PERMITTING A MARINE CONTAINER TERMINAL ON THE FORMER CHARLESTON NAVAL STATION

Jack M. Ellis[1] and K. F. Ziober[2]

ABSTRACT

The South Carolina State Ports Authority (SPA) submitted a permit application to the U.S. Army Corps of Engineers (Corps) to construct and operate a marine container terminal at the Charleston Naval Complex (CNC), a former naval shipyard and naval station. Applied Technology and Management (ATM) was selected to provide NEPA support services to the Corps and develop a comprehensive EIS.

Also included in the EIS is an access roadway permit application by the South Carolina Department of Transportation (SCDOT) to reduce the impact of port traffic on local roads. Due to regional growth within the Charleston region, the addition of traffic from the Proposed Project on the Interstate System was also assessed and determined to cause some increased congestion and traffic delays.

The proposed facility consists of a 286.5-acre terminal with a 3,510 feet long wharf fronting the Cooper River. Twelve cranes will be positioned along the wharf to service three post-Panamax ships. The construction of the Proposed Project would require dredging 6.5 million cubic yards of material. Dredge and fill activities to construct the proposed facility will impact 10.4 acres of tidal wetlands, 63 acres of upland forest, and 152 acres of open water. Potential impacts to aquatic and terrestrial resources were addressed through a thorough dredged material environmental effects evaluation. Impacts to existing sedimentation patterns and rates in the Federal Navigation Channel were also modeled.

The EIS also evaluated the increase of non-point loads from stormwater runoff and mobile air emissions from marine vessels, and trucks. Impacts to dissolved oxygen levels in the lower Cooper River were included. The EIS also evaluated impacts to Threatened and Endangered Species and Essential Fish Habitat (EFH).

Due to community concerns about the Proposed Project, the EIS process proactively sought to disseminate information through a Public Outreach Program which included neighborhood outreach meetings; workshops; a website; a telephone hotline; and newsletters.

Keywords: NEPA, environmental impact statement, dredging, state ports authority

INTRODUCTION

Environmental approvals and permitting required for dredging and construction of large marine port terminal projects has become more complex, time-consuming and costly. Lessons learned from this case study can help port planners prepare for permitting challenges, plan to avoid and minimize environmental impacts, coordinate environmental impact evaluations, and educate regulatory agencies and other stakeholders.

The objectives, or guiding principles, for this permitting project were as follows:

- Develop an open and objective process which meets all regulatory requirements;
- Maintain agency and public coordination throughout the process to eliminate surprises when the EIS or Record of Decision (ROD) are published; and
- Use reasonably available data and accepted numeric models and methodologies in impact evaluations to support technically sound decision-making.

[1] Environmental Engineer, Applied Technology & Management, 360 Concord Street, # 300, Charleston, South Carolina 29401, USA, T: 843-414-1040, F: 843-414-0155, Email: jellis@appliedtm.com.

[2] Environmental Scientist, Applied Technology & Management, 360 Concord Street, # 300, Charleston, South Carolina 29401, USA, T: 843-414-1040, F: 843-414-0155, Email: kziober@appliedtm.com.

PROJECT HISTORY

The South Carolina State Ports Authority (SPA) submitted a previous proposal for port expansion in Charleston Harbor that consisted of a 1,300-acre marine cargo complex on Daniel Island in Berkeley County. A Draft EIS for the proposed Daniel Island Terminal, i.e., the Global Gateway, was published in September 1999. However, in April 2000, the SPA elected to withdraw their permit application for the proposed facility.

In 2002, the South Carolina General Assembly passed a joint resolution directing the SPA to begin environmental impact studies and other required actions to locate a new terminal facility on the west bank of the Cooper River. In addition, the General Assembly directed the CNC Redevelopment Authority (RDA) to convey certain parcels to the SPA for the development of breakbulk, roll on roll off, and container terminals and dock operations. The location of these parcels was delineated in a *Memorandum of Understanding and Agreement* (MOUA) that was signed by the SPA and the City of North Charleston regarding future development plans at the former Charleston Naval Station.

On January 27, 2003, the SPA submitted a permit application to the Corps to construct and operate a marine container terminal at the south end of the Charleston Naval Complex (CNC), a formerly used naval shipyard and naval station. The process for a decision on the permit is a joint process between the Corps and the South Carolina Department of Health and Environmental Control – Ocean and Coastal Resource Management (SCDHEC-OCRM). After reviewing the application, the Corps decided that the proposed project was likely to have a "significant impact on the quality of the human environment", and therefore, an Environmental Impact Statement (EIS) would be required before a decision could be made on the permit. Applied Technology and Management (ATM) was selected as a third-party contractor to provide NEPA support services to the Corps and develop a comprehensive EIS.

Once the EIS was underway, it became apparent that port traffic on existing roads would be a significant concern. To reduce the impact of port traffic on local roads, the South Carolina Department of Transportation (SCDOT) submitted a permit application for a limited access 4-lane access roadway that would directly connect the CNC with I-26. The SCDOT's proposed access roadway was also included as part of the proposed project in the EIS.

NEED FOR THE PROPOSED PROJECT

Existing and Projected Throughput Demand

The total container throughput for the Port of Charleston for the fiscal year 2003 was an estimated 1.68 million twenty-foot equivalent units (TEU). A TEU is an industry-standard measurement of volume in which one TEU is the equivalent of one standard twenty-foot ocean shipping container. For the time period of 1998 to 2003, the container throughput for the Port of Charleston grew at a compound annual growth rate of 5.97 percent.

