UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
PROGRAM PLANNING AND INTEGRATION
Silver Spring, Maryland 20910

JUN 19 2014

To All Interested Government Agencies and Public Groups:

Under the National Environmental Policy Act (NEPA), an environmental review has been performed on the following action.

TITLE: NOAA NOS Center for Coastal Fisheries Habitat Research Utility Infrastructure and Seawall Repair Project

LOCATION: National Ocean Service (NOS) Center for Coastal Fisheries Habitat Research (CCFHR), Pivers Island, Beaufort, North Carolina

SUMMARY: An Environmental Assessment (EA) has been prepared for the *NOAA NOS Center for Coastal Fisheries Habitat Research Utility Infrastructure and Seawall Repair Project* dated May 8, 2014. The EA provides a comprehensive analysis of potential environmental effects for the proposed action to install underground utility infrastructure on the CCFHR campus and repair an existing seawall that runs along the western edge of Pivers Island. The upgraded utility infrastructure will meet NOAA standards, provide better service, improve reliability, and by being installed underground, will reduce vulnerability to service outages and damage associated with severe storms. The seawall repair will not only repair the undermining damage from Hurricane Sandy, it will provide better reinforcement and strength to withstand force winds and wave action from future severe storms. Neither individual nor cumulative environmental impacts of the proposed action will be significant, and most impacts will be short-term and localized to the project footprint.

RESPONSIBLE OFFICIAL:
Edward C. Horton
Chief Administrative Officer
The Office of the Chief Administrative Officer
1305 East-West Highway
Silver Spring, MD 20910-3282
(301) 713-0836

The environmental review process led us to conclude that this action will not have a significant effect on the human environment. Therefore, an environmental impact statement (EIS) will not be prepared. A copy of the finding of no significant impact (FONSI) including the supporting environmental assessment (EA) is enclosed for your information.

Although NOAA is not soliciting comments on this completed EA/FONSI, we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the responsible official named above.

Sincerely,

for Patricia A. Montanio
NOAA NEPA Coordinator

Enclosure

FINAL ENVIRONMENTAL ASSESSMENT

NOAA NOS Center for Coastal Fisheries Habitat Research Utility Infrastructure and Seawall Repair Project

Pivers Island, Beaufort, North Carolina

B&V PROJECT NO. 042620

PREPARED FOR

National Oceanic and Atmospheric Administration

MAY 8, 2014

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Executive Summary

This Environmental Assessment (EA) was prepared to evaluate the potential impacts on the human and natural environment associated with the proposed utility infrastructure (herein referred to as conduit) installation and seawall repair project (the Project) for the National Oceanic and Atmospheric Administration (NOAA) National Ocean Service (NOS) Center for Coastal Fisheries Habitat Research (CCFHR) located on Pivers Island, Town of Beaufort, Carteret County, North Carolina. Pivers Island is a 25-acre island and shared jointly by the NOAA, NOS CCFHR on the northern half of the island and the Duke University Marine Laboratory (DUML) on the southern half of the island. The CCFHR campus is home to two components of NOAA, the NOS and the National Marine Fisheries Service (NMFS). The NOAA CCFHR Beaufort laboratory is administered by NOS, and NMFS occupies office and laboratory space on the campus. Offices for the North Carolina National Estuarine Research Reserve (NCNERR) program are also located on the CCFHR campus.

A Master Plan was developed for the CCFHR in 2009, which proposed the elimination of smaller outbuildings and construction of new buildings among other campus developments. The Master Plan also proposed a utility infrastructure project. The purpose of the proposed Project is to provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities and during electrical outages caused by avian impacts with overhead utility lines. In addition, an 800-foot section of an existing seawall that was damaged during Hurricane Sandy in 2012 needs to be repaired.

This EA identifies and evaluates two alternatives: the no-action alternative and the preferred alternative. A third alternative was initially evaluated that proposed to create a complete utility conduit ring around the CCFHR campus which would have resulted in more environmental impact and additional cost when compared with the preferred alternative; therefore, it was eliminated from consideration. The no-action alternative would result in a seawall that has not been repaired and is vulnerable to future storm events and a utility service that will continue to experience service interruptions due to storm events and avian collisions with overhead utility lines. The preferred alternative was evaluated and ultimately determined to be the best option to meet the Project's purpose and need. Both alternatives were carried forward with a detailed analysis of the potential environmental impacts within the Project area.

The preferred alternative would involve the installation of new, underground utility conduits in three segments on the CCFHR campus along with an underground telecommunications conduit for future networking upgrades. Approximately 800 feet of seawall on the western edge of the CCFHR campus would be repaired. Potential environmental impacts are anticipated to be minimal and temporary as detailed in this EA. Potential impacts to resources requiring agency approvals, permits or licenses are summarized as follows:

1. Soils will be disturbed as a result of the utility and telecommunications conduits installation and the seawall repair; however, this disturbance will be minor and temporary and best management practices (BMPs) such as silt fence, filter socks and

turbidity barriers will be used to prevent sediment from entering the waters adjacent to Pivers Island.

2. Surface waters of Bulkhead Channel will be temporarily impacted with minor permanent fill to accommodate the repair of the existing 800-foot seawall. It is anticipated that this work will qualify for a United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) 3 Maintenance. Additionally, to further protect these surface waters, best management practices to prevent siltation and sediment from entering the adjacent surface waters, such as turbidity barriers, will be used within Bulkhead Channel to prevent sediment migration from the seawall repair location. The utility and telecommunications conduit installation will not directly impact any surface waters; however, BMPs such as silt fence and filter socks will be used to prevent sediment from being introduced into the waters adjacent to Pivers Island.
3. Wildlife is expected to be temporarily impacted as a result of construction due to displacement; however, the removal of overhead utility lines will positively impact avian wildlife by preventing collisions with the overhead utility lines. Oysters located on the existing seawall will be removed and placed waterward of the seawall repair area and adjacent natural oyster beds will be avoided. After construction, oysters are anticipated to recolonize the repaired seawall and return to preconstruction condition.

Based on a review of consultation with the United States Fish & Wildlife Service (USFWS), NMFS and North Carolina Department of Environment and Natural Resources (NCDENR), no federal or state listed threatened or endangered species or their habitat would be adversely impacted as a result of the preferred alternative.

A review of additional resources such as historical and cultural sites, transportation, socioeconomic conditions, hazardous materials sites, noise, farmlands, floodplains, land uses, air quality, recreation, and geology indicated the preferred alternative would have at worst, minimal and temporary impacts as detailed in this EA.

Acronym List

ACHP	Advisory Council on Historic Preservation
AEC	Area of Environmental Concern
B&M	Beaufort & Morehead Railroad
bgs	Below ground surface
BMP	Best Management Practice
CAMA	Coastal Area Management Act
CCFHR	Center for Coastal Fisheries and Habitat Research
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CESQG	Conditionally Exempt Small Quantity Generator
CFR	Code of Federal Regulations
CLNA	Carolina Coastal Railway
CO	Carbon Monoxide
CWA	Clean Water Act
DOI	United States Department of the Interior
DUML	Duke University Marine Laboratory
DWQ	Division of Water Quality
DWR	Division of Water Resources
EA	Environmental Assessment
EFH	Essential Fish Habitat
ERNS	Emergency Response Notification System
ETJ	Extraterritorial Jurisdiction

FAC	Facultative (hydrophyte wetland indicator status rating)
FACW	Facultative Wetland (hydrophyte indicator status rating)
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
HAP	Hazardous Air Pollutant
HPC	Historic Preservation Commission
IT	Information Technology
KMRH	Michael J. Smith Field Airport
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
mg/m^3	Milligram per Cubic Meter
MMPA	Marine Mammal Protection Act
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NC80	Morehead City State Port Terminal Heliport
NCDAQ	North Carolina Division of Air Quality
NCDCM	North Carolina Division of Coastal Management
NCDENR	North Carolina Department of Environment and Natural Resources
NCDOT	North Carolina Department of Transportation
NCNERR	North Carolina National Estuarine Research Reserve
n.d.	No Date
NEPA	National Environmental Policy Act
NESDI	National Environmental Satellite, Data and Information Service
NETR	Nationwide Environmental Title Research

NFRAP	No Further Remedial Action Planned
NHP	Natural Heritage Program
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NWP	Nationwide Permit
NWR	National Wildlife Refuge
O_3	Ozone
OBL	Obligate (hydrophyte wetland indicator status rating)
Pb	Lead
PM	Particulate Matter
ppb	Parts per Billion
ppm	Parts per Million
PVC	Polyvinylchloride
RA	Rural Agriculture (Carteret County Zoning District)
RCRA	Resource Conservation and Recovery Act
SHPO	State Historic Preservation Office
SHWS	State Hazardous Waste Site
SNHA	Significant Natural Heritage Area

SO_2	Sulfur Dioxide
STIP	State Transportation Improvement Program
TAP	Toxic Air Pollutant
TR	Transitional District (Town of Beaufort zoning district)
$\mu g/m^3$	Microgram per Cubic Meter
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground Storage Tank
WSS	Web Soil Survey

1.0 Introduction

Pivers Island is located in the Town of Beaufort, Carteret County, North Carolina near the southern end of North Carolina's Outer Banks. The 25-acre island is shared jointly by the National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service (NOS) Center for Coastal Fisheries Habitat Research (CCFHR) and the Duke University Marine Laboratory (DUML). The island is bordered by downtown Beaufort to the east, Highway 70 to the north, and Radio Island to the west (GEA 2008). A site location map of Pivers Island is presented in Figure 1.0-1. Photographs of the CCFHR campus are presented in Appendix A.

There are two separate campuses on Pivers Island. One is the NOAA CCFHR which is shared by NOAA and North Carolina National Estuarine Research Reserve (NCNERR) and encompasses the northern half of the island, and the other is the DUML which is located on the southern half of Pivers Island. The focus of this Environmental Assessment (EA) is the CCFHR campus.

The CCFHR campus is located on the northern half of Pivers Island and is approximately 11 acres in size. The CCFHR campus is home to two components of NOAA, the NOS and the National Marine Fisheries Service (NMFS). The NOAA CCFHR Beaufort laboratory is administered by NOS, and NMFS occupies office and laboratory space on the campus. Offices for the NCNERR program are also located on the CCFHR campus. A site layout map of the CCFHR is presented in Figure 1.0-2.

The CCFHR campus is uniquely located to carry out NOAA's scientific missions. Its location provides access to a greater diversity of coastal habitats than any other NOAA facility on the Atlantic Coast. Ecosystems representing the biodiversity of the entire east coast of the U.S. are found within a few miles of the facility. The facility is also adjacent to the second largest estuarine complex on the east coast, the open ocean, and the Gulf Stream (GEA 2008).

A Master Plan was developed for the CCFHR in 2009, which proposed to eliminate multiple small buildings on the campus and consolidate their functions into two larger future buildings, the Ecological and Analytical Laboratory and new Wet (Aquacultures) Laboratory. The Master Plan also proposed a utility infrastructure project and repair of the seawall. Based on the 2009 Master Plan, the CCFHR has proposed a utility infrastructure project (the Project) to construct underground electrical service and telecommunications utility infrastructure (underground utility conduit) within the CCFHR campus and repair approximately 800 linear feet of an existing seawall.

1.1 PURPOSE AND NEED

The purpose of the Project is to provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities and during electrical outages caused by avian impacts with the overhead utility lines. In addition, a section of an existing seawall that was damaged during Hurricane Sandy in 2012 will be repaired. The Project is proposed as part of the 2009 Master Plan for the CCFHR which will modernize the campus and bring it up to NOAA standards by constructing new facilities (GEA 2008).

The new underground utility conduit will be designed and constructed to fill current voids in the utility corridors on the CCFHR campus. Once the utility conduit is installed and electrical service run through the conduit, the existing overhead power distribution lines, structures and metering will be disconnected and removed. In addition, two new empty conduits will be installed parallel to the south segment of the new underground utility conduit. This installation of information technology (IT)/telecommunications infrastructure will provide upgraded connectivity in the future to buildings in the northern part of the CCFHR campus. Other activities that will support the Project include the following: installing new light poles; removal of backup generators and existing underground storage tanks, installation of an above ground fuel tank, and demolition and replacement of concrete pads. The seawall that will be repaired runs along the western edge of the CCFHR campus from the northern bridge accessing the island to the northern boundary of the Duke University property. The new seawall will protect the western edge of the CCFHR campus from being undermined and damaged further by storm events.

1.1.1 Environmental Assessment Purpose

This EA has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) regulations of the Council on Environmental Quality (CEQ) as coded in Parts 1500-1508 of the Code of Federal Regulations (40 CFR Parts 1500-1508) and NOAA Administrative Order 216-6 *Environmental Review Procedures for Implementing the NEPA*. A list of preparers is provided in Appendix B.

The purpose of this EA is to:

- Analyze the individual and cumulative environmental impacts of the preferred alternative on environmental resources, including areas up to the 200-mile exclusive economic zone;
- Provide a general discussion of the environmental impacts of the no-action alternative;
- Identify any mitigation measures necessary to reduce the identified impacts to insignificant levels, as applicable; and
- Identify any required federal, state, regional and/or local environmental permits required for successful completion of the preferred alternative.

2.0 Alternatives Analysis

The preferred alternative and the no-action alternative are described below and advanced for this EA as required by Section 102(2)(E) of the NEPA. Much of the information below was derived from Project meetings and design documents. While some aspects are potentially subject to change as the detailed engineering design proceeds, these changes are not anticipated to affect the findings of this EA. If any design changes are significant and/or will affect environmental considerations, then a supplemental EA will be prepared and submitted, and, if applicable, a supplemental FONSI will be prepared.

The CCFHR is located on Pivers Island, a small island that is part of the Beaufort Inlet estuary situated east of Radio Island and immediately west of the Town of Beaufort. This coastal area is vulnerable to severe weather hazards and has sustained major damage from high winds and flooding from 15 different hurricanes since 1933 (Wooten 2009). In addition to upgrading the electric service and telecommunications infrastructure at CCFHR to meet NOAA standards and help prevent power outages and damage from future severe storms, the selected alternative includes seawall repair from past storms.

2.1 PREFERRED ALTERNATIVE

The preferred alternative is shown in the Proposed Site Layout Map, Figure 1.0-2, and includes the following components: electrical, future IT/telecommunications infrastructure, and seawall repair. The subsections below provide a summary of each component of the preferred alternative.

2.1.1 Electrical

- Install an underground electrical service in three segments on the CCFHR campus, as shown on Figure 1.0-2. The north electrical segment runs approximately 380 linear feet from near the northern access bridge in the northwest corner of Pivers Island. The center segment is approximately 420 linear feet long and generally routes east-west in the center of the CCFHR campus, avoiding the Coastal Area Management Act (CAMA) 75-foot Area of Environmental Concern (AEC) to the extent practicable. The south segment is approximately 238 linear feet in length and connects the Administration Building to the southern portion of the property. All three segments of the underground electrical service together total approximately 1,038 linear feet. New transformers, metering and other electrical equipment will be set as needed by Duke Energy.
- Remove existing overhead power lines/transformers/structures and cutover to new buried services. Plans are to stagger the cutover to new electrical service for each segment of the buried conduit so that limited outages will affect small groupings of campus buildings at any one given time. Emergency backup generators will support the critical power loads during the cutover of each segment, which should last 24 hours or less.
- Other activities that will support the Project include the following: installing new light poles; replacing existing light pole; removal of selected backup generators and existing

underground storage tanks, installation of an above ground fuel tank, and demolition and replacement of concrete pads.

2.1.2 Future IT/Telecommunications Infrastructure

- Install two new 4-inch empty conduits which run parallel to the south segment of the new buried electrical service. The future installation of IT/telecommunications infrastructure will provide upgraded connectivity to buildings in the northern part of the CCFHR campus.
- This portion is estimated to run approximately 240 feet.

2.1.3 Seawall Repair

- Repair an existing seawall from the northern access bridge approximately 800 linear feet along the CCFHR campus south to the Duke University property boundary on the western edge of Pivers Island.
- A vinyl sheet piling with fill design is the proposed solution for the seawall repair application. Figure 2.2-1 illustrates the details of the vinyl sheet piling and provides a profile view.
- Vinyl sheet piling will be installed immediately adjacent to the existing seawall. Plans are to construct the new seawall entirely water-side of the existing seawall (which is to remain in place) with interstitial space medium (if needed) placed in between the old and new seawall to prevent further erosion or structural integrity concerns.
- A 2-foot concrete cap or maintenance free vinyl top cap walk-way system with a no-slip texture surface will be constructed over both seawalls as if one seawall existed.
- Only marine-grade, type 316 stainless steel fasteners will be used (no galvanized anchors).
- This installation will be environmentally friendly and a non-invasive waterside solution which will avoid and minimize impacts to Waters of the U.S.

The preferred alternative will meet the needs of the proposed Project. The upgraded electric and IT/telecommunications utility infrastructure will meet NOAA standards, provide better service, improve reliability, and by going underground it will reduce vulnerability to service outages and problems associated with severe storms. The western seawall repair will not only repair the undermining damage from Hurricane Sandy, it will provide better reinforcement and strength to withstand force winds and wave action from future severe storms. Additionally, an ecological benefit of moving the conduit underground will be to remove the threat of avian impacts; particularly to gulls, roosting on and colliding with overhead power lines. Power disruption and brown pelican (*Pelecanus occidentalis*) deaths have been occurring at the CCFHR (Guyton 2014).

2.2 NO-ACTION ALTERNATIVE

The no-action alternative provides the basis for a comparative analysis of the action alternatives. NOAA considered the alternative of taking no action; however, this would not fulfill the current needs of the Project. The no-action alternative would result in continuing electrical

power outages from storms and avian collisions with overhead power lines. The no-action alternative provides outdated IT/telecommunications infrastructure with reduced speed and lower reliability than the Project's preferred alternative. The no-action alternative would allow continued undermining of the seawall which will result in more erosion and sink holes on the CCFHR campus and a greater potential for flooding. The no-action alternative does not prevent potential avian fatalities caused by collisions with the existing overhead power lines.

2.3 ALTERNATIVE CONSIDERED AND REJECTED

Another alternative was considered and rejected in the early stages of project development. It included installation of underground electrical and IT/Telecom conduit as shown on Figure 2.2-2. This alternative proposed an underground "utility ring" to connect all of the buildings on the CCFHR campus.

This alternative was ruled out because the single power feed to the island made the completion of a "utility ring" unnecessary. The cost of the alternative was also prohibitive. Additionally, a subsurface investigation has yet to reveal the amount and location of existing underground conduits; therefore, it may be difficult to determine suitable locations for the alternative underground route. Rejecting this alternative provides benefits due to less ground disturbance; therefore, less of the associated potential impacts will result such as destruction of vegetation, removal of stabilizing ground cover, stormwater runoff, erosion, and surface water sedimentation. Therefore, this rejected alternative is not carried forward and not evaluated further in this EA.

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3.0 Environmental Setting

The CCFHR is located on Pivers Island, a small island that is part of the Beaufort Inlet estuary, which is situated east of Radio Island and immediately west of the Town of Beaufort in Carteret County, North Carolina.

The United States Geological Survey (USGS) Beaufort, North Carolina 7.5 minute topographic quadrangle (1949, photo-revised 1983) presented in Figure 3.0-1 indicates that Pivers Island occurs at an elevation of less than 10 feet above mean seal level (MSL) and generally slopes from the central portion of the island in all directions to the adjacent channels. Topographic relief is minimal, generally less than 1 percent.

Pivers Island is surrounded by Bulkhead Channel to the west and Beaufort Channel to the east. These channels connect to the Newport River and Morehead City Channel both of which ultimately connect to Beaufort Inlet and the Atlantic Ocean approximately 3.9 miles oceanward. All channels are tidal. No surface water channels exist on Pivers Island; however, drainage on the island is generally through an existing storm water drainage system and sheet flow runoff via vegetated swales to either the Bulkhead or Beaufort Channels.

Soils on Pivers Island and the CCFHR campus are disturbed as a result of the development on the CCFHR and DUML campuses and historical dredge spoils which aided in building up the island. A more detailed description of the soils within the Project area is presented in Section 4.2 of this EA.

Pivers Island is located within the Atlantic Coastal Plain Physiographic Province, which consists of an eastward-thickening wedge of stratified, unconsolidated and semi-consolidated alluvial and marine deposits above a crystalline basement surface (USGS 1996). The Atlantic Coastal Plain consists of a series of confined and semi-confined to confined aquifers down to the crystalline basement surface which are described in further detail in Section 4.3 of this EA.

The southern coast of North Carolina is classified as humid subtropical, which is defined as warm, humid summer months and relatively mild winters with no distinct wet/dry season and precipitation generally evenly distributed throughout the year. According to NOAA's 30-year moving average climatological data (1981-2010) the average daytime high temperature ranges between 53.3 degrees Fahrenheit in January and 85.8 degrees Fahrenheit in July for an annual average of 70.4 degrees Fahrenheit. Average night temperatures range between 36.0 degrees Fahrenheit in January and 74.2 degrees Fahrenheit in July for an annual average of 62.9 degrees Fahrenheit. The overall mean temperature is 62.9 degrees Fahrenheit. Annual precipitation for this region of North Carolina ranges between 45 and 65 inches with an average of 54.55 inches. (NOAA 2014)

The State Climate Office of North Carolina estimates between 40 and 50 thunderstorms affect the area in a given year, with fewer than 3 tornadoes. Although tropical cyclones including hurricanes pass within a distance of North Carolina to influence the weather an average of twice per year, a direct strike from these storms occurs on average once every ten years. (State Climate Office of North Carolina 2014).

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4.0 Affected Environment and Potential Consequences

The following sections describe the existing environmental resources on the CCFHR campus and potential impacts resulting from the Project and no-action alternative.

4.1 LAND USE

This section describes the land use of the CCFHR campus and vicinity. It also presents the potential land use impacts as a result of construction of the preferred alternative and from the no-action alternative.

4.1.1 Transitional District

Pivers Island is located within the corporate boundaries of the Town of Beaufort as shown on Figure 4.1-1. The land use designation for the CCFHR campus property is Transitional District (coded TR) and includes government and non-profit owned/operated facilities and services. The intent of this district is to serve as a transition between residential and more intensive districts. This includes residential and commercial uses with a low noise and traffic impact which would generally be considered compatible with a residential area and may or may not have buffering requirements as documented in section 19 of the recently revised Land Development Ordinance for the Town of Beaufort (Beaufort 2013).

4.1.2 Surrounding Land Use

The Duke University Marine Laboratory and the Rachel Carson NCNERR are located south of the CCFHR campus, also on Pivers Island, and land use is consistent with the TR zoning.

The Town of Beaufort has designated the waters adjacent to Pivers Island within their extraterritorial jurisdiction (ETJ). The properties beyond the corporate limits of the Town of Beaufort for a distance of one mile in all directions are deemed the ETJ area and are subject to the same zoning regulations that apply within the corporate limits of the Town (Beaufort 2013).

Beaufort has two historic districts located east of the CCFHR campus (see Section 4.7). In 1974, the Town's historic core was placed on the National Register of Historic Places (NRHP). Beaufort's picturesque maritime setting, seaside character, historic buildings, and dramatic views from the waterfront are deemed so crucial to the Town's historic integrity that the boundaries of the Beaufort National Register Historic District are drawn to include a large expanse of water across Town Marsh and Carrot Island (TRC Environmental 2008). To further recognize and protect Beaufort's unique heritage, the Beaufort Town Commissioners designated an approximately 12-block area of town including part of Taylor's Creek as a local historic district (TRC Environmental n.d.). The boundaries of both historic districts are shown on Figure 4.1-1.

Land use surrounding the CCFHR campus is mixed commercial, residential, and maritime, as shown on Figure 4.1-1 and Figure 4.1-2. Nearby zoning districts predominantly include the following designations:

- Town of Beaufort (Beaufort 2013)
  - R-8 - Residential Medium Density District.

- B-W - Business Waterfront District.
- H-WBD - Historic Waterfront Business District.
- TR - Transitional District.
- H-BD - Historic Business District.
- OS - Open Space District [Carrot Island south of CCFHR].

- Carteret County (Carteret 2013 n.d.)
  - B-2 - Marine Business District.
  - R-5W - Waterfront Residential District.
  - B-1 - General Business District.
  - P-I - Port-Industrial District.

4.1.3 Impacts to Land Use

The preferred alternative will remain consistent with land use as zoned TR by the Town of Beaufort. The preferred alternative will have no impact on land use on the CCFHR campus or the immediate vicinity; therefore, the need for mitigation is not anticipated and is not proposed.

The no-action alternative will have no impact on land use.

4.2 GEOLOGICAL AND SOIL RESOURCES

This section describes the geological and soil resources of CCFHR campus and vicinity. It also presents the potential impacts on geological and soil resources as a result of construction of the preferred alternative and from the no-action alternative.

4.2.1 Existing Geological Resources

The geology of North Carolina has a long and complex history and is best described in terms of geological belts; that is, areas with similar rock types and geologic history. Pivers Island is located within the Atlantic Coastal Plain Physiographic Province, which is one of North Carolina's several geologic belts (NCGS 1991). This Province is actually comprised of two sub-provinces, the Inner and Outer Atlantic Coastal Plain Provinces. These sub-provinces are separated by a boundary, the Suffolk Scarp, which is located approximately 38 miles north-northwest of the island.

Pivers Island (which includes the CCFHR campus) is located within the Outer Coastal Plain Physiographic Province that is comprised primarily of stratified, unconsolidated and semi-consolidated alluvial and marine deposits that range from recent (Quaternary) to Cretaceous in age. These sediments rest on an underlying basement complex of Paleozoic aged crystalline limestone that steadily thickens to the east, forming a wedge-like profile (NCDWR 2005).

The following provides a description of the geologic formations that underlie Pivers Island (Olsen 1998);

- Surficial Sands Formation – this is the uppermost formation which is primarily composed of Quaternary age sand, shell and clay beds of marginal marine, lacustrine and fluvial origin (Olsen 1998).

- Yorktown Confining Unit – this unit is most aptly described as a series of discontinuous clay and silt beds that vary in stratigraphic position (Olsen 1998).
- Yorktown Formation - this formation is primarily composed of Pliocene aged fine to medium grained shelly, clayey sand, bluish-gray in color, alternating with beds of bluish gray clay. The basal part of the Yorktown Formation often contains medium to coarse sand (Olsen 1998).
- Castle Hayne confining unit – this unit is made up of clay and silt beds with lesser amounts of sand. The unit thickens generally from west to east (Olsen 1998).
- Castle Hayne Formation – this formation is Eocene in age and consists of extremely permeable, gray to white molluscan moldic limestones and dolomites. It is interbedded and underlain by fine to medium grained calcareous sands and clays. The lower part of the Castle Hayne formation may include some highly glauconitic sands of the uppermost Beaufort Formation of Paleocene age (Olsen 1998).

4.2.2 Existing Soil Resources

According to the National Resource Conservation Service (NRCS) Web Soil Survey (WSS) for Carteret County, North Carolina, two soil types are mapped on the CCFHR campus, as shown on Figure 4.2-1. A brief description of each soil type and an approximate location are as follows (NRCS 2014):

- **Wando-Urban Land complex** – This soil type encompasses the northern portion of the CCFHR campus where the majority of the campus buildings currently reside. The soil complex is moderately well drained and derived from Eolian and beach sands located on ridges on marine terraces. The soil slope generally ranges from flat to 6 percent with a moderately deep water table between 48 and 72 inches below ground surface (bgs) and low shrink-swell characteristics. The soil has a rapid permeability due to the sandy texture. The soil has a moderate corrosion effect on concrete, but a low corrosion effect on steel. According to the NRCS National List of Hydric Soils, Wando-Urban Land complex is not listed as hydric; however, Muckalee and Leon, minor components (2 and 3 percent, respectively) are listed as hydric. Muckalee and Leon soil types do not occur on the CCFHR campus.
- **Corrolla-Urban Land complex** – This soil type is located on the southern portion of the CCFHR campus. The soil complex is moderately well drained and derived from Eolian and beach sands located in troughs on barrier islands. The soil slope generally ranges from flat to 6 percent with a shallow water table between 18 and 36 inches bgs and low shrink-swell characteristics. The soil has a rapid permeability due to the sandy texture. The soil has a high corrosion effect on steel, but a low corrosion effect on concrete. According to the NRCS National List of Hydric Soils, Corrolla-Urban Land complex is not classified as a hydric soil; however, Duckston, a minor component (5%), is listed as hydric. The Duckston soil type does not occur on the CCFHR campus.

4.2.3 Impacts to Geological and Soil Resources

According to the U.S. Environmental Protection Agency (USEPA) Map of Seismic Hazards in the Contiguous United States, there are no active fault systems within the vicinity of Pivers Island and the Suffolk Scarp (the boundary between the Inner and Outer Coastal Plan Provinces) and a potential location for geologic movement is located 38 ± miles to the north-northwest (USEPA 1997). The preferred alternative will not be constructed on slopes greater than 15 percent, and should not initiate any direct or indirect geologic hazard such as subsidence, landslide scarps or fault movement. Based on this information, the preferred alternative is not expected to affect geological resources; therefore, no mitigation is proposed.

The rapid permeability of the sandy surface soils on the CCFHR campus would not be expected to inhibit the rate of vertical migration of water or other materials; however, during a site visit on November 20, Randy Grady, a former CCFHR campus facilities operations manager, indicated the presence of buried and abandoned roads, seawalls and other infrastructure which may alter the permeability of the campus soils. Additionally, soil will be disturbed as a result of the installation of the underground utility conduit; however, these impacts are expected to be temporary and minor. Best management practices such as silt fence, hay bales and seeding will be used to stabilize any disturbed soil or soil stockpiles to prevent entry into the nearby waterways. The use of BMPs is anticipated to adequately mitigate the temporary, insignificant impacts to soil resources. No impacts to soil resources are anticipated during operations after construction is completed.

The no-action alternative will have no direct impact on geological or soil resources since no subsurface disturbance will occur due to conduit installation or seawall repair. Not installing the underground utility conduit would prevent potential temporary impact to the soils on Pivers Island; however, the overhead utility lines would remain in place and power outages would continue due to storm events which does not satisfy the purpose and need of the Project. Further, unless the damaged seawall is repaired the area behind the existing structure will continue to collapse and the seawall will be further weakened and undermined during storm events. The existing seawall will eventually fail and excessive erosion and possible subsidence may occur on the western edge of the CCFHR campus. Subsidence of the ground adjacent to the channel would be detrimental to water quality and shellfish and other marine organisms. Also, if the seawall fails, the entire structure will have to be replaced; this will be more costly and invasive that the proposed sheet piling installation method and would cause more impacts to geological and soil resources.

4.3 HYDROLOGICAL RESOURCES

This section describes the hydrological resources of the CCFHR campus and vicinity. It also presents the potential impacts on hydrological resources as a result of construction of the preferred alternative and from the no-action alternative.

The groundwater flow system in the Atlantic Coastal Plain consists of an unconfined, water-table aquifer and an underlying sequence of semi-confined to confined aquifers and intervening confining units. The aquifers are composed of permeable sands and gravels through which water

readily flows. The confining layers are composed of clayey materials, which retard water flow. In the Atlantic Coastal Plain, the confining layers are often leaky, which allows exchange of water between aquifers.

4.3.1 Existing Hydrological Resources

There is one unconfined surficial aquifer and three confined and semi confined aquifers underlying Pivers Island (which includes the CCFHR campus) as follows:

- Surficial Water Table Aquifer – this aquifer is comprised of unconsolidated surficial sands and is unconfined. This aquifer is the first to receive recharge through infiltration of rainwater, and the water table within the aquifer fluctuates in elevation with changes in ground water recharge. Ground water within the surficial aquifer moves laterally to discharge areas such as rivers, lakes, swamps, and other surface water bodies. It also moves down gradient in recharge areas into deeper confined aquifers. Water from the surficial aquifer is used by some residents for potable use however it needs treatment prior to drinking since it has high mineral (iron) content (NCDWR 2005).
- The Yorktown Aquifer – this aquifer underlies the water-table aquifer and is found at approximately 45 to 55 feet bgs in the vicinity of the site. The Yorktown aquifer is a confined system that is generally separated from the overlying water-table aquifer by beds of silt, clay and sandy clay, which function as an aquitard. The Yorktown aquifer is an artesian aquifer that draws water from consolidated sediments and limestone within the formation. Recharge to the Yorktown aquifer system is primarily through downward leakage of water from the overlying water-table aquifer. Water pumped from the artesian limestone aquifer is hard, and has high levels of dissolved calcium and bicarbonate. Water from this aquifer does have domestic usage at some inland locations; however, it is limited in the eastern mainland and southern banks due to the potential for brackish water intrusion (NCDWR 2005).
- The Castle Hayne Aquifer – this aquifer is a confined system that underlies the Yorktown aquifer and is the primary drinking water supply in Carteret County. Although the Castle Hayne Formation is approximately 950 feet thick in the vicinity of Pivers Island, the major water-bearing zone within the aquifer system is restricted to the upper limestone portion of the formation. The top of the Castle Hayne aquifer system occurs at an approximate depth of 210 to 220 feet bgs. The water-bearing limestone is reported to be over 300 feet in thickness within the vicinity of Pivers Island (NCDWR 2005).
- Peedee Aquifer - below the limestone aquifer there is a lower sandy aquifer that ranges from 1,400 feet thick in the western portion of the county to over 4,000 feet thick in the east. However, salt water intrusion makes this aquifer unsuitable for domestic supply.

