

EXECUTIVE SUMMARY

INTRODUCTION

This draft Environmental Impact Statement (EIS) has been developed by the U.S. Army Corps of Engineers (USACE), Charleston District, in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA) (42 USC 4321-4347), 40 CFR Parts 1500 - 1508, and 33 CFR Parts 230 and 325. This document has been prepared to disclose and assess potential environmental consequences of Federal actions requested by the South Carolina State Ports Authority (SCSPA) related to the proposed development of a marine cargo terminal complex on Daniel Island, Berkeley County, Charleston, South Carolina. The USACE is the lead agency for this EIS. Cooperating Federal agencies include the U.S. Coast Guard (USCG), the U.S. Environmental Protection Agency (USEPA), the U.S. Forest Service (USFS), and the Surface Transportation Board (STB). The EIS is presented in four volumes. Volumes 1 and 2 present the basic EIS documentation. Volumes 3 and 4 contain technical appendices. The remainder of this Executive Summary includes the following:

- A description of the Proposed Project,
- A description of the requested Federal agency actions,
- A description of the need for and purpose of the Proposed Project,
- A description of the alternatives considered in the draft EIS,
- A description of the projected environmental impacts of the Proposed Project, and
- A description of future steps in the EIS process.

THE PROPOSED PROJECT

The SCSPA has simultaneously submitted applications for Federal permits and approvals that would allow it to develop a marine cargo terminal facility at the south end of Daniel Island in Charleston, SC. Copies of the permit applications are included in [Appendix 1.3.1-1](#), [Appendix 1.3.3-1](#), and [Appendix 1.3.4-1](#) of the EIS. The locations of the proposed terminal facilities, access roadway, and access rail line are shown on [Figure S-1](#). A schematic layout for the proposed terminal facilities is provided on [Figure S-2](#). Significant components of the proposed facilities are discussed in the following paragraphs.

Proposed Marine Cargo Terminal Facilities

Wharves and Cranes

The Proposed Project includes the development of 7,000 feet of wharf structure on the Cooper River on an alignment west of the existing shoreline of Daniel Island as shown on [Figure S-2](#). The Proposed Project also includes the development of 5,000 feet of wharf structure on the Wando River in a location that follows approximately the alignment of the existing southeast shoreline of Daniel Island as shown on [Figure S-2](#). Development of the adjoining berths would require the dredging and disposal of approximately 3 million cubic yards of material. Both of the wharf structures would be developed with multiple container cranes of sufficient size to service the anticipated future fleet of container vessels expected to call at the Port of

Charleston. The SCSPA indicates that the future vessel fleet would likely require a minimum crane outreach of 200 feet.

Cargo Processing and Support Facilities

The SCSPA proposes to develop approximately 660 acres of lighted paved area for container processing and storage behind the wharves on the Wando River and Cooper River as indicated on [Figure S-2](#). In addition, the SCSPA proposes to develop approximately 182 acres of paved area and buildings for support operations and facilities as shown in the same figure.

Intermodal Rail Yard

The SCSPA proposes to develop an intermodal rail yard on approximately 30 acres of property near the center of the southern portion of Daniel Island as shown on [Figure S-2](#). This rail yard would be connected to the existing EC&B rail line by a new line described below.

Stormwater Management Facilities

The proposed SCSPA terminal complex would include approximately 65 acres of stormwater treatment ponds in three sites as shown on [Figure S-2](#). One pond would be located in a park at the south end of Daniel Island and would discharge to the Cooper River. A second pond would be located in the northeast corner of the SCSPA property and would discharge to the Wando River. The third pond would be located in the northwest portion of the SCSPA property and would discharge to the Cooper River.

Park Facilities

As shown in [Figure S-2](#), the proposed SCSPA terminal complex includes the development of a 55-acre public park facility at the south end of Daniel Island. In accordance with agreements between the SCSPA and the City of Charleston included in the rezoning approval for the proposed terminal, this park would be developed once 50 percent of the proposed terminal facilities are constructed. Additional open space and buffer areas would be provided in the vicinity of the stormwater treatment ponds in the northeast and northwest corners of the SCSPA property. However, discussions regarding this park are not included as part of this document.

Proposed and Preferred Navigation Improvements

Development of the proposed marine cargo terminal facilities would require navigation improvements to the Cooper and Wando rivers in areas adjacent to the proposed terminal facilities. These improvements would include both Federal and non-Federal improvements. The preferred Federal and the proposed non-Federal navigation improvements are described in the following subsections.

Federal Navigation Improvements

As part of the ongoing deepening and widening project, the Corps of Engineers is reviewing improvements to navigation in the Wando River Reach of Charleston Harbor, which would provide navigation access to

the proposed marine cargo terminal facilities on the Wando River. If the proposed marine cargo terminal facilities are permitted, the preferred alternative alignment for the modified channel would include dredging a new channel between the northwest side of the existing Wando Reach Channel and the proposed SCSPA berth. If the access channel to the proposed berths is found to be in the Federal interest, those findings will be documented in a General Design Memorandum.

The preferred configuration of the new channel is shown on [Figure S-2](#). The new channel would be 1,470 feet wide and would have an authorized depth of 45 feet mean low water (mlw). The preferred improvements would require approximately 8 million cubic yards of dredging.

Two alternative channel configurations that have been evaluated in the Corps' feasibility study are discussed in [Section 3.7.1](#) of the EIS.

Non-Federal Navigation Improvements

The proposed SCSPA terminals would include a berthing area approximately 5,000 feet long and 150 feet wide adjacent to proposed wharves on the Wando River and a berthing area approximately 7,000 feet long and 125 feet wide adjacent to the proposed wharves on the Cooper River. The proposed berthing areas, shown on [Figure S-2](#), would have depth of 55 feet mlw and would require approximately 3 million cubic yards of dredging.

Dredged Material Disposal Plan

The SCSPA has proposed that all material dredged for both the berthing areas and the channel improvements be placed in the Charleston Ocean Dredged Material Disposal Site, which is located southeast of Morris Island in approximately 30 to 50 feet of water. The designated site has an area of 11 square miles, the center of which is approximately 7 miles from shore. Dredged material would be placed within a 2-mile-square area inside the larger designated disposal site. The location of the proposed disposal area is shown on [Figure S-3](#). Disposal operations would be carried out in accordance with the approved Charleston ODMDS Management Plan.

Proposed Roadway Access

The proposed SCSPA project would include the construction of 12,700 feet (2.4 miles) of a four-lane access road from the proposed terminal facilities to the existing I-526 interchange at Clements Ferry Road. The location of the proposed roadway is shown on [Figure S-4](#). The proposed roadway would extend along the western side of the SCSPA property on Daniel Island and would cross Beresford Creek on a fixed bridge. The roadway would continue as an elevated structure south along the SCSPA property to the terminal site. The designs of the proposed roadway and roadway bridge are described in [Section 3.3.5.3](#) of the EIS.

