

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.

Table 2.4-1
 Alternatives Recommended for Detailed Evaluation in the EIS

Alternative	Description
No-Action Alternative	Application for DA permit would be denied; the Proposed Project would not occur; CSX and NS would undertake operational and structural modifications to Ashley Junction and 7-Mile rail yards. Future use of the Proposed Project and River Center project sites would likely be mixed-use and industrial (e.g., rail-served warehousing distribution center).
Alternative 1: Applicant's Proposed Project (South via Milford / North via Hospital District)	Palmetto Railways Project would be constructed and operated as proposed (Section 1.7).
Alternative 2: Proposed Project Site (South via Milford / North via S-line)	A variation of the Proposed Project where the northern rail connection would be relocated along Spruill Avenue within existing CSX ROW to the S-line, and turn east along Aragon Avenue to the existing NCTC rail line; road and rail improvements would be adjusted accordingly to facilitate rail and road traffic as a result of the northern rail connection alignment.
Alternative 3: Proposed Project Site (South via Kingsworth / North via Hospital District)	A variation of the Proposed Project where the southern rail connection would connect to an existing rail line near Kingsworth Avenue (and adjacent to existing rail and ROW); road and rail improvements would be adjusted accordingly to facilitate rail and road traffic as a result of the southern rail connection alignment.
Alternative 4: Proposed Project Site (South via Milford)	A variation of the Proposed Project where trains would enter and exit the Navy Base ICTF from a southern rail connection only. An additional parallel track would enter and exit the Navy Base ICTF as described in the Proposed Project, and connect to an existing rail line near Milford Street (and adjacent to existing rail and ROW). Proposed rail for train switching (building) through the Hospital District would stop short of Noisette Creek.
Alternative 5: River Center Project Site (South via Milford / North via Hospital District)	A variation of the Proposed Project with the Project site being moved to the River Center project site; road and rail improvements would be adjusted accordingly to facilitate rail and road traffic at the new site.
Alternative 6: Alternative 6: River Center Project Site (South via Kingsworth / North via Hospital District)	A variation of the Proposed Project with the Project site being moved to the River Center project site and the southern rail connection would connect to an existing rail line near Kingsworth Avenue (and adjacent to existing rail and ROW). Road and rail improvements would be adjusted accordingly to facilitate rail and road traffic at the new site.

Alternative	Description
Alternative 7: River Center Project Site (South via Milford)	A variation of the Proposed Project with the Project site being moved to the River Center project site and trains would enter and exit the Navy Base ICTF from a southern rail connection; road and rail improvements would be adjusted accordingly to facilitate rail and road traffic at the new site.

2.4.1 No-Action Alternative

The No-Action Alternative represents the future without the Proposed Project, and is used as a baseline from which to compare alternatives. Under the No-Action Alternative, the Corps would not issue a DA permit. As the Project is currently proposed, impacts to waters of the U.S., including wetlands at Shipyard Creek and Noisette Creek would be unavoidable, and a DA permit would be required for the Project to proceed. As a result, the second scenario would not be feasible. Therefore, under the No-Action Alternative, the Corps would not issue a DA permit, and construction and operation of the Navy Base ICTF would not occur. The No-Action Alternative assumes that the SCDOT would construct the Port Access Road, which would elevate Stromboli Avenue.⁴⁹

Related to the purpose and need as stated by the Applicant, the No-Action Alternative assumes that the two existing rail yards (Ashley Junction/Bennett Yard and 7-Mile) would continue to handle and process current and projected future intermodal container traffic that would be transported by rail. CSX and NS would implement operational and structural modifications to their respective rail yards to increase their capabilities; however, the capacities and size limitations of the two rail yards would constrain the region's ability to accommodate the projected 25–30 percent of intermodal containers that could be transported by rail in 2038. Intermodal containers would continue to be delivered by truck to the two rail yards. The majority of intermodal containers coming through the Port's container terminals would continue to be transported by truck to their destinations, using public roadways.

For the purposes of this EIS, the No-Action Alternative assumes that the Project site and the River Center project site would continue to include mixed use (residential and commercial) and industrial land uses. In light of Palmetto Railways' ownership of the properties, there would be the potential for redevelopment of these areas to include rail-served warehousing and distribution. A rail-served warehousing and distribution center typically consists of a yard in the center of the property, with either multiple "smaller" warehouses or the construction of a large warehouse (1,000,000+ SF). Rail tracks could be placed alongside the warehouse(s). Other features associated with a rail-served warehousing distribution center could include impervious parking, green space, administrative

⁴⁹ The SCDOT began construction on the Port Access Road (Project ID 0037345) Design-build Project in November 2016. Information on the project can be found at: <http://www.sportaccessroad.com>.

buildings, stormwater retention, and other infrastructure. Truck traffic to a rail-served warehousing and distribution center would most likely occur using the Cosgrove Avenue exit on I-26.

