



COUNTY OF DARE
PO Box 1000, MANTEO, NC 27954

DARE COUNTY BOARD OF COMMISSIONERS

Dare County Administration Building
954 Marshall C. Collins Dr., Manteo, NC

Monday, March 15, 2021

“HOW WILL THESE DECISIONS IMPACT OUR CHILDREN AND FAMILIES?”

AGENDA

- 5:00 PM CONVENE, PRAYER, PLEDGE OF ALLEGIANCE**
- ITEM 1** Opening Remarks - Chairman's Update
- ITEM 2** Public Comments
- ITEM 3** Broadband
- ITEM 4** Discussion of a Tax Service District for Unincorporated Dare County
Avon Beach Nourishment Project
- ITEM 5** Proclamation Establishing April 2021 as "North Carolina 811 Safe Digging Month"
- ITEM 6** Health & Human Services - Public Health Proclamation "Take Down Tobacco Day 2021"
- ITEM 7** Proposed Dare County Social Media Use Guidelines & Policy
- ITEM 8** Dare County Dredge Material Permit Project
- ITEM 9** Allis Holdings, LLC - Declaration of Conservation Easement
- ITEM 10** Award of FY2020-2021 Equipment Financing
- ITEM 11** **Consent Agenda**
- 1. Approval of Minutes
 - 2. Budget Amendment for Increased Emergency Management Performance Grant Revenue.
 - 3. Health and Human Services - Public Health Division
Additional COVID-19 Vaccine Funding
 - 4. Tax Collector's Report
 - 5. Public Works - Budget Amendment
- ITEM 12** **Board Appointments**
- 1. Rodanthe-Waves-Salvo Community Center
 - 2. Manns Harbor Marina Commission
- ITEM 13** **Commissioners' Business & Manager's/Attorney's Business**

ADJOURN UNTIL 9:00 A.M. ON APRIL 7, 2021



Opening Remarks - Chairman's Update

Description

Dare County Chairman Robert Woodard will make opening remarks.

Board Action Requested

Informational Presentation

Item Presenter

Chairman Robert Woodard, Sr.



Public Comments

Description

The Board of Commissioners encourages citizen participation and provides time on the agenda at every regularly scheduled meeting for Public Comments.

Covid-19 changes:

Public comment may be presented to the Board by sending an email during the meeting to dbcoc@darenc.com
Public comment may also be presented by preregistering with the link provided with revised notice of meetings.

Board Action Requested

Receive Public Comments

Item Presenter

Robert Outten, County Manager



Broadband

Description

Presentation by Derek Kelly of Lumen Technologies will provide information regarding the area's broadband.

Board Action Requested

None - presentation

Item Presenter

Derek Kelly, Lumen Technologies



*Discussion of a Tax Service District for Unincorporated Dare County
Avon Beach Nourishment Project*

Description

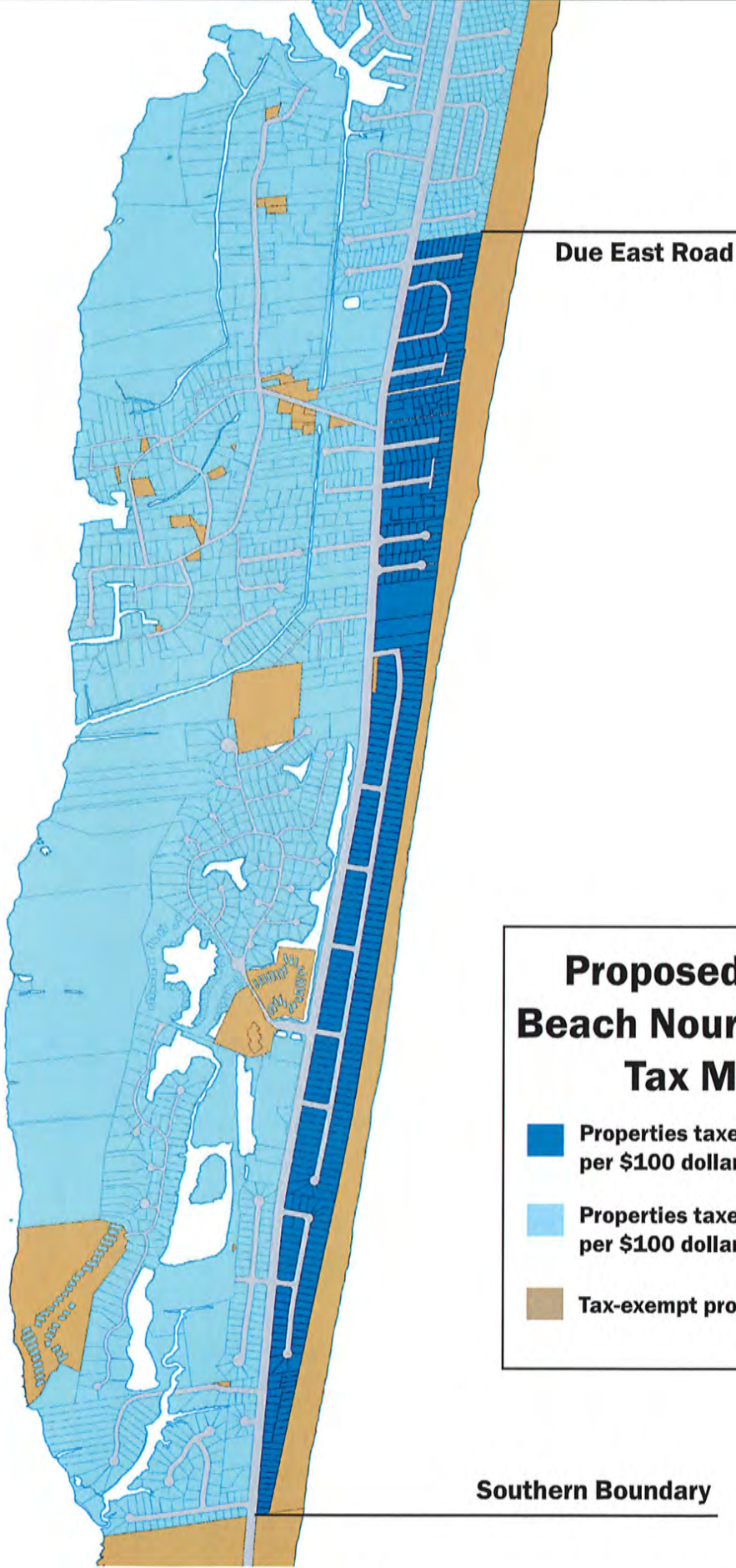
On February 24, 2021, the County Manager made a presentation outlining the need and cost of a beach nourishment plan in Avon. The proposed project and the establishment of a tax service district in Avon will be discussed by the Board.

Board Action Requested

Approve the proposed Avon Beach Nourishment Project, establish the appropriate service districts, set the service district tax rate(s) and authorize County Manager to begin the process to establish Avon Service District.




Item Presenter

Robert Outten, County Manager



Due East Road

**Proposed Avon
Beach Nourishment
Tax Map**

-  Properties taxed at 25 cents per \$100 dollars of value
-  Properties taxed at 5 cents per \$100 dollars of value
-  Tax-exempt property

Southern Boundary



Due East Road

Southern Boundary



Proclamation Establishing April 2021 as "North Carolina 811 Safe Digging Month"

Description

The North Carolina One Call System (NC811), a utility notification and education center, celebrates its 43rd year of service to the citizens of North Carolina. The system, which started in 1978, is a vital part of preventing damages and injuries when excavating.

Board Action Requested

Issue Proclamation

Item Presenter

Robert Woodard, Sr., Chairman



A PROCLAMATION

PROCLAIMING APRIL 2021 AS “NORTH CAROLINA 811 SAFE DIGGING MONTH”

WHEREAS, as utility owners, excavators, designers, and homeowners work to keep pace with North Carolina’s economic development, it is important to minimize damages to underground utility lines, danger to workers and the general public, environmental impact, and loss of utility services to the citizens of North Carolina; and

WHEREAS, North Carolina 811, a utility service notification center and leader in education celebrates its 43rd year of continuous service to the State, is key to preventing injuries and damages when excavating; and

WHEREAS, this unique service provides easy, one-call notification about construction and excavation projects that may endanger workers and jeopardize utility lines while promoting workplace and public safety, reducing underground utility damage, minimizing utility service interruptions and protecting the environment; and

WHEREAS, this vital service, which began in 1978 serves the citizens of North Carolina from the mountains to the coast, educates stakeholders about the need for excavation safety whether the project is as small as planting a tree to designing and beginning construction on a new interstate; and

WHEREAS, in 2020, the North Carolina one call system received 2.1 million notification requests and transmitted over 12.2 million requests, providing protection to utility companies infrastructure, their employees, excavators, and customers;

NOW, THEREFORE, BE IT RESOLVED, we, as the Board of Commissioners of Dare County, North Carolina designate the month of April 2021 as “North Carolina 811 Safe Digging Month” to encourage all excavators and homeowners of Dare County to contact 8-1-1 either by dialing 8-1-1 or contacting NC811 via the webpage of NC811.org at least three working days prior to digging in order to “Know What’s Below,” avoid injury, protect the environment, prevent millions of dollars in damages and to remind excavators that three working days’ notice is the law, for safe digging is no accident, and that more information may be obtained by visiting www.nc811.org.

This the 15th day of March, 2021.

SEAL

Robert Woodard, Sr., Chairman

Attest:

Cheryl C. Anby, Clerk to the Board



*Health and Human Services - Public Health
Proclamation
Take Down Tobacco Day 2021*

Description

Dare County Department of Health and Human Services has provided education, spread awareness and offered intervention links for our youth population, the use of electronic cigarettes continues to present a challenge to the health and well-being of our youth population; and Dare County has been proactive in responding to this challenge by prohibiting the use of electronic cigarettes in restaurants and bars, this primarily targets adults in our community; and Dare County needs to acknowledge the problem that we currently face with tobacco use amongst our youth and encourage our community to focus attention on e-cigarette use in young people.

Board Action Requested

Proclaim April 1, 2021 as Take Down Tobacco Day in Dare County.

Item Presenter



**A PROCLAMATION
“TAKE DOWN TOBACCO DAY”**

WHEREAS, traditional cigarette usage in teens has been on a downward trend over the past decade, smoking overall has been on an upward trend due to the emergence of a new product an electronic cigarette. These products are more commonly referred to as “e-cigarettes” and/or juuls.

WHEREAS, these products are easily accessible to the youth population, come in a variety of flavors and at an extremely low cost. The lack of a distinct smell and the inconspicuous nature of the devices make them easy to conceal. Therefore, their use often goes unnoticed; and

WHEREAS, according to information provided by the Centers for Disease Control, the number of high schoolers who are smoking actively at least once a day is on the rise and over the past two years the number of students that have developed a smoking habit has more than doubled with 9 out of 10 cigarette smokers starting the habit by the age of 18; and

WHEREAS, although our community has also seen an increase in smokers, mainly at the high school age, middle schoolers still present a cause for concern; and

WHEREAS, the Dare County Department of Health and Human Services has provided education, spread awareness and offered intervention links for our youth population, the use of electronic cigarettes continues to present a challenge to the health and well-being of our youth population; and

WHEREAS, Dare County has been proactive in responding to this challenge by prohibiting the use of electronic cigarettes in restaurants and bars, this primarily targets adults in our community; and

WHEREAS, Dare County needs to acknowledge the problem that we currently face with tobacco use amongst our youth and encourage our community to focus attention on e-cigarette use in young people.

NOW, THEREFORE, BE IT RESOLVED, that we, the Dare County Board of Commissioners, do hereby proclaim the day of April 1, 2021 as “Take Down Tobacco Day” and call upon the people of Dare County to increase their awareness and understanding of the problems we face regarding tobacco use amongst our youth.

This the 15th day of March, 2021.

SEAL

Robert Woodard, Sr., Chairman

Attest:

Cheryl C. Anby, Clerk to the Board



Proposed Dare County Social Media Use Guidelines & Policy

Description

The county first adopted a social media policy in 2012. Since that time, there has been only one update to the policy to add language to satisfy HIPAA requirements for the Health and Human Services accreditation process. Much as changed in the last nine years with regards to communications and the reliance upon social media to share information. The proposed update is in keeping with the Institute of Government's recommended best practices and condenses the policy from nine pages to four. In addition, it establishes two general Dare County social media accounts (Facebook and Instagram) what will allow more county departments to share information.

Board Action Requested

Approval of updated policy.

Item Presenter

Dorothy Hester, Master Public Information Officer

Proposed Dare County Social Media Use Guidelines & Policy Presented to Dare County Board of Commissioners on March 15, 2021

SUMMARY

Dare County uses social media as a secondary platform to communicate with the public. This document provides guidelines and policies for social media use by departments and employees of Dare County.

PURPOSE

Social media is to be used to serve three primary purposes:

- Disseminate emergency information quickly
- Promote county-sponsored events, activities, services and other news
- Refer audiences to content available online at darenc.com—the county’s primary internet presence and communication platform

GUIDELINES

- All official Dare County social media accounts are considered an extension of the county’s information networks and are governed by the Electronic Communications Policy contained in the Dare County Personnel Manual.
- Departments that use social media are responsible for complying with applicable federal, state, and county laws, regulations, and policies. This includes adherence to established laws and policies regarding copyright, records retention, the Freedom of Information Act (FOIA), the First Amendment, privacy laws, and information security policies established by Dare County.
- Dare County uses the ArchiveSocial tool to capture and make accessible social media posts and communications as subject to the North Carolina Public Records Laws, and e-discovery laws and policies.
- Employees and agents (defined as students, volunteers or anyone acting with knowledge obtained by working in proximity to patients) must pay particular attention to the regulations regarding Protected Health Information (PHI) as defined by the Health Insurance Portability and Accountability Act of 2003 (“HIPAA”) and comply with the letter of this law at all times. Employees and agents using social media must not disclose any information that is defined as PHI. This includes: demographic information, any reference to physical or mental health, or elements thereof, provision of or payment for healthcare or identifiable health information of any kind, even in cases when the individual is not identified by name.

Representing Dare County

- Employees using social media to communicate on behalf of Dare County should be mindful that statements made are on behalf of the county government as a whole; therefore, employees should use the utmost discretion before posting or commenting. All

social media communication will be monitored by the Public Relations department, and improper use of social media may result in disciplinary action or removal from a page.

- County employees must not knowingly communicate inaccurate or false information. All reasonable efforts should be made by the county employee or county department to provide only verifiable facts (not unverifiable opinions).
- Only official county employees may have access to be an editor or administrator on a social media page. The Department of Public Relations will oversee the addition or removal of administrators and editors.

Content

Publishing Guidelines

- Content publishing on approved social media sites must stay within their defined scope, area of expertise, and provide unique perspectives on their divisions' / department's programs and services.
- Posts should be factual and meaningful.
- When possible, content posted to Dare County social media outlets will also be available on the county's website, and the post should always include the applicable link.
 - Outside website links should be from reputable and accurate sources.
- If sharing or re-sharing content from other pages, the content should be related to departmental county-related activities, or official local, state and federal government.
- Departments should not post content related to social commentary.
- Release forms are required for all images on Dare County social media sites containing recognizable persons or property and are required to remain on file with the administrator of the social media site. All content and images must be original work and property of Dare County. For any content that does not meet these requirements, a release must remain on file.
- The Department of Public Relations will monitor for content compliance on all social media pages and reserves the right to edit a post.

Monitoring & Comment Guidelines

- Users and visitors to social media sites shall be notified that the intended purpose of the site is to serve as a mechanism for presenting matters of public interest from the County. It is not intended for service requests.
- Social media accounts are not monitored 24/7. Accounts will be managed Monday-Friday from 8:30 a.m. to 5 p.m., unless a crisis or emergency event is underway during which staff may monitor during off-hours. For emergencies, members of the public should call 911. Dare County disclaims any and all responsibility or liability for any materials that the County deems inappropriate for posting which cannot be removed in an expeditious and otherwise timely manner.
- Members of the public who post/comment on Dare County posts are disclosed as public records under the state's open records law.

- Please note that the comments expressed on this site do not reflect the opinions and position of Dare County government or its officers and employees.
- Any of the following forms of content shall not be allowed, and Dare County reserves the right to remove or hide the posts that contain:
 - Profane language or vulgar content;
 - Content that promotes, fosters, or perpetuates discrimination on the basis of race, ethnicity, national origin, age, marital status, religion, gender, status with regard to public assistance, physical or mental disability or sexual orientation;
 - Conduct or encouragement of illegal activity;
 - Information that may tend to compromise public safety;
 - Malicious deception and deliberate spreading of false information that causes harm;
 - Personally identifiable information (such as medical information);
 - Promote particular services, products, or political organizations;
 - Spam or include links to other sites.
- These guidelines must be displayed or made available by hyperlink to users on the “Info” or “About” sections of social media pages.

Personal Use

- Access to any social media profiles or networks unrelated to official county business on county equipment and/or time is prohibited. Only staff members officially designated as social media administrators may monitor and manage social media while at work.
- Dare County recognizes that its employees may use social media on a personal basis outside of their professional activities. While an employee’s use and comments made on social media sites are subject to First Amendment protections, as well as permissible restrictions, any personal use made of social media sites outside of work must not be attributable to the department or the employee’s job function at the department.
 - Employees should remember that they may be perceived by the public as representing Dare County even when acting in an unofficial capacity on personal sites.
 - If employees identify as a Dare County employee when conducting personal social media or online activities, they are advised to make it clear that the opinions expressed are their own and do not represent Dare County’s official position. Remember the standard of behavior expected of public servants even when participating as a private citizen, and even whether or not you specify that you work for the county on your profile, your employment is public record.
- Employees should never use their county email account or passwords as login information in conjunction with any personal social media profiles or sites.
- Do not display the Dare County seal or other official County logos, emblems, or patches as part of a uniform or county vehicle on personal social networking accounts.

Establishing an Account

- All new social media pages or tools must be proposed to the Public Relations Department and approved by the County Manager. The Department of Public Relations and Department of Information Technology will maintain a list of social media tools that are approved for official use by county departments and staff.
 - The current list of social media accounts includes Facebook, Twitter, YouTube, Instagram, and FLICKR.
 - Facebook:
 - Dare County Government Page (To be established)
 - Health & Human Services Page
 - Baum Center Page
 - Dare County Center Page
 - Parks & Rec Pages - Roanoke Island/Mainland, Northern Beach Division and Fessenden Center
 - Dare County Libraries
 - Dare County Airport (Recommend incorporating into general Dare County Government page)
 - Current TV
 - Dare County Sheriff's Office
 - Twitter:
 - Dare County Government
 - Dare County Emergency Management
 - Dare County Sheriff
 - YouTube:
 - Dare County
 - Current TV
 - Instagram:
 - Dare County Government (To be established)
 - Current TV
- To maintain a consistent brand and voice for the county, the Department of Public Relations will create and be the primary administrator for all official Dare County social profiles.
- All existing and newly established profiles must link back to the county website, and if possible, the department URL.



Dare County Dredge Material Permit Project

Description

In February 2020, the Dare County BOC approved two contracts with Coastal Protection Engineering to address the dredge material placement issues in Dare County, Oregon Inlet/Manteo Shallowbag Bay and Hatteras. The intent of the project was to look at the short term and long term needs for dredge material placement in Dare County and to prepare the County for placement of material during a Corps of Engineers pipeline contract in FY2022. This is an overview of the study with recommended options for CPE to permit.

Board Action Requested

Request to approve recommendation made by Coastal Protection Engineering.

Item Presenter

Ken Wilson, Coastal Protection Engineering

**DRAFT: CHANNEL MAINTENANCE AND DREDGE
MATERIAL MANAGEMENT REPORT
DARE COUNTY, NORTH CAROLINA**

**PREPARED FOR
DARE COUNTY**

**PREPARED BY
COASTAL PROTECTION ENGINEERING OF NORTH CAROLINA,
INC.
ENGINEERING LICENSE CERTIFICATE #: C-2331**



ADAM T. PRIEST, PE NO. 048852

DATE

March 2021

EXECUTIVE SUMMARY

Dare County maintenance dredging has been conducted for decades to maintain safe and dependable navigation within federal and non-federal channels and boat basins. While some of the material is dredged using US Army Corps of Engineers (USACE) dredge plants such as the sidecast dredge *Merritt* and special purpose dredges *Currituck* and *Murden*, much of the material dredged from the navigation channels is disposed on confined and unconfined disposal islands. Many of these existing disposal facilities have reached or are nearing capacity. In 2017, the USACE formally requested from Dare County additional capacity for federal navigation channel maintenance projects for which Dare County is the local non-federal sponsor.

Dare County is also coping with rising sea level, an increase in flooding events, continued impacts from coastal storms, and ever-present development pressures. State and federal agencies, Non-Governmental Organizations (NGO's) and Dare County are formulating tools and plans to reduce flood risk and adapt to sea level rise. Dare County acknowledges the need to identify vulnerabilities, reduce risk by enhancing coastal resilience, and enhance natural habitats while simultaneously addressing coastal navigation projects.

Given the need for additional dredge capacity, Dare County initiated efforts to identify options for increasing dredge disposal capacity, focusing on options that enhance coastal resilience, and beneficially use dredged sediments. This Channel Maintenance and Dredge Material Management Report describes a multi-phased effort that includes a needs assessment, development of dredge material management conceptual alternatives, screening of the alternatives, and the development of a series of recommendations focused on developing future capacity for dredge material that prioritizes coastal resilience and beneficial use of dredged sediment.

Needs Assessment: A needs assessment was conducted to determine the frequency of dredging, volume of dredging and types of sediment dredged from the evaluated channels, using historic data provided by the US Army Corps of Engineers (USACE) and others. The needs assessment resulted in several products including an online GIS, maintenance statistics for each of the channels included in the study, and sediment characteristics for material dredged from channels where sufficient data existed. The online GIS was developed to integrate historic sediment data, environmental data and bathymetric data for the project channels, and facilitated display and analysis of historic dredge records. Maintenance statistics generated for channels include the average frequency of maintenance events, the average volume removed per maintenance event, and the estimated 20-year needs.

Concept Alternatives: Following the completion of the needs assessment, twenty-two (22) concept alternatives were developed to expand capacity of current dredge material management facilities. The development of the alternatives focused on ways to beneficially use dredged material and potential cost sharing partners. The siting of the locations considered such factors as proximity of the facility to the channel(s) requiring maintenance, potential environmental impacts, cost to acquire land, potential for options to increase coastal resilience, and additional beneficial uses. The alternatives provided include:

- Placement of material along the shoreline to provide erosion mitigation and shoreline protection;

- Creation and restoration of bird islands that provide increased habitat;
- Thin layer placement of sediment in marshes to help these types of habitat keep up with sea level rise;
- Development of new confined disposal facilities (CDF) that can be mined for public or private benefits;
- The modification of existing CDFs to increase capacity;
- Marsh restoration projects similar to the Wanchese Section 204 project; and
- Various concepts to facilitate routine maintenance dredging of the channels through the use of a dredge being constructed by a private-public partnership (PPP) between EJE Dredging and the State of North Carolina.

Each of the 22 alternatives developed included a detailed description, details on volume capacity, and the length of time for which the alternative is expected to provide capacity. Through the process of identifying potential sites, numerous stakeholders were consulted to assess the feasibility of the alternatives. These stakeholders included the Dare County Waterways Commission, landowners, North Carolina Coastal Federation, other Dare County local governments, and academia.

Screening of Alternatives: Many of the alternatives developed require further investigation to accurately estimate cost and schedule to design, permit, and construct. In many cases, sediment data needed to adequately characterize the dredge material does not exist or was not available, which precludes detailed estimation of cost and schedule. Some alternatives would also require the development of detailed dredge material management plans in cooperation with the USACE, NPS, and/or other stakeholders to properly estimate costs and schedules.

Given the number of unknowns, an alternative screening matrix was developed to allow for relative comparisons to be made between alternatives. The alternative screening matrix scores each of the 22 alternatives based on: 1) relative cost to implement the alternative; 2) long-term capacity provided; 3) relative difficulty in permitting; 4) necessity to obtain easements and/or the need to acquire property; 5) potential for cost sharing with partners; and 6) amount of beneficial uses of material dredged. The screening matrix was used to formulate the recommendations included in the report.

Recommendations: Following the development of the 22 concept alternatives and the development of the alternative screening matrix, eight (8) recommendations were developed through coordination with County staff. The recommendations, which are described in greater detail within the Report and include a schedule for implementation, are:

1. Pursue Permitting of Short-Term Alternatives: In order to provide additional capacity for anticipated dredge maintenance events anticipated to occur over the next 2 – 5 years, Dare County should pursue permitting of the following specific concept alternatives:

Regarding the “Central Project Area”, which includes the channels north of Oregon Inlet, Old House Channel and Stumpy Point.

- Modification of Island H (Alternative 3.8)

- Open water disposal in areas previously authorized (Alternative 3.12)
- Establishment of additional bird islands adjacent to Old House Channel (Alternative 3.13)
- Restoration of Green Island (Alternative 3.14)
- Stumpy Point Harbor (Alternative 3.15)
- Dredging of various channels with the PPP dredge (Alternative 3.22)


Regarding the “Southern Project Area”, which includes the federal channel at Rodanthe, Rollinson Channel, and the channels connecting the Hatteras Boat Basin to the Atlantic Ocean through Hatteras Inlet.

- Open water disposal for special purpose dredges for Rollinson Channel/Barney Slough/Sloop Channel (Alternative 3.17)
- Dredging of other various channels with the PPP dredge (Alternative 3.22).

2. Conduct Sediment Sampling of Channels: Many of the alternatives developed require additional sediment data to adequately characterize the material to be dredged from the channels. These data will be necessary to permit alternatives discussed in Recommendation #1. Dare County should proceed, on a prioritized basis, to obtain sediment data necessary to advance the most feasible alternatives.
3. Develop Numerical Model to Evaluate Alternatives in Northern Roanoke Sound: Several of the concept alternatives developed aim to provide shoreline protection and habitat restoration along portions of northern Roanoke Island. These alternatives pose both engineering design and environmental permitting challenges. The use of numerical modeling could optimize the design by providing valuable information on potential impacts that will be key during the permitting process. While the setup and calibration of coastal hydrodynamic numerical models can be costly and require collection of additional field data, the diverse applications of the model may allow for the development of partnerships with other local communities and NGO’s that would benefit from such a tool and be willing to share in the cost. Furthermore, recent discussions with staff of the NC Coastal Studies Institute (CSI) in Wanchese and other researchers show an interest on the part of academia to partner in both analysis and data collection efforts that could support numerical modeling efforts. Dare County should approach potential cost sharing partners and local researchers to determine their level of interest and financial commitment. With a clear understanding of the level of interest and level of commitment, the County could obtain a detailed scope of work and cost estimate to determine whether pursuing such work is in the best interest of the County.
4. Establish a GIS-Based System of Tracking Dredge Maintenance Needs: An online GIS was developed to integrate a variety of historic data for the project channels. During the development of the online GIS, a system of regularly updating survey data available through the USACE was established. Continuing to regularly update the GIS with publicly available survey data will benefit engineers, environmental scientists, and managers

working on the overall navigation program. The tool can aid in the planning of dredge needs through tracking and updates to the quantity of sediment needed to be removed from channels as new survey data become available. Furthermore, GIS allows for storage, organization, and evaluation of historical data and trends as new data become available. Dare County should consider the option of establishing a system using either internal GIS capabilities or external capabilities through a consultant to continue to maintain and manage the online GIS as a long-term management and planning tool for navigation projects.

5. Planning and Assessment of CDF Alternatives: Several concept alternatives developed involve the construction of a confined disposal facility (CDF). Available information was used to develop volumetric estimates and construction cost estimates for these alternatives; however, additional information is required to fully determine their feasibility. If the County decides that further exploration of these particular alternatives (Alternatives 3.9, 3.10, and 3.21) is warranted, work should be initiated to conduct wetland delineation, topographic/bathymetric surveys, sediment sampling and analysis of in-situ soils, coordination with construction contractors, and coordination with resource and regulatory agencies including NPS.
6. USACE Continued Authority Programs (CAP): The U.S. congress has provided the USACE with a number of authorizations through the Continuing Authorization Program (CAP) to implement a variety of projects. Section 204 of the CAP provides the USACE authority to implement projects providing for the incremental costs of the beneficial use of dredged material for the purpose of structural and non-structural flood risk management, hurricane and coastal storm damage reduction and environmental protection and restoration. Dare County should inquire about using Section 204 to advance several of the concept alternatives developed including open water disposal, placement of fill on estuarine shorelines for erosion mitigation, thin layer placement, marsh restoration beneficial use projects at Wanchese and placement of material on NPS estuarine shoreline in the vicinity of Isabel Breach. Section 204 of the CAP was used to develop and construct the Wanchese Marsh Restoration project in 2009 and evaluate several thin layer placement projects for Cedar Island in Virginia and Charleston Harbor in South Carolina.
7. Coordination with State and USACE on a Beneficial Use Pilot Project: The USACE's 2020 Regional Sediment Management Optimization Update found that most dredged material in the Wilmington District consists of material that is not suitable for beach placement. The report specifically states that "An opportunity for a research proposal could include an analysis of non-beach-quality material in key project areas to determine the volume and value of sediment that could be placed beneficially (if allowed by the state)." Several regional sediment management (RSM) strategies have been used by other districts in the South Atlantic Division to place material with higher concentrations of fines. These include open water disposal, thin layer placement and wetland creation by keeping sediment in the active system. Furthermore, in recognition of the need to increase beneficial re-use of dredged material, Congress passed Section 1122 of the Water Resources Development Act (WRDA) 2016, which included the authorization of 10 pilot projects for the beneficial



use of dredged material. Subsequently, WRDA 2018 and WRDA 2020 increased the number of projects from 20 to 35, respectively. Dare County should engage Wilmington District staff and representatives from the State Division of Coastal Management, as well as The Nature Conservancy and private consultants to discuss the possibility of a pilot project for Dare County to demonstrate the ability to use such options as thin layer placement and open water disposal.

8. Develop a long-term management plan for Rodanthe Harbor CDF: Alternative 3.16 is associated with the currently established CDF located directly south of the Rodanthe boat basin. While the site has been improved to ready it for receiving dredge material, the site only provides capacity for one event. The County should develop a long-term management plan for the facility that would establish maintenance needs of the facility and identify specific users who would purchase mined material from the CDF. Dare County should evaluate the potential added benefit of recreational opportunities surrounding the CDF. Grant funding provided through the North Carolina Division of Coastal Management's Public Access Grant program could be used to establish low-cost public access facilities. The establishment of a pier on the west side of the CDF may provide the dual benefit of increased access for fishing and water access as well as protection for an outfall pipe that is associated with the dewatering of the facility.

