

- Route 102 – North Neck. This route provides service between the CARTA SuperStop and downtown Charleston along Spruill Avenue, Rivers Avenue and King Street. Service is provided Monday through Saturday with 1-hour headways.
- Route 103 – Leeds Avenue. This route has a short connection along Spruill Avenue in the central section of the study area. Service is provided Monday through Saturday with 1-hour headways.
- Route 104 – Montague Avenue. This route runs along Spruill Avenue in the central section of the study area, north to Montague Avenue. Service is provided Monday through Saturday with 1-hour headways.

3.9 LAND USE AND INFRASTRUCTURE

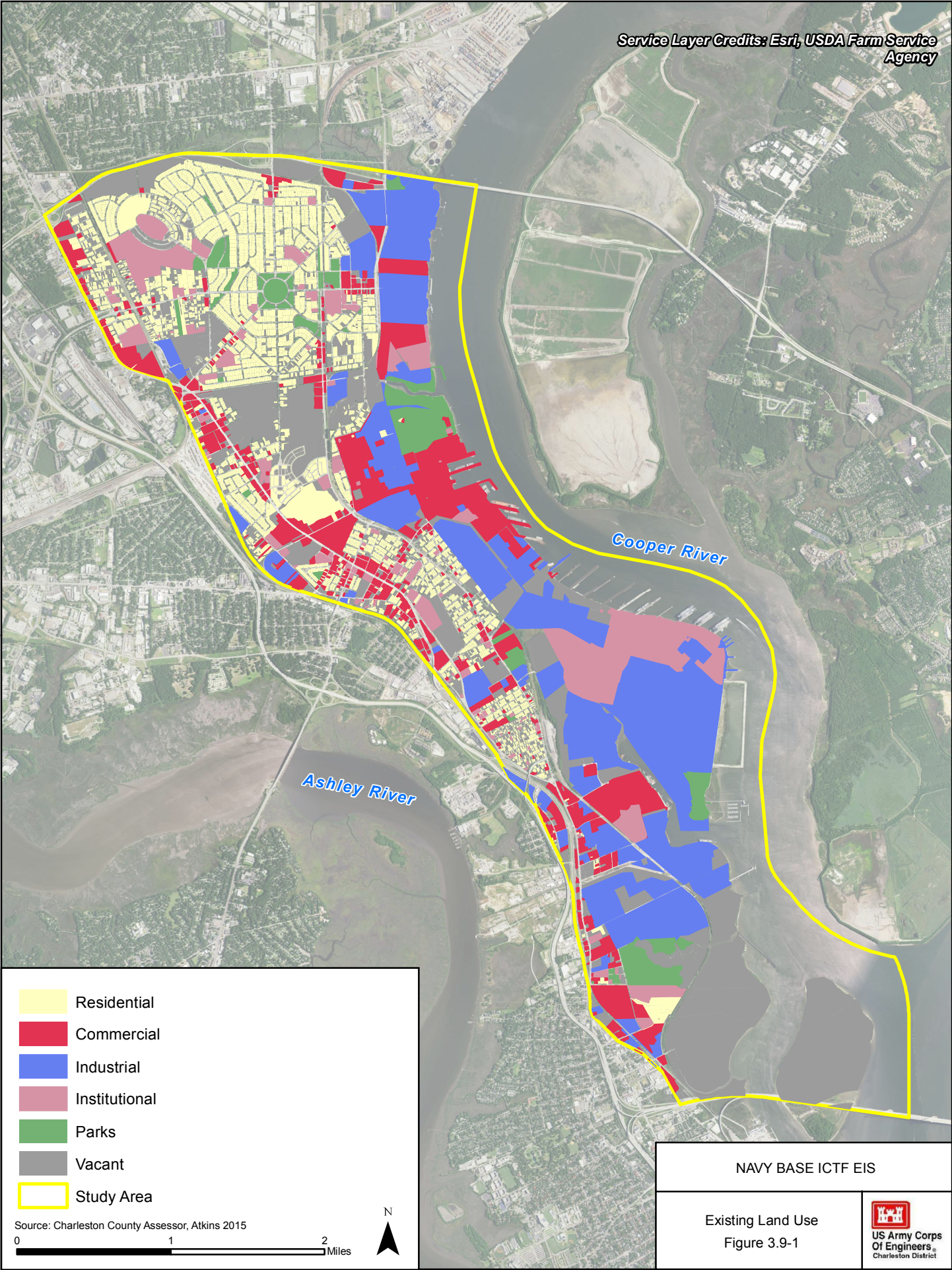
3.9.1 Land Use and Zoning

3.9.1.1 Land Use

The study area for Land Use and Infrastructure, depicted on Figure 1.6-1, occupies 5,389 acres of classified land and includes the CNC and adjacent mixed residential and commercial land uses within portions of both the City of North Charleston and the City of Charleston. Land uses were determined using parcel data from the Charleston County Assessor's Office and are classified into the following categories: residential, commercial, industrial, government and institutional, parks and open space, and vacant. Land uses within the study area are mapped in Figure 3.9-1 and listed (with acres) in Table 3.9-1. The dominant land use (aside from vacant parcels) at the former Naval Base and the Port is Industrial, comprising 1,371 acres or 25 percent of the study area. Residential land use, comprising 1,030 acres or 19 percent of the study area, includes traditional neighborhoods with a mix of single and multi-family housing units. Numerous named neighborhoods are located within the study area such as Park Circle, Oak Park, Palmetto Gardens, Cameron Terrace, Liberty Hill, Olde North Charleston, Mixon