2.4.2 Alternative 1: The Applicant's Proposed Project (South via Milford / North via Hospital District)

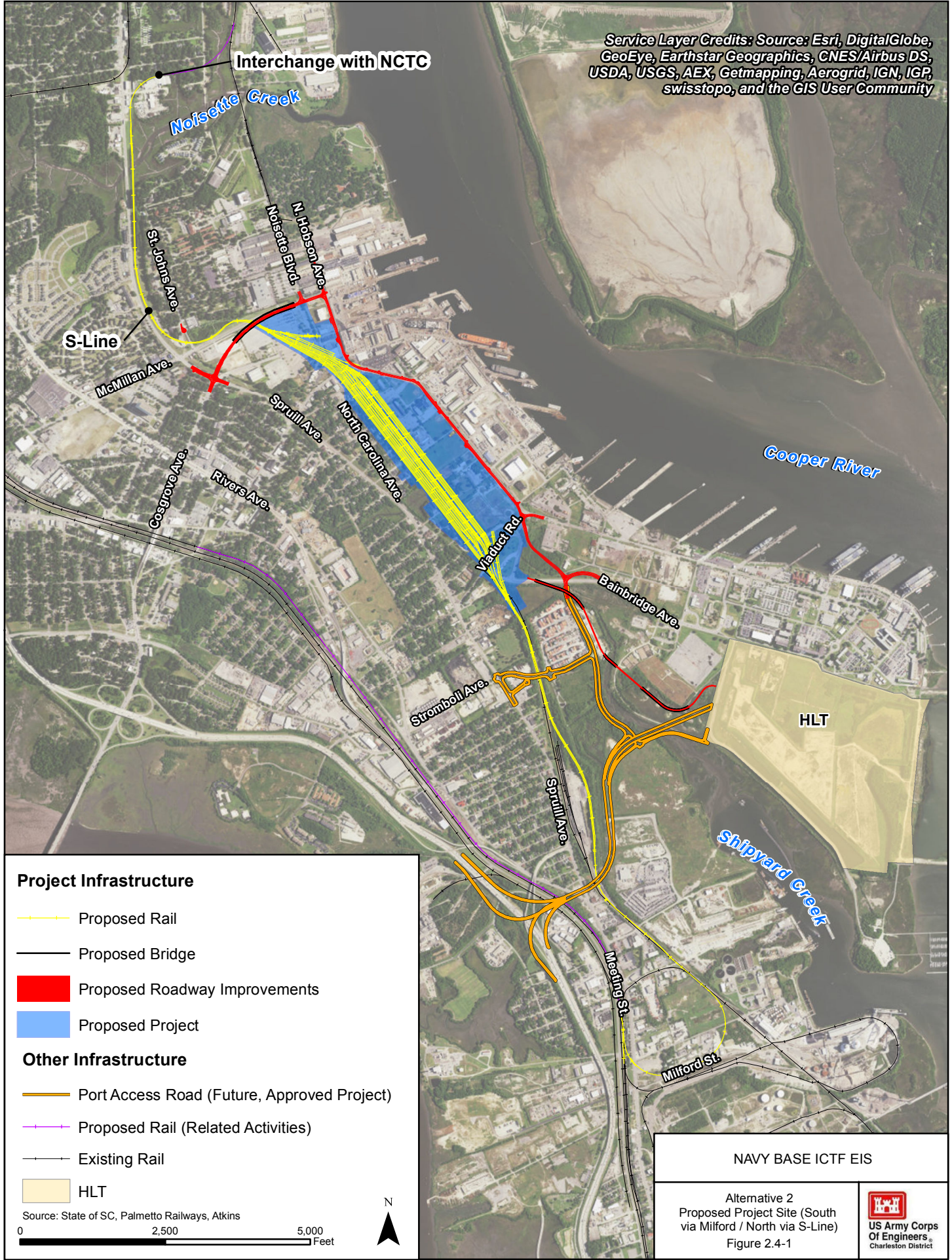
Alternative 1 is the Applicant's Proposed Project as defined in Section 1.7 and shown on Figure 1.7-1.

2.4.3 Alternative 2: Proposed Project Site (South via Milford / North via S-line)

Under Alternative 2, the intermodal facility would include all the facility components of Alternative 1 (Proposed Project). Road and rail improvements associated with the southern rail connection would be the same as Alternative 1 (Proposed Project). The following road and rail improvements would be required to place the northern rail connection along the out-of-service CSX S-line (Figure 2.4-1):