A forecasting model was used to predict future container volumes for the Port of Charleston. The model was based on customer trade lane data compiled by the Port Import Export Reporting Service (PIERS), macroeconomic growth drivers and annual growth rates by trade lane projected by the Wharton Econometric Forecasting Association (WEFA), and customer-specific information provided by the SPA. Model forecasting predicted container throughput for the Port of Charleston to grow from 1.65 million TEU in 2004 to 4.0 million TEU in 2025. This represents a compound annual growth rate of 4.28 percent. This projection is illustrated in Figure 1.

Existing Throughput Capacity and Constraints

The SPA estimates that nine berths at its three existing terminals have a maximum practical capacity (MPC) of approximately 2.6 million TEU annual throughput. This MPC estimate takes into account ongoing improvements to existing facilities. Further increases in throughput capacity are primarily constrained by the land area available for storage and processing of containers, and the length of wharf and apron available for unloading ships. Based on the projected container growth rate, throughput volume will exceed the MPC by 2014. The existing maximum practical throughput capacity for the SPA's existing terminals is presented in Table 1.

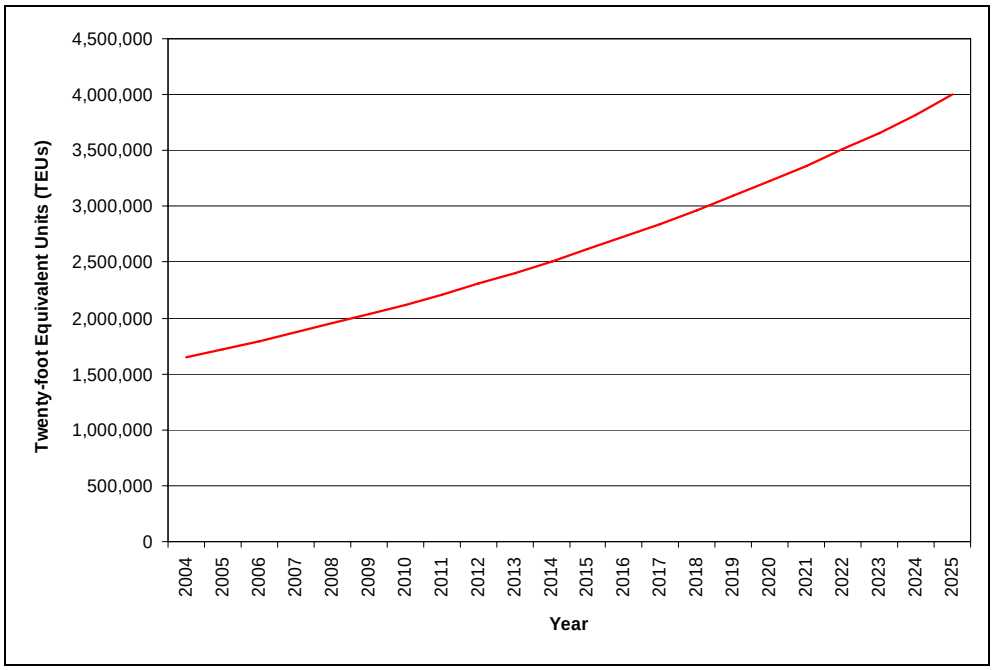

Figure 1. Projection of container throughput for the Port of Charleston for 2004 – 2025 (assuming a 4.28% compound annual growth rate).

Table 1. SPA's existing throughput and maximum practical throughput capacity.

Terminal	Existing Throughput [1] (TEUs)	Maximum Practical Capacity (TEUs)
Columbus Street	239,111	349,592
North Charleston	410,315	712,678
Wando-Welch	1,018,025	1,583,739
Total	*1,667,459*	*2,646,009*

[1] 2003 data

Cost-Competitive Advantages of a Charleston Location

The SPA has stated that the Greater Charleston area offers numerous competitive advantages as a location for the proposed marine terminal. From a port management perspective, services such as Management, Maintenance, Engineering, Information Technology and Security can be more effectively and economically provided from a location central to existing facilities. As facility locations become more remote there is the potential that inefficiencies would arise in the delivering of the needed services. In addition, the Port of Charleston has Federally maintained navigation channels with terminals within a short sailing time of the ocean. Other infrastructure includes two major railroads with services to Atlanta and Charlotte, several motor carriers with highway access via I-26 to I-95, I-77, I-20, and I-85, and a strong labor force. The SPA maintains that all services are provided at competitive rates because of the competitive and cooperative working relationships that have developed in the evolution of the Port of Charleston.

DESCRIPTION OF THE PROPOSED PROJECT

The proposed project is located on the west shore of the Cooper River in the City of North Charleston, South Carolina (Figure 2). Important components of the proposed project are described in the following subsections.