DRAFT: CHANNEL MAINTENANCE AND DREDGE MATERIAL MANAGEMENT REPORT DARE COUNTY, NORTH CAROLINA

TABLE OF CONTENTS

Executive Summary	i
1. Introduction	1
1.1 Project Location.....	1
2. Needs Assessment	8
2.1 Evaluation of Dredging Requirements.....	8
2.2 Evaluation of Sediment Quality	9
2.3 US Army Corps of Engineers.....	11
2.4 NC Department of Transportation.....	12
2.5 National Parks Service	13
2.6 The Nature Conservatory	13
2.7 NC Coastal Federation.....	14
2.8 NC Wildlife Resources Commission.....	14
3. Concept alternatives	15
3.1 Ft. Raleigh Shoreline Restoration	15
3.2 Open Water Disposal North of Roanoke Island.....	17
3.3 Placement of Fill on Spit Adjacent to “Andy Griffith” Property.....	18
3.4 Disposal at Jockey’s Ridge State Park.....	19
3.5 Open Water Disposal Offshore Jockey’s Ridge.....	21
3.6 Thin Layer Placement.....	22
3.7 Placement of Fill on Dredge Spoil Islands West of Ranges 12 and 13	26
3.8 Island H Modifications.....	27
3.9 Upland CDF Near Tillet Road in Wanchese.....	29
3.10 CDF on NPS Land at Bodie Island Near Radio Tower.....	31
3.11 Marsh Restoration Beneficial Use Projects at Wanchese.....	34
3.12 Open Water Disposal In Areas Previously Authorized (Oregon Inlet to Old House Channel /South Side of Oregon Inlet/Offshore Pea Island).....	35
3.13 Establishment of Additional Bird Islands Adjacent to Old House Channel	37
3.14 Restoration of Green Island.....	39
3.15 Stumpy Point Harbor.....	41

3.16 Rodanthe Harbor CDF	43
3.17 Additional Open Water Disposal for Special Purpose Dredge (Rollinson Channel / Barney Slough / Sloop Channel)	44
3.18 Confined Disposal Site for Rollinson in Deep Water.....	46
3.19 Confined Disposal Site for Rollinson to Re-Create Islands.....	48
3.20 Placement of Material on NPS Beaches for Habitat Restoration.....	52
3.21 Temporary Placement of Material on NPS Estuarine Shore in the Vicinity of Isabel Breach.....	53
3.22 Dredging of Channels with PPP Dredge	57
4. Alternative Screening.....	59
5. Recommendations	63
References.....	74

LIST OF FIGURES

Figure 1. Project location map showing the Manteo-Shallowbag Bay to Wanchese portion of the project area.....	2
Figure 2. Project location map showing the Old House Channel to Oregon Inlet and Wanchese to Oregon Inlet portions of the project area.	3
Figure 3. Project location map showing the Stumpy Point Channel portion of the project area.	4
Figure 4. Project location map showing the Rodanthe Channel portion of the project area.....	5
Figure 5. Project location map showing the Rollinson Channel to Hatteras Inlet portion of the project area.....	6
Figure 6. Map showing the extent of possible fill to be placed along Ft. Raleigh.....	17
Figure 7. Map showing the locations of possible disposal areas in the vicinity of the northern portion of Roanoke Island.	20
Figure 8. Map showing the locations of possible thin layer placement areas on the east side of Roanoke Island.....	24
Figure 9. Map showing the locations of possible disposal areas in the vicinity of the Hatteras Village.	25
Figure 10. Drone Image of Island H illustrating the concept of temporarily deconstructing the eastern dike and placing some of the confined material outside of the dike to increase capacity.....	28
Figure 11. Map showing the location of the NPS property on Bodie Island near the radio tower, in relation to Island H and Wanchese Harbor.....	32
Figure 12. Google Earth imagery from March 2017 showing a series of canals dredged through the marsh south of Whalebone Junction and west of South Nags Head.	33
Figure 13. Drone image of the Wanchese Marsh Project taken July 2020.....	34
Figure 14. Map showing portion of the channel from Old House Channel to the Oregon Inlet Bridge in which existing depths may be conducive to bottom disposal.....	36

Figure 15. Map showing the project study area of the 2014 Detailed Project Report for the Manteo, Old House Channel Section 204 Project (From USACE, 2014).....	38
Figure 16. Aerial image from 2008 showing the location and configuration of Green Island at that time.....	40
Figure 17. Aerial image from 2019 showing Stumpy Point ranges 2 – 4, the boat basin, and the NC DOT ferry channel.....	42
Figure 18. Map showing potential locations for open water disposal to support navigation maintenance of Rollinson Channel, Barney Slough, and Sloop Channel.	45
Figure 19. Aerial photograph from 1998 showing the islands that existed to the north of the Hatteras Connecting Channel.	49
Figure 20. Aerial photograph from 1998 showing the islands that existed to the north of the Hatteras Connecting Channel.	50
Figure 21. Figure showing NPS identified areas where sediment management activities are likely to occur under their proposed action (From NPS, 2020).	52
Figure 22. Aerial imagery taken September 22, 2003 showing Isabel Breach (From Wamsley, et al., 2009).....	54
Figure 23. Figure showing the cross section of the fill placed along the Isabel Breach (From Wamsley, et al., 2009).	55
Figure 24. Aerial Imagery showing changes to the Isabel Breach area from January 1998 (A), to October 2005 (B), to August 2019 (C) (Imagery from <i>Google Earth</i> , earth.google.com/web/).	56

LIST OF TABLES

Table 1. Channels included in the Needs Assessment.....	7
Table 2. Maintenance statistics developed through the Needs Assessment.	10
Table 3. Sediment characteristics of channels evaluated through the Needs Assessment.....	11
Table 4. Channels included in the Needs Assessment.....	58
Table 5. Screening Matrix used to evaluate alternatives provided in Section 3.....	61
Table 6. List of potential cost-sharing partners and beneficial uses for alternatives provided in Section 3.....	62
Table 8. List of channel sections and number of vibracores required for permitting various dredge material management alternatives.....	67
Table 9. Estimated costs for additional sediment sampling.....	68

1. INTRODUCTION

Maintenance dredging activity within federal and non-federal navigation channels and boat basins within Dare County has been occurring for decades. These areas include, but are not limited to, the federally authorized navigation projects at Manteo (Shallowbag) Bay, Stumpy Point, Rodanthe Harbor, Rollinson Channel, and non-federal channels in proximity to Hatteras Inlet and Oregon Inlet. Some of the material dredged from these areas has been dredged using US Army Corps of Engineers (USACE) sidecast dredges that spray the material off to the adjacent side of the channel. Other areas are routinely dredged using USACE special purpose dredges, which dredge material that is held in a hopper and then the material is placed in nearshore waters. However, much of the material dredged from the navigation channels has been disposed on confined and unconfined disposal islands such as the ones shown in Figure 1.

The authorizations received by Congress for the USACE to dredge these channels dates as far back as 1935 (Rollinson Channel) and have been re-authorized and modified by multiple documents as recently as 2014. In recent years, the capacity of many of these existing disposal facilities has reached or are nearing capacity. In 2017, the USACE formally requested additional capacity from Dare County for federal navigation channel maintenance projects for which the County is the local non-federal sponsor.

The issue of coastal resilience is a major focus for Dare County. The County acknowledges the need to formulate tools and plans that reduce flood risk, adapt to sea level rise and enhance coastal resilience. The County is coping with rising sea level, an increase in flooding events, continued impacts from coastal storms and ever-present development. The County's regional Hazard Mitigation Plan lists the first of 15 hazards identified are Coastal Hazards (Erosion, Rip Currents, and Sea Level Rise). Furthermore, the Plan also identifies floods, hurricanes and tropical storms, and severe Winter Storms as some of the other 15 hazards identified. Clearly the issue of coastal resilience is a major focus for the County.

Given its need for additional dredge capacity and a focus on coastal resilience, Dare County has endeavored to identify options for increasing dredge disposal capacity while simultaneously focusing on options that have the potential to enhance coastal resilience. To do so, the County contracted with Coastal Protection Engineering of North Carolina, Inc. (CPE). The first phase of the work included a comprehensive needs assessment and the development of concept alternatives. This report describes the results of the needs assessment, information provided by stakeholders and resource agencies, the concept alternatives developed, recommendations on alternatives, and information on how to implement the recommended alternatives.

1.1 Project Location

The project area was split into the Central Region and the Southern Region. The Central Region encompasses Roanoke Sound and portions of Albemarle and Pamlico Sound from the north end of Roanoke Island to Stumpy Point. The Southern Region encompasses Pamlico Sound from Rodanthe to the southern Dare County line. Figure 1 through Figure 5 show the extent of the Central and Southern Regions including channels evaluated as part of the needs assessment. Table 1 provides the name, ranges, and a description of channels included in the needs assessment.

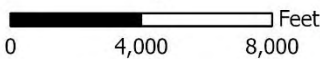


Notes:

- 1) Coordinates are in feet based on the North Carolina State Plane Coordinate System, FIPS 3200, North American Datum of 1983 (NAD 83).
- 2) Aerial photography collected in August 2019 by ESRI Basemap Services.

Legend:

- Channels
- Disposal Areas



Title:

**MANTEO-SHALLOWBAG BAY
TO WANCHESE**
DARE COUNTY, NC

**COASTAL PROTECTION ENGINEERING
OF NORTH CAROLINA, INC.**

4038 MASONBORO LOOP ROAD
WILMINGTON, NC 28409
PH. (910) 399-1905



Figure 1. Project location map showing the Manteo-Shallowbag Bay to Wanchese portion of the project area.

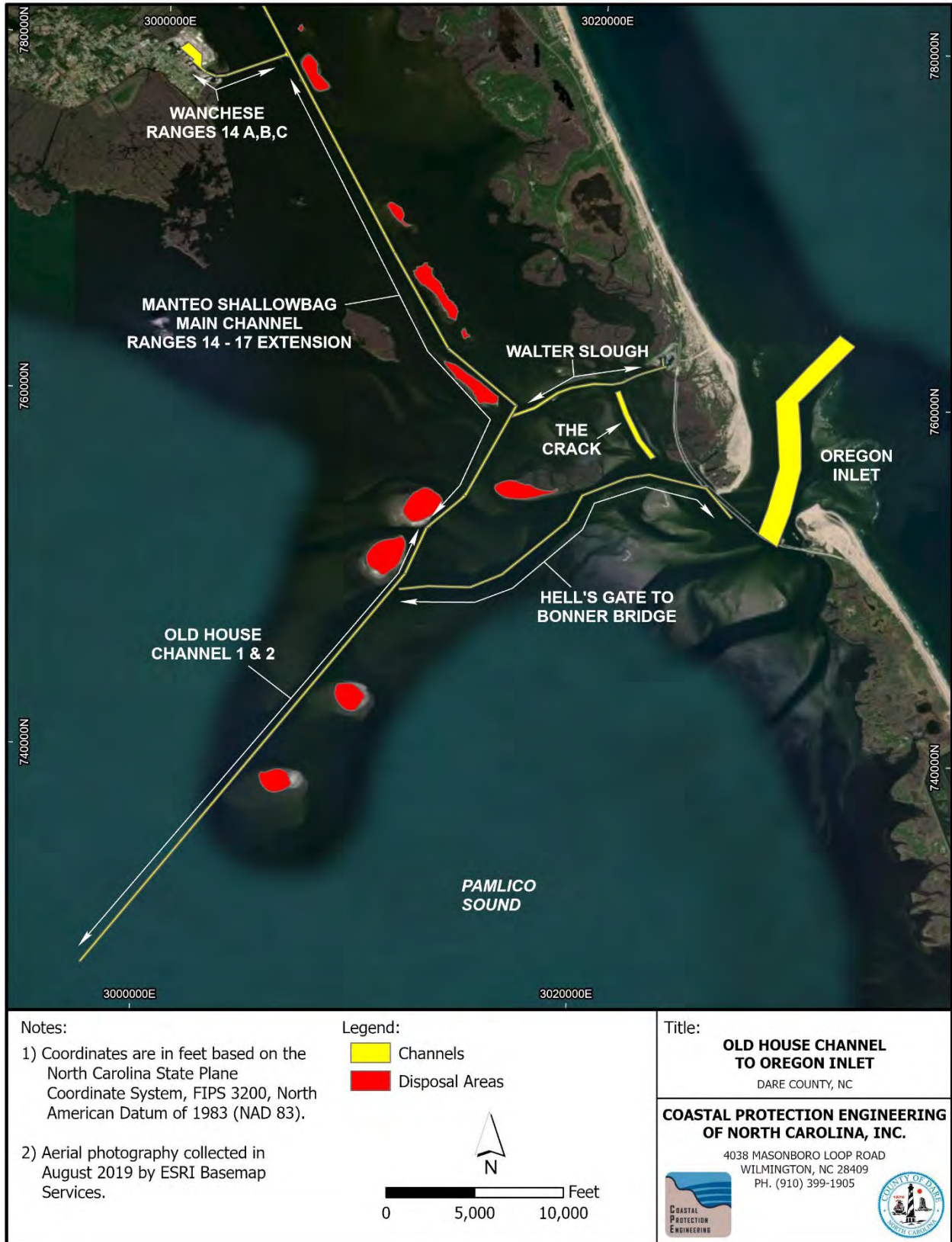


Figure 2. Project location map showing the Old House Channel to Oregon Inlet and Wanchese to Oregon Inlet portions of the project area.

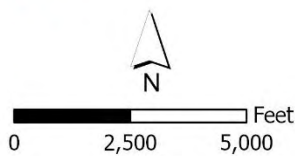


Notes:

- 1) Coordinates are in feet based on the North Carolina State Plane Coordinate System, FIPS 3200, North American Datum of 1983 (NAD 83).
- 2) Aerial photography collected in August 2019 by ESRI Basemap Services.

Legend:

- Channels
- Disposal Areas



Title:

STUMPY POINT

DARE COUNTY, NC

COASTAL PROTECTION ENGINEERING OF NORTH CAROLINA, INC.

4038 MASONBORO LOOP ROAD
WILMINGTON, NC 28409
PH. (910) 399-1905



Figure 3. Project location map showing the Stumpy Point Channel portion of the project area.

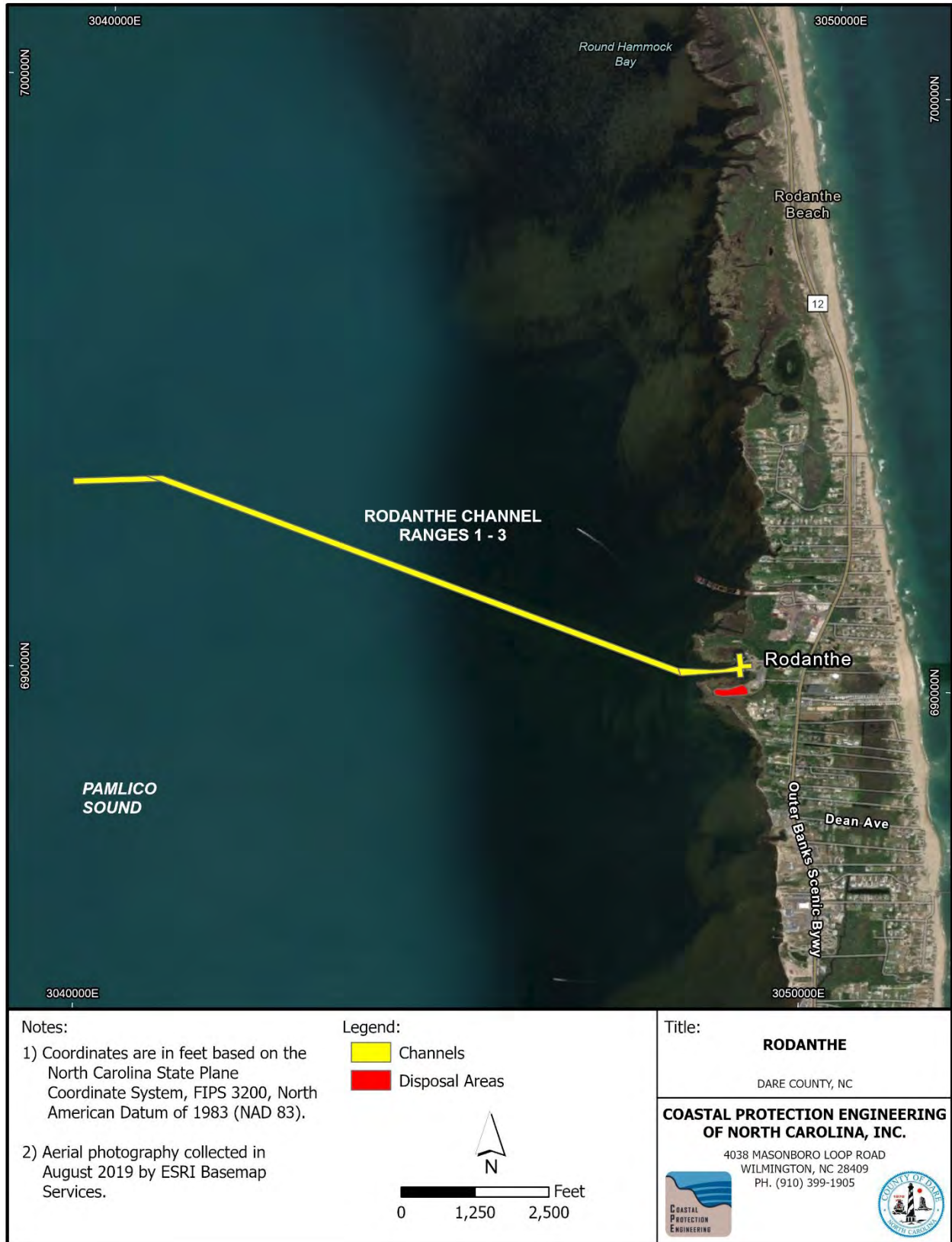


Figure 4. Project location map showing the Rodanthe Channel portion of the project area.

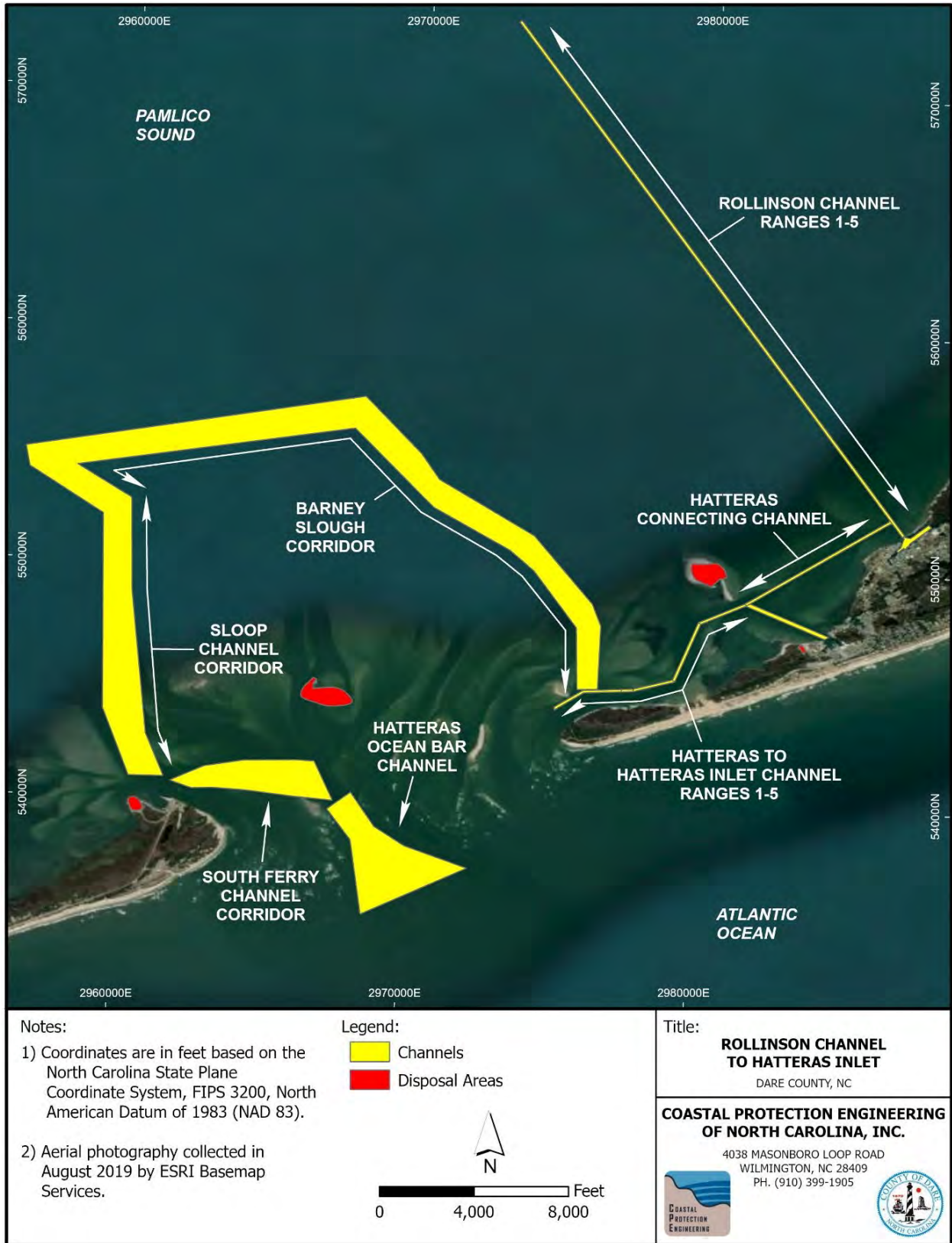


Figure 5. Project location map showing the Rollinson Channel to Hatteras Inlet portion of the project area.

Table 1. Channels included in the Needs Assessment.

Channel Name	Ranges	Description
Central Region:		
Manteo-Shallowbag Bay (North)	4A and 4B	A channel -10 feet MLW (+2 feet overdepth) and 100 feet wide extending 1.6 miles from southern Albemarle Sound to the confluence of Roanoke Sound and the eastern portion of Shallowbag Bay
Manteo-Shallowbag Bay (Main Channel)	5 through 17 Extension and Old House Channel Ranges 1 and 2	A channel -12 feet MLW (+2 feet overdepth) and 100 feet wide extending 17.1 miles to and through Roanoke Sound and Old House Channel, to the -12-foot contour in Pamlico Sound
Manteo-Shallowbag Bay (Shallowbag)	1 through 4	A channel -12 feet MLW (+2 feet overdepth) and 100 feet wide extending 1.5 miles from a basin in front of the town of Manteo extending through Shallowbag Bay to Roanoke Sound
Manteo-Shallowbag Bay (Wanchese)	14A through 14C	A channel -12 feet MLW (+2 feet overdepth) and 100 feet wide extending 0.8 miles from Roanoke Sound to a basin at the town of Wanchese
Walter Slough	N/A	A channel -7 feet MLW (+2 feet overdepth) and 60 feet wide extending 1.5 miles from the federal Manteo-Shallowbag Bay Channel, Range 17 to the Oregon Inlet Fishing Center and Oregon Inlet Coast Guard Station
The Crack	N/A	A natural channel extending approximately 5,000 feet from Walter Slough to Range 1 of the Oregon Inlet West channel
Stumpy Point	1 through 4 and Boat Basin	A channel -10 feet MLW (no overdepth) and 75 feet wide extending approximately 5.1 miles from the Albemarle Sound through Stumpy Point Bay to a boat basin near the NC Ferry Terminal at Stumpy Point
Southern Region:		
Rodanthe Harbor	1 through 3	A channel -6 feet MLW (+2 feet overdepth) and 100 feet wide along the approximately 1.5-mile approach, the approximately 1,000 foot entrance channel, and the 80 ft. x 400 ft. boat basin
Rollinson Channel	N/A	A channel -12 feet MLW (+2 feet overdepth) and 100 feet wide extending 5 miles from Pamlico Sound to Hatteras Basin
Basin at Hatteras	N/A	A channel -12 feet MLW (+2 feet overdepth), varying widths and ~1,500 feet long
Hatteras Connecting Channel	N/A	A channel -10 feet MLW (+2 feet overdepth), 100 feet wide extending approximately 1.2 miles to AtoN #24, which marks the intersection with the Ferry Channel going into Hatteras Ferry Terminal
Hatteras to Hatteras Inlet Channel	1 through 5	A channel -10 feet MLW (+2 feet overdepth), 100 feet wide extending approximately 1.7 miles from the southwest end of the Hatteras Connecting Channel to the southern end of Barney Slough
Barney Slough*	N/A	A natural channel extending approximately 2.9 miles from Hatteras to Hatteras Inlet Channel Range 1 to the Pamlico Sound.
Sloop Channel*	N/A	A natural channel extending approximately 2.7 miles from the Pamlico Sound to the Ferry Terminal on the northwest end of Ocracoke Island
South Ferry Channel*	N/A	A maintained channel following best water, -12 feet MLW, 200 feet wide extending from deep water near the Ferry Terminal on the northwest end of Ocracoke Island to the Inlet Gorge of Hatteras Inlet.

**Channel currently being considered by the USACE for incorporation into the federal authorized channel system that extends from Hatteras Boat Basin to Hatteras Inlet*

2. NEEDS ASSESSMENT

The USACE provided their needs to the County for specific federal navigation channels. Dare County considered USACE needs and determined additional interests with regards to navigation maintenance and dredge material management within the entirety of the project area.

A Freedom of Information Act (FOIA) request was submitted to the USACE Wilmington District related to federal channel maintenance within the project area. The information request included:

- Dredging records for the past four years for federally authorized channels within the project area;
- Hydrographic surveys for the past four years for the federally authorized projects;
- Reports from previous dredge maintenance that describes the types of sediments dredged from the channels and any sediment analysis records available;
- Vibracore, surface sample, or any type of sediment sampling data from the past 15 years that indicate the sediment types within the channels or setback from the channels for the previous authorized projects;
- Previously published reports or facility management plans for existing dredge spoil islands managed by the USACE associated with the previous four channel projects; and
- Environmental Assessments (EAs) and Findings of No Significant Impact (FONSI).

In addition to data provided by the USACE through the FOIA request, supplemental information and reports were provided by the USACE Wilmington District Waterways Management, NCDOT – Ferry Division, National Parks Services (NPS), The Nature Conservatory, The NC Coastal Federation, and NC Wildlife Resources Commission (NC WRC). No additional field data were acquired as part of the needs assessment.

An online Geographic Information System (GIS) was developed to integrate data and facilitate data display and analysis. The GIS project database contains federal and non-federally maintained navigation channels of interest, dredge volumes, dates of past dredge events, sediment characteristics and the type of dredge that was utilized.

2.1 Evaluation of Dredging Requirements

Using dredge records from the USACE and other entities engaged in actively maintaining navigation channels in Dare County, efforts were made to determine the volume of material anticipated to be dredged from the channels. Dredge records included data on dredge location, year of dredge events, and volume of material removed for each event. Dredge records were compiled, and data gaps were identified. Data gap issues were discussed with USACE and Dare County project managers. Using the compiled dredge records, the following statistics were calculated and are shown in Table 2:

- Period of Complete Record – The period in which reliable dredge records are available (i.e. 2002-2020).

- Years of Complete Record – Number of years within the Period of Complete Record.
- Events in Period of Complete Record – Number of dredge events that occurred during the Period of Complete Record.
- Frequency (Years) – Mean number of years between dredge events. The Frequency does not include emergency dredge events.
- Total Volume (Cubic Yards = CY) Dredged over Period of Complete Record – Total volume of removed dredge material for all dredge events within the Period of Complete Record. Note that if emergency dredge events did occur during the Period of Complete Record, those volumes are included in Total Volume Dredged over Period of Complete Record.
- Mean Dredge Volumes (CY) per Event – Mean volume removed per dredge event (total volume removed/number of dredge events).
- Mean Dredge Volumes (CY) per Year – Mean volume removed per year (total volume removed/numbers of years in the Period of Complete Record).
- Estimated 20-Year Dredge (CY) Needs – Based on the Mean Dredge Volume per Year, a straight calculation of what that annual average would equate to over 20 years was calculated. Note that this value does not take into consideration a decrease in future maintenance that may be realized using the new dredge being constructed through a private/public partnership between EJE Dredging and the State of North Carolina.

2.2 Evaluation of Sediment Quality

GIS was used to evaluate quality of material to be removed from the channels. Records were compiled from various agencies including the USACE. Records contained information regarding the sample location, collection method (primarily vibracore), visual classification, and grain size distribution. Records spanned from 1978 to 2019. Percent gravel, sand, and fines were calculated when grain size data were available. For the purposes of this report, gravel is defined as sediment greater than 4.75 mm (No. 4 Sieve Size), sand is defined as sediment less than 4.75 mm and greater than 0.08 mm (No. 200 sieve size), and fine is defined as sediment less than 0.08 mm. Samples were classified into the following three categories based on the distributions of % sand, and % fine:

- Sand – Contains less than 10% of fine material
- Mixed – Contains between 10% - 50% fine material
- Fine – Contains greater than 50% of fine material

Table 3 provides generalized sediment quality information for each channel and includes Sampling Date, % Gravel, % Sand, % Fine, Description, and classification according to the Unified Soils Classification System (USCS).

Table 2. Maintenance statistics developed through the Needs Assessment.

Channel Name	Ranges	Period of Record	Years of Complete Record	Number of Events	Frequency (Yrs)	Total Volume (CY)	Volume (CY) / Event	Volume (CY) / Year	Estimated 20 Year Dredge (CY) Needs
CENTRAL REGION									
Manteo-Shallowbag Bay (Shallowbag)	1 to 4	2002 - 2020	18	1	18	34,000	34,000	2,000	40,000
Manteo-Shallowbag Bay (North)	4A/4B	2006-2021	15	1	15	134,000	130,000	9,000	180,000
Manteo-Shallowbag Bay (Main Channel)	5-13	2006 - 2021	15	1	15	80,000	80,000	5,000	100,000
Manteo-Shallowbag Bay (Main Channel)	14-17 Ext.	2004 - 2021	17	6	3	1,243,000	207,000	73,000	1,460,000
Manteo-Shallowbag Bay (Wanchese)	14A-C	2004 - 2021	17	5	3	387,000	77,000	23,000	460,000
Old House Channels 1 & 2	N/A	2004 - 2021	17	6	3	1,360,000	227,000	80,000	1,600,000
Walter Slough	N/A	2004 - 2020	16	5	3	425,000	85,000	27,000	540,000
The Crack	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stumpy Point	1-4, Boat Basin	1992 - 2020	28	2	14	239,000	120,000	9,000	180,000
SOUTHERN REGION									
Rodanthe Harbor	N/A	2009 - 2020	11	4	3	152,000	38,000	14,000	280,000
Rollinson Channel	N/A	2002 - 2021	19	3	6	31,000	10,000	2,000	40,000
Basin at Hatteras	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Hatteras Connecting Channel	N/A	2007 - 2021	14	3	5	196,000	65,000	14,000	280,000
Hatteras to Hatteras Inlet Channel	1 to 5	2007 - 2021	14	3	5	201,000	67,000	14,000	280,000
Barney Slough	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sloop Channel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
South Ferry Channel	N/A	2019-2020	2	2	1	63,000	32,000	32,000	640,000

Table 3. Sediment characteristics of channels evaluated through the Needs Assessment.

Channel Name	Ranges	Sample Date	% Gravel	% Sand	% Fine	Description	USCS Classification
CENTRAL REGION							
Manteo-Shallowbag Bay (Shallowbag)	1 to 4	2019	N/A	N/A	N/A	Mixed	SW, SM, CL
Manteo-Shallowbag Bay (North)	4A/4B	N/A	N/A	N/A	N/A	N/A	N/A
Manteo-Shallowbag Bay (Main Channel)	5-13	N/A	N/A	N/A	N/A	N/A	N/A
Manteo-Shallowbag Bay (Main Channel)	14-17 Ext.	1978	N/A	N/A	N/A	N/A	SP, SP-SM, OH
Manteo-Shallowbag Bay (Wanchese)	14A-C	1978	N/A	N/A	N/A	N/A	SP, SP-SM, OH
Old House Channels 1 & 2	N/A	2010	2.67	80.67	16.66	Mixed	SP, SP-SM, MH
Walter Slough	N/A	2018	0.00	21.23	78.77	Silt	MH
The Crack	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Stumpy Point	1-4, Boat Basin	N/A	N/A	N/A	N/A	N/A	N/A
SOUTHERN REGION							
Rodanthe Harbor	N/A	1994	0.00	90.11	9.89	Sand	SP
Rollinson Channel	N/A	2012	0.16	66.00	33.84	Mixed	SM
Basin at Hatteras	N/A	2009	0.15	65.00	34.85	Mixed	SP, SP-SM, MH
Hatteras Connecting Channel	N/A	2003	2.13	97.15	0.72	Sand	SP
Hatteras to Hatteras Inlet Channel	1 to 5	2003	4.54	94.66	0.80	Sand	SP
Barney Slough	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sloop Channel	N/A	2018	0.12	91.68	8.20	Sand	SP, SP-SM, SM
South Ferry Channel	N/A	2003	1.69	97.93	0.39	Sand	SP, SP-SM

2.3 US Army Corps of Engineers

The USACE provided significant amounts of data for the Needs Assessment. In addition to providing data, USACE staff participated in two conference calls during the Needs Assessment. The first meeting, held on September 11, 2020 was associated with clarifying historic actions taken by the USACE to maintain navigation throughout the County and other available data sources. The second meeting occurred on October 20, 2020 to discuss the logistics of some of the preliminary

alternatives being considered.

During the meeting held on September 11, 2020, Todd Horton and Emily Hughes of the USACE Wilmington District provided comments on CPE's evaluation of dredge data obtained through the FOIA request. This included specific events recorded and used to develop dredge volumes and frequency and sediment data available. USACE staff also helped clarify whether data were from pipeline dredge work or USACE sidecast/special purpose dredge work. The USACE staff also provided additional information on Stumpy Point, specifically that the USACE only maintains navigation to the point at which the federal channel intersects the NC DOT ferry channel. Maintenance of the rest of the federal channel including the boat basin have not been dredged recently due to reports of contaminated soils, though no verification of contaminants was provided. The USACE also discussed current capacity of bird islands, specifically that they believed they could continue to pump onto the bird islands in the vicinity of Ranges 14 through 17 Extension and Old House Channel for the foreseeable future. Cora June Island near Hatteras Village is near or at capacity.

During the meeting held on October 20, 2020, CPE briefed Todd Horton on the basic concepts that had been developed that would be shared with agencies during an inter-agency call scheduled for October 21, 2020. These concepts included placement of material in several areas near the north end of Roanoke Island including along the Ft. Raleigh shoreline, open water north of Roanoke Island and open water near Jockey's Ridge. The concepts also included modifications to Island H, thin layer placement in several areas, upland confined disposal facilities (CDF), and in water CDFs. In general, the USACE believed that if Dare County could permit these, that they were compatible with USACE protocols and could likely be implemented by the USACE. Mr. Horton provided additional details on typical dredge operations, which have been incorporated into the alternatives discussed in Section 3.

2.4 NC Department of Transportation

The NC DOT provided a research and development report *Research to Support Design and Siting of Deposition Areas for Dredged Material from the Rodanthe Emergency Channel* (White et. al., 2017) which detailed insight into disposal alternatives for the dredged material. Due to future need and possible expansion of the Rodanthe Emergency Ferry Channel (REFC), the NC DOT explored seven different sediment disposal options for the dredged material. In considering these different options, many factors were taken into consideration like the proximity, shape, size, post depositional mobility, ecological impacts, and practicality. The seven different alternatives were described using three management descriptions: open water disposal, confined (diked) disposal, and disposal for beneficial use. The seven possibilities explored for the REFC are: 1. the existing disposal area (confined upland); 2. Pamlico Sound Island (can be open water, confined, or of beneficial use); 3. Back-barrier Reef (can be open water, confined, or of beneficial use); 4. shoreline nourishment and reconstruction (can be confined or of beneficial use); 5. Marsh Accretion (can be confined or of beneficial use); 6. New local area (can be confined or of beneficial use); and 7. Distal area (for beneficial use).