The flow of shallow groundwater in the area generally follows regional topography. Since topography at the Pivers Island is mostly flat, recharge of the water-table aquifer is by infiltration of precipitation and should result in groundwater flow towards the estuary in which the Pivers Island

is situated. It should be noted however, that published reports of groundwater flow directions for the site and adjacent areas were not available, and further research and/or subsurface testing would be necessary to confirm the flow direction and to identify the location and characteristics of deeper groundwater aquifers (NCDWR 2005).

4.3.2 Impacts to Hydrologic Resources

Since the new conduit system will be installed underground, hydrological resources could potentially be affected by the preferred alternative. In order to mitigate these impacts, the underground electrical lines will be installed in a conduit that is constructed from polyvinylchloride (PVC) or another plastic type material that is not susceptible to leeching or salt corrosion. This material will not corrode under the wet and/or saline conditions that exist beneath the Project area; therefore, impacts to hydrological resources are expected be temporary in nature and should only occur during construction.

The no-action alternative will have no direct impact on hydrological resources. By not installing the underground utility conduit and the seawall potential temporary impacts to hydrological resources on the CCFHR campus would be prevented; however, the overhead utility lines would remain in place and power outages would continue due to storm events which does not satisfy the purpose and need of the Project. During these events generators, which can increase air and noise pollution, are used to power the campus. These generators have the potential to impact hydrological resources on the CCFHR campus through a fuel spill or by leaking oil.

4.4 AIR QUALITY

This section describes the air quality in the vicinity of the Project. It also presents the potential of environmental impacts as a result of construction of the preferred alternative on air quality and from the no-action alternative.

4.4.1 National Ambient Air Quality Standards

Ambient air quality status is determined by measuring pollutant concentrations in outdoor air and comparing the measured concentrations to corresponding National Ambient Air Quality Standards (NAAQS). Ambient air quality standards are classified as primary and secondary. Primary standards are those established to protect public health. Secondary standards are those established to protect the public welfare from adverse pollution effects on soils, water, crops, vegetation, man-made materials, animals, wildlife, weather, visibility, climate, property, transportation, economy, and personal comfort and well-being. (NCDAQ 2013)

The national primary, secondary and North Carolina ambient air quality standards for the six criteria pollutants are summarized in Table 4.4-1. The six criteria pollutants include particulate matter [two sizes are measured: diameter less than 2.5 microns ($PM_{2.5}$) and diameter less than 10 microns (PM_{10})], carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and lead (Pb).

Table 4.4-1: National and North Carolina Air Quality Standards 2011

POLLUTANT/ AMBIENT MEASUREMENT/ (REFERENCE)	AVERAGING PERIOD	TYPE OF SUMMARY	PRIMARY NATIONAL (HEALTH RELATED) STANDARD	SECONDARY NATIONAL (WELFARE RELATED) STANDARD	NORTH CAROLINA STANDARD
$PM_{2.5}$ 24 hour average (40CFR50, App. N)	1 year	average[1] quarterly-weighted arithmetic mean	12 µg/m3[(2)]	12 µg/m3[(2)]	12 µg/m3[(2)]
	1 year	average[1] quarterly-weighted arithmetic mean	15 µg/m3[(3)]	15 µg/m3[(3)]	15 µg/m3[(3)]
	1 day	average[1] 98th percentile	35 µg/m3[(4)]	35 µg/m3[(4)]	35 µg/m3[(4)]
PM_{10} 24-hour average (40CFR50, App. N)	1 day	average[1] 2nd maximum[5]	150 µg/m3	150 µg/m3	150 µg/m3
CO 1 hour average	8 hours	2nd maximum	9 ppm (10 mg/m3)		9 ppm (10 mg/m3)
	1 hour	2nd maximum	35 ppm (40 mg/m3)		35 ppm (40 mg/m3)
O_3 1-hour average (40CFR50, App. I)	8 hours	Average[6] arithmetic mean 4th maximum	0.075 ppm [(7)] (157 µg/m3)	0.075 ppm [(7)] (157 µg/m3)	0.075 ppm [(7)] (157 µg/m3)
SO_2 1-hour average	3 hours (non-overlapping)	2nd maximum		500 ppb (1,300 µg/m3)	0.50 ppm (1,300 µg/m3)
	1 year	99th percentile of Daily Maximum	75 ppb[(8)]		75 ppb[(8)]
NO_2 1-hour average	1 year	arithmetic mean	0.053 ppm	0.053 ppm	0.053 ppm
	1 year	98th percentile of Daily Maximum	(100 µg/m3)	(100 µg/m3)	(100 µg/m3)
Pb 24-hour average	3 months	arithmetic mean	0.15 µg/m3[(9)]	0.15 µg/m3[(9)]	0.15 g/m3[(9)]

For new or anticipated new standards, references in the Code of Federal Regulations are given.
For standards expressed in parts per million (ppm), an equivalent mass per unit volume is also shown (micrograms per cubic meter [ug/m3]).

1. Arithmetic mean over the 3 most current years.
2. Effective December 14, 2012.
3. On April 1, 2000, North Carolina adopted the EPA PM2.5 and Ozone standards. On May 14, 2000, the U.S. Court of Appeals ruled the new EPA PM2.5 standard vacated and the new 8-hour ozone standard as unenforceable. On appeal to the U.S. Supreme Court the new standard was upheld.
4. To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m3 (effective December 17, 2006).

Table 4.4-1: National and North Carolina Air Quality Standards 2011

POLLUTANT/ AMBIENT MEASUREMENT/ (REFERENCE)	AVERAGING PERIOD	TYPE OF SUMMARY	PRIMARY NATIONAL (HEALTH RELATED) STANDARD	SECONDARY NATIONAL (WELFARE RELATED) STANDARD	NORTH CAROLINA STANDARD

5. In July 1997, a percentile-based statistic replaced the 2nd maximum, but in May 1999 the 2nd maximum standard was reinstated.
6. Arithmetic mean value over the most recent 3 consecutive, complete calendar years.
7. Effective May 27, 2008.
8. To attain this standard, the 3-year average of the 99th percentile of 1-hour daily maximum concentrations must not exceed 75 parts per billion (ppb) (effective June 2, 2010).
9. Effective October 15, 2008.

Source: NC Division of Air Quality, DENR, "2011 Ambient Air Quality Report," September 2013, <http://daq.state.nc.us/monitor/reports/> (accessed January 9, 2014).

4.4.2 Attainment Status for Carteret County

A pollutant measurement that is greater than the ambient air quality standard for a specific averaging time is referred to as an exceedance. Historical monitoring of air quality in Carteret County since 1978 shows no exceedances for any of the six criteria pollutants (USEPA 2013). Therefore, air quality in Carteret County meets the air quality standards and the area is considered in attainment.

4.4.3 Impacts to Air Quality

The preferred alternative has the potential to impact air quality during construction through a temporary increase in airborne particulate matter and dust during excavation for the underground electric and IT/telecommunications conduit and demolition of concrete pads. There will also be additional temporary air emissions from workers' vehicles, heavy construction equipment (dump truck, backhoe, and cement truck), the small barge/boat installing the seawall, and fuel exhaust from the emergency backup generators which may run for up to 24 hours during the planned outages for power cutover to each segment of the new system. All impacts should be intermittent, temporary, and minimized through use of BMPs, including the following:

- Staggered construction of each buried electrical conduit segment will reduce the total area of exposed soil at any given time resulting in less windblown soil erosion.
- Careful scheduling of the cutovers for each of the 3 power conduit segments will reduce the total time of backup generator operations and reduce the consequential exhaust emissions (original plans called for continuous generator operations lasting 5 – 10 days during the power cutover).
- Water will be sprayed on roads as needed to reduce dust and airborne particulates.
- Construction vehicles will not be left idling when not in use.

- Equipment will be operated and maintained in accordance with manufacturer's specifications. Emission control equipment will not be removed or tampered with.

The use of the BMPs is anticipated to adequately mitigate the temporary, intermittent impacts to air quality. No impacts to air quality are anticipated during operations after construction is completed.

Air emissions from the preferred alternative are not expected to exceed de minimus amounts. Therefore, reporting to the North Carolina Division of Air Quality (NCDAQ) should not be required per the federally mandated list of Hazardous Air Pollutants (HAPs) and the North Carolina Toxic Air Pollutants (TAPs) as well as other Section 112 Clean Air Act (Amendments of 1990) requirements. Criteria pollutants are reported in tons per year; HAPs and TAPs are reported in pounds per year. (NCDAQ 2012)

The no-action alternative will have no direct impact on air quality. By not installing the underground utility conduit and the seawall, potential temporary impacts to air quality on the CCFHR campus would be prevented; however, the overhead utility lines would remain in place and power outages would continue due to storm events which does not satisfy the purpose and need of the Project. During these events, generators, which can increase air pollution, are used to power the campus, resulting in an adverse impact to air quality.

4.5 WATER RESOURCES

This section describes the water resources of the CCFHR campus and vicinity. It also presents the potential impacts on water resources as a result of construction of the preferred alternative and from the no-action alternative.

The CCFHR campus is surrounded by estuarine waters of Bulkhead and Beaufort Channels which are part of the White Oak River Basin which drains most of Onslow and Carteret County as well as small areas of Craven and Jones County, North Carolina. The While Oak River Basin encompasses an area of approximately 1,264 square miles (NCDENR 2001). Large portions of this watershed are publicly owned lands including the Croatan National Forest, Hoffman State Park and Camp Lejeune Military Reservation. The North Carolina Division of Water Quality (DWQ) subdivides the White Oak River Basin into 5 sub basins. Pivers Island is located in Subbasin 05 which encompasses Bogue and Core Sounds and comprises the estuary of Beaufort Inlet. These sounds account for over 60,000 acres of Outstanding Resource Waters which are a subset of High Quality Waters and intended to protect unique waters having excellent water quality and being of exceptional state or national ecological or recreation significance. (DWQ 2001)

Groundwater beneath the CCFHR campus consists of an unconfined water table aquifer followed by three confined aquifers which are discussed in Sections 3.4 and 4.3. Additional aquifers are located deeper than these four primary aquifers and are discussed in Section 4.3. The Castle Hayne aquifer is the primary source of potable water in Carteret County.

4.5.1 Water Quality

The EPA Index of Watershed Indicators (1997) is a cooperative program between public and private partners to monitor the nation's watersheds through collection, organization and evaluation of multiple sources of environmental information. The program is based on the delineation of watersheds based on the USGS 8-digit Cataloguing Unit. The objective of this program is to:

- Characterize the condition and vulnerability to pollution of the watersheds of the United States.
- Provide the basis for dialogue between water quality managers.
- Empower citizens to learn more about their watersheds and work to protect them.
- Measure progress toward EPA's goal that all watersheds will be healthy and productive places.

The EPA Index of Watershed Indicators (1997) indicated that less than 5% of surface and ground water samples collected and tested within the White Oak Watershed exceeded half the maximum contaminant levels (MCL). Additionally, the White Oak Watershed is characterized by the EPA as a low vulnerability area to contamination, but the Beaufort Inlet estuary is characterized as a moderate vulnerability.

There are no fish consumption advisory areas for the estuary or connected water bodies. In addition, the White Oak River Basin is not identified as a watershed failing to satisfy the Clean Water Act (CWA) standards by the state of North Carolina (EPA 1997). No waters within Subbasin 05 are listed on the EPA 303(d) List of impaired waters, including the Beaufort and Bulkhead Channels which surround Pivers Island. None of the surface waters that comprise the White Oak River Basin are classified as public potable water sources (DWQ 2001; EPA 1997).

The 2012 Annual Drinking Water Quality Report North River/Mill Creek for Carteret County indicated that potable water sources within the County meet federal and state primary drinking water quality standards and no violations were recorded in 2012 (Carteret 2012). Carteret County is not within an area determined to be affected by water-level declines due to groundwater withdrawal (USGS 1996).

4.5.2 Impacts to Water Quality

As discussed in Section 3.0, no surface waters occur on Pivers Island (which includes the CCFHR campus); as a result, the installation of the utility conduit on the island will not have any impact on surface waters. The underground conduit will not be any deeper than 6 feet bgs. The unconfined water table aquifer may be impacted as a result of the conduit installation due to withdrawals for installation; however, these impacts will be minor and temporary. No discharges to this aquifer are anticipated that could adversely affect the water table aquifer and the deeper aquifers. The repair of the seawall would not impact any aquifers. As a result, overall impacts to groundwater resources resulting from the preferred alternative are expected to be temporary and minor; therefore, no mitigation is proposed.

The repair of the seawall on the western edge of the CCFHR campus will have minor temporary and permanent impacts on Bulkhead Channel and temporary impacts to Beaufort Channel which surrounds the island. Temporary impacts would result from construction, and permanent impacts would be due to the installation of the sheet piling in front of the existing seawall (Figure 2.2-1). The construction required to perform the repair of the seawall will require a United States Army Corps of Engineers (USACE) Section 10 of the Rivers and Harbors Act of 1899 approval and Section 404 of the Clean Water Act permit through a Nationwide Permit (NWP). A Section 10 NWP 3 Maintenance will be required for repair of the seawall.

A storm water management plan was prepared for the CCFHR campus that includes the implementation of BMPs that minimize environmental impacts to estuarine waters surrounding the island such as vegetated stormwater swales, rain gardens and cisterns to reduce pollutant loads (NCDENR 2013). These BMPs are also designed to minimize the flow of contaminants from the CCFHR campus to the surrounding channels during normal operation. During construction, the preferred alternative will comply with all National Pollutant Discharge Elimination System (NPDES) and North Carolina Division of Energy, Mineral and Land Resources for soil erosion sediment controls and stormwater management for potential temporary impacts to surface water quality including contaminants. Additionally, the soil erosion sediment control and storm water management of the preferred alternative will be based on the North Carolina Sedimentation Control Commission, North Carolina Department of Environment and Natural Resources and the North Carolina Agricultural Extension Service *Erosion and Sediment Control Planning and Design Manual* revised May 2013. As such, silt fence, hay bales and other BMPs will be used for the installation of the utility conduit and turbidity barriers would be used during the repair of the seawall. Any exposed soil resulting from excavation for the utility conduits would be stabilized as required by the Carteret County Soil and Water Conservation District to prevent entry of the material into the surrounding surface waters.

The preferred alternative will have minimal and mostly temporary impacts on water resources. The preferred alternative will be reviewed and approved by the required federal and state regulatory resource agencies identified above and BMPs will be used to minimize introduction of soil and sediment into the nearby surface waters to the maximum extent. Although the seawall repair will result in temporary and permanent impacts to Bulkhead Channel and temporary impacts to Beaufort Channel, the area of anticipated impact is relatively small and is intended to prevent the failure of the existing seawall which could introduce additional uncontrolled soil and sediment into the estuary. As a result, minimal and mostly temporary adverse impacts to surface water resources are anticipated as a result of sediment suspension during construction. BMPs such as turbidity barriers and silt fence will be used to mitigate any potential entry of sediment into these surface waters. Water resources up to and beyond the 200-mile exclusive economic zone would not be adversely impacted. Additionally, the preferred alternative will not result in the withdrawal of, or discharge to, ground water; therefore, no adverse impacts to groundwater are anticipated.

The use of the BMPs is anticipated to adequately mitigate the minimal, temporary and limited permanent impacts to water resources. No impacts to water resources are anticipated during operations after construction is completed.

The no-action alternative will have no direct impact on water resources such as Beaufort and Bulkhead Channels since construction would not occur and soil, sediment and stormwater runoff would not adversely impact any surface waters. If the seawall is not repaired, the existing structure would continue to be undermined and eventually the wall will fail and cause excessive erosion of the western edge of the CCFHR Campus. This would introduce uncontrolled soil and sediment into Bulkhead Channel. When the seawall fails, the entire structure will have to be replaced; this will be more costly and cause more impact to water resources than repairing with the installation of the sheet piling. Not installing the underground utility conduit would prevent potential temporary impact to Bulkhead and Beaufort Channels; however, the overhead utility lines would remain in place and power outages would continue due to storm events which does not satisfy the purpose and need of the Project.

4.6 RECREATIONAL RESOURCES

This section describes the recreational resources in the vicinity of the Project. It also presents the potential impacts to recreational resources as a result of construction of the preferred alternative and from the no-action alternative.

There are numerous recreational resources in the vicinity of the CCFHR campus including nature reserves, wildlife refuges, a national seashore, boating and fishing areas, and state parks as described in the subsections below.

4.6.1 Rachel Carson Reserve NCNERR

The Rachel Carson Reserve is part of the four-component NCNERR and is an active field research and classroom site. The reserve is part of a joint program through NOAA and North Carolina State Division of Coastal Management. The reserve system was created to maintain undisturbed estuaries for research on the natural and human processes that affect the coast. The reserve's 2,600 acres of islands, uplands, marshes, and intertidal/subtidal flats are accessible only by boat across Taylor's Creek from Beaufort, and include Town Marsh, Bird Shoals, Carrot Island, and Middle Marshes. Public field trips to the Rachel Carson component depart from the southern portion of Pivers Island during June, July, and August. Tours are open and free to the public. (Beaufort 2010)

4.6.2 Bicycling

In 2005, Carteret County citizens responded to a public recreation survey and identified bicycling as the third most popular activity. However, a need for additional trail corridors for multi-modal transportation was also identified. The Town of Beaufort Comprehensive Bicycle Plan (Beaufort 2009) presents the connectivity goal “to develop a well-designed continuous bicycle network that will provide residents and visitors with convenient and pleasant access to popular

destinations and points of interest," which includes the objective to create safe access to Pivers Island. The Plan's Recommended Projects by Priority (Beaufort 2009) lists three bicycle networking projects involving Pivers Island:

- Priority Rank 16, Sharrow at U.S. Highway 70 West from Moore Street to Pivers Island Road.
- Priority Rank 19, Multi-Use Trail at U.S. Highway 70 West from Pivers Island to Morehead City.
- Priority Rank 21, Sharrow on Pivers Island Road from U.S. Highway 70 West to Duke University Marine Laboratory.

4.6.3 Recreational Boating and Fishing

Carteret County considers boating activities to be an extremely important part of its tourist economy and overall economy (Carteret 2005). Numerous boat docks, landings, and marinas are located within 1 mile of the CCFHR (Beaufort 2011), including the following.

- Business piers - 0.1 mile to the north.
- West Beaufort Road County operated water access area - 0.55 mile to the northeast.
- Derwood's Landing for small boats, kayaks, and canoes - 0.2 mile to northeast.
- Topsail Marine Park - 0.2 mile to the east.
- Grayden Paul Park - 0.55 mile east-southeast.
- Fisherman's Park - 0.8 mile to southeast.
- Olde Towne Yacht Club on Radio Island - 0.4 mile to the southwest.
- Radio Island Marina - 0.25 – 0.7 mile to the northwest.

4.6.4 Sight Seeing

Approximately 0.2 mile to the east of the CCFHR campus, the Beaufort Trolley, known as the Mullet Line Trolley, transports visitors and locals into the heart of Beaufort's Historic Waterfront District where passengers see many of the town's sites, waterfront scenery, shops, restaurants, and the wild Carrot Island ponies (Beaufort 2010). Other attractions include the Beaufort Historic Site (0.3 mile to the southeast), the North Carolina Maritime Museum (0.3 mile to the east), and several scenic water overlooks in the Town of Beaufort.

4.6.5 Nature Viewing and Ecotourism

Numerous boats are available for charter for nature viewing opportunities and ecotourism, many departing from the Beaufort waterfront, town docks, and Front Street. Activities include sunset sailing, dinner cruises, ecology tours, turtle and dolphin watching, snorkeling, wild horse watching, bird watching, shelling, kayak tours, canoeing, and excursions to secluded barrier islands, sea-grass meadows, backwater sounds, and marshes. Boat tours frequent the Shackleford Banks, Carrot Island, Sand Dollar Island, Bird Shoals, and Cape Lookout Lighthouse. (Beaufort 2010)

4.6.6 Fort Macon State Park

Located approximately 1.3 miles to the southwest of the CCFHR campus, the 424-acre Fort Macon State Park offers recreational activities including swimming, fishing, picnicking, guided

nature tours, scenic views, turtle and bird watching, as well as guided tours of the historic landmark Fort Macon. Situated east of Atlantic Beach on the eastern end of Bogue Banks, portions of Fort Macon have been restored to appear as they did during the Civil War. (N.C. Division of Parks and Recreation n.d.)

4.6.7 Cape Lookout National Seashore

Shackleford Banks is located 2 miles to the southeast of the CCFHR campus and is one of the three islands which make up the 56-mile long Cape Lookout National Seashore. It is one of the few remaining undeveloped coastal barrier island systems in the United States, encompassing about 29,000 acres of islands running roughly parallel to the eastern shores of Carteret County (Beaufort 2010). Recreational activities include boating, kayaking, canoeing, horse watching, shelling, fishing, birding, camping, lighthouse climbing, and touring historic villages (USDOI National Park Service 2014).

4.6.8 Croatan National Forest

Croatan National Forest is one of four National Forests in North Carolina and is the only true coastal forest in the eastern United States. The closest boundary of Croatan National Forest is approximately 5 miles northwest of the CCFHR campus. The Croatan National Forest's 160,000 acres have pine forests, saltwater estuaries, bogs and raised swamps called pocosins. Bordered on three sides by tidal rivers and the Bogue Sound, the forest is defined by water. All this water provides a variety of recreational opportunities and a diversity of wildlife from deer, black bears and turkeys to wading birds, ospreys and alligators. Canoeing and fishing are popular on the blackwater creeks and saltwater marshes. The Croatan National Forest is also home to the carnivorous Venus fly-trap, sunder and pitcherplant (USDA Forest Service n.d.). A network of access areas features camping, 43.1 miles of hiking trails, fishing, picnicking, nature walks, boating, and additional recreational activities (Trails of NC 2013).

4.6.9 Cedar Island National Wildlife Refuge

Located approximately 21 miles northeast of the CCFHR campus, this 14,480-acre wildlife refuge on the southern end of Cedar Island is administered by Mattamuskeet National Wildlife Refuge. The refuge was formed in 1964 under the Migratory Bird Act to provide a sanctuary for migratory birds, and it provides areas for hiking, bird-watching, launching boats, picnicking and duck hunting. Waterfowl abundant during the year are mallards, black ducks, redheads, pintails and green-winged teal. Other wildlife at home in the refuge includes raccoons, whitetail deer, black bears, woodpeckers and river otters. (Beaufort 2010)

4.6.10 Impacts to Recreation Resources

The preferred alternative is anticipated to have limited, short-term impacts to the Rachel Carson NCNERR public tours and bicycling recreational resources on Pivers Island during the construction phase. Pivers Island Road and bicycle paths on the island may have temporary detours or be reduced in width during the excavation and installation of approximately 1,040 feet

of new underground electrical/telecommunication conduits, demolition and pouring of concrete pads, removal of old/installation of new power lines and light poles, and repair of the seawall. Activities at the contractor staging area on the southwest end of Pivers Island and the seawall work along the west should have no impact on nearby boating, fishing, or other recreational resources. The preferred alternative will have no impact on recreational resources outside the immediate vicinity.

During operations, after construction is completed, the preferred alternative will have no negative impacts on recreational resources. There will be a beneficial visual effect during the operational phase for sight-seeing and nature viewing due to the removal of overhead power lines. Because impacts to recreation resources would be limited and short-term during construction and there will be no negative impacts during operations, the need for mitigation is not anticipated and therefore, is not proposed.

The no-action alternative will have no impact on recreation resources.

4.7 HISTORIC AND CULTURAL RESOURCES

This section describes the historic and cultural resources on the CCFHR campus and vicinity. It also presents the potential impacts on historic and cultural resources as a result of construction of the preferred alternative and from the no-action alternative.

Section 106 of the National Historic Preservation Act of 1966 (NHPA), as amended in 1970 and 1980, requires that federal agencies having direct or indirect jurisdiction over a proposed federal, federally assisted, or federally licensed undertaking, prior to approval of the expenditure of funds or the issuance of a license, take into account the effect of the undertaking on any district, site, building, structure, or object included in or eligible for inclusion in the NRHP, and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment with regard to the undertaking (NC SHPO 2014).

The implementing regulation of Section 106, issued by the ACHP, is 36 CFR Part 800. The regulation establishes a process of identifying all cultural resources that may be impacted by the undertaking and evaluating the eligibility of these properties for listing to the NRHP; assessing the effects of an undertaking on historic properties; and consultation for methods to avoid, reduce, or mitigate any adverse effects to NRHP-listed or eligible properties. Though the NRHP is a federal program, nominations are submitted by the states through each state historic preservation office (SHPO). The SHPO maintains listings and mapping showing known historical sites and sites which are listed or eligible for listing on the NRHP.

4.7.1 Existing Historic and Cultural Resources

The CCFHR campus does not contain any NRHP-listed or eligible properties nor is the island part of one of the two nearby historic districts discussed below. Historical and cultural resources in the vicinity of Pivers Island are presented in Figure 4.7-1.

Based on a review of the National Park Service (NPS) NRHP mapping, the following historic resources occur within one mile of Pivers Island and are listed on the NRHP or are eligible for listing (NPS 2014):

- Beaufort Historic District (NRHP #1974-05-06) - located approximately 750 feet to the east and south of the CCFHR campus.
- Jacob Henry House (NRHP #1973-03-07) - located on Front Street, approximately 1,350 feet to the east of the CCFHR campus.
- Gibbs House (NRHP #1973-03-14) - located on Front Street, approximately 4,090 feet to the east of the CCFHR campus.
- Old Burying Ground (NRHP #1974-05-08) – located in the Beaufort Cemetery approximately 2,640 feet to the east of the CCFHR campus.

The CCFHR campus is visible from all of the historic properties listed above with the exception of the Old Burying Ground (SEA 2003).

In 1985, the Town of Beaufort Historic Preservation Commission (HPC) designated an approximate 12-block area of the town as a local historic district (TRC 2008). Within the local historic district there are specific standards for alterations and new construction to protect Beaufort's architectural character. The Beaufort Historic District is located approximately 500 feet from the eastern edge of Pivers Island and is bound by Gallant's Channel, Taylors Creek and Pollack Street.

The Eastern Band of Cherokee, in Swain and Jackson Counties, is the only federally recognized tribe in North Carolina (78 FR 26384). There are also no state recognized tribes in Carteret County (Fort Bragg 2010).

4.7.2 Impacts to Historic and Cultural Resources

The North Carolina Department of Cultural Resources SHPO conducted a review of the project and in a consultation response letter dated December 31, 2013 indicated that they are "*aware of no historic resources which would be affected by the project*"; therefore, the NC SHPO had no comment on the project as proposed. A copy of the NC SHPO response letter is provided in Appendix C.

There will be no direct impacts to historic, cultural or Native American resources as a result of the preferred alternative. Further, construction of the preferred alternative is not expected to permanently affect the visible conditions or viewsheds of historic properties or designated historic districts because installation of the utility conduit will occur underground. The existing seawall will be repaired along the western shore of the CCFHR campus using PVC sheet piling as described in Section 2.0. Any potential visual impacts will be temporary in nature and due to construction activities only. Because there are no potential impacts to historic, cultural or Native American resources as a result of the preferred alternative, the need for mitigation is not anticipated and therefore, is not proposed.

The no-action alternative will have no impact on historic, cultural, or Native American resources.

4.8 FLORA AND FAUNA

The following section describes in general, the flora and fauna resources, including protected areas within the proximity of the CCFHR campus and the potential for federal and state listed threatened and endangered species. It also presents the potential impacts to flora and fauna as a result of construction of the preferred alternative and from the no-action alternative.

Carteret County is located in the tidewater region of North Carolina. This region is characterized by lands that are close to sea level and include capes, peninsulas and islands associated with the eight sounds in North Carolina: Back, Pamlico, Albermarle, Currituck, Croatan, Roanoake, Core and Bogue. The flora associated with this region is suited to either extremely dry soil conditions or wetland conditions in the estuarine wetlands of the tide water. Fauna associated with the tide water includes a variety of avian, mammal, herpetofauna, and fish species. This area is also part the avian Atlantic flyway for migratory birds.

4.8.1 Protected Areas

Protected areas in the vicinity of Pivers Island include wildlife refuges, wilderness areas, national seashores, natural heritage areas, and essential fish habitat (EFH).

There are 10 National Wildlife Refuges (NWR) located in North Carolina. Of these, only one, Cedar Island NWR, is located in Carteret County on the south side of Pamlico Sound. Pivers Island is located more than 20 miles from this NWR.

The Wilderness Act of 1964 designates the U.S. Department of Agriculture (USDA) and the U.S. Department of the Interior (DOI) with the jurisdiction for managing wilderness areas. There are a total of 12 designated wilderness areas in North Carolina; one is located within Carteret County, the Pocosin Wilderness, which is part of the Croatan National Forest. Pivers Island is not located within any designated wilderness areas and is located more than 13 miles from the Pocosin Wilderness (Landres 2000).

According to the National Park Service (NPS) National Seashores list, two national seashores are located in North Carolina (NPS 2014). Of these, the Cape Lookout National Seashore is the only one located in Carteret County. Pivers Island is located approximately 1.8 miles to the northwest of this area.

The North Carolina Natural Heritage Program has records for three Significant Natural Heritage Areas (SNHA) within close proximity to Pivers Island (NCDENR 2014):

- Phillips and Annex Islands SNHA (0.9 mile northwest);
- Rachel Carson Estuarine Research Reserve SNHA (0.15 mile south); and
- Radio Island SNHA (0.4 mile west).

The Rachel Carson Estuarine Research Reserve SNHA is also a Dedicated Nature Preserve.

4.8.1.1 Essential Fish Habitat Assessment

According to 16 U.S.C. 1802(10), Essential Fish Habitat is defined as those waters and substrate necessary to fish for spawning breeding, feeding or growing to maturity. EFH includes areas of sea grasses, reefs, shellfish beds, estuarine wetlands and open waters. These habitats are protected from impact and are under the jurisdiction of the NMFS. There are three types of EFH areas within close proximity to the seawall repair location: estuarine wetlands, shellfish beds (oysters) and mud bottom.

- Estuarine wetlands - Estuarine wetlands occur near, but greater than 2 feet from the seawall project site on the northern extent near the northern access bridge and the southern portion associated with the beach breakwater area of Duke University. While, very small patches of wetlands, these types of wetlands are a transitional zone between the marine and terrestrial environments and occur above the surface of the water and provide habitat for finfish and shellfish species and filtration of non-point source run-off for the estuary. Estuarine emergent wetlands habitat have been designated as EFH for all life stages of cobia and red drum, gag, gray snapper, spot, juvenile and adult summer flounder, among other species
- Shellfish beds - The NCDENR defines shellfish habitat as oyster beds, oyster rocks, oyster reefs, oyster bars, and shell hash (dead shellfish). Oysters occur on the existing seawall for the entire 650 linear-foot length, on the rock revetment associated with the northern access bridge and on the beach breakwater rocks located several feet away from the seawall repair project area. Oyster beds have been designated as EFH for the juvenile and adult stages of the black seas bass juvenile gag, gray snapper, summer flounder, weakfish, all life stages of red drum, among others.
- Non-vegetated flats (mud bottom) – Non-vegetated flats, or mud bottoms, are defined as the area along the shoreline within the subtidal zone which is the area below the lowest low tide line that is always submerged. Wave action, tidal currents, wind, geography of the coastline, riverine outflow, and human activity all help to shape these flats and are comprised of unconsolidated, un-vegetated muds and silts. These flats are utilized by a variety of fish and invertebrate species as nursery areas, feeding grounds and refuges. Non-vegetated flats, including mud bottom, occurs within close proximity to the seawall repair location starting at the base of the existing seawall and extending water-ward. Mud bottom and un-vegetated flats have been designated as EFH for juvenile and adult black sea bass, summer flounder among others.

An EFH Assessment consistent with 50 CFR 600.920(e)(3)i-iv of the Magnuson-Steven Fishery Conservation Act (Magnuson-Stevens Act) was prepared and submitted to the NMFS for review. A copy of the EFH Assessment and response letter are provided in Appendix C.

4.8.2 Flora and Fauna

Pivers Island is largely developed with open areas of maintained grass, gardens, landscaping trees and shrubs and natural stormwater management features. Common species on the CCFHR campus include, but are not limited to, the following species:

- *Juniperus virginiana* (eastern red cedar).

- *Myrica cerifera* (wax myrtle).
- *Yucca aloifoilia* (Spanish bayonet).
- *Smilax bona-nox* (saw greenbrier).
- *Parthenocissus quinquefolia* (Virginia creeper).

No natural vegetation habitat exists on the island or the CCFHR campus.

Other than avian species, fauna are not common on the island or CCFHR campus and are likely transient individuals since little natural habitat occurs. The common resident species on the CCFHR campus may include, but are not limited to, the following species:

- *Sciurus carolinensis* (eastern gray squirrel).
- *Procyon lotor* (raccoon).
- *Anlis carolinensis* (Carolina anole).
- *Ophisaurus* spp. (glass lizards).
- *Parus carolinensis* (Carolina chickadee).
- *Cardinalis cardinalis* (northern cardinal).
- *Mimus polyglottos* (northern mockingbird).

Migratory bird species such as warblers, terns, gulls and other avian species may use the island as a resting place during the spring and fall migration.

Oysters (*Ostreidae* family) occur on the existing seawall on the western edge of the CCFHR campus and areas within close proximity to the seawall.

4.8.3 Threatened and Endangered Species

The Endangered Species Act of 1973 (50 CFR 17 222.23(a), 226 and 227.4) designates the United States Fish and Wildlife Service (USFWS) as the lead agency for protection of endangered and threatened fish, wildlife and plant species and critical habitats. The USFWS is also responsible for maintaining lists of these species and protected habitats.