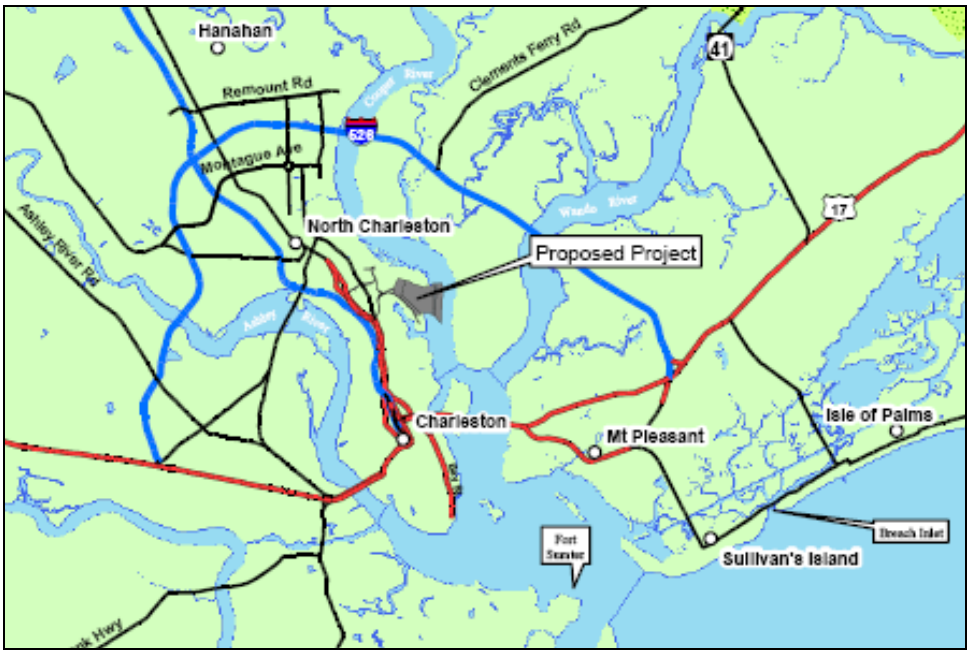

Figure 2. Location of SPA's proposed marine container terminal.

Marine Container Terminal

A schematic layout of the proposed marine container terminal facilities is shown in Figure 3. Components of the facility are described in the following paragraphs.

Wharf and Cranes

The pile-supported wharf structure would be 3,510 feet long, 120 feet wide, and 19 feet above Mean Low Water (MLW). The pile-supported wharf is 3,510 feet long and supports six container cranes The wharf structure would be developed to support six container cranes with a minimum outreach of 200 feet, i.e., capable of docking post-Panamax ships.

Container Yard and Support Facilities

The SPA proposes to develop 274.9 acres of container yard and support area. The portion of the container yard that extends into the Cooper River will be excavated and backfilled. The container yard and wharf structure will extend approximately 1,000 feet into the Cooper River.

The container yard will consist of storage for wheeled containers, wheeled refrigerated containers, grounded loaded containers, and grounded empty containers. The support area will consist of buildings for operations, administration, security, amenities, etc.

Stormwater Management Facilities

The SPA has proposed to develop approximately 24.4 acres of stormwater management facilities. The stormwater runoff from the wharf, container yard, and support area would be collected by a network of pipes and inlets and routed to a stormwater treatment pond located along the south side of the terminal. The stormwater runoff would be

detained as required by the appropriate State and local regulations before being released into Shipyard Creek through a series of controlled outfall structures.

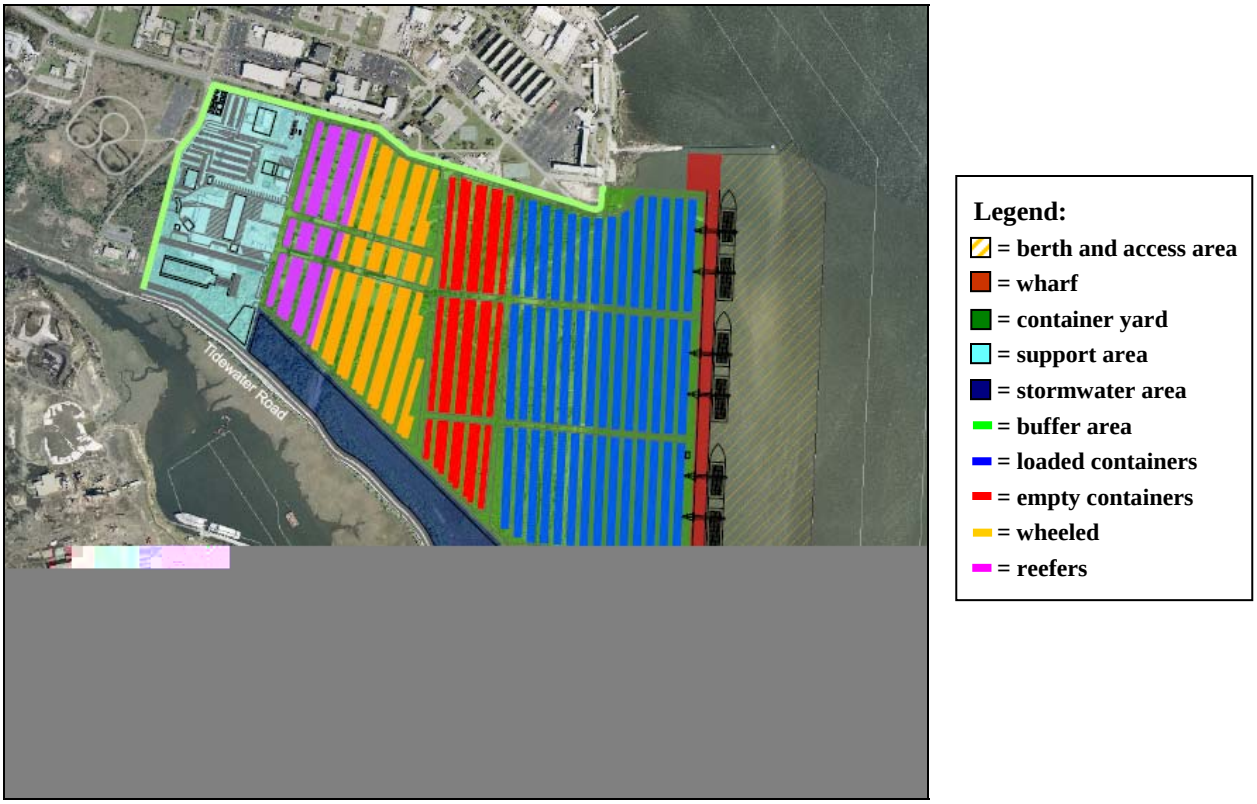

Figure 3. Layout of the proposed marine container terminal.