2.5 National Parks Service

The National Park Service provided area maps to aid in the development of sediment management along with the *Cape Hatteras National Seashore Sediment Management Framework Draft Environmental Impact Statement* (NPS, 2020) which proposes three sediment management alternatives. Alternative A is a no action alternative in which no permits for sediment management will be granted. Alternative B proposes action and is the preferred alternative. This would allow NPS to permit other agencies to conduct either beach nourishment, habitat restoration, dune nourishment and sand relocations, or emergency breach repairs on the sound or ocean side. Alternative C is similar to Alternative B but would not result in the development of a consistent framework for sediment management for the next 20 years.

2.6 The Nature Conservancy

The Nature Conservancy (TNC) provided a wealth of information relevant to options pertaining to enhancing habitats and bolstering resilience within the project area. Specifically, TNC shared a report and decision-support tool they developed in 2019 titled *Resilient Coastal Sites in the South Atlantic*. This report includes an evaluation of over 1,200 coastal sites in the South Atlantic for their capacity to sustain biodiversity and natural services under increasing inundation from sea level rise. Each site received a resilience “score” based on the likelihood that its coastal habitats can and will migrate to adjacent lowlands. The report concludes that without any action, the region could experience an estimated 77% loss of existing tidal habitats to severe inundation. However, there are many sites within their assessment where tidal habitats could increase and expand through landward migration, reversing this trend. With conservation and management, these resilient sites within the South Atlantic have the potential to offset almost 80% of the estimated tidal habitat loss, providing critical habitat for birds and other wildlife, and buffering communities from the effects of storms and floods. In North Carolina, this relatively coarse-scale study shows the fringing marsh on the backside of Hatteras (marsh sites within reasonable distance to dredge areas) has an overall "Average" resilience score. However, this score may not account for the increase resiliency for these areas should an increased supply of sediment be delivered to these sites through activities such as thin layer placement. Furthermore, Dare County or partners have potential to maintain short-term coastal resilience benefits from these natural features as there is potential migration space behind some of these marshes.

TNC has also provided information regarding the value for protecting natural systems including salt marshes that are vulnerable to sea level rise. *The Value of Coastal Wetlands and Flood Damage Reduction* is a 2017 report that used industry-based risk models (damages avoided method) to study the flooding and storm surge impacts of Hurricane Sandy along the US's northeast coast. The study estimates that temperate coastal wetlands reduced flood heights and thus avoided more than \$625 Million in flood damages across 12 coastal states affected by Hurricane Sandy, from Maine to North Carolina and reduced flood levels on more than 1,200 miles of roads in the Northeastern US. In addition, Christine Shepard's 2011 literature review on the protective roles of marshes showed that marshes act as natural barriers to waves, and shorelines with a 15-foot wide marsh are able to absorb up to 50% of incoming wave energy. Also noted are the wide variety of ecosystem services marshes provide, many of which are directly relevant to



mitigation of coastal hazards. Along with wave energy attenuation, marshes absorb flood waters, resist erosion, and can even raise the land surface by accretion thereby reducing the impact of rising sea levels. TNC recognized that the primary purpose of beneficial use of dredge material is habitat creation, but recent research has shown co-benefits for resilience and communities are starting to recognize the protection natural systems provide.

Regarding the County's current development of additional dredge material management alternatives, TNC suggested exploring the implementation of deep-water restoration techniques involving the beneficial use of dredge material. Specifically, they discussed the utility of creating deep water disposal sites in estuarine waters that are then capped/mounded with loose oyster shell and/or marl and surrounded by reef balls to serve as deep water oyster reef restoration sites.

2.7 NC Coastal Federation

The North Carolina Coastal Federation (Federation) participated in a joint call with TNC on September 18, 2020 to discuss potential alternatives that would beneficially use dredge material for habitat enhancement and coastal resilience. Specifically, Michael Flynn of The Federation, provided additional documentation on the wetland restoration data that were incorporated into the GIS, used by CPE to identify potential alternatives. Furthermore, the Federation also provided input into past habitat restoration projects for which they have been involved. Best management practices (BMPs) were discussed that could be incorporated into some of the natural or nature-based solutions to deal with dredged material.

The Federation provided feedback on the USACE Section 204 Project at the entrance to Wanchese Harbor, which is in proximity of the Federation's Outer Banks Office. The Federation commented that the project may not exist in a state of high ecological value. Although *Juncus* stands have been established in parts of the project, most of the project is unvegetated open water. The Federation offered to continue coordination and provide guidance to improve the existing site and help design an additional site on the south side of the Wanchese Harbor entrance.

Michael Flynn suggested reaching out to the New Jersey Department of Transportation, who have developed a State-wide dredge material management program. Following the conversation, CPE reached out to Dr. Daniel Barone, of Rutgers University who has been assisting the State with the program. Dr. Barone provided useful information on coordination with private contractors to create a marketplace for dredged sediments as well as his experience designing estuarine shoreline nourishment projects that could be applicable to the alternatives that consider placement of material along the Ft. Raleigh shore.

2.8 NC Wildlife Resources Commission

Representatives from the NC Wildlife Resources Commission (NC WRC) provided information pertaining to the creation and expansion of existing upland "bird" islands within Roanoke Sound and in proximity to Oregon Inlet and Hatteras Inlet. Bird islands are created in open water through the disposal of dredged material in an attempt to create additional habitat for colonial nesting waterbirds, feeding shorebirds and waterfowl during fall, winter and spring, and by land birds during

the fall migration. The US Army Corps of Engineers has been given the authority to utilize these islands for the disposal of dredged material by the State of North Carolina. The Corps coordinate all disposal activity with NC WRC prior to disposal activity. The most recently constructed disposal islands within the project area include Cora June Island and the "DOT" Island that are both in proximity to Hatteras Inlet.

In general, these islands created primarily from dredged material originating from the maintenance of navigation channels are limited to approximately 5-20 acres in size and are sited no less than one-quarter mile from shore in order to reduce predation. Ideally, the NC WRC prefers these islands be sited one-half mile from shore. Other siting considerations include the need to avoid impacting benthic resources associated with essential fish habitat such as submerged aquatic vegetation (SAV), shellfish beds, and Primary Nursery Areas (PNA). The majority of the existing bird islands in the project area were created decades ago prior to current environmental regulations. Therefore, when considering the use of dredged-material islands as a future disposal option, permitting the creation of a new island would present more complexities in comparison to the permitting requirements to modify existing islands. Any future permitting efforts would require close coordination with the NC Division of Marine Fisheries (NC DMF) and the National Marine Fisheries Service (NMFS).


3. CONCEPT ALTERNATIVES

Following the completion of the Needs Assessment, twenty-two (22) concept alternatives were developed to expand capacity of current dredge material management facilities. The siting of these locations considered such factors as proximity of the facility to the channel(s) requiring maintenance, cost to acquire land, potential environmental impacts, ease of access for interested parties to remove dredged material from sites for beneficial use, potential for options to assist the County achieve greater coastal resilience, and additional beneficial uses.

Through the process of identifying potential sites, landowners and user groups (i.e. Dare County Waterways Commission, North Carolina Coastal Federation, local recreational and commercial fishing interests, etc.) were consulted to assess the feasibility of these sites based on the criteria listed previously. This feedback was incorporated into the concept alternatives described in this report.

3.1 Ft. Raleigh Shoreline Restoration

The National Parks Service (NPS) and other local interests have identified a need to provide erosion mitigation to portions of the northern shoreline of Roanoke Island. In a report completed by Stantec (2018), the shoreline along Fort Raleigh has experienced between 1 – 5 feet of erosion per year as a result of increased hurricane activity, winter Nor'easters, rising water levels, currents, and littoral drift. The report also identified a number of alternatives to protect the shoreline including placement of fill along the shoreline and a combination of fill and structures along the shoreline. NPS has recently stated that they are requesting funding to develop environmental documents to move forward with the preferred alternative, which appears to be a combination of



fill and structures. Once permits are obtained, the NPS has stated they will need considerable funds allocated to construct the alternative.

The Ft. Raleigh Shoreline Restoration alternative would include the placement of fill along approximately 1 mile of shoreline of the Elizabethan Gardens and Ft. Raleigh National Park. Figure 6 illustrates the proposed fill placement area along Ft. Raleigh National Park. The beach fill alternative described in the Stantec (2018) report included the placement of 142,685 CY of fill. There is no discussion about the re-nourishment frequency required to sustain the beach design over the long-term, but typically beach fill projects would require regular placement of additional fill material.

Sediment routinely dredged from the Manteo-Shallowbag Bay Channels, Ranges 4A, 4B and 5 would be the most likely channels to provide sediment for such a project. The Needs Assessment identified approximately 9,000 CY of material per year or 134,000 CY of material every 15 years that could be dredged from Ranges 4A and 4B. Furthermore, approximately 5,000 CY per year or approximately 80,000 CY every 15 years could be dredged from Ranges 5 through 13; however, most of this material has been dredged in the northern reaches. At present, approximately 65,100 CY of material would need to be removed from Ranges 4A and 4B to achieve the authorized -10 feet MLW control depth. Removal of an additional two feet to achieve the authorized overdepth would require the removal of approximately 118,300 cy. Available sediment records did not provide sufficient information to determine sediment compatibility for this project.

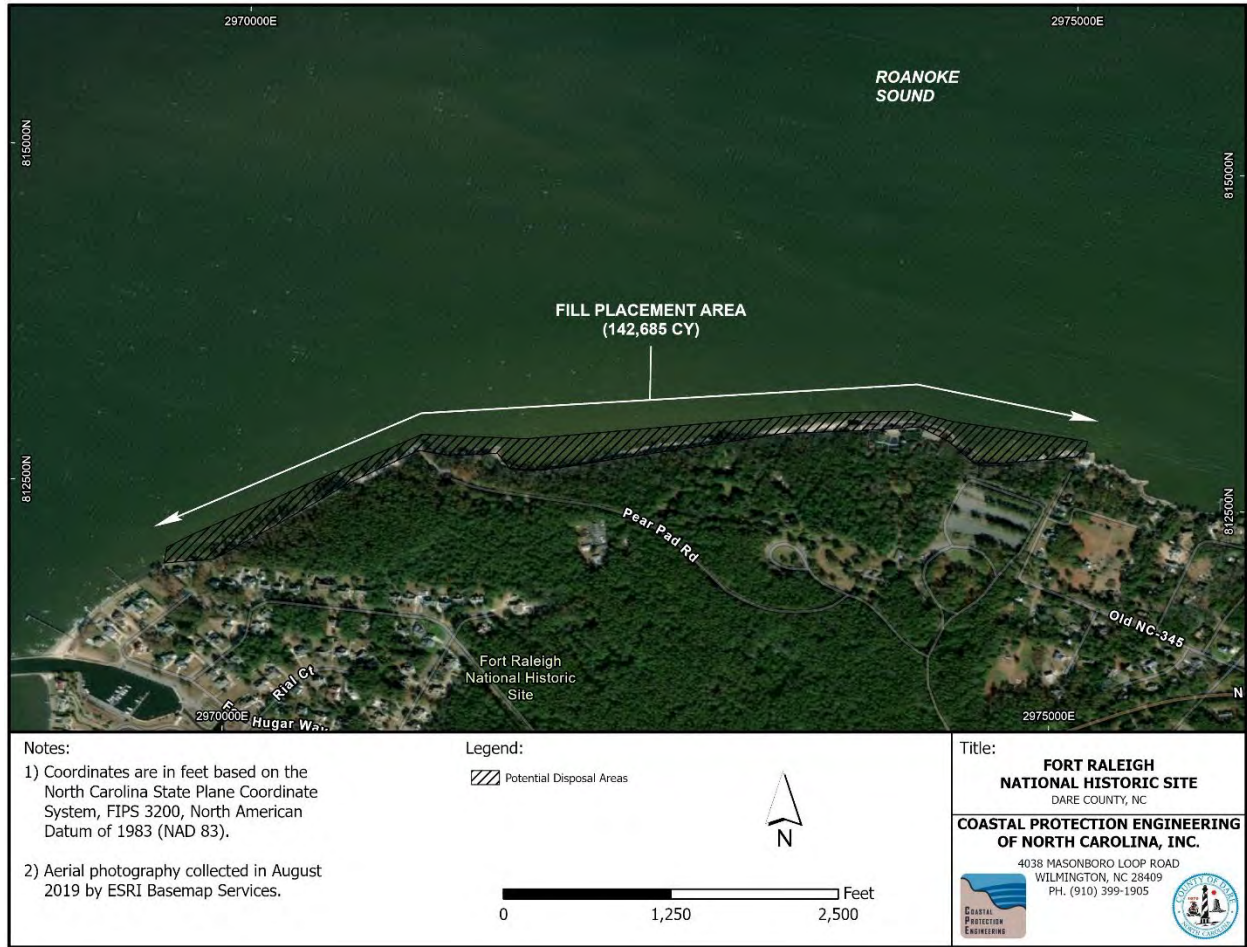


Figure 6. Map showing the extent of possible fill to be placed along Ft. Raleigh.

3.2 Open Water Disposal North of Roanoke Island

As stated in Section 3.1, the NPS and other local interests have identified a need to provide erosion mitigation to portions of the northern shoreline of Roanoke Island. Furthermore, the northern portion of the Roanoke Sound was identified by the NC WRC as a site in which additional bird islands would be beneficial to shorebird species. One hundred ninety species have been recorded on dredged-material islands. This represents nearly 50% of the approximately 400 species known from the North Carolina coastal zone. Many of these species utilize the bare sand and sparsely vegetated portions of these islands for nesting while others utilize the scrub/shrub habitat that is created as the island becomes increasingly vegetated (Parnell et. al, 1986). It may be possible to create “bird islands” in the waters north of Roanoke Island that could serve as bird habitat. The creation of such islands may also provide shoreline protection for the north end of Roanoke Island and a facility to place dredge material from Ranges 4A, 4B and 5. Figure 7 shows an area identified as “Potential Open Water Disposal North of Roanoke Island”, in which a bird island could be created using dredged material.

Engineering studies inclusive of numerical modeling would be required to determine the optimal configuration of bird islands north of Roanoke Island. NC WRC representatives suggested that bird

islands should be at least one-half mile offshore of mainland areas and no greater than approximately 25 acres in area to minimize mammalian predators on the islands such as coyotes and raccoons. Furthermore, NC WRC suggested that a maximum elevation be limited to approximately +15 ft. to maintain the ideal habitat for the types of birds the habitat would be designed. Nautical charts suggest the area north of Roanoke Island identified under this alternative are between -8 and -10 feet referenced to Mean Lower Low Water (MLLW). Given the guidance provided by the NC WRC and existing conditions in the waters offshore of Roanoke Island, a 25-acre island could hold approximately 800,000 to 1 million CY before it approached a maximum elevation of 15 ft.

This alternative is expected to provide additional capacity for the same channels described in Section 3.1. If the County were to obtain permits to construct a bird island in this vicinity, the ability to dispose of material to create an island with the previously described configuration could provide dredge disposal capacity for over 50 years. At present, approximately 65,100 CY of material would need to be removed from Ranges 4A and 4B to achieve the authorized -10 feet MLW control depth. Removal of an additional two feet to achieve the authorized overdepth would require the removal of approximately 118,300 cy. Available sediment records did not provide sufficient information to determine sediment compatibility for this project.

3.3 Placement of Fill on Spit Adjacent to “Andy Griffith” Property

During initial planning of the Dare County sponsored navigation dredging project for the Manteo/Shallowbag Bay Channel Ranges 1 through 4, a number of dredge material alternatives were discussed with resource agencies. One of these alternatives included placement of material along the spit on the northeast coast of Roanoke Island adjacent to property owned by the family of Andy Griffith. The spit is shown in Figure 7. The spit is known to be an area where local boaters tie up and recreate. Sediment samples obtained from Ranges 1 through 4 of the Manteo/Shallowbag Bay Channels showed that the material in the channels would not be compatible with placement on the sand spit and therefore that option was not pursued for that particular project.

Observations of waterfront properties south of the spit indicate past erosion issues given the presence of rock revetments and groins. By placing additional material along the spit and providing a “feeder beach”, benefits to the downdrift properties south of the spit could be realized over time. Restoration of this shoreline to a more natural configuration may provide both shoreline protection for properties and habitat enhancements replacing hardened shorelines with more natural sandy shorelines.

Engineering studies inclusive of numerical modeling may be required to determine the optimal placement of sand along the spit to achieve the desired downdrift benefits. In the absence of such guidance, an estimated maximum elevation of +15 feet was used to determine additional volume capacity to place material along the spit. Approximately 250,000 CY of material could be placed along the existing spit before achieving an elevation of +15 feet based on 2014 elevation data.

This alternative is expected to provide additional capacity for the same channels described in Section 3.1. Available sediment records did not provide sufficient information to determine sediment compatibility for this project; however, if the material is compatible with the sand that

makes up the spit, channel material could be placed along the spit to achieve downdrift benefits. Obtaining permits to place dredged material along the spit could provide dredge disposal capacity for at least one maintenance event of ranges 4A, 4B, and 5 through 13. That would be the equivalent of 15 years of capacity based on the Needs Assessment. At present, approximately 65,100 CY of material would need to be removed from Ranges 4A and 4B to achieve the authorized -10 feet MLW control depth. Removal of an additional two feet to achieve the authorized overdepth would require the removal of approximately 118,300 cy.

3.4 Disposal at Jockey's Ridge State Park

According to the North Carolina Division of Parks and Recreation, Jockey's Ridge is the "tallest living sand dune" on the Atlantic coast. The site is a major tourist attraction for visitors of the Outer Banks and is one of the most visited state parks in North Carolina (Mitas et al., 2013). Several studies conducted in the late 1990's and early 2000's reviewed management challenges, sand migration and recommended a variety of dune management alternatives (Havholm et al., 2004; Judge, Courtney, & Overton, 2000; Runyan & Dolan, 2001). These articles described the challenges of sand migrating to the south over time and overtaking development on the south side.

Mitasova & Harmon (2005) concluded that sand sources that were feeding the growth of the dune fields that comprise Jockey's Ridge State Park were disrupted in the 1930's and increased disruption in the 1960's, which reduced the sand supply causing the observed changes. The study suggested that depositing sand in the depression immediately north of the main dune and controlling vegetation in this area may be an effective approach to reducing deflation rates of the main dune.

As part of the concept alternative development, CPE staff reached out to Joy Greenwood, Park Superintendent for Jockey's Ridge State Park, to enquire about the Parks interest in such a project. After consulting with the North Carolina Division of Parks and Recreation natural resource staff, Ms. Greenwood reported back that Park staff "believe the sand and material won't be compatible for Jockey's Ridge." In a follow up correspondence, Ms. Greenwood stated that "If the material is verified as compatible, (NC Parks) would consider the possibility of accepting the material..."

Given the response from the North Carolina Division of Parks and Recreation, this alternative should not be considered further until sediment data are available for the potential channels that may provide sediment for such an alternative. Furthermore, if the alternative were pursued in the future after verification of sediment compatibility, analysis of the existing configuration of Jockey's Ridge would be required to identify the ideal location for material to be placed.

This alternative is expected to provide additional capacity for the same channels described in Section 3.1. Given the Park's current lack of interest in pursuing the alternative, no specific estimate can be made regarding how much capacity such an alternative might provide. 3.1

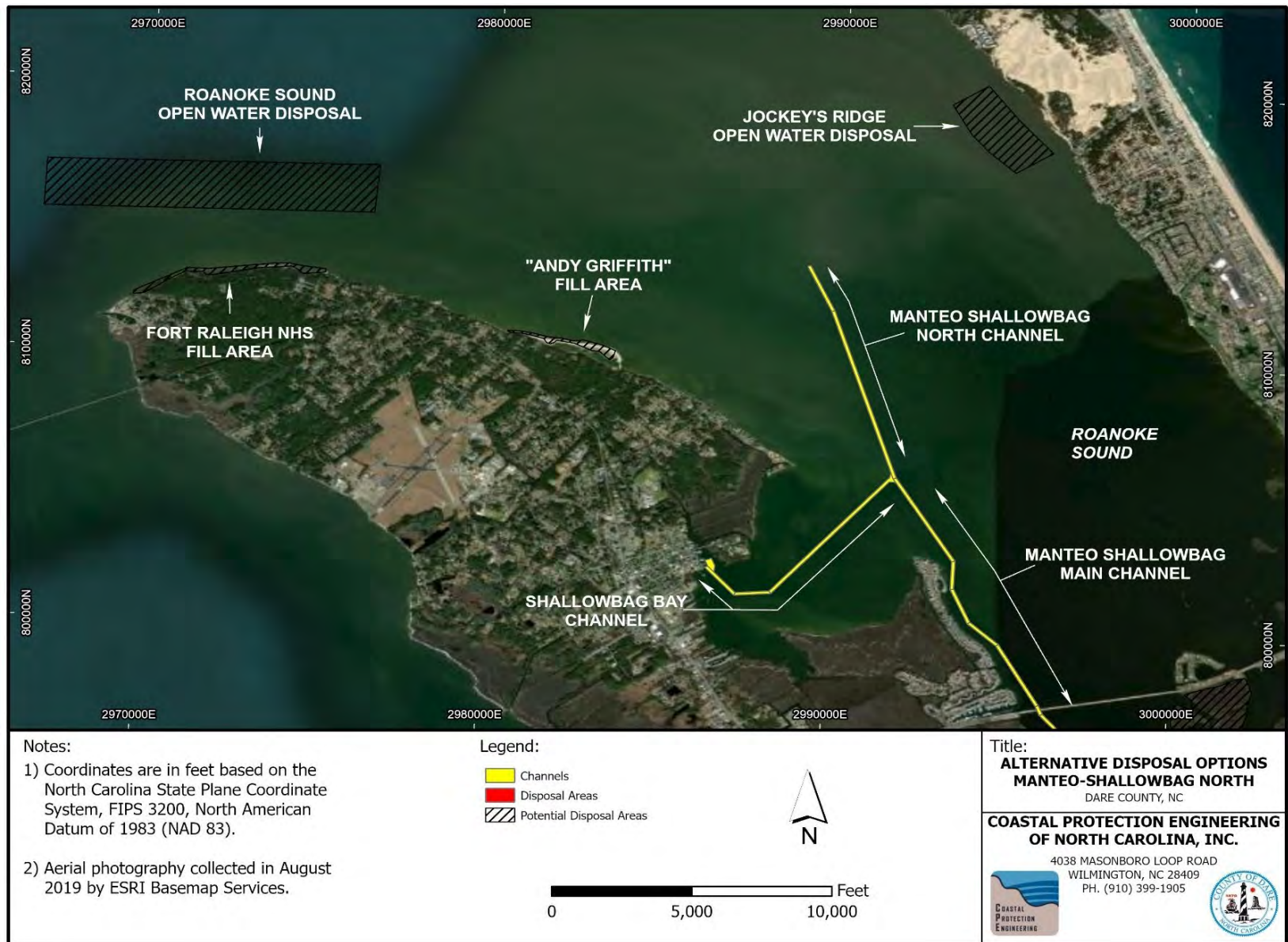


Figure 7. Map showing the locations of possible disposal areas in the vicinity of the northern portion of Roanoke Island.

3.5 Open Water Disposal Offshore Jockey's Ridge

Another alternative associated with Jockey's Ridge, could include re-creation or expansion of additional sand shoals to provide additional habitat for shorebird species. Figure 7 shows an area identified as a potential open water disposal area offshore Jockey's Ridge. This alternative would align with NC WRC needs for additional bird islands in the vicinity. As previously stated, NC WRC recommendations on the siting of bird island is that they be located one-half mile from the mainland. In some cases, the NC WRC has approved a distance of ¼ mile from the mainland. The siting of an island in this location approximately one-half mile from shore would place the islands in deeper waters, waterward of the sandy shoals and in water depths of 7 to 9 feet. If the islands were constructed one-quarter mile from shore, the islands would be situated on top of the shallow sandy shoals. Both muddy bottoms and shallow sandy shoals are considered essential fish habitat for a variety of organisms and therefore, environmental evaluations would be required to determine if placement of additional material would result in adverse impacts.

While placement of sediments in open waters can have adverse impacts to the existing benthic communities, research suggests that the predominant direction of aeolian transport across Jockey's Ridge is to the southwest (Mitasova & Harmon, 2005). This would suggest that Jockey's Ridge serves as a sand source for the sand shoals present to the west of Jockey's Ridge. Furthermore, it is possible that bottom communities in this area are resilient to frequent changes in the sand shoal configuration. Historic aerial photos of the shoals dating back to 1998 show exposed sand flats within this sand shoal system. The presence of such shoals may be due to episodic storm events blowing sand from Jockey's Ridge and adding sediment to the offshore shoal system. Assuming NC WRC representatives would approve the siting of a bird island one-quarter mile from shore in the vicinity of the sandy shoals west of Jockey's Ridge and limiting the configuration of the island to no greater than approximately 25 acres with a maximum elevation of approximately +15 ft., it has been estimated that between 535,000 and 695,000 CY of material could be placed in this vicinity. This estimate is based on an assumed water depth within the area of between -2 and -4 feet referenced to Mean Lower Low Water (MLLW). If NC WRC representatives required the siting of a bird island one-half mile from shore, with the same configuration in terms of acreage and maximum elevation, an estimated 741,000 to 910,000 CY of material could be placed in this vicinity. This estimate is based on an assumed water depth within the area of between -7 and -9 feet referenced to Mean Lower Low Water (MLLW).

This alternative is expected to provide additional capacity for the same channels described in Section 3.1. Available sediment records did not provide sufficient information to determine sediment compatibility for this project; however, if the material is conducive to creating bird island habitats within the sandy shoals located adjacent to Jockey's Ridge, channel material could be placed in a preferred configuration to meet the needs of creating bird habitat. Even assuming the preferred placement of the bird island would be in shallower waters, approximately one-quarter miles from shore, this alternative could provide dredge disposal capacity for at least two maintenance event of ranges 4A, 4B, and 5 through 13. That would be the equivalent of 30 years of capacity based on the Needs Assessment. Obtaining permits to place dredged material within one-half mile of shore in deeper water depths could provide dredge disposal capacity for more

than three (3) maintenance event, or over 45 years of capacity based on the Needs Assessment. At present, approximately 65,100 CY of material would need to be removed from Ranges 4A and 4B to achieve the authorized -10 feet MLW control depth. Removal of an additional two feet to achieve the authorized overdepth would require the removal of approximately 118,300 cy.

3.6 Thin Layer Placement

Berkowitz et al (2019) defines thin layer placement as “purposeful placement of thin layers of sediment (e.g. dredged material) in an environmentally acceptable manner to achieve a target elevation or thickness.” The concept of thin layer placement is one that is still being developed in some areas but has been used successfully in other states such as New Jersey, Virginia, Georgia, and Louisiana. These projects are often constructed using fine-grained material from navigation channels deposited as a thin layer and considered beneficial use. Researchers with the National Estuarine Research Reserve (NERR) recently published *Guidance for Thin Layer Placement as a Strategy to Enhance Tidal Marshes* (Raposa et al., 2020). NERR researchers established the purpose statements: 1) Increasing tidal marsh resilience in the face of sea-level rise will require implementation of climate adaptation strategies; 2) One emerging climate adaptation strategy for tidal marshes is thin-layer sediment placement; and 3) Thin-layer sediment placement emulates natural depositional processes in tidal marshes.

Several channels throughout the project area are known to contain fine grained or mixed sediments that may be suitable for thin layer placement applications. Historically, these channels have required the availability of confined disposal facilities like the island located east of the channel to Wanchese (Island H). In other instances, such as at Rollinson Channel, no dredging has been conducted in parts of the channel as no confined disposal facility is available. Throughout the needs assessment and during the evaluation of alternatives, several channels and marsh sites have been identified as potential thin layer placement alternatives. These include:

- Approximately 65 acres of marsh located north of Festival Park may be suitable for thin layer placement. Material dredged from the Manteo/Shallowbag Bay Ranges 1 through 4 may be compatible for this type of application. Assuming a sediment thickness of 6 inches, the volume that could be placed within 65 acres would be approximately 52,000 cy.
- Approximately 105 acres of marsh located south of Highway 64 causeway that runs from Manteo to Nags Head may be suitable for thin layer placement. Material dredged from the Manteo/Shallowbag Bay Ranges 6 through 12 may be compatible for this type of application. Assuming a sediment thickness of 6 inches, the volume that could be placed within 105 acres would be approximately 85,000 cy.
- Approximately 178 acres of marsh located north of Wanchese Seafood Park may be suitable for thin layer placement. Material dredged from the Manteo/Shallowbag Bay Ranges 14, 14A, 14B, 14C, and inside the boat basin may be compatible for this type of application. Assuming a sediment thickness of 6 inches, the volume that could be placed within 178 acres would be approximately 144,000 cy.

- Approximately 75 acres of marsh located approximately 0.7 miles southwest of disposal Island F, may be suitable for thin layer placement. The Island, locally referred to as Duck Island and located just north of the intersection of the Manteo/Shallowbag Bay Channel and Walter Slough, is privately owned and is located on the west side of Range 15. Material dredged from Manteo/Shallowbag Bay Ranges 14, 14A, 14B, 14C and other ranges south may be compatible for this type of application. Assuming a sediment thickness of 6 inches, the volume that could be placed within 75 acres would be approximately 60,000 cy.
- Approximately 122 acres of marsh located between the Hatteras Boat Basin and Durant Point may be suitable for thin layer placement. Material dredged from the Rollinson Channel Project may be compatible for this type of application. Assuming a sediment thickness of 6 inches, the volume that could be placed within 122 acres would be approximately 98,000 cy.

The five (5) areas described as possible locations for thin layer placement application are shown in Figure 8 and Figure 9. The assumption of 6 inches used above to estimate volumes that could be applied to specific areas comes from Raposa et al. (2020), which suggests optimal thicknesses range from 4 to 9 inches (10 – 20 cm).

The thin layer placement locations were identified through an evaluation of the NC Division of Marine Fisheries data on potential Marsh Enhancement and Restoration Areas (Williams, 2002), and The Nature Conservancy's Resilient Coastal Sites for Conservation in the South Atlantic Study (2020). A comparison of the estimated dredging needs and the estimated volume of sediment that these five (5) areas could accommodate, may only provide capacity for one maintenance event. Over time, it may be possible to place additional material along the same section of marsh but depending on sea level rise rates and the availability of sediment to allow natural buildup of the marsh, this interval would likely be on the scale of multiple decades.

Several thin layer placement pilot projects have been completed in North Carolina over recent years. One such project involved the discharge of 750 CY of material into two small open water areas totaling 0.17 acres within the marsh complex at Camp Lejeune by NOAA scientists in 2017. Ongoing research by the North Carolina Estuarine Research Reserve (NERN) program on Masonboro Island regarding thin layer placement involves the placement of dredged material within individual 0.7m² quadrats. In 2007, a similar study by UNCW researchers explored the ability for the placement along a sediment-starved marsh at Masonboro Island could offset submergence without negatively effecting function (Croft et. al, 2006). Despite these small pilot projects, no large-scale thin layer placement operations have been conducted in North Carolina.

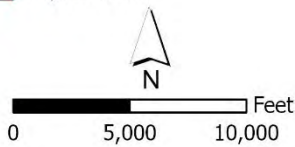


Notes:

- 1) Coordinates are in feet based on the North Carolina State Plane Coordinate System, FIPS 3200, North American Datum of 1983 (NAD 83).
- 2) Aerial photography collected in August 2019 by ESRI Basemap Services.

Legend:

- Channels
- Thin Layer Placement
- Disposal Areas



Title:

**THIN LAYER
PLACEMENT AREAS**
DARE COUNTY, NC

**COASTAL PROTECTION ENGINEERING
OF NORTH CAROLINA, INC.**

4038 MASONBORO LOOP ROAD
WILMINGTON, NC 28409
PH. (910) 399-1905



Figure 8. Map showing the locations of possible thin layer placement areas on the east side of Roanoke Island.