The Marine Mammal Protection Act (MMPA) of 1972 (16 USC Chapter 31) and amended in 1994, 1997 protects marine mammal species from certain "takes" including harassment. The term harassment is defined as any act of pursuit, torment or annoyance which has the potential to injure a marine mammal stock in the wild or has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding or sheltering. The only species protected under the MMPA that has the potential to occur within the Project area is the West Indian manatee (*Trichechus manatus*). Whales, dolphins, seals, sea lions and other marine species would not occur within the Project area. The potential occurrence of the West Indian Manatee and anticipated impacts are discussed below.

The USFWS Federal Listing of Endangered Species, Threatened Species and Species of Special Concern for Carteret County, North Carolina indicate the species in Table 4.8-1 are known to occur within the County (USFWS 2014).

Table 4.8-1: USFWS Listing Threatened and Endangered Species Carteret County, North Carolina

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS
Puma concolor cougar	Eastern cougar	Endangered
Trichechus manatus	West Indian manatee	Endangered
Ertmochelys imbricata	Hawksbill sea turtle	Endangered
Lepidochelys kempii	Kemp's ridley sea turtle	Endangered
Dermochyls coriacea	Leatherback sea turtle	Endangered
Picoides borealis	Red-cockaded woodpecker	Endangered
Stera dougalli	Roseate tern	Endangered
Acipenser breviostrum	Shortnose sturgeon	Endangered
Lysimachia asperulaefolia	Rough-leaved loosestrife	Endangered
Alligator Mississippiensis	American alligator	Threatened
Chelonia mydas	Green sea turtle	Threatened
Caretta caretta	Loggerhead Sea Turtle	Threatened
Charadrius melodus melodus	Piping Plover	Threatened
Amaranthus pumilus	Seabeach amaranth	Threatened

A consultation letter was submitted to the USFWS to identify any documented federally listed species on or within close proximity to the CCFHR campus. In a response letter dated January 24, 2014, the USFWS indicated "*the proposed action is not likely to adversely affect any federally-listed endangered or threatened species, their formally designated critical habitat, or species currently proposed for listing under the* (Endangered Species) *Act*." No mitigation or monitoring with regard to the ESA or MMPA was provided. The USFWS has determined that the requirements of the Section 7(a)(2) of the ESA have been satisfied. Copies of these letters are provided in Appendix C.

NOAA NMFS maintains a list of federal listed threatened and endangered marine species. Species potentially occurring adjacent to or within close proximity to Pivers Island are presented in Table 4.8-2 (NOAA NMFS 2014).

Table 4.8-2: National Marine Fisheries List of Federal Marine Threatened and Endangered Species.

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS
Balaenoptera musculus	*Blue whale*	*Endangered*
Balaenoptera physalus	*Finback whale*	*Endangered*
Megaptera novaeangliae	*Humpbalck whale*	*Endangered*
Eubalaena glacialis	*Right whale*	*Endangered*
Balaenoptera borealis	*Sei whale*	*Endangered*
Physeter macrocephalus	*Sperm whale*	*Endangered*
Eretmochelys imbricata	*Hawksbill sea turtle*	*Endangered*
Lepidochelys kempii	*Kemp's ridley sea turtle*	*Endangered*

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS
Acipenser brevirostrum	*Shortnose sturgeon*	*Endangered*
Dermochelys coriacea	*Leatherback sea turtle*	*Endangered*
Chelonia mydas	*Green sea turtle*	*Threatened*
Caretta caretta	*Loggerhead sea turtle*	*Threatened*

A consultation letter was submitted to the NMFS to identify any documented federally listed species or important fishery resources, including EFH on or within close proximity to the CCFHR campus. In a consultation response dated January 30, 2014, the NMFS indicated that only Kemp's ridley, green and loggerhead sea turtles and the shortnose and Atlantic sturgeon have the potential to occur within the Project area; however, no critical habitat has been designated within the Project area. No mitigation or monitoring with regard to the ESA or MMPA was provided and the consultation process pursuant to the ESA and MMPA has been completed. Copies of these letters are provided in Appendix C.

The North Carolina NCDENR Natural Heritage Program (NHP) indicated in a letter dated January 9, 2014 that the federal and state listed threatened or endangered species in Table 4.8-3 potentially occur on or within close proximity to the CCFHR campus. Copies of these letters are provided in Appendix C.

Table 4.8-3: NCDENR Documented Federal and State Threatened and Endangered Species

SCIENTIFIC NAME	COMMON NAME	FEDERAL STATUS	STATE STATUS
Acipenser oxyrinchus	Atlantic sturgeon	Endangered	Special Concern
Erythrina herbacea	Coralbean	--	Endangered
Tricheachus manatus	West Indian manatee	Endangered	Endangered

Additionally, the NCDENR NHP has records for a gull-tern-skimmer colony (Colonial Waterbird Nesting Site) on the western end of Bird Island (Rachel Carson Reserve), just east of Radio Island and west across Bulkhead Channel from Pivers Island.

Habitat descriptions of each species that has the potential to or is documented to occur on or within close proximity to the CCFHR campus is provided below based on consultation with the NCDENR NHP.

Atlantic sturgeon is a large snout, shovel-shaped, long fish that grows up to 4.3 meters in length. This fish species is primarily marine, but it remains close to shore when not breeding and moves to rivers for spawning and back marine habitats. (NatureServe 2014)

Coral bean is a low, glossy-leaved, thorny tropical shrub that grows to approximately 6 feet with annual stems originating from the woody, lower stem and perennial root (State University of Texas at Austin 2014). In North Carolina this species is very sensitive to cold and dies back to the root and exists as an herbaceous shrub. Known for its showy red flowers and fruits, coral bean is used in landscaping and is rare in a natural setting in North Carolina (University of Florida 2014).

West Indian manatee is a large, slow-moving mammal with a rounded body and small head between 10 and 13 feet long at maturity. Habitat for this species includes shallow coastal waters, estuaries, bays and rivers and lakes throughout its range. The species prefer the warm water of the tropics and migrate up and down the Atlantic Coast of the United States. In North Carolina this species is generally present in coastal waters between May and September (NatureServe 2014). This species rarely occurs in the estuarine waters of North Carolina.

4.8.4 CCFHR Campus Habitat

The CCFHR campus is primarily developed consisting of buildings, parking areas, outbuildings and access roads. Open space includes rain gardens, vegetated stormwater swales, and maintained landscape areas; no natural habitat exists on the CCFHR campus.

4.8.5 Impacts to Protected Areas and Flora and Fauna

The flora community located on the CCFHR campus is typical of a developed area including maintained open spaces and landscaped gardens. The preferred alternative will result in impacts to open space grassed areas; however, this impact will be minor and temporary. As a mitigation measure, any vegetation impacted as a result of construction will either be replanted in landscaped areas or seeded in open space grassed areas.

Fauna species located on the island primarily consist of avian, herpetofauna and small mammal species; however, no direct impacts to wildlife species are anticipated. Minor temporary impacts may result during construction resulting from temporary displacement of these species. Upon construction completion, these species are expected to return to disturbed areas.

EFH within close proximity to the seawall repair location includes estuarine wetlands, shellfish beds (oysters) and mud bottom. The proposed PVC sheet piling will be installed immediately adjacent to, but no more than 1 foot from, the existing seawall as conditions allow, which will avoid the estuarine wetland areas on the north and south end of the seawall repair project area. As a result, no impacts to estuarine wetlands are anticipated and no mitigation is proposed. The shellfish beds located on the existing seawall will be adversely impacted as a result of the seawall repair which is expected to be temporary. To mitigate the impact to the oysters, individuals would be removed from the existing seawall and relocated water-ward of the PVC sheet piling. After the sheet piling has been installed, it is expected that new oysters will recolonize the new seawall. Oyster beds located adjacent to the Project area will be avoided. Other potential temporary impacts to the waters of Bulkhead Channel that could potentially impact EFH include sediment suspension during the PVC sheet piling installation. To reduce and minimize potential impacts from sediment suspension and to mitigate for potential impacts, a turbidity barrier will be used as a BMP during construction. Temporary impacts to fish species may occur from the presence of the boat/small barge, human activity and noise associated with installation of the sheet piling; however, these impacts are expected to be temporary, minimal and not significant. Additionally, to mitigate for any potential impact the small boat/barge will have on the mud bottom the boat/small barge will only be used during higher tide events (mid-tide to high-tide back to mid-

tide). The boat/small barge will not be present during low tide and other extraordinary low water events to prevent contact with the un-vegetated bottom. After the sheet piling is installed, the boat/small barge will be removed, human activity and noise will cease and impacts to fish species resulting from this activity will cease. Based on the minimization of impacts, avoidance and mitigation measures proposed, it is anticipated that any potential adverse impact will be, minimal, temporary and will not be substantial.

Several species of federal and state listed threatened and endangered species are documented to occur on or within close proximity to Pivers Island and the CCFHR campus. The species identified through the consultation process with the NCDENR NHP indicated that three species; West Indian manatee, Atlantic sturgeon and coralbean are documented to occur on or adjacent to the site. Coralbean is not located on the CCFHR campus; therefore, no impacts to this flora species are anticipated and no mitigation is proposed. The West Indian manatee and Atlantic sturgeon have potential to occur in the Bulkhead and Beaufort Channels surrounding the island; however, any individuals would occur as transients since no critical habitat for these species exists within the Project area. Additionally, the activities involved with the repair of the seawall will not result in any "take" or "harassment" of the West Indian manatee under the MMPA as the construction for the seawall will occur within shallow waters where there is no habitat for the species and construction will occur in late summer/early fall when the manatee is not in North Carolina waters. As a result, the repair of the seawall may have minor temporary impacts to these two species resulting in potential displacement of transient individuals; however, upon construction completion, the area will return to preconstruction conditions. As a result, no mitigation for these species is anticipated, none was requested from the USFWS or NMFS and none is proposed.

The no-action alternative will have no direct impact on flora and fauna species since construction would not occur; however, the existing seawall would continue to be undermined and eventually the wall will fail and require replacement. Replacement of the seawall will be more costly and potentially cause more impact to flora and fauna habitat; particularly aquatic species since replacement of a seawall is more intrusive than repairing an existing seawall with sheet piling. Not installing the underground utility conduit would prevent impact to flora and fauna resulting from construction; however, the overhead utility lines would remain in place and power outages would continue due to storm events. This requires operation of generators to provide electricity to the campus which temporarily lowers air quality and generates noise that could potentially impact wildlife on the island.

4.9 WETLANDS

This section describes the wetland resources of the CCFHR campus. It also presents the potential impacts on wetlands as a result of construction of the preferred alternative and from the no-action alternative.

Wetlands are defined under 33 CFR § 328.3 (b) as "*those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under*

normal circumstances do support, a prevalence of vegetation adapted to life in saturated soil conditions. Wetlands generally includes swamps, marshes bogs and similar areas." Identification and delineation of wetland areas is based on the technical criteria outlined in the *Corps of Engineers Wetlands Delineation Manual* (Technical Report Y-97-1 1987) and includes the following three wetland parameters:

- Hydrophytic Vegetation: The *Corps of Engineers Wetlands Delineation Manual* defines a hydrophytic vegetation community as one possessing greater than 50 percent of the dominant species from all strata being classified as obligate wetland (OBL – almost always observed in wetlands), facultative wetland (FACW – usually observed in wetlands), or facultative (FAC – observed equally in wetlands and uplands). Species classifications are determined based on USACE *2013 National Wetland Plant List*.
- Wetland Hydrology: The *Corps of Engineers Wetlands Delineation Manual* defines wetland hydrology as "*all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season. Area with evident characteristics of wetland hydrology are those where the presence of water has an over-riding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively. Such characteristics are usually present in areas that are inundated or have soils that are saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic conditions.*"
- Hydric Soils: The USDA defines a hydric soil as a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part. The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation.

4.9.1 Wetland Assessment

Background information including the USFWS National Wetland Inventory (NWI) Mapping (see Figure 4.9-1), Soil Survey of Carteret County, North Carolina (1987) and aerial photographs were reviewed to determine the likelihood of wetlands to be present on the CCFHR campus and the general location of the preferred alternative. Based on the USFWS NWI a wetland classified as E2EM1P is located on the eastern side of the island associated with the Beaufort Channel and a wetland classified as E2EM1P is located on the northern shore opposite Pivers Island and west of the northern access bridge and access road. No other potential wetland areas were identified on the island.

A wetland assessment was conducted on November 20, 2013 on the CCFHR campus to determine the presence/absence of wetlands and, if any were present, the extent and location of those wetlands. All wetland determinations were conducted in accordance with the *Corps of Engineers Wetlands Delineation Manual* 1987 and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0)* 2010.

The entire CCFHR campus and the area east of the northern access bridge north of the island were assessed for the presence of wetlands; however, the location of the proposed utility conduits and the western shore where the seawall is proposed to be repaired were the focus of the wetland assessment. The area of estuarine wetlands mapped by the USFWS NWI on the eastern side of the island associated with Beaufort Channel and the western side of the access road on the shore north of the island was confirmed. No other wetlands were observed on the CCFHR campus or area north of the island where the proposed underground conduit would be installed.

4.9.2 Impacts to Wetlands

No wetlands were identified on the CCFHR campus or within the area of the preferred alternative activities. As a result, the preferred alternative will not have any adverse impact on wetland resources and as such, will not require permitting from the USACE or NCDENR Division of Water Resources (DWR) for fill in wetlands. Because there are no potential impacts to wetland resources as a result of the preferred alternative, the need for mitigation is not anticipated and therefore, is not proposed.

The no-action alternative will have no impact on wetlands.

4.10 FLOODPLAINS

This section describes the location of mapped floodplains and assesses the flood hazard within the vicinity of the CCFHR campus. It also presents the potential impacts to floodplains as a result of construction of the preferred alternative and from the no-action alternative.

Executive Order 11988 - *Floodplain Management* (1977), requires federal agencies to avoid to the extent practicable, the long and short-term adverse impacts associated with occupancy and/or modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is a practicable alternative. The term "floodplain" is defined in the Executive Order as "*the lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent (1%) or greater chance of flooding in any given year.*" The Flood Emergency Management Agency (FEMA) prepares Flood Insurance Rate Maps (FIRM) to determine the likelihood of a given area experiencing a flood. These maps are prepared to determine the extent and elevation of the one percent chance flood or 100-year flood.

4.10.1 Flood Hazard

The CCFHR campus is shown on FEMA FIRM panel # 3720639600J for Carteret County, North Carolina. The majority of the campus is located within Flood Zone AE with an elevation of 8 feet above MSL. As presented in Figure 4.10-1, the preferred alternative is located entirely within the 100-year floodplain. Because Pivers Island is situated near sea level, NOAA has identified the island to be susceptible to sea level rise (NOAA 2014).

4.10.2 Impacts to Floodplains

The preferred alternative will occur within the 100-year flood plain on Pivers Island; however, no adverse impacts to the floodplain would occur. The seawall repair is intended to protect the western shore from storms, flooding events and potential erosion. The utility conduit system will be located entirely underground. As a result, potential adverse impacts to the 100-year floodplain are not anticipated and therefore, no mitigation is proposed.

The no-action alternative will have no impact on floodplains.

4.11 COASTAL ZONE MANAGEMENT

This section presents a summary of North Carolina CAMA standards. It also presents the potential impacts to areas of environmental concern as a result of construction of the preferred alternative and from the no-action alternative.

The CAMA was enacted in 1974 by the North Carolina General Assembly to provide a blueprint for developing land use plans for the 20-county coastal area and to identify critical areas in need of protection or AEC. The CAMA was passed in response to Congress passing the Coastal Zone Management Act of 1972. The AEC is defined as any one or more of the following locations (NCDENR 2005):

- In, or on the shore of, navigable waters within the 20 CAMA counties;
- On a marsh or wetland;
- Within 75 feet of the normal high water line along an estuarine shoreline;
- Near the ocean beach;
- Within an ocean high hazard flood area;
- Near an inlet;
- Within 30 feet of the normal high water level of areas designated as inland fishing waters by the North Carolina Fisheries Commission and the North Carolina Wildlife Resources Commission
- Near a public water supply; or
- Within 575 feet of Outstanding Resource Waters defined by the Environmental Management Commission.

The AEC is further divided into four categories:

- The Estuarine and Ocean System AEC: This AEC is the coast's broad network of brackish sounds, marshes and surrounding shores.
- The Ocean Hazard System AEC: This AEC is comprised of oceanfront lands and the inlets that connect the ocean to the sounds that have hazards such as wave, wind and erosion hazards from the ocean environment.
- Public Water Supply AEC: This AEC is comprised of drainage basins classified as a water supply or public supply well fields.

- Natural and Cultural Resource AEC: This AEC is comprised of specific sites designated to receive protection because they contain environmental or cultural resources that are important to the entire state.

The Act incorporated a review and permit system to guide land development and ensure compliance with the CAMA rules within AECs.

4.11.1 Areas of Environmental Concern

Pivers Island is an estuarine island and is located in Estuarine and Ocean System AEC and contains estuarine waters and coastal shoreline. There are no Ocean Hazard System, Public Water Supply or Natural and Cultural Resources AECs on the CCFHR campus. Since the CCFHR campus possesses an estuarine shoreline, the AEC extends from the normal high water along that shoreline to 75 feet inland as shown in Figure 4.11-1.

4.11.2 Impacts to Areas of Environmental Concern

The preferred alternative will occur within the AEC on the CCFHR campus. The entire seawall repair will occur at or below the normal high water mark and the underground conduit installation on the south side of the northern access bridge will occur within the 75-foot (of the normal high water line along an estuarine shoreline) AEC. The length of underground conduit that will be installed within the AEC was reduced to the maximum extent practicable. Figure 4.11-1 shows the proposed utility conduit in relation to the AEC.

Minor temporary impacts may result from the repair of the seawall; however, appropriate BMPs will be used to protect the waters of Bulkhead Channel and significant permanent adverse impacts to the area are not anticipated. All appropriate soil erosion and sediment control BMPs will also be used for the underground utility conduit installation and will have minor temporary adverse impacts to the AEC and CAMA area during construction. As a result, the preferred alternative will have minor and temporary adverse impacts to the AEC and CAMA area. The use of the BMPs is anticipated to adequately mitigate the minor, temporary, impacts to Bulkhead Channel. No impacts are anticipated during operations after construction is completed. A CAMA development permit is required for projects resulting in impacts to the estuarine waters or AEC within the CAMA zone; however, this permitting process does not apply to federal facilities. Although a CAMA development permit is not required, the federal Coastal Zone Management Act of 1972 requires that public projects be reviewed for a Consistency Determination and submitted to the North Carolina Division of Coastal Management (NCDCM) for concurrence.

The preferred alternative is expected to be consistent with the CAMA standards and management objectives of the CAMA and AEC based on a review of the locations of specific activities with the enforceable policies of North Carolina's coastal management program (Chapter 7, Title 15A North Carolina's Administrative Code). A Consistency Determination document will be prepared and submitted to the NCDCM for review and concurrence.

The no-action alternative will have no impact on the AEC and CAMA area.

4.12 FARMLANDS

This section describes, in general terms, the farmlands in the vicinity of the CCFHR campus. It also presents the potential of environmental impacts on farmlands as a result of construction of the preferred alternative and from the no-action alternative.

Approximately 14% of the land use (57,747 acres) is devoted to agriculture in Carteret County. Current trends show the continuing loss of agricultural land due to conversion into residential uses. This loss is attributed to development and economic pressures. Carteret County continues to experience steady subdivision and land development activities. Farm employment is the only sector that experienced significant decline losing 64.5% of the employment from 1970 to 2000, while non-farm employment increased 218.5% in that same period. (Carteret 2005)

Approximately one-third of the area under Carteret County Planning and Inspections Department jurisdiction is zoned. All of these zoned, more developed areas are located in the western and central portions of the County. Pivers Island is located in the central portion of the County and is zoned as a Transitional District (coded TR) (Beaufort 2013). The eastern part of Carteret County is predominantly rural with large areas of wetlands and agriculture. A major land use designation in this part of the County is for farmlands (coded RA) for rural and agricultural (Carteret 2013).

4.12.1 Closest Farmlands

The farmlands closest to the preferred alternative are approximately 4.6 miles north of Pivers Island, north of the Town of Beaufort within a residential area as shown in Figure 4.12-1. Larger farmlands are located approximately 8 – 10 miles north-northwest and northeast of Pivers Island. (Carteret 2014)

4.12.2 Impacts to Farmlands

The preferred alternative is anticipated to have no impact on farmlands. There are no farmlands in the immediate vicinity of Pivers Island, with the closest farmland being located over 4 miles away.

The no-action alternative will have no impact on farmlands.

4.13 NOISE

This section describes the noise requirements in the vicinity of the preferred alternative. It also presents the potential of noise impacts as a result of the construction of the preferred alternative and from the no-action alternative.

4.13.1 Beaufort Noise Ordinance

The Town of Beaufort's noise ordinance (Beaufort 2012) prohibits excessive and unnecessary noise which disturbs the peace between the hours of 10:00 p.m. and 7:00 a.m. timeframe. It is unlawful during the daytime or night time hours to exceed the maximum 75 decibel limit. However, there is an exception for commercial construction operations from the daylight

hours between 7:30 a.m. and 7:00 p.m. for which building permits have been issued or for which permits are not required due to ownership of the project by an agency of government, providing all equipment is operated in accordance with the manufacturer's specifications and with all the manufacturer's standard mufflers and noise-reducing equipment in use and operating properly. According Beaufort's noise ordinance Section 91.06(O) emergency work necessary to restore property to a safe condition following a fire, accident or natural disaster, to restore public utilities, or to protect persons or property from an imminent danger is exempt from the noise ordinance requirements. Average noise levels of typical sources are summarized in Table 4.13-1.

Table 4.13-1: Average Noise Levels

NOISE SOURCE	NOISE LEVELS IN DECIBELS (DBA)
Chainsaw	110
Chipping Concrete	103
Operating Bulldozer	100
Grinding (Masonry)	99.7
Demolition	99.3
Operating Scraper	99.1
Installing Trench Conduit	96
Gas Lawn Mower at 3 Feet	90
Diesel Truck at 50 Feet	85
Normal Speech at 3 Feet	60
Average Residence	35
Leaves Rustling	15

Source: (Univ. of Washington 2004) *Construction Industry Noise Exposures, Construction Workers*.

4.13.2 Noise Impacts

The preferred alternative will cause intermittent, short-term noise impacts from construction activities. Noise sources include heavy equipment operation for excavation of the underground electric and IT/telecommunications conduit, saw cutting of pavement, demolition of concrete pads, small barge/boat engine while repairing the seawall, operation of the emergency backup generators which may run for up to 24 hours during the planned outages for power cutover to each of the conduit segments, and general noise from construction workers and their vehicles. It is estimated that less than 20 construction workers will be onsite for approximately 3 to 4 months. Installation of the seawall should take less than 8 weeks to complete. A dump truck and backhoe may be in use for approximately 3 weeks. Demolition of concrete pads, saw cutting of pavement,

and cement trucks are anticipated to be used intermittently for a total duration of approximately 7 days.

Noise impacts will typically occur Monday through Friday during daytime hours between 7 a.m. and 5 p.m., and should be intermittent and temporary. A temporary backup generator will be in service for the duration of each of three electric service cut-overs lasting up to 24 hours. Although the temporary generator will produce noise in excess of 75dB, this noise is exempt as described in Town of Beaufort Noise Ordinance Section 91.06(O) and the generator will be located on the island which is isolated and greater than ¼ mile from the nearest noise receptor. Noise impacts can be minimized through use of BMPs, including the operation of equipment in accordance with the manufacturer's specifications, use of standard mufflers, and ensuring noise-reducing equipment is maintained and operating properly. No noise is anticipated during operations after construction is completed, with the exception of occasional use of backup power generators during electric service interruptions.

The use of the BMPs during construction is anticipated to adequately mitigate the intermittent, short-term noise impacts. No noise impacts are anticipated during operations after construction is completed.

The no-action alternative will have no direct impact on noise since construction would not occur; however, by installing the underground utility conduit, the overhead utility lines would remain in place and power outages would continue due to storm events. This requires operation of generators to provide electricity to the campus which temporarily generates additional noise.

4.14 TRANSPORTATION

This section describes the transportation resources in the vicinity of the Project. It also presents the potential impacts to transportation as a result of construction of the preferred alternative and from the no-action alternative.

4.14.1 Roads and Highways

Pivers Island Road is the only land access to the CCFHR campus via a bridge which connects to the mainland north of the property. Pivers Island Road is the only named street on the CCFHR campus with smaller access roads connecting the various buildings, facilities, and parking areas as presented in Figure 1.0-2.

4.14.1.1 U.S. Highway 70/Arendell Street

Approximately 0.15 mile north of the CCFHR campus Pivers Island Road intersects the Old Causeway Road perpendicularly, and then it ends at the intersection with U.S. Highway 70/Arendell Street approximately 0.18 mile north of the CCFHR campus. U.S. Highway 70 is a main thoroughfare in the area. The Carteret County Transportation Committee has identified that U.S. Highway 70 is at or over capacity from 4th Street in Morehead City to downtown Beaufort (Carteret 2005); this section is where Pivers Island Road connects to U.S. Highway 70. Access to and from Beaufort involves traveling along U.S. Highway 70 across existing bridges which have high traffic volumes. Delays to vehicular traffic are common due to bridge openings.

4.14.1.2 State Transportation Improvement Program Project #R-3307

There is a plan to improve the bridge and highway congestion referred to as Project #R-3307. Better known locally as the Gallants Channel or Beaufort Bridge Project, this is a high profile project of the North Carolina Department of Transportation (NCDOT) State Transportation Improvement Program (STIP). Project #R-3307 involves the removal of the existing Gallant's Channel bascule draw bridge and the construction of a new, 65-foot fixed span bridge and bypass facility (Beaufort 2009). The new bypass facility will consist of widening U.S. Highway 70 to four lanes with a median and placing U.S. Highway 70 on a new alignment that connects Radio Island to West Beaufort Road (NCDOT n.d.). U.S. Highway 70 road work will take place near and at the Pivers Island Road intersection. NCDOT plans to begin STIP Project #R-3307 construction sometime in early summer 2014 (Patel 2014). Construction is scheduled to be completed by September 15, 2017 (Carteret 2013).

4.14.2 Railroads

An abandoned section of the Beaufort & Morehead (B&M) Railroad is located about 0.17 mile north of the CCFHR campus running parallel and in between the Old Causeway Road and U.S. Highway 70. The closest active railroad is the 1 mile spur just north of Radio Island operated by Carolina Coastal Railway (CLNA) approximately 0.6 mile west of the CCFHR campus. Rail service to Morehead City was leased by the original Norfolk Southern in 1904, but in 1937 it dropped its lease between Morehead City and Beaufort. The B&M Railroad operated that segment until 1990, when it was acquired by the North Carolina Railroad Commission. B&M continued its operation until the late 1990's, when the bridge to Beaufort was abandoned. Switching services at the port were maintained by Carolina Rail Services until 2005, when it was leased to Morehead & South Fork Railway. CLNA assumed the lease in 2010 and began serving the Port of Morehead City on a 1-mile spur between Morehead City and Radio Island. Connections with Norfolk Southern are made at Morehead City. (CLNA 2013)

4.14.3 Airports

Michael J. Smith Field Airport (KMRH) is the closest airport open to the public serving Beaufort and Morehead City, NC. Michael J. Smith Field Airport is located north of U.S. Highway 70 in Beaufort approximately 0.7 mile northeast of the CCFHR campus. The Morehead City State Port Terminal Heliport (NC80) is for private, commercial use only and is located in Morehead City approximately 1.4 miles west of the CCFHR campus. (AirNav 2013)

4.14.4 Impacts to Transportation Resources

The preferred alternative is anticipated to have limited, intermittent, and short-term impacts to the transportation resources on and near Pivers Island during the construction phase. Traffic will temporarily increase on Pivers Island Road and the bicycle paths on the island due to the addition of construction vehicles. The preferred alternative may cause temporary detours or lane reductions during the excavation and installation of approximately 1,040 feet of new

underground electrical/telecommunication conduits, demolition and pouring of concrete pads, removal of old/installation of new power lines and light poles, and repair of the seawall.

U.S. Highway 70, which is already congested and near or over capacity, may also experience a limited, intermittent, and short-term impact from the increased construction traffic. Current estimates are subject to change as the detailed design progresses; however, anticipated construction vehicles of the preferred alternative will include:

- Less than 20 workers and their vehicles for 3 – 4 months.
- Approximately 3 large trucks (dump truck and backhoe) for approximately 3 weeks.
- 1 cement mixer truck intermittently for a total of about 7 days.
- 1 small barge/boat for repair of the seawall for less than 8 weeks.

Depending on the timing of the preferred alternative construction phases, it is likely that there will be traffic conflicts when vehicles access Pivers Island Road at the U.S. Highway 70 intersection north of the CCFHR campus. NCDOT's STIP Project #R-3307 construction plans are to begin in early summer 2014 and will last for a long period with potential lane closures, detours, and the consequential slowdown of traffic on U.S. Highway 70 and surrounding roads.

Loading/unloading activities at the contractor staging area on the southwest end of Pivers Island and the seawall work along the west should have minimal to no impact on nearby waterways. The preferred alternative will have no adverse impacts on railroads or airports, or transportation resources outside the immediate vicinity. After construction, the preferred alternative will have no impacts on transportation resources during operations.

Because impacts to transportation resources would be limited, intermittent, and short-term during construction and there will be no negative impacts during operations, the need for mitigation is not anticipated and therefore, is not proposed.

The no-action alternative will have no direct impact on transportation resources.

4.15 UTILITIES AND SOLID WASTE

This section describes the existing utilities and solid waste handling that occur on the CCFHR campus. It also presents the potential impacts on utilities and solid waste handling as a result of construction of the preferred alternative and from the no-action alternative.

4.15.1 Utilities and Solid Waste

Currently the utility corridor on the CCFHR campus consists of overhead electrical distribution lines that extend around the east, south, and west perimeter of the campus forming a "horse shoe" shape. The preferred alternative proposes to remove the existing electrical apparatus and install an underground electrical utility distribution system, which will fill the current void in the utility corridor at the north end of the campus. It is the intent of the preferred alternative to segregate the utility mains in a semicircular zone around the northern end of the island so when new buildings are constructed, service lines can be connected to these perimeter utilities.

The existing utilities on Pivers Island are of sufficient capacity to handle the increase in usage during construction. All work involving maintenance, support, and relocation of utilities will conform to applicable construction specifications, criteria, and standards.

Pivers Island water and sewage systems are utilized via a cross channel piping system. Potable water is provided to the island by the Town of Beaufort. The existing water supply and municipal sewage systems have sufficient capacity to support the preferred alternative.

During the construction phase, the contractor will dispose of all solid wastes in accordance with North Carolina General Statutes, Chapter 130A, Article 9 – Solid Waste management, and rules governing the disposal of solid waste (North Carolina Administrative Code Section 15A NCAC 13B).

4.15.2 Impacts to Utilities and Solid Waste Handling

The preferred alternative will improve utility coverage on the island and will not adversely affect solid waste removal or water/wastewater systems currently in use on Pivers Island.

The no-action alternative would not directly impact utilities or solid waste handling on the CCFHR, however, if the existing utility and telecommunication network is not upgraded and improved, regular power outages will continue to occur which does not satisfy the purpose and need of the Project. Utilities and solid waste handling would not be impacted if construction of the seawall does not occur.

4.16 VIEWSHED

This section describes the viewshed on the CCFHR campus and vicinity. It also presents the potential impacts on the viewshed as a result of construction of the preferred alternative and from the no-action alternative.

The viewshed is described as the area that is visible from a specific location.

4.16.1 Existing Viewshed

Pivers Island is within the viewshed of multiple waterfront resources within the Town of Beaufort such as water access and overlooks, unimpeded waterfront views, tree-lined streets and residential areas, docks, open areas, historic vistas, and the boardwalk. All of these resources contribute to the Town's historic and maritime character.

According to the Beaufort HPC (discussed in Section 4.7), the vistas of Beaufort's waterfront (including Taylor's Creek, Gallant's Channel, and Town Creek as well as Front Street) play a crucial role in defining the character of Beaufort's Historic District (TRC 2008).

4.16.2 Impacts to Viewshed

Construction of the preferred alternative is not expected to have a permanent adverse impacts on the viewshed of Beaufort's waterfront and/or nearby resources because the utility conduit will be installed underground. Further, the proposed seawall will be repaired. Any potential visual impacts will be temporary in nature and due to construction activities only.

Because there are no potential adverse impacts to the viewshed of waterfront resources as a result of the preferred alternative, the need for mitigation is not anticipated and therefore, is not proposed.

The no-action alternative will have no direct impact on the viewshed of Beaufort's waterfront and/or nearby resources.

4.17 HAZARDOUS MATERIALS

This section describes hazardous materials that occur on the CCFHR campus and vicinity. It also presents the potential impacts from hazardous materials as a result of construction of the preferred alternative and from the no-action alternative.

A hazardous material is defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended, as any substance with physical properties of ignitability, corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible illness, incapacitating reversible illness, or pose a substantial threat to human health or the environment (CERCLA 1980).

4.17.1 Existing Hazardous Materials in the Vicinity of the CCFHR Campus

An environmental database search provided by Nationwide Environmental Title Research (NETR) was reviewed to identify any hazardous material concerns (contaminated soils, contaminated groundwater, prior spills, etc.) on or near the CCFHR campus. NETR reviews various databases compiled by federal, state, and local governmental agencies. The NETR environmental database search is provided in Appendix D and a description of the databases searched and the information obtained is summarized in Table 4.17-1.

