehicle, it is evident that the increase in vehicular pollutants will be negligible. The Charleston Area Transportation

estimates that 21,800 vehicles per day (average daily traffic) presently travel along U.S. Highway 17 which borders Patriots Point.

The revised State Implementation Plan for air quality indicates that Charleston and Berkeley Counties are non-attainment areas for oxidants. Studies performed during 1978 and 1979 indicate that the standard for oxidants shall be attained by 1982 through the regulation of stationary sources and the Federal Emission Standards for automobiles. No traffic control measures should be necessary for the two-county area to reach attainment by 1982.

2) Water Quality:

The waters of Charleston Harbor and the Cooper River at the site are classified SC by the S.C. Department of Health and Environmental Control, meaning that the waters are not suitable for swimming or gathering of shellfish for marketing, but are suitable for crabbing or commercial fishing. Water quality generally improves toward the outer harbor because of dilution from tidal movement. Substantial improvement in water quality of the lower Cooper River has been accomplished in recent years. All domestic sewage discharged into the lower Cooper River is now subject to primary treatment and chlorination. All of the wastes from the Town of Mount Pleasant receive at least secondary treatment. The West Virginia Pulp and Paper Company discharges approximately 45 million gallons per day into the Cooper River about five miles from Charleston. The waste is subject to secondary treatment.

Two recent and comprehensive studies have examined in detail the quality of water in the Cooper River and the Wando River which are the primary contributors to the outward flow past the site. These studies are references in the Bibliography as Numbers 2 and 3, and should be consulted for additional analysis. Substantial information is published by the S.C. Water Resources Commission to study effects on rediversion of the Cooper River. The other is a study by the S.C. Water Resources Commission on the Wando River.

During these studies, water quality samples were taken under the Grace Memorial Bridge at both the Town Creek span (western span) and the Cooper River span. The results of these readings, taken by the S.C. Department of Health and Environmental Control from February 1973 to April 1974 are as follows:

	Town Creek Range	Mean	Cooper-River Range	Mean
T-NO3 mg/l-N	0.00-1.22	0.03	0.00-0.26	0.09
0-P04 mg/l	0.00-0.33	0.09	0.00-0.26	0.12
Fe ug/l	100-1246	412.1	50-652	230.5
Pb ug/l	200	200	200	200
Hg ug/l	0.10-4.15	1.15	0.10-1.65	0.65
Temp. Degrees C.	7-28	19.2	7-27	19.3
Final DO	5.4-7.6	6.6	4.45-7.3	6.23
BOD 5 mg/l	0.7-3.7	1.98	0.9-3.95	1.83
pH (lab)	6.5-7.3	6.95	6.6-7.7	7.2
Tot. Alk.	26.27	45	36-90	60
Fecal Col/100 ml	10-4000	852	10-2760	385

There are significant salt water resources adjacent to the site which include the Cooper River, Charleston Harbor, small tidal creeks and tidal marsh. These areas are subject to currents determined by the tidal flow from Charleston Harbor.

The primary effluent generated from this project is domestic waste. This effluent will receive secondary treatment by the Town of Mount Pleasant with all S.C. Department of Health and Environmental Control and Environmental Protection Agency requirements being met.

There will be no use of subsurface water and it will not be affected by this project. Fresh water to Patriots Point is provided by the Town of Mount Pleasant and the additional demand on this source will be minor compared to the available water supply.

The dredging needed to berth the ships will be confined to the winter months in order to have the least possible affect on marine life and water quality.

There will be no increase in storm water runoff caused by this project. There will be temporary and localized increases in turbidity and level of dissolved materials caused by dredging and disposal of spoil for temporary channel.

3) Solid Waste Management:

The primary solid waste generated by this project will be small amounts of domestic waste. Solid waste is collected by the Town of Mount Pleasant and deposited at the Charleston County Solid Waste Reduction Center. This facility is adequate to absorb this minor addition in an efficient manner. Recycling will not be used.

4) Land Use:

Patriots Point is located on a former dredge disposal area. This land was previously used for no other purpose and this project will have a positive effect upon land use. Surrounding land uses will not be affected by this project.

A large portion of the Patriots Point tract is in the Town of Mount Pleasant. This land is zoned (PD) Planned Development by the local Zoning Ordinance which allows for all uses outlined in the Patriots Point master plan. This project is also consistant with the Mount Pleasant land use plan.

