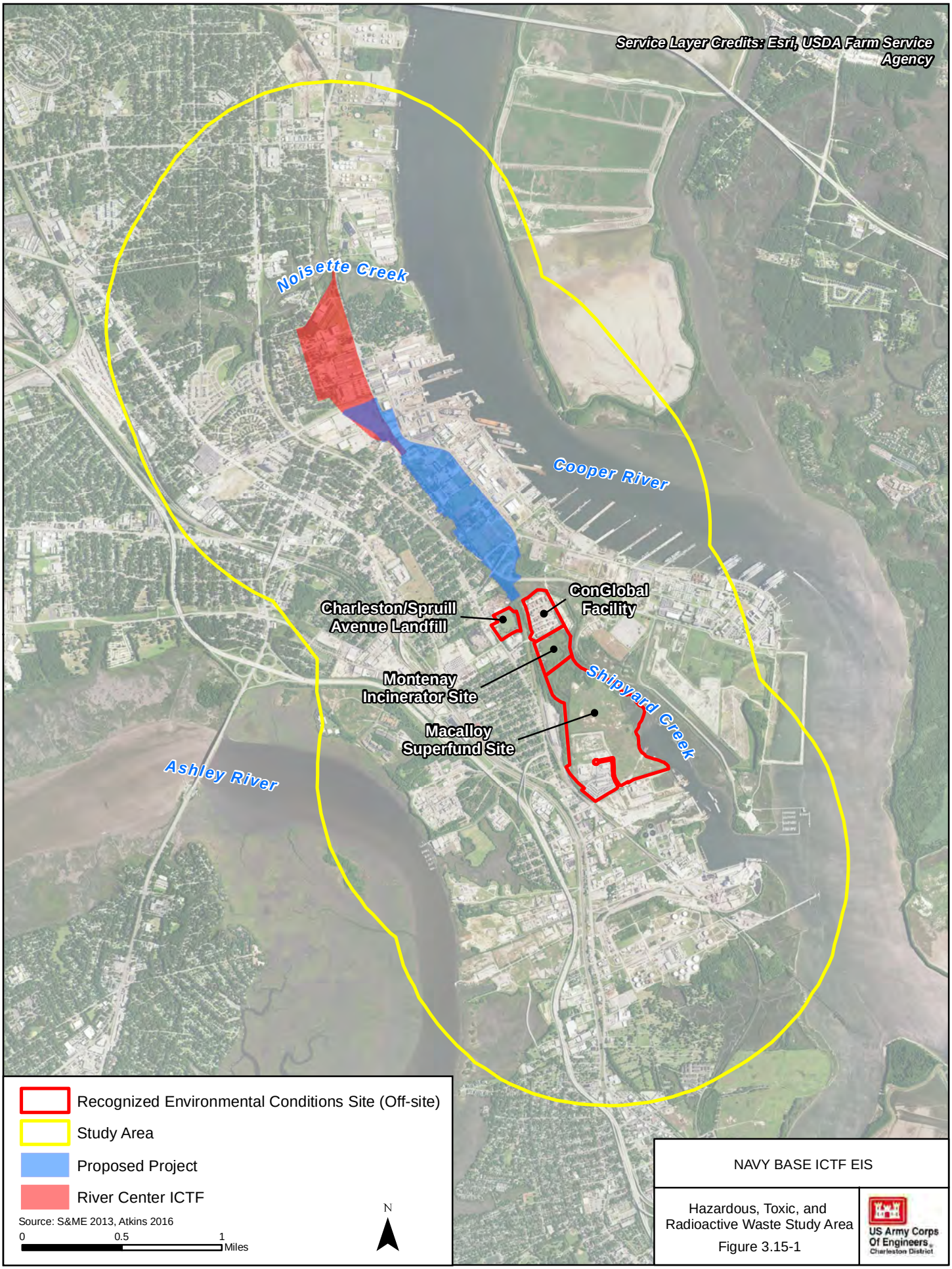
3.15 HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE

3.15.1 Introduction

This section provides a brief description of any contaminated sites located within the study area, including the severity of any remaining contamination and the ongoing and planned monitoring activities. This section also describes (in a qualitative fashion) the potential for the Project site and alternatives to contain buildings or structures impacted by Asbestos-Containing Materials (ACM) and metals-based paints.

The affected environment for the Hazardous, Toxic, and Radioactive Waste (HTRW) resource consists of the known contaminated (and potentially contaminated) soil and groundwater areas within the study area. The study area is depicted in Figure 3.15-1, and includes a 1-mile radius adjacent to the Navy Base ICTF and the alternative River Center project site. This study area boundary is a result of compliance with the distance requirement (1-mile) associated with HTRW investigations when conducting a Phase 1 Environmental Site Assessment (ESA). The Phase I ESAs were completed by Palmetto Railways. While a majority of the HTRW study area had been investigated through the completion of Phase I ESAs, certain areas in the northern-most and southern-most portions of the HTRW study area have not been addressed by Phase I ESAs. Therefore, a review and evaluation of the available public information relating to the hazardous materials issues within these two additional areas were conducted. The additional areas are referred to as the "Northern Alternatives Area" and the "Southern Alternatives Area." The assessment consisted of a review of recent and historic aerial photographs, other historical information sources, and regulatory agency database information (Environmental Data Resources Inc. [EDR] 2016a–i). A site reconnaissance was not conducted in this assessment to verify the status and location of sites referenced in the regulatory database search or to locate any additional unreported hazardous materials sites. As a Phase 1 ESA was not conducted for these two areas, the assessment does not relate HTRW findings to specific "parcel" numbers as was done for those areas where a Phase 1 ESA was completed.

The Phase 1 ESA assessments that have been completed for the HTRW study area included an evaluation of potential Recognized Environmental Condition (REC) up to 1 mile away as part of the ASTM Practice E 1527-05 process. Certain off-site RECs were identified including the MacAlloy Superfund site, former Montenay incinerator, the nearby ConGlobal facility, and the Charleston/ Spruill Avenue Landfill. In light of the former land uses on the CNC, the Project site and the alternative River Center project site both contain a number of contaminated properties as identified in Phase 1 ESAs. Within the Project site are multiple Solid Waste Management Units (SWMU), Areas of Concern (AOC), and Fuel Distribution Systems (FDS). The alternative River Center project site also contains parcels impacted by the former CNC operations.


Service Layer Credits: Esri, USDA Farm Service Agency
Noisette Creek
Cooper River
Charleston/Spruill Avenue Landfill
ConGlobal Facility
Montenay Incinerator Site
Shipyard Creek
Macalloy Superfund Site
Ashley River
Recognized Environmental Conditions Site (Off-site)
Study Area
Proposed Project
River Center ICTF
Source: S&ME 2013, Atkins 2016
0
0.5
1
Miles
N
NAVY BASE ICTF EIS
Hazardous, Toxic, and Radioactive Waste Study Area
Figure 3.15-1
US Army Corps Of Engineers
Charleston District

3.15.2 Navy Base ICTF

3.15.2.1 ICTF Facility

The majority of the 130-acre Project site is contained within Palmetto Railways Parcels 11, 12, 13, 13A, and 13B (Figure 3.15-2). Phase I ESAs were completed for each of these parcels during 2013.

