

The Corps received a number of comments on a broad range of topics. A summary of the scoping process and all the comments are available on the Corps' Navy Base ICTF EIS website at www.NavyBaseICTF.com. Several comments were submitted that pertain to identification and evaluation of alternatives for the proposed action, and they are summarized in Appendix C. These comments were taken into consideration during the alternatives development process.

2.3 CORPS' SCREENING OF ALTERNATIVES

This section describes the process used by the Corps to identify and screen potential alternatives to Alternative 1 (Proposed Project) that would be considered further in the EIS, in compliance with the applicable CEQ and Corps regulations. The analysis of alternatives is considered to be the "heart of the environmental impact statement" (40 C.F.R. 1502.14). The Corps is required to "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (40 C.F.R. 1502.14). Determining a range of reasonable alternatives to be evaluated is the first step in this process. For some proposals, a large number of possible reasonable alternatives may exist. Therefore, the Corps typically develops appropriate screening criteria that are used to pare down a large list to a reasonable number of alternatives to evaluate in an EIS.

Reasonable alternatives do not include remote or speculative alternatives, or alternatives that would not achieve the project purpose. The CEQ provides guidance on the range of alternatives that should be considered in an EIS and on how to define whether an alternative is sufficiently reasonable to be considered in detail in an EIS. As noted earlier, reasonable alternatives include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant⁴⁰; however, first and foremost, a reasonable alternative must meet the purpose and need of the project.

The following sections introduce the alternatives screening criteria (Section 2.3.1) and then provide the results of the analysis using the screening criteria (Section 2.3.2).

2.3.1 Alternatives Screening Criteria

In consideration of the purpose of and need for Alternative 1 (Proposed Project), the Corps developed screening criteria to identify possible alternative ICTF sites that would be evaluated in the EIS. Three different levels of screening were used: Initial, Tier I, and Tier II. Initial screening criteria narrowed the analysis to private/public intermodal container terminals in Charleston Harbor. Tier I screening criteria narrowed the realm of possible alternative ICTF locations to specific sites, and then Tier II screening criteria further narrowed these sites to those to be carried forward in the EIS.

⁴⁰ NEPA's Forty Most Asked Questions (<http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm>).

2.3.1.1 Initial Screening Criteria: Presence of Private/Public Intermodal Container Terminals in the Charleston Harbor

The Corps recognizes that the construction and operation of an economically viable ICTF is dependent on the facility being located near a container terminal that currently handles or is planning to handle intermodal containers. Locating a facility too far from the container terminal would not be feasible as the distance to transport the containers from the terminal to the facility would be cost prohibitive. For example, drayage services may account for up to 40 percent of total shipping cost, and this cost increases sharply if rail facilities are not located near points of origin or destination.⁴¹ Furthermore, considering the service territory for Palmetto Railways, the Corps recognizes that the ICTF must be located near a private or public intermodal container terminal in the Charleston Harbor. Therefore, the initial screening criterion used in the formulation of viable alternatives is the presence of private/public intermodal container terminals in the Charleston Harbor.

2.3.1.2 Tier I Screening Criteria

The Tier I screening criteria were used in a step-wise fashion to identify specific alternative sites for the Proposed Project. The criteria were:

- Proximity (within 4 miles) to private/public intermodal container terminals in the Charleston Harbor, with a projected 400,000 TEU annual throughput by rail
- Area required for an ICTF (65+ acres)

2.3.1.2.1 Screening Criterion #1A: Proximity (within 4 miles) to Private/Public Intermodal Container Terminals in the Charleston Harbor

The maximum distance between the placement of the ICTF and a private or public intermodal container terminal is dictated by the purpose and need statement, which requires that the ICTF be a near-dock facility. While there is not a definitive distance associated with the term “near-dock,” approximately 4 miles has generally been considered by the rail industry as the furthest viable distance because of the need for the drayage road (and the use of UTR trucks) to link the nearest intermodal container terminal with the associated ICTF. Intermodal containers from other nearby container terminals would be transported by OTR trucks as they would not have a drayage road connection (other than the public road/highway network). Accordingly, this conservative distance of 4 miles was used as the limit for determining potential locations for siting an ICTF.

Containers would be brought to the ICTF by both private drayage road via UTR trucks and public streets via OTR trucks from the off-site terminals. The advantage of the near-dock facility is that containers can continue to be moved between the terminal and the ICTF on the private drayage road

⁴¹ “Time to market and overall logistics costs are prime factors driving freight facility location decisions,” National Cooperative Freight Research Program, Report 13 – Freight Facility Location Selection: A Guide for Public Officials, at 39, 54 (NCFRP Report 13).

even after the external gates of the terminal are closed (e.g., for truck shipments). Therefore, in addition to being “near-dock,” the ICTF also must be connected to a container terminal that has existing or projected TEU volumes to support the ICTF’s 24-hour-per-day, 7-day-a-week operations. The connection to a high-volume container terminal is needed for the ICTF to reach a minimum operational capacity of 800,000 TEUs per year (per the Applicant’s purpose and need statement).