5) Transportation:

Patriots Point is served by U.S. 17 Business (Coleman Boulevard) on the north edge of the property, and to a lesser extent by the southern end of Mathis Ferry Road which connects U.S. 17 Business with U.S. 17 By-Pass. Both of these roads are four lane highways. The development itself is served by a two lane access road which intersects Coleman Boulevard and Mathis Ferry Road. A traffic control device has been installed at this point, which provides for orderly entrance and exit from Patriots Point. As discussed in Section IV-1, a minor increase in traffic will result from the project. No new traffic patterns will develop and existing roads will safely accommodate this increase. Additional traffic control devices will not be needed.

6) Natural Environment:

The natural environment of the project site consists of the waters of Charleston Harbor and marshes associated with the harbor. Marine life and wildlife in the harbor will not be permanently altered in any way. Activities undertaken during the placement of the pier and dredging will have negligible environmental effect.

7) Human Population:

No relocation will be involved.

8) Construction:

The architect-engineer for the project has had extensive experience in placement of structures in wetlands and marsh with minimum environmental effect. The project has been designed to take into account other items such as drainage, tides, etc. Should problems of an objectional nature arise, mitigating measures will be taken. Permits from the U.S. Army Corps of Engineers and the S.C. Coastal Council give further assurance that the proper steps are taken to minimize any negative environmental impact.

9) Noise:

There will be a temporary minor increase of noise due to normal construction activities. This noise will not affect the surrounding land uses.

10) Other Factors:

(A) Radiation - The N.S. Savannah was the world's first nuclear - power merchant ship. All components of the nuclear reactor are shielded by 2,000 tons of lead, polyethylene, concrete and timber. This shielding provided a duel purpose of controlling radiation and damage to the reactor in the unlikely event of a collision at sea.

At present, what remains of nuclear material/equipment aboard the N.S. Savannah are under the jurisdiction of the Nuclear Regulatory Commission and the S.C. Department of Health and Environmental Control (DHEC). A recent information sheet provided by DHEC states, there will be no danger to the residents of the area because the NS SAVANNAH no longer contains a nuclear reactor. All of the nuclear fuel elements (fuel rods) have been removed from the reactor vessel. The control rods have been disconnected and made inoperable. The empty reactor vessel has been closed with the head in place and all the coolant pumps have been blanked off. In addition, the primary and secondary water has been removed, the demineralizer tanks have been removed from the ship as well. The NS SAVANNAH no longer has a nuclear power plant.

There will be no radioactive discharges from the NS SAVANNAH since all systems related to the reactor have either been removed, flushed and blanked-off, or have been made inoperable.

Visitors to the NS SAVANNAH will not be exposed to any more radiation than the general public residing in the City of Charleston gets from natural radiation. As a matter of fact, radiation levels on "B" and "C" Decks are less than the outside background readings because the steel hull of the ship provides an excellent shield and prevents the penetration of cosmic radiation.

There are some areas on the ship in which the doors have "Caution-Radiation Area" signs attached. These radiation caution signs are on the entrances into the Controlled Areas of the ship. They will not be open to the public. These Controlled Areas were defined when the NS SAVANNAH was placed in commission and will remain as Controlled Areas during the remainder of the ship's career. Although the radiation levels inside these compartments and spaces is very low, there are some systems, piping, equipment and components that still have residual radioactivity and should be sealed off from visitors.

(B) Flood Prone Location - This project is located in the waters directly off an A-13 flood zone, as defined by HUD. The project is not subject to the effects normally associated with flood area projects. As the ships will be floating, they will remain moored to the pier, with proper precautionary measures taken, in the event of a flood. The pier itself, will be affected very little, since it is primarily made of concrete and timber. The elevation of the top pier deck is 14.04 feet above the mean low water line.

Aesthetic Considerations - The additional ships would offer a balancing effect of exchange of view of a natural site for a view of historic ships. There would be a beneficial effect of enchancement of opportunity to view outward toward the harbor and other sights by increasing availability of site for public usage.

V. COMPLIANCE WITH ADVISORY COUNCIL ON HISTORIC PRESERVATION'S PROCEDURES

The National Register of Historic Places has been reviewed and no properties on Patriots Point or the area of the project site are listed. The Historic Preservation Planner for the Berkeley-Charleston-Dorchester Council of Governments has reviewed the site history and determined there are no properties eligible to be listed. The results of the State Historic Preservation Officer are attached. There will be a beneficial effect of addition to the Naval and Maritime Museum and addition of historic ships.

VI. COMPLIANCE WITH DIRECTIVE 17.02-7

The EPA List of Violating Facilities has been reviewed and the facility is not listed.

VII. COMPLIANCE WITH THE WILD AND SCENIC RIVERS ACT

The project will be located in Charleston Harbor. The section of Charleston Harbor affected is formed by the meeting of the Cooper and Wando Rivers, approximately one mile north of the project site. Conversations with officials from the regional Heritage Conservation and Recreation Service indicate that neither the Cooper, Wando, or Charleston Harbor is included, or a designated potential addition, to the Wild and Scenic Rivers Act.