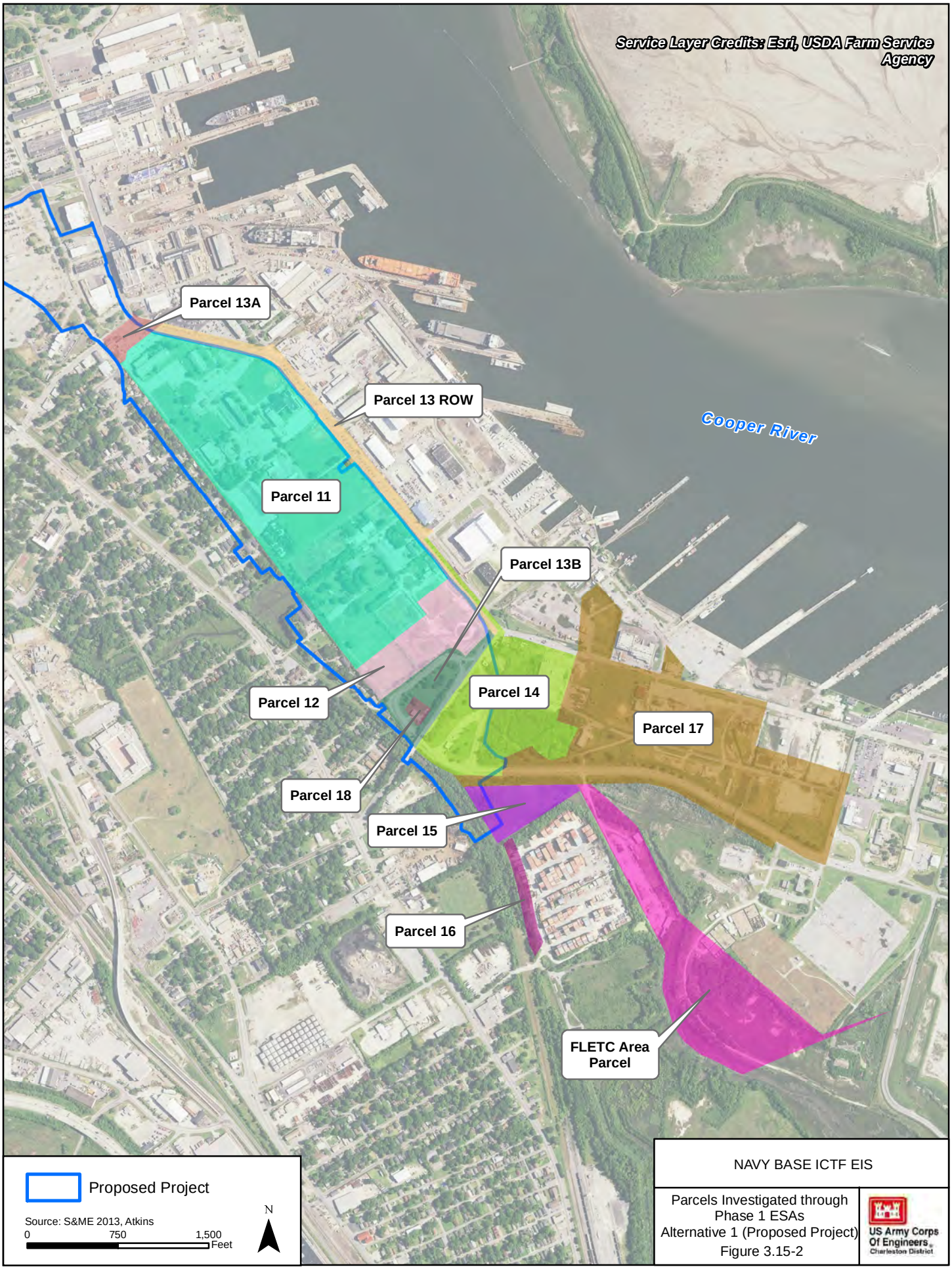
3.15.2.1.1 Parcel 11

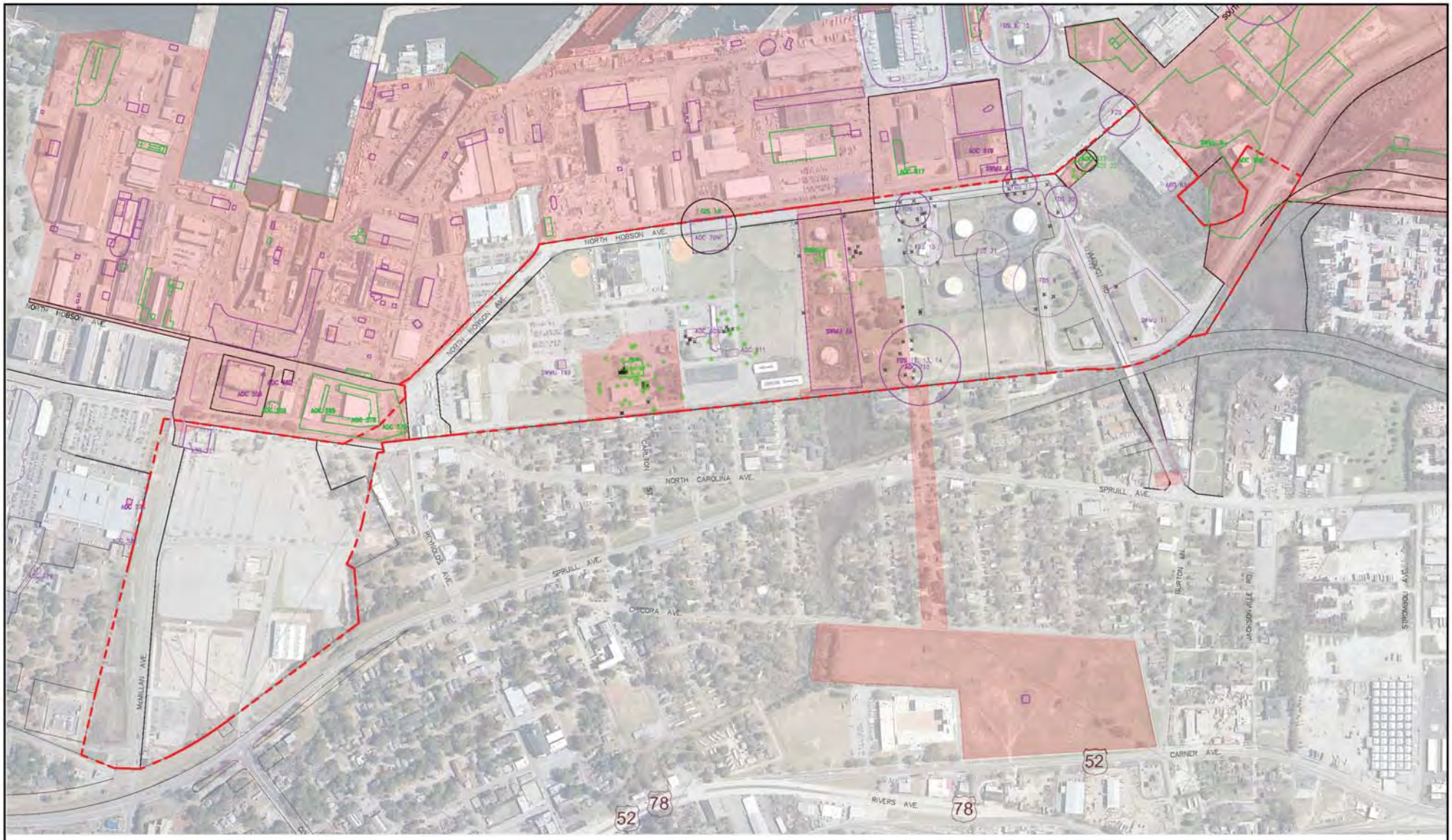
Parcel 11 consists of 69.96 acres of the CNC and comprises the bulk of the northern and central sections of the Project site. The overall CNC was used for military and heavy industrial uses from 1902 until 1996, and this parcel continues to be used for similar purposes (S&ME, Inc. 2013 a, b). Parcel 11 was part of the Navy's FDS, which included underground piping and above-ground storage tanks (AST), which have since been demolished. SWMUs 3 and 24 are located within Parcel 11. These SWMUs and similar contaminated sites have been investigated by the Navy since the 1990s. SWMU 3 was a pesticide-handling and mixing area, which is undergoing long-term monitoring. Monitoring of the groundwater at SWMU 3 is conducted periodically. SWMU 24 is a former fuel reclamation facility that consisted of two large ASTs. Soil contaminated by Benzo(a)pyrene equivalents (BEQs) was identified at SWMU 24.

As with similar sites on the CNC where soil and groundwater impacts remain present, the following Land Use Controls (LUC) or deeded Activity and Use Limitations (AUL) have been implemented at SWMUs 3 and 24:

- **Groundwater Restrictions**—No use of groundwater for drinking or irrigation purposes and foundation construction requires Resource Conservation and Recovery Act (RCRA) Permittee (i.e., the Navy) approval.
- **Restrictive Covenants Designation**—Only industrial and commercial uses allowed.
- **Limits on Soil Disturbing Activities**—Excavations require approval of the RCRA Permittee.

Much of the area in Parcel 11 is subject to these LUCs. Palmetto Railways, as a non-responsible party, and the SCDHEC have entered into a Voluntary Cleanup Contract (VCC) with respect to Parcels 11, 12, 13A, 13B, and 14 (S&ME, Inc. 2013 c). As part of the VCC, Palmetto Railways is required to comply with the Navy's permitting requirements for areas to be developed as part of the Proposed Project. Figure 3.15-3 shows the areas currently under LUCs in the vicinity of the Navy Base ICTF.