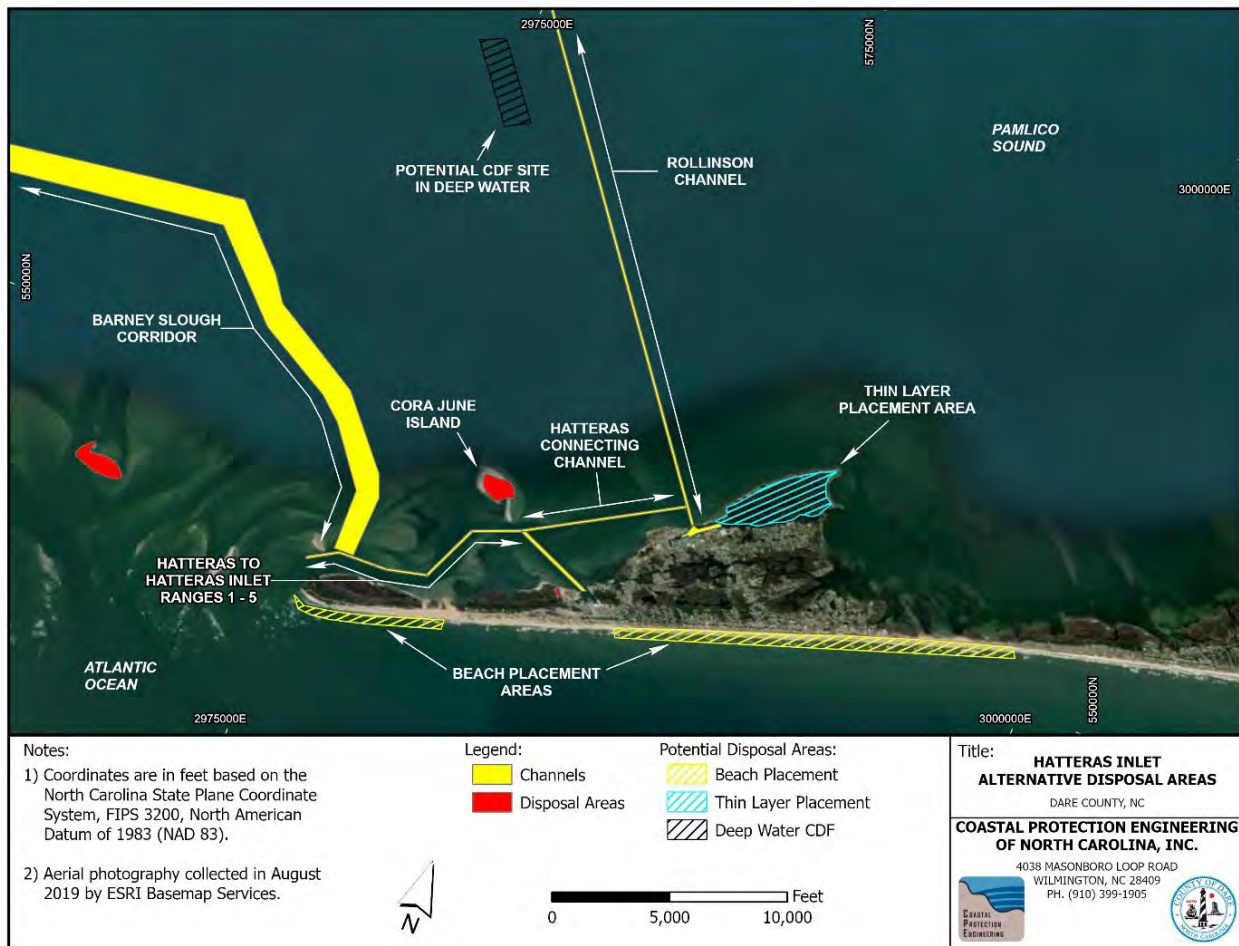


Figure 9. Map showing the locations of possible disposal areas in the vicinity of the Hatteras Village.

Based on the needs assessment, the average maintenance event of the Wanchese channels (Ranges 14A, 14B, and 14C) is 77,000 CY. Surveys conducted in November 2020 indicate approximately 66,000 CY of material would need to be dredged to achieve the authorized -12 ft. MLLW + 2 feet overdepth in Ranges 14A, 14B, and 14C. However, after Hurricane Dorian impacted the region in 2019, the USACE conducted an emergency effort to remove approximately 6,600 CY of material from Ranges 14A, 14B, and 14C. For planning purposes, this report uses the average volume calculated per maintenance event of 77,000 CY for volume expected to be removed from the Wanchese channel per event.

Material dredged from Range 14 is typically included in the regular maintenance of the Wanchese Channel. Based on surveys conducted in February 2021, an estimated 10,000 CY of material would need to be dredged along approximately 1,000 feet of Range 14, centered on the Wanchese Channel, to achieve an authorized depth of -12 ft. MLLW + 2 feet overdepth. Portions of Range 14 north of this section are shoaled to depths shallower than authorized depth; however, deep water outside the authorized channel provides sufficient water to transit north along the channel. Some dredging would be required along the south end of Range 14 to achieve authorized depths;

however, that material could be placed on bird islands near the south end of Range 14, which still have sufficient capacity. In total, approximately 87,000 CY are estimated to be removed to achieve the authorized depth including overdepth. If the County were to obtain permits to construct any of the four thin layer placement areas shown in Figure 8, the ability to use dredged material to perform thin layer placement may only provide dredge disposal capacity for one or two events.

One additional factor to be considered is the future capacity of the new dredge being constructed through a private/public partnership between EJE Dredging and the State of North Carolina (PPP Dredge), to provide routine maintenance of Ranges 14, 14A, 14B, and 14C. Should the County obtain permits to allow for this type of operation, which is discussed in Section 3.22, the regular routine maintenance of "hotspots" in these channels is expected to either decrease the amount of material required to be removed by contract pipeline dredge during a particular event, or extend the time between maintenance conducted with a contract pipeline dredge.

No records from the past 20 years indicated dredging of the entirety of Rollinson Channel. Rollinson Channel dredging was limited to the southernmost portion of the channel approaching the boat basin where approximately 10,000 CY of material was removed every 6 years on average. The remaining portion of Rollinson Channel has not been maintained to the authorized depth. Some areas of the channel have shoaled to depths of -6 feet MLLW. Based on the currently available survey data of the channel, approximately 270,000 CY of material would need to be removed from the channel to achieve the authorized depth of -12 feet MLLW. Approximately 115,000 CY of material would need to be removed to achieve a depth of -10 feet MLLW. If the County were to obtain permits to conduct thin layer placement in the area shown in Figure 9, the ability to use dredged material to perform thin layer placement may only provide dredge disposal capacity for one event. However, such an event may only be required every 20 years. Furthermore, should the County obtain permits to conduct routine maintenance dredging of the channel using the PPP dredge, the frequency and/or volume of the dredge events may be reduced.

Extensive environmental, geotechnical, and engineering evaluations would be required to design and permit this type of project. Furthermore, with the exception of the area located north of Festival Park, each of the areas are privately owned and easements would need to be secured to use the property. Given the amount of marsh habitat in the County, an established need to enhance tidal marsh resilience through the climate adaptations strategies such as thin layer placement, and the need for additional dredge material management strategies, thin layer placement may be something the County should consider over the long-term. Guidance on funding the initial study of these alternatives is discussed under Recommendation #6 in Section 5.

3.7 Placement of Fill on Dredge Spoil Islands West of Ranges 12 and 13

Local stakeholders identified the numerous properties that line the western edge of Ranges 12 and 13 of the Manteo/Shallowbag Bay Channel between Hwy 64 and Wanchese as a possible dredge disposal option. According to Dare County Parcel data, the 24 properties along this stretch of shore, are owned by the same entity. The majority of each property appear to be mainly comprised of tidal marsh and wetlands. Some high ground may exist, however, only in locations where dredge material were previously deposited. The material used to create this high ground

is believed to be remnants of the initial construction of this portion of the navigation channel. At present, these high spots or hills may range from 300 to 600 feet wide; however, between the dredge material hills, there exists only a thin ribbon of high ground (100 to 200-foot wide). In some locations, however, no high ground may be present between these disposal hills. Due to the presence of wetlands that encircle these high ground areas, the construction of a dredge disposal management facility in which material could be stockpiled and dewatered along this section of the shore may result in extensive impacts to wetlands.

Sediment routinely dredged from the Manteo-Shallowbag Bay Channels, Ranges 12 and 13 would be the most likely channels from which material would be placed on these properties. However, records obtained during the needs assessment did not indicate any dredging in Ranges 12 or 13. Furthermore, current surveys indicate this section of the channel is relatively deep and may not require maintenance in the near future.

Environmental, geotechnical, and engineering evaluations would be required to design and permit this type of project. Furthermore, the areas are privately owned, and easements would need to be secured to use the property. Given the low demand for a site in this vicinity, and the challenges with constructing a facility along this stretch of shore, this alternative appears to be a less viable option.

3.8 Island H Modifications

Island H is a confined disposal facility (CDF), used by the USACE for storing mixed and fine-grained sediments. The Coastal Engineering Manual defines a CDF as an engineered structure for containment of dredged material placed in the facility via hydraulic or mechanical means (USACE, 2015). Located just outside the channel to Wanchese Harbor and shown in Figure 8, Island H has historically been used for the placement of fine-grained material dredged from Range 14 as well as the channel into Wanchese (Ranges 14A, 14B, and 14C). The Island is managed by the NC WRC and used by the USACE through an MOU between the two agencies.

At present, the Island is configured with dikes at approximate elevation +29 ft. NAVD88. Surveys conducted by the USACE in April 2020 suggest that the facility's remaining capacity is approximately 36,500 cy. This capacity was computed based on the assumption that 2 ft. of freeboard should be maintained within the CDF during operations and that only 50% of the available volume capacity below the freeboard level is available for dredged sediments given 50% of the volume would be required for water contained in the slurry. Estimates of the amount of material required to be removed from Ranges 14A, 14B, and 14C at the time of this report exceed the estimated material capacity within Island H.

As a one-time short-term solution to the need for additional capacity for the USACE to maintain Ranges 14A, 14B, and 14C, modifications of Island H may allow for a sufficient increase in capacity to conduct another event. One concept being considered includes the temporary deconstruction of portions of the upper dike on the east side of the CDF and push material out of the CDF placing it beyond the existing footprint of the CDF. This concept is illustrated in Figure 10. A second concept would involve the use of long reach excavators on top of the berm to dig material from

within the disposal area and cast material over the dike and into the same area shown in Figure 10. Under this concept bull dozers would be used within the site to move material to areas where the long reach excavators could excavate the material from within the CDF. A third concept to consider would include the excavation around the perimeter of the dike to raise the dike approximately 2 feet in elevation, which would provide approximately 60,000 cy of added capacity. The ideal solution may be a combination of these concepts.

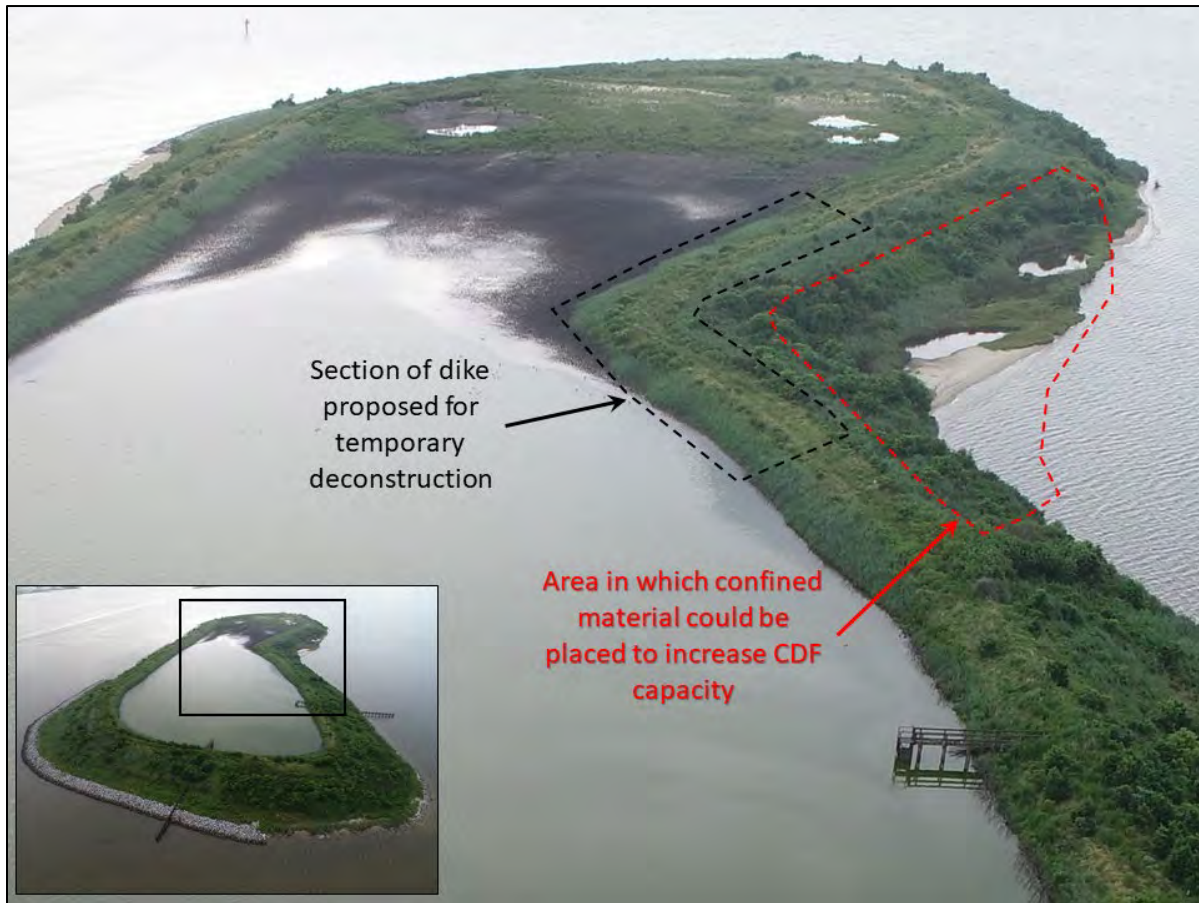


Figure 10. Drone Image of Island H illustrating the concept of temporarily deconstructing the eastern dike and placing some of the confined material outside of the dike to increase capacity.

This alternative is expected to provide additional capacity for the same portions of the Wanchese Channel and Range 14 of the Manteo/Shallowbag Bay channel described in Section 3.6. In total, approximately 87,000 CY are estimated to be removed to achieve the authorized depth with overdepth. In order to increase the capacity of Island H to accommodate another maintenance event, a minimal additional capacity of 50,500 CY would be required. This estimate has been increased by 50% to account for additional shoaling, effectively requiring approximately 76,000 cy of additional capacity within Island H.

Initial estimates to fill the area shown in Figure 10, suggests that the filling of approximately 3 acres of area to an elevation of 29 feet with comparable side slopes to the existing dike would

accommodate approximately 60,000 cy of material. Initial estimates were also made to determine the volume of material required to increase the elevation of the dike by approximately 2 feet. The estimated volume required to increase the elevation is approximately 6,800 CY. As previously stated, the increased elevation of the dike by 2 feet could provide an additional approximately 60,000 CY of capacity.

Environmental, geotechnical, and engineering evaluations would be required to design and permit this type of project. Furthermore, coordination with NC WRC, who currently manages the Island, would be required; however, preliminary conversations with NC WRC staff suggests they would be agreeable to these modifications contingent on it not causing adverse impacts on other resources. Wetland, shellfish beds, and SAV surveys may need to be conducted to determine the types of resources that could be impacted.


3.9 Upland CDF Near Tillet Road in Wanchese

As previously discussed, Island H may be modified to allow for placement of additional material to allow for another event, but modification of the Island does not appear to be a long-term solution that would address future capacity for fine grained and mixed sediments. Thin layer placement, as discussed in Section 3.6, may also be an option, but the sites identified may only allow for one event over the course of several decades. Therefore, it is likely that some CDF may be needed for the long-term maintenance of these channels.

CDF's constructed in the open water require extensive environmental documentation and may ultimately fail to receive permits for construction due to potential adverse impacts. They also tend to be finite in nature as once they are filled to capacity, they can no longer be used. This is a problem with many CDFs. In order to extend the life of a CDF, some managers have been successful in providing access to the CDF to users requiring fill for public and private projects. For this to be an option, the CDF must be sited in a location that allows easy access for trucks to access and transport fill.

One potential site identified during this study, which may provide convenient vehicular access, is a piece of privately owned property located east of Rt. 345, south of the Refuge at Roanoke campground, and north of Tillet Road. The property encompasses approximately 156 acres. According to NC DCM's online database, this property may include several different types of wetlands (NC DCM, 2020). A wetland delineation of the property would allow for the siting of the facility to be located in areas that would avoid or minimize impacts to wetlands. The initial concept would require the purchase of the land and construction of a CDF on the land with water control structures that would allow for the dewatering of the site.

As previously discussed, sediment routinely dredged from the Wanchese channels (Ranges 14A, 14B, and 14C) averages approximately 77,000 CY every 3 years. Sediment routinely dredged from the Manteo-Shallowbag Bay Channels, Range 14 has also historically been placed in Island H. Though the needs assessment did not specifically identify long term needs for Range 14 only, this section of the channel is maintained on a 3-year average. Based on surveys conducted in February 2021, the channel contained approximately 81,000 CY of material above the -12 ft. MLLW contour



and approximately 176,000 CY above the authorized -12.0 ft. MLLW + 2 feet of overdepth. Range 14 was last dredged in 2017. As previously discussed in Sections 3.6 and 3.8, the 1,000-foot portion of Range 14 centered on the Wanchese Channel contains approximately 10,000 CY of material down to -12 ft. MLLW + 2 feet of overdepth. Given the concept for this alternative would be to pump material into the CDF and then mine the material from the area between maintenance events, the initial concept for the CDF is to allow for storage of approximately 174,000 CY, which is 2.0 times the expected quantity needed every 3 years to maintain the Wanchese Channel and an approximately 1,000 foot stretch of Range 14 near the intersection of the Wanchese Channel. This multiplier provides additional capacity in the event shoaling rates vary.

The USACE has stated that a CDF should have twice the capacity of the volume of sediment needed to be placed within it to account for the water mixed with the sediment to create the slurry. This additional capacity allows for dewatering without the need to shut down the dredge excessively during operations. Furthermore, a 2-foot freeboard allowance is also included in the configuration of the CDF. Based on these factors, the configuration of a CDF that could provide sufficient capacity for the expected maintenance material dredged from the Wanchese channels (Ranges 14A, 14B, and 14C) and portions of the Manteo-Shallowbag Bay Channel Range 14, would require approximately 30 acres with dikes constructed to an elevation approximately 12 feet above existing grade.

The construction of such a CDF would require approximately 93,500 CY of suitable material. Based on available information for the site, cost estimates assume that all the 93,500 CY would be hauled to the site. The construction cost estimate for constructing a 30-acre CDF with dikes constructed to an elevation of approximately 12 feet above existing grade is approximately \$3.4 million. This cost does not include the cost of land acquisition. It should be noted that if suitable fill material is available on site, the cost estimate could be reduced considerably as material cost and hauling cost represent approximately 2/3 of the construction cost estimate.

If the County were to obtain permits and construct a CDF in this location as described, and the material pumped into the facility could be mined in the interim for public and private use, such a facility could provide dredge capacity for over 20 years. One additional factor to be considered is the future capacity of the new dredge being constructed through a private/public partnership between EJE Dredging and the State of North Carolina (PPP Dredge), to provide routine maintenance of Ranges 14, 14A, 14B, and 14C. Should the County obtain permits to allow for this type of operation, which is discussed in Section 3.22, the regular routine maintenance of "hotspots" in these channels is expected to either decrease the amount of material required to be removed by contract pipeline dredge during a particular event, or extend the time between maintenance conducted with a contract pipeline dredge.

A properly configured site could provide multiple additional uses. The ownership of the entire property may allow the County to develop recreational facilities in this location. The property has waterfront access that could provide fishing, bird watching, and kayak launch access to the public. Depending on site conditions, other portions of the upland area may provide an area to develop nature trails, playgrounds, or other recreational facilities.

Environmental, geotechnical, and engineering evaluations would be required to design and permit a CDF in this location. A detailed site plan would need to be prepared in order for the County to

assess the viability of the site for the desired uses. This would include a wetland delineation survey for 404 wetlands. At the time of this report, County staff have indicated that the current owners of the property are interested in negotiating a sale.

3.10 CDF on NPS Land at Bodie Island Near Radio Tower

As previously described, material dredged from the Manteo/Shallowbag Bay Ranges 14, 14A, 14B, and 14C has historically been placed in a CDF due to the fraction of fine-grained material. In addition to modifying Island H as discussed in Section 3.8, and the creation of an additional CDF discussed in Section 3.9, one additional location for creation of such a facility may be part of NPS land on Bodie Island located near the radio tower on the west side of Hwy 12, just south of the southern end of Nags Head. The upland portion, shown in Figure 11 includes approximately 190 acres of wooded land in which the radio tower and several small facilities maintained by NPS are located.

This location, approximately 1.5 miles to the east of Island H, could provide sufficient area for the construction of a CDF. However, NPS stated mission for the Cape Hatteras National Seashore is to “preserve the wild and primitive character of the ever-changing barrier islands, protect the diverse plant and animal communities sustained by the coastal island processes, and provide for recreational use and enjoyment that is compatible with preserving the distinctive natural and cultural resources of the Seashore” (NPS, 2020).

The transformation of this portion of NPS land into a CDF may be seen as incompatible with NPS’s mission for the Seashore. The temporary establishment of a CDF, to be used only during maintenance events, may be more palatable to NPS; however, a management plan for the interim would need to be developed and agreed to by NPS. A determination of specifically how the material would be beneficially used to enhance habitat will also be necessary.

During discussions with NPS staff, the possibility of using material to infill a series of channels dredged through the marsh south of Whalebone junction and west of South Nags Head, was discussed (personal communication, D. Hallac, December 3, 2020). These features can be seen on the Google Earth imagery from March 2017 shown in Figure 12. The NPS has some interest in re-filling these canals to return the land to its natural state.

NPS has hypothesized that the channels were originally dredged to drain the marsh and to allow development of South Nags Head. Prior to undertaking any efforts to infill the canals, a hydraulic and hydrologic study may be required to determine whether infilling could have adverse impacts on the South Nags Head community. Should such a study conclude that no adverse impacts would be caused by such infilling, the NPS may be interested in developing a dredge material management plan to temporarily store material in a CDF on NPS property and use the material for a combination of beneficial uses including infilling of these channels.

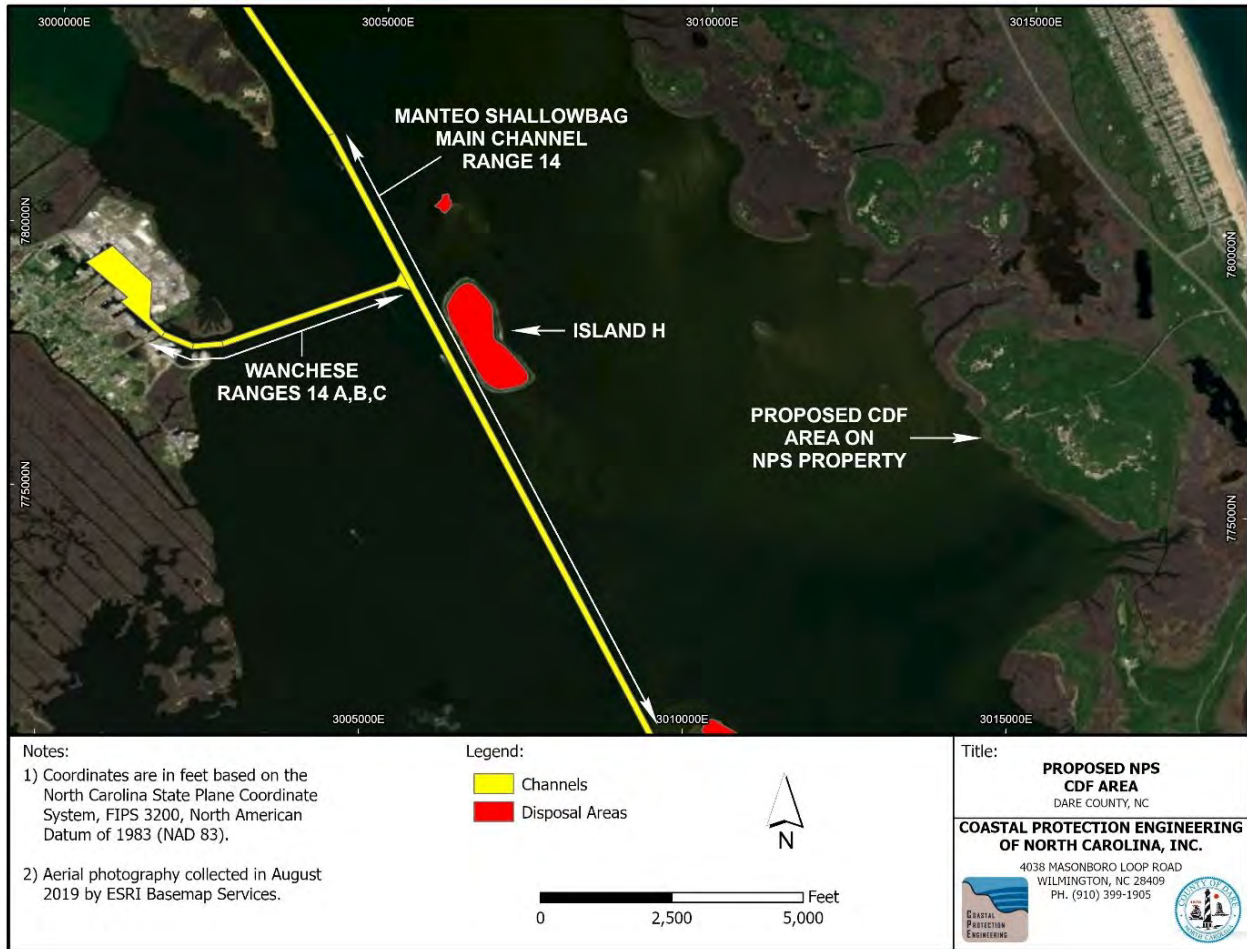


Figure 11. Map showing the location of the NPS property on Bodie Island near the radio tower, in relation to Island H and Wanchese Harbor.

The concept for this alternative would be to pump material into the CDF and then mine the material from the area between maintenance events. Therefore, the initial concept for the CDF is to allow for storage of approximately 174,000 CY, which is the same volume discussed in Section 3.9. Similar to the facility discussed in Section 3.9, the dimensions of the facility need to account for guidance requiring approximately twice the capacity of the volume of sediment needed to be placed within it to account for the water mixed with the sediment to create the slurry and an additional 2-foot freeboard allowance. Based on these factors, the configuration of a CDF that could provide sufficient capacity for the expected maintenance material dredged from the Wanchese channels (Ranges 14A, 14B, and 14C) and portions of the Manteo-Shallowbag Bay Channel Range 14, would require approximately 30 acres with dikes constructed to an elevation approximately 12 feet above existing grade.



Figure 12. Google Earth imagery from March 2017 showing a series of canals dredged through the marsh south of Whalebone Junction and west of South Nags Head.

The construction of such a CDF would require approximately 93,500 CY of suitable material. Based on available information for the site, it is possible that this area may contain material that could be used for a portion of the work. To determine how much local material could be used, geotechnical investigations would be required of the site. That said, the construction cost is expected to be less than the \$3.4 million quoted for the CDF at the property off Tillet Road, described in Section 3.9. Material cost and hauling cost represent approximately 2/3 of the construction cost estimate of \$3.4 million stated in Section 3.9.

If the County were to obtain permits and construct a CDF in this location as described, and the material pumped into the facility could be used in the interim by NPS to address priority restoration, such a facility could provide dredge capacity for over 20 years. One additional factor to be considered is the future capacity of the new dredge being constructed through a private/public partnership between EJE Dredging and the State of North Carolina (PPP Dredge), to provide routine maintenance of Ranges 14, 14A, 14B, and 14C. Should the County obtain permits to allow for this type of operation, which is discussed in Section 3.22, the regular routine maintenance of "hotspots" in these channels is expected to either decrease the amount of material required to be removed by contract pipeline dredge during a particular event, or extend the time between maintenance conducted with a contract pipeline dredge.

3.11 Marsh Restoration Beneficial Use Projects at Wanchese

In 2009, the USACE completed the Wanchese Marsh project. The project, which was implemented as a Continuing Authorities Program (CAP) Section 204 of the Water Resources Act (WRDA) in cooperation with the State of North Carolina, is located at Wanchese Harbor to the west of the channel to Oregon Inlet and to the north of the entrance channel to the boat basin at Wanchese. The project included the construction of approximately 12 acres of estuarine creek and marsh habitat using dredge material from the maintenance of the Manteo-Oregon Inlet Channel and Side Channel to Wanchese. The project site is enveloped by a stone dike, which runs parallel to the entrance channel for approximately 500 feet and then parallels the shoreline for approximately 700 feet. The project also included the creation of approximately one (1) acre of oyster reef, the chemical control of the invasive species *Phragmites*, and replanting of native marsh vegetation (USACE, 2020a). Figure 13 includes a recent drone image of the site taken in July 2020.



Figure 13. Drone image of the Wanchese Marsh Project taken July 2020.

Discussions with local stakeholders suggest that the current site could benefit from additional fine grain sediment. However, the USACE considers the site a successful CAP 204 Project and is unlikely to cost share in additional work to this site. Furthermore, according to J. Owens (personal communications, November 3, 2020) they may lack authority to allow other entities to modify the project.

Although modification to this particular site may not be feasible, there have been discussions between the State and the USACE about constructing a similar project on the south side of the entrance to the Wanchese boat basin near the fish house shown on the left-hand side of Figure 13. This proposed project could be funded in part under Section 204 (Beneficial Use) as well. The USACE would first need to draft a Study Initiation Request (SIR). The SIR is a brief report that determines if the proposed project would qualify under the CAP 204 authorization. The District would submit the SIR to the Division along with the non-federal sponsor requesting assistance. Once approved, the proposed project would await funding for new start CAP 204 funds. Depending on demand for these funds, this process could take several years. Once the funding is secured, an environmental study including a Section 204 Feasibility Report and environmental assessment would need to be commissioned by the USACE. This study would include the design of several project alternatives, including the preferred project, and an assessment of the existing benthic community and surrounding wetlands to determine the level of impacts to these natural resources. Funding for these studies may be cost shared by the State of North Carolina, however, this arrangement has not yet been codified.

The amount of dredged material that could be used for this proposed beneficial use project cannot be estimated until more detailed plans are developed. However, it is likely that such an alternative may only provide dredge disposal capacity for one or two events. Given the previously stated frequency of dredging of the Wanchese channel of 3 years, one or two events may not sound like a significant increase in capacity. That said, the PPP dredge being constructed through a private/public partnership between EJE Dredging and the State of North Carolina may provide routine maintenance of Ranges 14, 14A, 14B, and 14C in the future. Should the County obtain permits to allow for this type of operation, which is discussed in Section 3.22, the regular routine maintenance of "hotspots" in these channels is expected to either decrease the amount of material required to be removed by contract pipeline dredge during a particular event, or extend the time between maintenance conducted with a contract pipeline dredge.

3.12 Open Water Disposal In Areas Previously Authorized (Oregon Inlet to Old House Channel /South Side of Oregon Inlet/Offshore Pea Island)

The 1992 Environmental Assessment and Finding of No Significant Impact (FONSI) developed by the USACE allowed for the USACE special purpose *Dredge Currituck* to “remove isolated shoals from navigation channels in Oregon Inlet and vicinity so as to prevent unreasonable hazards or interference to navigation between regularly scheduled maintenance dredging” (USACE, 1992). Section 7.03 of the FONSI states that disposal of material by the special purpose dredge would be “...in one of several identified deep water scoured areas...”. Sub-section b. of Section 7.03 elaborates on what is referred to as “Dredged Material Disposal Sites – West of the Bonner Bridge”:

Several naturally deep scoured areas along the Oregon Inlet Channel, at the junction of Oregon Inlet Channel and Old House Channel, and near the channel to Wanchese would be designated as open-water disposal sites. The location of these naturally deep scoured areas will vary due to naturally shifting scouring actions west of the bridge. However, each site will be located in an area that will allow natural current conditions and scouring action in the channel to help

keep sediments moving out of the area so as to prevent material from returning to the channel being dredged. Since the Currituck draws -8 feet of water when fully loaded with dredged material, each naturally deep scoured area west of the bridge will have a minimum depth of -10 feet or greater.

Based on discussions with USACE Navigation Branch staff, the “Dredged Material Disposal Sites – West of the Bonner Bridge”, were not used for disposal operations. Current survey data available for these channels indicate that several portions of the channels have depths of -20 ft. MLLW or greater. Figure 14 shows a map of this section of the channels highlighting those areas in which depths of ≥ -20 ft. MLLW exist.