Avenue, Whipper Barony, Chicora Place, Cherokee Place, Nafair, Windsor and Union Heights. Four parks, 1 recreation center, approximately 21 churches and 12 schools are also located within the study area. Small offices, businesses, and non-profit organizations are scattered throughout the study area, with the largest offices located on the northern portion of the former CNC (north of McMillan Avenue). New residential neighborhoods, developed as part of the City of North Charleston's community redevelopment program, also occupy these residential districts. These neighborhoods include River Place, The Villages of Noisette, West Yard Lofts, and Hunley Waters.

There are numerous opportunities for redevelopment or adaptive reuse of properties in the study area. There are many neglected or vacant residential and commercial properties, especially in the central and southern portions of the study area. Several community organizations have taken an interest in promoting the redevelopment and revitalization of these areas.

Service Layer Credits: Esri, USDA Farm Service Agency



Source: Charleston County Assessor, Atkins 2015

0 1 2 Miles



NAVY BASE ICTF EIS

Existing Land Use
Figure 3.9-1



3.9.1.2 Zoning

The study area is under the zoning jurisdiction of two municipalities. The majority of the study area is within the City of North Charleston, while a portion of the study area to the south is within the City of Charleston. Existing zoning for the City of North Charleston is shown in Figure 3.9-2 and for the City of Charleston in Figure 3.9-3.

Table 3.9-1
Study Area Land Uses

Existing Land Use	Study Area	
	Acres	Percentage
Residential	1,030	19.11%
Commercial	741	13.75%
Industrial	1,371	25.44%
Institutional	490	9.10%
Parks	264	4.90%
Vacant	1,492	27.70%
Total	5,389	100.00%

Source: Charleston County Assessor's Office 2016.