2.3.1.2.2 Screening Criterion #IB: Area of Available Land Required for an ICTF (65+ acres)

The ability for an ICTF to handle existing and projected future intermodal container traffic from the Port and/or other businesses in the region also would require a minimum facility footprint. For an ICTF to handle a minimum of 20 percent of intermodal traffic that would be shipped by rail from the Port, or approximately 800,000 TEUs, a TEU capacity throughput per acre must be established. Whereas a conventional ICTF typically has a throughput capacity of 3,500 TEUs/acre, the Proposed Project would be a state-of-the-art facility that could process as much as 12,000 TEUs/acre (primarily due to the use of a private drayage road connected with a high TEU-capacity container terminal). As a result, a contiguous 65-acre minimum footprint would be necessary to handle the 800,000 TEUs/year. Sites were considered available if they were: (1) undeveloped and could be acquired by Palmetto Railways⁴²; (2) identified in the South Carolina State Rail Plan (Wilbur Smith Associates 2009); or (3) owned by Palmetto Railways.

2.3.1.3 Tier II Screening Criteria

For those potential sites that were carried forward from the Tier I analysis, more detailed Tier II screening criteria were used in a step-wise process to narrow the realm of specific alternative sites for the Proposed Project. The criteria included:

- Available infrastructure required for an ICTF
 - Proximity to existing rail lines for both Class I carriers
 - Proximity to highway network
 - Major infrastructure needed to access existing rail and/or highway network
- Availability of a private drayage road
- Configuration of available acreage

2.3.1.3.1 Screening Criterion #IIA: Available Infrastructure Required for an ICTF

The availability of key infrastructure is critical in determining whether a potential ICTF location would be viable. In light of the project’s purpose and need, infrastructure needed for an ICTF would include rail lines for both Class I carriers, and major road networks for trucks that are transporting

⁴² Palmetto Railways cannot acquire federally owned property and property owned by the Class I carriers; therefore, these lands are not considered to be available.

containers from other Port terminals and/or local businesses and industries. Potential sites without rail/road networks in close proximity, or that would need the construction of major new infrastructure (e.g., interstate or highway bridges), could be cost-prohibitive to develop as an ICTF.

2.3.1.3.1.1 Screening Criterion #IIA-1: Proximity to Existing Rail Lines for both Class I Carriers

The provision of equal access to CSX and NS is a requirement identified in the purpose and need for the project. For the purposes of this analysis, the potential cost and impacts to the human and natural environment associated with the construction of new rail connections that access existing Class I rail carrier lines would be considered as part of the screening criterion. This criterion also considers the anticipated wetland impacts from extending the rail alignment for both Class I carriers. Adding long-distance rail connections would be cost-prohibitive.

2.3.1.3.1.2 Screening Criterion #IIA-2: Proximity (less than 2 miles) to Highway Network

Access from the ICTF to major road networks and highways is also imperative for delivery of intermodal containers by trucks from other nearby intermodal container terminals and/or businesses in the region. Nearby access to a highway system, less than 2 miles (Bochner, Higgins, and Frawley 2010), minimizes the need for truck traffic to navigate through local and secondary road networks, while simultaneously minimizing adverse impacts to the roads, residents, and businesses located along these secondary road networks. This criterion also considers the anticipated wetland impacts from extending roadway alignments to major roadways. Adding long-distance connections to or extensions of major roadways would be cost-prohibitive.

2.3.1.3.1.3 Screening Criterion #IIA-3: Major Infrastructure Needed to Access Existing Rail and Highway Networks

The Corps recognized that locating an ICTF in an area that would require major infrastructure projects and/or improvements, such as new interstate or highway bridges or exit ramps, would be cost prohibitive. Accordingly, each potential site was evaluated to determine whether such major infrastructure would be needed to accommodate an ICTF.

2.3.1.3.2 Screening Criterion #IIB: Availability of a Private Drayage Road

One of the key elements for a competitive and cost effective near-dock facility is the ability to transport intermodal containers from the Port terminal to the ICTF on a private road, or private road network. As discussed in the project's purpose and need statement from Palmetto Railways, the ability to achieve a throughput capacity of 12,000 TEUs/acre is dependent on operational efficiencies from the presence of a private drayage road.

The primary reason for this project element is that the private drayage road provides a critical operational efficiency by allowing for 24 hour/day, 7 days/week delivery of intermodal containers

from the associated Port container terminal. This steady flow of containers enables the ICTF to operate 24 hours per day, maximize the throughput of intermodal containers to approximately 12,000 TEUs/acre, and, as a result, meet the purpose and need for transporting a minimum of 20 percent, or 800,000 TEUs, of the Port's total intermodal container traffic using rail. To be considered as a near-dock facility, the drayage road would need to be a length of less than 4 miles in distance from a container terminal.

In addition, many international containers have a weight that exceeds the limits allowed on public roadways and highways, typically 80,000 pounds. In the absence of a private drayage road, these overweight containers would have to undergo additional handling and processing so the goods could be divided and transferred to an additional container to comply with all applicable public roadway weight restrictions. The use of a private drayage road eliminates this double handling of heavier international containers, and is a more cost-effective approach to handling intermodal container traffic.

2.3.1.3.3 Screening Criterion #IIC: Configuration of Available Acreage

While it is important to have a parcel of land large enough to accommodate an ICTF, the configuration of the parcel is equally important. Any potential parcel of land that is at least 65 acres in size must also be able to accommodate the numerous processing and classification railroad tracks, wide-span gantry cranes, container storage areas, administrative and maintenance buildings, and other associated infrastructure for an ICTF to achieve a throughput capacity of at least 800,000 TEUs per year. While there is not a specific definable configuration that is required, examples of ICTFs across the country indicate the most cost-effective configuration for an ICTF would be an extended rectangular-shaped parcel. Regardless of specific shape, the site configuration should be conducive to process the intended throughput capacity.