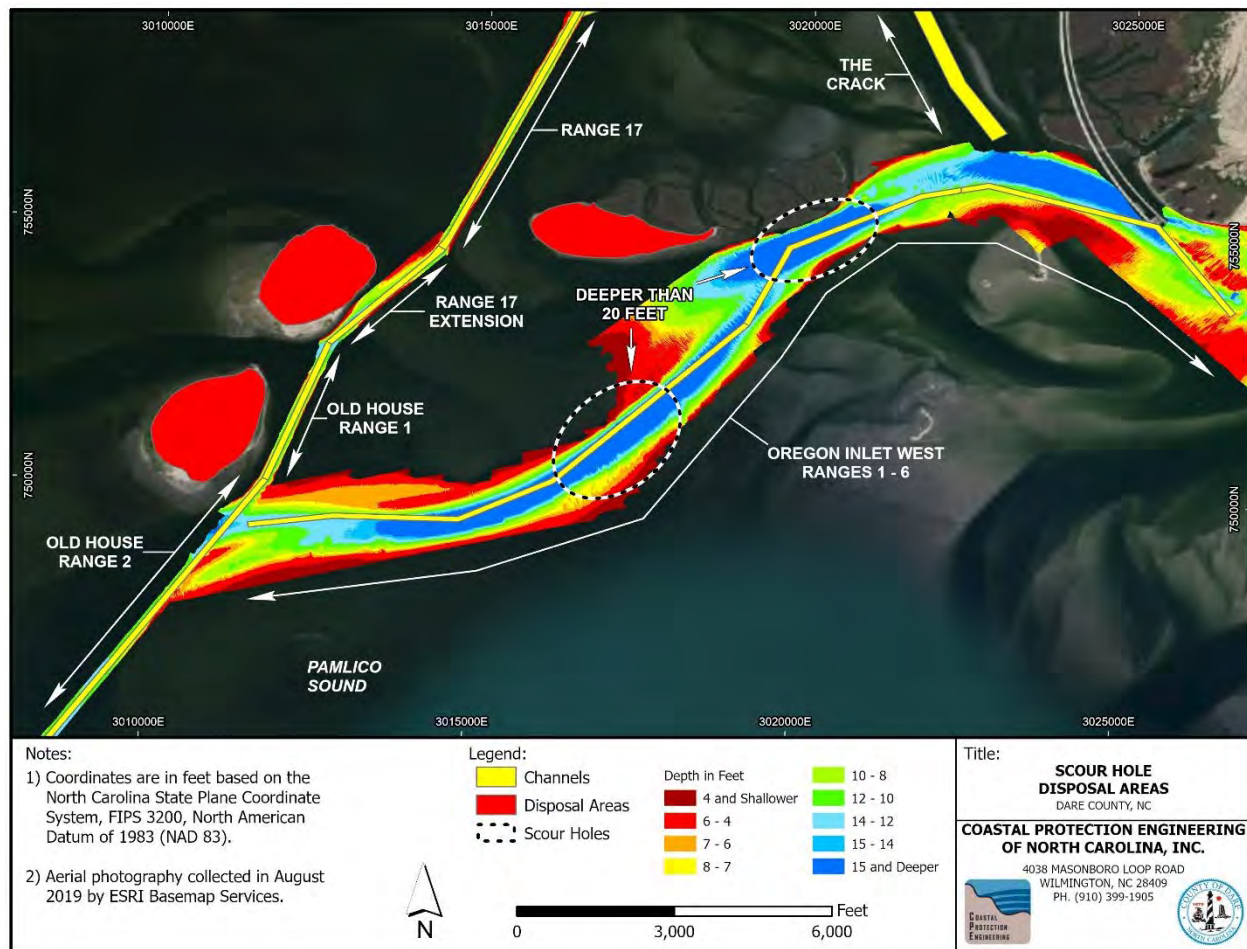


Figure 14. Map showing portion of the channel from Old House Channel to the Oregon Inlet Bridge in which existing depths may be conducive to bottom disposal.

Given bottom disposal of dredged material has been authorized in these areas previously, and the likely hood that the PPP dredge is expected to come online in the coming 24-months, the development of a plan to place material in these areas could provide supplemental capacity. Proposed actions may include daily dredging of a load of material from Ranges 14A, 14B, 14C, or

any of the Ranges from 14 through Old House Channel Range 2, as the PPP dredge transits from a birth in Wanchese or points south to Oregon Inlet to conduct routine maintenance. The dredge plan would require consultation with USACE Navigation Branch staff to determine limits to how much material could be placed in these holes over a given maintenance cycle. Regular monitoring of water depths in the area would also be necessary to evaluate how adding material to these holes might impact navigation elsewhere in the channel system. Likewise permits would need to be obtained by Dare County to allow for non-federal interests to place material in these locations. Federal and State Agencies would need to be consulted during the review of federal and state permit applications.

One further consideration for the County as they evaluate this alternative, would be to also include in any permit application, authorization to place material within the Oregon Inlet gorge. Specific locations would have to be determined based on existing conditions and coordination with USACE navigation branch staff; however, the general concept could include placement of material in areas east of the bridge, within the inlet gorge, in water depths between -20 and -30 feet MLLW.

Until further development of the dredge plan through consultation with USACE Navigation Branch staff, it is not possible to reasonably estimate the amount of material that could be placed in these areas over a given period of time. Rather, this alternative is to be considered a method supplementing other disposal alternatives and minimize maintenance costs.

3.13 Establishment of Additional Bird Islands Adjacent to Old House Channel

Many of the areas used as disposal sites between Ranges 14 through 17 Extension and into the Pamlico Sound through Old House Channel are what are commonly referred to as Bird Islands. Many of these islands are either owned or managed by the NC WRC. As previously mentioned, NC WRC suggests that bird islands should be at least a half of a mile offshore of mainland areas and no greater than approximately 25 acres in area, to minimize mammalian predators on the islands such as coyotes and raccoons. Furthermore, NC WRC suggested that a maximum elevation be limited to approximately +15 ft. to maintain the ideal habitat for the types of birds for which this habitat is designed. At present, two bird islands, namely Parnell Island and Wells Island are used for the maintenance of Old House Channel. Figure 15 shows a map of Old House Channel and these two disposal Islands.

The current federal dredge material disposal plan assumes continued placement of material on Parnell and Wells Islands. No concern about short-term capacity were expressed by the USACE regarding Old House Channel during the needs assessment. However, a Detailed Project Report and Environmental Assessment for what was referred to as the “Manteo, Old House Channel, NC Section 204 Project”, states that Parnell and Wells Island “...have exceeded their sand disposal capacity and are no longer available for disposal until they have receded back to a manageable size as appropriate for nesting bird islands” (USACE, 2014). Given the fact that Old House Channel is maintained approximately every three (3) years and the average volume removed during a maintenance cycle is approximately 227,000 cy, it is likely that future events may require additional capacity.

The purpose of the Manteo, Old House Channel, NC Section 204 Project, was to improve oyster reef habitat in the Pamlico Sound through beneficial use of dredge material from Old House Channel. The investigation area included approximately 17 square miles of the Pamlico Sound in the vicinity of Old House Channel. This investigation area is shown in Figure 15, as a green polygon. Another objective considered in the planning of this project was the diversion of dredge material from Wells and Parnell Islands. The Detailed Project Report for the Section 204 Project, recommended a Tentatively-Selected Plan that included the construction of three (3) closely spaced submerged oyster reefs, approximately 1.7 miles from Old House Channel Range 2. Stone sills would be constructed of NCDOT Class 2 armor stone to create three 5.07-acre containment sites. The sites were estimated to be able to hold a combined 135,000 CY of dredged material. The estimated cost for this alternative was approximately \$6.8 Million.

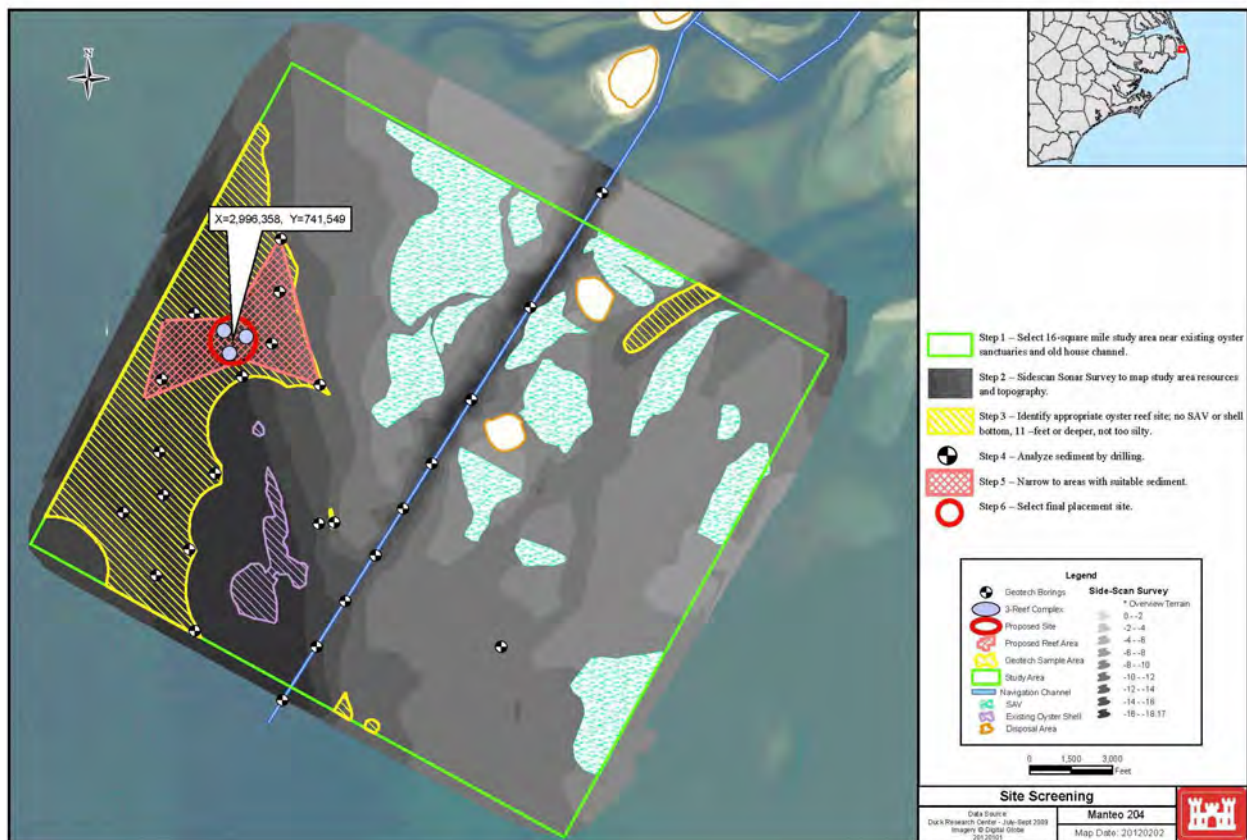


Figure 15. Map showing the project study area of the 2014 Detailed Project Report for the Manteo, Old House Channel Section 204 Project (From USACE, 2014).

Given the relatively small amount of volume that would be accommodated in the oyster reef alternative, and the relatively high cost, this type of alternative does not provide a cost-effective means to manage dredge disposal. Use of dredge material from Old House Channel to enhance coastal resilience in other parts of Dare County may not be cost effective. However, the amount of data collected and analyzed during the 2014 Detailed Project Report and Environmental Assessment for the Section 204 project, may aid in the expedited permitting of additional bird islands in the vicinity of Old House Channel.

Specifically, the Section 204 project used specific constraints in the planning of the project, such as avoiding existing high value areas (SAV, shell bottom, and cultural resources), avoiding conflicts with other area fisheries, and avoiding alternatives that could require mitigation (USACE, 2014). Furthermore, given the material routinely dredged from these channels has been placed on bird islands in the past, it is well established that the dredged material would be compatible with such a use.

In reviewing shoaling of the channel based on surveys conducted in December 2020, and based on discussions with the USACE Wilmington District staff, most of the dredging required in the future will take place along the more northeastern portions of the channel. The most economical site for a bird island, would be in proximity to the channel and along the northeastern half of the channel. Figure 15 shows a map from the Section 204 project report, which reflects the step-wise investigation approach and areas delineated as ideal locations for the proposed Section 204 project. This data suggests that in order to avoid SAV, shellfish beds, and the area delineated as the preferred location for the Section 204 project, that the ideal location for the creation of an additional bird island may be to the north or south of the channel in water depths ranging from -2 to -6 feet referenced to Mean Lower Low Water (MLLW). Given the guidance provided by the NC WRC and the assumption that a bird island could be constructed in areas between -2 and -6 feet water depths, a bird island could hold approximately 610,000 to 785,000 CY before it approached a maximum elevation of 15 ft.

The needs assessment identified approximately 80,000 CY of material per year or 227,000 CY of material every three (3) years that could be dredged from Old House Channel Ranges 1 and 2 and used for the creation of bird islands in this vicinity. If the County were to obtain permits to construct a bird island in this vicinity, the ability to dispose of material to create an island with the previously described configuration could provide dredge disposal capacity for 7 to 10 years. Furthermore, routine operations by the USACE have demonstrated that over time these islands are exposed to washover and natural erosive forces, which pro-longs their utility as dredge disposal islands while maintaining ideal habitat to serve as bird islands.

3.14 Restoration of Green Island

As stated in Section 3.12, many of the areas used as disposal sites between Ranges 14 through 17 Extension are bird islands that are either owned or managed by the NC WRC. NC WRC staff, NPS staff, and TNC staff all expressed interest in the re-establishment of “Green Island” as a functioning bird island during the stakeholder engagement portion of this study. The Audubon Society describes Green Island as part of the Oregon Inlet shoals located immediately southwest of Oregon Inlet (Audubon, 2020). Figure 16 shows an aerial image from 2008 showing the configuration of Green Island at that time. An examination of aerial imagery dating back to 1998 indicates that exposed portions of the Island conducive to nesting habitat ranged from approximately 20 acres to non-existent. During that time, various portions of the island were observed to be vegetated until that portion of the island underwent overtopping or erosion.

The current federal dredge material disposal plan assumes continued placement of material dredged from the Manteo Channel Ranges 15 through 17 Extension on the bird islands in the vicinity, namely Islands D, E, F, L, and MN. No concern about short-term capacity were expressed

by the USACE regarding maintenance of these portions of the Channel during the needs assessment. Logistically, it may be less cost-effective to place material from these channels onto Green Island than it might be to place material on yet to be identified bird islands more proximate to the maintained channels.

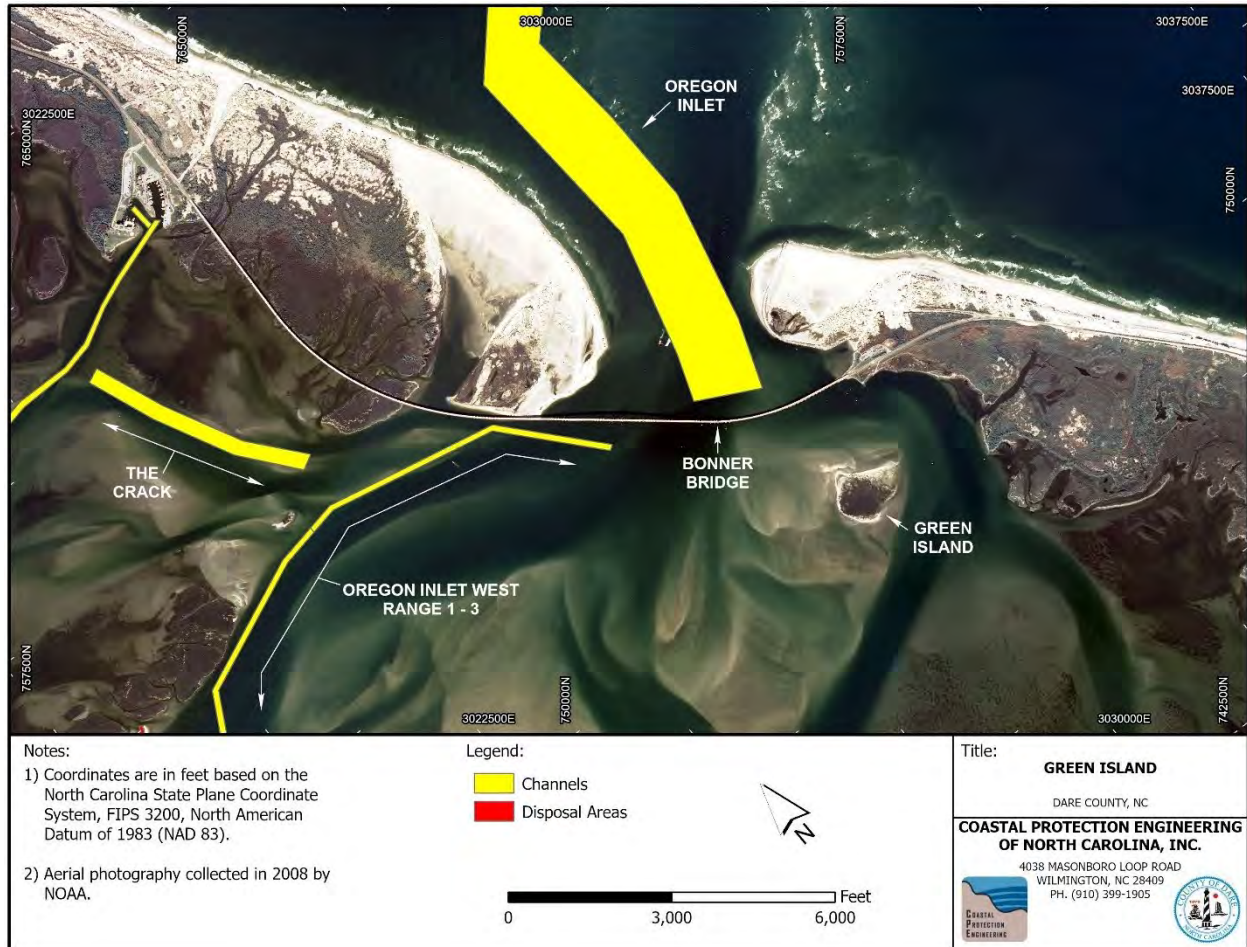


Figure 16. Aerial image from 2008 showing the location and configuration of Green Island at that time.

The channel that runs from the Oregon Inlet Fishing Center to Oregon Inlet West Range 1, is locally referred to as “The Crack” (Figure 16). Based on information obtained during the conduct of this study, no documented dredging has been conducted to maintain the channel through The Crack. Recently, the US Coast Guard (USCG) placed aids to navigation within The Crack. As of the date of this report, NOAA electronic navigation charts (ENC) suggest depths along the channel through “the Crack” are between -6 and -13 feet referenced to Mean Lower Low Water (MLLW); however, most soundings indicate depths of -8 feet or deeper (NOAA, 2020). County staff have expressed an interest to obtain permits to maintain The Crack to an ideal width and depth to support safe navigation. One potential disposal site for material dredged from The Crack may be Green Island. LiDAR data collected after Hurricane Dorian between September 26 and October 10, 2019 indicated only about 3 acres Green Island had an elevation above 0.0 ft. NAVD88 (NOAA, 2019). Assuming a maximum footprint of approximately 20 acres based on previous exposed portions of Green Island, and guidance provided by the NC WRC, it is estimated that between 350,000 CY and

420,000 CY of material could be placed in this vicinity before it approached a maximum elevation of 15 ft.

No information on past dredging of The Crack was obtained during the needs assessment. Local stakeholders have suggested that no dredging has been conducted in The Crack previously. Given the lack of data for this channel, estimating an accurate time frame in which this alternative could serve the disposal needs of The Crack is not possible. If the County were to obtain permits to restore Green Island, it is likely that this option would provide sufficient dredge disposal capacity for the foreseeable future given the minimal requirements to maintain The Crack. The long-term capacity would be extended even further, should the PPP dredge be permitted to conduct routine maintenance in The Crack. Furthermore, routine operations by the USACE has demonstrated that over time, bird islands used for disposal of dredge material, are exposed to washover and natural erosive forces. Material is routinely washed off the islands, which pro-longs their utility as dredge disposal islands while maintaining ideal habitat to serve as bird islands.

3.15 Stumpy Point Harbor

The Stumpy Point Channel consists of several channel sections, including an approach channel, entrance channel into the harbor, and a boat basin. The outer portion, referred to as Range 1, consists of an approximately 4.7-mile approach channel from the Albemarle Sound through Stumpy Point Bay, where it intersects with the State DOT channel that runs to the ferry dock at Stumpy Point. The 1,500-foot channel, which runs from this intersection to the ferry dock at Stumpy Point, is a State channel maintained by NC DOT. The entrance channel to the boat basin, referred to as Ranges 2, 3, and 4 extends approximately 1,950 feet to the boat basin. The boat basin is approximately 400 feet long and varies in width from approximately 100 to 200 feet wide. Ranges 1 through 4 are all authorized to 150 feet wide with a depth of -10 ft. MLW. Figure 17 shows the extent of Ranges 2 – 4, the boat basin, and the NC DOT ferry channel.

Ranges 1 – 4 and the boat basin are all part of the federally authorized Stumpy Point Channel. According to T. Horton of the USACE Wilmington District (Personal Communications, September 11, 2020), the USACE only conducts regular maintenance of the Stumpy Point Channel from the outer limit of the channel to where the channel intersects the State ferry channel. The needs assessment indicated approximately 120,000 CY of material are dredged from the Ferry Channel out through Stumpy Point Bay every approximately 14 years, which are the numbers shown in Table 2. The material is placed in the CDF south of stumpy point on the east side of HWY 264, as shown in Figure 17.

Through discussions with both the USACE and the NC DOT, the CDF located south of Stumpy Point, has sufficient capacity to handle the needs for both the USACE and NC DOT for the foreseeable future.

With regards to Ranges 2 – 4 and the boat basin, the USACE has suggested that material required to be removed from these areas to achieve authorized dimensions, are finer grained material and may have trace heavy metals. Though no specific test results were provided, the USACE will not place material from these sections into the CDF used for Range 1. Based on the most recent

surveys available from the USACE, conducted in June 2020, approximately 19,000 CY of material would need to be removed from Ranges 2 – 4 and the boat basin to achieve a depth of -10 feet. Approximately 12,000 CY of material would need to be removed to achieve a depth of -8 feet MLW.

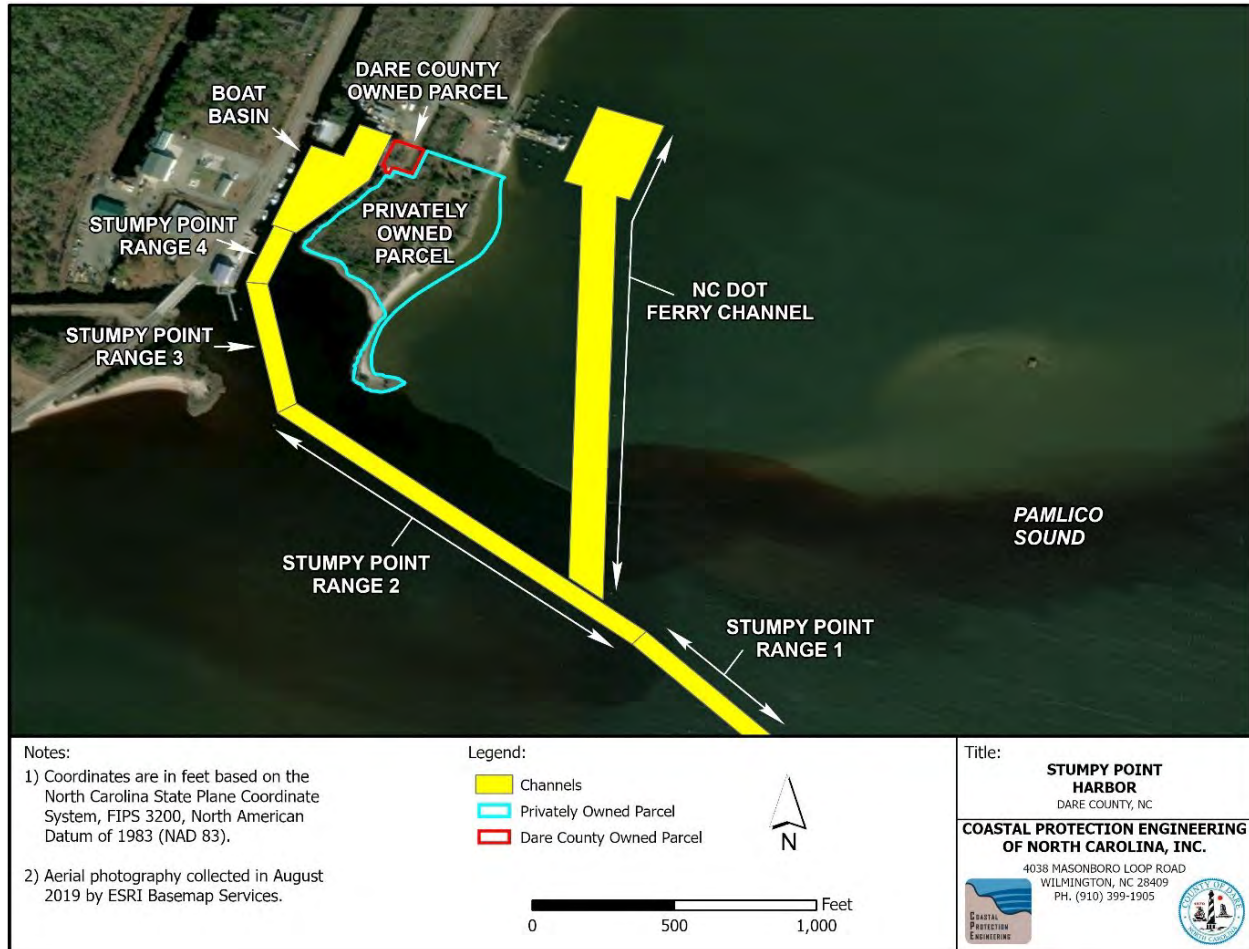


Figure 17. Aerial image from 2019 showing Stumpy Point ranges 2 – 4, the boat basin, and the NC DOT ferry channel.

Dare County and local stakeholders have expressed a desire to develop a dredge material plan that would allow for maintenance of Ranges 2 – 4 and the boat basin. The first step in developing such a plan would be to conduct sediment sampling of the material to be dredged from Ranges 2 – 4 and the boat basin to assess sediment characteristics and any presence of heavy metals. Should the material contain contaminants at levels that exceed State and Federal standards, the removal and disposal of the material could be cost prohibitive. However, assuming the material may not exceed such standards, several options may exist for dredge material disposal.

Depending on the characteristics of the material, fill could be excavated with a bucket and barge and material could be offloaded along the Dare County Owned Property, shown on Figure 17. Once on land, material could be placed along the privately owned property south of the Dare County property. Initial discussions between County staff and the property owner suggests the

owner may be amenable to receiving the material, pending the results of sediment testing. If the material is compatible, it could be used to improve the property in a way as to provide additional storm protection to the harbor. Specifically, there is concern about the thin “hook shaped” spit off the south end of the property, which provides wave protection to the basin. If that feature were overtopped and breached, the harbor would be more vulnerable to waves and may result in faster shoaling rates.

In addition to sediment testing, a site plan would need to be developed for this alternative to determine presence/absence of wetlands, SAV, or other sensitive habitats that could be impacted. Furthermore, permits for the excavation of material and placement of the material would need to be obtained.

If based on the outcome of the sediment testing, the property owner did not wish to receive the sediment, the material could potentially be loaded into trucks and hauled to the Manns Harbor Transfer Station. A recent dredge project sponsored by the County, to dredge the Shallowbag Bay Channel Ranges 1 – 4, was permitted to allow for material to be placed in this facility. If sediment testing revealed levels of heavy metals that exceed certain State and Federal standards, the placement of material in this facility may not be permitted. This alternative would also require permits for the excavation of material and placement of the material in the Manns Harbor Transfer Station.

As previously discussed, the needs assessment was unable to determine historic volumes or frequencies for the maintenance of ranges 2 – 4 and the boat Basin. However, given the volume required to be removed based on the June 2020 surveys, and the fact that no such maintenance has been done in over 20 years, a combination of the disposal alternatives discussed here, or even the transport of material to the Manns Harbor Transfer Site alone, is likely to provide greater than 20 years of capacity. Furthermore, if material could be stored on the private property south of the Dare County property, material could potentially be provided to commercial interest to use as fill, pending the results of sediment testing.

The construction of a project that utilizes the Dare County property may also provide an opportunity for the County to make some improvements to the dock, wharf, and parking on this property. Improvements to the area may provide water access to citizens and visitors of Dare County.

3.16 Rodanthe Harbor CDF

The Rodanthe Harbor Channel consists of an approximately 1.5-mile approach channel through the Pamlico Sound, a 1,000-foot entrance channel and an 800-foot x 400-foot boat basin (Figure 4). This channel provides emergency ferry access both to and from Hatteras Island. The needs assessment concluded that the Rodanthe Harbor Channel requires maintenance dredging of approximately 38,000 CY of material approximately every 3 years. On at least one occasion, following the impacts of Hurricane Sandy (2012), dredging of the Rodanthe channel was completed under emergency action using a sidecast dredge (Pers. Com. Todd Horton, USACE); however, the authorized maintenance is to be conducted with a pipeline dredge. Material is typically deposited in a small CDF on the south side of the boat basin, which is also shown in Figure

4. The CDF is located on property owned by Dare County.

In 2019, Dare County considered issuing a contract to a local construction contractor to complete site preparations for the CDF in preparation for a dredge operation. The dredge operation was later determined to be unnecessary by NC DOT staff based on new conditional surveys. Information gathered by County staff during site investigation in preparation for the anticipated 2019 work, suggests the CDF has capacity for additional maintenance events. Site prep work was conducted to repair water control structures and the dikes. At the time of this report, the CDF is ready to receive dredge material.

Given the size of this facility, it is unlikely that such a small site could provide long-term capacity for maintenance dredging of the Rodanthe Harbor Channel. However, local interests including NC DOT, NPS, and local private contractors may have a need for the sediment received in the CDF during maintenance operations. Through the development of a dredge material management plan for Rodanthe Harbor, this facility may be able to provide long-term capacity as well as provide additional beneficial uses to entities such as NC DOT, NPS and private contractors requiring fill for construction projects.

A properly configured site could provide multiple additional uses. Given the County owns this property, the development of recreational facilities in this location may be of value to citizens and visitors to Dare County. The property has waterfront access that could provide fishing, bird watching, and kayak launch access to the public. Depending on site conditions, other portions of the upland area may provide further recreational or operational facilities. For additional information, refer to Recommendation #7 in Section 5.

3.17 Additional Open Water Disposal for Special Purpose Dredge (Rollinson Channel / Barney Slough / Sloop Channel)

Based on investigations conducted during the needs assessment, special purpose dredges such as the USACE Dredge Murden and Currituck, have not been authorized to conduct maintenance dredging in Rollinson Channel, Barney Slough, or Sloop Channel (Figure 5). Though Rollinson Channel is a federal channel the current federal authorization does not allow for maintenance to be conducted using a special purpose dredge. Barney Slough and Sloop Channel are not federal channels at present. However, Dare County is currently coordinating with the USACE to include these two channels in the federal authorization as they are currently the only navigable path to achieve the goal of the original “Hatteras to Hatteras Inlet” channel of maintaining navigable waters between the boat basin in Hatteras and the gorge at Hatteras Inlet.

The USACE has previously used a nearshore disposal site located off the northeast end of Ocracoke Island as a location for placement of dredged material from channels in and around Hatteras Inlet. More recently, Dare County obtained permits to dispose of material dredged from the South Ferry Channel and deposit that material in this same nearshore disposal area. The permitted disposal area is shown on Figure 18.

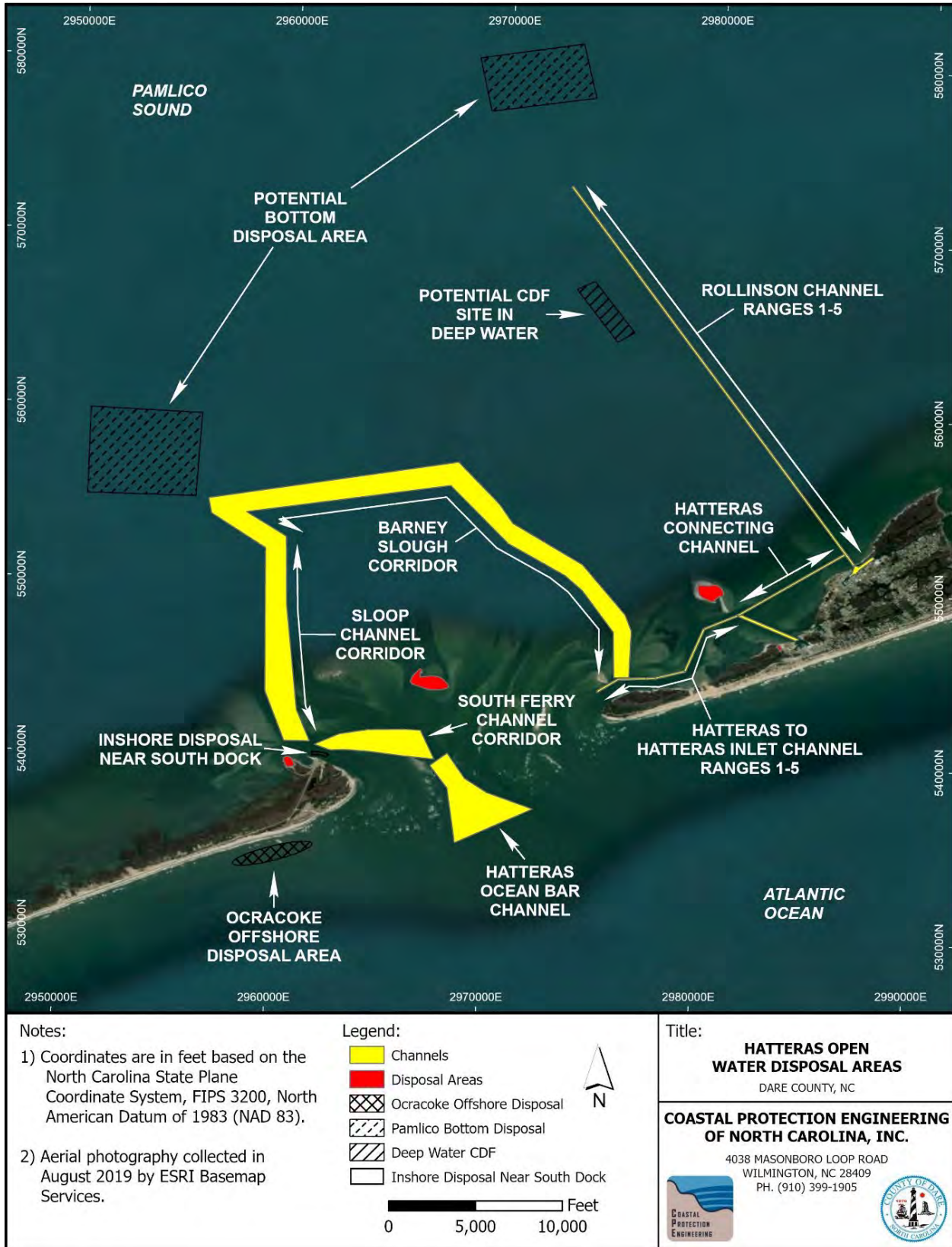


Figure 18. Map showing potential locations for open water disposal to support navigation maintenance of Rollinson Channel, Barney Slough, and Sloop Channel.