City of North Charleston Zoning

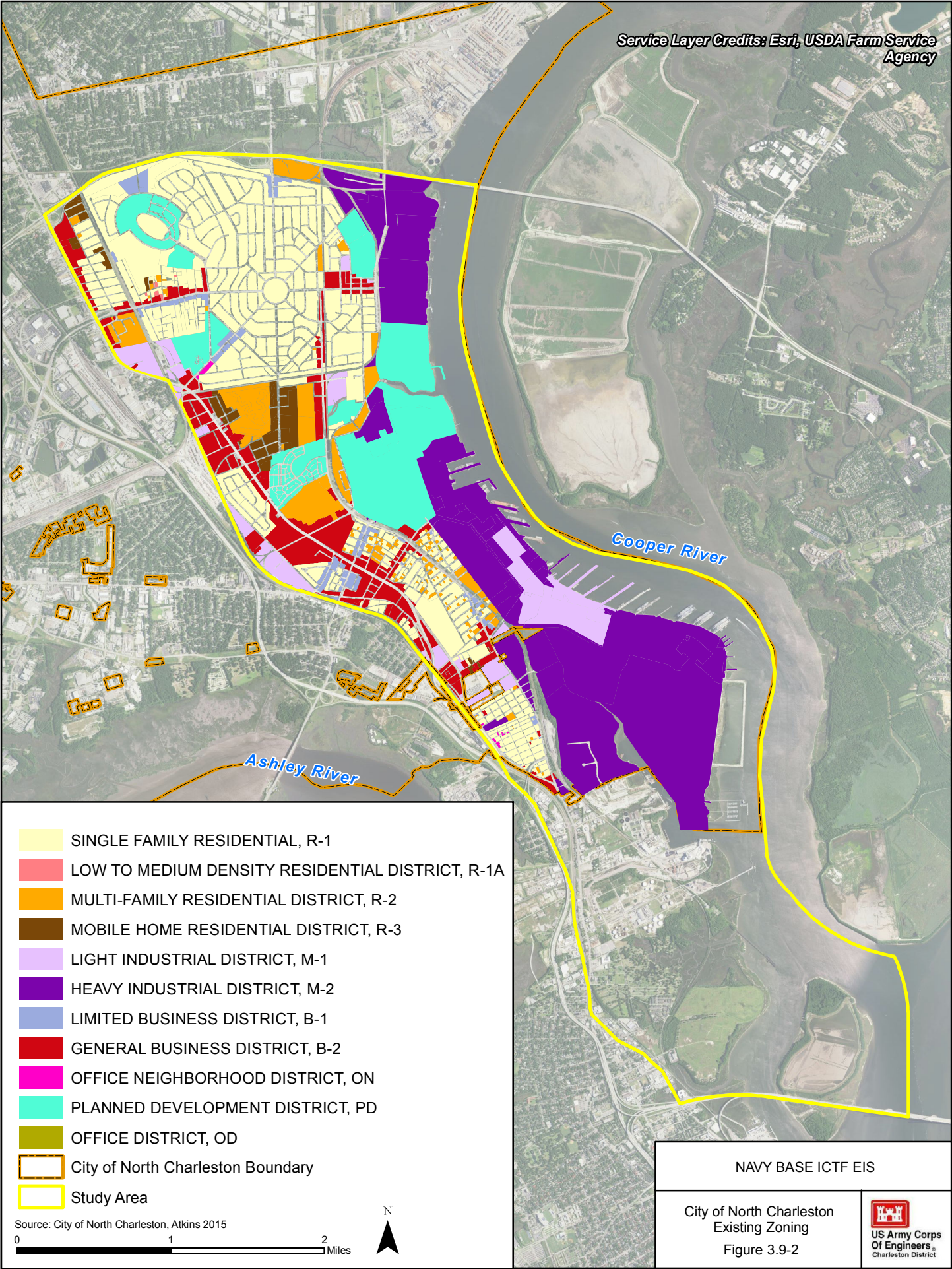
The City of North Charleston maintains maps delineating various residential, commercial, and industrial zoning districts. The Navy Base ICTF is subject to the District Use Classification (Article V) of the Zoning Regulations within the City of North Charleston Code of Ordinances (2016). Descriptions of existing zoning classifications for the City of North Charleston within the study area, as well as the corresponding section under the Code of Ordinances, are as follows:

-R-1, Single Family Residential District (Section 5-1)

The regulations which apply within this district are designed to encourage the formation and continuance of a stable, healthy environment for one-family dwellings and to discourage any encroachment by commercial, industrial, or other use capable of adversely affecting the residential character of the district.

-R-1A, Low to Medium Density Residential District (Section 5-1.1)

The R-1A zoning district is established to provide for low to medium density single-family residential uses, including mobile homes, provided that the city council, after public notice and hearing, determines that a proposed area or neighborhood would be suitable for designation as an R-1A district and the permitted uses, therein, will not substantially injure the actual or permitted uses of the neighboring or nearby properties.




- SINGLE FAMILY RESIDENTIAL, R-1
- LOW TO MEDIUM DENSITY RESIDENTIAL DISTRICT, R-1A
- MULTI-FAMILY RESIDENTIAL DISTRICT, R-2
- MOBILE HOME RESIDENTIAL DISTRICT, R-3
- LIGHT INDUSTRIAL DISTRICT, M-1
- HEAVY INDUSTRIAL DISTRICT, M-2
- LIMITED BUSINESS DISTRICT, B-1
- GENERAL BUSINESS DISTRICT, B-2
- OFFICE NEIGHBORHOOD DISTRICT, ON
- PLANNED DEVELOPMENT DISTRICT, PD
- OFFICE DISTRICT, OD
- City of North Charleston Boundary
- Study Area