Service Layer Credits: Esri, USDA Farm Service Agency
Parcel 13A
Parcel 13 ROW
Cooper River
Parcel 11
Parcel 13B
Parcel 14
Parcel 12
Parcel 17
Parcel 18
Parcel 15
Parcel 16
FLETC Area Parcel
Proposed Project
Source: S&ME 2013, Atkins
0
750
1,500
Feet
N
NAVY BASE ICTF EIS
Parcels Investigated through Phase 1 ESAs
Alternative 1 (Proposed Project)
Figure 3.15-2
US Army Corps Of Engineers
Charleston District



S&ME
ENGINEERING · TESTING
ENVIRONMENTAL SERVICES

PROJECT SITE
DPR ITCF
CHARLESTON NAVAL COMPLEX
NORTH CHARLESTON, SOUTH CAROLINA

SCALE: AS SHOWN	DRAWN BY: LAJ	CHECKED BY:
PROJECT NO: 1134-11-233	DATE: 6-06-2013	FIGURE NO: 1

400 200 0 400 800
SCALE IN FEET

LEGEND
- PROJECT SITE
- AOC/SWMU/FDS AREA–ACTIVE
- AOC/SWMU/FDS AREA–INACTIVE
- LAND USE CONTROL AREA
- ACTIVE MONITORING WELL
- ABANDONED MONITORING WELL

NAVY BASE ICTF EIS

Land Use Controls, Areas of Concern, and Monitoring Wells

Figure 3.15-3

US Army Corps Of Engineers
Charleston District

Parcel 11 also includes AOCs 607 and 728. AOC 607 is a former dry-cleaning facility, which has soil and groundwater impacted by metals, organic chemicals, and solvents. Remedial actions have been conducted at this site, and the groundwater at AOC 607 continues to be monitored periodically. The same LUCs applicable to SWMUs 3 and 24 also apply to AOC 607. AOC 728 is a regulated petroleum site with groundwater impacted by multiple petroleum compounds. Groundwater monitoring is ongoing. The Phase I ESA for Parcel 11 also identified a petroleum-impacted area in Building 98 and an abandoned oil-water separator in Building 1654. Parcel 11 also contains SWMUs 107, 117, 199, AOCs 609, 611, 622, 623, 624, 625, 626, 710, and FDS Areas 12, 13, 14, 15, 16, 19, and 21. All of these areas were investigated by the Navy, and were granted No Further Action (NFA) status by SCDHEC.

3.15.2.1.2 Parcel 12

Parcel 12 is a 10-acre property located immediately south of Parcel 11 and comprises a portion of the southern section of the Project site. This parcel contained three very large (2,350,000-gallon to 4,200,000-gallon) former waste oil or diesel fuel ASTs, which have been removed (S&ME, Inc., 2013 d, e). This parcel contains all or portions of FDS Areas 8, 11, 20, and 21. All of these FDS Areas have been granted NFA status by SCDHEC.

3.15.2.1.3 Parcels 13 ROW, 13A, and 13B

Parcel 13 is a 7.90-acre property that consists of the North Hobson Avenue (right-of-way) ROW along the east and northeast side of the Project site. This parcel is also referred to as the Parcel 13 ROW. Although the Proposed Project does not appear to involve realignment of North Hobson Avenue, there would be impacts to the roadway, and additional infrastructure would likely be needed (i.e., utilities, etc.). Parcel 13 ROW lies adjacent to many of the contaminated sites discussed above for Parcels 11 and 12 (S&ME, Inc. 2013 f). There are also multiple SWMUs, AOCs, and FDS Areas located on the adjacent properties to the east and northeast of Parcel 13 ROW, as reported in the Phase I ESA for Parcel 13 ROW. AOC 737 is a recently discovered area of petroleum-stained soil along North Hobson Avenue, west of Building 69. The Navy reported that the contaminated soil was removed and a pipe was patched. AOC 737 has been remediated to Industrial/Commercial standards. Under the current agreement between SCDHEC and Department of Navy, LUCs are the remediation status for the AOC. The property may only be developed for Industrial/Commercial standards. Parcel 13 ROW was once associated with a former air field and was a major thoroughfare for CNC operations since the 1940s. Adjacent properties have LUCs that extend into Parcel 13 ROW near the North Charleston Fire Department (relocated in January 2016) and near Supply Street.

Parcel 13A is a 1.5-acre property that includes a portion of the northern section of the Project site. It was formerly a coal storage yard (S&ME, Inc. 2013 g). The VCC with SCDHEC applies to this property, and the adjacent properties to the north, south, and east have LUCs implemented on them. The Phase I ESA for Parcel 13A also identified a suspected underground storage tank (UST) and underground

piping near Buildings 186 and 245. AOCs 569, 570, and 578 are located adjacent to this parcel. Contaminants associated with these AOCs may include petroleum compounds and solvents.

Parcel 13B is a 6.4-acre property that includes a portion of the southern section of the Project site. The parcel is located south of Parcel 12, primarily between Bainbridge Avenue and Viaduct Road. This parcel is subject to the VCC and may have been part of the FDS that supported the CNC activities. SWMUs 6, 7, 8, and Combined SWMU 9, which have been investigated by the Navy, are located to the east of Parcel 13B and are subject to LUCs (S&ME 2013 h, i). Properties to the north and south of Parcel 13B, which include FDS Area 22 and AOC 633, have also been investigated by the Navy and are restricted by LUCs.

3.15.2.2 Navy Base ICTF Roadway and Rail Improvements

The parcels described above comprise the main portion of the Navy Base ICTF; however, there are multiple parcels that include the nearby roadway and railway improvements leading into the Navy Base ICTF from the northwest and from the south or southeast. These adjacent roadway- and railway-impacted parcels to the south and southeast, which contain the drayage road, include Parcels 14, 15, 16, 17, and the Federal Law Enforcement Training Center (FLETC) Area Parcel (Figure 3.15-2). The parcels to the northwest of the River Center Project Site are discussed below in Section 3.15.3. Additional areas to the south of Parcel 16, as far south as Milford Street, would also include proposed railway improvements (e.g., the Southern Alternatives Area).

3.15.2.2.1 Parcel 14

Parcel 14 is part of the VCC entered into between Palmetto Railways and SCDHEC, and LUCs affect this parcel. Parcel 14 is a 21.66-acre property that is planned for construction of rail lines and roadways (including the proposed drayage road) leading southeast from the Project site. In addition to being part of the larger CNC, Parcel 14 contains FDS Areas 7 and 20, SWMU 11, and AOC 634; these sites have been granted NFA status by SCDHEC (S&ME, Inc. 2016 a, b). FDS Area 22 (AOC 732) and AOC 633 are located on or adjacent to Parcel 14. The Navy continues to monitor naphthalene-impacted groundwater at these sites. Groundwater impacted by petroleum products may be encroaching upon Parcel 14 from the north, and AOC 633 is under LUCs. AOC 736 is a recently discovered petroleum hydrocarbon-impacted area along South Hobson Avenue immediately adjacent to Parcel 14. AOC 736 received a NFA with LUCs, with the potential for groundwater to impact Parcel 14. Combined SWMU 9 (including primarily AOC 706), a closed landfill, is located on Parcel 14. Based on the results of various investigations of the landfill, LUCs were implemented for Combined SWMU 9, to include engineering controls, industrial use, limits on soil disturbance activities, and groundwater restrictions. The Phase I ESA for Parcel 14 also noted that there were previous investigations into the quality of the sediments in the nearby areas that were formerly the Shipyard Creek watershed (known as Zone J), which may have been impacted by CNC activities. The Zone J watershed was granted NFA status by SCDHEC.

3.15.2.2.2 Parcel 15

Parcel 15 is a 5.5-acre property that is located south of Parcel 14 and west of Parcel 17. The proposed drayage road is planned to transit along the east side of this parcel, while additional rail lines are planned for the western portion of the parcel. No contaminated areas were identified within Parcel 15 (S&ME, Inc. 2012); however, multiple potentially contaminated nearby properties were identified in the Phase I ESA, including the CNC, Combined SWMU 9, SWMU 196, and impacts to the Shipyard Creek watershed (discussed above for Parcel 14).