Navigation Improvements

Berth and Access Area

The SPA proposes to develop a 12.1-acre berth adjacent to the wharf structure. The berth will be 150 feet wide by 3,510 feet long and will be excavated to a depth of -49 feet MLW (a design depth of -47 feet plus 2 feet of overdredge allowance). This matches the dredge elevation of the navigation channel (-45 feet authorized depth plus 2 feet of advance maintenance and 2 feet of allowable overdredge). The SPA also proposes to develop a 65.5-acre access channel at the same depth that extends approximately 850 feet from the existing Federal navigation channel to the proposed berth.

The conceptual layout of the turning basin for the terminal was initially designed with the goal of minimizing sedimentation within the berth along the dock. The layout extended the turning basin to the north and would maximize velocities along the face of the dock. This would minimize the maintenance dredging costs borne by the SCSPA. However, this layout required that the contraction dike to the north be shortened, which was constructed as part of the Federal Navigation Channel. In evaluating potential impacts to the Federal Navigation Channel, the Corps determined that the proposed design would require shortening of the contraction dike and increase the shoaling in federal navigation channel. Therefore, the design was revised by truncating the basin on the north end such that the contraction dike would be unaffected by the turning basin.

Water Jet Sedimentation Control System

The SPA proposes to install a water jet sedimentation control system to minimize future sedimentation within the berth immediately adjacent to the face of the wharf structure. The water jet units will be attached to the wharf piles near the river bottom.

Dredged Material Management

Approximately 6.5 million cubic yards (mcy) of material would be dredged from the Cooper River. The SPA proposes that all dredged material will be placed in the Daniel Island confined disposal facility (CDF), which is located on the southern end of Daniel Island between the Wando River and the Cooper River (Figure 4). The Daniel Island CDF consists of three diked cells with a combined area of 651 acres.

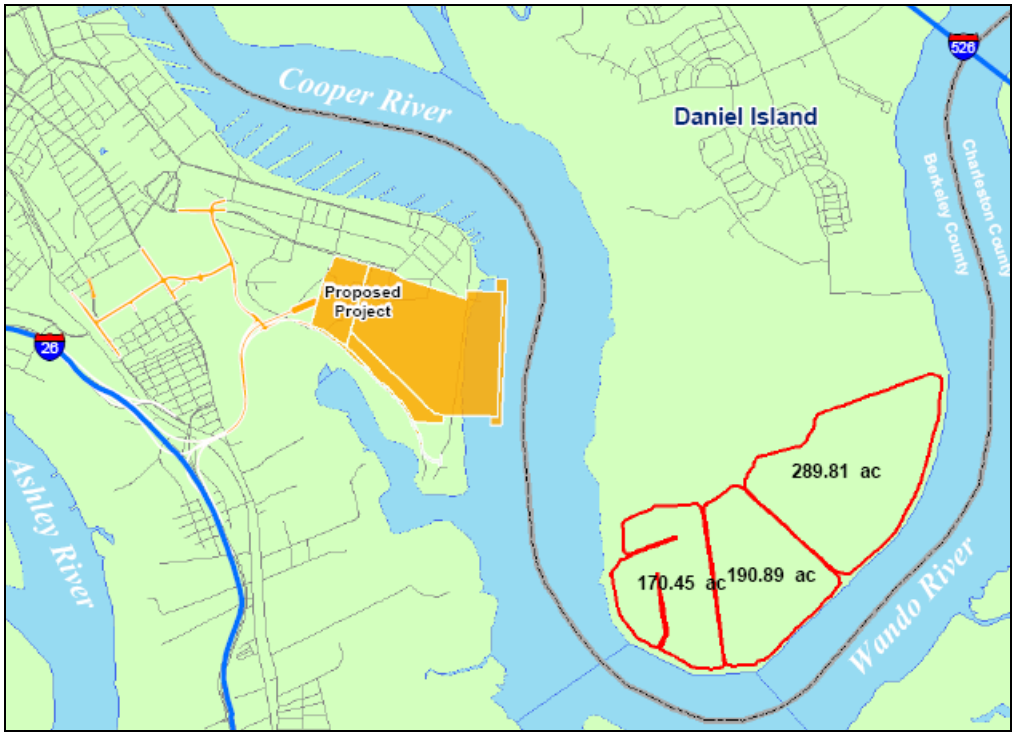

Figure 4. Location and capacity of the Daniel Island confined disposal facility (outlined in red) in relation to the proposed project.

Roadway Improvements

As mentioned previously, certain roadway improvements are included as part of the proposed project (Figure 5). A feasibility study was performed to evaluate potential access road corridors and to identify a preferred access road connecting the proposed facility to the existing Interstate Highway System, i.e., I-26. The Access Roadway Feasibility Study (ARFS) included the development of conceptual designs to evaluate the impact of constructing and operating potential roadway alternatives. The SCDOT identified the proposed access roadway improvements in a supplemental report included as part of the ARFS.