As previously mentioned, presently, special purpose dredging of Rollinson Channel, Barney Slough, and/or Sloop Channel are not permitted. However, both the USACE and Dare County are evaluating the feasibility of using either the USACE special purpose dredges (*Currituck* and *Murden*) or the PPP dredge, to conduct future maintenance of these channels. In order to allow cost effective disposal of material dredged from these channels, using a special purpose dredge, disposal sites could be designed and permitted in the Pamlico Sound to the north of Rollinson Channel and Sloop Channel. Figure 18 shows proposed locations of these disposal sites.

Based on publicly available specifications of the USACE dredges and discussions with County staff regarding the specifications of the PPP dredge, disposal areas would need to be located in a minimum of 11 feet of water. As of the date of this report, NOAA electronic navigation charts (ENC) suggest depths within the areas shown in Figure 18 as “Potential Bottom Disposal Areas”, to be between -12 and -14 feet referenced to Mean Lower Low Water (MLLW) (NOAA, 2020). Continued bottom disposal of material in one particular location, may only be possible for a finite period of time before water depths become too shallow for special purpose dredges to place material. However, the buildup of certain areas through this type of disposal, could serve as the platform for the establishment of bird islands as have been discussed previously under other alternatives.

A dredge plan would need to be developed in cooperation between the USACE and Dare County. The plan would need to establish limits to how much material could be placed in these locations over a given maintenance cycle. Regular monitoring of water depths in the area would also be necessary to evaluate how adding material to these areas might impact navigation elsewhere in the channel system. Likewise permits would need to be obtained by Dare County to allow for non-federal interests to place in these locations. If the USACE obtains environmental clearance for their special purpose dredges to work in Barney Slough and Sloop Channel, the permitting process for the County to obtain authorizations for the PPP dredge to work in the same capacity could be expedited. Through the permitting process, Federal and State Agencies would need to be consulted during the review of federal and state permit applications. Based on a cursory examination of data in these areas there appear to be some submarine cables that may run through the area identified north of Sloop Channel. Bottom types are indicated as sand, mud, and shell according to NOAA charts.

Until further development of the dredge plan can be established through consultation with USACE Navigation Branch staff, it is not possible to reasonably estimate the amount of material that could be placed in these areas over a given period of time. Rather, this alternative is to be considered a method supplementing other disposal alternatives and minimize maintenance costs.

3.18 Confined Disposal Site for Rollinson in Deep Water

Sediment data available from Rollinson Channel indicates that material that has shoaled into the authorized channel is generally fine-grained material with a sand fraction of approximately 66% and fine fraction of approximately 34% (Table 3). Fines are defined as particles with a diameter < 0.08 mm. Given the percent fines in the material to be dredged from the channel, this material

may be most suitable for placement into a CDF. As previously discussed, a CDF is an engineered structure for containment of dredged material placed in the facility via hydraulic or mechanical means (USACE, 2015). Island H, outside of Wanchese harbor is an example of a CDF.

Engineering and environmental studies would be required to determine the optimal configuration and siting of a CDF in open water in the vicinity of Rollinson channel. Dredging costs are highly dependent on the distance material must be pumped from the excavation site to the discharge site. Dredging records indicate that the only maintenance dredging conducted over the past 19 years in Rollinson Channel, was along the southernmost portion of the channel approaching the boat basin. USACE hydrographic survey data collected in January 2020 indicates shoaling along the southernmost 2.3 miles of the 5 miles of federally authorized channel known as Rollinson Channel. From approximately 2.3 miles from the boat basin to the northernmost extent of the channel, depths are shown to be greater than 7 feet. From approximately 2.7 miles from the boat basin to the northernmost extent of the channel, depths are shown to be greater than 9 feet (USACE, 2020c).

Given the expectation that most shoaling occurs along the southern half of the 5-mile-long channel, the most economical site for a CDF would be in proximity to the southernmost half of the channel. However, based on a review of available aerial imagery, NOAA charts, and the State database for submerged aquatic vegetation, the site that may minimize impacts to sensitive resources may be in deeper water toward the northern portion of the channel. Figure 18 provides a proposed investigation area that may be suitable for siting a CDF.

Initial coordination with Federal and State resource agencies is advised before investing in initial site evaluation. Following coordination with Federal and State agencies, initial site investigations may require geotechnical, remote sensing, oyster reef, and SAV surveys. Once a location has been identified, pre-application coordination would be conducted with Federal and State resource agencies. It may be advisable to develop a CDF management plan that incorporates habitat enhancement through coordination with NC WRC and other stakeholders. If based on feedback from Federal and State resource agencies, this alternative is deemed viable by the County, permitting and design work would be required.

As previously stated, the needs assessment indicated no dredging of the entirety of Rollinson Channel has occurred since the 1966 event that dredged the channel from station 0+00 to 240+00, a length of approximately 4.5 miles. The 19-year period considered to be a complete record, indicates dredging conducted in Rollinson Channel was limited to the southernmost portion of the channel approaching the boat basin. Table 2 indicates that maintenance of the southernmost portion of the channel during the 19-year period of record, required the removal of approximately 10,000 CY of material every 6 years.

With no maintenance of the remaining portion of Rollinson Channel, some portions have shoaled to depths of -6 feet MLLW. A lack of dredge material storage capacity is the primary reason that maintenance has not occurred in other portions of the Channel. Based on survey data of the channel collected in January 2020, approximately 270,000 CY of material would need to be removed from the channel to achieve the authorized depth of -12 feet MLLW. To achieve a depth of -10 feet MLLW, approximately 115,000 CY of material would need to be removed.

Given the understanding that the channel has not been fully dredged since 1966, the following estimates for CDF configuration assumes the construction of a CDF for a onetime event, would provide in excess of 20 years of capacity. Assuming a target channel depth of -10 feet MLLW, approximately 115,000 CY would be required to be removed based on surveys conducted January 2020. To account for additional capacity in the event shoaling continues prior to construction, this option assumes a volume of 172,500 CY, which is 1.5 times the measured volume in the channel based on the latest surveys. The USACE has stated that a CDF should have 2X the capacity of the volume of sediment needed to be placed within it to account for the water mixed with the sediment to create the slurry. This additional capacity allows for dewatering without the need to shut down the dredge excessively during operations. Furthermore, a 2-foot freeboard allowance is also included in the configuration of the CDF. Based on these factors, the configuration of a CDF that could provide sufficient capacity for the expected maintenance material dredged from Rollinson Channel, would require approximately 20 acres with dikes constructed to an elevation approximately 14 feet above existing grade.

In order to construct the CDF in the location shown in Figure 18, fill material would need to be placed in the location to increase the elevation of the existing bottom surface and ultimately to construct the containment dikes. This may require a borrow source. The most cost effective borrow source may be the dredging of other navigation channels in the vicinity, but the required volume of compatible sediment would need to be identified. Based on preliminary estimates, approximately 250,000 CY of compatible material would be needed to construct the foundation for a CDF in the location shown in Figure 18. Once the area was raised to the level that dikes could be constructed, the dikes would require approximately 100,000 CY of material. Combined, the material required for the construction of the CDF is estimated at approximately 350,000 CY.

Based on the frequency and volume dredged from the Hatteras Connecting Channel, the Hatteras to Hatteras Inlet Channel, and the southernmost portion of Rollinson Channel, approximately 150,000 CY of material may be available per event. With the next pipeline dredge event scheduled for 2023, and the need for more than two events just to construct the CDF in the area shown on Figure 18, sufficient material may not be available until 2032, without paying for material to be brought to the site for construction.

The construction of an open water CDF in the Pamlico Sound may also require armoring of some sides of the CDF, while more natural and nature/based alternatives could be used such as living shorelines, that provide greater habitat enhancement, these erosion mitigation measures would increase the cost of the project.

3.19 Confined Disposal Site for Rollinson to Re-Create Islands

As described in Section 3.18, sediment to be removed from Rollinson Channel is generally finer grained material that is most suitably stored in a CDF. Furthermore, it has been explained that given the expectation that most shoaling occurs along the southern half of the 5-mile-long channel, the most economical site for a CDF would be in proximity to the southernmost half of the channel. Section 3.18 explained that the site that may minimize impacts to sensitive resources may be in deeper water toward the northern portion of the channel. However, aerial imagery

from the late 1990's shows a series of shoals present north of the Hatteras Inlet Connecting Channel as shown in Figure 19.

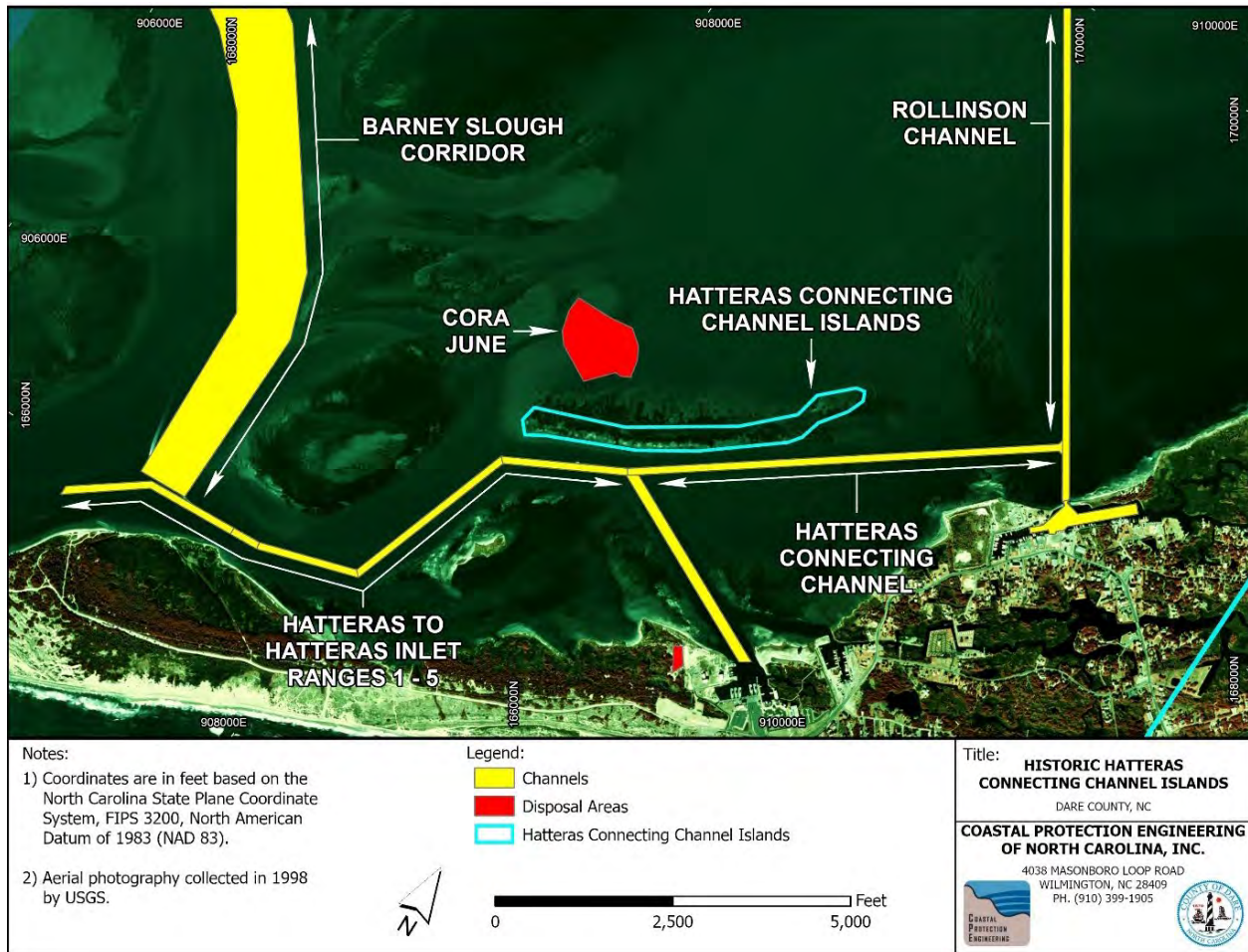


Figure 19. Aerial photograph from 1998 showing the islands that existed to the north of the Hatteras Connecting Channel.

Stakeholder comments on the draft alternatives suggested that an island was created with dredge material to the northwest of Range 4 of the Hatteras Ferry Connector Channel in the 1960's/1970's and that the island remained intact for an extended period. Figure 20 shows the condition of this disposal island in December 1976 (NCDOT, 2021). In the figure one can also see the location of Rollinson Channel and the relict disposal areas used to place material dredged from Rollinson Channel when first constructed.

Consultation with State and Federal Agencies suggests that recreation of previously existing islands may be more favorable compared to establishing new islands. For this reason, constructing a CDF in either of the locations shown in Figure 19 and Figure 20 may be favorable to constructing a CDF to the north in deeper water. Engineering and environmental studies would be required to determine the optimal configuration and siting of a CDF in these locations. The width of the area shown in Figure 19 is approximately 300 to 350 feet wide and encompasses approximately 35 acres. In comparison, the CDF known as Island H, located outside of the Wanchese Channel, is not


as large in acreage, but is approximately 800 ft. wide. The area shown in Figure 20 may have been slightly wider (400 feet); however, this area only encompasses approximately 10 acres.



Figure 20. Aerial photograph from 1998 showing the islands that existed to the north of the Hatteras Connecting Channel.

The re-creation of an island in the vicinity shown in Figure 19 may provide additional benefits in the form of wave protection and may reduce maintenance needs of the Hatteras Inlet Connecting Channel. The Pamlico Sound provides a large fetch for wave propagation when winds come out of the northwest. The re-creation of a line of islands in the location shown in Figure 19 may serve as a breakwater for waves approaching Hatteras Village. Furthermore, this wave breaking effect may slow the shoaling of material into the Hatteras Connecting Channel, which could reduce maintenance needs. In order to evaluate the benefits of such an alternative, a study utilizing a numerical model should be conducted.

During an interagency meeting with Federal and State resource agencies in October 2020, representatives of the NC WRC suggested that creation of islands not specifically designed for the purpose of creating bird habitat, would be problematic due to the loss of benthic habitat. The fact that the creation of the CDF would be re-creating islands that once existed may address some of the agencies concerns but the CDF would not provide the same type of habitat as “bird islands” discussed previously. The use of a numerical model to evaluate different alternatives as described in the previous paragraph, could also be used to provide additional information to resource



agencies to address concerns regarding adverse impacts of the project. Furthermore, the County should work with USACE Navigation Branch staff to develop a CDF management plan that incorporates habitat enhancement through coordination with NC WRC and other stakeholders. Once a preliminary plan for this alternative has been established, the County should engage with Federal and State resource agencies regarding the specific proposal prior to investing considerable resources into permitting and design.

If based on feedback from Federal and State resource agencies, this alternative is deemed viable by the County, permitting and design work would be required. Site investigations may require geotechnical, remote sensing, oyster reef, and SAV surveys.

Given the understanding that the channel has not been fully dredged since 1966, the following estimates for CDF configuration are based on the need to construct a CDF for a onetime event, which would provide in excess of 20 years of capacity. To construct the CDF, fill material would need to be placed both to increase the elevation of the existing surface and to construct the containment dikes. Assuming current water depths in this location of approximately -2 ft. MLLW, the estimated volume of compatible material needed to construct the foundation for a CDF in the location shown in Figure 19 is approximately 60,000 CY. This number could increase to as much as 130,000 CY if the water depths were -4 ft. MLLW. Based on the same assumptions discussed in Section 3.18, the CDF would need to have capacity for approximately 345,000 CY to adhere to the recommendations provided by the USACE. Construction of dikes to the elevation of +15 ft., which aligns with elevations provided by NC WRC for bird Islands, would require approximately 100,000 CY of material.

The most cost effective borrow source may be the dredging of other navigation channels in the vicinity, but the required volume and sediment characteristics would need to be evaluated. As previously explained, routine dredging from the Hatteras Connecting Channel, the Hatteras to Hatteras Inlet Channel, and the southernmost portion of Rollinson Channel, could potentially provide approximately 150,000 CY of material per event. The next pipeline dredge event scheduled for 2023 could provide enough material to construct the facility confined to the location shown in Figure 19; however, the material dredged from those channels have a sand fraction in the 95% to 97% range, with fine grained fractions of less than 1%. While this material could be used to build up the base elevation of the site, this material would not be ideal for the construction of dikes.

The construction of the CDF may require erosion mitigation measures. However, the location of the CDF in shallower water with shallow water to the north may reduce the amount of armoring necessary on the north side of the structure. It is possible that armoring may be required on the south side to mitigate erosion caused by boat wake. Natural and nature/based alternatives such as living shorelines, should be considered given the ability to provide greater habitat enhancement.

In total, the estimated volume needed to construct a CDF in the area shown in Figure 19 with dike crest heights of 15 feet above grade would be between 160,000 CY and 230,000 CY. However, limiting the footprint of the facility to this area, dike elevations to +15 feet, the CDF would only have a capacity of approximately 150,000 CY. Furthermore, the sediment within the nearby

channels that may be economical to use for construction are not suitable for this type of application. The footprint of the area shown in Figure 20 is even smaller and therefore would not provide a reasonable alternative.

3.20 Placement of Material on NPS Beaches for Habitat Restoration

The Cape Hatteras National Seashore was established in 1937. The stated purpose of the Seashore is to “preserve the wild and primitive character of the ever-changing barrier islands, protect the diverse plant and animal communities sustained by the coastal island processes, and provide for recreational use and enjoyment that is compatible with preserving the distinctive natural and cultural resources of the Seashore” (NPS, 2020).

In September 2020, the US Department of the Interior released a Draft Environmental Impact Statement on the National Parks Services proposed Sediment Management Framework for the Cape Hatteras National Seashore (NPS, 2020). Prompted by multiple requests from other entities to conduct sediment management activities to protect critical infrastructure, the purpose of the Sediment Management Framework is to facilitate a streamlined review of requests from other entities to place sand along the NPS lands. The preferred action proposed in the Draft EIS includes sound side and ocean side beach nourishment, dune restoration, and filling island breaches. Figure 21 is a map from the Draft EIS illustrating areas of likely sediment management activities under the proposed action.



Figure 21. Figure showing NPS identified areas where sediment management activities are likely to occur under their proposed action (From NPS, 2020).

The use of compatible sand from navigation channels to create wider beaches and restore dunes,

is a well-established practice for beneficial use of dredged material. As indicated in Table 3, sediment removed from the Hatteras to Hatteras Inlet Channel Ranges 1 – 5, have a sand fraction of approximately 95% and less than 1% fines. This material is likely to be compatible with beach nourishment. Material dredged from the Hatteras Connecting Channel has similar characteristics. Given its proximity to the Hatteras to Hatteras Inlet Channel Range 1 and Hatteras Inlet, portions of the Barney Slough channel may also contain material compatible with beach nourishment and dune enhancement.

According to T. Horton of the USACE Wilmington District (personal communications, December 16, 2020) the USACE is currently coordinating with NPS to determine whether material dredged from federal navigation channels can be placed along the NPS shoreline. Figure 9 shows the areas most likely to receive sand from these channel dredge operations. The USACE will need to demonstrate how placement of the material is compatible with the stated mission of the NPS.

Upon completion of this coordination and following the issuance of a permit by the Dept. of Interior, Dare County will have a better idea of the conditions of the permit and what channels contain compatible material. With this information, the County can evaluate if material from other channels could be used in a similar capacity and whether any further action on their part is necessary. Furthermore, the coordination between USACE and NPS as well as permit conditions, will inform Dare County as to the applicability of placing material from other channels on NPS land on Bodie Island south of Nags Head. Depending on sediment compatibility, sediment from Walter Slough could provide habitat enhancement benefits on Bodie Island.

3.21 Temporary Placement of Material on NPS Estuarine Shore in the Vicinity of Isabel Breach

As discussed in Sections 3.18 and 3.19, the material to be removed from Rollinson Channel has a high fraction of fine-grained material most suitably stored in a CDF. Furthermore, it has been explained that given the expectation that most shoaling occurs along the southern half of the 5-mile-long channel, the most economical site for a CDF would be in proximity to the southernmost half of the channel. The NPS's proposed Sediment Management Framework previously discussed, includes sound side and ocean side beach nourishment, dune restoration, and filling island breaches (NPS, 2020).

In September 2003 Hurricane Isabel impacted the Outer Banks of North Carolina. The resulting storm surge opened a breach across the island just north of Hatteras Village. This area had previously been opened in 1933 by a Hurricane (Mallinson et al., 2009). The breach widened to approximately 1,500 feet wide. The breach consisted of three distinct channels shown in Figure 22. The easternmost channel, which was reported to be in alignment with the previous inlet opening, eventually scoured to a depth of approximately 20 feet (Mallinson et al., 2009). According to a USACE Coastal and Hydraulics Engineering Technical Note (CHETN), the Hatteras breach cut off water and electric utilities to Hatteras Village as well as land transportation to supply food, medical supplies, and storm damage repair supplies. Immediately following the passage of the storm, the NC DOT, Federal Emergency Management Agency (FEMA), USACE, NPS and other

agencies began the process of re-establishing the land connection the Hatteras Village. The breach was closed 56 days after the opening on November 3, 2003 (Wamsley, et al., 2009).

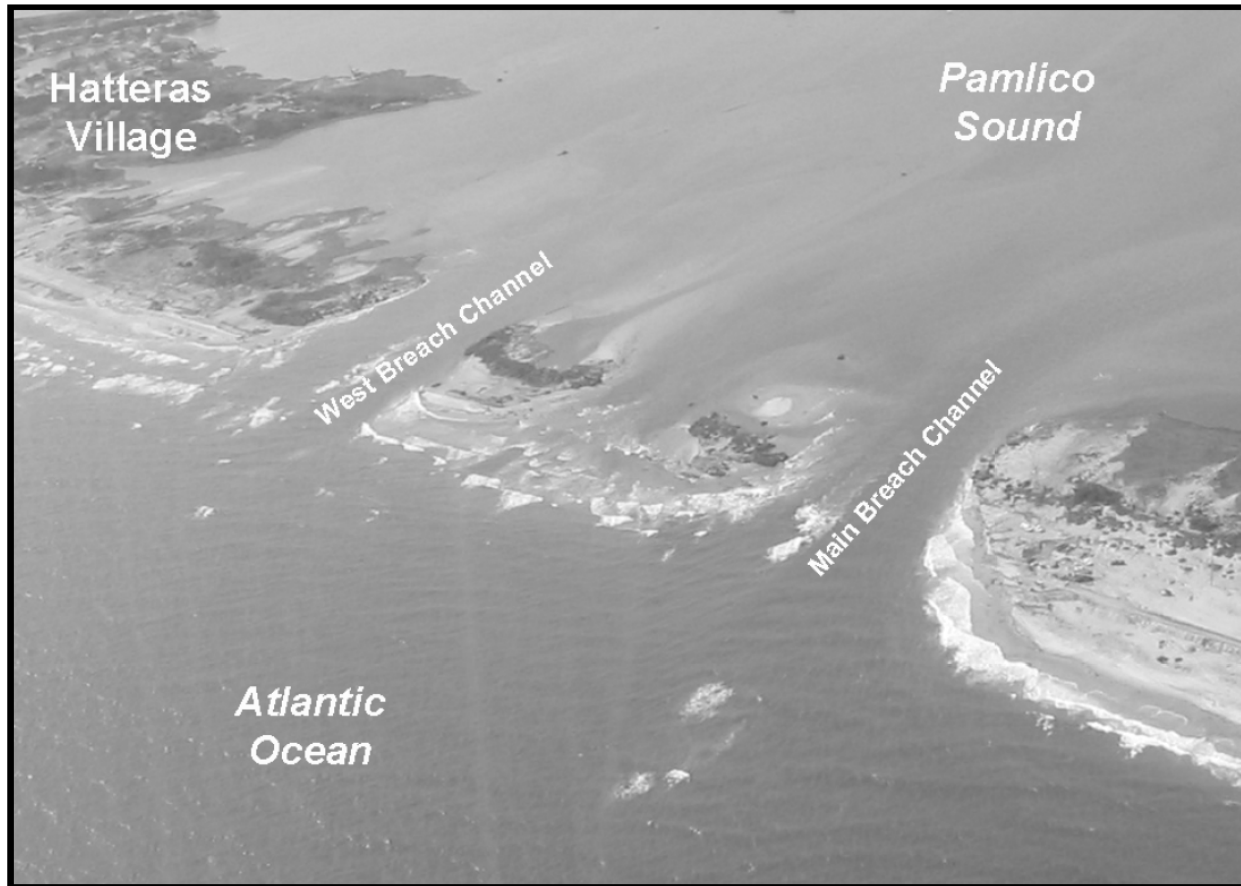


Figure 22. Aerial imagery taken September 22, 2003 showing Isabel Breach (From Wamsley, et al., 2009).

Wamsley, et al. (2009) notes that the breach occurred in this area as a result of it being one of the narrowest and lowest elevation points in the area. Breach formation is described as a process that occurs in a location with the lowest elevation, where surge causes overtopping of the land and water begins to flow through the low point and scour out the island. Wamsley, et al. (2009) also points to numerous factors that may have contributed to the vulnerability including the past location of the inlet breach in 1933 and the presence of a beach access point in this location.

In order to close the breach, material was dredged from the portion of the channel that used to run from the south end of Barney Slough across the flood shoal and to the inlet gorge. The pipeline ran along approximately 6 miles of oceanfront from the Inlet to the breach. The channel was dug to -22 ft. MLW, approximately 10 feet deeper than the authorized channel. Grain size analysis of the borrow material indicated a median grain size of 0.28 mm with low percentage of fines (Wamsley, et al. 2009). The design cross section of the fill constructed across the breach is shown in Figure 23. Approximately 450,000 CY of sand were used to close the breach (Wamsley, et al. 2009).

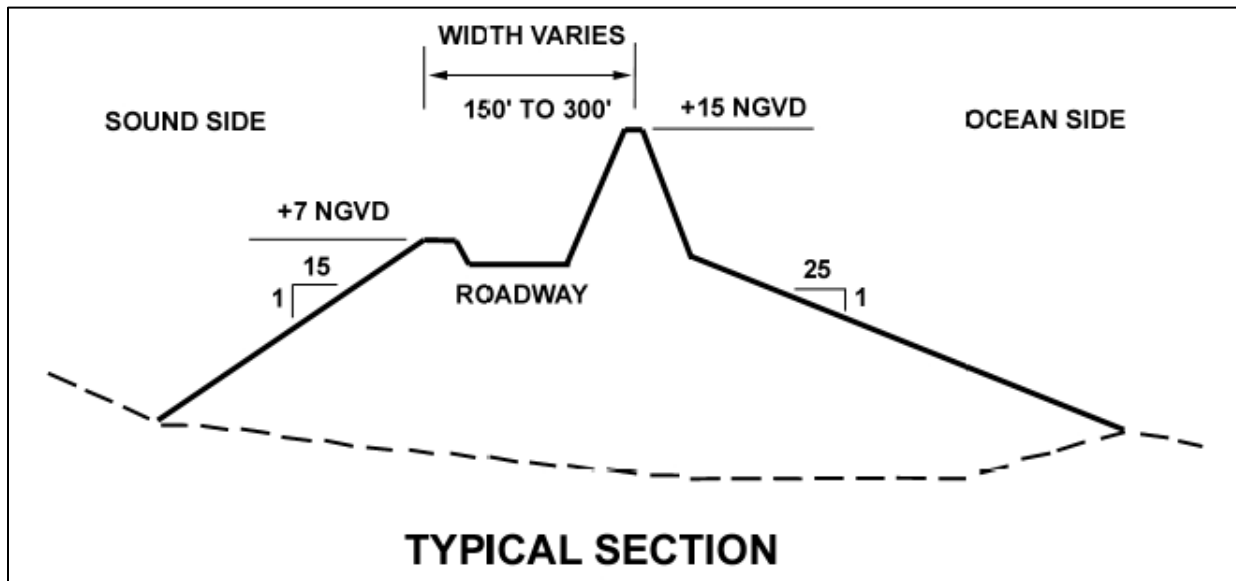


Figure 23. Figure showing the cross section of the fill placed along the Isabel Breach (From Wamsley, et al., 2009).

Evaluation of historic aerial imagery before and after the breaching that occurred in 2003, shows the dynamic changes caused by the breach. Figure 24 shows a comparison of aerial imagery from 1998, 2005, and 2019 showing the changes that took place. The red box in the figure indicates the location of the breach that occurred in 2003. The transition between the 1998 to 2005 imagery indicates the loss of a significant amount of back barrier habitat.

Given the historic vulnerability of this particular location and the loss of habitat in this location caused by the breach in 2003, this site may provide an opportunity to both protect critical infrastructure and enhance habitat. The proposed action includes the development of a temporary CDF on the north side of Hwy 12 along the location of the 2003 breach. The NPS Sediment Management Framework identifies this area on the sound side of the Seashore as a potential area for sediment placement (Figure 21). The construction of a temporary CDF in this location may also provide a source of sediment for NPS to use to conduct several other enhancement activities for which they have expressed an interest, including the raising of elevations of the campground at Cape Point, and the infilling of a dredge pit at Cape Point.

This alternative may be considered favorable by some resource agencies to those presented in Sections 3.18 and 3.19. The County would need to coordinate with NPS to determine whether a temporary CDF constructed in this location would be considered compatible with NPS mission. The County should highlight to NPS the aspects of this alternative that aid in protection of critical infrastructure, enhance habitat, and provide a source of material to advance several NPS initiatives at Cape Point. The County should work with NPS and USACE Navigation Branch staff to develop a CDF management plan that incorporates habitat enhancement through coordination with NC WRC and other stakeholders. Once a preliminary plan for this alternative has been established, the County should engage with Federal and State resource agencies regarding the specific proposal prior to investing considerable resources into permitting and design.

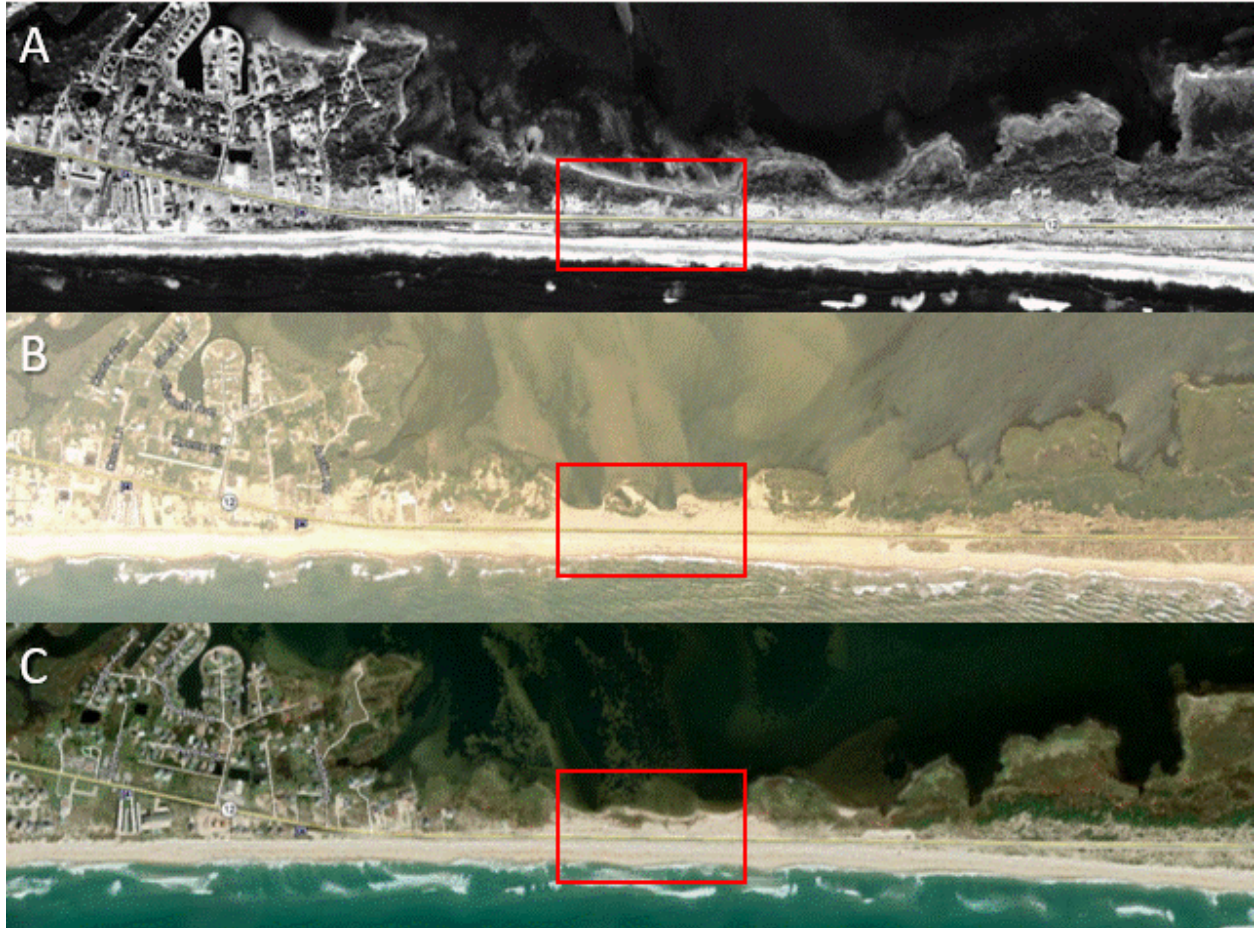


Figure 24. Aerial Imagery showing changes to the Isabel Breach area from January 1998 (A), to October 2005 (B), to August 2019 (C) (Imagery from *Google Earth*, earth.google.com/web/).