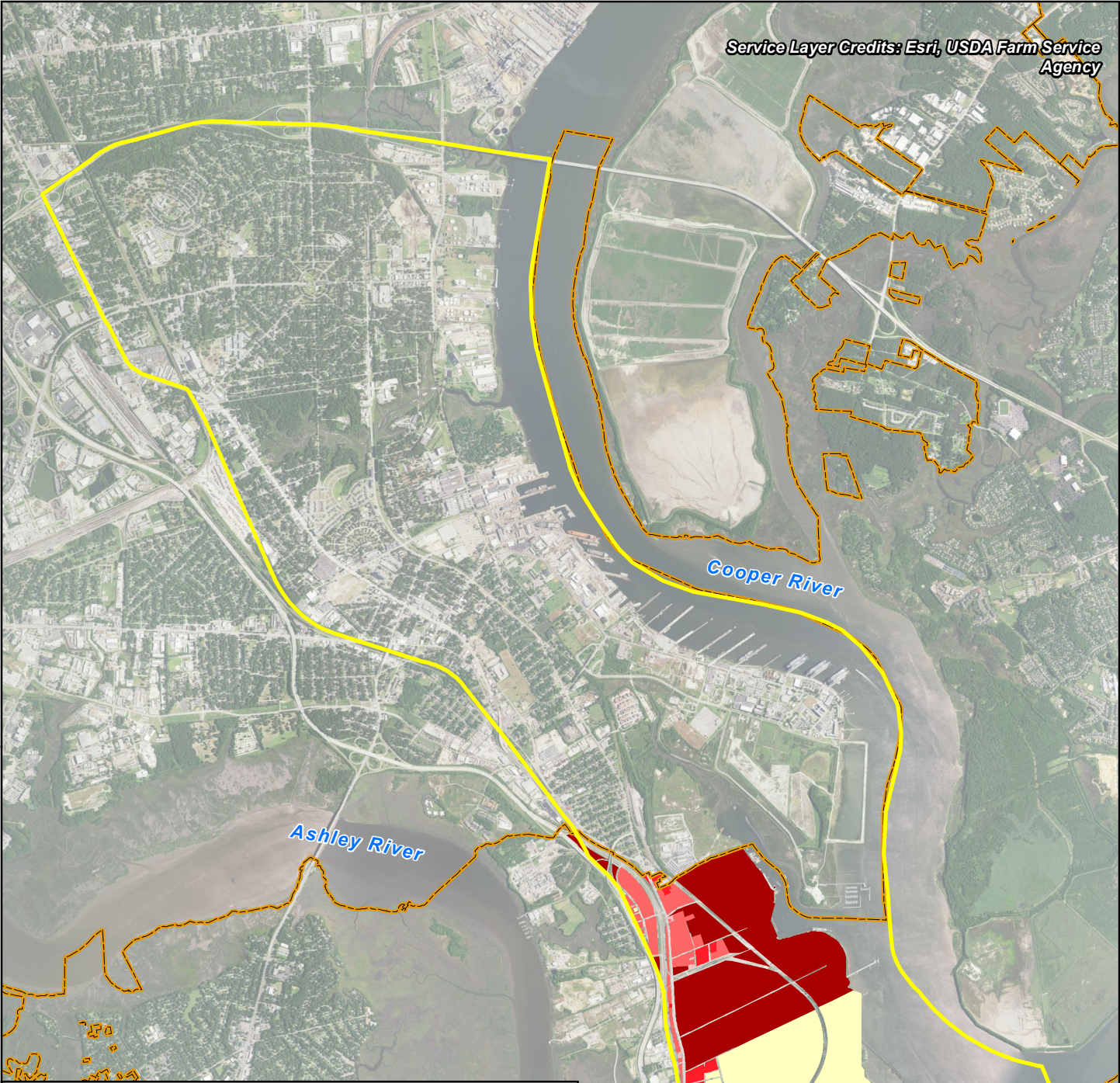
Source: City of North Charleston, Atkins 2015

0 1 2 Miles



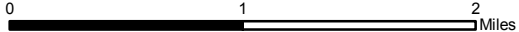
NAVY BASE ICTF EIS	
City of North Charleston Existing Zoning Figure 3.9-2	 US Army Corps Of Engineers Charleston District

Service Layer Credits: Esri, USDA Farm Service Agency



- Single Family Residential District (SR-1)
- Diverse Residential District (DR-3)
- General Business District (GB)
- Business Park District (BP)
- Light Industrial District (LI)
- Heavy Industrial District (HI)
- Mixed Use District (MU-2)
- City of Charleston Boundary
- Study Area

Source: City of Charleston, Atkins 2015



NAVY BASE ICTF EIS

City of Charleston
Existing Zoning

Figure 3.9-3



-R-2, Multi-Family Residential District (Section 5-2)

The regulations which apply within this district are designed to encourage the formation and continuance of a stable, healthy environment for single and multi-family dwellings and to discourage any encroachment of commercial, industrial or other uses capable of adversely affecting the residential character of the district.