- At the northern end of the ICTF, close the segment of McMillan Avenue between Spruill Avenue and Kephart Street. The segment of Cosgrove Avenue that is located east of Spruill Avenue would be realigned and replaced with a flyover over the new rail lines. The flyover would provide future roadway access between Spruill Avenue and Noisette Boulevard and Spruill Avenue and North Hobson Avenue after McMillan Avenue is closed. In this same vicinity, a cul-de-sac would be constructed at the southern end of St. Johns Avenue, and the CNC gate at Turnbull Avenue would be open to provide future access from St. Johns Avenue to Noisette Boulevard (Figure 2.4-1).
- In the vicinity of McMillan Avenue and St. Johns Avenue, install an arrival/departure track tie-in to the existing out-of-service CSX S-line within the existing CSX right of way (ROW) that runs parallel to Spruill Avenue (to provide northern rail access into the ICTF). An agreement with CSX would be required for this proposed rail improvement; however, such an agreement between Palmetto Railways and CSX has not yet taken place.
- Reactivate the existing out-of-service CSX S-line track within the existing CSX ROW that runs parallel to Spruill Avenue. A new multiple track rail bridge would be constructed to replace the existing single-track bridge within the existing ROW across Noisette Creek.
- Make NCTC and CSX ROW improvements and construct a new track to the east of the Spruill Avenue and Aragon Avenue intersection (to connect the northern arrival/departure track from the ICTF to the existing NCTC track along Virginia Avenue).

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Project Infrastructure

- Proposed Rail
- Proposed Bridge
- Proposed Roadway Improvements
- Proposed Project

Other Infrastructure

- Port Access Road (Future, Approved Project)
- Proposed Rail (Related Activities)
- Existing Rail
- HLT

Source: State of SC, Palmetto Railways, Atkins
 0 2,500 5,000 Feet

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Alternative 2
 Proposed Project Site (South via Milford / North via S-Line)
 Figure 2.4-1



2.4.4 Alternative 3: Proposed Project Site (South via Kingsworth / North via Hospital District)

Under Alternative 3, the intermodal facility would include all the facility components of Alternative 1 (Proposed Project), and road improvements would be the same as those identified in Alternative 1 (Proposed Project). The arrival/departure track design would be the same as described in Alternative 1 (Proposed Project); however, the southern rail connection would connect to an existing rail line near Kingsworth Avenue (and adjacent to existing rail and ROW), which would require acquisition of new ROW. Construction of the rail and ROW improvements under Alternative 3 would result in an at-grade crossing at Spruill Avenue and Meeting Street, west of Cooper Yard (Figure 2.4-2).

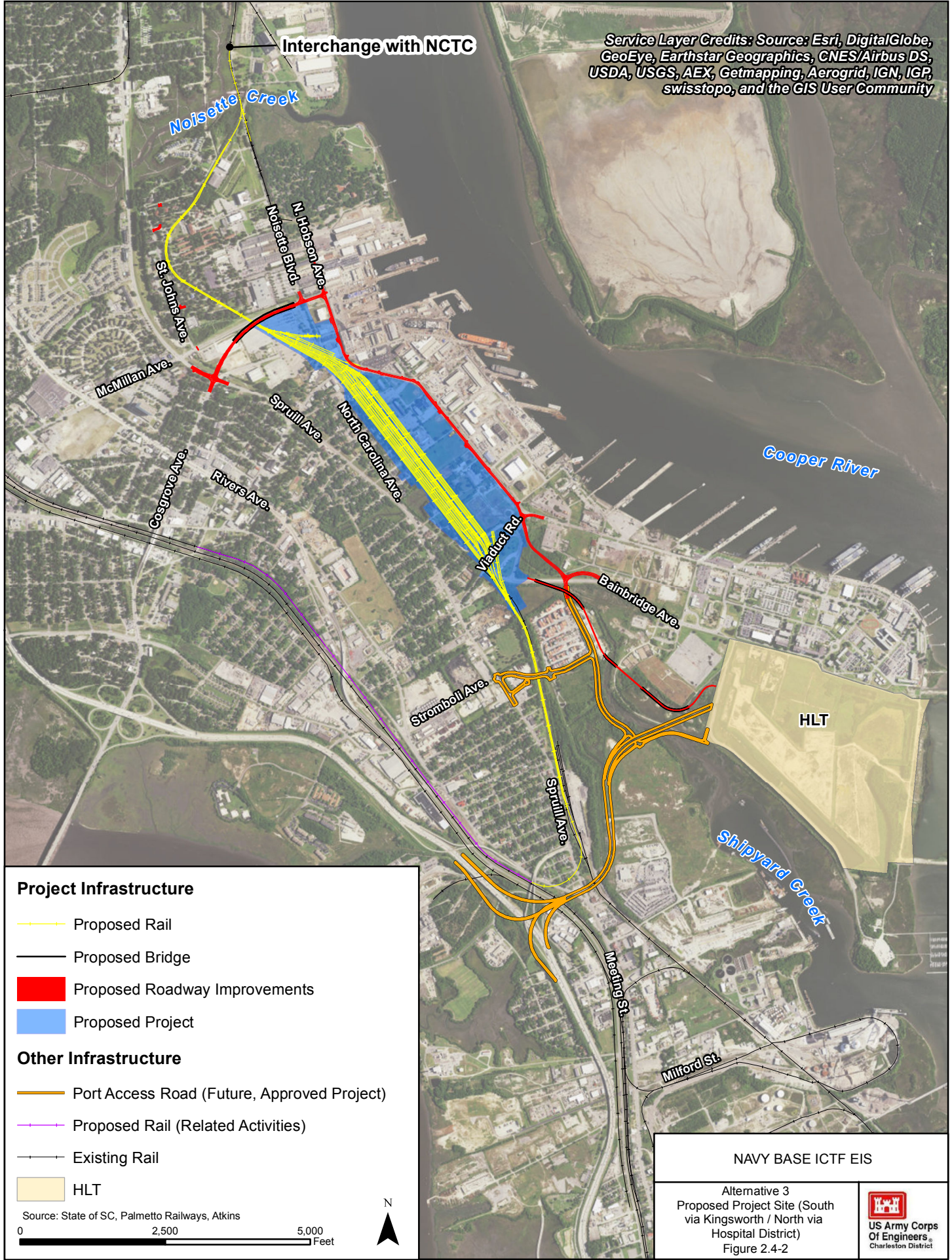
2.4.5 Alternative 4: Proposed Project Site (South via Milford)