Proposed Rail Access

General Description

The proposed SCSPA project includes the construction of approximately 68,000 (13 miles) of new rail track extending from the intermodal rail yard which is a component of the proposed terminal complex to the existing East Cooper and Berkeley Railroad (EC&B) rail line now serving the Amoco Chemical and Nucor Steel facilities. The EC&B Railroad is operated by the State Public Utilities Commission. The location of the proposed rail line right-of-way and the 500-foot study corridor used in the EIS is shown on [Figure S-1](#) and [Figure S-4](#). The proposed rail line would extend along the west side of the SCSPA property on Daniel Island and would cross Beresford Creek on a vertical lift bridge.

The proposed rail line would continue north on Thomas Island as shown on [Figure S-1](#). The proposed location of the rail line between the proposed terminal site and I-526 is depicted on [Figure S-4](#). The rail line would cross under I-526 on a trestle as that highway rises to cross Clouter Creek. The proposed location would provide a minimum of 32.5 feet vertical clearance over the proposed track. From this point, the proposed rail would extend northeastward between Clements Ferry Road and Clouter Creek, crossing Cainhoy Road between Cainhoy Village and the Amoco Chemical Facility. The proposed line would then follow the north side of Cainhoy Road until joining the existing EC&B rail line close to the point where the existing line crosses Cainhoy Road.

The proposed line would be located in study corridor segments 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, and 5I as shown on [Figure S-1](#). These segment designations are used in the discussion of alternative rail alignments in [Section 3.6](#) of the EIS. The designs of the proposed rail track and rail bridge are described in [Section 3.3.5.4](#) of the EIS.

Proposed Rail Line on Property Within the Francis Marion National Forest

Approximately 9,600 feet of the proposed rail line would be on property which is now part of the Francis Marion National Forest. The proposed right-of-way would include approximately 22 acres of National Forest property. The SCSPA is requesting an exchange of properties to allow construction of the line. Additional information regarding the design and construction of the rail line within the National Forest is provided in [Section 3.3.5.4](#), [Section 3.3.6.4](#), and in [Appendix 1.3.4-1](#) of the EIS.

REQUESTED AGENCY ACTIONS

United States Army Corps of Engineers

The SCSPA has submitted an application to the USACE, Charleston District, for permits under Section 10 of the Rivers and Harbors Act; Section 404 of the Clean Water Act; and Section 103 of the Marine Protection, Research and Sanctuaries Act to conduct the following activities:

- Placement of fill in the waters of the United States and construction of facilities in the navigable waters of the United States for the development of a marine cargo terminal on Daniel Island, including facilities in the Cooper River and the Wando River;

- Dredging of berthing areas adjacent to the proposed terminal facilities to a depth of 45 feet mlw in the Cooper River and the Wando River;
- Transportation of dredged material removed from the berthing areas to the Charleston Ocean Dredged Material Disposal Site for disposal;
- Placement of fill in the waters of the United States for the construction of a four-lane access road from I-526 on the north side of Beresford Creek to the proposed marine cargo terminal site; and
- Placement of fill in the waters of the United States for the construction of an access rail track from the proposed marine cargo terminal site to the existing EC&B rail line north of Cainhoy Road.

A copy of the permit application is included in [Appendix 1.3.1-1](#) of the EIS.

In addition, as local sponsor of the Charleston Harbor Project, the SCSPA has requested the USACE to study improvements to the Wando Reach of the Federal channels to provide navigation access to the proposed terminal facilities on Daniel Island fronting on the Wando River. As part of the feasibility study and environmental assessment of deepening Charleston Harbor to a depth of 45 feet mlw, the USACE previously studied improvements to the Cooper River channels that would provide navigation access to the proposed SCSPA terminals fronting the Cooper River.

United States Environmental Protection Agency

The USEPA has not been requested to issue any specific authorizations for the development of the Proposed Project. However, the USEPA has important review responsibilities under both the Clean Water Act and the Marine Protection, Research and Sanctuaries Act (the USEPA must concur that material proposed for ocean disposal complies with the criteria established by 40 CFR Part 227) in regard to USACE authorizations for the disposal of dredged and fill materials. To ensure the full involvement of the USEPA in the development of the EIS, it has been requested to participate as a cooperating agency.

United States Coast Guard

The SCSPA has submitted an application to the U.S. Coast Guard for the construction of a roadway bridge and a rail bridge over Beresford Creek at the north end of its Daniel Island property to provide access to the proposed terminal site from the existing I-526 highway and from the existing EC&B rail line. A copy of the permit application is included in [Appendix 1.3.3-1](#).

United States Forest Service

The proposed Forest Service action is to allow the construction of approximately 1.8 miles of a new rail line on approximately 22 acres of National Forest land on the Francis Marion National Forest in Berkeley County, SC. This new rail line would be constructed by the SCSPA. Lands within the rail corridor and any other minor remnant National Forest lands will be exchanged with SCSPA for other lands not currently in National Forest ownership. Minor remnant lands are those lands which the Forest Service could no longer effectively manage between the rail corridor and an existing road or other feature. The proposed rail corridor would

be 100 feet wide and would contain a single track, an unpaved access road, and necessary drainage structures. A more complete description of the proposed rail construction within National Forest boundaries is included in the copy of the SCSPA request to the Forest Service for an exchange of properties which is contained in [Appendix 1.3.4-1](#). In addition, the Francis Marion National Forest may acquire lands as described in the EIS as mitigation for environmental impacts for the overall project. The Revised Francis Marion National Forest Land and Resource Management Plan will be amended for all new lands added to the Francis Marion National Forest via the rail corridor exchange or the mitigation of overall project impacts. This amendment will allocate new lands into management areas and determine whether or not the lands are suitable for timber production.

It is important to note that the Forest Service does not have authority over any private lands, or any lands not included in the National Forest System. Forest service participation in this Proposed Project is limited to assessing impacts of the proposed railroad line to National Forest System lands, within the Francis Marion National Forest.

Surface Transportation Board

The SCSPA, or an appropriate alternative development entity, will seek approval from the Surface Transportation Board (STB) to construct and operate a new approximately 13-mile rail line from the proposed Daniel Island marine cargo terminal to the existing EC&B line which now serves the Amoco and Nucor facilities. It is proposed that the STB will rely on the EIS analysis during its deliberations.

THE NEED FOR AND PURPOSE OF THE PROPOSED PROJECT

The State Ports Authority Statement of Need for Additional Facilities

The Need for Additional Terminal Capacity

Existing and Projected Cargo Throughput Demand

The total container throughput for the Port of Charleston for fiscal year 1997 was 1.15 million twenty-foot equivalent units (TEU). A TEU is the volume of a single 20-foot-long container. For the period of 1992 to 1997, the annual cargo throughput for the port as measured in TEUs has increased 7.4 percent per year.