Additional roadway improvements include those to Tidewater Road, which is located along the SPA boundary between the proposed port facility and Shipyard Creek. Tidewater Road will be widened and improved along the Shipyard Creek side of the Cooper River Marina property and will tie into the existing marina parking area. Tidewater Road would be connected to the proposed access roadway and a local connector road by a separate bridge crossing Shipyard Creek. These improvements will greatly improve access to the Cooper River Marina, especially from I-26.

Figure 5. Layout of the proposed roadway improvements.

PERMITTING PROCESS AND DEVELOPMENT OF THE EIS

The Corps issues permits in accordance with three laws: the Rivers and Harbors Act, the Clean Water Act, and the Marine Protection, Research and Sanctuaries Act. The SPA permit review is subject to the first two of these laws. All projects that require a permit from the Corps must also comply with the National Environmental Policy Act (NEPA). This law is the "basic national charter for the protection of the environment" and contains provisions to ensure that Federal agencies carry put the policies of NEPA in accordance with its letter and spirit. One of the basic tenets of NEPA is ensuring that the process is open and objective.

There were several significant milestones sought in the NEPA process for the proposed project (Figure 6). Once the Corps announced its intent to prepare an EIS to evaluate the SPA's permit application, the permitting process began with scoping. Scoping is the process by which a lead Federal agency, in this case, the Corps, collects input on the range of issues (actions, alternatives, and impacts) to be addressed in the EIS. During the scoping process, the Corps hosted agency and public scoping meetings to collect comments. As shown in Figure 7, the category that received the largest number of comments (42 percent) was transportation issues. The number of comments alone is not an indicator of the significance of an environmental issue, but instead shows broad interests which are most commonly shared by the public and reviewing agencies.

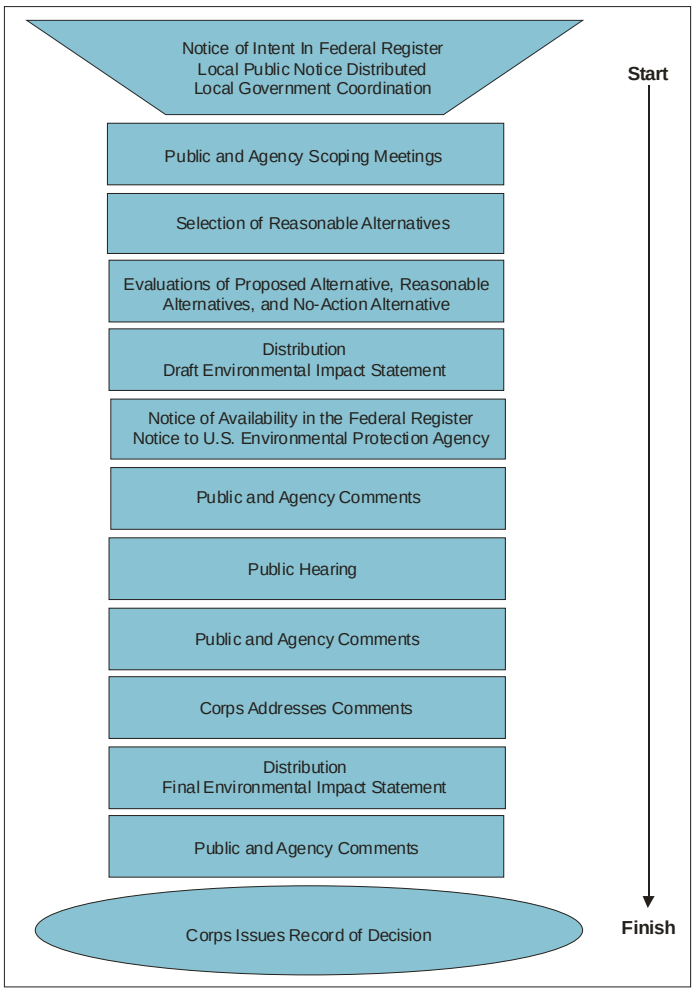

Figure 6. NEPA process milestones.

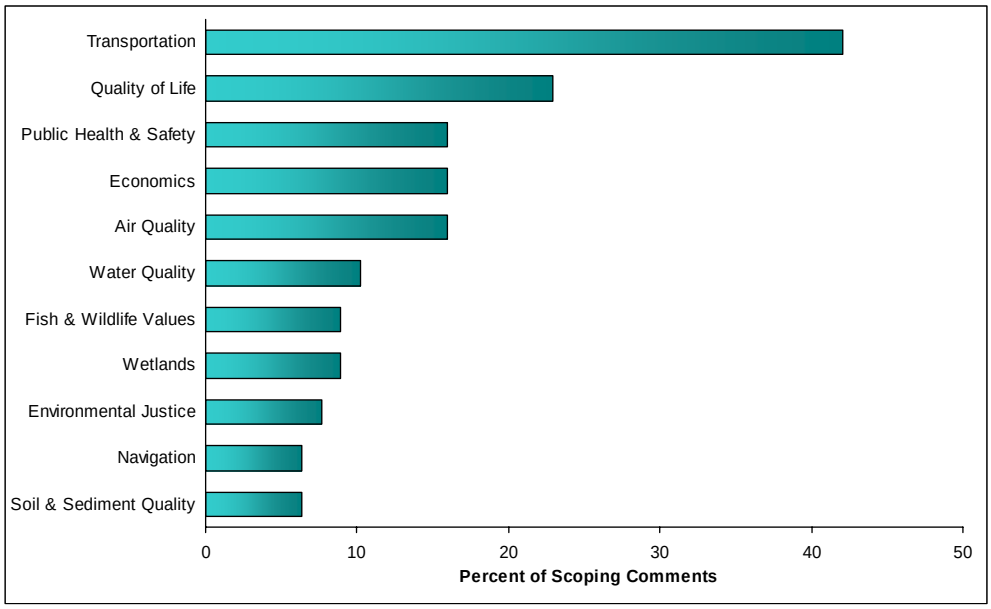

Figure 7. Percent of scoping comments mentioning various project-related issues.