Under Alternative 4, the intermodal facility would include all the facility components of Alternative 1 (Proposed Project), and road improvements would be the same as those identified in Alternative 1 (Proposed Project). Rail improvements would be similar to those described for the southern rail connection in Alternative 1 (Proposed Project), with the exception that a second track would need to be constructed for equal access for both Class I rail carriers. The second track would connect to an existing rail line near Milford Street. To the north of the intermodal facility, a rail spur or tail track would extend from the facility through the Hospital District as is identified in Alternative 1 (Proposed Project), but would stop short of Noisette Creek (Figure 2.4-3).

2.4.6 Alternative 5: River Center Project Site (South via Milford / North via Hospital District)

Based on the screening process described in Section 2.3, the Corps identified the River Center project site as a reasonable and practicable alternative to Palmetto Railways' Proposed Project (Alternative 1). The River Center alternative would consist of approximately 113 acres for the ICTF and associated off-site road and rail improvements (Figure 2.4-4). The intermodal facility would include all the facility components of Alternative 1 (Proposed Project), with the exception that a sound attenuation and security wall would be constructed adjacent to Noisette Boulevard along the length of the eastern boundary of the facility site.

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Project Infrastructure

- Proposed Rail
- Proposed Bridge
- Proposed Roadway Improvements
- Proposed Project

Other Infrastructure

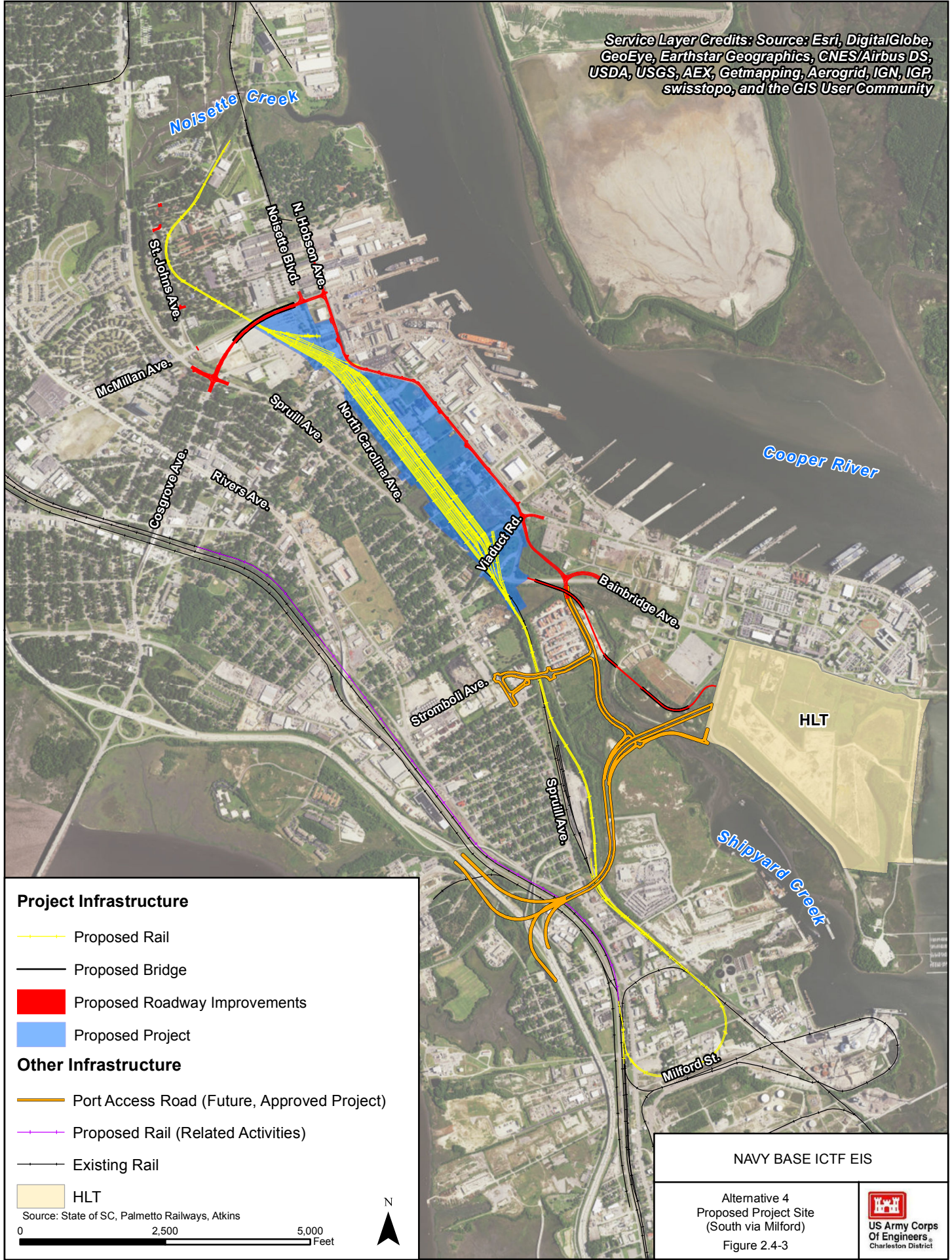
- Port Access Road (Future, Approved Project)
- Proposed Rail (Related Activities)
- Existing Rail
- HLT