The SCSPA has recently completed a study of its future cargo opportunities and facilities needs titled "South Carolina State Ports Authority Business Plan and Project Feasibility Study" (commonly called the "Mercer Report"). The Mercer Report projects that unless constrained by facility limitations the annual container throughput for the Port of Charleston can be expected to increase by 5.8 percent per year through the year 2020, reaching a level of approximately 4 million TEUs per year (Mteu/yr) at that time. This projection is illustrated in [Figure S-5](#).

The Mercer Report projection is based primarily on increasing levels of international trade and industrial activity through the world and assumes only that the existing shipping lines using the Port of Charleston will continue. This projection does not include the impacts of attracting additional shipping lines to the port which would add to these projections. A copy of key findings of the Mercer Report is provided in [Appendix 2.1.1-1](#).

Changes in World Vessel Fleet

The largest container ships commonly calling at the Port of Charleston are “fourth generation” vessels. These vessels are approximately 965 feet long and 105 feet wide, with drafts up to 38 feet. These vessels are known as “Panamax” vessels because they are the largest vessels that can transit the Panama Canal. Such vessels carry up to 4,250 TEU. Ships now being added to the world container fleet are dominated by “Post-Panamax” vessels capable of carrying 5,000 to 8,000 TEU. These ships may be up to 1,140 feet in length and 156 feet in width, with drafts up to 46 feet. The first call of one of these new vessels at the Port of Charleston occurred in July 1998, which began post-Panamax service to Charleston.

It is the position of the SCSPA that in order to be competitive its new terminal facilities must include terminals capable of accommodating these new larger vessels. Discussions with Charleston Harbor pilots indicate that vessels longer than 900 feet in length cannot safely and efficiently transit the channel turns around Drum Island without time-consuming and costly maneuvering assistance such as the use of tractor tugs. This significantly increases costs for such vessels if calling at terminals upriver of Drum Island on the Cooper River channels.

Location, Land Area, and Access Requirements of New Container Terminals

The transition to larger container vessels and increased cargo throughput significantly influences the physical requirements for new terminal facilities. Future berths will need to have a minimum length of 1,000 feet each, must have a depth sufficient to accommodate the new generation of container vessels, and must have efficient access to the ocean via channels deep enough to accommodate the new generation of container vessels. Based on SCSPA planning criteria, each berth will require an average of 100 gross acres of backland, 50 acres for container storage and processing, and 50 acres for support operations and infrastructure (such as stormwater management and utilities). This backland must be located directly behind and continuously adjoining the berth for efficient cargo operations.

Specific Need for Additional Terminals

Based on the cargo throughput and throughput capacity projections illustrated in [Figure S-5](#), the SCSPA has identified the following needs for new container facilities as the basis for the Proposed Project:

- 2,000 feet of new berth and 200 acres of new backland by 2004,
- An additional 1,000 feet of berth and 100 acres of backland by 2007,
- An additional 2,000 feet of berth and 200 acres of backland by 2011,
- An additional 3,000 feet of berth and 300 acres of backland by 2015, and
- An additional 4,000 feet of berth and 400 acres of backland by 2018.

The new terminals must include locations which will cost-effectively accommodate the new generation of container ships. Further, all new terminals must have efficient roadway linkage to the interstate highway system, must include an intermodal rail yard, and must have efficient linkage to the existing mainline rail

system. The anticipated increases in throughput capacity provided by the Proposed Project are indicated in [Figure S-5](#).

The Need for Land Transportation Facilities

Roadway Access

The primary operational goal for roadway access to a container terminal is quick and efficient access to the interstate highway system, and to intermodal rail yards. Factors considered in achieving this goal include the distance of the terminal site from the interstate system and minimizing the mixing of the high volume of terminal truck traffic with local traffic on local roads for reasons of safety and maintaining vehicle speed. This goal is best met by locating the terminal close to an interstate highway with a grade-separated, limited access roadway. Each terminal unit (1,000-foot berth plus 100 acres total backland) is projected to generate approximately 2,400 vehicle trips per day based on current operations in Charleston. The twelve additional terminal units proposed by the SCSPA would be expected to generate a total of between 25,000 and 30,000 vehicle trips per day. If located in a single location, such a terminal complex will require at a minimum a four-lane access road in order to maintain traffic at an acceptable level of service.

Rail Access

The SCSPA, the Mercer Report, and a review of U.S. port development in recent years all indicate that efficient rail access is required for a modern terminal complex to be competitive. Such access must be capable of providing access from an on-dock or near-dock intermodal rail yard to multiple mainline systems in order to effectively serve a port's service area. As container volumes grow, especially with the concentration projected for the Daniel Island facility, direct rail access will be essential. At the levels of rail activity anticipated for the proposed terminal complex, a single track would be sufficient, except where a bypass area is needed.

The track grade must not exceed 0.5 percent over extended distances, with instantaneous grades not exceeding 1 percent. The maximum safe curvature for a track designed to accommodate an operating speed of 25 miles per hour is a curve with a radius of approximately 1,146 feet. In order to accommodate the current double-stack container trains as well as future larger loads, and to meet the safety requirements for passing under roadway bridges, the track must provide a vertical clearance of at least 32.5 feet and a horizontal clearance of at least 25 feet on each side of the track.

The Need for Ocean Disposal of Dredged Material

The SCSPA will need to dredge approximately 3 million cubic yards (mcy) of sediment for the development of berths at the proposed Daniel Island terminal facilities. The SCSPA has indicated that they need to dispose of this material at the Charleston Ocean Dredged Material Disposal Site (ODMDS) for the following reasons:

- The placement of this volume of sediment into existing confined upland disposal areas adjacent to Charleston Harbor would deplete limited capacity and decrease the time period before additional confined dredged material disposal areas must be developed for Charleston Harbor.

- The approved Federal dredging to deepen Charleston Harbor to a depth of 45 feet mhw includes disposal of the majority of dredged material at the Charleston ODMDS. The proposed Federal dredging of the Daniel Island Access Channel would likely also involve the use of the Charleston ODMDS for disposal. SCSA use of similar dredging equipment and the same disposal site for dredging of the berthing areas would significantly reduce public expenditures.

The Corps of Engineers Determination of Purpose and Need Pursuant to the Clean Water Act and the Marine Protection, Research and Sanctuaries Act

The Purpose of the State Ports Authority's Proposed Project

Under Section 404 of the Clean Water Act, as implemented through the Section 404(b)(1) Guidelines (40 CFR 230.10(10)), it is the responsibility of the USACE to identify the basic and overall purposes of a proposed project. The basic purpose is the fundamental, essential, or irreducible purpose of the proposed project and is used to determine whether the applicant's project is "water dependent" (40 CFR 230.10(a)(3)). The basic project purpose includes only the physical aspects of the project and does not include non-physical aspects, such as project viability.