2.3.2 Results of Screening Analyses

2.3.2.1 Results from Initial Screening Criterion: Presence of Private/Public Intermodal Container Terminals in the Charleston Harbor

There are four public and no private container terminals in the Charleston Harbor that handle, or are planning to handle, intermodal container traffic. The four intermodal public terminals are part of the Port: North Charleston Container Terminal, HLT (under construction), Wando Welch Container Terminal, and Columbus Street Terminal. The other two terminals associated with the Port (Union Pier and Veterans Terminal) do not handle intermodal containers. Union Pier Terminal is almost exclusively a cruise terminal but also handles "break-bulk" (e.g., paper, wire rods) and roll-on/roll-off items such as heavy equipment and cars. Veterans Terminal has very few ship calls, and primarily handles "bulk" (e.g., aggregate) and "break-bulk" cargo.

Accordingly, the four public container terminals carried forward into Tier I Screening are Wando Welch Container Terminal, HLT, Columbus Street Terminal, and North Charleston Container Terminal.

2.3.2.1.1 Wando Welch Container Terminal

The Wando Welch Container Terminal is located in Mt. Pleasant on the east bank of the Wando River. It currently handles a majority of the container traffic through the Port of Charleston, and has a total throughput capacity of approximately 1.6 million TEUs per year. The Port projects that the terminal will handle approximately 1.5 million TEUs per year in 2018, and approximately 1.6 million TEUs per year in 2038⁴³. Currently, intermodal containers that will be transported by rail are first carried by truck to CSX's Ashley Junction rail yard or NS's 7-Mile rail yard.

2.3.2.1.2 Hugh K. Leatherman, Sr. Terminal (HLT)

The HLT is located in North Charleston along the west bank of the Cooper River, and is within the boundary of the former CNC. After the terminal is completed (projected completion is 2019), it would be able to handle a total throughput capacity of 1.4 million TEUs of container traffic per year. While the terminal would not be completed by the time that the proposed ICTF would be in operation (2018), the Port projects that the terminal would handle approximately 1.4 million TEUs per year by 2038.

2.3.2.1.3 Columbus Street Terminal

The Columbus Street Terminal is located in the City of Charleston on the west bank of the Cooper River, and south of the former CNC. The Columbus Street Terminal is a combination "break-bulk" and container terminal that primarily serves the automobile manufacturer BMW. The Port projects that the terminal will handle approximately 66,000 TEUs per year in 2018, and approximately 300,000 TEUs per year in 2038.⁴⁴

2.3.2.1.4 North Charleston Container Terminal

The North Charleston Container Terminal is located in the City of North Charleston along the west bank of the Cooper River, and is adjacent to the Charleston Naval Weapons Station. The Port projects that the terminal will handle approximately 650,000 TEUs per year in 2018, and approximately 700,000 TEUs per year in 2038.⁴⁵

⁴³ Personal communication, Barbara Melvin, August 12, 2014.

⁴⁴ Personal communication, Barbara Melvin, August 12, 2014.

⁴⁵ Personal communication, Barbara Melvin, August 12, 2014.

2.3.2.2 Results from Tier I Screening Criteria

The Wando Welch Container Terminal, HLT, Columbus Street Terminal, and North Charleston Terminal were evaluated using the Tier I screening criteria. The screening criteria were adapted into a GIS-based approach to identify potential alternative sites.

2.3.2.2.1 *Screening Criterion #IA: Proximity (within 4 miles) to Private/Public Intermodal Container Terminals in the Charleston Harbor*

As described below, out of the four container terminals in the Charleston Harbor that were identified during the initial screening process, two were eliminated based on Screening Criterion IA (Columbus Street Terminal and North Charleston Container Terminal), and two were carried forward for evaluation based on Screening Criterion IB (Wando Welch Container Terminal and HLT).

The Port currently projects that Columbus Street Terminal would handle approximately 14,000–20,000 TEUs that would be shipped by rail in 2018 (the projected opening of the proposed ICTF), and further projects that, in Year 2038, the terminal would handle no more than 90,000 TEUs per year that would be transported by rail.⁴⁶ In light of these low TEU volumes, it would be impractical, and would not meet the purpose and need for the Proposed Project, to site an ICTF on or near the Columbus Street Terminal solely for the purposes of accommodating existing and/or projected future intermodal traffic through the Port.

The inability to meet a minimum throughput TEU capacity of 800,000 TEUs/year (as defined in the purpose and need) also would prevent placement of an ICTF near or on the North Charleston Container Terminal. The Port currently projects that the North Charleston Container Terminal would handle approximately 120,000–160,000 TEUs that would be shipped by rail in 2018, and further projects that, in Year 2038, the terminal would handle no more than 210,000 TEUs that would be transported by rail.⁴⁷ Neither container terminal processes a sufficient volume to warrant the use of a private drayage road for 24/7 operations to the ICTF; therefore, they were eliminated from further consideration.

In comparison, the Port projects that Wando Welch Container Terminal and the HLT (under construction) would handle as much as 475,000 TEUs and 420,000 TEUs, respectively, which would be transported by rail in 2038. Both of these projected volumes would be sufficient to warrant a connection of an ICTF with a private drayage road, and to operate efficiently to reach a minimum 800,000 TEU throughput; therefore, these two container terminals are carried forward for additional screening.

⁴⁶ Personal communication, Barbara Melvin, August 12, 2014.

⁴⁷ Personal communication, Barbara Melvin, August 12, 2014.