VIII. COMPLIANCE WITH THE ENDANGERED SPECIES ACT

The habitat for most land based wildlife is rather poor near the site, but certain animals such as rabbits, squirrels, mice and rats can be found. Information provided by the S.C. Wildlife and Marine Resources Department indicate that there are no endangered or threatened species in the project area or its immediate vicinity.

IX. ENERGY

The primary energy used by this project will be electricity. Electricity is provided by South Carolina Electric and Gas and the amount needed for this project is a very minor portion of the remaining capacities.

X. PUBLIC REACTION

Public reaction has basically been favorable. Two objections have been made to the project and these comments are included in the A-95 review.

No public hearing or A-95 Conference has been requested and this statement certifies that a hearing has not been held.

The community is well aware of this project as it has been in the planning stages for about five years. There have been numerous newspaper and local television reports. Public notices have been sent out in compliance with Federal flood plain, U.S. Army Corps of Engineers and S.C. Coastal Council regulations.

XI. ALTERNATIVES TO THE PROPOSED PROJECT

1. Alternatives locations - No other suitable locations could be identified.

2. Alternatives designs - The original design of the pier was to construct a separate pier to moor the N.S. Savannah. This original design was discarded due to the fact that marshland had to be disrupted. The present design of extending the present pier is considered to be the most environmentally and economically sound design. Designs that would locate the pier north or further south have been considered.

3. Alternative projects having similar benefits - Due to the unique nature of the N.S. Savannah, no alternative projects having similar benefits could be identified.

XII. MITIGATION MEASURES

In dredging for the access channel silt curtains will be installed for containment of silt within the dredge area. The disposal area associated with the project will be pumped into the early springs of 1980 and 1981. Upon completion of the project, the area containing the dredged spoil will be covered by a layer of sand sufficient to prevent fissuring.

XIII. PERMITS

Permits for this project are required by the S.C. Coastal Council and the U.S. Army Corps of Engineers. These permits have been received and are attached.

South Carolina Department of Archives and History
1430 Senate Street
Columbia, S. C.

P. O. Box 11,669
Capitol Station 29211
803 — 758-5816

Ms. Patricia M. Dixon
Economic Development Assistant
Room 572, Strom Thurmond Federal Building
1835 Assembly Street
Columbia, S.C. 29201

January 28, 1980

Re: Proposed Addition to Patriots
Berthing Facility, Charleston County

Dear Ms. Dixon:

This is written in response to your letter of January 8, 1980, concerning the proposed extension of the pier and mooring facilities, and dredging of access channel at Patriots Point.

National Register properties located around Charleston Harbor include the Mount Pleasant Historic District, the Charleston Historic District, and Castle Pinckney. Since the project is spatially removed from these properties and consists of the extension of an existing pier and dredging to extend an existing access channel, we consider this project to have no effect on the above National Register properties.

The Federal procedures for the protection of historic properties (36CFR800) require that the Federal agency official in charge of a federally funded or licensed project consult with the appropriate State Historic Preservation Officer. The procedures do not relieve the Federal agency official of the final responsibility for reaching an opinion of his own as to whether or not historic values have been adequately taken into account in allowing the project to proceed. The opinion of the State Historic Preservation Officer is not definitive, either by law or by established Federal procedure. In reaching a conclusion of his own, the Federal agency official may well wish to consult other experts.

Sincerely,

Charles E. Lee
State Historic Preservation Officer

CEL/dkn
cc: Mr. David Chamberlain
Berkeley-Charleston-Dorchester
Council of Governments

Enclosure 9

ORGANIZATION CHART

Patriots Point Development Authority

Naval and Maritime Museum

Patriots Point Development Authority

Members
Charles F. Hyatt, Chairman

H.L. Tilghman
J.F. Floyd
A.C. Clarkson
J.P. Griffi[illegible]
J.M. Hiers
L.H. Keyserling
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Legal [illegible]ounsel

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Executive Director

J.E. Guerry, Jr.

Deputy Director

C.G. Waldrop

Radiological Assistance

S.C. Dept. of Health & Env. Control
Bureau of Radiological Health

Heyward G. Shealy, Chief
Virgil R. Autry, Div. Director

Medical University of South Carolina
Dr. Jimmy O. Fenn

[illegible]neering & Maintenance

William Condon

Director, Administrative Support

H. Kiser, Jr.

Chief Security Officer

D. Meadows

Contract Security

Doris Fanning
AAA Security Services
through 12/31/81

Safety and Security Officer

R.E. Wirth
J.D. Parham
R.P. Harding