The Corps of Engineers has developed the following statement of the purpose for the Proposed Project: *The purpose of the Proposed Project is to provide a marine cargo terminal with all necessary attendant features that meets the needs of the S. C. State Ports Authority for the reasonably foreseeable future.*

The Need for the State Ports Authority's Proposed Project

The need for a project is a public interest factor which is separate from the Corps' determination of overall project compliance with the Section 404(b)(1) Guidelines. The USACE's public interest review must balance the public and/or private need for a project against other factors of the public interest. After a review of the Mercer Report (see [Appendix 2.1.1-1](#)), it is the opinion of the USACE that the container traffic forecast for the Port of Charleston is within the limits of acceptable forecasting procedures. The projections of annual growth in containerized cargo for the Port of Charleston, at 5.8 percent, are considered to be conservative in light of the fact that the port had experienced a 10 percent annual growth rate from 1985 to 1996. The assumptions and methods used by Mercer are reasonable and do not overstate the need for the proposed expansion of port capacity.

The Purpose and Need for the Proposed Federal Channel Improvements

The existing Federal channel is on the opposite side of the Wando River, approximately 1,300 feet from the proposed berths. Thus, ships cannot reach the berths unless an access channel is constructed. The three alternatives described in [Section 3.7.1.1](#) of the EIS weigh the economic tradeoffs of construction costs and transportation costs. After designing a functional one-way channel, increasingly costly alternatives provide for two-way traffic and additional ship-turning capability. All benefits and costs are considered from a national economic perspective. The USACE will recommend the plan that maximizes the net contribution to national economic development, consistent with protecting the nation's environment, pursuant to national environmental statutes, applicable executive orders, and other Federal planning requirements.

ALTERNATIVES CONSIDERED

One of the most important components of the EIS process is the identification and evaluation of alternative methods to meet the purpose of and need for a Proposed Project or action. NEPA requires that in addition to the Proposed Project or Proposed Action, an EIS evaluate a No-Action Alternative and other reasonable actions which would meet the defined purpose and need.

The No-Action Alternative

For a project being reviewed under Section 404 of the Clean Water Act, there are two components of the No-Action Alternative that must be evaluated: the No-Build Alternative and the No-Permit Alternative.

The No-Build Alternative

The No-Build Alternative assumes that the Proposed Project is not constructed. It assumes that ongoing land uses and development trends not associated with the Proposed Project within the study area continue without the Proposed Project. This scenario is used to establish the baseline against which the projected impacts of the Proposed Project are compared.

The No-Permit Alternative

This scenario assumes that the proposed facilities are constructed so as to require no permits under the Clean Water Act for the dredging or filling of waters of the United States. The USACE has concluded that the purpose of the Proposed Project cannot be met at any location without Department of the Army authorization. Therefore, for the purposes of the EIS, it has been concluded that the No-Permit Alternative is equivalent to the No-Build Alternative, and that both will be evaluated as the No-Action Alternative.

The Process For Identifying and Evaluating Action Alternatives

Since the Proposed Project includes multiple interdependent components, it has been necessary to undertake the identification of reasonable alternatives to the Proposed Project for meeting the need for and purpose of the Proposed Project in a sequential manner. The first step in this process involved the identification of reasonable alternative locations for terminal development. The second step included the identification of reasonable alternative locations for providing road and rail access to the proposed terminal site and alternative terminal locations found to be reasonable. It is important to recognize that the selection of preferred surface access alternatives is secondary to the identification of a preferred terminal location. The range of reasonable alternatives for surface access is limited to those which would meet a need related to a defined terminal location and existing transportation facilities. The EIS considers one alternative road corridor location and 18 alternative rail corridor locations to be compared to those included in the Proposed Project.

The next step in the identification and evaluation of alternatives involved assessment of alternative facility designs for key components of the proposed terminal, road, and rail facilities. These analyses addressed factors such as the location and orientation of channel improvements, the location and orientation of berths

and wharves, the type of wharf construction to be used, the types of bridges to be used in crossing Beresford Creek, and the design of the proposed rail track in wetland areas. The final step in the identification and evaluation of alternatives involved assessment of alternative methods for constructing the proposed terminal, road, and rail facilities.

Terminal Location Alternatives

Identification of Preliminary Alternatives

The EIS process included the identification and assessment of 16 alternative locations for the development of the proposed cargo terminal facilities. This process included locations both inside and outside Charleston Harbor and is described in detail in [Section 3.5](#) of the EIS. The following discussion summarizes this process.

Existing Terminal Facilities in Charleston Harbor

The evaluation of alternative locations for the development of the proposed terminal facilities included the assessment of four existing terminals in Charleston Harbor operated by the SCSPA, the locations of which are shown on [Figure S-6](#). These terminals included:

- Union Pier Terminal,
- Columbus Street Terminal,
- North Charleston Terminal, and
- Wando Terminal.

Alternative New Terminal Locations in Other Estuaries

The assessment of alternative terminal locations included three estuarine locations outside of Charleston Harbor:

- Georgetown,
- Port Royal, and
- A site on the Savannah River.

The locations of these sites are indicated on [Figure S-7](#). The SCSPA operates existing facilities at two of these locations, Georgetown and Port Royal. There are no existing facilities at the Savannah River site.

Alternative New Single Terminal Locations in Charleston Harbor

Nine potential terminal locations within Charleston Harbor have been identified and assessed. Each site is described in the following paragraphs, and their locations are indicated on [Figure S-8](#). This assessment included the following locations:

- Daniel Island/Cooper River,
- Daniel Island/Wando River,
- Clouter Island,
- Clouter Creek,
- Drum Island,
- Thomas Island,
- Coal Tipple Site,
- Oil Terminals, and
- Charleston Naval Base.

Combinations of Alternative Terminal Locations

In addition to assessing individual potential terminal locations, four combinations of sites have been assessed. These combinations were assessed because it became clear that no single existing or new terminal location in Charleston Harbor was likely to meet the needs of the SCSPA for berth length and backland area. The four combinations of sites included:

- Daniel Island/Cooper River + Daniel Island/Wando River,
- Naval Base + Daniel Island/Cooper River + Columbus Street,
- Naval Base + Daniel Island/Wando River, and
- Daniel Island/Cooper River + Coal Tipple Site + Columbus Street.

Criteria Used to Identify Reasonable Alternative Terminal Locations

Eight key criteria were used in the preliminary evaluations to identify those locations which would offer a reasonable alternative for developing facilities that would meet the need for and purpose of the Proposed Project identified by the SCSPA. In guidance issued in the *Federal Register* (Vol. 46, No. 55, March 23, 1981), the Council on Environmental Quality (CEQ) has defined “reasonable alternatives” as including “those that are *practical or feasible* from the technical and economic standpoint and using common sense,...”, (emphasis added). The criteria used in this assessment included:

- Navigation Access,
- Dredging Requirements,
- Available Backland,
- Land Development Constraints,
- Road Access,
- Rail Access,
- Social Impacts, and
- Environmental Impacts.