Source: State of SC, Palmetto Railways, Atkins
 0 2,500 5,000 Feet



<p>NAVY BASE ICTF EIS</p>	
<p>Alternative 3 Proposed Project Site (South via Kingsworth / North via Hospital District) Figure 2.4-2</p>	<p>US Army Corps Of Engineers Charleston District</p>

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Project Infrastructure

- Proposed Rail
- Proposed Bridge
- Proposed Roadway Improvements
- Proposed Project

Other Infrastructure

- Port Access Road (Future, Approved Project)
- Proposed Rail (Related Activities)
- Existing Rail
- HLT

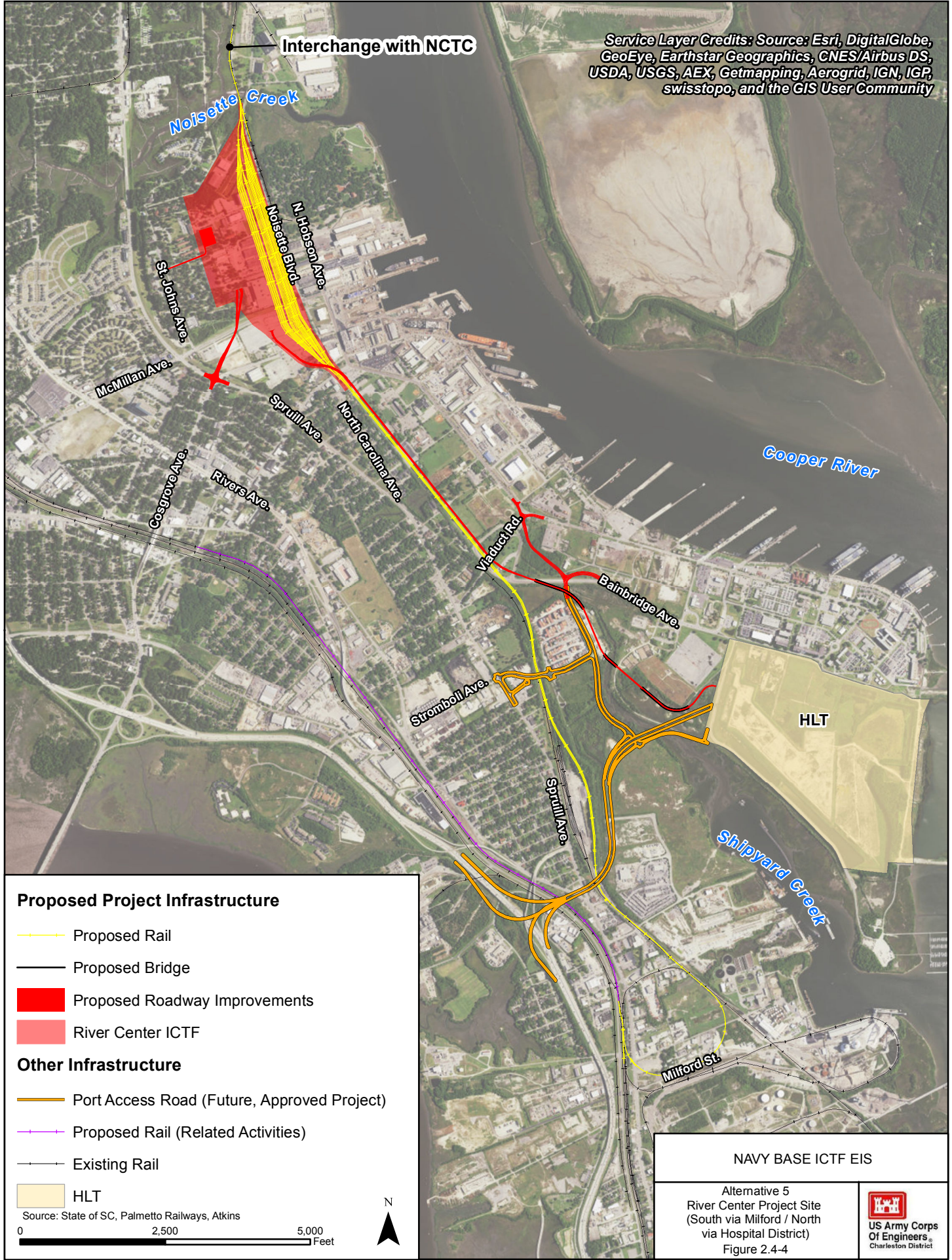
Source: State of SC, Palmetto Railways, Atkins