If based on feedback from Federal and State resource agencies, this alternative is pursued, permitting and design work would be required. Site investigations may require geotechnical, remote sensing, oyster reef, and SAV surveys. Depending on the specific footprint designed for the temporary CDF, construction would require fill material to construct containment dikes. The material to be dredged from Rollinson may not be compatible for dike construction. The most cost effective borrow source may be the dredging of other navigation channels in the vicinity. As previously explained, routine dredging from the Hatteras Connecting Channel, the Hatteras to Hatteras Inlet Channel, and the southernmost portion of Rollinson Channel, could potentially provide approximately 150,000 CY of material per event. However, as discussed in Section 3.19, the sediment routinely dredged from channels in the vicinity may not be suitable for this application. Material dredged from Rollinson Channel may be suitable for placement to infill relic scoured channels present from the 2003 breach. Furthermore, mixing of the finer sediments with material dredged from the Hatteras Connecting Channel and Hatteras to Hatteras Inlet Channel may provide material that could be used for dike construction.

Assumptions made in the estimation of volume and area required to construct this alternative include 1) the target channel depth for Rollinson Channel is -10 ft. MLLW, and 2) capacity for one event would provide well over 20 years of capacity given the concept for this alternative would be

to mine the material from the temporary CDF between maintenance events. Based on the same assumptions discussed in Section 3.18, the temporary CDF would need to have capacity for approximately 345,000 CY to adhere to the recommendations provided by the USACE. Approximately 194,000 CY of material would be required to construct a temporary CDF with a footprint of approximately 20 acres with dikes constructed to a height of approximately 20 feet above grade. To develop an accurate cost estimate, a more thorough evaluation of the suitability of material from channel maintenance projects would be required.

In comparison to the alternatives discussed in Sections 3.18 and 3.19, a temporary CDF constructed in this location would require far less erosion mitigation measures. Some erosion protection may be advisable on the sound side of the feature, which could be accomplished with the installation of living shorelines, which provide greater habitat enhancement. The installation of living shorelines along the sound side would also provide greater protection from breaching that could occur from sound side flooding.

If the County were to obtain permits and construct a CDF in this location as described, and the material pumped into the facility could be used in the interim by NPS to address priority restoration, such a facility could provide long-term dredge capacity for well over 20 years. One additional factor to be considered is the future capacity of the new dredge being constructed through a private/public partnership between EJE Dredging and the State of North Carolina (PPP Dredge), to provide routine maintenance of various channels. Should the County obtain permits to allow for this type of operation in Rollinson Channel, the regular routine maintenance of the channel is expected to either decrease the amount of material required to be removed by contract pipeline dredge during a particular event or extend the time between maintenance conducted with a contract pipeline dredge.

3.22 Dredging of Channels with PPP Dredge

As previously discussed, EJE Dredging in cooperation with the State of North Carolina and Dare County, are constructing a dredge (PPP Dredge) that is being designed to have similar capabilities as the *Dredge Murden* (special purpose dredge) and the *Dredge Merritt* (sidecast dredge). The dredge will be privately operated by EJE Dredging and is expected to come online in summer 2022. While this dredge does not have the capability to place material into confined (CDF) and unconfined (bird islands and thin layer placement) dredge material facilities, the use of this dredge will provide significant supplemental maintenance for many of the channels within the project area.

Table 4 lists the potential channels in which the PPP dredge could operate to provide supplemental maintenance capabilities. Table 4 also provides information on whether the channel is federally authorized and lists potential placement locations for material dredged.

The permitting of the channels listed in Table 4 fall into three categories in terms of the ease of obtaining necessary authorizations. Permitting of federally authorized channels and placement of material in previously authorized dredge disposal locations such as offshore Pea Island, Ocracoke Island and in deep scour holes on the south end of Oregon Inlet, would be the easiest permits to obtain.

Table 4. Channels included in the Needs Assessment

Channel Designation	Federally Authorized	Potential Disposal
Manteo/Shallowbag Bay Ranges 4A & 4B	Yes	Oregon Inlet to Old House Channel / Oregon Inlet / Offshore Pea Island ¹
Manteo/Shallowbag Bay – Ranges 1 – 4 (Shallowbag Bay)	Yes	Oregon Inlet to Old House Channel / Oregon Inlet / Offshore Pea Island ¹
Manteo Shallowbag Bay – Range 5	Yes	Oregon Inlet to Old House Channel / Oregon Inlet / Offshore Pea Island ¹
Manteo/Shallowbag Bay – Ranges 14A, 14B, and 14C (Wanchese)	Yes	Oregon Inlet to Old House Channel / Oregon Inlet / Offshore Pea Island ¹
Manteo /Shallowbag Bay – Range 14 – 17 Extension	Yes	Oregon Inlet to Old House Channel / Oregon Inlet / Offshore Pea Island ¹
Walter Slough	No	Oregon Inlet to Old House Channel / Oregon Inlet / Offshore Pea Island ¹
The Crack	No	Oregon Inlet to Old House Channel / Oregon Inlet / Offshore Pea Island ¹
Rollinson Channel	Yes	Open Water Disposal in Pamlico Sound ²
Hatteras Connecting Channel	Yes	Open Water Disposal in Pamlico Sound ³ /Offshore Ocracoke Island ⁴
Hatteras to Hatteras Inlet Ranges 1 - 5	Yes	Open Water Disposal in Pamlico Sound ³ /Offshore Ocracoke Island ⁴
Barney Slough*	No	Open Water Disposal in Pamlico Sound ³ /Offshore Ocracoke Island ⁴
Sloop Channel*	No	Open Water Disposal in Pamlico Sound ³ /Offshore Ocracoke Island ⁴
Hatteras Inlet Ocean Bar	No	Offshore Ocracoke Island ⁴

¹ Placement of material in deep holes discussed in Section 3.12, previously permitted disposal areas near the south end of Oregon Inlet, and the authorized offshore disposal site off Pea Island.

² Placement of limited amounts of material in the vicinity of areas discussed in Section 3.17 north of Rollinson Channel

³ Placement of limited amounts of material in the vicinity of areas discussed in Section 3.17 north of Sloop Channel

⁴ Placement of material in nearshored disposal area offshore Ocracoke Island previously permitted for South Ferry Channel

* Channels currently being considered by the USACE for federal maintenance

Permitting of channels that would allow placement of material in the deep holes in the Oregon Inlet to Old House Channel would likely require more coordination as the County does not have permits to place material in these locations. Although the USACE had been granted authority to place material in these locations, only recently, through specific coordination with agencies, has the USACE used this option (personal communication, T. Horton, March 1, 2021). The USACE Wilmington District is currently working to obtain additional approval from resource agencies for this type of disposal. Should the USACE and resource agencies agree on a practice to place material in these scour holes, the permitting of this alternative should become easier.

In a letter dated February 23, 2021, the Wilmington District requested public comment regarding its intentions to prepare an Environmental Assessment for the purpose of dredging and maintaining the Hatteras to Hatteras Inlet gorge federal navigation channel. In this letter, the USACE described two additional potential disposal areas for placing material dredged from the channel systems, which include nearshore placement off the west end of Hatteras Island and an inshore placement area in deep water to protect the Ocracoke Ferry Landing sheet pile wall. Dare County should monitor the progress the USACE makes through the development of environmental documents and coordination with agencies as these additional areas should also be considered by the County for their permits to conduct maintenance dredging with the PPP dredge.


The most complicated permitting for bottom placement would be the limited bottom placement of material in areas proposed for the new creation of bird islands or otherwise identified for bottom placement. This report has detailed the challenges of permitting new bird islands and other open water dispersal, and those challenges would need to be overcome to render this option viable.

4. ALTERNATIVE SCREENING

Given the diverse range of concept alternatives and the number of unknowns, an alternative screening matrix was developed to provide the County with actionable information. This information allows for the comparison of alternatives and to determine the most advantageous options to pursue. The screening matrix, provided in Table 5, was used to formulate the recommendations included in Section 5.

The alternative screening matrix scores each of the alternatives discussed in Section 3, based on the 1) relative cost to implement the alternative; 2) the long-term capacity provided; 3) the relative difficulty in permitting; 4) the necessity to obtain easements and/or the need to acquire property; 5) potential for cost sharing with partners; and 6) the amount of beneficial uses of material dredged. A three tier scoring criteria was developed for each of these six (6) project aspects. For each alternative, a color-coded score of red, yellow, or green was established with green being the most favorable score and red being the least favorable score. These criteria and what each color represents in terms of relative differences are discussed in the following paragraphs.

Project cost scoring considers up front planning and permitting cost and the amount of Federal funds expected to be used to cover alternative implementation and dredge costs. A score of green reflects alternatives that may require some planning and sediment sampling; that are not expected to require additional costs to permit beyond what is already included in the current



contract; and where construction/maintenance costs are expected to be covered primarily by Federal funds. A score of yellow reflects alternatives that will require extensive planning and/or permitting costs and where construction/maintenance costs are expected to be covered primarily by Federal funds. A score of red reflects alternatives that will require extensive planning and/or permitting costs and where construction/maintenance costs will require primarily non-federal funds.

Regarding the criteria for long-term capacity, a green score reflects alternatives that can clearly be demonstrated to provide capacity for over 20 years. A yellow score reflects alternatives that could be used for multiple maintenance events, but that cannot be clearly demonstrated to provide all of the projected capacity needed over 20 years. A red score reflects alternatives only expected to provide capacity for one maintenance event.

The criteria used to score each alternative with respect to the relative difficulty in permitting considered the amount of effort required to produce the environmental documentation anticipated to allow regulatory agencies to make a permit determination as well as whether previous discussions suggest that some resource agencies may oppose the alternative. A score of green reflects an alternative that could be permitted in a relatively straight forward manner with minimal environmental concerns. A score of yellow was given to alternatives that would require some additional documentation and coordination relative to alternatives scored green, but that are likely to be permitted by regulatory agencies. A score of red was given to alternatives that will require extensive efforts to permit, which could include an EIS, and that may face strong opposition from some resource agencies. This does not mean alternatives scored red could not be permitted.

In terms of the need to obtain easements or to purchase properties, scoring considered whether an easement would be required from a property owner and/or whether property would need to be purchased by the County to implement the alternative. Alternatives that would not require obtaining an easement or purchase of property were given a green score. Alternatives that required the County to obtain easements but not to purchase property were given a yellow score. Alternatives that require the County to purchase property were given a red score.

Regarding the criteria for scoring alternatives relative to cost-sharing potential, a green score was given to alternatives for which the County could likely secure multiple cost share partners in addition to the State through the Shallow Draft Fund. A yellow score reflects alternatives for which the County could likely secure at least one other cost share partner other than the State through the Shallow Draft Fund. A red score reflects alternatives for which the County is unlikely to secure cost share partners other than the State through the Shallow Draft Fund. Table 6 lists each alternative and the potential cost sharing partners considered in the scoring of each alternative.

The criteria used to score each alternative with respect to beneficial uses of sediment dredged considered the number of beneficial uses identified. A score of green was given to alternatives for which more than one beneficial use was identified. A score of yellow was given to alternatives where only one beneficial use was identified. A score of red was given to alternatives for which no beneficial use was identified. Table 6 lists each alternative and the identified potential beneficial uses for each alternative.

Table 5. Screening Matrix used to evaluate alternatives provided in Section Error! Reference source not found..

Section #	Description	Cost to Implement	Long-Term Capacity	Difficulty in Permitting	Easements / Property Purchase	Potential for Cost Share Partners	Beneficial Uses
3.1	Ft. Raleigh Shoreline						
3.2	Open Water Disposal North of Roanoke Island						
3.3	Placement of Fill on Spit Adjacent to "Andy Griffith" Property						
3.4	Disposal at Jockey's Ridge State Park	N/A	N/A	N/A	N/A	N/A	N/A
3.5	Open Water Disposal Offshore Jockey's Ridge						
3.6	Thin Layer Placement						
3.7	Placement of Fill on Dredge Spoil Islands West of Ranges 12 and 13						
3.8	Island H Modifications						
3.9	Upland CDF Near Tillet Road in Wanchese						
3.10	CDF on NPS Land at Bodie Island Near Radio Tower						
3.11	Marsh Restoration Beneficial Use Projects at Wanchese	*					
3.12	Open Water Disposal in Areas Previously Authorized (Oregon Inlet to Old House Channel /South Side of Oregon Inlet/Offshore Pea Island)						
3.13	Establishment of Additional Bird Islands Adjacent to Old House Channel						
3.14	Restoration of Green Island						
3.15	Stumpy Point Harbor						
3.16	Rodanthe Harbor CDF						
3.17	Additional Open Water Disposal for Special Purpose Dredge (Rollinson Channel / Barney Slough / Sloop Channel)						
3.18	Confined Disposal Site for Rollinson in Deep Water						
3.19	Confined Disposal Site for Rollinson to re-create Islands						
3.20	Temporary Placement of Material on NPS Beaches for Habitat Restoration						
3.21	Placement of Material on NPS Estuarine Shore in the Vicinity of Isabel Breach						
3.22	Dredging of Channels with PPP Dredge	**					

* Assumes USACE covers the cost of construction through as a Section 204 Project.

** Maintenance Costs to be covered by non-federal funds, but no additional permitting costs expected.

Table 6. List of potential cost-sharing partners and beneficial uses for alternatives provided in Section Error! Reference source not found..

Section #	Description	Potential Cost-Sharing Partners	Beneficial Uses
3.1	Ft. Raleigh Shoreline	National Parks Service	Shoreline Protection / Habitat Restoration
3.2	Open Water Disposal North of Roanoke Island	National Parks Service	Shoreline Protection / Habitat Restoration
3.3	Placement of Fill on Spit Adjacent to "Andy Griffith" Property	Private Property Owners	Shoreline Protection / Habitat Restoration
3.4	Disposal at Jockey's Ridge State Park	N/A	N/A
3.5	Open Water Disposal Offshore Jockey's Ridge	None	Habitat Restoration
3.6	Thin Layer Placement	NOAA-NFWF / FEMA / DCM (Coastal Resilience Grants)	Flood Mitigation / Storm Damage Reduction / Habitat Enhancement
3.7	Placement of Fill on Dredge Spoil Islands West of Ranges 12 and 13	None	None
3.8	Island H Modifications	NC Wildlife Resources Commission	None
3.9	Upland CDF Near Tillet Road in Wanchese	NC Waterfront Access Grants (DCM) / NC Parks Recreational Trails Grants / Commercial Purchase of Material	Development of public waterfront access / Development of recreational access / Commercial use of dredged material
3.10	CDF on NPS Land at Bodie Island Near Radio Tower	Commercial Purchase of Material / National Parks Service	Use of dredge material for NPS restoration projects / Commercial use of dredged material
3.11	Marsh Restoration Beneficial Use Projects at Wanchese	NC Division of Marine Fisheries / US Army Corps of Engineers (Section 204 Grant)	Shore Protection / Habitat Restoration
3.12	Open Water Disposal in Areas Previously Authorized (Oregon Inlet to Old House Channel /South Side of Oregon Inlet/Offshore Pea Island)	None	Scour mitigation near Terminal Groin*
3.13	Establishment of Additional Bird Islands Adjacent to Old House Channel	None	Habitat Restoration
3.14	Restoration of Green Island	None	Habitat Restoration
3.15	Stumpy Point Harbor	NC Waterfront Access Grants (DCM) / Commercial Purchase of Material	Shore protection / Commercial use of dredged material / Development of waterfront access
3.16	Rodanthe Harbor CDF	Commercial Purchase of Material NC Waterfront Access Grants (DCM)	Commercial use of dredged material / Development of waterfront access
3.17	Additional Open Water Disposal for Special Purpose Dredge (Rollinson Channel / Barney Slough / Sloop Channel)	None	Habitat Restoration**
3.18	Confined Disposal Site for Rollinson in Deep Water	None	None
3.19	Confined Disposal Site for Rollinson to re-create Islands	NOAA-NFWF / DCM (Coastal Resilience Grants)	Storm Damage Reduction
3.20	Temporary Placement of Material on NPS Beaches for Habitat Restoration	None	Habitat Restoration / Shore Protection
3.21	Placement of Material on NPS Estuarine Shore in the Vicinity of Isabel Breach	NOAA-NFWF	Shore Protection / Use of dredged material for NPS restoration projects / Commercial use of dredged material
3.22	Dredging of Channels with PPP Dredge	None	None

* Only applicable to placing of material on the south side of the inlet gorge at Oregon Inlet

** Assumes that these areas would eventually be converted into bird islands that could be used by pipeline dredges

5. RECOMMENDATIONS

The following recommendations were developed based on coordination with County staff throughout the process of conducting both the needs assessment and concept alternative development, as well as the evaluation of the several factors considered in the scoring matrix. Each of the recommendations includes an estimated time to implement the recommendation.

1. **Pursue Permitting of Short-Term Alternatives:** In order to provide additional capacity for anticipated dredge maintenance events to occur over the next 2 – 5 years, the following short-term alternatives should be pursued by Dare County to provide additional dredge disposal capacity for the Central and Southern Regions:

Central Dare County Project Area:

- a. Island H Modifications (Alternative 3.8)*
- b. Establishment of Additional Bird Islands Adjacent to Old House Channel (Alternative 3.13)
- c. Stumpy Point Harbor (Alternative 3.15)*
- d. Open Water Disposal in Areas Previously Authorized (Oregon Inlet to Old House Channel/ South Side of Oregon Inlet/Offshore Pea Island) (Alternative 3.12)*
- e. Dredging of Channels with PPP Dredge (Alternative 3.22)*
- f. Restoration of Green Island (Alternative 3.14)*

Southern Dare County Project Area:

- g. Additional Open Water Disposal for Special Purpose Dredge (Rollinson Channel / Barney Slough / Sloop Channel) (Alternative 3.17)**
- h. Dredging of Channels with PPP Dredge (Alternative 3.22)

** Alternatives which may require vibrocore or other borings to assess sediment compatibility. These are discussed further under Recommendation #2.*

*** Alternatives which may require additional environmental data collection and analysis relative to what is included in the current permitting budget.*

Dare County should direct its consultant to begin the process of coordinating with resource agencies and scheduling an inter-agency meeting to initiate permitting of these alternatives. These alternatives have been chosen based on the expected level of documentation and coordination required to obtain permits and in some cases the amount of available data to support specific proposed actions. Following the inter-agency meeting, final determinations can be made as to which of the alternatives can be covered under the existing scope of work between Dare County and CPE, and if need be, what additional services would be required to permit the selected alternatives.

From the time the County provides Notice to Proceed, securing permits and authorizations allowing for the implementation of these alternatives is anticipated to take approximately 14-18 months. Major deliverables for this work would include the development of an Environmental Assessment (EA), Essential Fish Habitat assessment (EFH) and Biological Assessment (BA) to satisfy NEPA environmental documentation and federal consultation requirements. In addition, CAMA Major and Dept. of Army Individual Permit applications would be submitted to the relevant agency and will be deemed “complete”. The anticipated schedule assumes that all pertinent geotechnical data, cultural resources information, and engineering analysis will be available within 6 months of the issuance of the Notice to Proceed.

A more detailed description of the recommendations specific to the Central and Southern Project Areas are provided in the following paragraphs.

Central Dare County Project Area:

The USACE has expressed specific short term additional capacity for maintenance of the Wanchese Channel and portions of Range 14 from which material has been historically placed in the CDF referred to as Island H. The most likely short term solution to accommodate the volume needed to be removed from the Wanchese Channel and the adjacent portion of Range 14, would be the Island H modification described in Section 3.8. The County should initiate discussions with regulatory and resource agencies to determine the most cost effective and feasible plan to modify Island H in a way that provides enough capacity for one additional maintenance operation while longer-term solutions can be developed.

Though not specifically mentioned as an area with no additional capacity for dredge material placement, the establishment of additional bird islands adjacent to Old House Channel has emerged as an alternative that should be pursued by the county at this time. The reason for pursuing this option is due to the amount of data available for this particular alternative. While coordinating with regulatory and resource agencies about other alternatives for the Central Dare County Project Area, the County should also discuss this option and consider moving forward with the necessary efforts depending on feedback obtained from the agencies.

The USACE does not conduct maintenance dredging of the entrance to the boat basin (Ranges 2, 3, and 4) and the boat basin at Stumpy Point due to the material, which has a high fraction of fines, being suspected to contain heavy metals. The County should initiate discussions with regulatory and resource agencies to pursue the alternative discussed in Section 3.15 to permit dredge material management options for the entrance channel and boat basin at Stumpy Point.

While development of dredge material management facilities such as CDFs, bird islands, and thin layer placement are important to the long-term viability of the navigation program within Dare County, the County also has the ability to conduct more frequent maintenance dredging once the PPP dredge comes online. With an increase in maintenance dredging conducted with the PPP dredge, less capacity would be required through the use of facilities and alternatives such as CDFs, bird islands, and thin layer placement. Two alternatives developed

in Section 3 deal with permitting alternatives that would allow for the PPP dredge to operate more efficiently or in channels not currently permitted. These alternatives are open water disposal in areas previously authorized (Oregon Inlet to Old House Channel/South Side of Oregon Inlet/Offshore Pea Island) (Alternative 3.12) and the dredging of various channels with the PPP dredge (Alternative 3.22). The specific channels that fall under Alternative 3.22 that should be included for the Central Region are Manteo/Shallowbag Bay Ranges 4A & 4B, Manteo/Shallowbag Bay Ranges 1 through 5 and 14 through 17, the Wanchese Channels, Walter Slough, and The Crack. The County should initiate discussions with regulatory and resource agencies to pursue these alternatives, which will provide greater flexibility for the PPP dredge to operate once it comes online. Furthermore, the USACE could use Dare County permits to conduct similar maintenance dredging with its fleet.

One additional alternative listed that should be pursued for consideration at this time is the permitting to use dredge material to restore Green Island. This alternative as described in Section 3.14 is one that is viewed favorably by several environmental groups and resource agencies. The County should at least initiate discussions with the agencies regarding permitting this option while engaging with the same agencies on the permitting of the other alternatives for the Central Region.

Southern Dare County Project Area:

The USACE has expressed an immediate need for additional capacity for maintenance of Rollinson Channel. Maintenance of the entirety of Rollinson Channel cannot be conducted by the USACE given the lack of placement options for the material dredged. The material that has shoaled in the channel has a high concentration of silt, mud, and clay, which is not conducive to placement on bird islands or beaches. Typically, this type of material is pumped into a CDF. Other options include open water disposal and thin layer placement. The alternative analysis indicated that each of the alternatives identified as options to manage material dredged from Rollinson Channel would require extensive efforts to permit. This could include an EIS and the proposed action generally may face strong opposition from resource agencies. Considering the options, Dare County should initiate discussions with regulatory and resource agencies regarding the potential to develop an open water disposal area north of Rollinson Channel in the open water of the Pamlico Sound. As described in Recommendation #7, the USACE has recently embraced pilot projects to demonstrate the use of beneficial use strategies including open water disposal (USACE, 2020b).

The County's future ability to conduct more frequent maintenance dredging with the PPP dredge is a major consideration. With an increase in maintenance dredging conducted with the PPP dredge, less capacity would be required through the use of facilities and alternatives such as CDFs, bird islands, and thin layer placement. Alternative 3.22 deals with obtaining permits that would allow for the PPP dredge to operate more efficiently or in channels not currently permitted. The specific channels that fall under Alternative 3.22 that should be included for the Southern Region are Rollinson Channel, Hatteras Connecting Channel, Hatteras to Hatteras Inlet Ranges 1 through 5, Barney Slough, Sloop Channel, and the Hatteras Inlet Ocean Bar. The County should initiate discussions with regulatory and resource agencies to pursue permits to dredge these channels and use disposal options discussed in Section

3.22. Permits for these proposed actions will provide greater flexibility for the PPP dredge to operate once it comes online. Furthermore, the USACE could use Dare County permits to conduct similar maintenance dredging with its fleet.

Though not specifically recommended for Dare County to pursue the permitting of Alternative 3.20 – *Placement of Material on NPS Beaches for Habitat Restoration*, the County should coordinate closely with the USACE as they actively pursue permits for this alternative. USACE staff have indicated that the USACE is waiting for NPS to finalize its Sediment Management Framework Environmental Impact Statement (Pers. Cor. Todd Horton, December 2020). Once that document has been finalized, USACE will initiate efforts to permit placement of material on NPS beaches in compliance with the NPS Sediment Management Framework. Dare County should monitor the progress of these efforts and work with USACE and NPS to identify critical infrastructure protected and habitat enhancements achieved through placement of dredged beach quality sand on NPS beaches.

2. **Conduct Sediment Sampling of Channels:** The needs assessment indicated a lack of sufficient sediment data for many of the channels included in this study. To better assess the feasibility of many of the alternatives presented in this report and to permit several of the alternatives discussed under Recommendation #1, additional sediment sampling and analysis are expected to be required. Table 7 includes a list of vibracores that may be required for different alternatives.

The vibracores listed in Table 7 were characterized as “Priority” and “Secondary.” Priority vibracores include the minimum number of cores estimated to permit alternatives that are included in Recommendation #1. Secondary vibracores include the minimum number of vibracores needed to permit channels not included in Recommendation #1 and additional vibracores that may be required in some of the channels included in Recommendation #1 as determined in the field and depending on the type of application for which the material may be used. For example, for Ranges 4A and 4B, five (5) vibracores are listed as Priority to permit that section of the channel; however, depending on the variability of the sediment types contained in the channel, additional sampling may be required to better resolve the extent of suitable material, if for example, the material was proposed to be placed on NPS land.

Vibracores should be collected to sufficient depths such that sediment is recovered from a pre-determined depth, which will be provided to the vibracore contractor. This depth should be based on a combination of factors including existing authorized depths, proposed permitted depths, or anticipated disturbance depth. Vibracores should also be spaced to conform with known State and Federal rules associated with determining sediment compatibility for placement of sand in the manner being proposed. This may differ from channel to channel. Vibracores should be split, logged, and sampled. Sediment samples should undergo sieve analysis to determine sediment grain size characteristics including mean grain size and % fines. If necessary, sediment samples should also undergo carbonate analysis to determine the percent by weight calcium carbonate in the sediment. This may only be applicable if material is to be placed on beaches in accordance with the North Carolina Technical Standards for Beach Fill Projects (15A NCAC 07H.0312)

Table 7. List of channel sections and number of vibracores required for permitting various dredge material management alternatives.

Channel (Ranges)	Description	Number of Priority Vibracores	Number of Secondary Vibracores
Manteo Shallowbag North Channel (Ranges 4A and 4B)	Five priority cores recommended to satisfy permit requirements. Secondary vibracores could be required to resolve changes in sediment type depending on the method of disposal.	5	4
Manteo Shallowbag Main Channel (Ranges 5-7)	Four priority cores recommended, which will be added to the southernmost core taken in Range 4B to satisfy permit requirements. Secondary core recommended to characterize the shoal on the east side of Range 7.	4	1
Manteo Shallowbag Main Channel (Ranges 8-11)	Four secondary cores recommended, which will be added to the southernmost core taken in Range 7 to satisfy permit requirements. Given current need for dredging in this section, the cores were characterized as Secondary.	0	4
Manteo Shallowbag Main Channel (Ranges 12-13)	Five priority cores recommended (includes one core includes for Ranges 8 – 11) to satisfy permit requirements. Given current need for dredging in this section, the cores were characterized as Secondary.	0	4
Manteo Shallowbag Main Channel (Range 14)	Five priority cores recommended to satisfy permit requirements. Four secondary cores included to further resolve sediment transitions depending on the method of disposal.	5	4
Wanchese (Ranges 14A-14C)	Five priority cores recommended to satisfy permit requirements.	5	0
Island H	Three cores recommended to be taken on top of the island to characterize the material to be moved out to create additional capacity.	3*	0
Manteo Shallowbag Main Channel (Ranges 15-17 Ext.)	Five cores recommended to satisfy permit requirements. Given current need for dredging in this section, the cores were characterized as Secondary.	0	5
The Crack	Five priority cores recommended to satisfy permit requirements.	5	0
Stumpy Point Harbor	Five priority cores recommended to satisfy permit requirements.	5	0
Hatteras Inlet Shoal	The portion of the Hatteras Inlet Shoal that would be permitted has not yet been clearly identified. Five evenly spaced cores would be needed as a minimum to characterize the channel corridor.	5*	0

* Not included as "Priority Vibracores" in Table 8.

For projects in which the sediment is not being proposed to be placed on oceanfront or estuarine shorelines, the vibracore data is expected to be sufficient for the life of the permits to conduct maintenance dredging. If the material is permitted to be placed on oceanfront or estuarine shorelines, there may be a need for additional sampling in the future, prior to the

second maintenance event conducted under the permit, as stipulated by the North Carolina Technical Standards for Beach Fill Projects (15A NCAC 07H.0312).

In some instances where material is to be placed in CDF's and or used for thin layer placement, regulatory agencies may require testing of the material to determine the concentrations of RCRA heavy metals. The RCRA 8 metals consist of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. These metals are generally identified as hazardous wastes by the Environmental Protection Agency (EPA), that are environmentally hazardous due to corrosivity, toxicity, ignitability, or reactivity.

Table 8 provides a breakdown of estimated costs to collect and process additional sediment data included in Recommendation #2.

Table 8. Estimated costs for additional sediment sampling.

	Description	Estimated Cost
Priority Vibracores	29 priority cores were identified in Table 7. These do not include cores in Island H or Hatteras Ocean Bar. The cost estimate provided is a lump sum cost assuming 29 cores are collected and processed.	\$100,000
Additional Sediment Sampling at Island H	Three cores recommended to characterize the material contained within the portion of Island H proposed for removal to create additional capacity.	\$11,500
Secondary Vibracores	22 Secondary vibracores were identified in Table 7. Cost estimate provided is the cost per core for Secondary vibracores.	\$2,750 Per Core
Secondary Vibracores (Hatteras Ocean Bar Channel)	The portion of the Hatteras Inlet Shoal that would be permitted has not yet been clearly identified. The estimated cost assumes 5 evenly spaced cores would be required to characterize the channel corridor.	\$30,000
RCRA-8 Heavy Metals sampling and testing	The estimated cost provided is an additional cost per core to sample and test sediments requiring RCRA-8 heavy metal analysis.	\$1,800 Per Core

The time required from authorization by the County and contracting to conduct sediment sampling to completion and submittal of final deliverables is anticipated to be approximately 4 months to 6 months. The required time is dependent on the number of cores and the type of sampling and analysis necessary as listed in Table 8. Some of this work could be completed in parallel with work required under Recommendation #1; however, analysis and deliverables need to be finalized before permit applications could be submitted.

The USACE is currently in the process of bidding out work to conduct vibracore operations in Dare County in several of the channels being considered for inclusion into the federal channel system that runs from the boat basin at Hatteras to Hatteras Inlet. These channels include Barney Slough and Sloop Channel. The County may achieve further cost savings by coordinating with the USACE and their selected contractor.

3. **Develop Numerical Model to Evaluate Alternatives in Northern Roanoke Sound:** Section 3 includes several alternatives that aim to provide shoreline protection and habitat restoration along the northern part of Roanoke Island and on the sound side of Nags Head. Those include:

- 3.1 Ft. Raleigh Shoreline Restoration
- 3.2 Open Water Disposal North of Roanoke Island
- 3.3 Placement of Fill on Spit Adjacent to “Andy Griffith” Property
- 3.5 Open Water Disposal Offshore Jockey’s Ridge

Each of these alternatives pose both engineering design and environmental permitting challenges. The use of numerical modeling could greatly improve the design and provide valuable information to document potential impacts. While the effort to setup and calibrate coastal hydrodynamic numerical models is robust, often requiring collection of additional field data, the number of alternatives that could be evaluated with such a model may justify the effort. Partnering with other communities may allow for the sharing of some of the modeling costs. This type of model could benefit other local communities such as the Towns of Manteo, Nags Head, and Kill Devil Hills. The model could also benefit other shoreline protection efforts on the part of NPS at Ft. Raleigh and the unincorporated community of Manns Harbor.