Evaluation of Terminal Location Alternatives

Key Assumptions of the Analysis

The identification of the reasonable alternatives for terminal development locations to be assessed in the EIS was based on the following determinations:

- Expansion of existing SCSPA terminals to meet the projected cargo throughput and ship berthing needs is not feasible for any one of the existing terminals.
- Development of a major container terminal complex at Georgetown, Port Royal, the Savannah River, or at any greenfield site outside Charleston Harbor is not considered reasonable due to the lack of extensive supporting infrastructure (such as access to interstate highways), dredging requirements which far exceed that required in Charleston Harbor, and the costs associated with these types of issues.
- None of the single-site development alternatives would provide the berth length or container terminal backland needed by the SCSPA.
- The following alternative new terminal sites in the Charleston Harbor area would not provide reasonable and/or safe access for the largest new container ships: Naval Base, Clouter Creek Site, Daniel Island/Cooper River, Thomas Island Site, Clouter Island Site, Drum Island, Coal Tipple Site, Oil Terminal Site.
- The Drum Island site would not provide a reasonable opportunity for rail or road access;
- The Clouter Island site would result in the loss of valuable upland dredged material disposal capacity; and
- The development of a combination of terminals at the Daniel Island/Cooper River site, the Coal Tipple Site, and the Columbus Street Terminal would not provide adequate navigation access and berthing area for modern container vessels due to existing conditions in Town Creek and planned bridge improvements, would not provide sufficient terminal backland area to meet the needs of the SCSPA, and would require the filling of substantial areas of vegetated wetlands.

Reasonable Terminal Location Alternatives

Based on the application of the key assumptions in this analysis, the following three terminal locations have been identified as offering reasonable alternatives for meeting the need for and purpose of the Proposed Project expressed by the SCSPA:

- The Proposed Project (Daniel Island/Cooper River + Daniel Island/Wando River),
- Naval Base + Daniel Island/Cooper River + Columbus Street,
- Naval Base + Daniel Island/Wando River.

These three location alternatives have been examined in detail in the EIS. The potential environmental impacts of each are described in [Section 5](#) of the EIS, and they are compared in [Section 3.9](#) of the EIS.

Surface Access Location Alternatives

The road and rail location alternatives considered in the EIS are shown on [Figure S-9](#). The process by which these alternatives were identified is presented in detail in [Section 3.6](#) of the EIS. All of the listed alternatives have been fully evaluated in the EIS. The potential impacts of each are presented in [Section 5](#), and they are compared in [Section 3.9](#).

Naval Base

The EIS has examined two alternative corridors for providing road and rail access to a marine cargo terminal located at the south end of the base property. The two alternative corridors are shown in [Figure S-9](#). These corridors would include both a limited-access road connection to I-26 and a new rail connection to the existing railroad system.

Daniel Island

Roadway

The EIS has examined two alternative corridors for providing road access to terminal sites on Daniel Island:

- The SCSPA proposed route extending along the west side of Daniel Island and the lower portion of Thomas Island connecting to the I-526 interchange at Clements Ferry Road, and
- An alternative corridor which would extend from the center portion of the SCSPA property on Daniel Island northeastward across Daniel Island, connecting to a new I-526 interchange currently under construction just west of the Wando River.

Rail

Along with the rail route proposed by the SCSPA (DI-RR-5), 18 possible alternative rail corridors connecting the proposed Daniel Island terminal sites and the existing EC&B rail line have been evaluated in the EIS:

- Alternative DI-RR-3: segments 3A, 3B, 3C-1, 3C-2, 3D, and 3E;
- Alternative DI-RR-4: segments 5A, 4A, 4B, 4C, and 4D;
- Alternative DI-RR-6: segments 5A, 6A, 6B, 6C-1, and 6C-2;
- Alternative DI-RR-7: segments 5A, 5B, and 7;
- Alternative DI-RR-3/4: segments 3A, 3B, 3C-1, 3C-2, 3-4, 4C, and 4D;
- Alternative DI-RR-3/4/5: segments 3A, 3B, 3C-1, 3C-2, 3-4, 4C, 4-5, and 5I;
- Alternative DI-RR-3/5: segments 3A, 3B, 3-5A, 3-5B, 5G, 5H, and 5I;
- Alternative DI-RR-3/5/4: segments 3A, 3B, 3-5A, 3-5B, 5G, 5-4, and 4D;
- Alternative DI-RR-3/6: segments 3A, 3B, 3-5A, 3-6, 6C-1, and 6C-2;
- Alternative DI-RR-3/6B: segments 3A, 3B, 3C-1, 8, and 6C-2;
- Alternative DI-RR-4/3: segments 5A, 4A, 4-3, and 3E;
- Alternative DI-RR-4/5: segments 5A, 4A, 4B, 4-5, and 5I;

- Alternative DI-RR-5/3: segments 5A, 5B, 5C, 5-3, 3B, 3C-1, 3C-2, 3D, and 3E;
- Alternative DI-RR-5/3/4/5: segments 5A, 5B, 5C, 5-3, 3B, 3C-1, 3C-2, 3-4, 4-5, and 5I;
- Alternative DI-RR-5/3/5: segments 5A, 5B, 5C, 5-3, 3B, 3-5A, 3-5B, 5G, 5H, and 5I;
- Alternative DI-RR-5/3/6: segments 5A, 5B, 5C, 5-3, 3B, 3-5A, 3-6, 6C-1, and 6C-2;
- Alternative DI-RR-6/5: segments 5A, 6A, 5E, 5F, 5G, 5H, and 5I; and
- Alternative DI-RR-6/5/4: segments 5A, 6A, 5E, 5F, 5G, 5-4, and 4D.

Facility Design and Construction Alternatives

The EIS process has evaluated numerous design and construction alternatives for the proposed facilities. These analyses are presented in [Section 5.6](#) of the EIS and are described below.

Channel Modification Design Alternatives

Two alternative channel configurations have been studied by the USACE, Charleston District in addition to that described as part of the Proposed Project. These configurations are depicted on [Figure S-10](#).

Plan 1

This plan would involve a single 400-foot-wide channel immediately adjacent to the proposed 150-foot-wide berth along the Wando River shore of Daniel Island. Under this plan, the existing 400-foot channel along the east side of the Wando River would be abandoned and the new channel would serve both the existing Wando Terminal and the proposed terminal on the Wando River side of Daniel Island.

Plan 1A

This plan would involve a new 400-foot-wide one-way channel immediately adjacent to the proposed 150-foot-wide berth along the Wando River shore of Daniel Island. Under this plan, the existing channel on the east side of the Wando River would be maintained.