Table 4.17-1: NETR Database Search Summary

TYPE OF DATABASE	DESCRIPTION OF DATABASE	NUMBER OF SITES WITHIN SEARCH RADIUS		
		< ¼ MILE	¼ - ½ MILE	½ - 1 MILE
NPL	National Priorities List			
CERCLIS	CERCLIS No Further Remedial Action Planned			1
RCRA CORRACTS	Resource Conservation and Recovery Act Corrective Action Report			
RCRA-TSD	Resource Conservation and Recovery Act (RCRA) – Transporters, Storage, and Disposal			
US ENG/INST CONTROLS	Sites listed on the Federal Institutional Control / Engineering Control Registry			

Table 4.17-1: NETR Database Search Summary

TYPE OF DATABASE	DESCRIPTION OF DATABASE	NUMBER OF SITES WITHIN SEARCH RADIUS		
		< ¼ MILE	¼ - ½ MILE	½ - 1 MILE
ERNS	Emergency Response Notification System			1
TRIS	Toxic Chemical Release Inventory System			
RCRA Generators	Conditionally Exempt Small Quantity Generators (CESQG), Small Quantity Generators (SQG) and Large Quantity Generators (LQG)		1	
US ACRES (BROWNFIELDS)	A listing of Brownfields Sites			
NPDES	Permitted Facility Listing			
UST	Underground Storage Tank		15	53
LUST	Leaking Underground Storage Tank		2	8
NC Landfills	A listing of landfill sites in North Carolina			
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing			
SHWS	Inactive State Hazardous Waste Sites			1

Upon review of the NETR database search, the following sites are located within a 1 mile radius of the CCFHR campus:

- Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) No Further Remedial Action Planned (NFRAP) – One site, the North Carolina Maritime Museum, located at 310 Front Street in Beaufort is located 0.52 mile east of the CCFHR campus. The site was evaluated by the EPA between 2000 and 2002; the contaminants of concern were organics, pesticides, and metals in sediment. In 2002, the EPA concluded that "No Further Remedial Action" was required at the Site. This site is not expected to impact the CCFHR campus or the preferred alternative.
- Emergency Response Notification System (ERNS) – one incident listed in this system occurred within 1 mile of the CCFHR Campus. The incident occurred in 1995 and was located in Newport Marshes approximately 0.76 mile west of the Site. According to ERNS records an unknown amount of aton battery fluid leaked into the water in the marsh at light

#38. This site is not expected to impact the CCFHR campus or the preferred alternative since it is located 0.76 mile from the Project area and the contamination would have dispersed into the marshes and ocean before reaching the CCFHR campus.

- RCRA Generators – one site, the NOAA NMFS Beaufort Laboratory, is located within one half mile of the CCFHR campus. The Site is listed as a Conditionally Exempt Small Quantity Generator (CESQG) and is permitted to generate 100 kilograms or less per month of hazardous waste, or 1 kilogram or less per month of acutely hazardous waste. The site is operating under EPA Permit NC3131430180 and so long as the facility is on the contiguous property of the CCFHR campus, the permit may be used to generate hazardous waste material. The Site is in compliance with its permit and has no violations listed. This site is not expected to impact the preferred alternative.
- Underground Storage Tank (UST) – there are sixty-eight (68) USTs between one quarter mile and one mile of the CCFHR campus. Ten (10) of these sites have reported leaks which will be discussed below. None of the remaining Sites have reported leaks and are not expected to impact the proposed site.
- Leaking Underground Storage Tank (LUST) – Ten (10) LUST sites are located within one mile of the CCFHR campus. Seven (7) of the sites are located in the Town of Beaufort, more than 0.47 mile from the CCFHR campus. Four (4) of these sites are classified as 'closed' and the USTs have been removed and the contaminated soils are remediated. Based on the location and distance from the CCFHR campus (they are east of the site on the other side of the Gallant Channel), and the fact that four (4) of the sites no longer exist, these sites are not expected to have any impact the CCFHR campus or the preferred alternative. An additional two (2) LUST sites are located west of the CCFHR campus on the Radio Island Marina and Mooreland Sports Marina which are more than 0.71 mile from the CCFHR campus. Given this distance and the groundwater migration paths in the area, they are not expected to have impacted the CCFHR campus. The final Site is an UST at the Duke Marine Lab, located on the southern half of Pivers Island. According to NCDENR, the tank was removed in 1991 and a cleanup of the subsurface soil around the tank was performed under the LUST Trust Fund, a federal program that provides states with grant funding to oversee and conduct the cleanup of discharges resulting from underground storage tanks. Since the UST no longer exists and the site has undergone cleanup it is not expected to impact the CCFHR campus or the preferred alternative.
- Inactive State Hazardous Waste Site (SHWS) – One site listed in the SHWS database is located within a 1 mile radius of the CCFHR campus. The site is the North Carolina Maritime Museum, located at 310 Front Street in Beaufort. The Site is also listed in the CERCLIS-NFRAP database and was discussed above.

In addition to these sites, three underground storage tanks containing gasoline, heating oil and fuel oil are located on the CCFHR campus near the maintenance building. An out building on the southern extent of the campus also houses cylinders of oxygen and other compressed gases.

4.17.2 Impacts from Hazardous Materials

Although no pre-existing concerns were identified, the selected contractor will be required to comply with hazardous materials use and disposal standards during construction of the preferred alternative in order to reduce the potential for a hazardous materials spill. The three underground storage tanks near the maintenance building will be removed. The tanks will be drained and all materials disposed of in a method compliant with local and state regulations. If any soil or groundwater contamination is found during project construction the contractor will follow all applicable federal, state and local laws for contamination removal and cleanup. In addition, appropriate BMPs will be implemented by the contractor to prevent or minimize the contamination of soils and groundwater and no hazardous materials will be used during the construction and operation of the planned improvements.

The no-action alternative would not directly generate hazardous materials at the CCFHR; however, if the existing utility and telecommunication conduit is not installed, regular power outages will continue to occur which does not satisfy the purpose and need of the Project. During power outages generators will have to be used to power the campus which would require that diesel fuel and other potentially contaminating substances associated with running a generator will need to be used and stored onsite. Hazardous materials would not be impacted or generated if construction of the seawall does not occur.

4.18 SOCIOECONOMICS

The following subsections summarize socioeconomic factors including population, race, education, labor, and income for the Town of Beaufort. It also presents the potential impacts on socioeconomics as a result of construction of the preferred alternative and from the no-action alternative.

The Town of Beaufort was founded in 1709 and is the third oldest town in North Carolina and one of 11 incorporated municipalities within Carteret County. With origins as a fishing village, Beaufort is rich in maritime history and served as a port-of-entry to harboring ships from the Atlantic Ocean. During the summer of 1718, the Town was laid out in the grid format that exists today with streets named after royalty and executive officials. Front Street was developed in the early 1800s along Beaufort's waterfront and has since remained a part of the Town's scenic destination. Many of the original homes and roadways are still present in this historic area of Downtown Beaufort. (Beaufort 2009)

4.18.1 Population

According to the 2010 Census, the total population for the Town of Beaufort was 4,039, of which 1,916 were males and 2,123 were females with a median age of 46.8 years. Carteret County's population was 66,469 and the population in the State of North Carolina was 9,535,483.

Beaufort is a tourist destination experiencing a significant increase in seasonal population. According to the 2005 Beaufort CAMA Land Use Plan, seasonal population has increased to over 50% of the total population (Beaufort 2005).

4.18.2 Race

The racial breakdown of the population of the Town of Beaufort for the years 2008 - 2012 was as follows: 79.0% Caucasian, 17.0% African American and 4% other races. The racial breakdown of North Carolina's population in 2010 included 68.5% Caucasian, 21.5% African American and 10% other races, which is similar to the racial breakdown of Beaufort's population. The racial breakdown of the U.S. population included 72.4% Caucasian, 12.6% African American and 15% other races, which indicates that North Carolina has a greater minority population than the national average; however, the Town of Beaufort has a smaller minority population than the national average. (U.S. Census 2010)

4.18.3 Education

The educational attainment for residents 25 years and older was estimated as follows for the years 2008 - 2012: 1.1% with less than high school, 12.6% with some high school, 28.2% were high school graduates (includes equivalency), 25.0% with some college, no degree, 7.8% with an associate degree, 15.1% with a bachelor's degree, and 10.2% with a graduate or professional degree. Therefore, 86.3% of the 2008 - 2012 population was estimated to earn an education of high school graduate or higher. (U.S. Census 2010)

The educational attainment of Beaufort's population is comparable to the state and national levels. In 2000, 27.2% of North Carolina's population 25 years and over were high school graduates (including equivalency) and 84.4% of the state's population attained high school graduation or higher. The U.S. population included 28.2% high school graduates (including equivalency) and 85.7% attained high school graduation or higher. (U.S. Census 2010)

4.18.4 Labor

Beaufort's labor force (population 16 years and over) was estimated to be 2,177 people or 61.1% of the working population for the years 2008 - 2012. The civilian labor force included 2,112 people: 1,854 people that were employed and 258 that were unemployed. Labor force within the armed forces included 65 people. The mean travel time to work was 21.4 minutes. Of the 1,854 civilians that are employed, the majority of employment opportunities are in services (620 people) and management, business, science and art occupations (536 people). (U.S. Census 2010)

Approximately 25.8% of the total population in Beaufort has an occupation in the arts, entertainment, recreation, accommodation or food services. This exceeds the North Carolina and U.S. averages of 9.0% and 9.2%, respectively. Beaufort is a coastal town and experiences a high seasonal population which attributes to the focus on services and recreation for tourists.

4.18.5 Income

Beaufort's median household income in 2012 was $28,750 and the median family income was $47,780. Beaufort's incomes are significantly less than the state and national averages. North Carolina's median household income was $46,450 and the median family income was $57,146. During the same year, the U.S. median household income was $53,046 and the median family

income was $64,585. Furthermore, the percent of people below the poverty line in Beaufort is much higher at 28.5% than the state of North Carolina and the U.S. at 16.8% and 14.9%, respectively. (U.S. Census 2010)

4.18.6 Public Services

A variety of essential services are provided to the local communities by the Town of Beaufort, including emergency response, police and law enforcement, waste removal and recycling and medical facilities. Pivers Island is serviced by the Beaufort Fire Department, Police Department, Public Utilities Department and Streets and Sanitation Department. The closest hospital is the Carteret General Hospital, in Moorhead City, North Carolina, approximately 6 miles from Pivers Island.

4.18.7 Impacts to Socioeconomics

No significant negative socioeconomic impacts are expected during construction of the preferred alternative due to the scope and temporary nature of the work. The primary impact would arise from any direct employment and income benefits associated with the construction of the preferred alternative. It is estimated that less than 20 construction workers will be onsite for approximately 3 to 4 months. During this time, there may be a minor, but slight increase in the local economy due to the use of local hotels, restaurants, retail stores, and services.

Potential adverse impacts to public service facilities, including local fire fighting, police, and medical facilities are expected to be negligible during the construction of the preferred alternative due to the temporary nature of the work and small construction crews required to execute the work. There will be no impact to these services unless they are specifically requested. During operation, the preferred alternative will not have any adverse impact on the socioeconomics of the area.

Because impacts to socioeconomic resources would be minor and short-term during construction and there will be no negative impacts during operations, the need for mitigation is not anticipated and therefore, is not proposed.

The no-action alternative will have no direct impact on public service facilities since construction would not occur and public services would not be needed. However, since construction would not occur, the local economy would not benefit from the minor, but slight increase due to the need for local hotels, restaurants, retail stores and services.

4.19 CUMULATIVE IMPACTS

Cumulative impacts are those combined effects on quality of the human environment (which includes the natural and physical environment) that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what Federal or non-Federal agency or person undertakes such other actions (40 CFR 1508.7, 1508.25(a), and 1508.25(c)). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (NOAA 1999).

Additional traffic is identified as the one potential, temporary cumulative impact to transportation resources. If construction of the preferred alternative occurs at the same time as the planned NCDOT STIP Project #R-3077, there may be an insignificant and temporary cumulative impact to transportation resources in the vicinity.

There are no other foreseeable future or recent actions which cumulatively impact this Project.

5.0 Community Involvement

A Draft EA was circulated in February 2014 to all necessary federal, state and local agencies including internal NOAA personnel. Hardcopies and an electronic copy of this EA were submitted to each of the agencies identified.

The general public was provided an opportunity to review and comment on the preferred alternative and potential environmental impacts assessed within this EA. A newspaper public announcement was published in the *Tideland News* for 3 weeks starting February 19, 2014 indicating that a copy of the EA was available at the Pivers Island CCFHR campus for public review. The newspaper announcement also included a website where the EA could be accessed electronically.

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6.0 Summary of Potentially Significant Impacts

The preferred alternative will provide a more secure and modern electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities and cause electrical outages. In addition, the seawall repair will protect the western edge of the CCFHR campus from storm damage and future erosion.

As discussed in the subsections of Section 4.0 of this EA, there are no potentially significant impacts to any resources of the human environment. Additionally, any impacts to resources such as surface waters and/or soils will require permit approval or authorization through the necessary federal, state and local agencies as indicated in the applicable sections. Mitigation measures and BMPs to protect the resources affected are summarized in Section 7.0.

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7.0 Suggested Mitigation Measures

As discussed in Section 6.0, there would be no significant adverse impacts to the human environment as a result of the preferred alternative. Minor temporary impacts will result to several resources such as soil, surface water and oysters (EFH) as discussed in previous sections.

While impacts will be minimized to the extent practicable to soil and water resources, any impacts will require the following potential permits, approvals and/or authorizations:

- Section 404 of the Clean Water Act Permitting (USACE Nationwide Permit or Individual Permit).
- Section 10 of the Rivers and Harbors Act of 1899 (USACE Nationwide Permit or Individual Permit).
- Section 401 of the Clean Water Act Water Quality Certificate (NCDENR).
- Coastal Consistency Determination (NCDCM).
- Soil Erosion Sediment Control Permit/Stormwater Waiver (NCDENR Division of Energy, Mineral and Land Resources).

BMPs such as silt fence, hay bales, turbidity barriers and temporary seeding will be used to mitigate any potential impacts to soils and/or surface waters on or adjacent to Pivers Island.

The seawall repair will consist of new vinyl sheet piling being installed as close as possible to the existing seawall as shown in Figure 2.2-1. Plans are to construct the new seawall entirely water-side of the existing seawall (which is to remain in place) with interstitial space medium placed in between the old and new seawall to prevent further erosion or structural integrity concerns. A five-foot concrete cap or maintenance free vinyl top cap walk-way system with a no-slip texture surface will be constructed over both seawalls as if one seawall existed. Only marine-grade, type 316 stainless steel fasteners will be used (no galvanized anchors). This installation will be environmentally friendly and a non-invasive waterside solution which will avoid and minimize impacts to Waters of the U.S.

Impacts to EFH, oyster beds will occur as a result of the seawall repair. To mitigate for this impact the following mitigation is proposed:

- Oysters located on the existing seawall will be removed and relocated water-ward of the PVC sheet piling.
- The boat/small barge will only be used during higher tide events (mid-tide to high-tide back to mid-tide). The boat/small barge will not be present during low tide and other extraordinary low water events to prevent contact with the un-vegetated bottom.
- A turbidity barrier will be used as a BMP in Bulkhead Channel to prevent sediment from entering the channel and surrounding waters resulting from installation of the sheet piling.

Impacts to all other resources are temporary as a result of construction and will not occur during normal operation of the seawall and underground utility conduit. As a result, no other mitigation has been identified or proposed.

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8.0 Conclusion

As demonstrated within this EA, impacts to the human environment, including the natural environment are temporary and minor. Impacts to surface waters and soils, as summarized in Section 6.0, will be reviewed by the necessary federal, state and/or local resource agency for permit approvals and BMPs will be implemented to mitigate for potential impacts. As a result, the preferred alternative is not anticipated to have any significant impacts to the human environment.

Should this judgment be confirmed through review of this EA by all required federal, state and local agencies, stake holders, interested parties and the general public, an Environmental Impact Statement would not be required, and a Finding of No Significant Impact (FONSI) would be prepared and approved prior to the initiation of the preferred alternative. The approved FONSI would be made available to the public. Following completion of the NEPA process, compliance with the applicable NEPA requirements would be considered fulfilled.

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9.0 References

36 CFR, Part 800, Code of Federal Regulations, Title 36 - Parks, Forests, and Public Property, Chapter VIII—Advisory Council on Historic Preservation, Part 800—Protection of Historic Properties.

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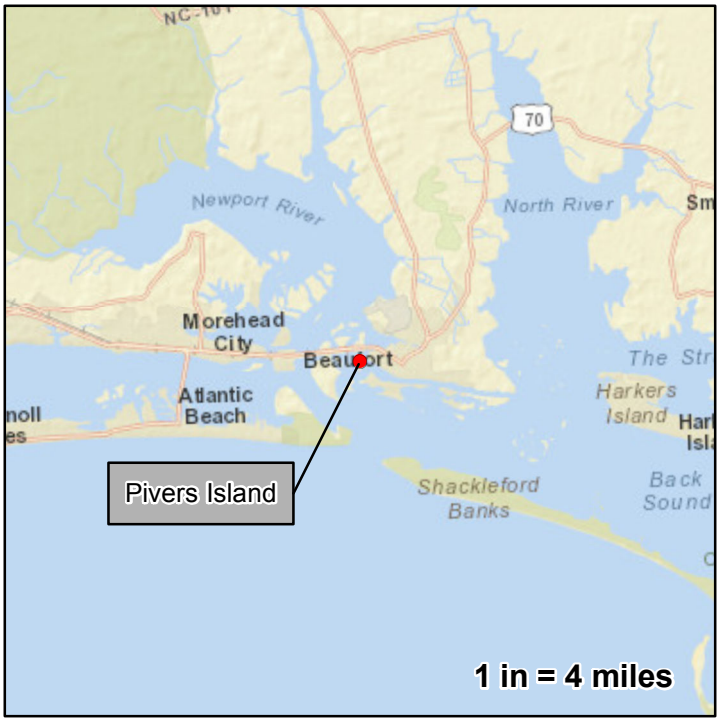
Figures



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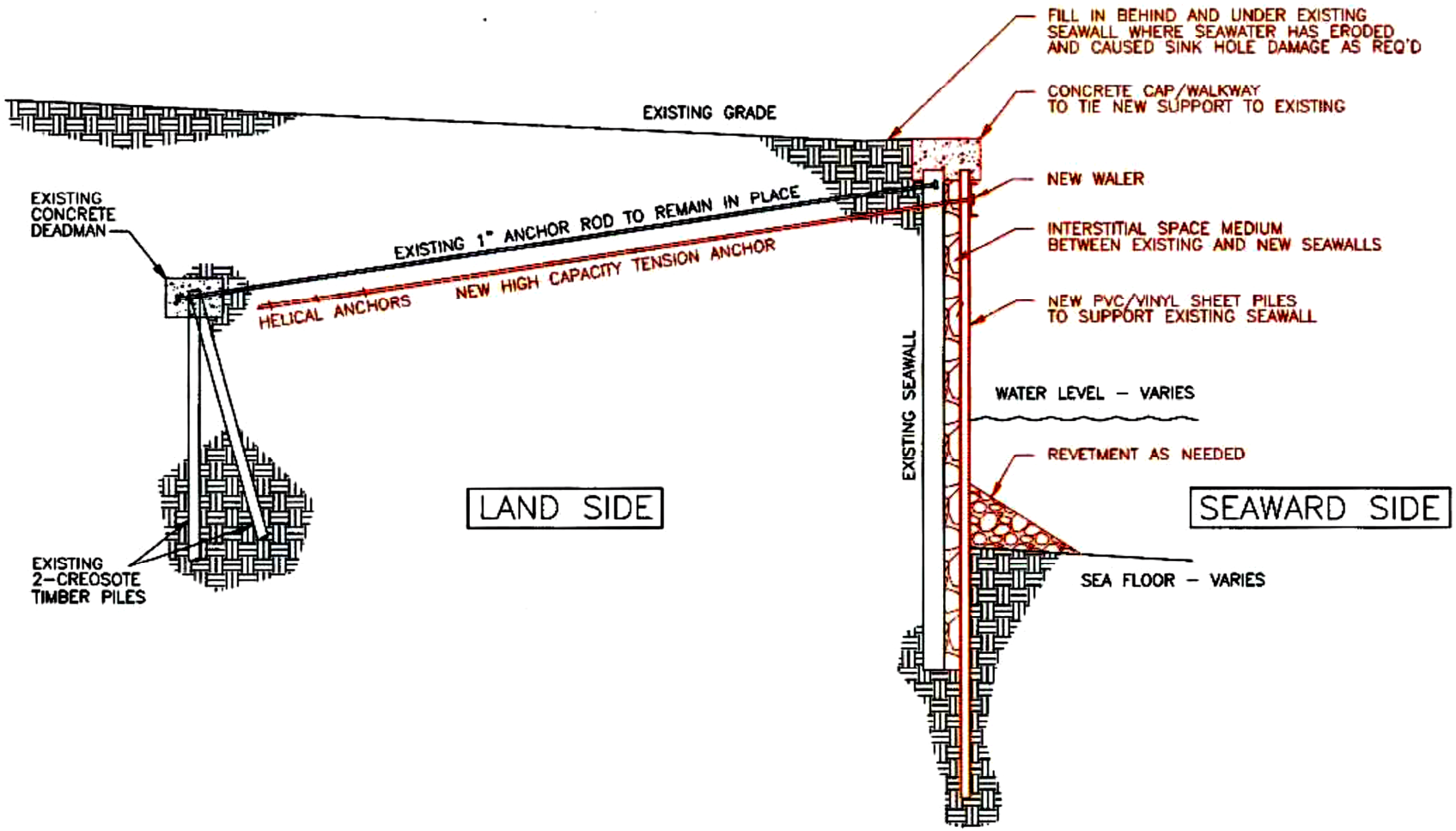
Site Location Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 1.0-1

Proposed Site Layout Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 1.0-2



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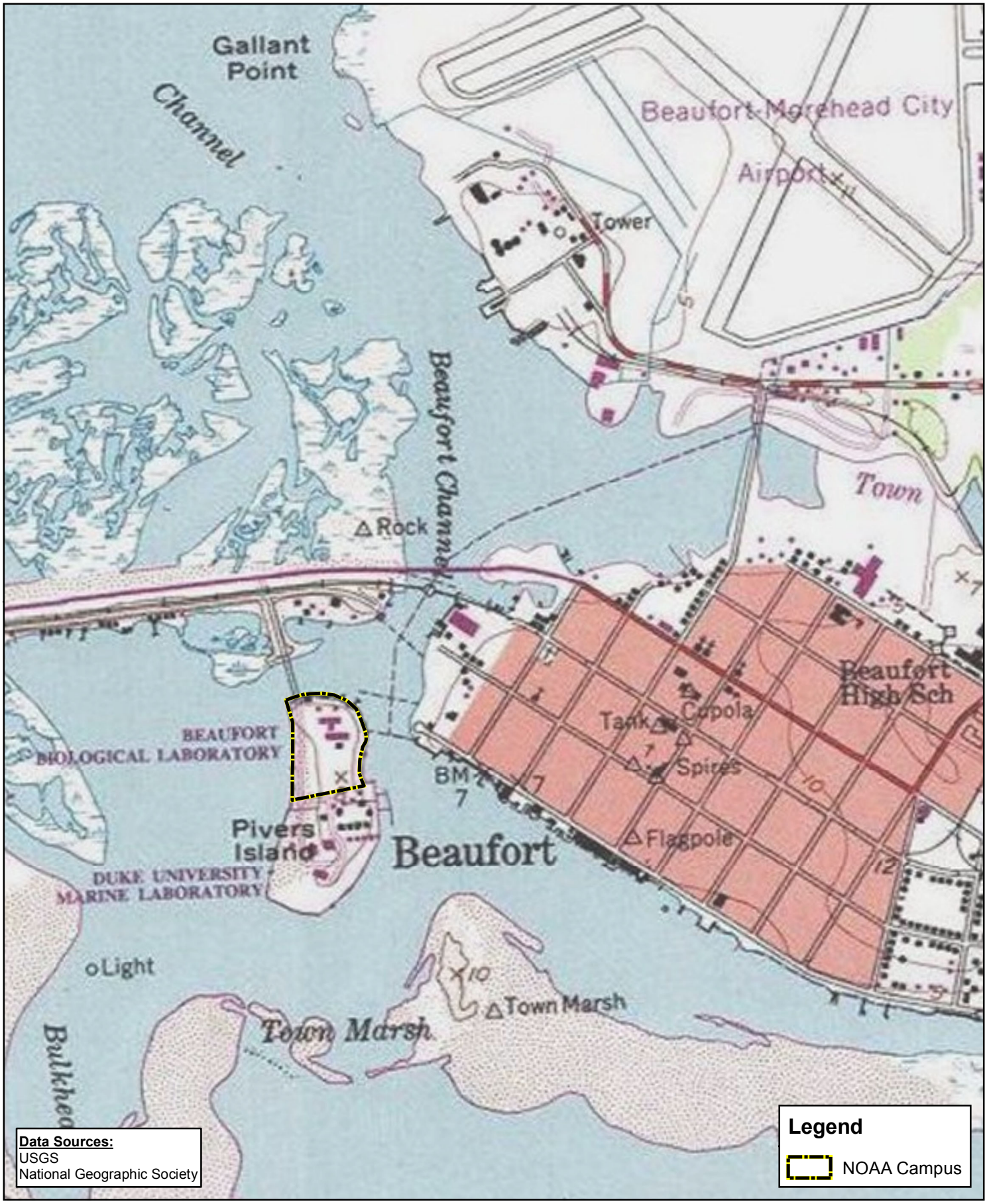
Approximate Scale

Seawall Vinyl Sheet Piling Detail
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 2.2-1

Alternative Considered and Rejected
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 2.2-2



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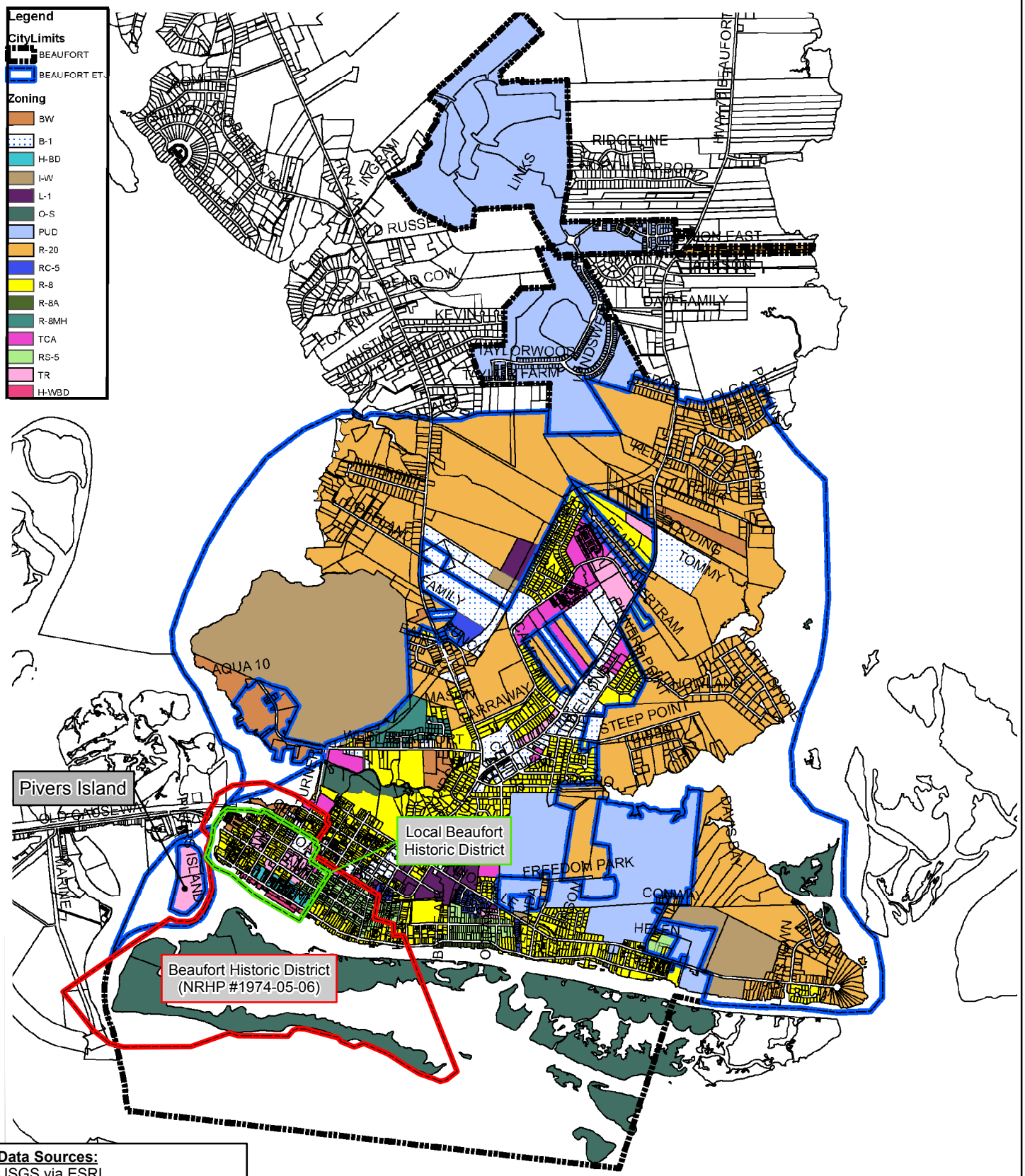
USGS Topographic Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 3.0-1



Data Sources:
USGS via ESRI
Town of Beaufort, North Carolina, Planning & Inspections Department, Land Development Ordinance

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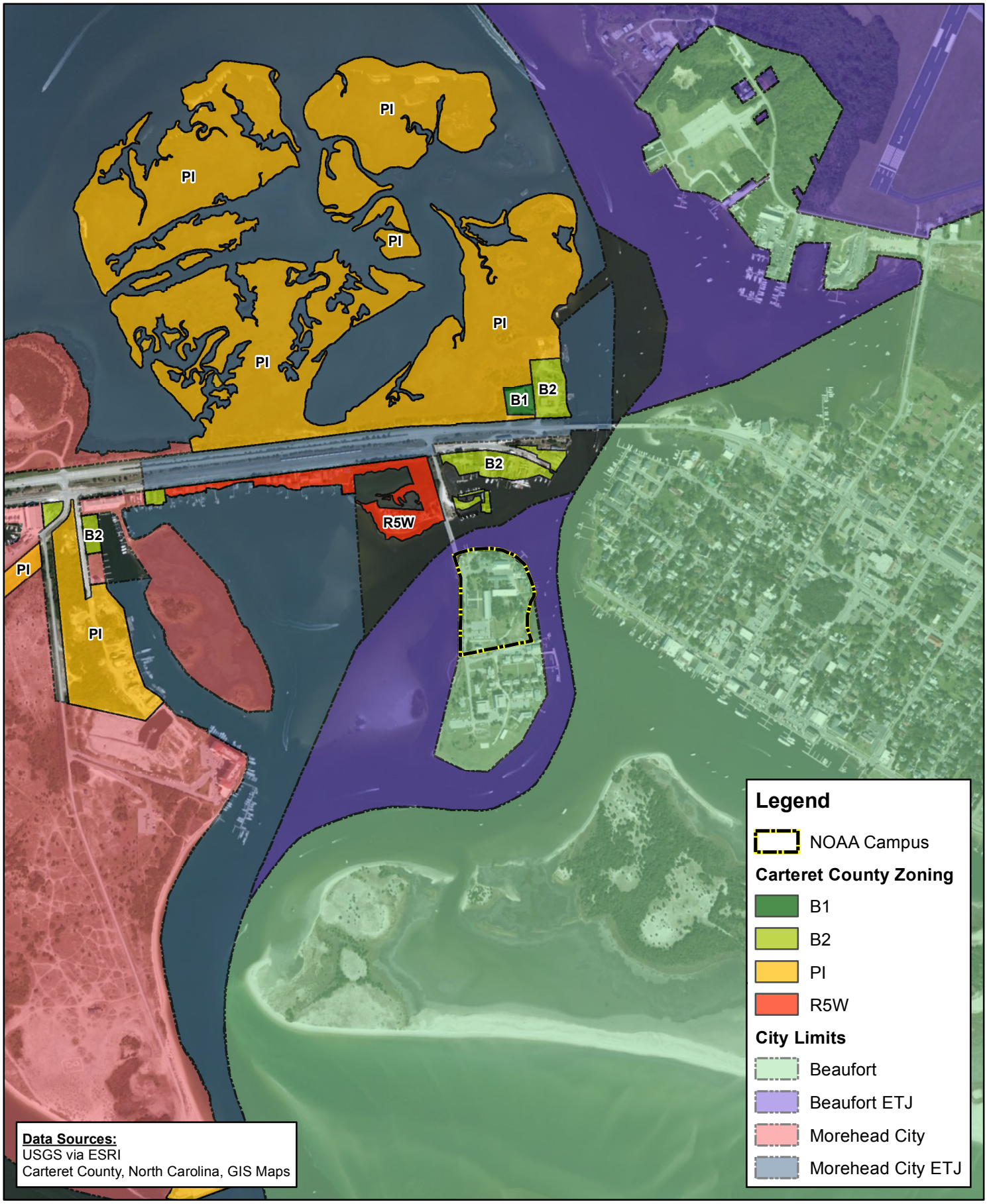
Beaufort Zoning Map, December 2013
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.1-1



fre47957 1/18/2014 11:31:20 PM C:\PROJECTS\NOAA\Pivers Island\MXD\EA Report\Figure 4.1-2 Carteret County Zoning Map.mxd