Based on the public and agency comments that were submitted during the scoping phase of the project, the Corps prepared a scope of work and the selection and evaluation of the proposed project and project alternatives began. This phase of the process is called the alternatives analysis and compares reasonable alternatives along with the No-Action Alternative. The findings from the alternatives analysis are used by the Corps to make a permit decision.

The first step of the alternatives analysis is to look at reasonable and practicable alternatives to the proposed project that may avoid or minimize impacts to the community and environment. To do this, the Corps developed general criteria that led to the identification of 59 potential alternative sites. The Corps then gathered more information about these sites and followed a careful screening process in which experts specializing in the planning, design, construction, and operation of marine container terminal participated. This group included representatives from the Corps, SPA, Federal Highways Administration, South Carolina Department of Health and Environmental Control, Berkeley-Charleston-Dorchester Council of Governments, the Low Country Council of Government, the Charleston Branch Pilots' Association, and the Maritime Association of the Port of Charleston. The alternatives screening process resulted in two alternatives that would be evaluated in detail along with the proposed project and the No-Action Alternative in the EIS: Daniel Island Alternative and the Clouter Island Alternative (Figure 8).

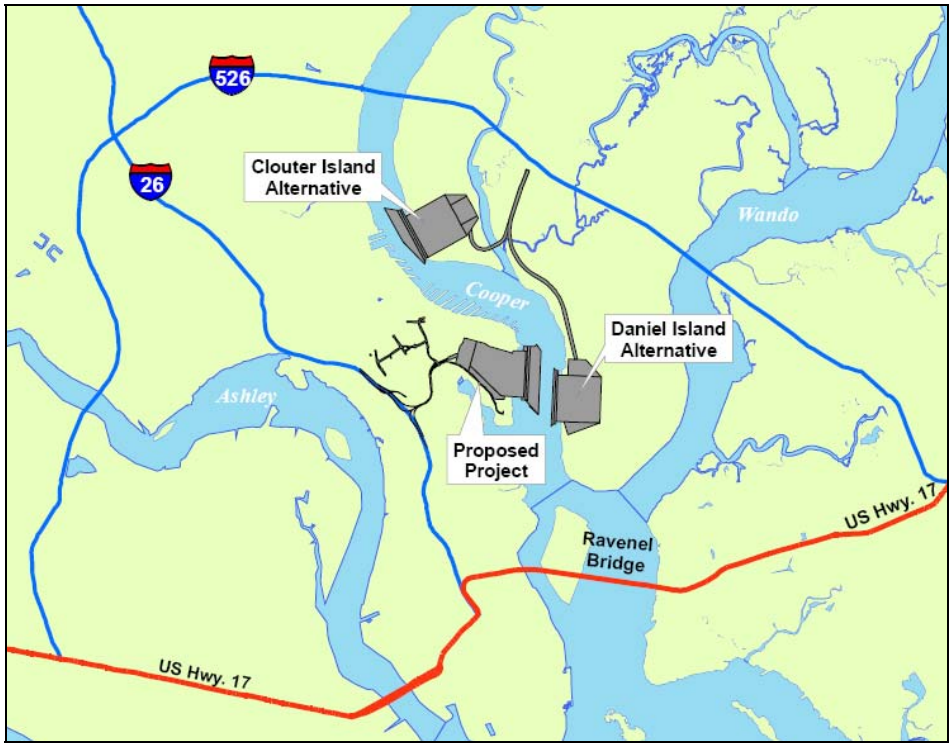

Figure 8. Locations of the proposed project, Daniel Island alternative and Clouter Island alternative.

The No-Action Alternative is required to be included in an EIS and may include a projection of reasonable foreseeable future conditions at the project site and the surrounding area as if the proposed project were not permitted. It is important to note that for a permitting decision the purpose of the alternatives is to provide a means of comparison of the proposed project. The permit decision is only for the proposed project.

After the alternatives were identified, the analysis began using existing information and new information from field studies and numeric modeling. The results from the alternatives analysis were described in detail in the Draft EIS, which was made available to the public on October 21, 2005.

A commenting period followed the distribution of the Draft EIS during which a Public Hearing was held to collect public and agency comments. In total, the comment period for this Draft EIS lasted 120 days. After the comment period concluded, the Corps carefully considered all the comments received on the Draft EIS before preparing the

Final EIS. In some instances, additional information was gathered to more fully evaluate the impacts of the proposed project.

The Final EIS was made available to the public on December 15, 2006 followed by another comment period. After reviewing the comments from the distribution of the Final EIS, the Corps began preparing the Record of Decision, which will document the results of the NEPA process and the permit decision. In total, the development of the EIS and related studies took approximately three years to complete.

COMMUNICATION AND COORDINATION

Establishing credibility and clear roles for the public and reviewing agencies early in the scoping process is vital to obtaining meaningful public feedback from numerous stakeholders with sometimes opposing positions. During the permitting process, several means of public outreach and information sharing were developed, including public information workshops, stakeholder focus groups, agency technical working groups, newsletters, email and postal mail announcements, a project website, a collaborative website, and a hotline. The goal of the outreach effort was to obtain input and solicit the involvement of agencies, stakeholders and interested citizens in the permitting process. As mentioned previously, an EIS is to be developed with an open and objective public participation process to comply with NEPA.