-R-3, Mobile Home Residential District (Section 5-2.1)

The R-3 zoning district is established and reserved for medium density residential purposes. The regulations which apply within this district are designed to encourage the formation and continuance of a stable and healthy environment for single-family dwellings and mobile homes and to discourage any encroachment of commercial, industrial, multi-family or other uses capable of adversely affecting the single-family residential character of the district. The term mobile home shall include trailers, mobile homes and manufactured homes.

-ON, Neighborhood Office District (Section 5-3)

This ON zoning district provides for the uses of business and professional offices such as lawyers, accountants, engineers, architects, advertising agencies, real estate agents, physicians, dentists and hair stylists as well as all uses permitted in R-1 zoning districts.

-B-1, Limited Business District (Section 5-3.1)

The intent of the B-1 zoning district to encourage the formation and continuance of a quiet and uncongested environment for compatible professional business offices together with certain residential and neighborhood commercial uses which will not adversely affect adjacent residential areas.

-B-2, General Business District (Section 5-4)

The regulations that apply within this district are designed to encourage the formation and continuance of a compatible and economically healthy environment for business, financial, and professional service uses which benefit from being in close proximity to each other.

-M-1, Light Industrial District (Section 5-5)

It is the intent of the M-1 zoning district to provide areas for commercial, warehousing, transportation, and certain light manufacturing activities within the city.

-M-2, Heavy Industrial District (Section 5-6)

It is the intent of the M-2 zoning district to provide areas for commercial, manufacturing, storage, and transportation-related activities within the city.

-PDD, Planned Development Districts (Section 5-7)

The Planned Development District is a special district established by a certain procedure and designated on the official zoning map by boundaries and symbols. Use, area, bulk, height, and other requirements shall be determined by the procedures set forth in this section. It is the intent of this section to encourage flexibility in the development of land in order to promote its most appropriate use; to improve the design, character, and quality of new development; to facilitate the adequate and economical provision of streets and utilities; and to preserve the natural and scenic features of open areas.

City of Charleston Zoning

As mentioned previously, the southern portion of the study area is within the City of Charleston. As such, this portion falls under the zoning jurisdiction of the City of Charleston. Descriptions of base zoning districts that are within the study area as set forth in Article 2 of the City of Charleston Zoning Ordinance (2016) are as follows:

-SR-1, Single-Family Residential District

The Single-family Residential (SR) districts (including the SR-1, SR-2, SR-3, SR-4, SR-5, SR-6, SR-7 and SR-8 Districts) allow for one-family detached dwellings with maximum densities of 4.8, 7.3, 7.3, 10.9, 17.4, and 8.7 units per acre respectively, with varying setback, height and lot occupancy requirements.

-DR-3, Diverse Residential District

The DR-3 district is intended to promote acceptable living environments for occupants of mobile home parks as well as occupants of mobile homes, and manufactured homes and non-mobile home residential dwellings on single lots outside of mobile home parks. Uses allowed in SR and DR districts are also allowed in the DR-3 district. The minimum lot size for a mobile home or manufactured home on its own lot is 1 acre.

-GB, General Business District

The GB district is intended to provide for a broad range of commercial uses and activities. It is the most intensive commercial zoning district. Prohibited uses include junk and salvage yards, storage yards (except for vehicles and boats), and warehouses including self-storage mini-warehouses. Automotive repair shops, veterinary clinics, and stables are permitted only as special exceptions subject to the approval of the Board of Zoning Appeals.

-BP, Business Park District

The BP district is intended to accommodate service type commercial, wholesale, storage, and light manufacturing uses with relatively limited external effects in a high-quality environment. Uses which fit into this category are characterized by being low traffic generators, having no external environmental effects across property lines, and having all outdoor storage screened from adjoining rights-of-ways and properties by a minimum six-foot tall solid fence or wall and landscape buffer, if required. Automotive repair shops and veterinary clinics are permitted only as special exceptions subject to the approval of the Board of Zoning Appeals.

-MU-2, Mixed Use District

The MU-2 district is intended to permit high density residential uses along with a broad range of commercial uses and activities in urban areas of the city.