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Alternative 4 Proposed Project Site (South via Milford) Figure 2.4-3	<p style="font-size: 8px; margin: 0;">US Army Corps Of Engineers Charleston District</p>

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community



Interchange with NCTC

Noisetto Creek

Cooper River

Shipyard Creek





HLT

Milford St.

Proposed Project Infrastructure

-  Proposed Rail
-  Proposed Bridge
-  Proposed Roadway Improvements
-  River Center ICTF

Other Infrastructure

-  Port Access Road (Future, Approved Project)
-  Proposed Rail (Related Activities)
-  Existing Rail
-  HLT

Source: State of SC, Palmetto Railways, Atkins
 0 2,500 5,000 Feet



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Alternative 5
 River Center Project Site
 (South via Milford / North
 via Hospital District)
 Figure 2.4-4



Roadway improvements and modifications for the River Center project site alternative would include:

- A private drayage road that would follow the same initial route as currently proposed in Alternative 1 (Proposed Project), with the exception that it would continue north through the Proposed Project's ICTF site to the southern end of the River Center project site, a distance of 2 miles. The drayage road would cross over the southern rail connection and enter the ICTF gate using a newly constructed flyover bridge. As with Alternative 1 (Proposed Project), the Viaduct Road Overpass would be closed and removed and the Bainbridge Avenue and North Hobson realignment and intersection improvements would also be completed.
- The segment of McMillan Avenue between St. Johns Avenue and Noisette Boulevard would be closed. Hipp Street, Goldberg Avenue, Hobby Street, and portions of Turnbull Avenue, Truxtun Avenue, Avenue F, and Avenue H would be closed. The segment of Cosgrove Avenue that is located east of Spruill Avenue would be closed to through-traffic, and would instead be used as the primary on-road truck access to the ICTF. Employee and visitor access for the ICTF would use St. Johns Avenue and Turnbull Avenue (after removal of the existing street closure at the intersection). Placement of the main gate to the ICTF would be on Cosgrove Avenue.
- To accommodate access in a northern rail connection, a new rail bridge would be constructed similar to the one described under Alternative 1 (Proposed Project). The northern rail connection would cross Noisette Creek and tie into the existing NCTC tracks along Virginia Avenue.
- To accommodate rail access for a southern rail connection, rail improvements identified under Alternative 1 (Proposed Project) would be undertaken, with the exception that approximately 1 mile of additional arrival/departure track would be constructed alongside the drayage road through the Proposed Project's ICTF site.

Operation activities associated with the ICTF at the River Center project site would be identical to Alternative 1 (Proposed Project), with the exception that intermodal containers would initially be transported from the HLT on the private drayage road using as many as 24 diesel-engine UTR trucks during the start-up of the facility. The number of UTR trucks would increase to as many as 60 diesel-engine UTR trucks by full build-out. The increased distance of the drayage road (2 miles versus the 1-mile road associated with the Project site) requires more vehicles to transport the same volume of rail intermodal containers, and meet the purpose and need of Alternative 1 (Proposed Project). Also, all railcar switching activities would occur south of the site.

2.4.7 Alternative 6: River Center Project Site (South via Kingsworth / North via Hospital District)

Under Alternative 6, the intermodal facility would include all the facility components, road improvements, and northern rail connection as described in Alternative 5. Rail improvements would be similar to those described for the southern rail connection in Alternative 5, with the exception that the southern rail connection would connect to an existing CSX rail line near Kingsworth Avenue (and adjacent to existing rail and ROW), which would require acquisition of new ROW. Construction of the rail and ROW improvements under Alternative 6 would result in a new at-grade crossing at Spruill Avenue and Meeting Street (Figure 2.4-5).