Dredged Material Disposal Alternatives

The Proposed Project calls for the disposal of all dredged material at the Charleston ODMDS. The alternative would be to dispose of some or all of the material at a confined upland site, most likely the Morris Island disposal area. A decision on which alternative which will be used, if the project is otherwise approved, will be made pursuant to the Marine Protection, Research and Sanctuaries Act and applicable regulations.

Wharf Design and Alignment Alternatives

Two alternative alignments for the proposed wharves on both the Cooper River and the Wando River have been identified and evaluated. These alternatives include alignments further out in each river and closer to shore. In addition, alternative wharf designs involving a pile-supported deck structure and a sheet-pile filled structure have been evaluated in the EIS.

Bridge Design and Construction Alternatives

Alternative possible designs for the proposed roadway and rail bridges over Beresford Creek have been identified and evaluated, as have similar alternatives for the crossing of Shipyard Creek required for one of the surface access location alternatives listed above. These alternatives have included fixed structures providing different vertical clearances, as well as two forms of moveable bridge - bascule and vertical lift.

Design and Construction Alternatives for Crossing Wetlands

Two alternatives to the strategy for crossing wetlands included in the surface access facility component of the Proposed Project have been evaluated in the EIS. These include crossings all wetlands on trestle, or placing all wetland crossings on filled causeway. In addition, alternative methods for constructing in wetland areas have been evaluated, including the use of barge mats, temporary bridges, use of temporary fill, and top-down construction.

Comparison of Reasonable Alternatives

Evaluation Criteria

For the EIS, four non-environmental considerations and up to 23 environmental considerations have been used in evaluating the Proposed Project and each of the facility location and design alternatives studied. The 23 environmental considerations are listed in the next section of this Summary in regard to the projected impacts of the Proposed Project. The four non-environmental considerations used in this assessment included:

- The availability of the alternative to the SCSPA (e.g., land use restrictions),
- The ability of the alternative to meet the operational needs of the SCSPA,
- The feasibility of the alternative, and
- The cost of the alternative.

[Section 3.9](#) of the EIS includes numerous tables and discussions comparing the Proposed Project with each of the alternatives listed above. That discussion is too diverse and extensive to be summarized in this Executive Summary. The reader is directed to [Section 3.9](#) of the EIS for that comparison.

ENVIRONMENTAL CONSEQUENCES

The potential environmental consequences of the Proposed Project are presented in [Section 5.2](#) of the EIS. The remainder of Section 5 is devoted to disclosing the potential environmental impacts of the No-Action Alternative, facility location alternatives, and facility design alternatives. The following paragraphs identify only the most significant projected impacts identified for the Proposed Project. The reader is directed to [Section 5](#) of the EIS for the remaining discussions. An integrated mitigation program to reduce the potential impacts of the Proposed Project is under development and will be included in the final EIS.

Land Use

The Proposed Project would have medium impacts on residential land uses, low impacts on commercial land uses, and high impacts to industrial and institutional land uses. It would have medium impacts to community features and low impacts to conservation areas. The 500-foot corridor includes a total of 174 acres of National Forest lands.

Social Impacts / Environmental Justice

Social impacts of the proposed approximately 13-mile railroad corridor would most directly affect three small rural neighborhoods. Historically, this rural peninsular region has been occupied by minorities, many of whom are also low-income. The proposed railroad corridor passes along the western edge of the Thomas Island neighborhood. The planned railroad would not cross Cainhoy Road (S.R. 913) and would not isolate or bisect this neighborhood. Eighteen parcels would be acquired for construction of the access road and/or railroad in this neighborhood. The proposed road corridor is anticipated to potentially have significant increases in traffic volume. As of 1998, ten of those parcels were vacant and there were 14 occupied housing units located on the remaining eight parcels. These 14 housing units represent nearly 28 percent of the housing stock on Thomas Island. No businesses or community facilities would be acquired.

The Pinefield Road neighborhood is located between Clements Ferry Road (S.R. 33) and the Cooper River and south of a local marina. The proposed railroad corridor divides this neighborhood by crossing Pinefield Road which is its only access road connecting the neighborhood to Clements Ferry Road. The SCSPA plans to acquire 17 full to partial parcels in this vicinity, of which four parcels have occupied dwelling units and the remaining 13 are vacant. No households or businesses would be relocated or displaced in the Pinefield Road neighborhood. The City of Charleston Fire Station #18 would need to be relocated.

The proposed railroad corridor then crosses several businesses and industrial properties including properties within the Cainhoy Industrial Park and the Clements Ferry Industrial Park. One concrete company would need to be relocated. At one point, the proposed railroad crosses Yellow House Creek Road and passing trains would intermittently affect the access to the St. Paul's Pentecostal Church, several residences, and the Campbell Cemetery. Access would be blocked for approximately 3 to 4 minutes while trains passed.

The proposed railroad corridor then crosses the vacant Jack Primus tract until the St. Johns Church neighborhood is reached. The railroad passes along the southern edge of this minority neighborhood consisting of approximately 60 houses and trailers and the St. Johns Church. The SCSPA plans to acquire partial parcels from the Mikasa plant, several businesses, and two residential parcels to the east of Jack Primus Road. No household or business relocations would occur in the St. Johns Church neighborhood. The proposed railroad would cross Jack Primus Road which is the only access to Clements Ferry Road for this neighborhood.

Infrastructure and Services

Roadway Traffic

Several improvements will need to take place in order to achieve satisfactory levels of service for the roadways in the study area due to significant increases in traffic volumes. The improvements required to provide acceptable levels of service for these facilities include adding lanes to major facilities in the transportation impact study area, including Interstates 26 and 526 and Clements Ferry Road. The interchange of Clements Ferry Road and Interstate 526 will need to be upgraded and a new four-lane roadway will need to be constructed in order to provide access to the terminal. The rail alignment will introduce several at grade roadway crossings, which can produce vehicular delays and queues if a train crosses during the peak hours of traffic.

Utilities

Under the Proposed Project, electric, gas, telephone, and cable television utilities would provide additional services to the Tri-County area. However, due to the uncertainty of relocations and new developments, it is difficult to predict the location of future utilities.

Stormwater Management Facilities

Under the Proposed Project, the Daniel Island marine cargo terminal would encompass approximately 1,289 acres of which approximately 272 acres and 1,027 acres are ultimately planned to be pervious and impervious, respectively. This substantial increase in impervious area from 0 to 1,027 acres will potentially alter existing drainage patterns by increasing runoff volumes, re-routing stormwater drainage patterns, and increasing pollutant loadings such as sediments, oils and greases. Runoff volumes are expected to increase from approximately 550 to 652 acre feet for the 10 year - 24 hour storm event. Runoff flows are expected to increase from 1,834 to 5,642 cfs for the 10 year - 24 hour storm event. The OCRM, Berkeley County, and the City of Charleston require the stormwater management system to comply with water quantity requirements in order to minimize upstream and downstream flooding resulting from the increase in runoff volumes. These water quantity requirements will be met with implementation of wet retention ponds in the stormwater management system. The wet retention ponds also provide treatment of stormwater runoff prior to discharge.