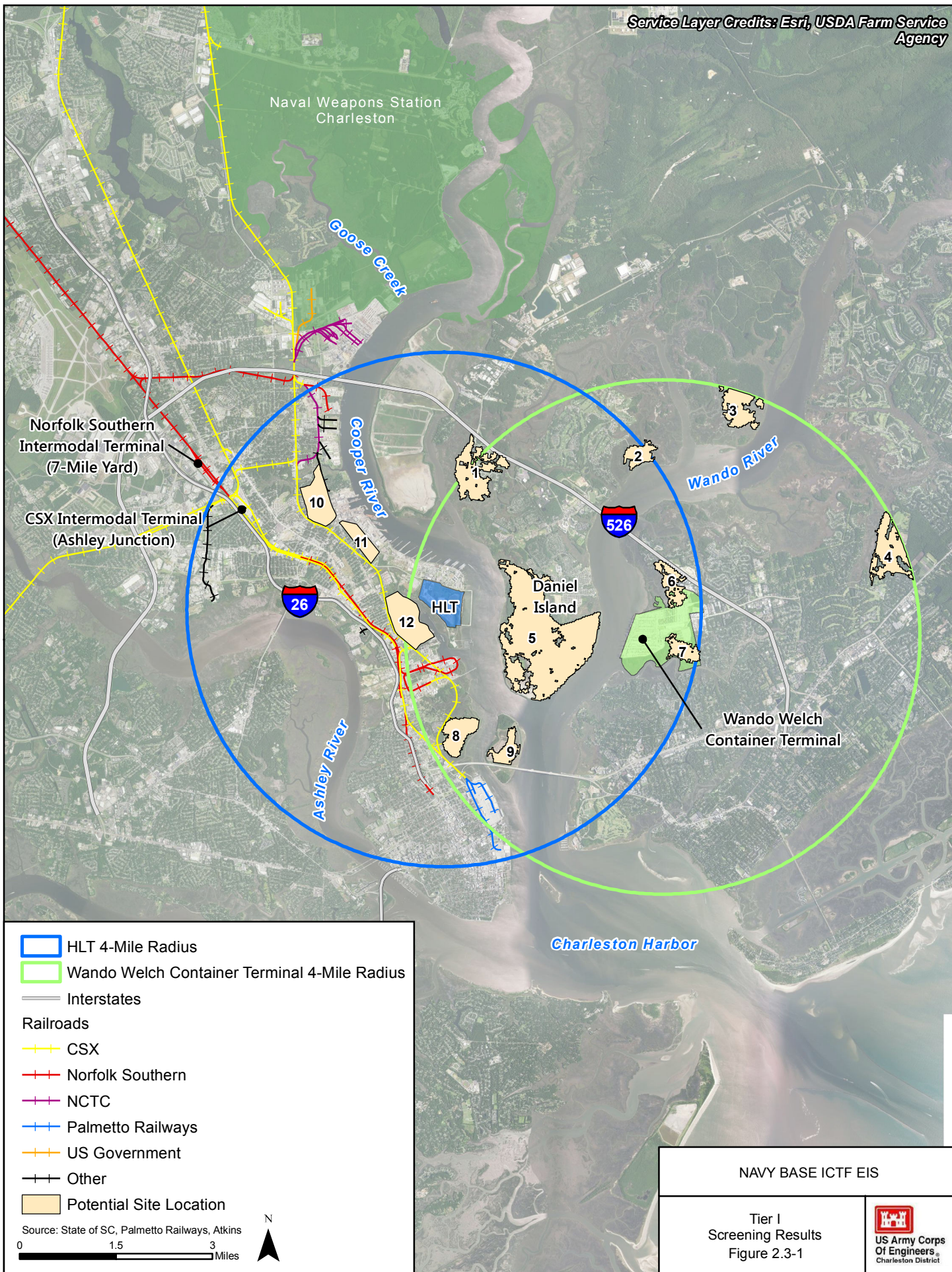
2.3.2.2 Screening Criterion #1B: Area of Available Land Required for an ICTF (65+ acres)

To efficiently identify potential ICTF sites associated with the Wando Welch Container Terminal and the HLT, data from the National Oceanic and Atmospheric Administration's (NOAA) Coastal Change Analysis Program (C-CAP) was utilized. C-CAP produces a nationally standardized database of land cover and land change information for the coastal regions of the U.S. To identify suitable sites, all developed land uses within a 4-mile radius of the two terminals were eliminated. Wetlands were identified to determine suitable sites with minimal wetland impacts. After all non-suitable land uses were eliminated, a query was performed to determine contiguous land uses that were 65 acres or greater (minimum size necessary for the site). After all the remaining sites were identified, each site then was reviewed a final time to ensure development potential. If sites had additional constraints (i.e., federal lands, state parks, etc.) that would prevent their use, they were removed from further consideration.

This analysis resulted in twelve potential sites (Figure 2.3-1) that were carried forward to evaluation by Tier II screening criteria. Descriptions of the 12 sites are contained in Table 2.3-1.

2.3.2.3 Results from Tier II Screening Criteria

Twelve sites near Wando Welch Container Terminal and the HLT were evaluated using Tier II screening criteria. Three of the 12 sites were previously identified in the South Carolina State Rail Plan (Wilbur Smith Associates 2009) as potential locations for an ICTF. These three sites are identified in this analysis as the Macalloy Site, the Project site (Former Clemson Site), and the River Center project site (Former Noisette Site). All 12 sites were evaluated in a step-wise fashion, where potential sites that were screened out by a particular Tier II criterion were not carried forward for further evaluation in subsequent criteria.