3.15.2.2.3 Parcel 16

Parcel 16 is a 2.11-acre property located immediately south of Parcel 15 and located immediately west of the main railroad ROW serving the area south of the Project site. This parcel is planned for construction of additional rail lines parallel to the main line. The Phase I ESA for this site noted that the area of Parcel 16 was likely formerly occupied by a landfill that had been operated as recently as 1975 (S&ME, Inc. 2013j). The Phase I ESA did not indicate specifically the portions (if any) of the property that contained buried solid waste. The Phase I ESA also indicated the potential for impacts to Parcel 16 from the nearby former Montenay incinerator (to the south) and the adjacent ConGlobal facility to the east. Parcel 16 may also be impacted by the same sites discussed above for Parcels 14 and 15.

3.15.2.2.4 Parcel 17

To the south of the Navy Base ICTF, roadway and rail improvements would cross Parcel 17, which consists of a 6.61-acre property that contains predominantly roadways and vacant land. Potentially contaminated sites associated with this area have been discussed above for Parcels 14, 15, and 16. Parcel 17 is associated with a VCC and AULs also exist for this parcel. As described for Parcel 14, Parcel 17 also contains a portion of Combined SWMU 9, and it is subject to the same restrictions (LUCs) as Parcel 14 (S&ME, Inc. 2013k; S&ME, Inc. 2016c, d).

3.15.2.2.5 FLETC Area Parcel

The FLETC Area Parcel is located south and southeast of Parcel 17, and it consists of a 24.64-acre portion of the larger FLETC property. The 24.64-acre portion contains mostly vacant land, with some storage areas and light-duty roads. This parcel contains the southern portion of the Combined SWMU 9 site (former landfill) and is subject to the associated LUCs (S&ME, Inc. 2015a, b). AOC 690 is located on the FLETC parcel, and is associated with Combined SWMU 9; this AOC is currently under investigation due to the discovery of buried trash along Tidewater Road. LUCs are also implemented for AOC 690. SWMU 196, located at Building 1838, was investigated for the presence of benzene and chlorobenzene in the groundwater. SWMU 196 is undergoing corrective measures by the Navy.

3.15.2.2.6 Southern Alternatives Area

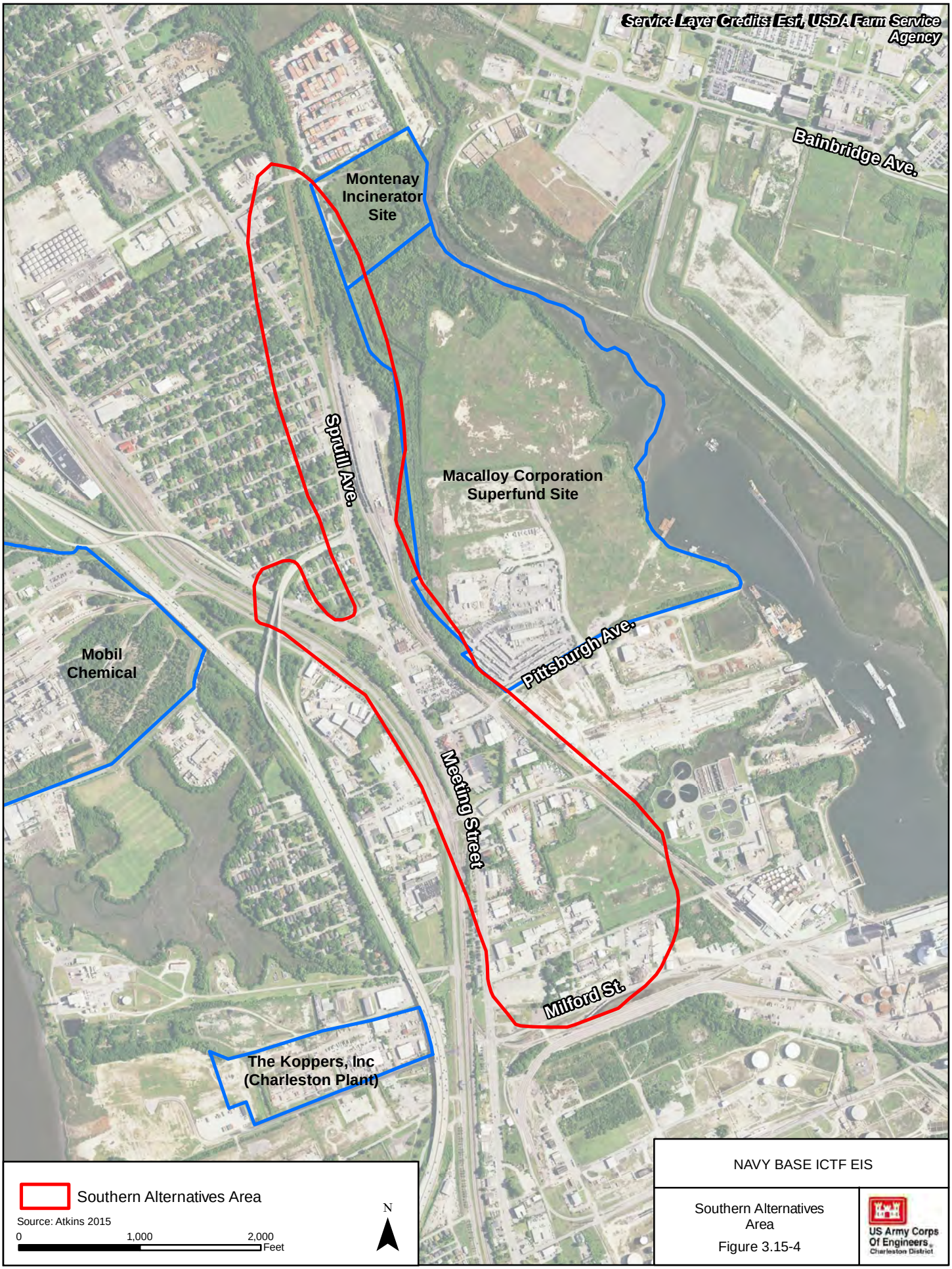
All of the alternatives include improvements to existing railroad ROW or construction of new rail lines to the south of Parcel 16. In addition, all of the alternatives except Alternatives 3 and 6 would include railway improvements along or near Spruill Avenue and/or Meeting Street to locations as far south as Milford Road. The rail improvements to the south of Parcel 16 for Alternatives 3 and 6 would be located primarily in the Spruill Avenue vicinity. Additional data were reviewed for the southern-most area that could be affected by the Navy Base ICTF, an area where no Phase I ESAs had been completed by Palmetto Railways (see Appendix J). The findings for the "Southern Alternatives Area" are detailed in Appendix J and are summarized in this section. The location of the "Southern Alternatives Area" is shown on Figure 3.15-4.

The Southern Alternatives Area contains numerous commercial and industrial businesses, and is located immediately adjacent to large industrial operations, such as petroleum storage facilities, chemical storage facilities, and a former fertilizer plant. Approximately 34 addresses (or sites) with the potential for contamination involvement or having actual records of contamination involvement were identified within the Southern Alternatives Area. Of the 34 sites identified, 14 sites were considered to have a high risk of contamination involvement, while the remaining 20 sites were considered to have minimal risk of contamination involvement.

The Southern Alternatives Area is bordered on the west and east sides by properties that have documented contamination issues. A large Mobil Chemical Company terminal facility is located immediately northwest of the Southern Alternatives Area. The Koppers, Inc. (Charleston Plant), a National Priorities List (NPL) site, is located immediately southwest of the Southern Alternatives Area. The Montenay Incinerator Site is located along the northeast side of the Southern Alternatives Area, while the MacAlloy Corporation Superfund Site is located along the east side of the area (see Section 3.15.5).

3.15.2.2.7 Nearby Parcels and Contaminated Sites

Roadway and rail improvements to the north of the Navy Base ICTF would pass through or run adjacent to AOCs 569, 570, 578, and 701. This area is immediately north of Parcel 13A, and it should be noted that these areas are located adjacent to Alternative 5. AOCs 569, 570, and 578 are located in the area of Buildings 25 and 30. These areas included former coal storage yard sites. Contaminants associated with these AOCs included possible petroleum compounds and solvents in the groundwater. The area of AOCs 569, 570, and 578 are under LUCs, which include engineering controls, such as maintenance of fences and controlled access, as well as prohibition of installation of wells in the surficial aquifer. The Navy is currently conducting periodic groundwater monitoring at AOCs 569, 570, and 578.