Community Services

Populations of Berkeley, Charleston, and Dorchester counties are expected to increase substantially from the present year to the year 2020. This increase in population would likely require a corresponding increase in public service (fire fighters, law enforcement, and emergency medical services). Public services would be impacted by the rail portion of the Proposed Project in affecting response times to those populations east or west of the rail corridor alternatives. City of Charleston Fire Station #18 just north of the Mark Clark Expressway is located within the 500-foot-wide rail corridor of segment 5D and the actual tracks are located slightly east of the fire station. Development of the Proposed Project would require relocation of this station.

Development of the Proposed Project could also delay public services to residential, commercial, and industrial areas.

Spill Response Programs

One percent of the cargo handled at the proposed terminal facilities would be hazardous materials. The potential need for spill response from the Charleston Coast Guard Station would increase. The associated road and rail improvements would increase the potential need for spill response services from the Berkeley County Emergency Preparedness Department.

Navigation and Port Facilities

The proposed terminal facilities are not projected to have any substantial impact on existing public or private terminal facilities. The Proposed Project is projected to result in approximately 2,400 additional vessel calls per year at Charleston Harbor as compared to the No-Action Alternative. Total vessel calls at Charleston Harbor are projected to reach the range of 5,300 to 6,300 calls per year, depending on future changes in non-container ship calls. The average number of ship calls to the Wando River is projected to increase by approximately 1,000 calls per year as a result of the Proposed Project, increasing to a total of 1,900 calls per year. The projected increase in deep draft ship traffic would unavoidably result in additional competition for use of Charleston Harbor.

Noise

The Proposed Project would create noise levels associated with the rail corridor that exceed the 65 dBA DNL criteria threshold for the 25 percent modal split; a total of 7 buildings and 144 parcels would exceed the 65 dBA DNL. For the 40 percent modal split, 13 buildings and 346 parcels would exceed the 65 dBA DNL.

Light

The terminal facilities and roadway facility would result in increased levels of ambient light on and near those facilities. Light from the terminal facilities would be visible from nearby residential areas at Hobcaw Point and Remley Point, and from residential areas on Daniel Island. Light from the proposed roadway would be visible from residential locations on Thomas Island and the south end of the Cainhoy Peninsula.

Historic and Archaeological Resources

Opposite Segment 5I of the project, west of Clements Ferry Road, are the National Register-listed St. Thomas Episcopal Church and the southeasternmost tip of the National Register-eligible Cooper River Historic District. Segment 5I will not alter the characteristics of the church or the historic district that qualify them for listing in the National Register of Historic Places. It will not alter their location, setting, or use. Screened by trees and Clements Ferry Road, it will not be visible from within the National Register boundaries of the church or the historic district. Clements Ferry Road is traveled by heavy trucks but, even with the addition of noise from occasional passing trains along the Proposed Project, the noise level within

the bounds of the two historic resources will be below 65 DNL and accordingly will not introduce significant audible elements that are out of character with the church or the district. Segment 5I will therefore not have an effect, as defined in 36 CFR 800.9, upon either St. Thomas Episcopal Church or the Cooper River Historic District. The remainder of the proposed rail line (segments 5A through 5H) and the proposed Daniel Island terminal will not alter the characteristics--including location, setting, and use--that qualify any of the historic resources within the project's APE for listing in the National Register. The Proposed Project will therefore not have an effect, as defined in 36 CFR 800.9, upon any of these historic resources.

The proposed alternative will directly impact eight known prehistoric archaeological sites, seven of which need additional work to evaluate their National Register status. Apart from these known sites, the proposed alternative may contain 37 additional prehistoric sites, each of which would need to be evaluated to assess their National Register eligibility. The terminal location at the south end of the proposed alternative does not have any archaeological potential since it will be built on fill deposits.

Parks and Recreational Opportunities

The Proposed Project is not anticipated to directly or indirectly impact any park and/or recreational area or opportunity within the study area. Additionally, there are no anticipated direct or indirect impacts to any park or recreational facility that utilized the Federal Land and Water Conservation Fund for purchases or renovation.

Aesthetics

The Proposed Project would substantially change the appearance of the south end of Daniel Island as viewed from locations on the east side of the Wando River and locations on the west side of the Cooper River. The proposed roadway would substantially change the appearance of properties at the west side of Thomas Island in the vicinity of the proposed facilities. The proposed rail line would change the appearance of properties within the proposed right-of-way as viewed from adjacent properties.

Climate and Geology

The Proposed Project is not anticipated to have any significant impacts on regional climate or geology.

Air Quality

The Proposed Project is anticipated to only slightly increase emission levels of volatile organic compounds (VOCs) and carbon monoxide (CO) for the 25 percent rail split compared to the 40 percent rail split. This difference is because of the increase in motor vehicles needed to distribute cargo under this scenario.

Soils and Farmlands

The Proposed Project would not have any impacts to Prime Farmlands as defined by the Farmland Protection Policy Act (FPPA). The Proposed Project is not located in an area considered prime farmland because it is committed to or already in urban development. The FPPA states that urban development land

includes all such land that has been designated for commercial or industrial or residential uses that are not intended at the same time to protect farmland in a zoning code or ordinance adopted by state or local unit of government or a comprehensive land use plan. While these lands are currently in agricultural use which will be impacted, none meet the prime farmlands criteria for the reasons stated above.

Hazardous Materials and Wastes

The Proposed Project would maintain a small quantity of fuel and lubricants for the on-site trucks. One percent of the cargo temporarily stored at the proposed terminal facilities would be hazardous materials. The road and rail improvements may require the remediation of one existing hazardous material site within the road/rail right-of-way.

Shorelines

The Proposed Project may have an impact on shorelines of the Charleston Harbor and Wando River. These shorelines includes Shutes Folly, Crab Bank, Town of Mount Pleasant, Drum Island, Patriots Point, and Fort Sumter. Fort Sumter's shoreline facing the ship channel and Atlantic Ocean, as well as the use of the tour boat pier, would be impacted by the associated increase in the frequency of displacement waves from passing vessels. Projected vessel traffic associated with the Proposed Project is discussed in [Section 5.2.5.5](#).