- HLT 4-Mile Radius
- Wando Welch Container Terminal 4-Mile Radius
- Interstates
- Railroads
- CSX
- Norfolk Southern
- NCTC
- Palmetto Railways
- US Government
- Other
- Potential Site Location

Source: State of SC, Palmetto Railways, Atkins

0 1.5 3 Miles



NAVY BASE ICTF EIS

Tier I
Screening Results
Figure 2.3-1



Table 2.3-1
Potential Sites Associated with the HLT
and the Wando Welch Port Facilities

Site	Description	Driving Distance to Container Terminals*
1	This 238-acre parcel primarily consists of evergreen forest with sparse areas of scrub/shrub habitat and grassland. This site is adjacent to the interchange at I-526 and Clements Ferry Road. The nearest existing rail line for Class I carriers is approximately 8.96 miles away.	Driving distance along existing roadway(s) from Site 1 to Wando Welch is approximately 5.6 miles. Driving distance to HLT is 11.2 miles.
2	This 80-acre parcel consists of evergreen forest land. The site is adjacent to the Wando River, 1.67 miles northeast of I-526, and south of the Daniel Island Country Club. This site is approximately 7.45 miles away from an existing rail line for a Class I carrier.	Driving distance along existing roadway(s) from Site 2 to Wando Welch is approximately 6.6 miles. The distance from Site 2 to the HLT is 17 miles.
3	This 153-acre parcel consists of an even mixture of evergreen forest and scrub/shrub habitat. The evergreen forest appears to be planted rows of pine trees. The site is adjacent to the Wando River on Point Hope Island and lies south of Clements Ferry Road. The site is approximately 2.59 miles to a major highway network and 7.05 miles away from an existing rail line for a Class I carrier.	Driving distance along existing roadway(s) from Site 3 to Wando Welch is approximately 11.1 miles. Distance to the HLT is approximately 18.7 miles
4	This 214-acre parcel consists of a mixture of pastureland, evergreen forest, and cultivated crops with some scrub/shrub habitat. The site is adjacent to U.S. Highway 17 (US 17) and Long Point Road. This site is 10.09 miles from an existing rail line for a Class I carrier.	Driving distance along existing roadway(s) from Site 4 to Wando Welch is approximately 5.7 miles. Distance to the HLT is approximately 13.8 miles.
5	This 1,117-acre parcel is classified as an active and inactive confined disposal facility (CDF) and a mixture of cultivated crops, cleared land, and scrub/shrub habitat. The site is located on the southern tip of Daniel Island, and is bounded by the Wando River to the east and the Cooper River to the west. This site is approximately 2.59 miles from a major highway network and approximately 11.58 miles from an existing rail line for a Class I carrier.	Driving distance along existing roadway(s) from Site 5 to Wando Welch is approximately 6.4 miles and from Site 5 to the HLT is 17.2 miles.
6	This 102-acre parcel primarily consists of evergreen forest with patches of scrub/shrub habitat and mixed forest. The site is adjacent to the Wando Welch Terminal on the north side and lies adjacent to I-526. The nearest existing rail line for Class I carriers is approximately 9.55 miles away.	Site 6 is adjacent to the Wando Welch Terminal and is approximately 20.2 miles to the HLT.

Table 2.3-1, cont'd

Site	Description	Driving Distance to Container Terminals*
7	This 80-acre parcel consists of a mixture of undeveloped grassland and evergreen forest. The site is located just south of the Wando Welch Terminal. This site is approximately 0.43 mile south of I-526 and is adjacent to an existing rail line for a Class I carrier.	The Wando Welch Terminal is adjacent to Site 7, while driving distance to the HLT is approximately 13.4 miles.
8	This 139-acre parcel primarily consists of grassland/cleared land with scattered areas of scrub/shrub habitat. The site is located off of Romney Street and is bordered by the Cooper River on the east side. US 17 is close by to the north of the parcel (0.20 mile). An existing rail line for a Class I carrier is located adjacent to the site to the west.	Driving distance along existing roadway(s) from Site 8 to the HLT is approximately 4.5 miles. Distance to Wando Welch Terminal is approximately 8.7 miles.
9	This 80-acre parcel is located on Drum Island, and consists primarily of cleared land. The Arthur Ravenel Jr. Bridge along US 17 spans the site on the south side. The site is approximately 0.62 mile from an existing rail line for a Class I carrier and is adjacent to a major highway network, but there are no connections to either from the island.	Driving distance along existing roadway(s) from Site 9 to the HLT is approximately 6.0 miles. Distance to Wando Welch Terminal is approximately 7.5 miles.
10	This 185-acre parcel consists of a mixture of high-intensity and medium-intensity development. Formerly known as the Noisette Site (Wilbur Smith Associates 2009), this site is located at the northern end of the former CNC and is referred to as the "River Center project site" for this analysis. The majority of the site is owned by Palmetto Railways; however, several tracts of property that are owned by the City of North Charleston will be transferred into ownership by Palmetto Railways in 2017. The site is nearby to an existing rail line for a Class I carrier and to a major highway network.	Driving distance along existing roadway(s) from Site 10 to the HLT is approximately 2.2 miles. Distance to Wando Welch Terminal is approximately 13.9 miles.
11	This 100-acre parcel consists of a mixture of low- to medium-intensity development with some developed open space (i.e., ball fields). Formerly known as the Clemson Site (Wilbur Smith Associates 2009), this site is located in the middle of the former CNC and is referred to as the Project site for this analysis. There is an existing rail line for a Class I carrier nearby to the west. The site is also adjacent to a major highway network.	Driving distance along existing roadway(s) from Site 11 to the HLT is approximately 1.2 miles. Distance to Wando Welch Terminal is approximately 12.3 miles.