Service Layer Credits: Esri, USDA Farm Service Agency
Bainbridge Ave.
Montenay Incinerator Site
Spruill Ave.
Macalloy Corporation Superfund Site
Mobil Chemical
Pittsburgh Ave.
Meeting Street
Milford St.
The Koppers, Inc (Charleston Plant)
Southern Alternatives Area
Source: Atkins 2015
0
1,000
2,000
Feet
N
NAVY BASE ICTF EIS
Southern Alternatives Area
Figure 3.15-4
US Army Corps Of Engineers
Charleston District

AOC 701 is the location of a former gas station that was operational between 1941 and 1979. The site was investigated by the Navy for a petroleum release and subsequently received approval of NFA status from SCDHEC in 2002; however, the document entitled "Environmental Information for Future CNC Construction Permit Requests" did not confirm or refute whether the site's USTs remained onsite or had been removed or abandoned-in-place (S&ME, Inc. 2013c).

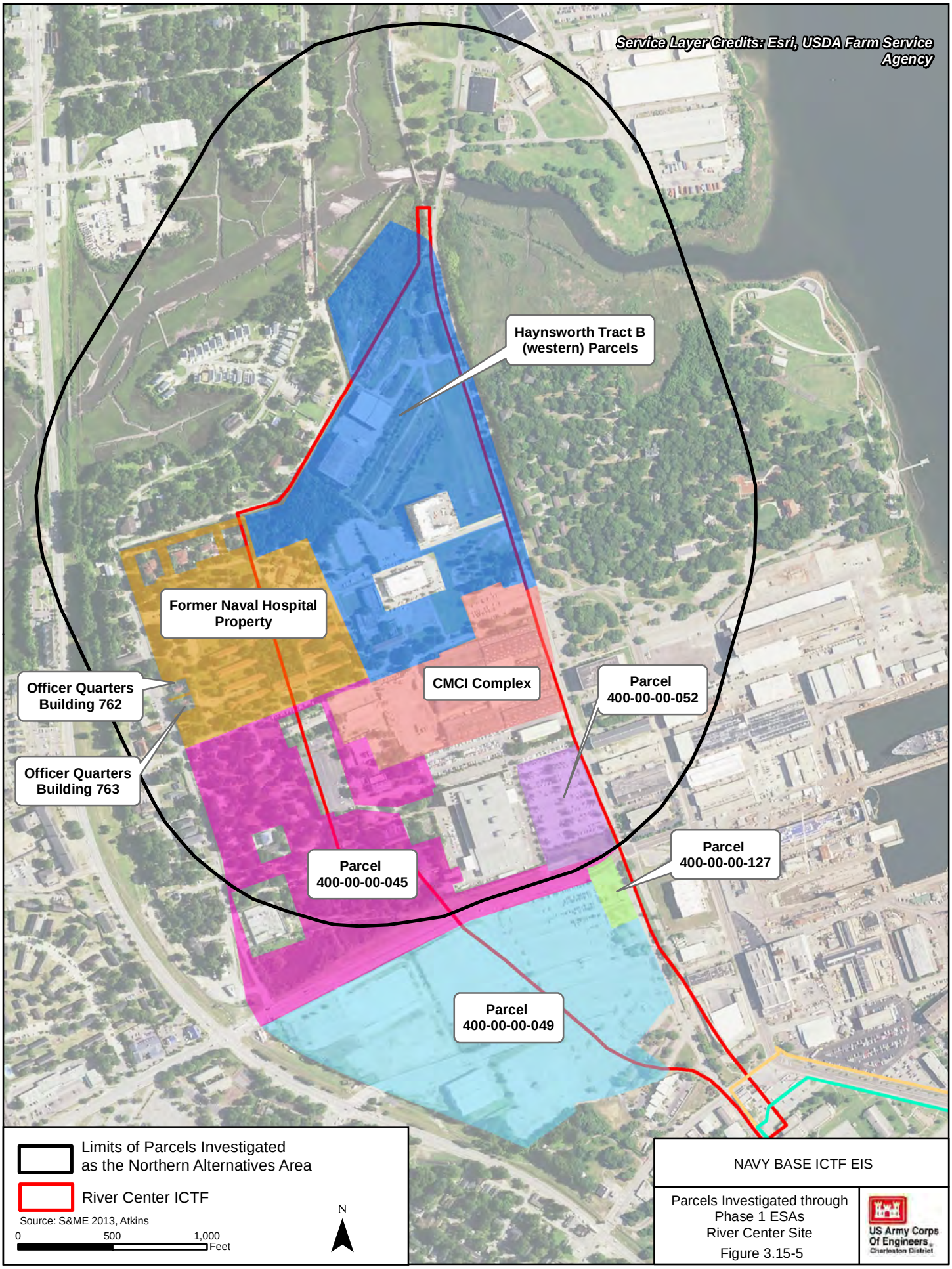
It should also be noted that railroad lines, in general, frequently exhibit soils contaminated by arsenic (as a result of herbicide application) and BEQs (as the result of leaching of treated cross-tie timbers). Rebuilding or excavating in railroad ROW would be expected to involve impacts from these constituents. The primary contamination impacts associated with the proposed re-use of railroad lines in the Related Activity areas of the Project would be the involvement of soils contaminated with arsenic and BEQs.