2.4.8 Alternative 7: River Center Project Site (South via Milford)

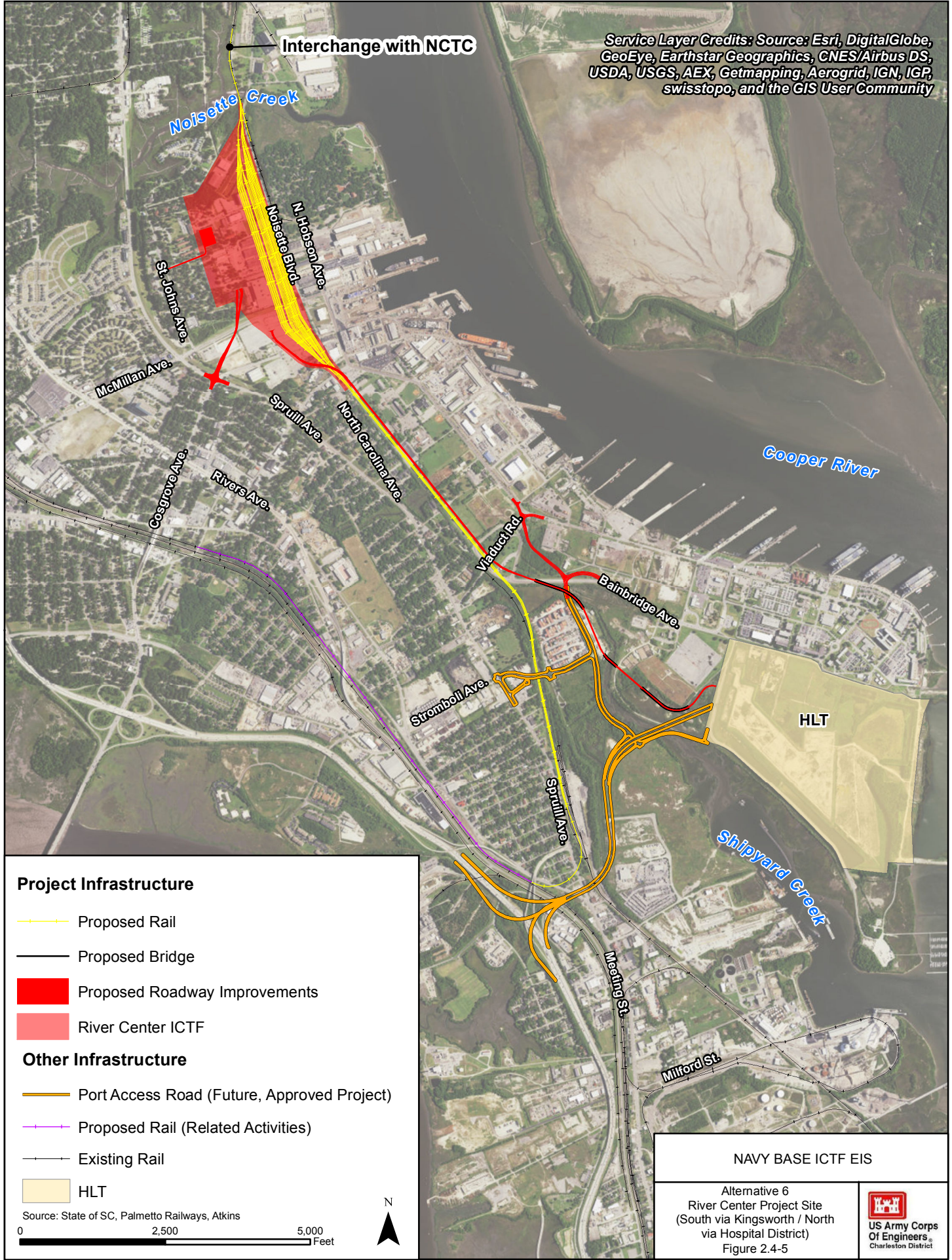
Under Alternative 7, the intermodal facility would include all the facility components and road improvements as described in Alternative 5. Rail improvements would be similar to those described for the southern rail connection in Alternative 5, with the exception that a second track would need to be constructed for equal access for Class I rail carriers. The second track would connect to an existing rail line near Milford Street (and adjacent to existing rail and ROW). To the north of the intermodal facility, a short rail spur or tail track is proposed to extend from the facility, but would stop short of Noisette Creek. Operational activities for Alternative 7 would be the same as those described under Alternative 5 with the exception that both Class I rail carriers would enter and exit the Navy Base ICTF from a southern rail connection (Figure 2.4-6).

2.4.9 Related Activities

Additional construction of new track is required in order to connect the ICTF to existing Class I carrier rail networks. This construction is not a part of the Proposed Project. It would be constructed by the Class I carriers and may require separate environmental permitting. This additional construction is collectively referred to as Related Activity.

If the Proposed Project was constructed, new track would be constructed on a section of out-of-service CSX ROW to accept intermodal trains at the proposed new at-grade crossing at Meeting Street. Construction would extend from the vicinity of Discher Street to Misroon Street. Existing track would be reactivated from Misroon Street into Ashley Junction as needed. This Related Activity would apply to Alternatives 1, 2, 4, 5, and 7. Under Alternatives 3 and 6, the Related Activity construction would be the same as for Alternatives 1, 2, 4, 5, and 7; however, construction of new track would begin at the proposed new at-grade crossing at Meeting Street in the vicinity of Kingsworth Avenue. Under Alternative 2, an additional Related Activity, reactivating an out-of-service ROW and reconstructing a new railroad bridge to replace the existing inadequate structure, would be required to connect the northern arrival/departure track from the ICTF across a portion of marsh that drains to Noisette Creek to the existing NCTC track along Virginia Avenue.