Table 2.3-1, cont'd

Site	Description	Driving Distance to Container Terminals*
12	This 228-acre parcel consists of a mixture of medium-intensity development, developed open space, and cleared land. Undeveloped land accounts for approximately 151 acres, while 76 acres are developed on the western portion of the property, which currently provides isotainer (i.e., a bulk liquid tank in a container) cleaning and storage. Known as the Macalloy Site (Wilbur Smith Associates 2009), the site lies west of the HLT and Shipyard Creek, and is a Superfund site. There is an existing rail line for a Class I carrier adjacent to the west. The site is also adjacent to a major highway network.	Driving distance along existing roadway(s) from Site 12 to the HLT is approximately 0.5 mile. Distance to Wando Welch Terminal is approximately 11.8 miles.

Source: Atkins 2018.

* Driving distance was determined along the roadways that were assumed to have more through-traffic and not along roads going through neighborhoods.

The alternatives analysis resulted in two sites—the River Center project site and the Proposed Project site—that “passed” all the Tier I and Tier II screening criteria and that would meet the purpose and need of the Proposed Project (Figure 2.3-2). Because the Corps deemed these two sites acceptable locations for potential placement of an ICTF, they were carried forward for further consideration in the EIS. Tables 2.3-2, Table 2.3-3 and Table 2.3-4 provide the summary results of the Tier II screening analysis, including the conclusion from the Tier I screening (eliminated/reason or carried forward to Tier II screening).

2.3.2.3.1 Screening Criterion #IIA: Available Infrastructure Required for an ICTF

When the final 12 potential sites were determined (Figure 2.3-1), each site was then evaluated to determine: (1) its proximity and distance to existing rail lines and highway networks; (2) the need to construct new, major road/rail improvements (e.g., highway and/or interstate bridges) to connect with existing rail and highway networks; (3) the impact (wetlands and rough cost) for connecting the existing road/rail connection to the potential site; and (4) proximity of the potential sites to the associated container terminal.

Table 2.3-2
Summary of Results for Tier II Screening Analysis (Screening Criterion #IIA)

Site	Tier II Screening Criterion #IIA: Available Infrastructure Required for an ICTF				Carried Forward to #IIB Screening?
	Proximity to Existing Rail Lines for Class I Carriers (Miles)	Proximity to Major Highway Network (Miles)	Estimated Wetland Impacts (Acres) for Rail, Public Road Access	New Major Infrastructure Needed to Access Rail/Road Network?	YES/NO
1	8.96	Adjacent	16.6 rail, 0.00 road	Y	NO
2	7.45	1.67	14.2 rail, 6.75 road	Y	NO
3	7.05	2.59	3.56 rail, 2.33 road	Y	NO
4	10.09	Adjacent	13.8 rail, 0.00 road	Y	NO
5	11.58	2.59	20.40 rail, 15.8 road	Y	NO
6	9.55	Adjacent	16.3 rail, 0.00 road	Y	NO
7	10.67	0.43	16.7 rail, 0.79 road	Y	NO
8	Adjacent	0.20	0.00 rail, 0.00 road	N	YES
9	0.62	Adjacent	2.19 rail, 0.00 road	Y	NO
10	Less than 0.50	Adjacent	0.99 rail, 0.00 road	N	YES
11	Less than 0.50	Adjacent	0.00 rail, 0.00 road	N	YES
12	Adjacent	Adjacent	0.00 rail, 0.00 road	N	YES

Source: Atkins 2018.

As a result of this screening criterion, the Corps eliminated eight sites from further Tier II screening, while the remaining four sites associated with the HLT (8, 10, 11, and 12) were carried forward to screening Criterion IIB (shown in Table 2.3-2).

When calculating wetland impacts for rail lines, a buffer of 25 feet⁴⁸ on each side of the rail center line was used. For roadway alignments, a buffer of 62 feet on each side of the roadway centerline was used. Industry standards for costs to construct or modify infrastructure for rail and road access are:

- \$225/LF, or \$1 million/mile for new main rail line track
- \$1 million/mile to resurface a two-lane rural road
- \$2 million/mile to construct a two-lane rural road
- \$5 million/mile to construct a 4-lane urban arterial road

Therefore, adding long-distance connections to existing road or rail networks would be considered cost-prohibitive and therefore unreasonable. Likewise, the need to construct major roadway improvements such as highway exits or interstate bridges would be considered cost-prohibitive and therefore unreasonable.

2.3.2.3.2 Screening Criterion #IIB: Availability of a Private Drayage Road

Four sites (8, 10, 11, and 12) were evaluated for the feasibility of constructing a private drayage road linking the potential site with the HLT. Table 2.3-3 provides the results of Screening Criterion #IIB.

- Establishing a private drayage road from Site 8 would not be practical due to the location of the HLT entry gate. The private drayage road would exceed the four-mile maximum length that is identified in the screening criterion (4.5 miles long) and would cross multiple rail crossings, and private property that would have to be condemned. Without the private drayage road, the ICTF would not be a near-dock facility and, therefore, would not meet the project's purpose and need. In addition, Site 8 is located on a former landfill (dredged material disposal site on top of unconsolidated trash), and would not be suitable for placement of an ICTF. For these reasons, this site was not carried forward for screening.
- Site 10 (the River Center project site) would be able to support a private drayage road from the HLT entry gate to the southernmost portion on the River Center project site. The private drayage road would be approximately 2 miles in length and would have approximately 1 acre of wetland impacts.
- Site 11 (the project site) also would be able to support a private drayage road from the HLT's entry gate to the southern boundary of the project site. The private drayage road would be 1 mile in length, and would have approximately 1 acre of wetland impacts.
- Site 12 (the Macalloy Site) would support a private drayage road from the HLT. The private drayage road would be approximately 0.5 mile in length and would have approximately 1 acre of wetland impacts.