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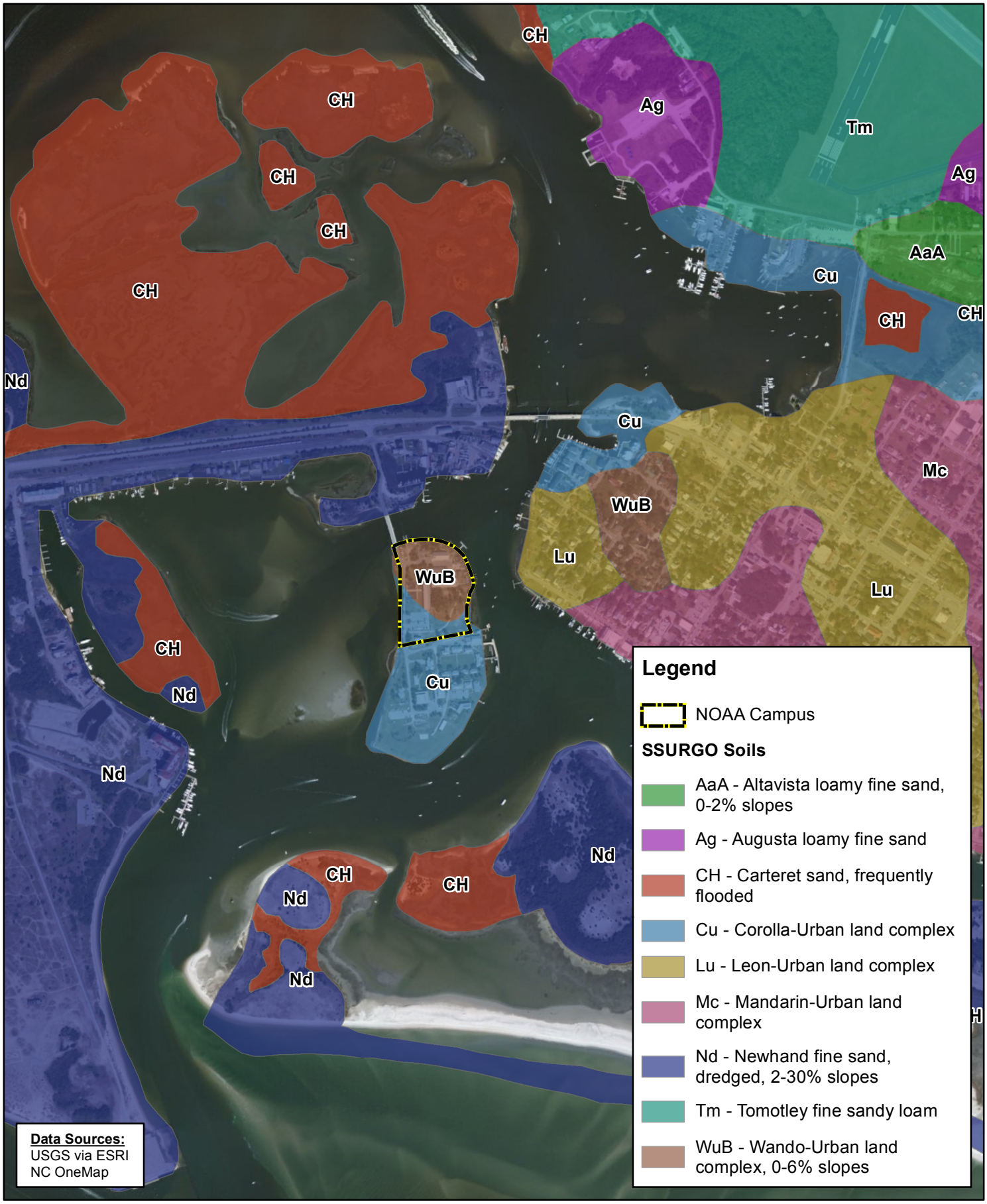
Carteret County Zoning Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.1-2



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SSURGO Soils Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.2-1

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Historic & Cultural Resources
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.7-1

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NWI Wetlands Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.9-1

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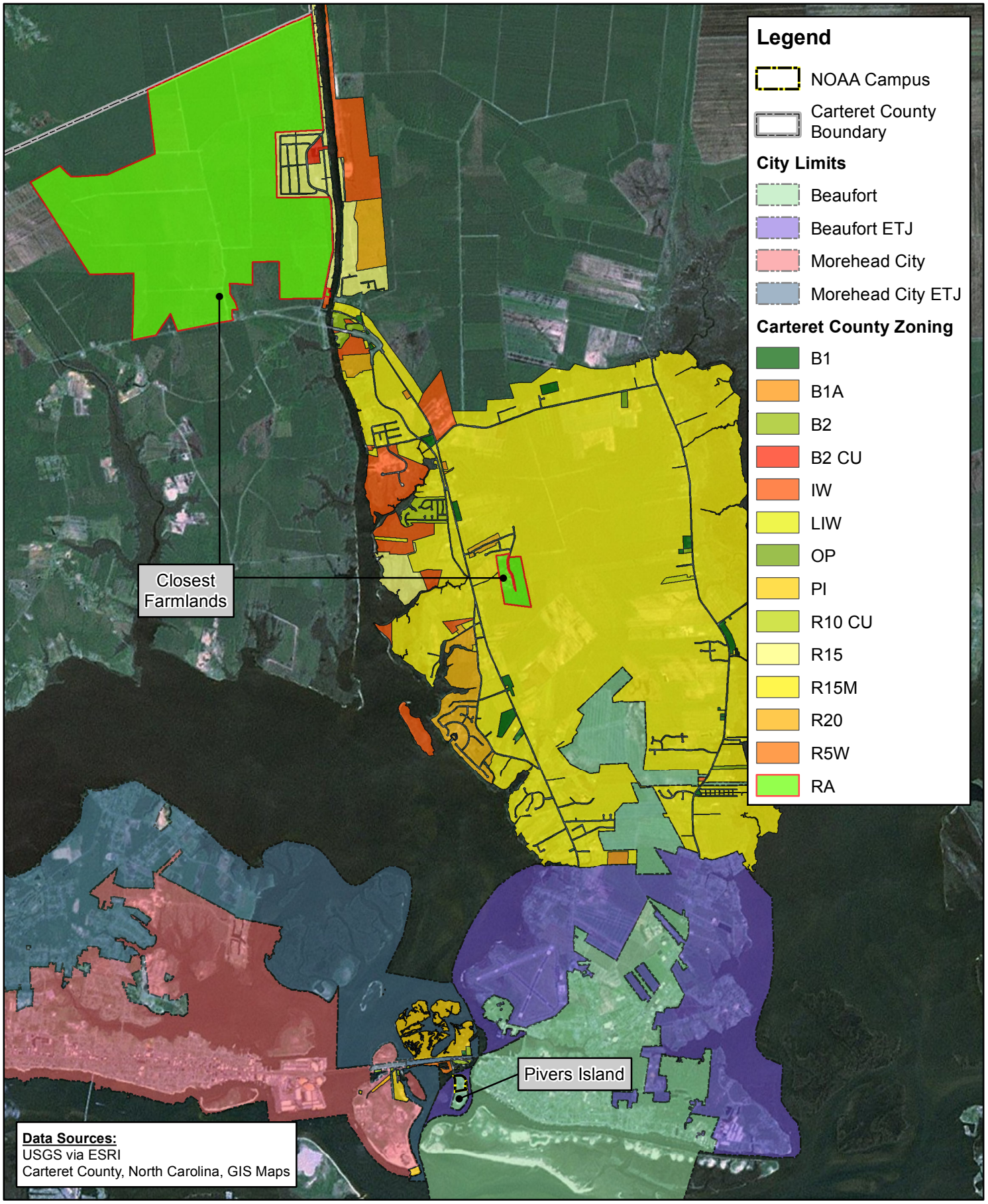
FEMA Flood Zones Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.10-1

Coastal Zone Management
Area of Environmental Concern
Pivers Island Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.11-1



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Farmlands Map
Pivers Island
Environmental Assessment 2014
Beaufort, Carteret County, NC

Figure 4.12-1

Appendix A. Site Photographs

Photograph 1: Aerial crossing of electrical service o the CCFHR campus and Duke University. The pole with the down conduit is the split off of Duke University's electrical service.

Photograph 2: View of the seawall at the southern limit near the Duke University property facing north.

Photograph 3: View of the seawall and stormwater outfall for the CCFHR campus facing south.

Photograph 4: View of the seawall adjacent to the northern access bridge facing north.

Photograph 5: View of the northern access bridge from the southern headwall facing north.

Photograph 6: View of the full 800 linear feet of the seawall from the northern access bridge facing south.

Photograph 7: Proposed location of the underground utility conduit south of the northern access bridge facing north.

Photograph 8: View of the location of the proposed location of the underground utility conduit facing east.

Photograph 9: View of the northern parking lot and location of the proposed location of the underground utility conduit facing east.

Photograph 10: View of the location of the eastern portion of the proposed underground conduit location facing south.

Photograph 11: View of the southern extent of the proposed underground conduit location facing southwest.

Photograph 12: Example of settling behind existing seawall that is causing the structure to fail and present erosion hazards on the western shore of Pivers Island.

Photograph 13: View of the exposed stabilization rebar installed on the existing seawall.

Photograph 14: View of the northern access bridge and the platform containing the hose reel that is proposed to be moved to accommodate the electrical conduit on the side of the bridge.

Appendix B. List of EA Preparers

Black & Veatch Staff

Scott McBurney – Environmental Scientist

Jody Lima – Environmental Scientist

Laura McNeil – Environmental Scientist

Anita Buggins – Geologist

Jim Kountzman – Senior Project Scientist

Appendix C. Agency Correspondence

BLACK & VEATCH CORPORATION
200 BELLEVUE PARKWAY, SUITE 215
WILMINGTON, DE 19809 USA
+1 913-458-6757 | MCBURNEYSM@BV.COM

December 16, 2013

Mr. Gary Jordan
U.S. Fish & Wildlife Service
Raleigh Ecological Field Services Office
P.O. Box 33726
Raleigh, North Carolina 27636-3726

Subject: Pivers Island Sea Wall Repair/Replacement and Underground Utility Conduit Project

Dear Mr. Jordan:

The National Oceanic and Atmospheric Administration (NOAA), National Oceanic Service (NOS), Center for Coastal Fisheries and Habitat Research (CCFHR) proposes the following activities on Pivers Island in Beaufort, Carteret County, North Carolina:

1. Repair/replace an existing sea wall from the northern access bridge approximately 800 linear feet south on the western side of the island; and
2. install an electrical service and telecommunications utility conduit.

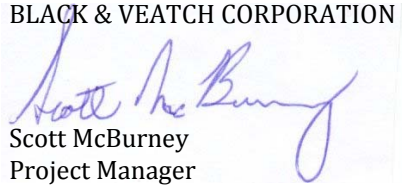
Black & Veatch (B&V) has been retained by NOAA to prepare a National Environmental Policy Act (NEPA) Environmental Assessment (EA) to analyze the potential environmental effects from implementing the proposed action of repairing/replacing the sea wall, and constructing and operating the utility conduit. The purpose of the Project is to repair the existing sea wall which was damaged by Hurricane Sandy. The underground utility conduit will provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities. The existing overhead utility lines and poles will be disconnected and removed after the utility conduit is installed and functional.

Please accept this letter as a request to search your records for the presence of any federally listed, proposed listed, threatened or endangered species located within the Project area. A USGS Site Location Map is attached for your reference and includes the extent of the Project area. This consultation request is being submitted as part of the NEPA documentation process.

Should you have any questions or comments regarding this Project, please do not hesitate to contact me at (913) 458-6757 or via email at mcburneysm@bv.com. Thank you for your assistance with this request.

Very truly yours,

BLACK & VEATCH CORPORATION



Scott McBurney
Project Manager

cc. Michael Randall (NOAA)
Mark George (NOAA)
Bob Hillman (B&V)

BLACK & VEATCH
Building a world of difference.

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Site Location Map
Pivers Island Utility Conduit Project
Beaufort, NC

Sources: USGS via ESRI

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Raleigh Field Office
Post Office Box 33726
Raleigh, North Carolina 27636-3726

January 24, 2014

Scott McBurney
Black & Veatch Corporation
200 Bellevue Parkway, Suite 215
Wilmington, DE 19809

Re: Pivers Island Sea Wall/Replacement & Underground Utility Conduit- Carteret County, NC

Dear Mr. McBurney:

This letter is to inform you that a list of all federally-protected endangered and threatened species with known occurrences in North Carolina is now available on the U.S. Fish and Wildlife Service's (Service) web page at http://www.fws.gov/raleigh. Therefore, if you have projects that occur within the Raleigh Field Office's area of responsibility (see attached county list), you no longer need to contact the Raleigh Field Office for a list of federally-protected species.

Our web page contains a complete and frequently updated list of all endangered and threatened species protected by the provisions of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)(Act), and a list of federal species of concern[1] that are known to occur in each county in North Carolina.

Section 7 of the Act requires that all federal agencies (or their designated non-federal representative), in consultation with the Service, insure that any action federally authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species. A biological assessment or evaluation may be prepared to fulfill that requirement and in determining whether additional consultation with the Service is necessary. In addition to the federally-protected species list, information on the species' life histories and habitats and information on completing a biological assessment or evaluation and can be found on our web page at http://www.fws.gov/raleigh. Please check the web site often for updated information or changes.

---

[1] The term "federal species of concern" refers to those species which the Service believes might be in need of concentrated conservation actions. Federal species of concern receive no legal protection and their designation does not necessarily imply that the species will eventually be proposed for listing as a federally endangered or threatened species. However, we recommend that all practicable measures be taken to avoid or minimize adverse impacts to federal species of concern.

If your project contains suitable habitat for any of the federally-listed species known to be present within the county where your project occurs, the proposed action has the potential to adversely affect those species. As such, we recommend that surveys be conducted to determine the species' presence or absence within the project area. The use of North Carolina Natural Heritage program data should not be substituted for actual field surveys.

If you determine that the proposed action may affect (i.e., likely to adversely affect or not likely to adversely affect) a federally-protected species, you should notify this office with your determination, the results of your surveys, survey methodologies, and an analysis of the effects of the action on listed species, including consideration of direct, indirect, and cumulative effects, before conducting any activities that might affect the species. If you determine that the proposed action will have no effect (i.e., no beneficial or adverse, direct or indirect effect) on federally listed species, then you are not required to contact our office for concurrence (unless an Environmental Impact Statement is prepared). However, you should maintain a complete record of the assessment, including steps leading to your determination of effect, the qualified personnel conducting the assessment, habitat conditions, site photographs, and any other related articles.

With regard to the above-referenced project, we offer the following remarks. Our comments are submitted pursuant to, and in accordance with, provisions of the Endangered Species Act.

Based on the information provided and other information available, it appears that the proposed action is not likely to adversely affect any federally-listed endangered or threatened species, their formally designated critical habitat, or species currently proposed for listing under the Act at these sites. We believe that the requirements of section 7(a)(2) of the Act have been satisfied for your project. Please remember that obligations under section 7 consultation must be reconsidered if: (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered; (2) this action is subsequently modified in a manner that was not considered in this review; or, (3) a new species is listed or critical habitat determined that may be affected by the identified action.

However, the Service is concerned about the potential impacts the proposed action might have on aquatic species. Aquatic resources are highly susceptible to sedimentation. Therefore, we recommend that all practicable measures be taken to avoid adverse impacts to aquatic species, including implementing directional boring methods and stringent sediment and erosion control measures. An erosion and sedimentation control plan should be submitted to and approved by the North Carolina Division of Land Resources, Land Quality Section prior to construction. Erosion and sedimentation controls should be installed and maintained between the construction site and any nearby down-gradient surface waters. In addition, we recommend maintaining natural, vegetated buffers on all streams and creeks adjacent to the project site.

The North Carolina Wildlife Resources Commission has developed a Guidance Memorandum (a copy can be found on our website at (http://www.fws.gov/raleigh) to address and mitigate secondary and cumulative impacts to aquatic and terrestrial wildlife resources and water quality. We recommend that you consider this document in the development of your projects and in completing an initiation package for consultation (if necessary).

We hope you find our web page useful and informative and that following the process described above will reduce the time required, and eliminate the need, for general correspondence for species' lists. If you have any questions or comments, please contact John Ellis of this office at (919) 856-4520 ext. 26.

Sincerely,

Pete Benjamin
Field Supervisor

List of Counties in the Service's Raleigh Field Office Area of Responsibility

Alamance
Beaufort
Bertie
Bladen
Brunswick
Camden
Carteret
Caswell
Chatham
Chowan
Columbus
Craven
Cumberland
Currituck
Dare
Duplin
Durham
Edgecombe
Franklin
Gates
Granville
Greene
Guilford
Halifax
Harnett
Hertford
Hoke
Hyde
Johnston
Jones
Lee
Lenoir
Martin
Montgomery
Moore
Nash
New Hanover
Northampton
Onslow
Orange
Pamlico
Pasquotank
Pender
Perquimans
Person
Pitt
Randolph
Richmond
Robeson
Rockingham
Sampson
Scotland
Tyrrell
Vance
Wake
Warren
Washington
Wayne
Wilson

BLACK & VEATCH CORPORATION
200 BELLEVUE PARKWAY, SUITE 215
WILMINGTON, DE 19809 USA
+1 913-458-6757 | MCBURNEYSM@BV.COM

December 16, 2013

National Oceanic & Atmospheric Administration
National Marine Fisheries Service
Southeast Regional Office
Protected Resources Division
263 13th Avenue South
St. Petersburg, Florida 33701-5505

Subject: Pivers Island Sea Wall Repair/Replacement and Underground Utility Conduit Project

The National Oceanic and Atmospheric Administration (NOAA), National Oceanic Service (NOS), Center for Coastal Fisheries and Habitat Research (CCFHR) proposes the following activities on Pivers Island in Beaufort, Carteret County, North Carolina:

1. Repair/replace an existing sea wall from the northern access bridge approximately 800 linear feet south on the western side of the island; and
2. install an electrical service and telecommunications utility conduit.

Black & Veatch (B&V) has been retained by NOAA to prepare a National Environmental Policy Act (NEPA) Environmental Assessment (EA) to analyze the potential environmental effects from implementing the proposed action of repairing/replacing the sea wall, and constructing and operating the utility conduit. The purpose of the Project is to repair the existing sea wall which was damaged by Hurricane Sandy. The underground utility conduit will provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities. The existing overhead utility lines and poles will be disconnected and removed after the utility conduit is installed and functional.

Please accept this letter as a request to search your records for the presence of any federally protected aquatic resources (fisheries in particular) and their habitats within the Project area. A USGS Site Location Map is attached for your reference and includes the extent of the Project area. This consultation request is being submitted as part of the NEPA documentation process.

Should you have any questions or comments regarding this Project, please do not hesitate to contact me at (913) 458-6757 or via email at mcburneysm@bv.com. Thank you for your assistance with this request.

Very truly yours,

BLACK & VEATCH CORPORATION

Scott McBurney
Project Manager

cc. Mike Randall (NOAA)
Mark George (NOAA)
Bob Hillman (B&V)

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Miles
NAD83 Stateplane North Carolina, Feet

Site Location Map
Pivers Island Utility Conduit Project
Beaufort, NC

Sources: USGS via ESRI

McBurney, Scott M

From: Dennis Klemm - NOAA Federal <dennis.klemm@noaa.gov>
Sent: Thursday, January 30, 2014 1:47 PM
To: McBurney, Scott M
Subject: Pivers Island project

Hello Scott,

I was given your letter requesting information on federally protected aquatic resources within the Pivers Island project area.

There are five species potentially in your project area that are listed under the Endangered Species Act and fall under NMFS's purview:

Sea turtles: Kemp's ridley, green, and loggerhead.

Sturgeon: Shortnose and Atlantic.

No critical habitat has been designated in your project area.

Please feel free to email or call if you need additional information.

Thank you,

--
Dennis Klemm
Acting Branch Chief- Interagency Coordination Branch
& Sea Turtle Program Coordinator- Southeast Regional Office
National Marine Fisheries Service
263 13th Avenue South, St. Petersburg, FL 33701
727-551-5777

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER
Project Planning & Management Division, Eastern Region
601 East 12th Street, Room 1702
Kansas City, Missouri 64106

April 28, 2014

National Oceanic & Atmospheric Administration
National Marine Fisheries Service
101 Pivers Island Road
Beaufort, NC 28516

Subject: Essential Fish Habitat (EFH) Consultation/Assessment
Pivers Island Sea Wall Repair and Underground Utility Conduit Project

Dear Fritz Rohde:

The National Oceanic and Atmospheric Administration (NOAA), National Oceanic Service (NOS), Center for Coastal Fisheries and Habitat Research (CCFHR) proposes the following activities on Pivers Island in Beaufort, Carteret County, North Carolina (see Figure 1):

1. Repair an existing sea wall using PVC sheet piling immediately adjacent to the existing seawall structure from the stone rip-rap associated with the northern access bridge approximately 800 linear feet south on the western side of the island; and
2. Install underground electrical service and telecommunications utility conduits on the island.

The purpose of the Project is to repair the existing sea wall, which was damaged by Hurricane Sandy and other previous storm events, from undercutting of the structure and causing sinkholes on the landward side of the seawall. The underground utility conduit will provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities. The existing overhead utility lines and poles will be disconnected and removed after the utility conduit is installed and operational.

This EFH Assessment consultation letter has been prepared at the request of Virginia Fay, Deputy Regional Administrator for Habitat Conservation NOAA Fisheries Service, Southeast Region in a letter dated March 14, 2014 regarding the review of the Environmental Assessment for the Pivers Island Sea Wall Repair and Underground Utility Conduit Project.

The following sections of this letter are consistent with 50 CFR 600.920(e)(3)i-iv of the Magnuson Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

50 CFR 600.920(e)(3)i – Detailed Description of the Proposed Action

Seawall Repair
The seawall on the western side of the CCFHR Campus is currently experiencing undercutting which is causing sinkholes on the landward side of the wall. These sinkholes are threatening the structural integrity of the seawall along the approximately 800 linear feet from the southern property boundary to the northern access bridge.

A polyvinyl chloride (PVC) sheet piling will be installed immediately in front of the existing seawall to supplement the integrity of the existing seawall and prevent additional undercutting (see attached sheet piling figure). This will be installed via boat/small barge in Bulkhead Channel. Construction is expected to occur for up to 3 weeks and would result in the filling of no greater than 800 square feet (0.018 acre) of Waters of the United States (800 linear feet by not more than 1 foot). See Figure 2 for a profile view of the PVC sheet piling details.

Utility Conduit/Other Activities

- Install an underground electrical service in three segments on the CCFHR campus, as shown on Figure 1. The north electrical segment runs approximately 380 linear feet from near the northern access bridge in the northwest corner of Pivers Island. The center segment is approximately 420 linear feet long and generally routes east-west in the center of the CCFHR campus, avoiding the Coastal Area Management Act (CAMA) 75-foot Area of Environmental Concern (AEC) as much as possible. The south segment is approximately 238 linear feet in length and connects the Administration Building to the southern portion of the property. All three segments of the underground electrical service together total approximately 1,038 linear feet. New transformers will be set as needed by Duke Energy.
- Remove existing overhead power lines/transformers/structures and cutover to new buried services. Plans are to stagger the cutover to new electrical service for each segment of the buried conduit so that limited outages will affect small groupings of campus buildings at any one given time. Emergency backup generators will support the critical power loads during the cutover of each segment, which should last 24 hours or less.
- Other activities that will support the Project include the following: installing new light poles; removal of selected backup generators and existing underground storage tanks, installation of an above ground fuel tank, and demolition and replacement of concrete pads.

Future IT/Telecommunications Infrastructure

- Install two new 4 inch empty conduits which run parallel to the south segment of the new buried electrical service. The future installation of IT/telecommunications
- infrastructure will provide upgraded connectivity to buildings in the northern part of the CCFHR campus.
- This portion is estimated to run approximately 240 feet.

None of the above proposed activities will occur within Waters of the United States, including wetlands and therefore, none of these activities will occur within any area designated as EFH.

50 CFR 600.920(e)(3)ii – EFH Analysis

EFH Designations

Pivers Island is part of the Newport River, Beaufort Inlet and Bogue Sound waters. Table 1 summarizes the fish species and their life stage(s) documented in these waters.

Table 1: National Marine Fisheries List of EFH for Newport River, Beaufort Inlet and Bogue Sound.

Species	Life Stage*
Bluefish	J, A
Summer Flounder	L, J, A
Butterfish	J, A
Brown Shrimp	L, J, A
Pink Shrimp	L, J, A
White Shrimp	L, J, A
Dolphinfish	J, A
Wahoo	J, A
Cobia	L, J, A
King Mackerel	J, A
Spanish Mackerel	L, J, A
Spiny Dogfish	J, A
Smooth Dogfish	J, A
Black Sea Bass	L, J, A
Rock Sea Bass	J
Gag	J, A
Gray Snapper	J
Yellow Jack	J
Crevalle Jack	J
Blue Runner	J
Bar Jack	J
Sheepshead	J, A
*Larvae = L, Juvenile = J, Adult = A	

According to 16 U.S.C. 1802(10), Essential Fish Habitat is defined as those waters and substrate necessary to fish for spawning breeding, feeding or growing to maturity. EFH includes areas of sea grasses, reefs, shellfish beds, estuarine wetlands and open waters.

Potential EFH Adverse Impact Analysis

There are three types of EFH areas within close proximity to the seawall repair project location: estuarine wetlands, shellfish beds (oysters) and mud bottom. Each of these EFH types is described and the potential impact assessed below:

1. Estuarine Wetlands - Estuarine wetlands occur near, but greater than 2 feet from the seawall project site on the northern extent near the northern access bridge and the southern portion associated with the beach breakwater area of Duke University. While, very small patches of wetlands, these types of wetlands are a transitional zone between the marine and terrestrial environments and occur above the surface of the water and provide habitat for finfish and shellfish species and filtration of non-point source run-off for the estuary. Large amounts of organic matter and low oxygen content characterize bottom sediments in salt marshes and enable these wetlands to contribute to their own proliferation through decomposition; although this function is limited in the estuarine wetlands adjacent to the seawall project site due to their small size and rocky substrate.

   The flora is comprised of erect, rooted, herbaceous hydrophytes, primarily, salt marsh cordgrass (*Spartina alterniflora*). An important part of estuarine wetlands can be the macroalgae present during different times of the year. It is on these macroalgae that epiphytic communities of diatoms, cyanobacteria, and other photosynthetic algae reside, and become an important part of the benthic food web, particularly for fish species.

   Estuarine emergent wetlands habitat have been designated as EFH for all life stages of cobia and red drum, gag, gray snapper, spot, juvenile and adult summer flounder, among other species.

   The proposed PVC sheet piling will be installed no more than 1 foot from the existing seawall structure, the estuarine wetland patch on south end of the seawall repair project area will not be impacted. The small patch on the northern end will be impacted as a result of the sheet piling installation; however, the impact will be less than 15 square feet (15 linear feet by 1 foot). Potential disturbance to these areas may occur as a result of construction, but these impacts will be minor and temporary. Although permanent impacts to estuarine wetlands would result, the total area of impact is extremely small and limited to the area adjacent to the existing seawall. Due to the extremely small footprint of potential impact, no mitigation is anticipated or proposed.

2. Shellfish Beds (Oysters) - The NCDENR defines shellfish habitat as oyster beds, oyster rocks, oyster reefs, oyster bars, and shell hash (dead shellfish). Oysters occur on the existing seawall for the entire 800 linear-foot length, on the rock revetment associated with the northern access bridge and on the beach breakwater rocks located several feet away from the seawall repair project area.

   Oyster beds have been designated as EFH for the juvenile and adult stages of the black seas bass juvenile gag, gray snapper, summer flounder, weakfish, all life stages of red drum, among others.

   Oysters located on the existing seawall would be temporarily adversely impacted as a result of the installation of the PVC sheet piling. To mitigate the impact to these oysters, individuals would be removed from the existing seawall and relocated water-ward of the PVC sheet piling. After the sheet piling has been installed, it is expected that the oysters will recolonize the new seawall. The oyster beds on the rock structures associated with the northern access bridge and the beach breakwater on the southern portion of the project area are located several feet away and would not be impacted as a result of the PVC sheet piling installation within 1 foot of the existing seawall.

3. Non-Vegetated Flats (Mud Bottom) – Non-vegetated flats, or mud bottoms, are defined as the area along the shoreline within the subtidal zone which is the area below the lowest low tide line that is always submerged. Wave action, tidal currents, wind, geography of the coastline, riverine outflow, and human activity all help to shape these flats and are comprised of unconsolidated, un-vegetated muds and silts. Tidal flats are utilized by a variety of fish and invertebrate species as nursery areas, feeding grounds and refuges. Non-vegetated flats, including mud bottom, occurs within close proximity to the seawall repair project location starting at the base of the existing seawall and extending water-ward.

   Mud bottom and un-vegetated flats have been designated as EFH for juvenile and adult black sea bass, summer flounder among other species.

   The non-vegetated flats have the potential to be temporarily impacted as a result of the boat/small barge that will be used to install the PVC sheet piling by coming in contact with the bottom. After construction, impacts caused by the boat/small barge to this EFH area will cease and it is anticipated that the area will return to pre-construction condition naturally. To mitigate for this potential impact, installation activities will be limited to a time period of mid-tide through high-tide back to mid-tide to avoid the boat/small barge coming in contact with the bottom. Activities will not occur during period of low tide or low water events.

Other potential temporary impacts to the waters of Bulkhead Channel that could potentially impact EFH include sediment suspension during the PVC sheet piling installation. To reduce and minimize potential effects from sediment suspension and to mitigate for potential impacts, a turbidity barrier will be used as a best management practice (BMP) during construction.

Temporary impacts to fish species may occur from the presence of the boat/small barge, human activity and noise associated with installation of the sheet piling; however, these impacts are expected to be temporary, minimal and not significant. After the sheet piling is installed, the boat/small barge will be removed, human activity and noise will cease and impacts to fish species resulting from this activity will cease.

Based on the minimization of impacts, avoidance and mitigation measures proposed, NOAA anticipates that any potential adverse impact will be, minimal, temporary and will not be substantial.

The utility and telecommunications conduit components of the Project will not be located in any Waters of the United States including wetlands and therefore, not within any areas designated as EFH. As a result, this component of the Project is not anticipated to impact any EFH and no mitigation is proposed.

50 CFR 600.920(e)(3)iii – Conclusions

Based on Project design, minimization of impacts, avoidance of EFH areas and mitigation measures proposed, NOAA has concluded that the potential adverse impacts to EFH will be minimal, temporary and will not be substantial.

50 CFR 600.920(e)(3)iv – Mitigation Measures

As detailed above, the following mitigation is proposed for potentially adverse impacts to EFH within the seawall repair project area:

1. Oysters located on the existing seawall will be removed and relocated water-ward of the PVC sheet piling.
2. The boat/small barge will only be used during higher tide events (mid-tide to high-tide back to mid-tide). The boat/small barge will not be present during low tide and other extraordinary low water events to prevent contact with the un-vegetated bottom.
3. A turbidity barrier will be used as a BMP in Bulkhead Channel to prevent sediment from entering the channel and surrounding waters resulting from installation of the sheet piling.

Due to the accelerated schedule of this Project with construction anticipated to begin in Summer 2014, NOAA requests a response as soon as possible to complete the EA and NEPA process. Should you have any questions or comments regarding the EFH Assessment for this Project, please do not hesitate to contact Scott McBurney of Black & Veatch at (913) 458-6757 or via email at mcburneysm@bv.com.

Thank you for your assistance with this request.

Sincerely,

Michael (Mike) Randall, RA
Project Manager / COTR
U.S. Department of Commerce / NOAA
Project Planning and Management Division – Eastern Region
601 E. 12th Street, Room 1702
Kansas City, MO 64106

Phone: (816) 426-7815
Fax: (816) 274-6957
Email: michael.d.randall@noaa.gov

BLACK & VEATCH CORPORATION
200 BELLEVUE PARKWAY, SUITE 215
WILMINGTON, DE 19809 USA
+1 913-458-6757 | MCBURNEYSM@BV.COM

December 16, 2013

Ms. Renee Gledhill-Earley
North Carolina State Historic Preservation Office
4617 Mail Service Center
Raleigh, North Carolina 27699-4617

Subject: Pivers Island Sea Wall Repair/Replacement and Underground Utility Conduit Project

Dear Ms. Gledhill-Earley:

The National Oceanic and Atmospheric Administration (NOAA), National Oceanic Service (NOS), Center for Coastal Fisheries and Habitat Research (CCFHR) proposes the following activities on Pivers Island in Beaufort, Carteret County, North Carolina:

1. Repair/replace an existing sea wall from the northern access bridge approximately 800 linear feet south on the western side of the island; and
2. install an electrical service and telecommunications utility conduit.

Black & Veatch (B&V) has been retained by NOAA to prepare a National Environmental Policy Act (NEPA) Environmental Assessment (EA) to analyze the potential environmental effects from implementing the proposed action of repairing/replacing the sea wall, and constructing and operating the utility conduit. The purpose of the Project is to repair the existing sea wall which was damaged by Hurricane Sandy. The underground utility conduit will provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities. The existing overhead utility lines and poles will be disconnected and removed after the utility conduit is installed and functional.

Please accept this letter as a request to search your records for any significant prehistoric, historic or architectural resources that may be affected by the project. A survey was previously conducted at the site for a different project and determined that there are no historic structures greater than 50 years. Impacts to cultural resources within the Project area are not anticipated; however, as part of the this consultation, we would like to obtain concurrence. An attached USGS Site Location Map is attached for your reference.