The various methods of public outreach and information sharing are described in the following paragraphs.

Public Information Workshops – The public information workshops are a means for the Corps to provide the public up-to-date information related to the development of the EIS. These workshops have been held at key times during the development of the EIS when advancements were made and information became available. The workshops that were held are listed below:

Stakeholder Focus Groups – The stakeholder focus groups are a means to identify a group of individuals with an invested interest in the proposed project (e.g., affected property owners or conservation groups). Meetings with stakeholder focus groups were held in order to gather information on specific issues, suggestions on how to address issues, and disseminate up-to-date information related to the permitting process.

Agency Technical Working Groups – The agency technical working groups (ATWGs) are multi-agency, technical/professional, and interdisciplinary within six primary study areas: transportation, air quality, water resources, natural resources, site contamination, and community resources. The ATWGs discussed and planned the technical approach to evaluate potential impacts, assessment goals, and the EIS schedule.

Newsletters – A series of newsletters, called PortEIS News, were distributed throughout the development of the EIS. Hardcopies and electronic copies of PortEIS News were sent to people on the mailing list and email list, respectively. Electronic copies of PortEIS News issues were also available for downloading on the project website.

Email and Postal Mail Announcements – Email and postal mail alerts were sent out to members of the public that registered to receive updates on the permitting process via either or both of these methods. People could request to be added to the mailing list(s) online via the project website, over the phone via the hotline, or in person at the public outreach meetings.

Project Website – A public-access project website (www.PortEIS.com) was maintained throughout the development of the EIS and provides readers the latest news about the status of the EIS, supporting documents, and the ability to provide information via online feedback forms.

Collaborative Website – The collaborative website was a means for the project development team to coordinate during the development of the EIS.

Hotline – The hotline is a local number where the public is encouraged to provide comments on the project. Meeting announcements, abbreviated directions and important date reminders were included in the hotline greeting.

SUMMARY OF IMPACTS

The EIS provides a complete and detailed account of the proposed project's impacts. A brief summary of some of these impacts are provided in the following paragraphs.

Navigation and Port Security

It is expected that the proposed project would be in operation by calendar year 2012, and it would increase vessel traffic in the Cooper River and Charleston Harbor by about 300 additional container vessel trips in the year 2012. Assuming additional vessel trips increase 100 trips a year, the stated TEU capacity of the proposed project of 1.4 million TEUs would be reached in 2022. The maximum increase in container vessel traffic would be 1,300 vessel trips per year, which would be a 68% increase in Upper Cooper River deep-draft vessel traffic, as compared to the No-Action Alternative.

The development of the proposed project would not impact SPA terminals or other private terminals, except for impacts resulting from the increased vessel traffic on the Cooper River and the temporary blockage of the navigation channel by vessels performing turning maneuvers. Vessel traffic would be able to safely navigate to and from the proposed terminal, including turning maneuvers.

The proposed project would slightly increase the risk to port security as a result of increased container traffic. This potential increase in risk would be minimized by ongoing improvements to port security.

Dredging and Aquatic Sediments

As stated previously, the construction of the proposed project would require dredging 6.5 mcy of material. Sediment quality analyses indicate that the materials to be dredged have been impacted by past human activities and may contain small amounts of pollutants. These contaminants are regularly found in sediments within Charleston Harbor and the dredging and upland disposal of these sediments would not adversely affect water quality in the Cooper River or pose a risk to humans or aquatic or terrestrial wildlife.

The alternation of the river geometry created by the construction of the proposed terminal would have a minimal effect on long-term maintenance dredging of the Federal navigation channel. Sedimentation modeling results indicate that the proposed project would cause an increase in the total shoaling in the Federal navigation channel on the order of 2×10^4 cy/yr.

Sedimentation rates in areas outside the Federal navigation channel, such as the berth and access area constructed as part of the proposed project, would increase as a result of the development of the proposed project. Long-term shoaling of approximately 6×10^4 cy/yr is expected in the berth area if a water jet sedimentation control system is not in operation. The proposed project includes the installation of a water jet sedimentation control system, and therefore, the shoaling rate in the berth would be much lower. The proposed project is expected to cause shoaling at a rate of about 17×10^4 cy/yr in the access area.

The development of the proposed access roadway would require two bridges across Shipyard Creek. Construction of the bridges could result in disturbance of aquatic sediments in the waterway from pile driving. Because of the potential presence of contaminated sediments in this portion of Shipyard Creek, aquatic sediment to be disturbed or excavated for pile foundation and abutment work may require appropriate management measures.

Water Resources

The construction of the proposed project would require filling and paving land that is currently undeveloped, thereby increasing the amount of stormwater runoff and pollutants entering waterways. However, the proposed project would be required to comply with SCDHEC stormwater regulations, and the adverse impacts of the proposed project on surface waters resulting from the stormwater runoff would be minimal as a result of stormwater treatment and best management practices.

The construction of the proposed terminal would create additional water column near the river bottom where the berth and access channel would be excavated. This area would exhibit increased salinity concentrations as compared to the existing bottom salinity in this area. However, there would be minimal adverse impacts to salinity in waters upstream and downstream from the proposed terminal, and it would cause negligible impacts to salinity intrusion events that affect the Bushy Park Reservoir.