⁴⁸ Twenty-five feet was used for this planning level analysis to cover the ROW width and allow some additional width for temporary construction. In sections to follow, a limits-of-construction file with an average of twenty-nine feet from rail center to buffer edge was used to calculate wetland impacts.

Table 2.3-3
Summary of Results for Tier II Screening Analysis (Screening Criterion #IIB)

Site	Tier II Screening Criterion #IIB: Availability of a Private Drayage Road	Estimated Wetland Impact (acres) from Drayage Road	Carried Forward to #IIC Screening?
	YES/NO		YES/NO
8	NO	N/A	NO
10	YES	1	YES
11	YES	1	YES
12	YES	1	YES

Source: Atkins 2016.

2.3.2.3.3 Screening Criterion #IIC: Configuration of Available Acreage

The three sites carried forward (10, 11, and 12) were evaluated to determine whether the site's configuration would support an ICTF that would meet the purpose and need of the project. At more than 185 acres, Site 10 (the River Center project site) has sufficient acreage to support a state-of-the-art ICTF, and has sufficient configuration to place an ICTF on an extended rectangular-shaped parcel. Similarly, Site 11 (the Project site) has sufficient acreage (118 acres) in an acceptable configuration to support a state-of-the-art ICTF.

Site 12 (the Macalloy Site) has sufficient acreage with 228 acres (approximately 170 acres on the south side of the Port Access Road); however, existing and proposed future infrastructure on the site (e.g., Port Access Road) constrains the site's ability to achieve a throughput capacity of at least 800,000 TEUs per year, which is necessary to meet the purpose and need of the Proposed Project. In light of the encumbrances that result from existing and future infrastructure, the site configuration cannot achieve the required throughput capacity for several reasons, including: the number of wide-span gantry cranes that can be placed on the site is limited (available space and required buffers between cranes); the inability to physically place a sufficient number of arrival/departure tracks and associated processing and classification tracks required for the operation of the wide-span gantry cranes (a minimum of 500 feet of track is needed for each crane, 3) the inability to place tail tracks on the site, which contributes to the inability to assemble multiple 3,000-foot train segments (for building 9,000- to 10,000-foot trains); and physical constraints to train switching requirements within the site as a result of configuring the various elements of an ICTF in the existing available acreage. Land adjacent to the Macalloy property that could provide additional space for placement of processing and classification

Tail track: A section of rail track that is stub-ended and allows for the staging of approximately 3,000-foot train segments while building an approximately 9,000- to 10,000-foot train.

tracks is not available because the property is owned by CSX, and it cannot be condemned.

2.3.2.3.4 Summary

As a result of this screening criterion, and as shown in Table 2.3-4, one site (Site 12) was eliminated from further analysis. The remaining two sites, Sites 10 and 11, are carried forward for detailed evaluation in the EIS (shown on Figure 2.3-2).

Table 2.3-4
Summary of Results for Tier II Screening Analysis (Screening Criterion #IIC)

Site	Tier II Screening Criterion #IIC: Configuration of Available Acreage	Carried Forward for Analysis in the EIS?
	YES/NO	YES/NO
10	YES	YES
11	YES	YES
12	NO	NO

Source: Atkins 2016

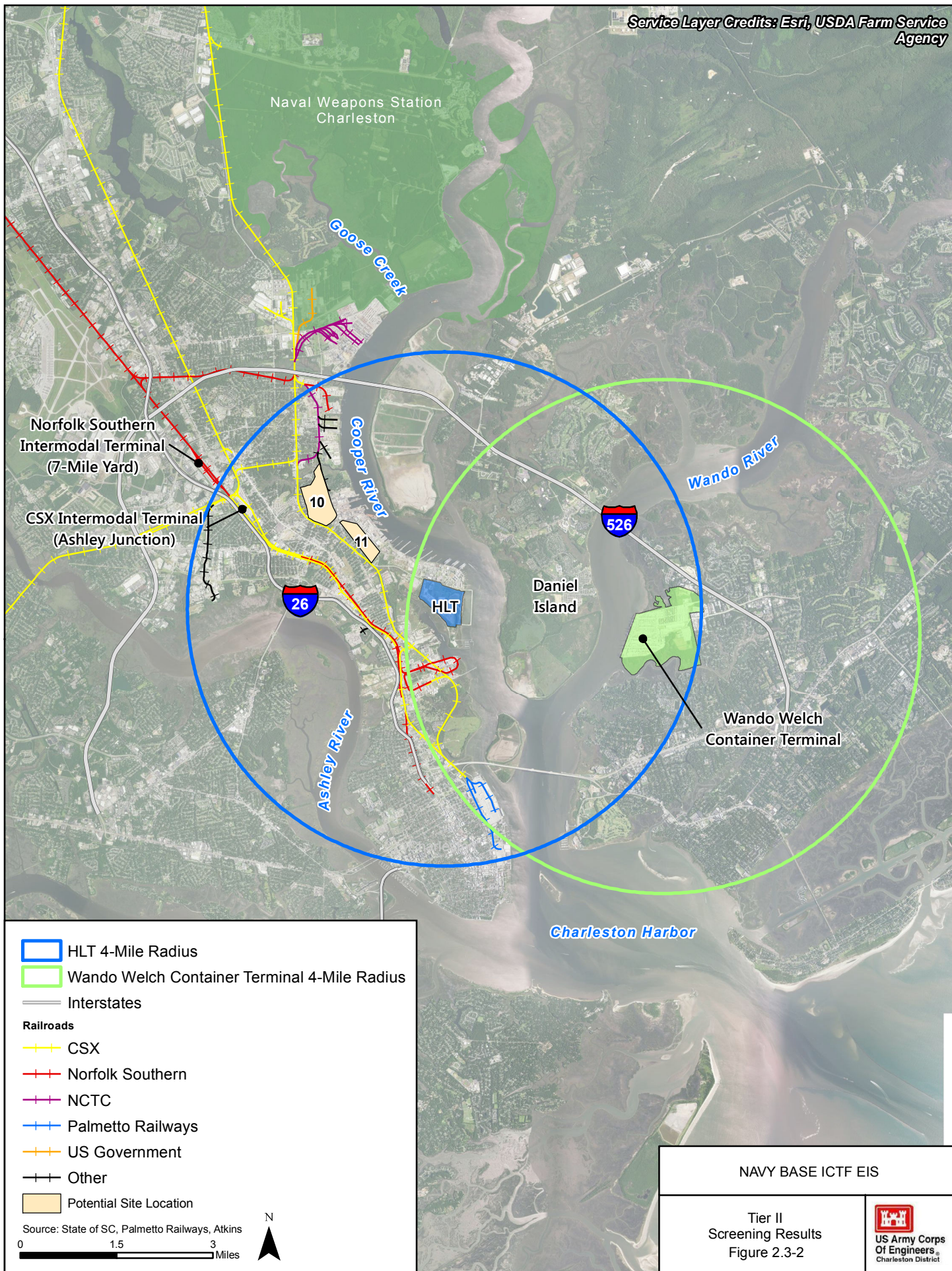
2.3.3 Alignments Considered but Not Further Evaluated