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Project Infrastructure

- Proposed Rail
- Proposed Bridge
- Proposed Roadway Improvements
- River Center ICTF


Other Infrastructure

- Port Access Road (Future, Approved Project)
- Proposed Rail (Related Activities)
- Existing Rail
- HLT

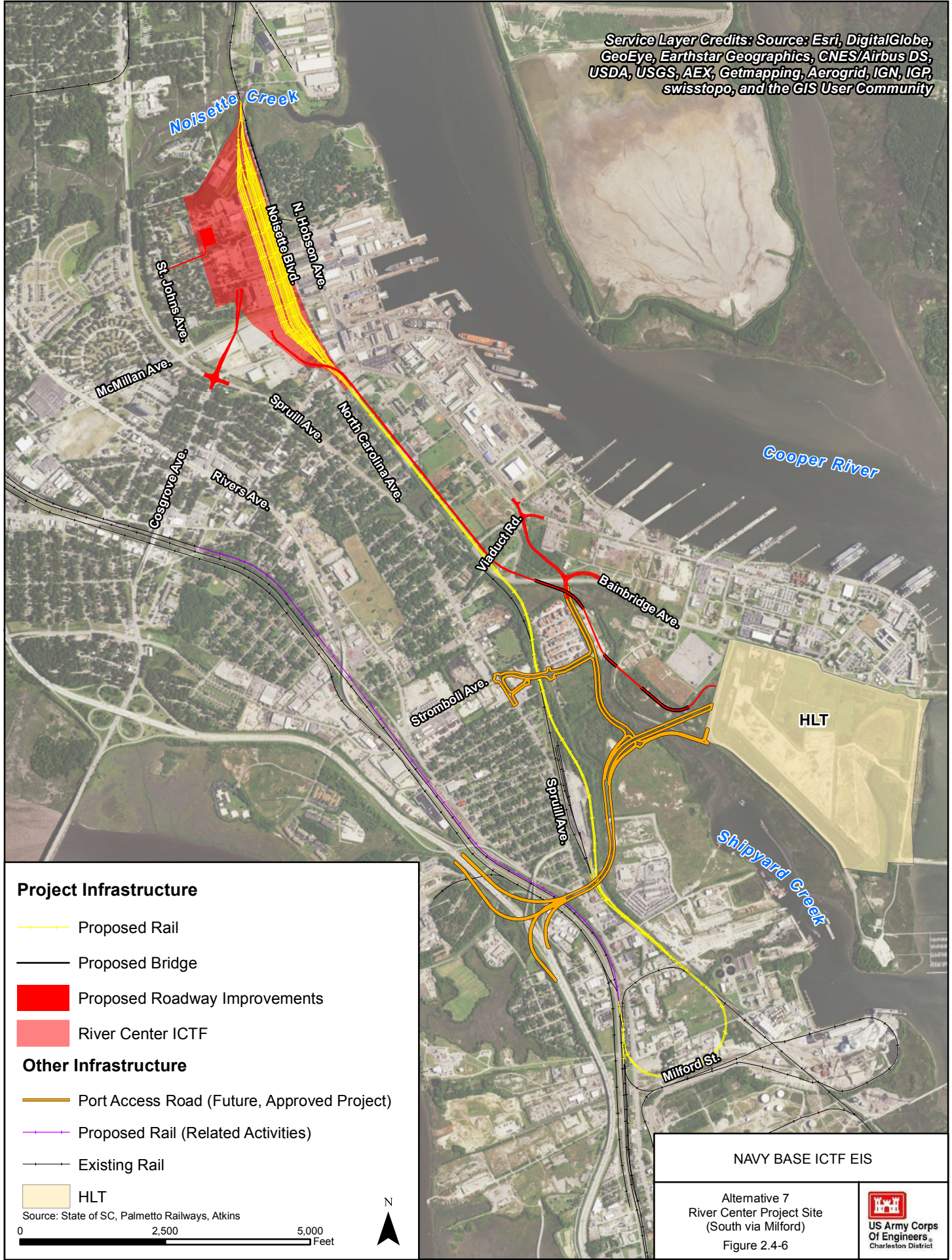
Source: State of SC, Palmetto Railways, Atkins

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Alternative 6 River Center Project Site (South via Kingsworth / North via Hospital District) Figure 2.4-5	
 US Army Corps Of Engineers Charleston District	

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Project Infrastructure

- Proposed Rail
- Proposed Bridge
- Proposed Roadway Improvements
- River Center ICTF

Other Infrastructure

- Port Access Road (Future, Approved Project)
- Proposed Rail (Related Activities)
- Existing Rail
- HLT

Source: State of SC, Palmetto Railways, Atkins
 0 2,500 5,000 Feet



NAVY BASE ICTF EIS

Alternative 7
 River Center Project Site
 (South via Milford)
 Figure 2.4-6