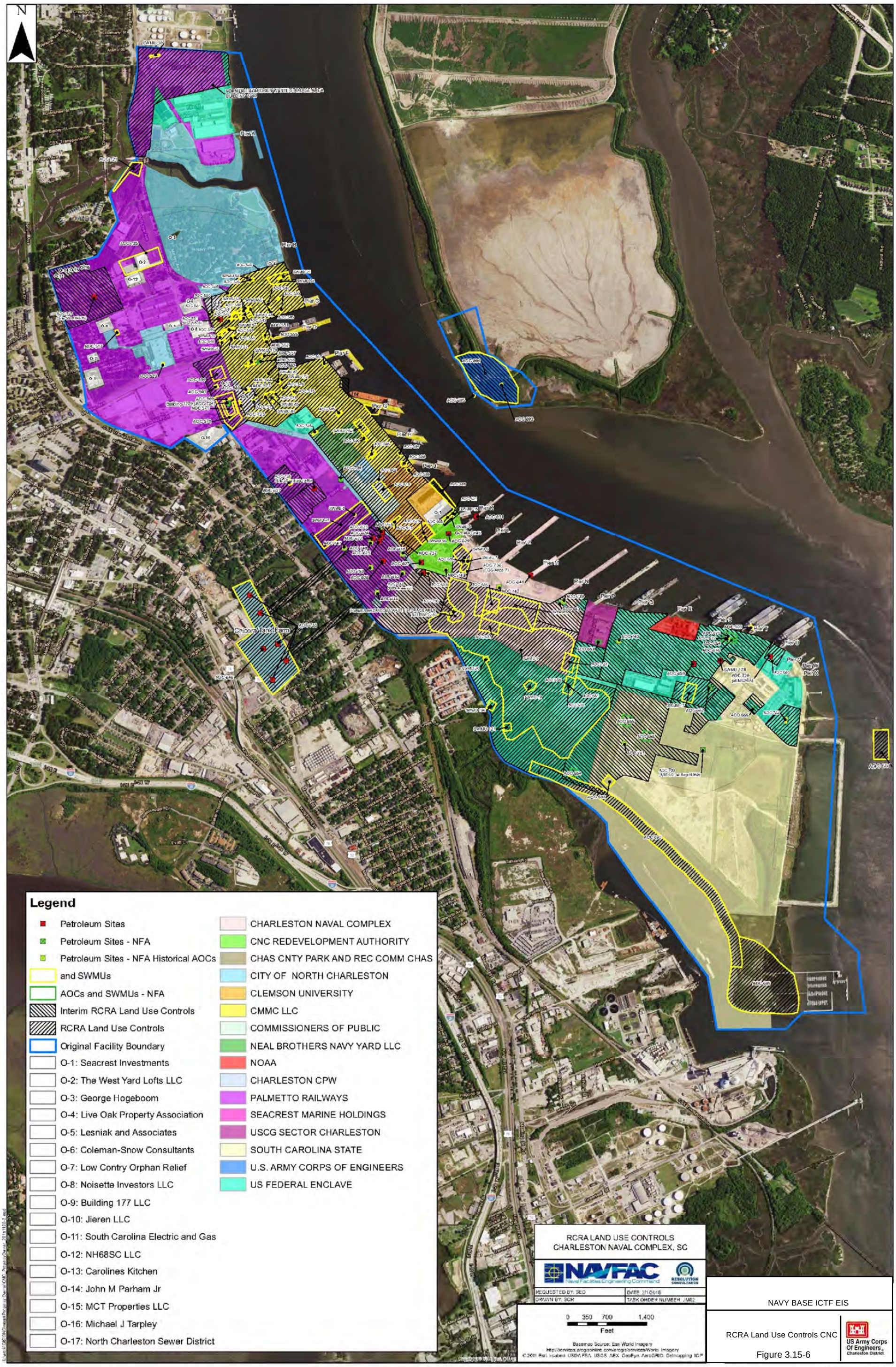
3.15.3 River Center Project Site

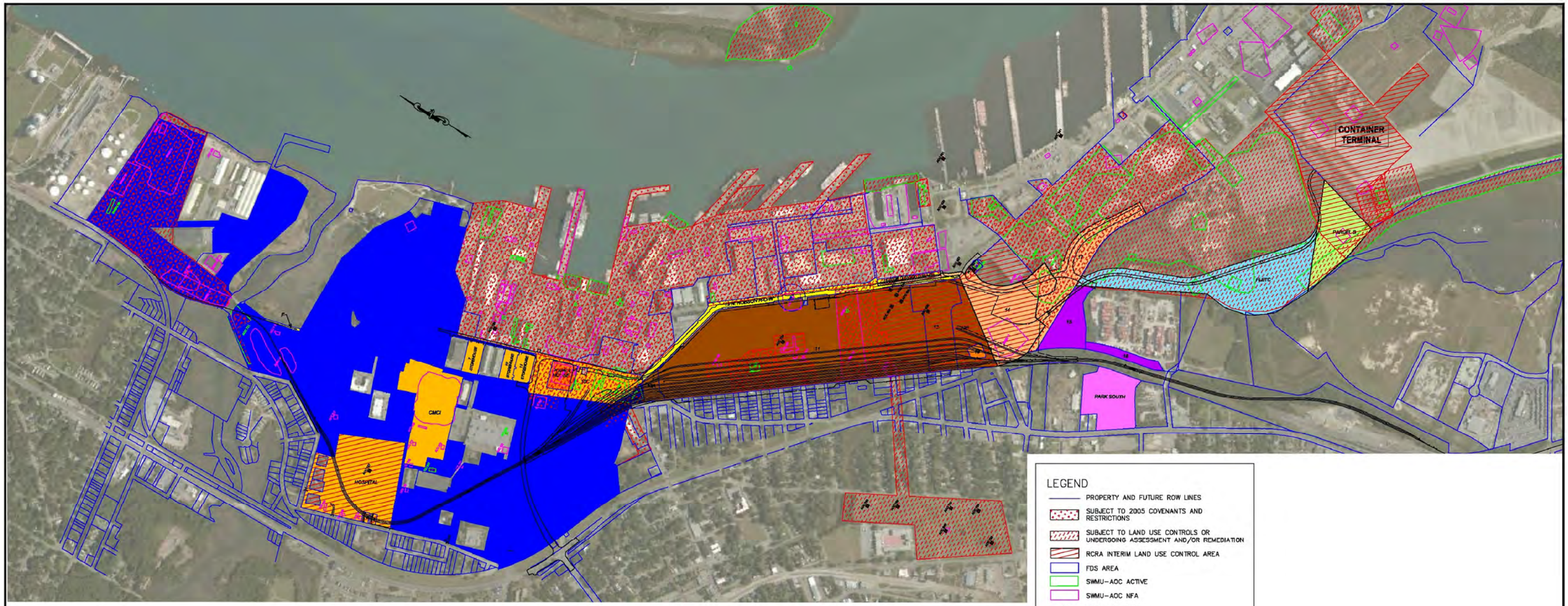
The River Center project site is located to the northwest of the Project site, and is centered on McMillan Avenue in the Noisette Boulevard area in North Charleston, South Carolina. A 90.21-acre tract of land (also known as Haynsworth Tract C) is located within the southern portion of the River Center project site. Palmetto Railways completed a Phase I ESA for the 90.21-acre tract, which included evaluation of potentially contaminated sites within that tract and on surrounding properties. Palmetto Railways also completed Phase I ESAs for the 104.07-acre Haynsworth Tract B parcels (north and east of Tract C), the 14.45-acre Charleston Marine Container, Inc. (CMCI) property, located in the north-central portion of the River Center project site, and the 21.06-acre former Naval Hospital Property, located in the northwestern portion of the River Center project site. Palmetto Railways, as a non-responsible party, and SCDHEC have entered into a VCC with respect to these parcels. Figure 3.15-5 shows the Phase I ESA parcels that make up the River Center project site.

As discussed above in Section 3.15.2.1, both the Navy Base ICTF Site (Project site) and the River Center Project site are subject to VCCs, which are cleanup agreements entered into with the SCDHEC. Figure 3.15-6 shows the various SWMUs, AOCs, and FDSs areas located throughout the Navy Base ICTF Project site and River Center site areas. Figure 3.15-7 shows the locations of the various VCC areas associated with the Navy Base ICTF site and the River Center site.

The 90.21-acre tract (Haynsworth Tract C), which has nine parcels, is currently developed with multiple commercial facilities, parking lots, paved roads, and relatively old Navy housing structures. Historical research indicated that the tract had been used as part of the CNC since the 1910s (SCS Engineers 2010a). Historical uses of the tract have included residential, office, and heavy industrial uses over the past approximately 100 years. The Navy has remediated soil and groundwater impacted by petroleum and other contaminants as the Responsible Party under its RCRA Post Closure Permit. The site was then designated as a Brownfield under the Comprehensive Environmental


Service Layer Credits: Esri, USDA Farm Service Agency
Haynsworth Tract B (western) Parcels
Former Naval Hospital Property
Officer Quarters Building 762
Officer Quarters Building 763
CMCI Complex
Parcel 400-00-00-052
Parcel 400-00-00-127
Parcel 400-00-00-045
Parcel 400-00-00-049
Limits of Parcels Investigated as the Northern Alternatives Area
River Center ICTF
Source: S&ME 2013, Atkins
0
500
1,000
Feet
N
NAVY BASE ICTF EIS
Parcels Investigated through Phase 1 ESAs
River Center Site
Figure 3.15-5
US Army Corps Of Engineers
Charleston District


N
Legend
Petroleum Sites
Petroleum Sites - NFA
Petroleum Sites - NFA Historical AOCs and SWMUs
AOCs and SWMUs - NFA
Interim RCRA Land Use Controls
RCRA Land Use Controls
Original Facility Boundary
O-1: Seacrest Investments
O-2: The West Yard Lofts LLC
O-3: George Hogeboom
O-4: Live Oak Property Association
O-5: Lesniak and Associates
O-6: Coleman-Snow Consultants
O-7: Low Contry Orphan Relief
O-8: Noisette Investors LLC
O-9: Building 177 LLC
O-10: Jieren LLC
O-11: South Carolina Electric and Gas
O-12: NH68SC LLC
O-13: Carolines Kitchen
O-14: John M Parham Jr
O-15: MCT Properties LLC
O-16: Michael J Tarpley
O-17: North Charleston Sewer District
CHARLESTON NAVAL COMPLEX
CNC REDEVELOPMENT AUTHORITY
CHAS CNTY PARK AND REC COMM CHAS
CITY OF NORTH CHARLESTON
CLEMSON UNIVERSITY
CMMC LLC
COMMISSIONERS OF PUBLIC
NEAL BROTHERS NAVY YARD LLC
NOAA
CHARLESTON CPW
PALMETTO RAILWAYS
SEACREST MARINE HOLDINGS
USCG SECTOR CHARLESTON
SOUTH CAROLINA STATE
U.S. ARMY CORPS OF ENGINEERS
US FEDERAL ENCLAVE
Pier A
Pier B
Pier C
Pier D
Pier E
Pier F
Pier G
Pier H
Pier J
Pier K
Pier L
Pier M
Pier N
Pier P
Pier Q
Pier R
Pier S
Pier T
Pier U
Pier V
Pier W
Pier X
Pier Z
Chicora Tank Farm
Building 1279
RCRA LAND USE CONTROLS
CHARLESTON NAVAL COMPLEX, SC
NAVFAC
Naval Facilities Engineering Command
RESOLUTION CONSULTANTS
REQUESTED BY: SEO
DATE: 2/1/2016
DRAWN BY: SCK
TASK ORDER NUMBER: JM62
0 350 700 1,400
Feet
Basemap Source: Esri World Imagery
http://server.arcgisonline.com/arcgis/services/World_Imagery
© 2011 Esri, Inputed, USDA FSA, USGS, AEX, GeoEye, AeroGRID, Getmapping, IGP
NAVY BASE ICTF EIS
RCRA Land Use Controls CNC
Figure 3.15-6
US Army Corps Of Engineers
Charleston District



S&ME

PROPERTIES SUBJECT TO PALMETTO RAILWAYS VOLUNTARY CLEANUP CONTRACTS
CHARLESTON NAVAL COMPLEX & SURROUNDING AREAS
CHARLESTON COUNTY, SOUTH CAROLINA

SCALE	DRAWN BY	CHECKED BY
AS SHOWN	LAJ	ACW
PROJECT NO. 1134-11-233	DATE 10-20-2016	FIGURE NO. 1

Note: Drawing features provided by CDM Smith, Inc., CH2MHill, Palmetto Railways, and the U.S. Navy, and adapted by S&ME, Inc.
For informational purposes only. Aerial image courtesy of Bing / Microsoft Corporation.