-LI, Light Industrial District

The LI district is intended to permit most commercial uses and low impact industrial uses which are compatible with surrounding commercial districts. More intensive industrial and manufacturing uses are permitted as conditional uses if the uses satisfy specific performance

standards. Storage yards are permitted only as special exceptions subject to the approval of the Board of Zoning Appeals.

-HI, Heavy Industrial District

The HI district is intended to provide for a broad range of industrial uses. It is the least restrictive industrial zoning district. Junk yards and storage yards permitted only as special exceptions subject to the approval of the Board of Zoning Appeals.

3.9.1.3 Comprehensive Plans

Under South Carolina law (SC Code of Laws Title 6 Chapter 29), the local planning commission must develop and maintain a planning process which will result in the systematic preparation and continual re-evaluation and updating of those elements considered critical, necessary, and desirable to guide the development and redevelopment of its area of jurisdiction. This planning process includes the development and maintenance of the comprehensive plan.

A local comprehensive plan must include, but not be limited to, the following planning elements:

- (1) A population element which considers historic trends and projections, household numbers and sizes, educational levels, and income characteristics.
- (2) An economic development element which considers labor force and labor force characteristics, employment by place of work and residence, and analysis of the economic base.
- (3) A natural resources element which considers coastal resources, slope characteristics, prime agricultural and forest land, plant and animal habitats, parks and recreation areas, scenic views and sites, wetlands, and soil types. Where a separate board exists pursuant to this chapter, this element is the responsibility of the existing board.
- (4) A cultural resources element which considers historic buildings and structures, commercial districts, residential districts, unique, natural, or scenic resources, archaeological, and other cultural resources. Where a separate board exists pursuant to this chapter, this element is the responsibility of the existing board.
- (5) A community facilities element which considers water supply, treatment, and distribution; sewage system and wastewater treatment; solid waste collection and disposal, fire protection, emergency medical services, and general government facilities; education facilities; and libraries and other cultural facilities.
- (6) A housing element which considers location, types, age, and condition of housing, owner and renter occupancy, and affordability of housing. This element includes an analysis to ascertain nonessential housing regulatory requirements, as defined in this chapter, that add to the cost of developing affordable housing but are not necessary to protect the public health, safety, or welfare and an analysis of market-based incentives that may be made available to encourage development of affordable housing, which incentives may include density bonuses, design flexibility, and streamlined permitting processes.

(7) A land use element which considers existing and future land use by categories, including residential, commercial, industrial, agricultural, forestry, mining, public and quasi-public, recreation, parks, open space, and vacant or undeveloped.

(8) A transportation element that considers transportation facilities, including major road improvements, new road construction, transit projects, pedestrian and bicycle projects, and other elements of a transportation network. This element must be developed in coordination with the land use element, to ensure transportation efficiency for existing and planned development.

(9) A priority investment element that analyzes the likely federal, state, and local funds available for public infrastructure and facilities during the next 10 years, and recommends the projects for expenditure of those funds during the next 10 years for needed public infrastructure and facilities such as water, sewer, roads, and schools. The recommendation of those projects for public expenditure must be done through coordination with adjacent and relevant jurisdictions and agencies. For the purposes of this item, "adjacent and relevant jurisdictions and agencies" means those counties, municipalities, public service districts, school districts, public and private utilities, transportation agencies, and other public entities that are affected by or have planning authority over the public project. For the purposes of this item, "coordination" means written notification by the local planning commission or its staff to adjacent and relevant jurisdictions and agencies of the Proposed Project and the opportunity for adjacent and relevant jurisdictions and agencies to provide comment to the planning commission or its staff concerning the Proposed Project. Failure of the planning commission or its staff to identify or notify an adjacent or relevant jurisdiction or agency does not invalidate the local comprehensive plan and does not give rise to a civil cause of action.

(10) All planning elements must be an expression of the planning commission recommendations to the appropriate governing bodies with regard to the wise and efficient use of public funds, the future growth, development, and redevelopment of its area of jurisdiction, and consideration of the fiscal impact on property owners. The planning elements whether done as a package or in separate increments together comprise the comprehensive plan for the jurisdiction at any one point in time. The local planning commission shall review the comprehensive plan or elements of it as often as necessary, but not less than once every five years, to determine whether changes in the amount, kind, or direction of development of the area or other reasons make it desirable to make additions or amendments to the plan. The comprehensive plan, including all elements of it, must be updated at least every ten years.

The comprehensive plans for both the City of North Charleston (2008a) and the City of Charleston (2010) were last updated in 2008 and 2010, respectively.