Floodplains

The proposed Daniel Island marine cargo terminal and rail corridor DI-RR-5 are located in flood hazard areas of Berkeley County subject to periodic inundation from storm surges which may result in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base. Approximately 1,209 and 80 acres of the proposed marine cargo facility encroach onto the 100-year Zone A and Zone V7/VE (velocity zones), respectively. These encroachments add a large amount of impervious area which will significantly increase runoff volumes. However, the additional runoff volume is small compared to the large volume of water accompanied by tidal storm surges. Therefore, the proposed development should not significantly increase 100-year flood elevations during a storm producing a tidal surge. However, localized flooding could occur due to the increased runoff volumes from the additional impervious areas during more frequent storm events without adequate mitigation measures.

Rail corridor DI-RR-5 encroaches onto approximately 205 and 16 acres of the 100- and 500-year floodplains, respectively. Encroachment onto the 100- and 500-year floodplains by the rail corridor may potentially expand upstream flooding because storage volume is lost and existing drainage patterns are impeded. However, this impact is minimized because approximately 70 percent of the floodplain area impacted by the rail corridor would be traversed by trestle bridge.

Hydrology and Water Quality

Implementation of the proposed marine cargo terminal at Daniel Island could potentially impact surface water quality in Charleston Harbor and its tributaries from construction activities, dredging, surface water runoff, bilge wastes, and accidental spills. Construction impacts could result in temporary increases in turbidity, which creates conditions for low dissolved oxygen concentrations by blocking sunlight and inhibiting plant growth. Temporary stormwater best management practices will be implemented during construction to minimize these impacts. Dredging could result in sediment resuspension of dredged material, altered circulation due to changes in channel geometry and salinity changes. The industrial type of land use associated with the proposed port facility would introduce hazardous pollutants. The increased runoff volumes created by the new impervious surfaces could transport these pollutants to the Cooper and Wando rivers. Impacts from stormwater runoff will be minimized by providing treatment in wet detention ponds prior to discharge. The potential for bilge water discharge into Charleston Harbor and its tributaries would increase with increased ship traffic created by the new port facility. However, this impact should be minimal because Federal regulations prohibit the discharge of bilge water in Charleston Harbor and its tributaries. The potential for larger and frequent accidental spills of hazardous materials stored and transported to and from the port facility may occur with a larger port facility. Measures to minimize spills will be addressed in a Stormwater Pollution Prevention Plan (SWPPP) for the proposed port facility.

Impacts from the proposed rail corridor, DI-RR-5, would primarily occur during construction activities. Turbidity levels in Beresford Creek, Flag Creek, Martin Creek, and saltwater marshes adjacent to Clouter and Yellow House creeks and several freshwater wetlands along the corridor are anticipated to temporarily increase due to construction activities. Temporary stormwater best management practices will be implemented during construction to minimize these impacts. Hazardous pollutants transported to surface water bodies should not be a concern because impervious area is not added and contaminants from routine rail passage are minimal.

Aquatic Sediments

The Proposed Project would result in the dredging of approximately 1.5 million cubic yards (mcy) from the Cooper River for the construction of proposed berths, the dredging of approximately 1.5 mcy from the Wando River for the construction of proposed berths, and the dredging of approximately 8.0 mcy of sediments for the improvements to the Federal channels in the Wando River. The construction dredging would result in at least temporary changes in surface sediments in these areas. Ongoing maintenance dredging in these areas to maintain navigation depths would result in repeated disturbance of surface sediments.

Upland Biotic Communities

Little to no natural upland biotic communities remain in the area to be occupied by the proposed terminal; consequently, no impacts to natural upland plant communities are expected in the area of the proposed terminals. The proposed rail alignment serving the Daniel Island terminal will traverse approximately 91 acres of upland biotic communities (exclusive of developed/disturbed lands). The upland biotic community potentially most impacted by the proposed rail alignment is the longleaf pine flatwoods. This community type

provides habitat for several listed threatened and endangered species including the red-cockaded woodpecker and flatwoods salamander.

Aquatic Biotic Communities

The Proposed Project will impact both freshwater and saltwater biotic communities. Construction of the Proposed Project will result in the direct loss of approximately 88 acres of estuarine habitat including 67 acres of salt marsh and 21 acres of open water habitat. An additional 59 acres of estuarine habitat will be modified due to dredge and partial fill associated with berth and wharf construction and construction of the elevated road and rail lines through salt marsh. Approximately 20 acres of freshwater wetlands will be filled along the proposed rail alignment.

Endangered and Threatened Species

The Proposed Project will impact existing populations of red-cockaded woodpecker and flatwoods salamander. The proposed rail line removes foraging habitat for eight clusters of red-cockaded woodpeckers; three of these clusters occur within the Francis Marion National Forest. Approximately 30 acres of flatwoods salamander habitat will be removed during construction of the proposed rail line. Increased shipping traffic associated with the Proposed Project could impact migrating loggerhead turtles, green sea turtle, Kemp's Ridley sea turtle, manatee, northern right whale, and humpback whale. Impacts to these species are expected to be minimal.

Wetlands

The Proposed Project will impact both freshwater and saltwater wetlands. Construction of the Proposed Project will result in the direct loss of approximately 67 acres of salt marsh due to dredge and fill activities associated with berth, wharf, and container yard construction. An additional 20 acres of freshwater wetlands will be filled along the proposed rail alignment.

Introduced Species

The Proposed Project will increase future ship traffic and, therefore, has the potential to increase the chance for introduction of exotic species into the region via ship ballast water and, to a lesser extent, within cargo.

SUBSEQUENT STEPS IN THE EIS PROCESS

Coordination and Public Involvement

The draft EIS has been released for public and agency review. A public hearing to receive written and oral comments on the draft EIS will be conducted at a date, time, and location to be announced by the USACE, Charleston District, in a public notice and in the *Federal Register*. Written comments on the draft EIS will be accepted by the USACE, Charleston District, until 45 days following the public hearing, and should be addressed to:

Ms. Tina Hadden, Project Manager
CESAC-TS-RP
U. S. Army Corps of Engineers, Charleston District
334 Meeting Street
Charleston, SC 29403

Final EIS and Records of Decision

Following the close of the comment period, the USACE and the cooperating Federal agencies will develop a final EIS document which will include responses to the comments received on the draft EIS, and such changes and amendments to the EIS as the USACE deems appropriate. Notification of the availability of the final EIS will be made in the *Federal Register*, and by public notice. Copies of the final EIS will be sent to those entities who have received copies of the draft EIS and those entities making request to the USACE, Charleston District.

Following the release of the final EIS, the USACE will prepare a Record of Decision in support of its determination regarding the application by the SCSPA under Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act to construct the proposed facilities. The USCG will prepare a Record of Decision in support of its decision regarding the SCSPA application for permits to construct bridges over Beresford Creek. The USFS will prepare a Record of Decision in support of its decision regarding the application by the SCSPA to exchange lands with the USFS for a portion of the right-of-way for the proposed rail line. All Federal agencies must wait a minimum of 45 days following release of the final EIS before taking action on the applications by the SCSPA.