NAVY BASE ICTF EIS

Properties Subject to Palmetto Railways Voluntary Cleanup Contracts

Figure 3.15-7

US Army Corps Of Engineers, Charleston District

Response, Compensation, and Liability Act (CERCLA). According to the Phase I ESA, there are no open/active SWMUs, AOCs, FDS Areas, or petroleum storage tank cleanup activities on this tract. LUCs are in effect on this tract, and properties immediately to the east and northeast also have LUCs in place.

The Phase I ESA for the 90.21-acre tract identified one potentially contaminated site. Building M-192 (also known as AOC 517) is an active firing range for the North Charleston Police Department. The Phase I ESA did not recommend any investigations as long as the firing range remained active. If the use of that building changes in the future, sampling was recommended to determine any impacts from the firing range.

The Phase I ESA for the 90.21-acre tract included an evaluation to identify properties within 500 feet of the tract that may represent sources of contamination that could impact the tract. No such potentially contaminated sites were identified and no off-site RECs were noted. Inactive AOC 701 (discussed above) is located in the southern portion of River Center project site.

The Phase I ESA for the 104.07-acre tract (Haynsworth Tract B) has four parcels; however, only the western parcels (40 percent of the site), west of Noisette Boulevard, are being considered for the River Center project site. These parcels currently are developed with commercial businesses and apartments. As with the 90.21-acre tract, the Navy has assessed and remediated soil and groundwater at the site, with no open/active SWMUs, AOCs, or FDS Areas remaining; however, the Phase I ESA noted that a REC existed for the property due to groundwater impacted by arsenic and naphthalene (SCS Engineers 2010b). The impacted groundwater is located at the east end of the former hospital complex. The Phase I ESA also noted off-site AOC 721 (discussed below) as having potential consideration for impacts to construction activities at the 104.07-acre tract.

The Phase I ESA for the 14.45-Acre CMCI property identified the property as having been part of the CNC since at least 1922 (S&ME, Inc. 2013l). The CMCI property was a former burning dump and wooded lot associated with the former Marine Reservation, and the adjacent properties to the north, south, and east had been associated with CNC operations from the World War I (WWI) and World War II (WWII) eras. SWMU 47 and AOCs 515, 516, and 518 are located on the CMCI property. These sites have been assessed and received NFA status from SCDHEC. The Phase I ESA indicated that containers of petroleum compounds and solvents were observed on the property, but were in good condition and were not considered a concern.

SWMUs 48, 49, and 186, and AOCs 513, 514, 517, 519, 520, 521, and 522 are located on properties adjacent to the CMCI property. These formerly regulated sites have also received NFA status from SCDHEC. The Phase I ESA for the CMCI property also identified a gas station that operated to the south of the property from 1958-1962. The gas station was demolished and a building was constructed on top of it. The status of the gas station's former UST was unknown. The potential former UST is known as AOC 523 and is currently being investigated. A September 2014 Corrective

Measures Study Work Plan Addendum recommended installation of soil borings and monitoring wells, and collection of soil and groundwater samples at AOC 523 (Resolution Consultants 2014). The proposed borings and monitoring wells are north of McMillan Avenue and south of Truxton Avenue.

AOC 721 is a 1.6-acre area located along the northern boundary of the River Center site, immediately south of Noisette Creek. Historically, this AOC was associated with SWMU 44, which was a coal storage facility immediately south of AOC 721 (Tetra Tech 2013). SWMU 44 was remediated by the Navy and it received NFA status from SCHDEC in 2002, but an area of arsenic-impacted soil remained present to the north. That area was designated AOC 721 in 2001, and the impacts were suspected to be due to the coal storage activities and filling of wetlands with dredge material. Investigations of AOC 721 were completed in 2013, which indicated that impacts to soil, sediment, and groundwater due to metals remained at this AOC. The investigation recommended that a corrective measures study be conducted to address impacts due to arsenic, cobalt, mercury, selenium, and zinc.

The Phase I ESA for the 21.06-acre former Naval Hospital Property identified that property as a Navy-associated hospital facility developed prior to 1919 (S&ME, Inc. 2013m, n). Structures of various uses were added and/or demolished at the site from the 1920s through the 1940s. SWMUs 45 and 46, AOCs 508, 510, and 511, and a former UST (known as Site 29) are located on the former Naval Hospital Property. These sites were investigated and received NFA status from SCDHEC.

The Phase I ESA for the former Naval Hospital Property identified four closed USTs at Building NH46 (known as Site 30 or AOC 727) associated with the fuel oil system (CH2M Hill, Inc. 2016). The USTs released petroleum into a groundwater plume that extends approximately 100 feet east of the building. Remediation and monitoring of this UST site are on-going. Currently, five closed USTs (with their approximate locations known) may be present at Building NH46 and its vicinity, and it is not known if they were removed or closed-in-place.

SWMUs 44, 47, 48, 49, and 186, and AOCs 504, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, and 522 are located on properties adjacent to the former Naval Hospital Property. These sites were investigated and received NFA status from the SCDHEC. AOC 523 (discussed above) is also located to southeast of the former Naval Hospital Property.

The 2012 Basewide Groundwater and Performance Monitoring Report for the CNC identified two small active AOCs in the southern portion of the River Center project site and one moderate-sized AOC along the northern boundary of the River Center project site (CH2M Hill, Inc. 2013). This area of the River Center project site is known as Zone C of the CNC. The two smaller AOCs are AOC 517 and AOC 523 (both discussed above), did not appear to have any active monitoring ongoing; however, the northern site, immediately south of Noisette Creek, was investigated as part of the assessment of AOC 721, located to the north of the River Center project site. Monitoring wells to the south of Noisette Creek were sampled for solvent-related parameters, and elevated concentrations of vinyl chloride were detected in these wells during 2012.

Additional data was reviewed for the northern-most portion of the River Center project site, an area where no Phase I ESAs had been completed by Palmetto Railways (see Appendix J). The detailed findings for the "Northern Alternatives Area" are provided in Appendix J and are summarized in this section. The area was identified as part of the CNC, although no SWMUs or AOCs were identified on the property. Land use history included a storage area associated with railroad access along the eastern and northern sections of the property, with some railroad lines later removed from the property. The area now contains several commercial buildings.

Three potentially contaminated sites were identified within 1,000 feet of the Northern Alternatives Area. Two of the sites were the CMCI Property (discussed above) and the main CNC facility, which is located to the southeast of (and downgradient from) the property. The other site was a facility that no longer generates hazardous waste and had no history of hazardous waste violations. As a result, no RECs appeared to be associated with the Northern Alternatives Area, other than the presence of railroad lines and its former inclusion within the CNC.

3.15.4 Buildings with Potential ACMs and Metals-Based Paints

During preparations for the closure and transfer of the CNC, the Navy performed a preliminary assessment of the buildings on the CNC property, as described in the Final Environmental Impact Statement (FEIS), Proposed Marine Container Terminal at the Charleston Naval Complex (Corps 2006). During the assessment, an Environmental Baseline Survey for Transfer (EBST) was prepared to document the physical condition of the property and the potential for the presence of hazardous materials and petroleum products. The property/building assessments evaluated incident records and personnel interviews to determine the presence of ACMs, metals-based paints, PCBs, and radon gas.