3.9.1.4 Other Local Plans

CNC Disposal and Reuse Plan

The former Navy base (also known as the CNC) was closed in 1996 and the EIS for the Disposal and Reuse of the Charleston Naval Base North Charleston, South Carolina was prepared to evaluate the impacts of the closure and plan for the reuse of the nearly 1,500-acre complex. The recommended

plan provided for civic and community uses with an emphasis on government and port-related activities recommending “high density” redevelopment with a mix of commercial, industrial and recreational activities. The plan for the Preferred Alternative in the EIS recognized that the redevelopment scenario was generally compatible with existing land uses; however, it would have potential impacts on the environment and local community that would require mitigation (DOD 2006). The ROD for the EIS and reuse plan also acknowledged that the Preferred Alternative was not the proposal with the least potential for causing adverse environmental impacts; however, it was selected as the Preferred Alternative to achieve the highest and best use for the property and the most likely to achieve economic redevelopment of the closed complex (DOD 1996). Eventually, the South Carolina Ports Authority (SCPA) was granted the southern portion of the property and dock and the northern end of the property was deeded to the City of North Charleston for redevelopment. The City of North Charleston entered into a public-private agreement with developer John Knott to revitalize the 3,000-acre historic core of North Charleston, which included the former CNC. See Section 1.5.1 for additional details and background information on the CNC.

City of North Charleston Noisette Community Master Plan – The New American City

The Noisette Community Master Plan was released for approximately 3,000 acres that included the City of North Charleston’s historic core and the north end of the former CNC (The Noisette Company 2003). The master plan set guidelines to develop a diverse, interconnected network of neighborhoods, businesses, parks, retail centers, and environmentally friendly entrepreneurial businesses, integrating new development with adjacent communities. In keeping with this plan, some former Navy warehouses and buildings between Noisette Boulevard and Hobson Avenue have been successfully converted into new offices, art studios, restaurants, and workshops. In addition, a low-income housing complex, West Yard Lofts, was developed in the northern portion of the former CNC, along with the Lowcountry Innovation Center and Riverfront Park. The Noisette Company once owned a portion of the CNC; however, approximately 250 acres were sold through foreclosure to the Applicant in 2010.

Charleston Neck Plan

In 2000, the Charleston City Council adopted an Economic Development Plan for the Enterprise Community. The plan was drafted by the Civic Design Center – City of Charleston (2003) and included four parts. One of those parts made general recommendations for physical development in the Enterprise Community and also recommended that physical development issues be studied in more detail to ensure that the community leads quality development in the area. The Charleston Neck plan identified the next step in the physical development planning process. The purpose of the Charleston Neck plan was to provide a framework for physical development in the Charleston Neck area. The Neck Plan included three key sections: an Urban Plan, a Zoning Strategy, and an Implementation Strategy. The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) have initiated the Partnership for Prosperity as a forum for collaborative planning and implementation actions for the

Neck Area Master Plan. BCDCOG is working with local governments, state agencies and community-based organizations on the Partnership for Prosperity and implementation of the Charleston Neck Plan. Additional organizations involved with the plan include: the City of Charleston, City of North Charleston, and Charleston County, South Carolina Department of Transportation (SCDOT), South Carolina Port Authority (SCPA), Palmetto Railways, Charleston Area Regional Transportation Authority (CARTA) and the Charleston Regional Development Alliance. The group is working on the draft plan and meetings are ongoing as the plan process continues.

3.9.2 Infrastructure and Utilities

The CNC site was previously used as a Navy Base and was served by multiple utilities. Since the closure of the Navy Base, some of the utilities remain at the site, while other utilities have been abandoned in place and/or removed or deeded to local utility authorities. Some new utilities have been installed to serve the repurposed areas at the site. Infrastructure and utilities currently available in the study area include electricity, potable water, sanitary sewer, natural gas, telecommunication, and solid waste collection. Utility services within the study area are regional systems with infrastructure networks and design capacity to serve the needs of the greater Charleston area. Service providers for each of these services are identified on Table 3.9-2 and described further below.

Table 3.9-2
Utility Providers in Study Area

Utility Providers in Study Area	
Service	Provider
Electricity	South Carolina Electric & Gas (SCE&G) and Santee-Cooper
Natural Gas	SCE&G
Telecommunications	SCANA, AT&T, Comcast, EarthLink, Wide Open West (WOW), and Spirit Communications
Potable Water	Charleston Water System
Sanitary Waste	North Charleston Sewer District
Solid Waste Collection	North Charleston Sanitation Division or private waste management firm
Solid Waste Disposal	Spring Grove Sanitary Landfill

Source: CDM Smith/TransSystems 2016.