2.3.3.1 Arrival/Departure Track Alignments

In addition to the two arrival/departure track options presented under the Proposed Project, there were other alternative rail routes leaving the Project site that were considered but eliminated from further evaluation. This included placement along Noisette Boulevard, and placement along Spruill Avenue adjacent to the CSX ROW.

The Noisette Boulevard Route was eliminated because geometry of the proposed grade separation of Cosgrove Ave would not be able to give adequate clearances to tie into the existing roadways, it would block pedestrian access to parking areas across Noisette Blvd, and create safety hazards due to having to add more at grade railroad crossings. This alignment would also require demolition of additional structures along Noisette Blvd and limit operations and access to existing businesses and other land uses for extended periods of time. Redevelopment efforts of adjacent buildings would also be impacted.

Placing the route along Spruill Avenue adjacent to, but not within, the CSX ROW was eliminated from further evaluation due to property acquisition associated with construction. In order to have the correct track geometry, this option would require impacts to existing businesses and residences along Aragon Avenue and Spruill Ave. As many as 50 properties or more would need to be acquired.



- HLT 4-Mile Radius
- Wando Welch Container Terminal 4-Mile Radius
- Interstates
- Railroads**
- + CSX
- + Norfolk Southern
- + NCTC
- + Palmetto Railways
- + US Government
- + Other
- Potential Site Location

Source: State of SC, Palmetto Railways, Atkins
 0 1.5 3 Miles



NAVY BASE ICTF EIS

Tier II
 Screening Results
 Figure 2.3-2



2.3.3.2 Drayage Road Alignments

Several alignments for the drayage road were considered during the development of the Proposed Project and alternatives analysis but not further evaluated. These included an alignment along Bainbridge Avenue, and various alignments in the western portion of the FLETC-owned property to the north of the HLT.

The placement of the drayage road along Bainbridge Avenue was eliminated from further evaluation because all FLETC operations west of Bainbridge Avenue would be cut off, and the placement would require a secondary entrance to the HLT. Placement along the furthest western boundary of the FLETC-owned property was also considered at the request of FLETC so as to minimize impacts to its operations at the site; however, even with using the centerline of the tidelands road for the alignment, this placement would result in acres of additional tidal salt marsh impacts. As a result, the Corps eliminated this alignment from further evaluation. Similarly, placement of the drayage road on uplands within the western boundary of the FLETC-owned property was considered so that impacts to wetlands would be minimized; however, such placement would require relocation of two training areas that FLETC uses just south of Shipyard Creek, and would impact an area that the U.S. Coast Guard leases from FLETC for two radio towers used for emergency VHF communications along the east coast. As a result, the Corps eliminated this alignment from further evaluation. The proposed alignment of the drayage road minimizes impacts to waters of the U.S., including wetlands and avoids impacts to FLETC training facilities and the U.S. Coast Guard facilities.

2.4 ALTERNATIVES RECOMMENDED FOR DETAILED EVALUATION IN THE EIS

Based on information submitted by the Applicant in their proposal, and the Corps' own independent review, the Corps completed the initial identification and evaluation of alternatives for the Navy Base ICTF and determined that eight alternatives should be evaluated in detail in the EIS (see Table 2.4-1). In addition to the No-Action Alternative, four alternatives are associated with the Project site, and three alternatives are associated with the River Center project site. Variations of alternatives within a Project site are primarily based on differing arrival/departure track alignments.

Terminology used for River Center alternatives:

- *River Center ICTF*: The 113-acre facility site.
- *River Center Project Site*: The 113-acre facility site (ICTF), and associated impact areas for the ICTF and off-site roadway and rail improvements.