Should you have any questions or comments regarding this Project, please do not hesitate to contact me at (913) 458-6757 or via email at mcburneysm@bv.com. Thank you for your assistance with this request.

Very truly yours,

BLACK & VEATCH CORPORATION

Scott McBurney
Project Manager

Enclosure[s]

cc: Michael Randall (NOAA)
Mark George (NOAA)
Bob Hillman (B&V)

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0 0.5 1 2
Miles
NAD83 Stateplane North Carolina, Feet

Site Location Map
Pivers Island Utility Conduit Project
Beaufort, NC

Sources: USGS via ESRI

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0 50 100 200
Feet
NAD83 Stateplane North Carolina, Feet

Proposed Site Layout Map
Pivers Island Utility Conduit Project
Beaufort, NC

Sources: USGS via ESRI

North Carolina Department of Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Pat McCrory
Secretary Susan Kluttz

Office of Archives and History
Deputy Secretary Kevin Cherry

December 31, 2013

Scott McBurney
Black & Veatch Corporation
200 Bellevue Parkway, Suite 215
Wilmington, DE 19809

Re: Pivers Island Sea Wall Repair/Replacement and Underground Utility Conduit Project, Beaufort, Carteret County, ER 13-2996

Dear Mr. McBurney:

Thank you for your letter of December 16, 2013, concerning the above project.

We have conducted a review of the project and are aware of no historic resources which would be affected by the project. Therefore, we have no comment on the project as proposed.

The above comments are made pursuant to Section 106 of the National Historic Preservation Act and the Advisory Council on Historic Preservation's Regulations for Compliance with Section 106 codified at 36 CFR Part 800.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, environmental review coordinator, at 919-807-6579 or renee.gledhill-earley@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona M. Bartos

BLACK & VEATCH CORPORATION
200 BELLEVUE PARKWAY, SUITE 215
WILMINGTON, DE 19809 USA
+1 913-458-6757 | MCBURNEYSM@BV.COM

December 16, 2013

North Carolina Natural Heritage Program
Information Request
1601 Mail Service Center
Raleigh, NC 27699-1691

Subject: Pivers Island Sea Wall Repair/Replacement and Underground Utility Conduit Project

The National Oceanic and Atmospheric Administration (NOAA), National Oceanic Service (NOS), Center for Coastal Fisheries and Habitat Research (CCFHR) proposes the following activities on Pivers Island in Beaufort, Carteret County, North Carolina:

1. Repair/replace an existing sea wall from the northern access bridge approximately 800 linear feet south on the western side of the island; and
2. install an electrical service and telecommunications utility conduit.

Black & Veatch (B&V) has been retained by NOAA to prepare a National Environmental Policy Act (NEPA) Environmental Assessment (EA) to analyze the potential environmental effects from implementing the proposed action of repairing/replacing the sea wall, and constructing and operating the utility conduit. The purpose of the Project is to repair the existing sea wall which was damaged by Hurricane Sandy. The underground utility conduit will provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities. The existing overhead utility lines and poles will be disconnected and removed after the utility conduit is installed and functional.

Please accept this letter as a request to search your records for the presence of any rare species, natural communities, significant heritage areas, or conservation managed areas located within the Project area. An Information Request Form and USGS Site Location Map are attached for your reference and include the location and extent of the Project area. This consultation request is being submitted as part of the NEPA documentation process.

Should you have any questions or comments regarding this Project, please do not hesitate to contact me at (913) 458-6757 or via email at mcburneysm@bv.com. Thank you for your assistance with this request.

Very truly yours,

BLACK & VEATCH CORPORATION

Scott McBurney
Project Manager

cc. Mike Randall (NOAA)
Mark George (NOAA)
Bob Hillman (B&V)

NORTH CAROLINA
Natural Heritage Program
SCIENCE GUIDING CONSERVATION

Please submit this form by email: natural.heritage@ncdenr.gov

Or mail:
N.C. Natural Heritage Program
Information Request
1601 Mail Service Center
Raleigh NC 27699-1601

Information Request

The North Carolina Natural Heritage Program provides information on the distribution of rare animals, rare plants, natural communities, Significant Natural Heritage Areas, Dedicated State Nature Preserves, and Registered Heritage Areas. To request information, please complete this form and submit to NC NHP. Response to information requests will typically be provided in 10 working days, however complex requests or requests received during periods of heavy workload may require additional time.

Contact Information	
Name	Scott McBurney
Company	Black & Veatch
Street Address	200 Bellevue Parkway, Suite 215
City ST Zip Code	Wilmington, Delaware 19809
Phone	913-458-6757
Fax	302-798-0201
E-Mail Address	McBurneySM@bv.com
Project Information	
Project Number	
Project Location	Latitude: 34.718114 Longitude: 76.672092 (in decimal degrees)
	County: Carteret County Topographic Quad: 7.5 Minute Series
Project Type: Sensitive Environment __ Transportation __ Forestry __ Energy **X** Other **X**	

Project Description: **Please provide all of these * items with your request.**

*1. This completed **information request form**.

*2. A **cover letter describing the proposed activity**, including existing vegetation cover, structures at the site, and the type of data requested. Additional pages may be provided by email attachment or through the mail.

*3. A copy of appropriate USGS topographic map with the **project area clearly outlined**.

Additional information that would be useful:

a. GIS shape files of the project area.

b. A county map with major highways, rivers, creeks, and towns labeled is acceptable if accompanied by a project site map.

c. Project boundary overlaid on a recent aerial photo

d. Parcel identification number(s) for the project area

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Miles
NAD83 Stateplane North Carolina, Feet

Site Location Map
Pivers Island Utility Conduit Project
Beaufort, NC

Sources: USGS via ESRI

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0 50 100 200
Feet
NAD83 Stateplane North Carolina, Feet

Proposed Site Layout Map
Pivers Island Utility Conduit Project
Beaufort, NC

Sources: USGS via ESRI

North Carolina Department of Environment and Natural Resources
Office of Land and Water Stewardship

Pat McCrory
Governor

Bryan Gossage
Director

John E. Skvarla, III
Secretary

January 9, 2014

Mr. Scott McBurney
Black and Veatch Corporation
200 Bellevue Parkway, Suite 215
Wilmington, DE 19809
McBurneySM@bv.com

RE: Pivers Island Sea Wall Repair/Replacement and Underground Utility Conduit Project

Dear Mr. McBurney:

Thank you for contacting the North Carolina Natural Heritage Program (NCNHP) about the above-referenced project. The Natural Heritage Program has the following records of rare species occurrences within the project area outlined in your request for information:

SCIENTIFIC NAME	COMMON NAME	ELEMENT OCCURRENCE STATUS*	ACCURACY	NC STATUS*	USA STATUS*
Acipenser oxyrinchus	Atlantic Sturgeon	Current	Low	SC	E
Coryphaeschna ingens	Regal Darner	Current	Very Low	SR	----
Erythrina herbacea	Coralbean	Historical	Low	E	----
Heterodon simus	Southern Hognose Snake	Historical	Very Low	SC	FSC
Malaclemys terrapin	Diamondback Terrapin	Obscure	Very Low	SC	FSC, in part
Parietaria praetermissa	Large-seed Pellitory	Current	Low	SC-V	-----
Passerina ciris ciris	Eastern Painted Bunting	Current	Medium	SC	FSC
Seminatrix pygaea	Black Swamp Snake	Current	Very Low	SR	----
Trichechus manatus	West Indian Manatee	Current	Very Low	E	E

Some of these records are considered historical, and some are of very low accuracy. The record for Eastern Painted Bunting is located just west of the bridge to Pivers Island and south of US70 (last observed in 2010); the record for Manatee is from waters located between Pivers Island and Bird Island (Rachel Carson Reserve) (last observed in 2007). We also have a current record for a Gull-Tern-Skimmer Colony (Colonial Waterbird Nesting Site) within the project area; this record is documented on the western end of Bird Island (Rachel Carson Reserve), just east of Radio Island.

1601 Mail Service Center, Raleigh, North Carolina 27699-1601
Phone: 919-707-8600 \ Internet: www.ncdenr.gov

We do not have records for important natural communities, significant natural heritage areas, or conservation/managed areas within the proposed project area, but there are several records for these elements and additional rare species occurrences within one mile.

I've attached a table showing records of rare species tracked in the NCNHP database that we have within one mile of the project site. Also, within one mile of the project site, we have records for the following Significant Natural Heritage Areas (SNHAs):

- Phillips and Annex Islands SNHA – ca. 0.9 miles northwest of the project site
- Rachel Carson Estuarine Research Reserve SNHA (includes Bird Island) – ca. 0.15 miles south of the project site
- Radio Island SNHA – within 0.4 miles west of the project site

The Rachel Carson Estuarine Research Reserve SNHA is a Dedicated Nature Preserve.

Please note that the use of Natural Heritage Program data should not be substituted for actual field surveys where they are needed, particularly if the project area contains suitable habitat for rare species or important natural communities.

You may wish to visit the new NCNHP website (www.ncnhp.org) that offers access to data and other information on rare species, natural communities, significant natural areas, and lands managed for conservation.

Please feel free to contact me at 919-707-8629 or Allison.Weakley@ncdenr.gov if you have questions or need further information.

Sincerely,

Allison Weakley

Allison Schwarz Weakley, Conservation Planner
NC Natural Heritage Program

Table 1. Natural Heritage Element Occurrences (NHEOs) for rare species documented within 1 mile of Pivers Island, by taxonomic group (NCNHP 2014).

EO_ID	SCIENTIFIC NAME	COMMON NAME	ELEMENT OCCURRENCE STATUS*	ACCURACY	NC STATUS*	USA STATUS*
		Birds				
16486	*Charadrius melodus*	Piping Plover	Current	Low	T	T
6218	*Charadrius wilsonia*	Wilson's Plover	Current	Medium	SC	----
14954	*Egretta caerulea*	Little Blue Heron	Historical	Medium	SC	----
15951	*Egretta thula*	Snowy Egret	Historical	Medium	SC	----
16723	*Egretta tricolor*	Tricolored Heron	Historical	Medium	SC	----
13662	*Gelochelidon nilotica*	Gull-billed Tern	Historical	Medium	T	----
26023	*Haematopus palliatus*	American Oystercatcher	Current	Medium	SC	----
27342	*Haematopus palliatus*	American Oystercatcher	Current	High	SC	----
7119	*Himantopus mexicanus*	Black-necked Stilt	Historical	Low	SR	----
522	*Passerina ciris ciris*	Eastern Painted Bunting	Current	Low	SC	FSC
10588	*Passerina ciris ciris*	Eastern Painted Bunting	Current	Medium	SC	FSC
1963	*Passerina ciris ciris*	Eastern Painted Bunting	Current	Medium	SC	FSC
12917	*Rynchops niger*	Black Skimmer	Current	Low	SC	----
23960	*Rynchops niger*	Black Skimmer	Current	Medium	SC	----
5207	*Rynchops niger*	Black Skimmer	Historical	Medium	SC	----
23961	*Sterna hirundo*	Common Tern	Current	Medium	SC	----
23702	*Sternula antillarum*	Least Tern	Current	Medium	SC	----
		Insects				
14658	*Atrytonopsis* sp. 1	an undescribed skipper	Current	High	SR	FSC
32036	*Coryphaeschna ingens*	Regal Darner	Current	Very Low	SR	----
		Fish				
32417	*Acipenser oxyrinchus*	Atlantic Sturgeon	Current	Low	SC	E
		Mammals				
3705	*Neotoma floridana floridana*	Eastern Woodrat - Coastal Plain	Historical	Low	T	----

		population				
9806	*Trichechus manatus*	West Indian Manatee	Current	Very Low	E	E
Reptiles						
12025	*Deirochelys reticularia*	Chicken Turtle	Current	Very Low	SR	----
7284	*Heterodon simus*	Southern Hognose Snake	Historical	Very Low	SC	FSC
3232	*Malaclemys terrapin*	Diamondback Terrapin	Obscure	Very Low	SC	FSC, in part
15254	*Malaclemys terrapin*	Diamondback Terrapin	Obscure	Very Low	SC	FSC, in part
275	*Malaclemys terrapin*	Diamondback Terrapin	Obscure	Very Low	SC	FSC, in part
13517	*Malaclemys terrapin*	Diamondback Terrapin	Historical	Low	SC	FSC, in part
15102	*Nerodia sipedon williamengelsi*	Carolina Watersnake	Historical	Very Low	SC	----
11301	*Seminatrix pygaea*	Black Swamp Snake	Current	Very Low	SR	----
Plants						
4359	*Amaranthus pumilus*	Seabeach Amaranth	Current	Medium	T	T
14038	*Erythrina herbacea*	Coralbean	Historical	Low	E	----
28781	*Euphorbia bombensis*	Southern Seaside Spurge	Current	High	SR-T	----
6466	*Parietaria praetermissa*	Large-seed Pellitory	Current	Low	SC-V	----
6446	*Polygonum glaucum*	Seabeach Knotweed	Current	Medium	E	----
16095	*Polygonum glaucum*	Seabeach Knotweed	Historical	Low	E	----
23678	*Tortula plinthobia*	A Chain-teeth Moss	Current	Medium	SR-O	----
23508	*Yucca gloriosa*	Moundlily Yucca	Current	Medium	SR-P	----

* For status definitions, please see the Help document at http://www.ncnhp.org/web/nhp/database-search.

Appendix D. Environmental Radius Report

Pivers Island
PIVERS ISLAND, NC

Thursday, February 06, 2014

Environmental Radius Report

NETROnline

2055 E. Rio Salado Pkwy
Tempe, AZ 85381
480-967-6752

Summary

Aerial Views 2006

Flood Zones Hazard Map Federal Emergency Management Agency (FEMA)

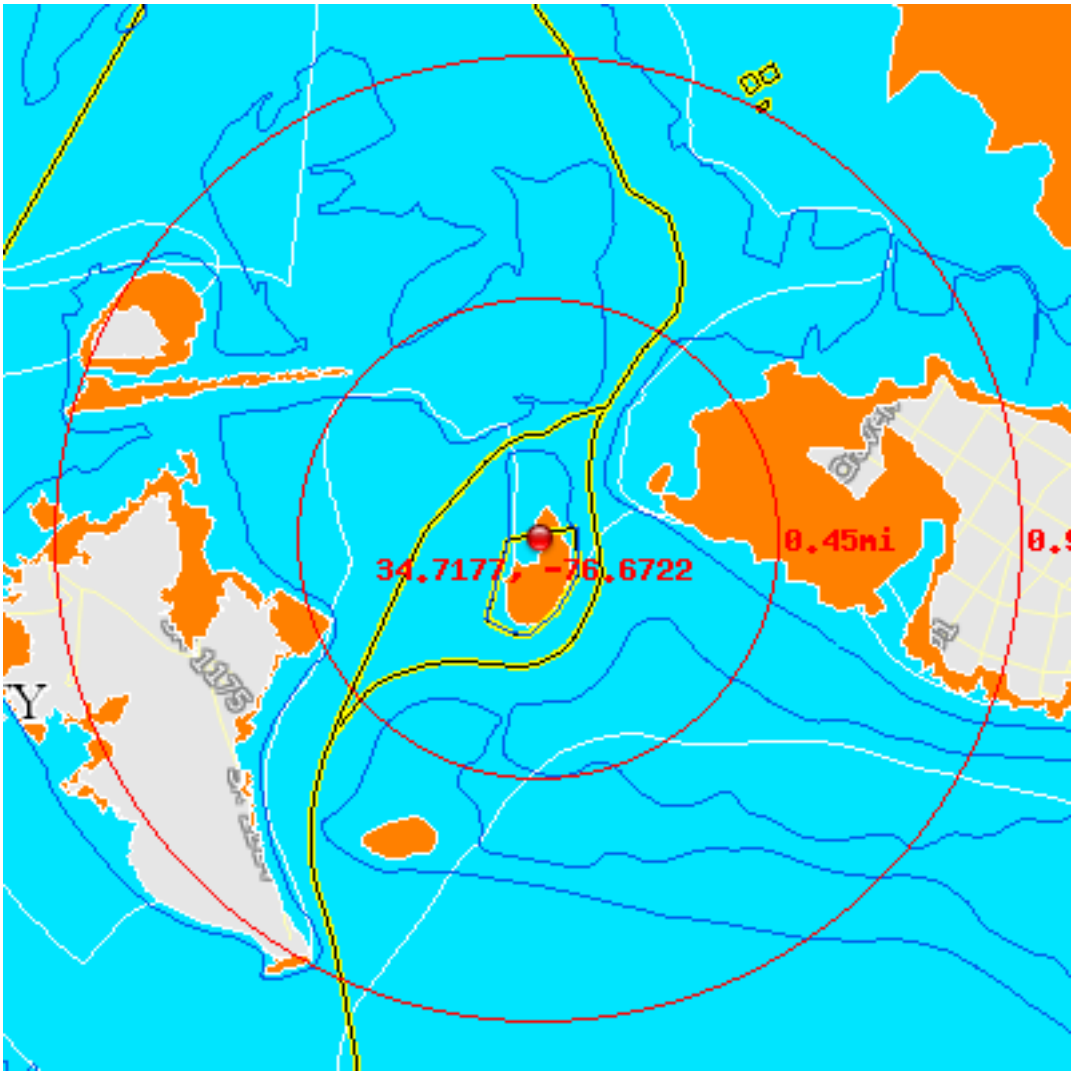
National Wetlands Map Fish & Wildlife Service (FWS)

	< 1/4	1/4 - 1/2	1/2 - 1
National Priorities List (NPL)			
CERCLIS List			
CERCLIS NFRAP			1
RCRA CORRACTS Facilities			
RCRA non-CORRACTS TSD Facilities			
Federal Institutional Control / Engineering Control Registry			
Emergency Response Notification System (ERNS)			1
US Toxic Release Inventory			
US RCRA Generators (CESQG, SQG, LQG)		1	
US ACRES (Brownfields)			
US NPDES			
NC Underground Storage Tanks		15	53
NC Landfills			
NC Dry-Cleaning Solvent Cleanup Act Program			
NC Inactive Hazardous Waste Facilities			1
NC Leaking Underground Storage Tanks		2	8

Aerial Views

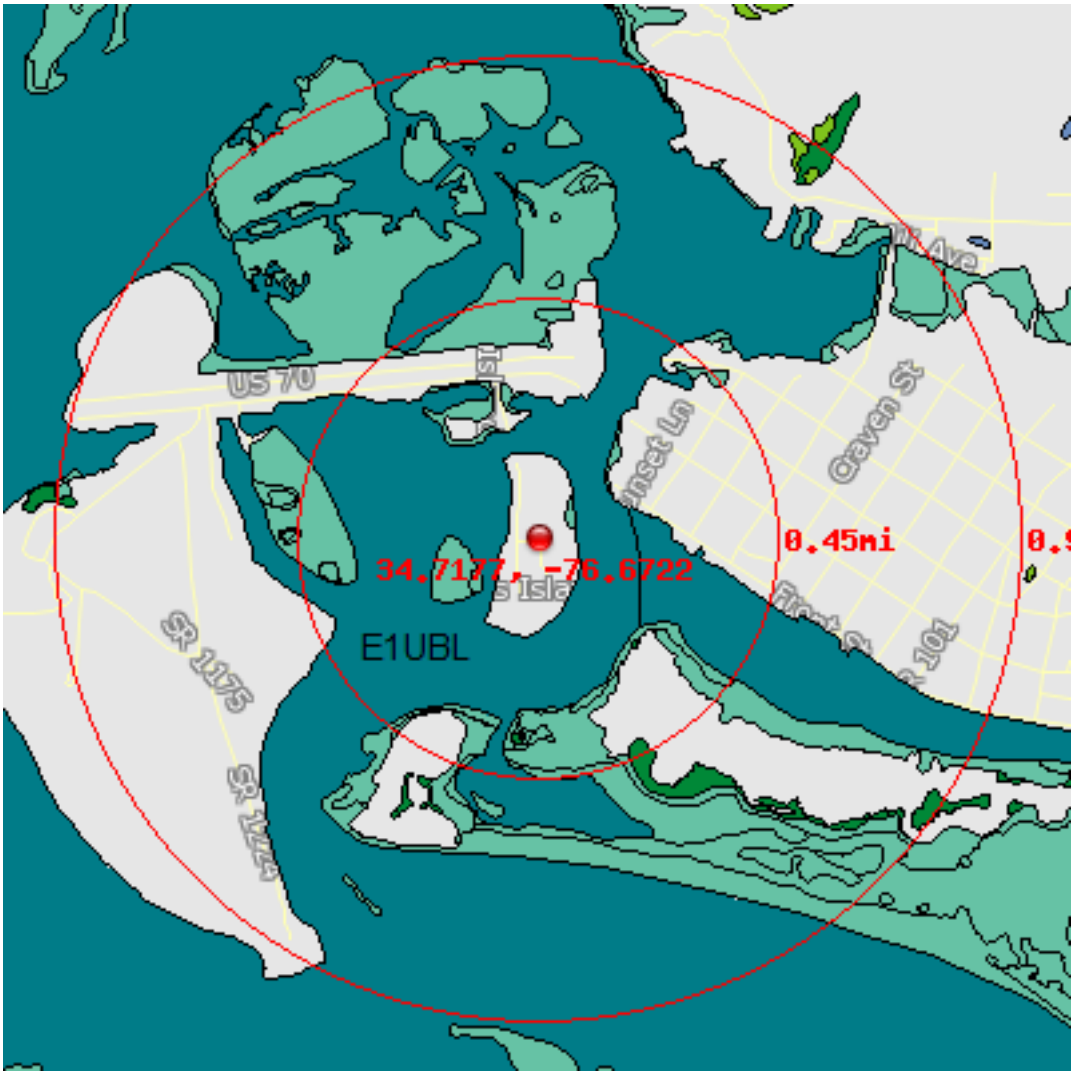
2006

Flood Hazard Zones Map



- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area with Reduced Risk Due to Levee

National Wetlands Map



This database returned 47 results for your area.

The National Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. The National Wetlands (NWI) was established by the US Fish and Wildlife Service (FWS) to conduct a nationwide inventory of U.S. wetlands to provide biologists and others with information on the distribution and type of wetlands to aid in conservation efforts. To do this, the NWI developed a wetland classification system (Cowardin et al. 1979) that is now the official FWS wetland classification system and the Federal standard for wetland classification (adopted by the Federal Geographic Data Committee on July 29, 1996: 61 Federal Register 39465).

National Priorities List (NPL)

This database returned no results for your area.

The Superfund Program, administered under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) is an EPA Program to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. The NPL (National Priorities List) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the EPA in determining which sites warrant further investigation. The boundaries of an NPL site are not tied to the boundaries of the property on which a facility is located. The release may be contained with a single property's boundaries or may extend across property boundaries onto other properties. The boundaries can, and often do change as further information on the extent and degree of contamination is obtained.

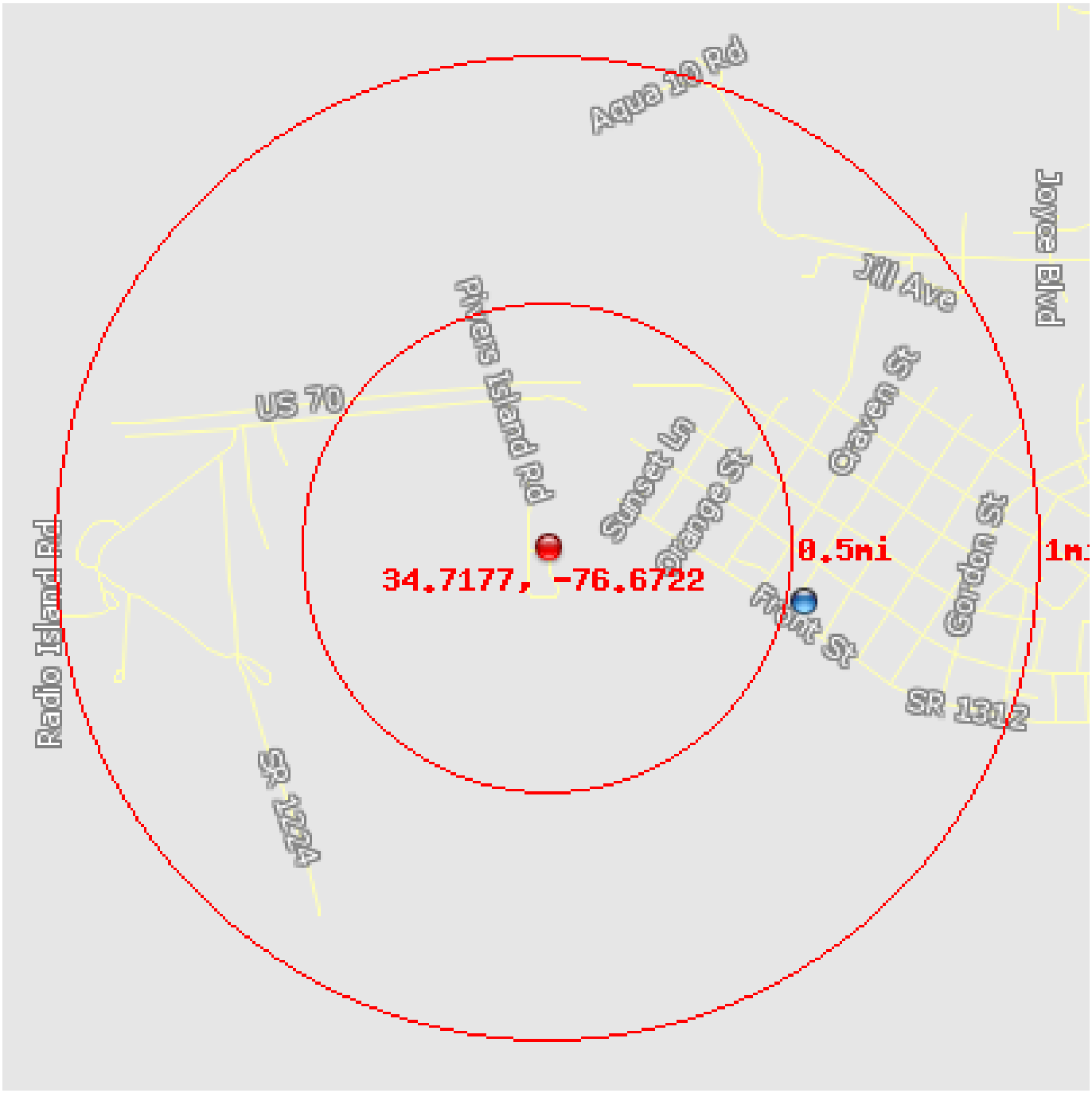
CERCLIS List

This database returned no results for your area.

The United States Environmental Protection Agency (EPA) investigates known or suspected uncontrolled or abandoned hazardous substance facilities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). EPA maintains a comprehensive list of these facilities in a database known as the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). These sites have either been investigated or are currently under investigation by the EPA for release or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation and ultimately placed on the National Priority List (NPL).

CERCLIS sites designated as "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an intitial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund Action or NPL consideration.

CERCLIS NFRAP



This database returned 1 results for your area.

As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" NFRAP have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the site being placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration.
EPA has removed these NFRAP sites from CERCLIS to lift unintended barriers to the redevelopment of these properties. This policy change is part of EPA"s Brownfields Redevelopment Program to help cities, states, private investors and affected citizens promote economic redevelopment of unproductive urban sites.

CERCLIS NFRAP

Location	34.71569, -76.66346
Distance to site	2723 ft / 0.52 mi E
Site ID	NCSFN0407074
City	BEAUFORT
SPL	Yes
Name	NC MARITIME MUSEUM
Activity	Use Restrictions No
County	CARTERET
Address	310 FRONT ST
Date added to NFRAP	2002

RCRA CORRACTS Facilities

This database returned no results for your area.

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA maintains the Corrective Action Report (CORRACTS) database of Resource Conservation and Recovery Act (RCRA) facilities that are undergoing "corrective action." A "corrective action order" is issued pursuant to RCRA Section 3008(h) when there has been a release of hazardous waste or constituents into the environment from a RCRA facility. Corrective actions may be required beyond the facility"s boundary and can be required regardless of when the release occurred, even if it predated RCRA.

RCRA non-CORRACTS TSD Facilities

This database returned no results for your area.

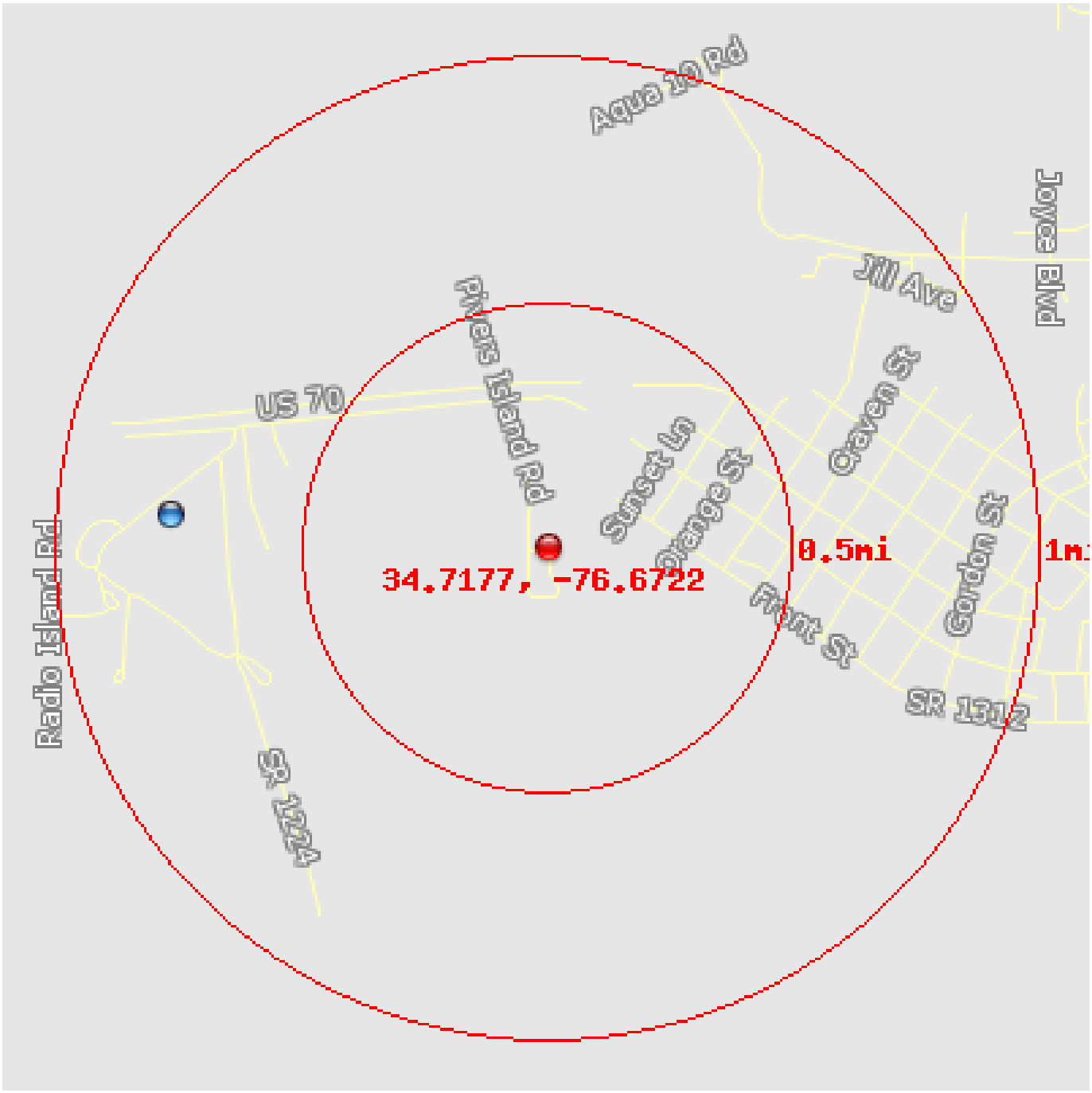
The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). The EPA"s RCRA Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilites database is a compilation by the EPA of facilities that report generation, storage, transportation, treatment, or disposal of hazardous waste. RCRA Permitted Treatment, Storage, Disposal Facilities (RCRA-TSD) are facilities which treat, store and/or dispose of hazardous waste.

Federal Institutional Control / Engineering Control Registry

This database returned no results for your area.

Federal Institutional Control / Engineering Control Registry

Emergency Response Notification System (ERNS)



This database returned 1 results for your area.

The Emergency Response Notification System (ERNS) is a national computer database used to store information on unauthorized releases of oil and hazardous substances. The program is a cooperative effort of the Environmental Protection Agency, the Department of Transportation Research and Special Program Administration"s John Volpe National Transportation System Center and the National Response Center. There are primarily five Federal statutes that require release reporting: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) section 103; the Superfund Amendments and Reauthorization Act(SARA) Title III Section 304; the Clean Water Act of 1972(CWA) section 311(b)(3); and the Hazardous Material Transportation Act of 1974(HMTA section 1808(b).