Electricity

Electricity to the Project site is provided by the South Carolina Electric and Gas Company (SCE&G), a primary subsidiary of SCANA. SCE&G is a regulated public utility engaged in the generation, transmission, distribution, and sale of electricity to retail and wholesale customers across a 22,000-square-mile service territory in central, southern, and western South Carolina (SCE&G 2014).

Industrial-scale power distribution infrastructure is currently in place within the study area (Table 3.9-3).

Table 3.9-3
SCE&G Power Generation Capacity

Power Plants	Power Generation
Nuclear*	966 MW
4 Coal Plants	1,975 MW
2 Natural Gas Plants	1,525 MW
5 Hydro Electric Plants	820 MW
Total power Generation Capacity	5,286 MW

Source: SCE&G 2014.

*Additional nuclear capacity currently being developed under partnership with Santee-Cooper.

Natural Gas

SCE&G also provides natural gas to retail customers through its extended transportation network in the Charleston Area.

Communications

SCANA Communications provides communication services to clients throughout North Carolina, South Carolina, and Georgia, including telecom service providers, such as local exchange carriers, Internet Service Providers, and wireless carriers (SCANA 2014). SCANA Communications provides fiber optic telecommunications, Ethernet, and data center facilities to the study area. AT&T, Comcast, EarthLink, Wide Open West (WOW), and Spirt Communication also provide communication services in the study area.

Potable Water

Potable water service within the study area is administered by the Charleston Water System. The Water System's water comes from two surface water sources, including Bushy Park Reservoir in Berkeley County (primary source) and the Edisto River in Dorchester County. Deep tunnels carry water from these sources to the Hanahan Water Treatment Plant. Together, these sources supply water, even during a severe drought.

After treatment, the clean water is pumped into the water distribution system, a network of nearly 2,000 miles of underground pipes ranging in size from 1 inch to 4 feet in diameter. The distribution system includes dozens of pumps, four storages tanks, and some 8,700 fire hydrants. All of this must be monitored and maintained to provide high quality water at the right pressure to the 110,000

homes and businesses served by the Charleston Water System (Charleston Water System 2014). The potable water distribution system is currently in place and currently serves the study area.

Wastewater

North Charleston Sewer District provides sanitary sewer service and industrial pretreatment programs to the residential and commercial customers of the Sewer District. It operates a 27-million-gallons-per-day (MGD) wastewater treatment facility with 480 miles of sewer transportation lines and 60 pump stations throughout the 59.3 square mile service area (North Charleston Sewer District 2014).

Wastewater collection and treatment services within the study area are provided by the North Charleston Sewer District. Currently, two pump stations exist on the Project site. Wastewater flows from these stations are accommodated by a 30-inch gravity pipeline and a 20-inch force main that extend along North Hobson Avenue. Wastewater treatment is performed at the Felix Davis Wastewater Treatment Facility (WWTF). This facility has a 27-MGD design capacity and currently operates at an average of 15 MGD, leaving a 12-MGD capacity for peak day loads and growth.

Solid Waste

North Charleston Sanitation Division is responsible for solid waste and yard trash removal for all areas within the City of North Charleston city limits and the North Charleston District. The City of North Charleston does not pick up waste from commercial or industrial establishments (personal communication, Eric Sears, Landfill Manager, July 24, 2014). Solid waste collection and disposal within portions of the study area is provided by the North Charleston Sanitation Division. The Charleston Environmental Management Department also serves the City of Charleston, including the study area. Scheduled collections are performed weekly at curbside and dumpster sites by both of these departments. Waste disposal for the study area will be accommodated primarily at the Spring Grove Landfill. Current disposal capacity at the Spring Grove Landfill is estimated at 125 years (personal communication, Eric Sears, Landfill Manager, July 24, 2014).

3.10 CULTURAL RESOURCES

3.10.1 Introduction

The affected environment for cultural resources consists of numerous historic properties, which are sites, buildings, structures, objects, districts, or traditional cultural properties that are listed on or eligible for the National Register of Historic Places (NRHP). A cultural resource is a historic property (per 36 C.F.R. 60.4) when it is at least 50 years old, it meets one or more of the following NRHP criteria, and it retains sufficient integrity with respect to location, design, setting, materials,