During the study for the Proposed Marine Container Terminal FEIS, 53 percent of the buildings were determined to have "probable" remaining ACMs, while 11 percent had been tested and confirmed to contain ACMs. The remaining buildings (36 percent) were unlikely to have ACMs, or the ACMs had been removed. Similarly, 73 percent of the buildings were considered "probable" or "likely" to contain metals-based paints, while the remaining 27 percent of buildings were considered unlikely to contain such paints. Only 9 percent of the buildings listed were considered to contain "possible" or "confirmed" impacts from PCBs. The information regarding the possible presence of radon was very limited, but it suggested that radon was generally not a concern for CNC buildings. Since the CNC facilities in the study area for the Navy Base Marine Container Terminal FEIS have a similar operational history to those in the HTRW study area for the Proposed Project, the relative percentages of buildings with ACM, metals-based paints, and PCBs are expected to be similar to those determined during the EBST. If these materials are expected to be encountered in buildings that are planned for demolition as part of the Proposed Project, they are required to be properly surveyed, tested, and abated prior to the demolition activities.

The number of buildings on the main area of the Project site is estimated to be approximately 88, including a mixture of residential and commercial structures that were mostly constructed prior to 1980, which could be expected to contain ACMs or metals-based paints. Depending upon the exact areas required for the railway improvements (and the need to demolish specific structures), the number of buildings that would need to be removed for the road and railway improvements would be approximately 23 additional structures; however, for Alternatives 2 through 7, the number of additional structures required for removal in these areas would range from approximately 14 to 26 because of their differing configurations. Due to the age of most of the structures in the Southern Alternatives Area, all these structures could be expected to contain ACMs and metals-based paints.

The River Center project site is estimated to contain approximately 33 structures, most of which were constructed prior to 1980 and could be expected to contain ACMs and metals-based paints. According to the Phase I ESA for the 90.211-acre tract, the majority of the structures on that tract are likely to have potential ACMs and metals-based paints. Friable ACMs in poor condition were abated from Buildings AA through LL (residential structures) and Buildings M5 to M9 (residential and offices) between 2001 and 2012. Similarly, metals-based paints were abated from these buildings after 1996. According to SCDHEC Regulation 61-86.1, an asbestos survey is required by a licensed asbestos inspector to determine the presence or absence of ACMs prior to renovation or demolition of buildings. Metals-based paints also have special removal requirements.

It should be noted that none of documents reviewed, including all of the Phase I ESAs conducted for the Project site and the River Center project site, identified radioactive materials as being present within the Project site or presenting a concern in any of the CNC facilities and associated locations of the HTRW study area.

3.15.5 RECs within the Study Area

3.15.5.1 Macalloy Corporation Superfund Site

The Macalloy Corporation Superfund Site is located in the southernmost portion of the HTRW study area, approximately 1,000 feet south of Parcel 16, along Shipyard Creek (Figure 3.15-1). There should be minimal involvement with the Macalloy Corporation Superfund Site due to any of the alternatives associated with the Project site or the River Center project site.

The Macalloy Corporation Superfund Site was formerly owned and operated by Pittsburgh Metallurgical Company (1941 to 1966), Airco (1966 to 1979), and Macalloy (1997 to 1998). Ferrochromium alloy was used in the production of stainless steel at this site (EPA 2015). These production activities generated hazardous waste, including hexavalent chromium and other metals. At various times from 1942 to 1998, the U.S. Department of Defense (DOD) owned, operated, or utilized the Macalloy site to produce and store ferrochromium alloy, ore, and waste slag. Waste generated by the operations was typically disposed of in landfills, pits, or ponds at the site that were

later filled. The Macalloy site was investigated by the EPA and was found to have contaminated soils, sediments, and groundwater, which also impacted Shipyard Creek. The Macalloy site was listed on the NPL in 2000. Remediation of the site was planned in 2002, and remediation activities were completed in 2006. EPA completed the Five-Year Review Report for this site in August 2015 (EPA 2015l). The site currently has LUCs in place, which allow for only commercial and industrial uses of the property. Groundwater monitoring to sample for chromium is performed annually, because a small portion of the property continues to exhibit chromium concentrations that exceed EPA criteria. The Five-Year Review Report also recommended supplemental groundwater remediation in a limited area and installation of additional monitoring wells to further delineate the chromium-impacted groundwater area.

3.15.5.2 Montenay Incinerator Site

The Montenay Incinerator site, also known as the former Foster Wheeler Facility, is located to the southeast of Parcel 16 (Figure 3.15-1). It operated until recently as an incinerator for Charleston County, which processed only non-hazardous municipal waste. The primary environmental concern related to this facility was airborne emissions from the incinerator's smokestack; however, an assessment performed in 1986 identified groundwater contaminated by volatile organic compounds in the northern portion of the Montenay site. The source or extent of the contaminated groundwater was not confirmed. The incinerator structure was recently demolished, and the Montenay site is now vacant.

The Montenay Incinerator site was identified as a REC in the Phase I ESA for Parcel 16 due to its proximity to Parcel 16, presence of groundwater contamination, and regulatory status of the site. For the Proposed Project, the intent is to construct the arrival/departure tracks along the west side of the Montenay Incinerator site. Investigations to determine any impacts to the use of the site resulting from the contaminated groundwater associated with this site would be completed prior to construction of the arrival/departure tracks.

3.15.5.3 Charleston/Spruill Avenue Dump

A former landfill was located in the area between Jacksonville Avenue, the existing railroad ROW, Hampton Avenue, and Carner Avenue/Meeting Street, to the west of the Parcel 16 section of the Project (about 250 feet west of the proposed ICTF) (Figure 3.15-1). Three solid waste facilities (Charleston/Spruill Avenue Dump, Gaston Dump, and Charleston County Dump) were listed in this area, but no specific address information was available. A SCDHEC file review confirmed that a municipal landfill was present in the area, and it may have extended onto Parcel 16 and the adjacent ConGlobal property. Review of aerial photographs from the 1960s and 1970s showed soil disturbances in the Parcel 16 area, at the current ConGlobal property, and at the adjacent property to the west (across the railroad ROW). It was not conclusively determined from the aerial photograph review that all of the soil disturbances were due to landfill activities.

Correspondence from the file review indicated deficiencies in the operations and maintenance of the landfill. The file review indicated that the landfill was operational as late as 1975. The Phase I ESA for the Parcel 16 site identified the former landfill as a REC due to the unknown boundaries of the landfill, the unknown contents of the landfill, the lack of detailed information, and the fact that the landfill operated prior to the implementation of regulations governing landfills. For the Proposed Project, the intent is to construct the arrival/departure tracks through the Parcel 16 site. Investigations to determine any impacts to the use of the site resulting from the possible former landfill in this area would be completed prior to construction of the arrival/departure tracks.

3.15.5.4 ConGlobal Facility

The ConGlobal Facility is the larger parent property for Parcel 16, and it is located immediately to the east and southeast of Parcel 16 (Figure 3.15-1). The facility repairs container boxes, chassis, and flat racks for shipping vehicles. Interviews with ConGlobal staff indicated that petroleum, oil, and lubricants are used on the site and are typically recycled or shipped off-site by a private vendor. There are currently two 400-gallon gasoline ASTs on the larger ConGlobal facility that are used for fueling equipment. All paint blasting operations have been shut down and all such equipment has been removed.

Review of regulatory file information for the ConGlobal facility indicated that a former abrasive blasting area operated on the site, and the site formerly had additional ASTs. The SCDHEC file for the facility included an Air Quality Inspection Report (dated January 18, 2012), which indicated that the site had air quality issues. The air quality issues had been referred to SCDHEC enforcement for review, and the file also noted the presence of blasting slag located at the rear of the property. Investigations to determine any impacts to the use of Parcel 16 resulting from the former or current operations of the ConGlobal Facility in this area would be completed prior to construction of the arrival/departure tracks.

3.16 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.16.1 Introduction

The affected environment for socioeconomics and Environmental Justice provides an overview of the social and economic characteristics within the study area, as well as descriptions of community characteristics, resources, and services. These characteristics include topics such as population growth, age, race, income, housing, employment, and vehicle availability.

The study area used for the assessment of socioeconomic resources and environmental justice includes the area surrounding the Project that is likely to be directly or indirectly affected in any way during, throughout, and after construction of any of the Project alternatives. The socioeconomic study area, as shown on Figure 3-16.1, is generally bounded by Greenleaf Road to the south (south of