Emergency Response Notification System (ERNS)

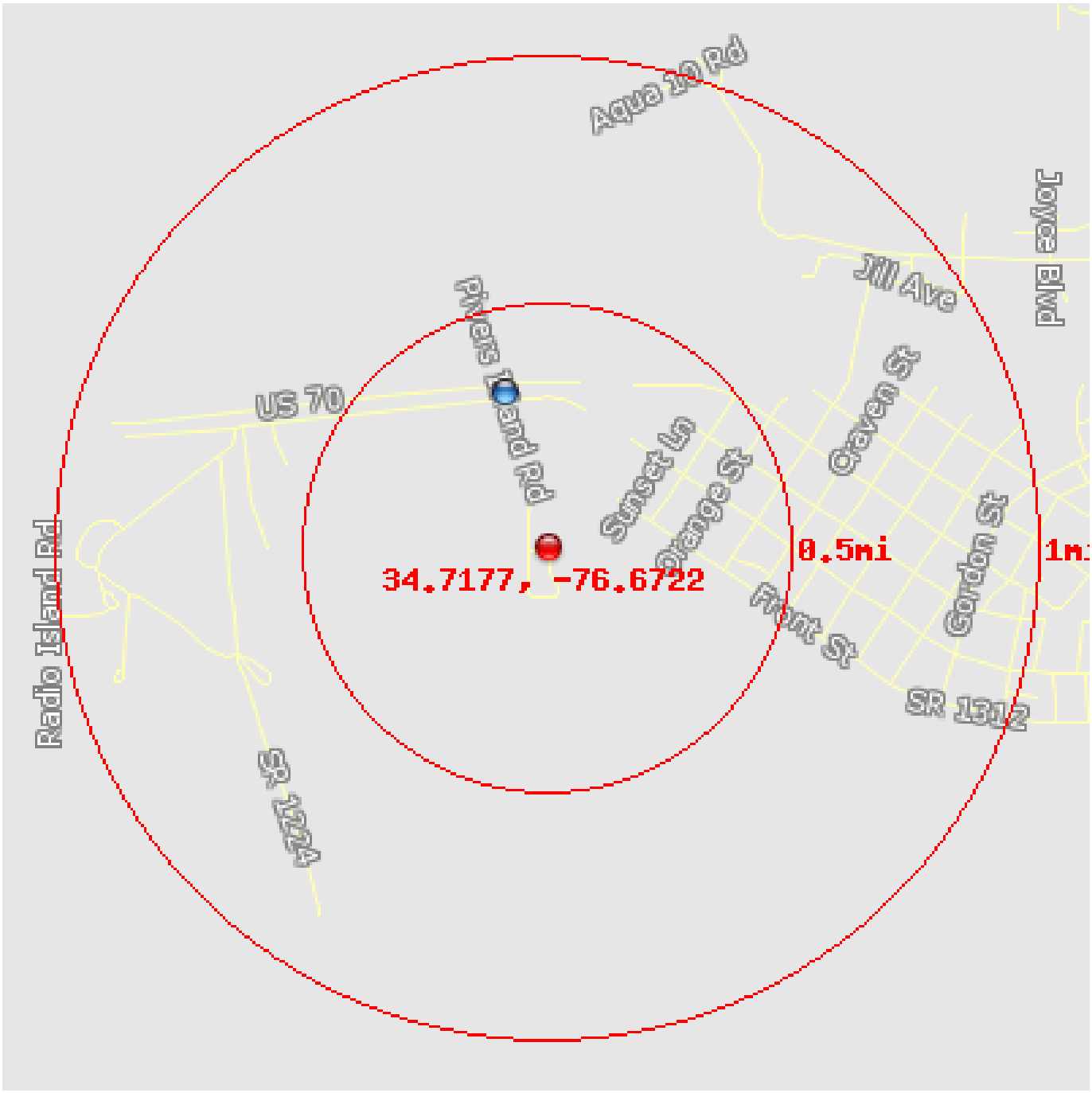
Location	34.71861, -76.68555
Distance to site	4019 ft / 0.76 mi W
Incident	ATON BATTERY / NEWPORT MARSHES LIGHT 38 / CAUSE UNKNOWN
Incident Date	7/13/1995 15:40
Year Reported	1995
Address	NEWPORT MARSH
City	MOOREHEAD
State	NC
County	CARTERET

US Toxic Release Inventory

This database returned no results for your area.

The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and other waste management activities reported annually by certain covered industry groups as well as federal facilities. TRI reporters for all reporting years are provided in the file.

US RCRA Generators (CESQG, SQG, LQG)



This database returned 1 results for your area.

The United States Environmental Protection Agency (EPA) regulates hazardous waste under the Resource Conservation and Recovery Act (RCRA). EPA maintains a database of facilities, which generate hazardous waste or treat, store, and/or dispose of hazardous wastes.

Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste, or 1 kilogram or less per month of acutely hazardous waste.

Small Quantity Generators (SQG) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Large Quantity Generators (LQG) generate 1,000 kilograms per month or more of hazardous waste, or more than 1 kilogram per month of acutely hazardous waste.

US RCRA Generators (CESQG, SQG, LQG)

Location	34.72215, -76.67367
Distance to site	1682 ft / 0.32 mi N
Info URL	*http://iaspub.epa.gov/enviro/fii_query_detail.disp_program_facility?p_registry_id=110006368260*
EPA Identifier	110006368260
Primary Name	US NOAA NMFS BEAUFORT LABORATORY
Address	101 PIVERS ISLAND ROAD
City	BEAUFORT
County	CARTERET
State	NC
Zipcode	28516-9701
Programs	NPDES, PCS, RCRAINFO
Program Interests	CESQG, ICIS-NPDES NON-MAJOR, NPDES NON-MAJOR
Updated On	01-MAR-13
Recorded On	01-MAR-00

US ACRES (Brownfields)

This database returned no results for your area.

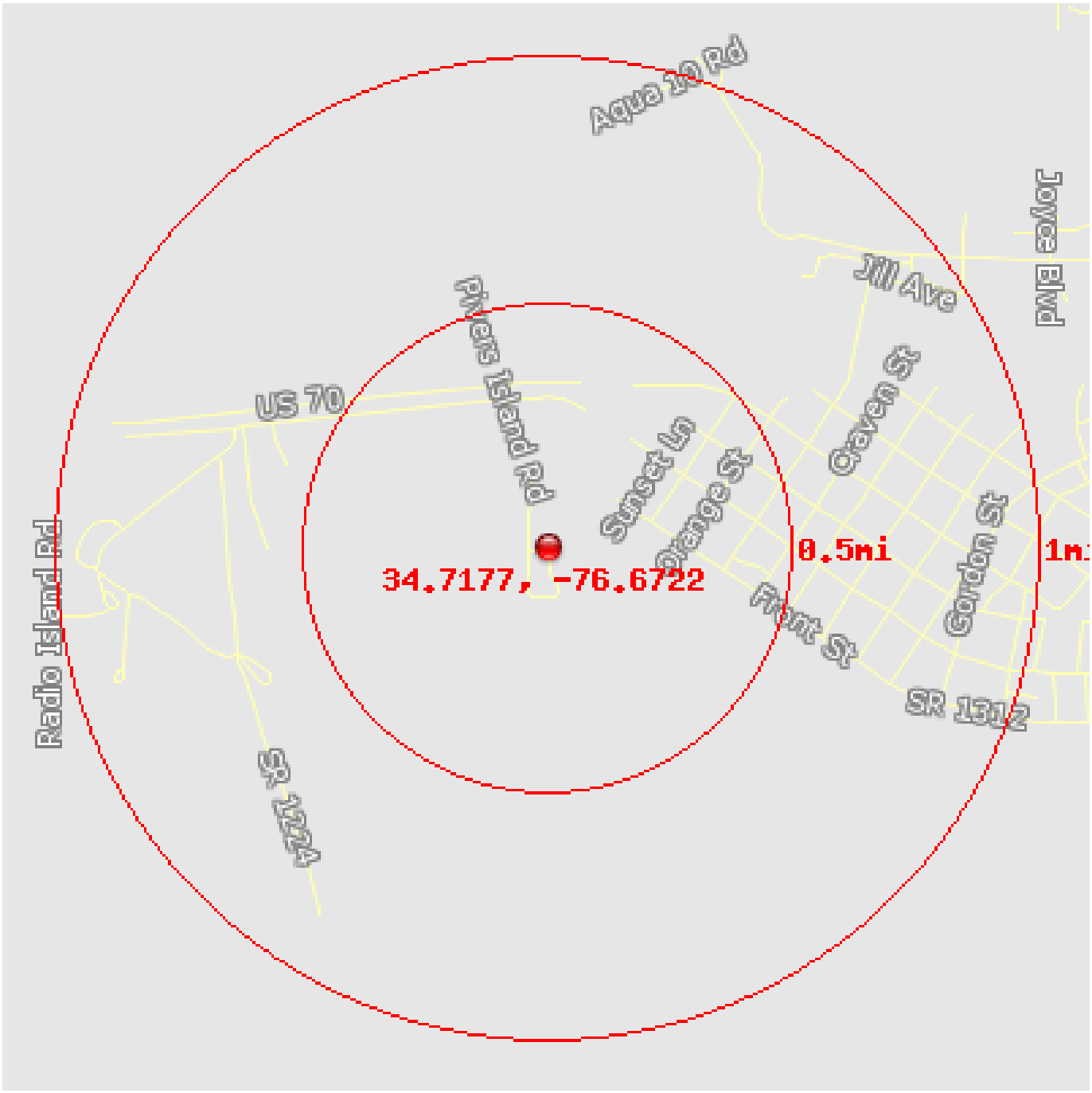
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. The Assessment, Cleanup and Redevelopment Exchange System (ACRES) is an online database for Brownfields Grantees to electronically submit data directly to The United States Environmental Protection Agency (EPA)

US NPDES

This database returned no results for your area.

The NPDES module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

NC Underground Storage Tanks



This database returned 71 results for your area.

Underground Storage Tanks (UST) containing hazardous or petroleum substances are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). North Carolina Department of Environmental and Natural Resources (NCDENR), Underground Storage Tanks Section maintains a list of registered USTs.

NC Underground Storage Tanks

Location	34.71459, -76.67955
Distance to site	2479 ft / 0.47 mi SW
Facility ID	0-036218
Facility Name	OLDE TOWNE YACHT CLUB
Address	100 OLDE TOWNE YACHT CLUB DR
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	OLDE TOWNE YACHT CLUB INC
Tank Capacity	6000
Tank Installed	1/4/2000 0:00:00
Tank Status	C

Location	34.71459, -76.67955
Distance to site	2479 ft / 0.47 mi SW
Facility ID	0-036218
Facility Name	OLDE TOWNE YACHT CLUB
Address	100 OLDE TOWNE YACHT CLUB DR
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	OLDE TOWNE YACHT CLUB INC
Tank Capacity	4000
Tank Installed	1/4/2000 0:00:00
Tank Status	C

Location	34.72214, -76.6655
Distance to site	2581 ft / 0.49 mi NE
Facility ID	0-021377
Facility Name	FOX HARBOUR STORES 17
Address	100 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	FOX HARBOUR STORES. INC.
Tank Capacity	4000
Tank Installed	2/13/1985 0:00:00
Tank Status	C

NC Underground Storage Tanks

Location	34.72214, -76.6655
Distance to site	2581 ft / 0.49 mi NE
Facility ID	0-021377
Facility Name	FOX HARBOUR STORES 17
Address	100 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	FOX HARBOUR STORES. INC.
Tank Capacity	4000
Tank Installed	2/13/1985 0:00:00
Tank Status	C

Location	34.72214, -76.6655
Distance to site	2581 ft / 0.49 mi NE
Facility ID	0-021377
Facility Name	FOX HARBOUR STORES 17
Address	100 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	FOX HARBOUR STORES. INC.
Tank Capacity	4000
Tank Installed	2/13/1985 0:00:00
Tank Status	C

Location	34.72214, -76.6655
Distance to site	2581 ft / 0.49 mi NE
Facility ID	0-021377
Facility Name	FOX HARBOUR STORES 17
Address	100 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	FOX HARBOUR STORES. INC.
Tank Capacity	4000
Tank Installed	2/13/1985 0:00:00
Tank Status	C

NC Underground Storage Tanks

Location	34.7221, -76.66542
Distance to site	2591 ft / 0.49 mi NE
Facility ID	0-011123
Facility Name	HANDY HOUSE 1
Address	115 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	J.M. DAVIS IND. INC.
Tank Capacity	4000
Tank Installed	5/3/1979 0:00:00
Tank Closed	11/14/2007 0:00:00
Tank Status	P

Location	34.7221, -76.66542
Distance to site	2591 ft / 0.49 mi NE
Facility ID	0-011123
Facility Name	HANDY HOUSE 1
Address	115 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	J.M. DAVIS IND. INC.
Tank Capacity	4000
Tank Installed	5/3/1979 0:00:00
Tank Closed	11/14/2007 0:00:00
Tank Status	P

Location	34.7221, -76.66542
Distance to site	2591 ft / 0.49 mi NE
Facility ID	0-011123
Facility Name	HANDY HOUSE 1
Address	115 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	J.M. DAVIS IND. INC.
Tank Capacity	4000
Tank Installed	5/3/1979 0:00:00
Tank Closed	11/16/2007 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.7221, -76.66542
Distance to site	2591 ft / 0.49 mi NE
Facility ID	0-011123
Facility Name	HANDY HOUSE 1
Address	115 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	J.M. DAVIS IND. INC.
Tank Capacity	4000
Tank Installed	5/3/1979 0:00:00
Tank Closed	11/16/2007 0:00:00
Tank Status	P

Location	34.7221, -76.66542
Distance to site	2591 ft / 0.49 mi NE
Facility ID	0-011123
Facility Name	HANDY HOUSE 1
Address	115 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	J.M. DAVIS IND. INC.
Tank Capacity	4000
Tank Installed	5/3/1979 0:00:00
Tank Closed	11/14/2007 0:00:00
Tank Status	P

Location	34.7221, -76.66542
Distance to site	2591 ft / 0.49 mi NE
Facility ID	0-011123
Facility Name	HANDY HOUSE 1
Address	115 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	J.M. DAVIS IND. INC.
Tank Capacity	4000
Tank Installed	1/1/1964 0:00:00
Tank Closed	11/16/2007 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.7221, -76.66542
Distance to site	2591 ft / 0.49 mi NE
Facility ID	0-011123
Facility Name	HANDY HOUSE 1
Address	115 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	J.M. DAVIS IND. INC.
Tank Capacity	4000
Tank Installed	5/3/1979 0:00:00
Tank Closed	6/7/1998 0:00:00
Tank Status	P

Location	34.71959, -76.66386
Distance to site	2597 ft / 0.49 mi E
Facility ID	0-035009
Facility Name	CARTERET COUNTY JAIL
Address	415 BROAD ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	COUTY OF CARTERET-FIN DEPT
Tank Capacity	6000
Tank Installed	10/22/1992 0:00:00
Tank Status	C

Location	34.71959, -76.66386
Distance to site	2597 ft / 0.49 mi E
Facility ID	0-035009
Facility Name	CARTERET COUNTY JAIL
Address	415 BROAD ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	COUTY OF CARTERET-FIN DEPT
Tank Capacity	10000
Tank Installed	10/22/1992 0:00:00
Tank Status	C

NC Underground Storage Tanks

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	1000
Tank Installed	4/5/1971 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	2000
Tank Installed	2/5/1976 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	550
Tank Installed	5/5/1966 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	1000
Tank Installed	4/5/1971 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	3000
Tank Installed	5/30/1988 0:00:00
Tank Status	C

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	4000
Tank Installed	5/30/1988 0:00:00
Tank Status	C

NC Underground Storage Tanks

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	3000
Tank Installed	5/30/1988 0:00:00
Tank Status	C

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	10000
Tank Installed	1/3/1994 0:00:00
Tank Status	C

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	2000
Tank Installed	5/5/1964 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	2000
Tank Installed	5/5/1964 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	2000
Tank Installed	3/5/1974 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	2000
Tank Installed	5/5/1964 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	4000
Tank Installed	5/30/1988 0:00:00
Tank Status	C

Location	34.71566, -76.66341
Distance to site	2741 ft / 0.52 mi E
Facility ID	0-007205
Facility Name	BEAUFORT GULF DOCK
Address	330 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GEER OIL CO INC
Tank Capacity	2000
Tank Installed	5/5/1964 0:00:00
Tank Closed	5/30/1988 0:00:00
Tank Status	P

Location	34.72139, -76.66404
Distance to site	2794 ft / 0.53 mi NE
Facility ID	0-007497
Facility Name	WESLEY'S GROCERY
Address	317 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOM POTTER OIL COMPANY. INC.
Tank Capacity	1000
Tank Installed	4/5/1971 0:00:00
Tank Closed	6/15/1989 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.72139, -76.66404
Distance to site	2794 ft / 0.53 mi NE
Facility ID	0-007497
Facility Name	WESLEY'S GROCERY
Address	317 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOM POTTER OIL COMPANY. INC.
Tank Capacity	1000
Tank Installed	4/5/1971 0:00:00
Tank Closed	6/15/1989 0:00:00
Tank Status	P

Location	34.72139, -76.66404
Distance to site	2794 ft / 0.53 mi NE
Facility ID	0-007497
Facility Name	WESLEY'S GROCERY
Address	317 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOM POTTER OIL COMPANY. INC.
Tank Capacity	550
Tank Installed	1/5/1983 0:00:00
Tank Closed	6/15/1989 0:00:00
Tank Status	P

Location	34.72139, -76.66404
Distance to site	2794 ft / 0.53 mi NE
Facility ID	0-007497
Facility Name	WESLEY'S GROCERY
Address	317 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOM POTTER OIL COMPANY. INC.
Tank Capacity	1000
Tank Installed	4/5/1971 0:00:00
Tank Closed	6/15/1989 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	6000
Tank Installed	9/22/1986 0:00:00
Tank Closed	12/15/1998 0:00:00
Tank Status	P

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	6000
Tank Installed	9/22/1986 0:00:00
Tank Closed	12/15/1998 0:00:00
Tank Status	P

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Tank Installed	1/28/1971 0:00:00
Tank Closed	1/6/1989 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Tank Installed	1/28/1971 0:00:00
Tank Closed	1/6/1989 0:00:00
Tank Status	P

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Tank Installed	1/25/1982 0:00:00
Tank Closed	1/6/1989 0:00:00
Tank Status	P

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Comments	FILLED/SAND
Tank Installed	1/25/1982 0:00:00
Tank Closed	1/12/1987 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Comments	FILLED/SAND
Tank Installed	1/27/1976 0:00:00
Tank Closed	1/6/1989 0:00:00
Tank Status	P

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Tank Installed	1/25/1982 0:00:00
Tank Closed	12/15/1998 0:00:00
Tank Status	P

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Tank Installed	1/28/1987 0:00:00
Tank Closed	12/15/1998 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.72134, -76.66396
Distance to site	2806 ft / 0.53 mi NE
Facility ID	0-007552
Facility Name	GANT OIL COMPANY NO. 27
Address	323 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	GANT OIL COMPANY
Tank Capacity	4000
Tank Installed	1/27/1976 0:00:00
Tank Closed	12/15/1998 0:00:00
Tank Status	P

Location	34.7151, -76.66242
Distance to site	3083 ft / 0.58 mi E
Facility ID	0-004825
Facility Name	U.S. POSTAL SERVICE
Address	701 FRONT STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	U.S. POSTAL SERVICE
Tank Capacity	2000
Tank Installed	4/20/1966 0:00:00
Tank Closed	5/11/1998 0:00:00
Tank Status	P

Location	34.71805, -76.65805
Distance to site	4247 ft / 0.8 mi E
Facility ID	0-001085
Facility Name	FRESH WAY STORE
Address	813 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	JOHN A TEEL/ S. JONES
Tank Capacity	4000
Tank Installed	4/28/1974 0:00:00
Tank Closed	10/9/1993 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71805, -76.65805
Distance to site	4247 ft / 0.8 mi E
Facility ID	0-001085
Facility Name	FRESH WAY STORE
Address	813 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	JOHN A TEEL/ S. JONES
Tank Capacity	4000
Tank Installed	4/28/1974 0:00:00
Tank Closed	10/9/1993 0:00:00
Tank Status	P

Location	34.71805, -76.65805
Distance to site	4247 ft / 0.8 mi E
Facility ID	0-001085
Facility Name	FRESH WAY STORE
Address	813 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	JOHN A TEEL/ S. JONES
Tank Capacity	4000
Tank Installed	4/28/1974 0:00:00
Tank Closed	10/9/1993 0:00:00
Tank Status	P

Location	34.71805, -76.65805
Distance to site	4247 ft / 0.8 mi E
Facility ID	0-001085
Facility Name	FRESH WAY STORE
Address	813 CEDAR ST
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	JOHN A TEEL/ S. JONES
Tank Capacity	4000
Tank Installed	4/28/1974 0:00:00
Tank Closed	10/9/1993 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	1000
Tank Installed	2/14/1983 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	4000
Tank Installed	2/14/1983 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	4000
Tank Installed	2/14/1983 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	3000
Tank Installed	1/1/1964 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	3000
Tank Installed	1/1/1964 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	2000
Tank Installed	2/14/1981 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	3000
Tank Installed	1/1/1964 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-025121
Facility Name	AMOCO FOOD SHOP #1
Address	817 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	WHEATLY OIL CO INC
Tank Capacity	4000
Tank Installed	2/14/1983 0:00:00
Tank Closed	5/19/2006 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-022742
Facility Name	LUCY. INC.
Address	816 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	LUCY. INC
Tank Capacity	3000
Tank Installed	2/28/1984 0:00:00
Tank Closed	2/28/2007 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-022742
Facility Name	LUCY. INC.
Address	816 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	LUCY. INC
Tank Capacity	4000
Tank Installed	2/28/1984 0:00:00
Tank Closed	2/27/2007 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-022742
Facility Name	LUCY. INC.
Address	816 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	LUCY. INC
Tank Capacity	3000
Tank Installed	1/3/1976 0:00:00
Tank Closed	2/27/2007 0:00:00
Tank Status	P

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-022742
Facility Name	LUCY. INC.
Address	816 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	LUCY. INC
Tank Capacity	3000
Tank Installed	1/3/1976 0:00:00
Tank Closed	2/28/2007 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71802, -76.658
Distance to site	4263 ft / 0.81 mi E
Facility ID	0-022742
Facility Name	LUCY. INC.
Address	816 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	LUCY. INC
Tank Capacity	4000
Tank Installed	1/1/1964 0:00:00
Tank Closed	2/28/2007 0:00:00
Tank Status	P

Location	34.71736, -76.65678
Distance to site	4627 ft / 0.88 mi E
Facility ID	0-004706
Facility Name	TOWN OF BEAUFORT
Address	900 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOWN OF BEAUFORT
Tank Capacity	550
Tank Installed	4/13/1971 0:00:00
Tank Closed	1/12/1988 0:00:00
Tank Status	P

Location	34.71736, -76.65678
Distance to site	4627 ft / 0.88 mi E
Facility ID	0-004706
Facility Name	TOWN OF BEAUFORT
Address	900 CEDAR STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOWN OF BEAUFORT
Tank Capacity	1000
Tank Installed	11/4/1979 0:00:00
Tank Closed	1/12/1988 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71677, -76.65571
Distance to site	4959 ft / 0.94 mi E
Facility ID	0-035237
Facility Name	TOWN OF BEAUFORT GARAGE
Address	412 HEDRICK STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOWN OF BEAUFORT
Tank Capacity	5000
Tank Installed	4/20/1988 0:00:00
Tank Closed	10/20/1998 0:00:00
Tank Status	P

Location	34.71677, -76.65571
Distance to site	4959 ft / 0.94 mi E
Facility ID	0-035237
Facility Name	TOWN OF BEAUFORT GARAGE
Address	412 HEDRICK STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOWN OF BEAUFORT
Tank Capacity	5000
Tank Installed	4/20/1988 0:00:00
Tank Closed	10/20/1998 0:00:00
Tank Status	P

Location	34.71677, -76.65571
Distance to site	4959 ft / 0.94 mi E
Facility ID	0-035237
Facility Name	TOWN OF BEAUFORT GARAGE
Address	412 HEDRICK STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOWN OF BEAUFORT
Tank Capacity	5000
Tank Installed	4/20/1988 0:00:00
Tank Closed	10/20/1998 0:00:00
Tank Status	P

NC Underground Storage Tanks

Location	34.71677, -76.65571
Distance to site	4959 ft / 0.94 mi E
Facility ID	0-035237
Facility Name	TOWN OF BEAUFORT GARAGE
Address	412 HEDRICK STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOWN OF BEAUFORT
Tank Capacity	5000
Tank Installed	4/20/1988 0:00:00
Tank Closed	10/20/1998 0:00:00
Tank Status	P

Location	34.71801, -76.65484
Distance to site	5210 ft / 0.99 mi E
Facility ID	0-004705
Facility Name	TOWN OF BEAUFORT
Address	504 HEDRICK STREET
City	BEAUFORT
Zip Code	28516
County	CARTERET
Owner	TOWN OF BEAUFORT
Tank Capacity	550
Tank Installed	4/15/1961 0:00:00
Tank Closed	1/12/1988 0:00:00
Tank Status	P

NC Landfills

This database returned no results for your area.

The North Carolina State Energy Office in the Department of Administration supported the NC Center for Geographic Information and Analysis to develop a point layer of landfill locations in North Carolina, based on the inventory prepeared by the US EPA Landfill Methane Outreach Program. This set of Landfill Methane Outreach Program (LMOP) Landfill Sites represent sites with methane gas generation potential. Methane gas is a byproduct of solid waste decomposition in landfills. The file identifies landfills in North Carolina from the LMOP Landfill Project, verfied using information provided by the Division of Waste Management, NC Department of Environment and Natural Resources.

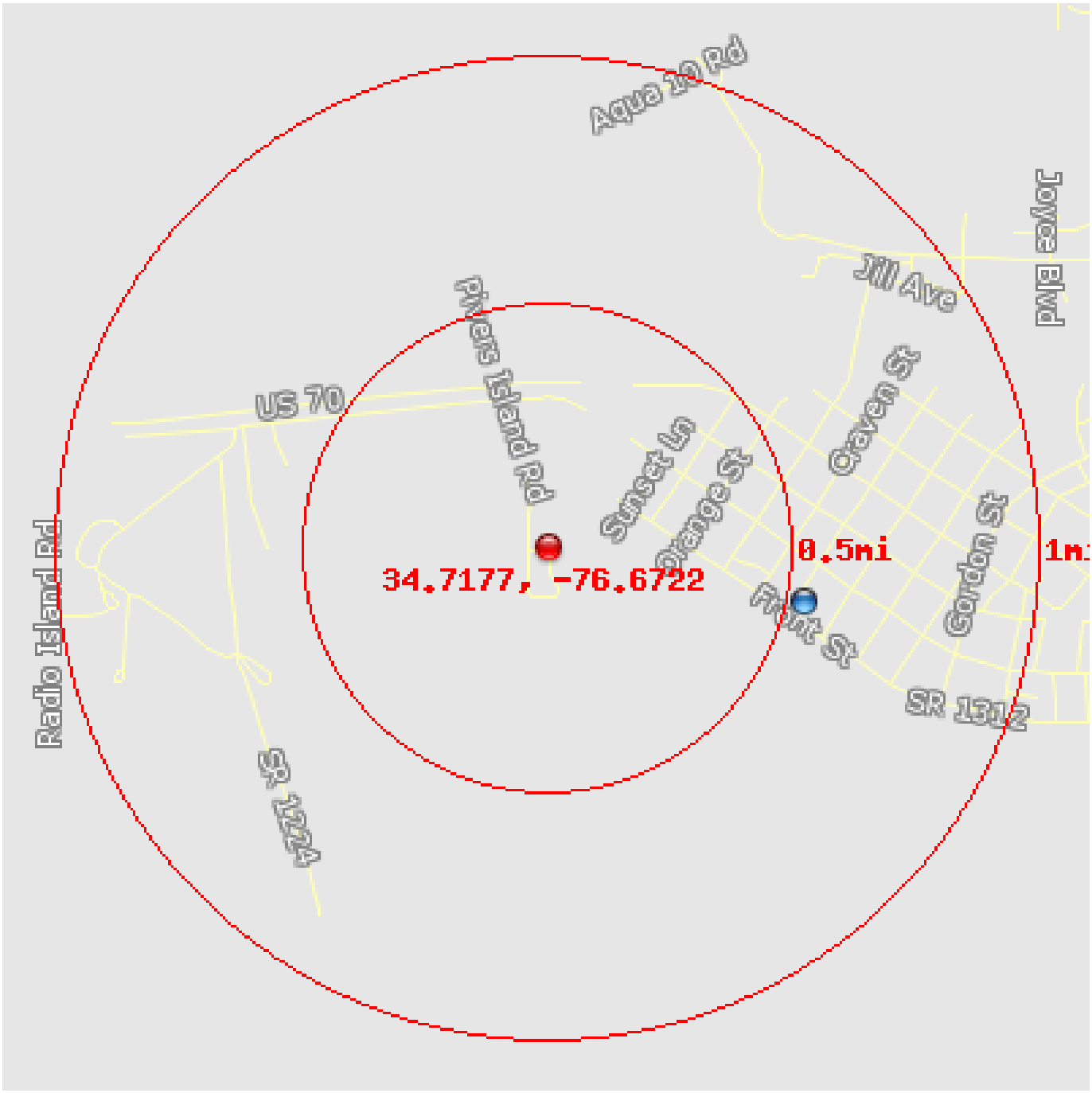
NC Dry-Cleaning Solvent Cleanup Act Program

This database returned no results for your area.

There are an estimated 2,000 active and abandoned dry-cleaning sites in North Carolina. As many as 1,500 of these sites may be contaminated with solvents used in the dry-cleaning process. In 1997, the North Carolina General Assembly passed a law to address this problem. The Dry-Cleaning Solvent Cleanup Act (DSCA) established a fund to help dry cleaners and property owners investigate and clean up contaminated dry-cleaning sites. The fund is supported by taxes collected on dry-cleaning services and solvents. DSCA also authorized the creation of rules called Minimum Management Practices (MMPs) that active dry-cleaning facilities must comply with in order to prevent environmental contamination.

The DSCA Program consists of two units: Compliance and Remediation.The Remediation Unit oversees the cleanup of contaminated dry-cleaning sites under a voluntary agreement between the program and the potentially responsible party (the dry cleaner and/or property owner). Most of the costs for cleanup are paid by the DSCA Fund. The Compliance Unit inspects active dry-cleaning plants and enforces the MMPs and other environmental regulations.

NC Inactive Hazardous Waste Facilities



This database returned 1 results for your area.

The Inactive Hazardous Sites Branch, within the Superfund Section of the Division of Waste Managment, is responsible for oversight and approval of the assessment and remediation of all historical, and any recent accidental releases of hazardous substances and pollutants with the exceptions outlined below. The Branch oversees remedial actions, conducts any necessary enforcement of assessment and remediation at sites deemed to be a priority, and conducts the work itself at orphaned sites when state resources are available for such.

Exceptions (the agency having jurisdiction is noted):

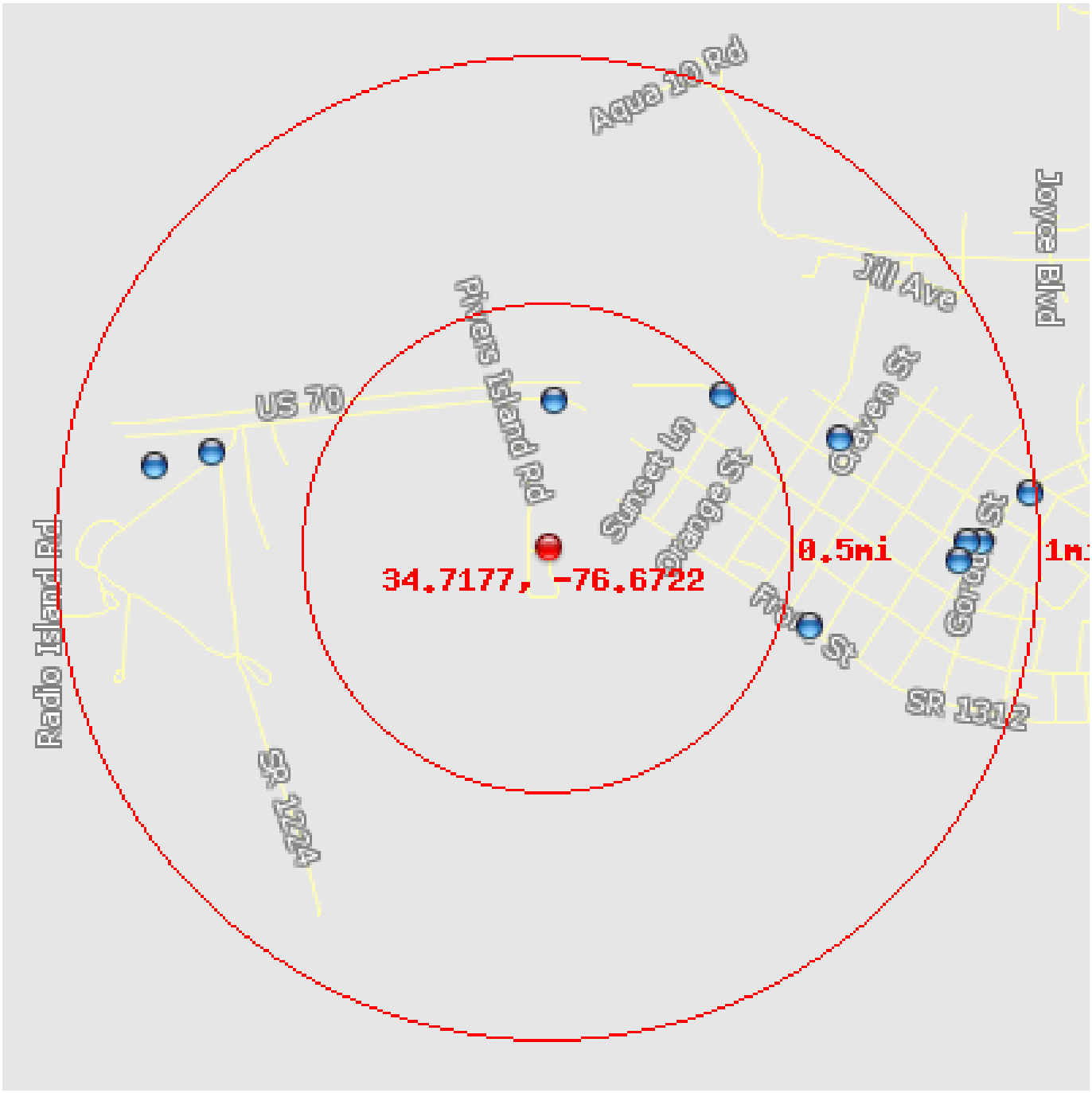
Contamination resulting from permitted activities or those that should have been permitted, intentional illegal discharges, and accidental discharges the result of willful neglect of regulations – The particular permitting agency having jurisdiction
Hazardous waste spills (was a hazardous waste and not a product before the discharge) – DWM Hazardous Waste Section
RCRA permitted sites - DWM Hazardous Waste Section
Currently or formerly (closed after 1982) permitted solid waste landfills - DWM Solid Waste Section
Petroleum spills – DWM Underground Storage Tank Section
Federal Superfund cleanup of National Priorities List sites and NPL-caliber sites under special agreements with the US EPA – DWM Superfund Section's Federal Remediation Branch
Federal Superfund emergency response cleanup – DWM Superfund Section's Site Evaluation and Removal Branch
Remedial action of dry cleaner sites (voluntary participants) – DWM Superfund Section's Special Remediation Branch
Manufactured gas plant sites participating in state initiative – DWM Superfund Section's Special Remediation Branch
Naturally occurring contamination – DWQ Aquifer Protection Section
Contamination due to agricultural operations – DWQ Aquifer Protection Section
Pollutant contamination in drinking water wells due to faulty construction – DWQ Aquifer Protection Section

Note that often people are confused by the name of the Branch and the Act. "Inactive Hazardous Sites" by definition are any areas where a hazardous substance release has come to be located and would include active and inactive facilities and a variety of property types. The term "inactive" refers to the fact that cleanup was inactive at large numbers of sites at the time of program enactment.