The proposed project would cause small increases and decreases in dissolved oxygen (DO) concentrations in the lower Cooper River. The maximum adverse impacts (i.e., decreases) to DO would occur in the berth and turning basin near the river bottom, and the maximum adverse impacts also occur at times when the Pinopolis Dam flows are low. The adverse impacts to depth-averaged DO in the berth and access area would be approximately -0.015 mg/l averaged over a 3-month period.

Temporary increases in suspended sediment concentrations would result from dredge operations during project construction (over a 12 to 15 month period) and during maintenance dredging events. The large increases in suspended sediment concentrations would be limited to a localized area at the river bottom near the dredge (within 50 meters). The increases are less than suspended sediment concentrations that occur during storm events (both in concentration and spatial extent), and therefore, these adverse impacts are considered minor.

Other aspects of the proposed project would have minimal adverse impacts to suspended sediment concentrations. Effluent from the CDF during dredging operations would have minimal adverse impact to in-stream suspended sediment concentrations. Similarly, backfilling of the terminal area in the Cooper River would have minimal adverse impact to suspended sediment concentrations because the area would be enclosed by a sheet pile wall prior to backfilling. The water jet sedimentation control system would be designed to keep sediments in suspension, and although the system may cause short-term fluctuations in suspended sediment concentrations (for periods of minutes), the system would have negligible impacts to the daily averaged suspended sediment concentrations.

Transportation

On average, the proposed terminal will generate 7,700 daily vehicle trips, of which 63 percent would be made by trucks. The proposed access roadway would reduce potential impacts to local roadways by providing direct access to I-26 from the site. However, the addition of traffic from the proposed terminal on I-26, which is already nearing capacity, will require the interstate to be widened sooner than originally expected. For instance, traffic analyses show that a highly traveled segment of I-26 will reach a failing level of service in 2012/2013 as a result of background traffic growth whether or not the proposed port facility is constructed. Consequently, the SCDOT is already initiated studies to widen I-26 to accommodate future traffic demand.

The development of the proposed access roadway will require the construction of a new interchange with I-26 which would affect local access to I-26. One exit would need to be closed and another exit would require improvements. As a result, plans for the proposed access roadway include a new local connector road to the interstate.

Natural Resources

Development of the proposed terminal would primarily impact previously disturbed areas. The existing plant and animal communities on the CNC have been impacted by past development activities, and as a result, consist of relatively common species that are adapted to living close to human development. The development of the proposed terminal would result in the loss of the available habitat on the project site because the entire area would be developed.

Development of the project site would result in the loss of 9.6 aces of tidal wetland, 2.4 aces of freshwater wetland, and 56.6 acres of open water on the Cooper River. The loss of these areas is considered an impact to Essential Fish Habitat (EFH), which are those waters and substrate necessary for fish to spawn, breed, feed and grow to maturity. The open water area mentioned above includes 2.1 acres of intertidal mudflats, 2.4 acres of shallow subtidal water (less than 2 feet deep), and 52.1 acres of deep water (greater than 2 feet). EFH impacts also include the modification (i.e., deepening) of an additional 77.9 acres of deep water to construct the proposed berth and access channel.

Threatened and Endangered Species

The development of the proposed project would result in an incremental increase in ship traffic, which would slightly increase the risk of collision with right whales, humpback whales, sea turtles, and manatees. The SPA has proposed to implement conservation measures that will help protect right whales and humpback whales. In addition, operational measures would be used to minimize potential impacts to sea turtles and manatees during dredging efforts.

Air Quality, Noise and Light

Charleston is an 'attainment' area, which means that the region meets air quality standards established by the U.S. Environmental Protection Agency to protect the health of sensitive populations such as asthmatics, children, and elderly. The construction and operation of the proposed port facility would result in an increase on sources of mobile emissions (e.g., marine vessels, container trucks, yard equipment, etc.). Overall, these additional air quality emissions represent a very small percentage – less than one percent – of total permitted and mobile emissions in the region. However, numerous air dispersion modeling studies were conducted to estimate potential impacts to regional air quality and surrounding resources.

Development of the proposed terminal will impact existing noise and light levels at adjacent properties on the CNC. Adjacent properties include a Federal Law Enforcement Training Center and the Cooper River Marina. Impacts to nearby neighborhoods would depend on the phase of the project. Although some activities, such as pile driving, would be audible to nearby neighborhoods during construction, the operation of the terminal itself is expected to have minimal noise impacts on neighborhoods. Development of the proposed access roadway is expected to increase noise levels at a number of sensitive receptors (i.e., residences, schools, etc.).

CONCLUSIONS

The work required to gain regulatory and stakeholder approval for dredging and construction of large marine port terminal projects has become more complex, controversial, costly and time-consuming. It is important to understand the overall regulatory process, project coordination and impact evaluations that are being conducted for these types of marine port terminal projects. This case study provides valuable lessons learned which can help port planners prepare for future permitting challenges, avoid and minimize environmental impacts, coordinate environmental impact evaluations, and educate regulatory agencies and other stakeholders.

The key permitting lessons from this project are as follows:

- Work with the USACE and other Federal and State reviewing agencies to develop an open and objective process that satisfies all regulatory requirements.
- Maintain agency and public communication and coordination throughout the process to eliminate surprises when the EIS and ROD are published.
- Whenever practical, use available data, accepted numeric models and methodologies to support technically sound decision-making. Coordinate model inputs and desired outputs with the reviewing agencies to provide useful information to adequately address project concerns and appropriately support permit decisions.
- All comments and concerns should be reviewed, documented, considered, and addressed when developing the EIS and in project decision making.