NC Inactive Hazardous Waste Facilities

Location	34.71569, -76.66346
Distance to site	2723 ft / 0.52 mi E
Site ID	NCSFN0407074
City	BEAUFORT
SPL	Yes
Name	NC MARITIME MUSEUM
Acitivity Use Restrictions	No
County	CARTERET
Address	310 FRONT ST
Voluntary	No

NC Leaking Underground Storage Tanks



This database returned 10 results for your area.

The North Carolina Department of Environment and Natural Resources (NCDENR), Division of Waste Management maintains a listing of leaking underground storage tanks in their Incident Management Database.

NC Leaking Underground Storage Tanks

Location	34.72194, -76.67194
Distance to site	1550 ft / 0.29 mi N
Incident Number	32080
UST Number	WI-2338
Incident Name	DUKE MARINE LAB
Address	135 DUKE MARINE LAB RD
City/Town	BEAUFORT
County	CARTE
Zip Code	28516
Date Occurred	UNKNOWN
Date Reported	8/20/1991
Cleanup	11/26/1991
Current Status	C

Location	34.7221, -76.66593
Distance to site	2473 ft / 0.47 mi NE
Incident Number	23329
UST Number	WI-2056
Incident Name	FOX HARBOUR #17
Facility ID	0-021377
Address	100 CEDAR STREET
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-1842
Date Occurred	5/22/2001
Representative/Company	FOX HARBOUR INC.
Date Reported	6/25/2001
Land Use	RES
Cleanup	4/2/2002
Current Status	C

NC Leaking Underground Storage Tanks

Location	34.7153, -76.6628
Distance to site	2952 ft / 0.56 mi E
Incident Number	19308
UST Number	WI-1635
Incident Name	BEAUFORT MAIN POST OFFICE
Facility ID	NA
Address	701 FRONT STREET
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-
Date Occurred	11/5/1998
Representative/Company	UNITED STATES POSTAL SERVICE
Date Reported	11/24/1998
Land Use	IND
Current Status	A

Location	34.7208, -76.6617
Distance to site	3348 ft / 0.63 mi E
Incident Number	6151
UST Number	WI-881
Incident Name	GANT OIL CO. NO. 27
Facility ID	0-007552
Address	323 CEDAR ST.
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-
Date Occurred	12/6/1989
Representative/Company	GANT OIL COMPANY
Date Reported	12/15/1989
Current Status	A

NC Leaking Underground Storage Tanks

Location	34.72044, -76.68415
Distance to site	3721 ft / 0.7 mi W
Incident Number	11524
UST Number	WI-1105
Incident Name	RADIO ISLAND MARINA
Facility ID	0-032924
Address	156 radio island road
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-
Date Occurred	12/21/1993
Representative/Company	RADIO ISLAND MARINA
Date Reported	1/19/1994
Current Status	C

Location	34.72, -76.68611
Distance to site	4255 ft / 0.81 mi W
Incident Number	12178
UST Number	WI-1161
Incident Name	MOREHEAD SPORTS MARINA INC.
Facility ID	0-004317
Address	INLET DR.
City/Town	MOREHEAD CITY
State	NC
County	CARTE
Zip Code	28557-
Date Occurred	5/4/1992
Representative/Company	MOREHEAD SPORTS MARINA
Date Reported	5/4/1992
Land Use	RES
Current Status	A

NC Leaking Underground Storage Tanks

Location	34.71722, -76.6575
Distance to site	4413 ft / 0.84 mi E
Incident Number	22096
UST Number	WI-1867
Incident Name	LUCY INC.
Facility ID	0-022742
Address	816 CEDAR ST.
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-
Date Occurred	4/5/2000
Representative/Company	LUCY INC.
Date Reported	7/14/2000
Land Use	RES
Current Status	C

Location	34.71774, -76.65714
Distance to site	4518 ft / 0.86 mi E
Incident Number	22095
UST Number	WI-1866
Incident Name	AMOCO FOOD SHOP #1
Facility ID	0-025121
Address	817 CEDAR STREET
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-1907
Date Occurred	12/30/1999
Representative/Company	WHEATLY OIL COMPANY INC.
Date Reported	12/30/1999
Current Status	C

NC Leaking Underground Storage Tanks

Location	34.7178, -76.6567
Distance to site	4650 ft / 0.88 mi E
Incident Number	20364
UST Number	WI-1726
Incident Name	TOWN OF BEAUFORT-TOWN GARAGE
Facility ID	0-035237
Address	412 HEDRICK ST.
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-
Date Occurred	10/20/1998
Representative/Company	TOWN OF BEAUFORT
Date Reported	12/3/1998
Current Status	C

Location	34.7192, -76.655
Distance to site	5189 ft / 0.98 mi E
Incident Number	15462
UST Number	WI-1329
Incident Name	CARTERET COUNTY PUBLIC WORKS
Facility ID	0-004939
Address	HEDRICK ST.
City/Town	BEAUFORT
State	NC
County	CARTE
Zip Code	28516-
Date Occurred	1/26/1996
Representative/Company	CARTERET COUNTY PUBLIC WORKS
Date Reported	3/6/1996
Current Status	A

FINDING OF NO SIGNIFICANT IMPACT FOR THE PROPOSED UTILITY INFRASTRUCTURE AND SEAWALL REPAIR PROJECT

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) NATIONAL OCEAN SERVICE (NOS) CENTER FOR COASTAL FISHERIES HABITAT RESEARCH (CCFHR), PIVERS ISLAND, BEAUFORT, NORTH CAROLINA

1.0 Purpose and Need

Pivers Island is located in the Town of Beaufort, Carteret County, North Carolina. The 25-acre island is shared jointly by the National Oceanic and Atmospheric Administration's (NOAA) National Ocean Service (NOS) Center for Coastal Fisheries Habitat Research (CCFHR) and the Duke University Marine Laboratory.

The CCFHR campus is located on the northern half of Pivers Island and is approximately 11 acres in size. The CCFHR campus is home to two components of NOAA, the NOS and the National Marine Fisheries Service (NMFS). The NOAA CCFHR Beaufort laboratory is administered by NOS, and NMFS occupies office and laboratory space on the campus. Offices for the North Carolina National Estuarine Research Reserve program are also located on the CCFHR campus.

A Master Plan was developed for the CCFHR in 2009, which proposed to eliminate multiple small buildings on the campus and consolidate their functions into two larger future buildings, the Ecological and Analytical Laboratory and new Wet (Aquacultures) Laboratory. The Master Plan also proposed a utility infrastructure project and repair of an existing seawall. Based on the 2009 Master Plan, the CCFHR has proposed a utility infrastructure project (the Project) to construct underground electrical service and telecommunications utility infrastructure (underground utility conduit) within the CCFHR campus and repair approximately 800 linear feet of an existing seawall.

Pivers Island is vulnerable to severe weather hazards and has sustained major damage from high winds and flooding from 15 different hurricanes since 1933. The purpose of the Project is to provide a more secure electrical and telecommunications network for the CCFHR campus, particularly during storm events that have the potential to bring down overhead utilities and during electrical outages caused by avian impacts with the overhead utility lines. In addition, a section of an existing seawall that was damaged during Hurricane Sandy in 2012 will be repaired. The repaired seawall will protect the western edge of Pivers Island from being undermined and damaged further by storm events. The Project is proposed as part of the 2009 Master Plan for the CCFHR which will modernize the campus and bring it up to NOAA standards by constructing new facilities.

2.0 Proposed Action

The proposed action involves the installation of new, underground utility conduits in three segments on the CCFHR campus along with an underground telecommunications conduit for future

networking upgrades. Approximately 800 feet of seawall on the western edge of Pivers Island would also be repaired.

3.0 Alternatives Considered

The alternatives considered include the preferred alternative, no-action alternative, and one alternative that was considered and rejected.

3.1 PREFERRED ALTERNATIVE

The preferred alternative includes the following components: electrical, future information technology (IT)/telecommunications infrastructure, and seawall repair.

The electrical component of the preferred alternative includes the installation of an underground electrical service in three segments on the CCFHR campus. The north electrical segment runs approximately 380 linear feet from near the northern access bridge in the northwest corner of Pivers Island. The center segment is approximately 420 linear feet long and generally runs east-west in the center of the CCFHR campus. The south segment is approximately 238 linear feet in length and connects the Administration Building to the southern portion of the property. All three segments of the underground electrical service together total approximately 1,038 linear feet. Once the new buried services are installed, the existing overhead power lines and transformers will be removed and the utilities will be cut over to the new services. Other activities that will support the electrical component of the preferred alternative include installing new light poles; removal of selected backup generators and existing underground storage tanks, installation of an above ground fuel tank, and demolition and replacement of concrete pads.

The future IT/telecommunications infrastructure component of the preferred alternative includes the installation of two new 4 inch empty conduits which run approximately 240 feet and parallel to the south segment of the new buried electrical service. The future installation of IT/telecommunications infrastructure will provide upgraded connectivity to buildings in the northern part of the CCFHR campus.

The seawall repair component of the preferred alternative involves the repair of an existing seawall from the northern access bridge approximately 800 linear feet south to the Duke University property boundary on the western edge of Pivers Island. A vinyl sheet piling with fill design is the proposed solution for the seawall repair. Vinyl sheet piling will be installed as close as possible to the existing seawall. Plans are to place the new seawall sheet pilings entirely water-side of the existing seawall (which is to remain in place) with interstitial space medium placed in between the old and new seawall to prevent further erosion or structural integrity concerns. A five-foot concrete cap or maintenance free vinyl top cap walk-way system with a no-slip texture surface will be constructed over both seawalls as if one seawall existed. This installation will be environmentally friendly and a non-invasive waterside solution which will avoid and minimize impacts to waters of the U.S.

The preferred alternative will meet the needs of the proposed Project. The upgraded electric and IT/telecommunications utility infrastructure will meet NOAA standards, provide better service, improve reliability, and by going underground it will reduce vulnerability to service outages and problems associated with severe storms. Additionally, an ecological benefit of moving the conduit underground will be to remove the threat of avian, particularly gulls, roosting on and colliding with overhead power lines. The western seawall repair will not only repair the undermining damage from Hurricane Sandy, it will provide better reinforcement and strength to withstand force winds and wave action from future severe storms.

3.2 NO-ACTION ALTERNATIVE

The no-action alternative assumes that the proposed utility infrastructure and seawall repair project would not occur. The no-action alternative would result in continuing electrical power outages from storms and avian collisions with overhead power lines. The no-action alternative provides outdated IT/telecommunications infrastructure with reduced speed and lower reliability than the Project's preferred alternative. The no-action alternative would allow continued undermining of the seawall which results in more erosion and sink holes on Pivers Island and a greater potential for flooding. The no-action alternative would not prevent potential avian fatalities caused by collisions with the existing overhead power lines.

3.3 ALTERNATIVE CONSIDERED AND REJECTED

Another alternative was considered and rejected in the early stages of project development. It included installation of underground electrical and IT/telecommunications conduit in a "utility ring" configuration to connect all of the buildings on the CCFHR campus. This alternative was ruled out because the single power feed to the island made the completion of a "utility ring" unnecessary. The cost of this alternative was also prohibitive. Additionally, a subsurface investigation has yet to reveal the amount and location of existing underground conduits; therefore, it was difficult to determine suitable locations for the alternative underground route.

4.0 Environmental Impacts and Mitigation Measures

NOAA prepared an Environmental Assessment (EA) in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 U.S.C. 4321 et seq.) regulations of the Council on Environmental Quality (CEQ) as coded in Parts 1500-1508 of the Code of Federal Regulations (40 CFR Parts 1500-1508) and NOAA Administrative Order 216-6 *Environmental Review Procedures for Implementing the NEPA.*

Based on an evaluation of the proposed action's effect on the human environment and mitigation measures proposed in the EA, it was determined that no significant impacts would result. The EA analyzed the following resources.

- Land Use
- Geological and Soil Resources
- Hydrological Resources
- Air Quality
- Water Resources
- Recreational Resources
- Historic and Cultural Resources
- Flora and Fauna
- Wetlands
- Floodplains
- Coastal Zone Management
- Farmlands
- Noise
- Transportation
- Utilities and Solid Waste
- Viewshed
- Hazardous Materials
- Socioeconomics
- Cumulative Impacts

A summary of anticipated impacts for each resource as a result of construction of the preferred alternative and no-action alternative is presented below.

Land Use. After construction of the preferred alternative, the current land use, zoned Transitional District (coded TR) by the Town of Beaufort, will remain the same. Given this, the preferred alternative will have no impact on land use on Pivers Island or the immediate vicinity; therefore, no mitigation is proposed.

The no-action alternative will have no direct impact on land use.

Geological and Soil Resources. Construction of the preferred alternative should not initiate any direct or indirect geologic hazard such as subsidence, landslide scarps or fault movement that would affect geologic resources. Based on this information, the preferred alternative is not expected to affect the geological resources; therefore, no mitigation is proposed. The no-action alternative will have no direct impact on geological resources.

Soil will be disturbed as a result of the installation of the underground utility conduit; however, these impacts are expected to be temporary and minor. Best management practices (BMPs) such as silt fence, hay bales and seeding will be used to stabilize any disturbed soil or soil stockpiles to prevent entry into the nearby waterways. Once construction is completed and the utility conduit is operational, no disturbance to soils will occur. Use of BMPs is anticipated to adequately mitigate the temporary impacts to soil resources.

The no-action alternative will have no direct impact on soil resources.

Hydrological Resources. Because the new electrical conduit system will be installed underground, hydrological resources could potentially be affected by the preferred alternative. In order to mitigate these impacts, the underground electrical lines will be installed in a conduit that is constructed from polyvinylchloride (PVC) material that is not susceptible to leeching or salt corrosion; therefore impacts to hydrological resources are expected be temporary in nature and should only occur during construction.

The no-action alternative will have no direct impact on hydrological resources.

Air Quality. Construction of the preferred alternative has the potential to impact air quality due to a temporary increase in airborne particulate matter and dust during excavation for the underground electric and IT/telecommunications conduit and demolition of concrete pads. There will also be additional temporary air emissions from workers' vehicles, heavy construction equipment (dump truck, backhoe, and cement truck), the small barge utilized for the sheet pile installation, and fuel exhaust from the emergency backup generators. All impacts should be intermittent, temporary, and minimized through use of BMPs such as staggering the construction sequence to reduce the amount of exposed soil, spraying roads with water to reduce dust and airborne particulates, and operating and maintaining equipment in accordance with manufacturer's specifications. Air emissions from the preferred alternative are not expected to exceed de minimus amounts. Impacts to air quality would be intermittent and temporary during construction and operations. Use of BMPs is anticipated to minimize and adequately mitigate the temporary impacts to air quality.

The no-action alternative will have no direct impact on air quality.

Water Resources. There are no surface waters on Pivers Island; therefore, no surface waters will be impacted by the preferred alternative. The preferred alternative will cause minimal and mostly temporary impacts on water resources that surround Pivers Island. The repair of the seawall on the western edge of Pivers Island will have minor temporary and permanent impacts on Bulkhead Channel and temporary impacts to Beaufort Channel which surrounds the island. Temporary impacts would result from construction, and permanent impacts would be due to the installation of the sheet piling in front of the existing seawall. A storm water management plan was prepared for the CCFHR campus that includes the implementation of BMPs that minimize environmental impacts to estuarine waters surrounding the island and minimize the flow of contaminants from the CCFHR campus to the surrounding channels during normal operation. During construction, the preferred alternative will comply with all required soil erosion sediment controls and stormwater management for potential temporary impacts to surface water quality including contaminants.

The no-action alternative will have no direct impact on water resources.

Recreational Resources. Construction of the preferred alternative is anticipated to cause limited, short-term impacts to recreational resources on Pivers Island during the construction phase. Pivers Island Road and bicycle paths on the island may have temporary detours or be reduced in width during the excavation and installation of new underground electrical and telecommunication conduits, demolition and pouring of concrete pads, removal of old/installation of new power lines and light poles, and repair of the seawall. The preferred alternative will have no effect on recreational resources outside the immediate vicinity. During operations, after construction is completed, the preferred alternative will have no negative impacts on recreational resources. There will be a beneficial visual effect during the operational phase for sight-seeing and nature viewing due to the removal of overhead power lines. Because impacts to recreational resources would be limited and short-term during construction and there will be no negative impacts during operations, no mitigation is proposed.

The no-action alternative will have no direct impact on recreational resources.

Historic and Cultural Resources. There will be no direct impacts to historic, cultural or Native American resources as a result of construction of the preferred alternative. Further, visible conditions or viewsheds of historic properties or designated historic districts will not be affected because installation of the utility conduit will occur underground. The existing seawall will be repaired along the western shore of Pivers Island. Any potential visual impacts will be temporary in nature and due to construction activities only. Because there are no potential impacts to historic, cultural or Native American resources as a result of construction of the preferred alternative, no mitigation is proposed.

The no-action alternative will have no impact on historic, cultural, or Native American resources.

Flora and Fauna. The flora community located on the CCFHR campus is typical of a developed area including maintained open spaces and landscaped gardens. Construction of the preferred alternative will result in impacts to open space grassed areas; however, this impact will be minor and temporary. As a mitigation measure, any vegetation impacted as a result of construction will either be replanted in landscaped areas or seeded in open space grassed areas. The no-action alternative will have no direct impact on flora species.

Construction of the preferred alternative may cause minor, temporary impacts to fauna (mostly avian, herpetofauna and small mammal species) resulting from temporary displacement of these species. Upon construction completion, these species are expected to return to disturbed areas. Essential fish habitat (EFH) within close proximity to the seawall repair location includes estuarine wetlands, shellfish beds (oysters), and mud bottom. The proposed PVC sheet piling will be installed no more than 1 foot from the existing seawall structure, therefore, the estuarine wetland areas on the north and south end of the seawall repair project area will not be impacted. As a result, no impacts to estuarine wetlands are anticipated and no mitigation is proposed. The shellfish beds located on the existing seawall will be adversely impacted as a result of the seawall repair which is expected to be temporary. To mitigate the impact to the oysters, individuals would be removed from the existing seawall and relocated water-ward of the PVC sheet piling. After the sheet piling has been installed, it is expected that the oysters will recolonize the new seawall. Other potential temporary impacts to the waters of Bulkhead Channel that could potentially impact EFH include sediment suspension during the PVC sheet piling installation. To reduce and minimize potential effects from sediment suspension and to mitigate for potential impacts, a turbidity barrier will be used as a BMP during construction. Additionally, to mitigate for any potential impact the small boat/barge will have on the mud bottom, the boat/small barge will only be used during higher tide events (mid-tide to high-tide back to mid-tide). The boat/small barge will not be present during low tide and other extraordinary low water events to prevent contact with the un-vegetated bottom.

Temporary impacts to fish species may occur from the presence of the boat/small barge, human activity and noise associated with installation of the sheet piling; however, these impacts

are expected to be temporary, minimal and not significant. After the sheet piling is installed, the boat/small barge will be removed, human activity and noise will cease and impacts to fish species resulting from this activity will cease. Based on the minimization of impacts, avoidance and mitigation measures proposed, it is anticipated that any potential adverse impacts to fauna species will be minimal, temporary and will not be significant.

Several federal and state listed threatened and endangered species are documented to occur on or within close proximity to Pivers Island and the CCFHR campus. The species identified through the consultation process with the North Carolina Department of Environment and Natural Resources (NCDENR) Natural Heritage Program (NHP) indicated that three species; West Indian manatee, Atlantic sturgeon and coralbean are documented to occur on or adjacent to Pivers Island. Coralbean is not located on the CCFHR campus; therefore, no impacts to this flora species are anticipated and no mitigation is proposed. The West Indian manatee and Atlantic sturgeon have potential to occur in the Bulkhead and Beaufort Channels surrounding the island; however, any individuals would occur as transients since no critical habitat for these species exists. Additionally, the activities involved with the repair of the seawall will not result in any "take" or "harassment" of the West Indian manatee under the Marine Mammal Protection Act as the construction for the seawall will occur within shallow waters where there is no habitat for the species and construction will occur in late summer/early fall when the manatee is not in North Carolina waters. As a result, the repair of the seawall may have minor temporary impacts to these two species resulting in potential displacement of transient individuals; however, upon construction completion, the area will return to preconstruction conditions. As a result, no mitigation for these species is anticipated, none was requested from the U.S. Fish and Wildlife Service (USFWS) or NMFS, and none is proposed.

The no-action alternative will have no direct impact on fauna species.

Wetlands. No wetlands were identified on the CCFHR campus or within the area of the preferred alternative activities. As a result, the preferred alternative will not have any adverse impact on wetland resources and as such, will not require permitting from the U.S. Army Corps of Engineers or NCDENR Division of Water Resources (DWR) for fill in wetlands. Because there are no potential impacts to wetland resources as a result of the preferred alternative, no mitigation is proposed.

The no-action alternative will have no direct impact on wetlands.

Floodplains. Construction of the preferred alternative will occur within the 100-year floodplain on Pivers Island; however, no adverse impacts to the floodplain would occur. The seawall repair is intended to protect the western shore from storms, flooding events and potential erosion. The utility conduit system will be located entirely underground. As a result, potential adverse impacts to the 100-year floodplain are not anticipated; therefore, no mitigation is proposed.

The no-action alternative will have no direct impact on floodplains.

Coastal Zone Management. Construction of the preferred alternative is expected to be consistent with the North Carolina Coastal Area Management Act (CAMA) standards and management

objectives. A Consistency Determination document will be prepared and submitted to the North Carolina Division of Coastal Management for review and concurrence.

The no-action alternative will have no direct impact on the Coastal Zone.

Farmlands. Construction of the preferred alternative is anticipated to have no effect on farmlands since there are no farmlands in the immediate vicinity of Pivers Island; the closest farmland is located over 4 miles away.

The no-action alternative will have no direct impact on farmlands.

Noise. The preferred alternative will cause intermittent, short-term noise impacts during construction activities. Noise sources include heavy equipment operation for excavation of the underground electric and IT/telecommunications conduit, saw cutting of pavement, demolition of concrete pads, boat engine while repairing the seawall, operation of the emergency backup generators which may run for up to 24 hours during the planned outages for power cutover to each of the conduit segments, and general noise from construction workers and their vehicles. It is estimated that less than 20 construction workers will be onsite for approximately 3 to 4 months. Noise impacts will typically occur Monday through Friday during daytime hours between 7 a.m. and 5 p.m., and should be intermittent and temporary. Noise impacts will be minimized through use of BMPs, including the operation of equipment in accordance with the manufacturer's specifications, use of standard mufflers, and ensuring noise-reducing equipment is maintained and operating properly. No noise is anticipated during operations after construction is completed, with the exception of occasional use of backup power generators during electric service interruptions. Use of BMPs is anticipated to minimize and adequately mitigate the temporary noise impacts.

The no-action alternative will have no direct impact on noise.

Transportation. Construction of the preferred alternative is anticipated to have limited, intermittent, and short-term effects to the transportation resources on and near Pivers Island during the construction phase. Traffic will temporarily increase on Pivers Island Road and the bicycle paths on the island due to the addition of construction vehicles. US Highway 70, which is already congested and near or over capacity, may also experience a limited, intermittent, and short-term effect from the increased construction traffic. The preferred alternative will have no adverse effect on railroads or airports, or transportation resources outside the immediate vicinity. After construction, the preferred alternative will have no effect on transportation resources during operations. Because impacts to transportation resources would be limited, intermittent, and short-term during construction and there will be no negative impacts during operations, no mitigation is proposed.

The no-action alternative will have no direct impact on transportation resources.

Utilities and Solid Waste. Construction of the preferred alternative will improve utility coverage on the island and will not adversely affect solid waste removal or water/wastewater systems currently in use on Pivers Island.

The no-action alternative would not directly impact utilities or solid waste handling on the CCFHR campus.

Viewshed. Construction of the preferred alternative is not expected to have a permanent adverse effect on the viewshed of Beaufort's waterfront and/or nearby resources because the utility conduit will be installed underground. Any potential visual impacts will be temporary in nature, short-term, and due to construction activities only; therefore, no mitigation is proposed.

The no-action alternative will have no direct impact on the viewshed of Beaufort's waterfront and/or nearby resources.

Hazardous Materials. Although no pre-existing concerns were identified in the EA regarding hazardous materials on the CCFHR campus, the selected contractor will be required to comply with hazardous materials use and disposal standards during construction of the preferred alternative in order to reduce the potential for a hazardous materials spill. The three underground storage tanks near the maintenance building will be removed. The tanks will be drained and all materials disposed of in a method compliant with local and state regulations. If any soil or groundwater contamination is observed during project construction, the contractor will follow all applicable federal, state and local laws for contamination removal and cleanup. In addition, appropriate BMPs will be implemented by the contractor to prevent or minimize the contamination of soils and groundwater and no hazardous materials will be used during the construction and operation of the planned improvements.

The no-action alternative would not directly generate hazardous materials at the CCFHR campus.

Socioeconomics. No significant negative socioeconomic impacts are expected during construction of the preferred alternative due to the scope and temporary nature of the work. The primary impact would arise from any direct employment and income benefits associated with the construction of the preferred alternative. It is estimated that less than 20 construction workers will be onsite for approximately 3 to 4 months. During this time, there may be a minor, but slight increase in the local economy due to the use of local hotels, restaurants, retail stores, and services. Potential adverse impacts to public service facilities, including local fire fighting, police, and medical facilities are expected to be negligible during the construction of the preferred alternative due to the temporary nature of the work and small construction crews required to execute the work. There will be no impact to these services unless they are specifically requested. During operation, the preferred alternative will not have any adverse impact on the socioeconomics of the area. Because impacts to socioeconomic resources would be minor and short-term during construction and there will be no negative impacts during operations, no mitigation is proposed.

The no-action alternative will have no direct impact on socioeconomic resources within the area.

Cumulative Impacts. Additional traffic is identified in the EA as the one potential, temporary cumulative effect to transportation resources. If construction of the preferred alternative occurs at

the same time as the planned North Carolina Department of Transportation's State Transportation Improvement Program Project #R-3077, there may be an insignificant and temporary cumulative impact to transportation resources in the vicinity. There are no other foreseeable future or recent actions which cumulatively impact this Project.

5.0 Public Involvement

NOAA issued a draft EA, entitled *Draft Environmental Assessment, NOAA NOS Center for Coastal Fisheries Habitat Research Utility Infrastructure and Seawall Rehabilitation Project Pivers Island, Beaufort, North Carolina* on February 12, 2014. NOAA accepted comments on the Draft EA from government agencies, local organizations and the public during a 30-day comment period ending on March 14, 2014. Other than federal and state agency responses, no public comments on the Draft EA were received.

6.0 Finding of No Significant Impact

The CEQ Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, NOAA Administrative Order (NAO) 216-6, Section 6.01(b) 1 – 11, provides eleven criteria, the same ten as the CEQ Regulations and one additional for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action.

1. *Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?*

   No. The EA analyzes the proposed action at a preferred site alternative and the no-action alternative. No other viable alternatives were considered. The EA describes the proposed action and environmental settings, and analyzes associated environmental consequences based on established standards and criteria. Analyses for each of the following topics and resource areas were undertaken: Land Use, Geological and Soil Resources, Hydrological Resources, Air Quality, Water Resources, Recreational Resources, Historic and Cultural Resources, Flora and Fauna, Wetlands, Floodplains, Coastal Zone Management, Farmlands, Noise, Transportation, Utilities and Solid Waste, Viewshed, Hazardous Materials, Socioeconomics, and Cumulative Impacts. The EA characterizes each environmental impact and cites mitigation measures to reduce anticipated impacts to a less-than-significant level. A summary of mitigation measures is provided within the EA and is repeated in this FONSI document.

2. *Can the proposed action reasonably be expected to significantly affect public health or safety?*

   No. Public health and safety effects are not expected to be significant. Any construction activities have the potential to adversely affect public health and safety (e.g., noise and dust) and worker health and safety (e.g., hazardous materials); however, in this case these effects are not anticipated to be significant if the mitigation measures recommended in the EA are implemented.

3. *Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?*

   No. The North Carolina Department of Cultural Resources State Historic Preservation Office (SHPO) conducted a review of the project and in a consultation response letter dated December 31, 2013 indicated that they are "aware of no historic resources which would be affected by the project." The proposed action is not in proximity to park lands, prime farmlands or wild and scenic rivers and is not expected to impact these resources. No wetlands were identified near or within the area of the proposed action.

   As evaluated in the EA and summarized in this FONSI document, there will be minor impacts to Essential Fish Habitat (EFH) including oyster beds and mud bottoms as a result of the seawall repair component of the proposed action. Based on the minimization of impacts, avoidance and mitigation measures proposed in the EA, it is anticipated that any potential adverse impact will be minimal, temporary and will not be significant.

4. *Are the proposed action's effects on the quality of the human environment likely to be highly controversial?*

   No. This EA analyzes the effects of proposed action on the human environment. A draft of this document was circulated and made available for review and comment by interested members of the public and government agencies. NOAA accepted comments on the draft during a formal 30-day public comment period beginning February 12, 2014, and ending March 14, 2014. No highly controversial topics were raised during the comment period.

5. *Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?*

   No. The anticipated effects of the proposed action on the human environment are evaluated in the EA based on conceptual plans and worst-case conditions. There is a low level of uncertainty in these anticipated effects because design details have not been finalized. However, while effects may occur, mitigation measures are recommended that would eliminate the potential for highly uncertain effects and unique or unknown risks.

6. *Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?*

   No. The proposed action consists of a stand-alone project that is limited in scope and extent. It would neither be a catalyst or precedent for other future actions by NOAA or others that would result in significant effects, nor would it influence a future action under consideration.

7. *Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?*

   No. The proposed action is not reliant upon or connected to other actions, nor is it relied upon for the occurrence of other actions. For each of the resources analyzed in the EA, the contribution of the proposed project to a cumulatively significant impact is not considerable, provided the recommended mitigation measures are implemented. Therefore, the proposed action will not result in a significant cumulative impact to the human environment.

8. *Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?*

   No. The North Carolina Department of Cultural Resources State Historic Preservation Office (SHPO) conducted a review of the project and in a consultation response letter dated December 31, 2013 indicated that they are "aware of no historic resources which would be affected by the project."

9. *Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?*

   No. In consultation with North Carolina Department of Environment and Natural Resources (NCDENR) Natural Heritage Program (NHP), three species -- West Indian manatee, Atlantic sturgeon and coralbean -- are documented to occur near or adjacent to the area of the proposed action. Coralbean is not located on the CCFHR campus; therefore, no impacts to this flora species are anticipated and no mitigation is proposed. The West Indian manatee and Atlantic sturgeon have potential to occur in the Bulkhead and Beaufort Channels surrounding the island; however, any individuals would occur as transients since no critical habitat for these species exists. The proposed action may have minor temporary impacts to the West India manatee and/or Atlantic sturgeon species resulting in potential displacement of transient individuals; however, upon construction completion, the area will return to preconstruction conditions. As a result, no mitigation for these species is anticipated, none was requested from the USFWS or NMFS, and none is proposed in the EA.

10. *Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?*

    No. The effect of the proposed action on the human environment has been analyzed relative to applicable Federal, state and local environmental laws or regulations. No regulatory violations or other significant environmental effects are expected to result provided that mitigation measures recommended in the EA are implemented.

11. *Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?*

    No. No transport, release, propagation or spread of non-indigenous species is associated with the proposed action.

7.0 Determination

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for the NOAA NOS CCHFR, it is hereby determined that the undertaking of the proposed action will not significantly impact the quality of the human environment. In addition, all beneficial and adverse impacts of the proposed action have been

addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.

Edward C. Horton
NOAA Chief Administrative Officer

5/30/2014
Date