Recent discussions with staff of the NC Coastal Studies Institute (CSI) in Wanchese and other researchers show an interest on the part of academic researchers, technicians, and other associated scientists to partner in both analysis and data collection efforts that could support numerical modeling. Dr. Ryan Mulligan of Queen’s University and Dr. J.P. Walsh, formerly of CSI, published a paper in 2015 that reported on regional numerical modeling conducted to assess wind generated wave and surge impacts on flooding within the Albemarle and Pamlico estuary system (Mulligan, et al., 2015). More recently Dr. Mulligan and one of his students, Alexander Rey developed a real-time modeling system that is used to provide short term forecasting of water levels and significant wave height (Rey, et al., 2021) in the sound. The model developed by these researchers can be used to provide hydrodynamic boundary conditions to a high-resolution coastal morphology model that would be focused on resolving sediment transport and erosion and sedimentation of the coast, assisting with alternative analysis and engineering design development.

Having sufficient data to setup and calibrate a morphology model can also be challenging and costly. Recent discussions with Dr. Reide Corbett of CSI indicated that the Institute may be interested in partnering with Dare County and other local communities to collect data for such a study. This could include wave and water level data, bathymetric data, and current data.

Dare County should approach potential cost sharing partners and local researchers to determine the level of interest and financial commitment they could make to such an effort. With a clear understanding of level of interest and level of commitment, the County could obtain a detailed scope of work and cost estimate for the work and determine whether

pursuing such work is in the best interest of the County to develop additional long-term dredge and placement plans that can lead to continuous improvement of coastal resilience.

The time required to coordinate with potential cost sharing partners and local researchers to determine level of interest, and to develop a detailed scope of work and cost for the numerical model would require approximately 2 months. If the County were to determine that proceeding with the setup and calibration of the model and the alternative analysis, that effort is likely to require 9 months to 1 year to complete depending on the amount of additional data that would need to be collected to setup and calibrate the model.

4. **Establish a GIS-Based System of Tracking Dredge Maintenance Needs:** As part of the needs assessment, an online GIS was developed to integrate historic sediment data, environmental data and bathymetric data for the project channels. The GIS also allows for display and analysis of historic dredge records for the project channels. Furthermore, as alternatives were developed, those alternatives were incorporated into the online GIS.

A system of regularly updating survey data available through the USACE was established through the process of setting up the online GIS and working with the USACE to integrate its data into the GIS. The continued effort to regularly update the GIS with publicly available survey data provides an even more powerful tool to engineers, environmental scientists, and managers working on the overall navigation program throughout the County.

While the online GIS has served its purpose for this project, the tool may aid Dare County in the future as they manage dredge needs. Dare County should consider the option of establishing a system using either internal GIS capabilities or external capabilities through a consultant, to continue to maintain and manage the online GIS as a long-term management and planning tool for navigation projects. The ability to quickly evaluate current conditions in an online GIS platform relative to the channels and dredge disposal facilities will provide value to managers. Specifically, the tool can be setup to automate the calculation of sediment required to be removed from channels as new survey data become available. Furthermore, the GIS provides a powerful tool for storing, organizing, and evaluating historical data and trends as new data become available over time.

The time required to develop the details of the system and get the system operational is expected to take between 3 and 5 months. The required time is dependent on whether the system is managed by a consultant or by the County using internal resources.

5. **Planning and Assessment of CDF Alternatives:** Several alternatives described in Section 3 involved the construction of a CDF or confined disposal facilities, specifically Alternatives 3.9, 3.10, and 3.21. Available information was used to develop volumetric estimates and construction cost estimates (See Sections 3.9, 3.10, and 3.21); however, additional efforts and information is required to fully determine the feasibility of these alternatives. This may include site assessments such as wetland delineation, topographic/bathymetric surveys and geotechnical evaluation of in-situ soils, follow up coordination with construction contractors,

coordination with NPS (Specifically on Alternative 3.10 and 3.21), and coordination with other resource and regulatory agencies regarding permitting.

Additional information on each of the sites such as wetland delineation, SAV evaluation, topographic and bathymetric data, and in-situ soil type are necessary to better evaluate the potential environmental impacts and the volumes needed to construct the facilities. Wetland surveys may be required at each of the sites to determine whether wetlands falling under the jurisdiction of the Clean Waters Act Section 404 are present on the property. For Alternative 3.21, SAV surveys may be necessary to determine impacts of the citing of a temporary CDF near Isabel Breach on Hatteras Island. Topographic/bathymetric surveys are necessary to more accurately determine existing grade and volume of material in place that could be used for construction of the facilities. Furthermore, sediment sampling and analysis of in-situ sediments are necessary to determine whether such material could be used for the construction of all or portions of the facility. With this information, engineers can follow up with potential contractors to determine constructability challenges, better determine permitting challenges of the projects, and more accurately estimate construction costs.

Regarding constructability challenges, one of the key cost factors identified for the CDF alternatives was the availability of useable sediment on site to construct the projects. The need to purchase material and haul material into the site greatly increase the cost of the project. In the event that suitable material is not available at the site location, one potential solution may be the use of large geotextile tubes to store otherwise unsuitable material in a way that provides structural integrity that would allow for the construction of all or part of the CDF. Several such projects have been constructed in the US.

If the County believes that further exploration of Alternatives 3.9, 3.10, and 3.21 is warranted to provide future capacity for Wanchese Channel and Rollinson Channel, work should be initiated to conduct wetland delineation, topographic/bathymetric surveys, sediment sampling and analysis of in-situ soils, coordination with construction contractors, and coordination with resource and regulatory agencies including NPS. This work should explore the feasibility of utilizing geotextile tubes as an option to construct the CDFs. The time required to conduct the assessments, collect and analyze data, coordinate with contractors and agencies, and provide a detailed scope of work to design and permit facilities as described for Alternatives 3.9, 3.10, and 3.21, is 4 to 6 months.

6. **USACE Continued Authority Programs (CAP):** The U.S. Congress has provided the USACE with a number of continuing authorizations through the CAP program to implement a variety of projects. As part of this study, numerous CAP programs were evaluated to determine the feasibility for Dare County to use in their ongoing dredge material management program. CAP 204 appears to be the most likely programs to benefit the County regarding the dredge material management program.

Section 204 of the CAP provides the USACE authority to implement projects providing for the incremental costs of the beneficial use of dredged material for the purpose of structural and non-structural flood risk management, hurricane and coastal storm damage reduction and

environmental protection and restoration. Dare County, as a non-Federal government entity is eligible to be the sponsor of such a program. Dare County could inquire about using the Authority to advance Alternative 3.2 – Open Water Disposal North of Roanoke Island, Alternative 3.3 – Placement of Fill on Spit Adjacent to “Andy Griffith” Property, Alternative 3.6 – Thin Layer Placement, Alternative 3.11 – Marsh Restoration Beneficial Use Projects at Wanchese, and Alternative 3.21 – Temporary Placement of Material on NPS Estuarine Shoreline in the Vicinity of Isabel Breach.

Alternative 3.6 deals specifically with the option of thin layer placement. While thin layer placement has become a common tool used throughout other parts of the US, it has not yet been adopted as a common practice in the state of North Carolina. As described in Section 3.6, several small-scale pilot studies have been conducted in North Carolina to evaluate impacts of thin layer placement. Section 204 of the CAP has been used to evaluate several projects in the region including one near Cedar Island, Virginia (USACE, 2019) and one associated with the Charleston Harbor in South Carolina (USACE, 2019). Given the feasibility phase of the Section 204 process is 100% Federally funded, the County should formally request the Wilmington District work with Dare County as a non-federal sponsor to evaluate this option. The federally funded feasibility study would establish the purpose and needs of the project and result in the development of the environmental documentation needed to satisfy the NEPA process. Furthermore, the coordination and opportunity for public commenting throughout the process would allow for non-federal resource and regulatory agencies to weigh in on the project and provide formal comments, which would be addressed in the final document.

Alternative 3.11 deals specifically with marsh restoration near Wanchese. As previously discussed under Alternative 3.11, a successful Section 204 project was developed and constructed at Wanchese in 2009. The non-federal project sponsor for the project was the State of North Carolina. Dare County has initiated initial discussions with the USACE about a similar project that would focus on restoration of habitat and protection along the south side of the channel into Wanchese. The USACE has indicated that there are challenges with the fact that these projects are typically tied to a particular dredging event and since the dredge event is not currently funded, this may prove difficult. The County should follow up on this discussion using examples for other projects in the region. The CAP authority states clearly that the study is expected to take 24 – 30 months to complete and these days it is uncommon for the channels in this area to have funding appropriated for events that far in advance. This is something that should be discussed specifically with the USACE.

Alternatives 3.2, 3.3, and 3.21 should also be discussed with the Wilmington District. In general, these projects appear to meet the intent of the Section 204 project description; however, the details of these projects should be discussed with USACE staff to determine whether the projects could be advanced through Section 204 authority.

7. **Coordination with State and USACE on a Beneficial Use Pilot Project:** In recognition of the need to increase beneficial re-use of dredged material, Congress passed Section 1122 of the WRDA 2016, which included the authorization of 10 pilot projects for the beneficial use of

dredged material. In 2018, the USACE received competitive proposals from applicants and announced those applicants in early 2019. Subsequently, Section 1130 of WRDA 2018 amended Section 1122 of WRDA 2016 to allow for 20 projects. The passing of the Consolidated Appropriations Act of 2021, signed into law on December 27, 2020, included what is referred to as WRDA 2020, which further amended Section 1122 of WRDA 2016 to allow 35 projects. While funding of these projects has not been established, the most recent legislation also specifically requires the Secretary of the Army to prioritize the selection of at least one project for utilization of thin layer placement.

The *2020 Regional Sediment Management Optimization Update* (USACE, 2020b) found that most dredged material in the Wilmington District consists of sand, silt, mud, and clay that is not suitable for beach placement. The report goes on to mention that the State of North Carolina lacks specific provisions to allow placement of material with higher fine grain size fraction in nearshore areas. The report specifically states that “An opportunity for a research proposal could include an analysis of non-beach-quality material in key project areas to determine the volume and value of sediment that could be placed beneficially (if allowed by the State).” This type of action would involve stakeholder meetings with State regulators and local sponsors. Several regional sediment management (RSM) strategies have been used by other districts in the South Atlantic Division to place material with higher concentrations of fines. These include open water disposal, thin layer placement and wetland creation, which keep sediment in the active system. The report also characterizes these types of strategies as “supporting healthy ecosystems” and “providing significant placement capacity”.

The USACE Savannah District recently implemented the Jekyll Creek, GA Beneficial Use Pilot Project to support the increase use of beneficial use of non-beach compatible sediment. The project was completed in 2019 and used approximately 5,000 CY of material from the Atlantic Intracoastal Waterway (AIWW) for thin layer placement and another 210,000 CY for open water dispersal. These projects are seen as a success by the USACE and its project partners. These partners included the State of Georgia, the Jekyll Island Authority, The Nature Conservancy, and the Atlantic Intracoastal Waterway Association.

Dare County should engage Wilmington District staff and representatives from the State Division of Coastal Management, as well as The Nature Conservancy and private consultants to discuss the possibility of a similar pilot project for Dare County. Such a project could demonstrate the ability to use such options as thin layer placement and open water dispersal in a greater capacity to provide beneficial use of dredged material. The effort required to formulate a project “pitch” and discuss it with these entities could be done within two to three months. Through these discussions, the County is expected to obtain a better idea of the timeline to implement such a project and the likelihood of it being funded.

8. **Develop a long-term management plan for Rodanthe Harbor CDF:** Alternative 3.16 is associated with the currently established CDF located directly south of the Rodanthe boat basin. While the site currently has been improved to ready it for receiving dredge material, the site only provides capacity for one event. The County should develop a long-term management plan for the facility that would establish maintenance needs of the facility, and

a plan to mine the material between dredge events, that would identify specific uses and potential purchasers of the material. By establishing this plan, Dare County would establish the long-term use of the facility to provide capacity for maintenance dredging.

As part of the long-term plan, Dare County should evaluate the need for additional public access in this portion of the County. The facility could provide recreational opportunities for both tourists and locals in this region of the County. The North Carolina Division of Coastal Management offers grants through a Public Access Grant program, which awards approximately \$1,000,000 per year in matching grants to local governments to use to construct low-cost public access facilities, including parking areas, restrooms, dune crossovers and piers. The establishment of a pier on the west side of the CDF may provide multiple benefits including access for fishing and water access to the public, as well as protection of and possibly the extension of the outfall pipe that is associated with the dewatering of the facility. The County recently had to pay to have the outfall pipe repaired after it was damaged during storm events. The securing of the outfall pipe within the support structure of a pier, may provide added protection.

The State is currently receiving pre-application packages for the Public Access Grant program. Pre-Applications are due before 5:00 pm on Friday April 16, 2021. The County may be hard pressed to develop a plan and information to submit a winning proposal for this cycle of funding. However, the funding is typically recurring annually. The County could develop a management plan and preliminary engineering designs for the access projects and use that work as in-kind matches for the grant.

REFERENCES

- Audubon. 2020. Important Bird Areas – Oregon Inlet Shoals – Green Island.
<https://www.audubon.org/important-bird-areas/oregon-inlet-shoals-green-island>
- Berkowitz, J., Welp, T., Piercy, C., & Vanzomeren, C. (2019). Thin Layer Placement: Technical Definition for U.S. Army Corps of Engineers Applications: <https://apps.dtic.mil/dtic/tr/fulltext/u2/1067526.pdf>
- Croft, C., L. Lenard, T. Alphin, L Cahoo, and M. Posey. 2006. The effects of thin layer sand renourishment on tidal marsh processes: Masonboro Island, North Carolina. *Estuaries and Coasts*. 29(5), p 737-250. doi: <https://doi.org/10.1007/BF02786525>
- Havholm, K. G., Ames, D. V., Whittecar, G. R., Wenell, B. A., Riggs, S. R., Jol, H. M., et al. (2004). Stratigraphy of back-barrier coastal dunes, Northern North Carolina and Southern Virginia. *Journal of Coastal Research*, 20(4), 980–999.
- Judge, E., Courtney, M., & Overton, M. F. (2000). Topographic analysis of dune volume and position, Jockey’s Ridge State Park, North Carolina. *Shore and Beach*, 68(4), 19–24.
- Mallinson, D.J., Riggs, S.R., Culver, S.J., Ames, D., Horton B.P., & Kemp, A.C. 2009. The North Carolina Outer Banks Barrier Islands: A Field Trip Guide to the Geology, Geomorphology, and Processes.
http://core.ecu.edu/geology/mallinsond/IGCP_NC_Field_Trip_Guide_rev1.pdf
- Mitas, O., Mitsova, H., Brothers, G., & Weaver, K. 2013. Managing dune landscape changes at Jockey’s Ridge State Park, North Carolina. *Tourism in Marine Environment*, 9(3-4), 155-167. doi:

- <https://doi.org/10.3727/154427313X13818453739477>
- Mitasova, H. & Harmon, R. 2005. Geospatial analysis of a coastal sand dune field evolution: Jockeys Ridge, North Carolina. *Geomorphology*, 72(2005), 204-221. doi: 10.1016/j.geomorph.2005.06.001
- Narayan, S., Beck, M.W., Wilson, P., Thomas, C.J., Guerrero, A., Shepard, C.C., Reguero, B., Franco, G., Igram, J.C., & Trespalacios, D. 2017. The value of coastal wetlands for flood damage reduction in the Northeastern USA. *Scientific Reports*, 7, doi: 10.1038/s41598-017-09269-z
- National Oceanic and Atmospheric Administration. 2019. 2019 USACE NCMP DUNEX Topobathy Lidar DEM: East Coast (NC, VA). <https://www.fisheries.noaa.gov/inport/item/60197>
- National Oceanic and Atmospheric Administration. 2020. NOAA ENC Viewer. <https://nauticalcharts.noaa.gov/ENOnline/enonline.html>
- National Park Service. 2020. Cape Hatteras National Seashore Sediment Management Framework Draft Environmental Impact Statement: <https://parkplanning.nps.gov/document.cfm?parkID=358&projectID=94076&documentID=106596>
- North Carolina Division of Coastal Management. 2020. Coastal Maps and Data Interactive Viewer. <https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=f5e463a929ed430095e0a17ff803e156>
- North Carolina Department of Transportation. 2021. Historical Aerial Imagery Index. <https://www.arcgis.com/home/webmap/viewer.html?webmap=91e02b76dce4470ebd7ec240ad202a04>
- Parnell, J., Needham, R., Soots, R., Fussel, J., Dumond, D., McCrimmon, D., Bjork, R., & Shields, M. 1986. Use of Dredged-Material Deposition Sites by Birds in Coastal North Carolina, USA. *Colonial Waterbirds*, 9(2), 210-217. doi: 10.2307/1521215
- Raposa, K., K. Wasson, J. Nelson, M. Fountain, J. West, C. Endris, and A. Woolfolk. 2020. "Guidance for thin-layer sediment placement as a strategy to enhance tidal marsh resilience to sea-level rise." Published in collaboration with the National Estuarine Research Reserve System Science Collaborative.
- Runyan, K. B., & Dolan, R. (2001). Origin of Jockey's Ridge, North Carolina: The end of the highest sand dune on the Atlantic Coast? *Shore and Beach*, 69, 29–32.
- Shepard, C., Crain, C., Beck, M. 2011. The Protective Role of Coastal Marshes: A Systematic Review and Meta-analysis. *PLoS ONE*, 6(11): doi: 10.1371/journal.pone.0027374
- Stantec Consulting Services, Inc. 2018. National Park Service Fort Raleigh shoreline protection alternatives analysis.
- The Nature Conservancy. 2019. Resilient coastal sites for conservation in the South Atlantic US: https://www.conservationgateway.org/ConservationByGeography/NorthAmerica/UnitedStates/edc/Documents/SouthAtlantic_Resilient_Coastal_Sites_31Oct2019.pdf
- United States Army Corps of Engineers. 1992. Environmental Assessment and Finding of No Significant Impact – Maintenance Dredging and Dredged Material Disposal Plan – Oregon Inlet and Vicinity Manteo (Shallowbag) Bay Project Dare County, North Carolina.
- United States Army Corps of Engineers. 2014. Detailed Project Report and Environmental Assessment – Manteo, Old House Channel, NC Section 204 Project. <https://erdc-library.erdcdren.mil/jspui/handle/11681/37177>
- United States Army Corps of Engineers. 2015. Dredging and dredged material management. USACE EM 1110-2-5026.

https://www.publications.usace.army.mil/portals/76/publications/engineermanuals/em_1110-2-5025.pdf

United States Army Corps of Engineers. 2018. Charleston Harbor Section 204 Beneficial Use of Dredged Material, Charleston, South Carolina, Detailed Project Report:

<https://www.sac.usace.army.mil/Portals/43/docs/civilworks/post45/Cap%20204/Charleston%20Harbor%20CAP%20204%20Feasibility%20Report.pdf?ver=2018-05-09-150058-073>

United States Army Corps of Engineers. 2019. Cedar Island Beneficial Use of Dredge Material:

<https://www.nao.usace.army.mil/About/Projects/Cedar-Island-CAP-204/>

United States Army Corps of Engineers. 2020a. Wanchese Marsh Section 204:

<https://www.saw.usace.army.mil/Missions/Ecosystem-Restoration-CAP-Studies/Wanchese-Marsh-Section-204/>

United States Army Corps of Engineers. 2020b. Regional Sediment Management Optimization Update. South Atlantic Division.

<https://www.coastalreview.org/wp-content/uploads/2021/01/2020-RSM-OPTIMIZATION-UPDATE-FINAL-508a.pdf>

United States Army Corps of Engineers. 2020c. Rollinson Channel Hydrographic Survey. http://saw-nav.usace.army.mil/FERRY_SIDE_SMALL_HARBORS/HATTERAS/Rollinson.pdf

Wamsley, T. V., K. K. Hathaway, and M. Wutkowski. 2009. Hatteras Breach, North Carolina. Coastal and Hydraulics Laboratory Engineering Technical Note ERDC/CHL CHETN-VI-43. Vicksburg, MS: U.S. Army Engineer Research and Development Center, <http://chl.erd.c.usace.army.mil/chetn/>

White, N., McClendon, D.C.R., McCord, J., Parker, A., Piehler, M., Richards, N., & Walsh, J.P. 2017. Research to support design and siting of deposition areas of dredged material from Rodanthe Emergency Channel:

<https://connect.ncdot.gov/projects/research/RNAProjDocs/2015-20%20Final%20Report.pdf>

Williams, K.B., 2002. The potential wetland restoration and enhancement site identification procedure: A geographic information system for targeting wetland restoration and enhancement. NC DCM. Pp 33.



*Allis Holdings, LLC
Declaration of Conservation Easement*

Description

On December 21, 2020 the Board approved the conservation easement requested by Allis Holdings, LLC to be located on Dare County property near the water tower located at Duck Road and gave authority to the County Manager to sign the final Declaration of Conservation Easement with a satisfactory Staging Agreement to be provided.

Board Action Requested

Take appropriate action

Item Presenter

Robert Outten, County Manager



Tax District: Duck
 Subdivision: Subdivision - None
 Lot BLK-Sec: Lot: Blk: Sec:
 Property Use: Multi-use
 Building Type: Retail Single Occup
 Year Built: 1950

Owners: Allis Holdings Lc - Primary
 Owner
 Land Value: \$3,514,300
 Misc Value: \$270,100
 Building Value: \$2,883,200
 Total Value: \$6,667,600

1240 Duck RD
 Duck NC, 27949
 Parcel: 009812000
 Pin: 985911761465

This map is prepared from data used for the inventory of the real property for tax purposes. Primary information sources such as recorded deeds, plats, wills, and other primary public records should be consulted for verification of the information contained in this map.





Award of FY2020-2021 Equipment Financing

Description

On February 19, 2021, Finance received proposals for financing in the amount of \$2,199,721 with a three year term for acquisition of County vehicles and equipment as approved in the fiscal year 2020-2021 operating budget, including mid-year revisions. Proposals were received from seven financial institutions. The lowest total cost proposal was submitted by Banc of America Public Capital Corp (BAPCC) at a rate of 0.6734%. The bid tabulation and financing documents are attached.

Board Action Requested

Adopt the attached Resolution to award the three year financing to BAPCC at a rate of 0.6734% and authorize the County Manager and staff to execute all necessary documents.

Item Presenter

David Clawson

RESOLUTION AUTHORIZING THE EXECUTION AND DELIVERY OF AN INSTALLMENT FINANCING CONTRACT IN THE AMOUNT OF \$2,199,721 WITH BANC OF AMERICA PUBLIC CAPITAL CORP TO FINANCE THE ACQUISITION OF CERTAIN EQUIPMENT FOR USE BY THE COUNTY OF DARE, NORTH CAROLINA, AUTHORIZING THE EXECUTION AND DELIVERY OF RELATED INSTRUMENTS, AND DETERMINING OTHER MATTERS IN CONNECTION THEREWITH

BE IT RESOLVED by the governing body for the County of Dare, North Carolina (the “County”):

Section 1. The governing body of the County does hereby find and determine:

(a) The County proposes the acquisition of certain equipment, which may include fixtures as more fully described in the hereinafter mentioned Contract (collectively, the “Equipment”);

(b) After consideration, the governing body of the County has determined that the most advantageous manner of financing thereof is by an installment contract pursuant to Section 160A-20 of the General Statutes of North Carolina, as amended;

(c) Pursuant to Section 160A-20, the County is authorized to finance the acquisition of personal property, including fixtures, by installment contracts that create a security interest in the property financed to secure repayment of the financing; and

(d) Banc of America Public Capital Corp (“BAPCC”) has proposed to enter into an Installment Financing Contract with the County to finance the Equipment pursuant to which BAPCC will lend the County the amount of \$2,199,721 (the “Contract”).

Section 2. The governing body of the County hereby authorizes and directs the County Manager and Finance Director to execute, acknowledge and deliver the Contract on behalf of the County in such form and substance as the person executing and delivering such instruments on behalf of the County shall find acceptable. The Clerk is hereby authorized to affix the official seal of the County to the Contract and attest the same.

Section 3. The proper officers of the County are authorized and directed to execute and deliver any and all papers, instruments, opinions, certificates, affidavits and other documents and to do or cause to be done any and all other acts and things necessary or proper for carrying out this Resolution and the Contract.

Section 4. Notwithstanding any provision of the Contract, no deficiency judgment may be rendered against the County in any action for breach of a contractual obligation under the Contract and the taxing power of the County is not and may not be pledged directly or indirectly

to secure any moneys due under the Contract, the security provided under the Contract being the sole security for BAPCC in such instance.

Section 5. The County covenants that, to the extent permitted by the Constitution and laws of the State of North Carolina, it will comply with the requirements of the Internal Revenue Code of 1986, as amended (the "Code") as required so that interest on the County's obligations under the Contract will not be included in the gross income of BAPCC.

Section 6. This Resolution shall take effect immediately upon its passage.

PASSED AND ADOPTED this 15th day of March, 2021.

Chairman, Board of County Commissioners

[SEAL]

COUNTY OF DARE, NORTH CAROLINA

Clerk to the Board

County of Dare, NC
\$2,199,721 Installment Financing
3 year term

	Rate	Qtrly Payment	Total Payment
Banc of America Public Capital Corp	0.6734%	\$ 185,322.19	\$ 2,223,866.28
BciCapital, Inc.	0.9600%	\$ 186,185.00	\$ 2,234,220.00
Capital One Public Funding, LLC	0.9500%	\$ 186,152.24	\$ 2,233,826.88
Key Government Finance, Inc.	0.8530%	\$ 185,860.91	\$ 2,230,330.92
PNC Bank, NA	0.8400%	\$ 185,821.89	\$ 2,229,862.68
Truist Bank	0.8500%	\$ 185,851.91	\$ 2,230,222.92
US Bancorp Government Leasing and Finance, Inc.	0.9650%	\$ 186,197.31	\$ 2,234,367.72

EQUIPMENT INSTALLMENT FINANCING AGREEMENT

This Equipment Installment Financing Agreement (the “Agreement”) dated as of March 26, 2021, and entered into between Banc of America Public Capital Corp, a Kansas corporation (“Lender”), and the County of Dare, North Carolina, a political subdivision and body corporate and politic existing under the laws of the State of North Carolina (“Purchaser”).

WITNESSETH:

WHEREAS, Purchaser is a duly and validly created, organized and existing governmental entity under and by virtue of the Constitution and laws of the State of North Carolina; and

WHEREAS, Purchaser has the power, pursuant to Section 160A-20 of the General Statutes of North Carolina, to enter into installment contracts to finance the purchase of personal property, including property to be affixed or attached to real estate as fixtures; and

WHEREAS, Purchaser has requested Lender to advance certain funds to enable Purchaser to finance the purchase and installation of certain Equipment (as hereinafter defined) described herein (or to reimburse Purchaser for the costs of such purchase) and Purchaser desires to obtain such advance from Lender; and

WHEREAS, Purchaser is authorized under the Constitution and laws of the State to enter into this Agreement hereto for the purposes set forth herein; and

WHEREAS, the governing body of Purchaser has authorized the execution and delivery of this Agreement pursuant to a resolution adopted by the governing board of the Purchaser on March 26, 2021; and

WHEREAS, the obligation of Purchaser to make Installment Payments (as hereinafter defined) and other payments required under this Agreement shall constitute a limited obligation payable solely from currently budgeted appropriations of Purchaser and shall not constitute a pledge of the faith and credit of Purchaser within the meaning of any constitutional debt limitation or as otherwise prohibited by the North Carolina Constitution; and

WHEREAS, in order to further secure the obligations of Purchaser hereunder, Purchaser desires to grant a security interest in the Equipment for the benefit of the Lender; and

WHEREAS, no deficiency judgment may be rendered against Purchaser in any action for breach of a contractual obligation under this Agreement, and the taxing power of Purchaser is not and may not be pledged in any way, directly or indirectly or contingently to secure any moneys due under this Agreement; and

NOW, THEREFORE, for good and valuable consideration, receipt of which is hereby acknowledged, and in consideration of the premises hereinafter contained, the parties hereby agree as follows:

ARTICLE I
DEFINITIONS

Section 1.01. Definitions. The following terms will have the meanings indicated below unless the context clearly requires otherwise:

“Acquisition Amount” means \$2,199,721.

“Acquisition Period” means the period stated in the Schedule during which the Proceeds attributable to this Agreement may be expended on Equipment Costs, as such period may be extended with the consent of the Lender.

“Agreement” means this Equipment Installment Financing Agreement, including the Schedule and the other exhibits hereto, together with any amendments and modifications to the Agreement pursuant to Section 12.05.

“Code” means the Internal Revenue Code of 1986, as amended. Each reference to a Section of the Code herein shall be deemed to include the United States Treasury Regulations proposed or in effect thereunder.

“Commencement Date” means March 26, 2021, the date on which the Acquisition Amount is deposited into the Project Account designated by the Purchaser as set forth in Section 3.01.

“Contract Rate” means the rate identified as such in the Schedule.

“Equipment” means the property listed in the Schedule and all replacements, repairs, restorations, modifications and improvements thereof or thereto made pursuant to Section 8.01 or Article V. Whenever reference is made in this Agreement to Equipment, such reference shall be deemed to include all such replacements, repairs, restorations, modifications and improvements of or to such Equipment.

“Equipment Costs” means the total cost of the Equipment listed in the Schedule, including related soft costs such as freight, installation and taxes and other capitalizable costs, legal fees, financing costs and other costs necessary to vest full, clear legal title to the Equipment in Purchaser, subject to the security interest granted to Lender in this Agreement, and otherwise incurred in connection with the financing of the Equipment as provided herein; provided that any such soft costs on a cumulative basis shall not exceed twenty percent (20%) of the total cost of the Equipment.

“Event of Default” means an Event of Default described in Section 11.01.

“Event of Non-appropriation” means the failure of Purchaser’s governing body to appropriate or otherwise make available funds to pay Installment Payments under this Agreement, or the amendment of a previously adopted budget to delete the funds to make such payments.

“Installment Payments” means the basic installment payments payable by Purchaser under this Agreement pursuant to Section 4.01, consisting of a principal component and an interest component.

“Installment Payment Date” means each date on which the Purchaser is required to make an Installment Payment under this Agreement, as specified in the Installment Payment Schedule.

“Installment Payment Schedule” means the Installment Payment Schedule attached hereto substantially in the form of Exhibit A-1 attached to this Agreement.

“Lender” means (a) the entity referred to as Lender in the first paragraph of this Agreement or (b) any assignee or transferee of any right, title or interest of Lender in and to this Agreement (including Installment Payments thereunder) pursuant to Section 10.01, but does not include any entity solely by reason of that entity retaining or assuming any obligation of Lender to perform under this Agreement.

“Material Adverse Change” means (a) any change in Purchaser’s creditworthiness that could have a material adverse effect on (i) the financial condition or operations of Purchaser, or (ii) Purchaser’s ability to perform its obligations under this Agreement or (b) a downgrade in Purchaser’s external debt rating from the date of this Agreement of two or more subgrades by either Moody’s Investors Service, Inc. or Standard & Poor’s Ratings Service or any equivalent successor credit rating agency, or any downgrade by either such agency that would cause Purchaser’s credit rating to be below investment grade, or, if any such rating agency no longer publishes such ratings at the date of determination, any other nationally recognized statistical rating organization that is selected by Purchaser for purposes of such long-term general obligation bond ratings and long-term general fund related bond ratings.

“Optional Prepayment Date” means the date described in Section 4.01(b).

“Prepayment Price” means, with respect to the Equipment listed on the Schedule, the amount that Purchaser may pay to Lender to prepay the outstanding Acquisition Amount as contemplated in Sections 4.01 and 8.01.

“Purchaser” means the entity referred to as Purchaser in the first paragraph of this Agreement.

“Schedule” means the Schedule of Property substantially in the form of Exhibit A hereto together with the Installment Payment Schedule attached thereto.

“State” means the State of North Carolina.

“Taxable Rate” means the rate identified as such in each Installment Payment Schedule.

“Term” means the period from the Commencement Date for this Agreement until the final Installment Payment is paid hereunder, as set forth in the Installment Payment Schedule, or until this Agreement is otherwise terminated.

“Vendor” means any manufacturer or supplier of the Equipment or any other person, as well as the agents or dealers of any manufacturer or supplier with whom Purchaser has arranged the acquisition and installation of the Equipment to be financed by Lender pursuant to this Agreement.

ARTICLE II
REPRESENTATIONS AND WARRANTIES OF PURCHASER

Section 2.01. Representations and Covenants of Purchaser. Purchaser represents, covenants and warrants for the benefit of Lender on the date hereof as follows:

(a) Purchaser is a political subdivision duly created and existing under the laws of the State of North Carolina, and has all powers necessary to enter into the transactions contemplated by this Agreement and to carry out its obligations hereunder.

(b) Purchaser has duly authorized the execution and delivery of this Agreement by proper action of its governing body at a meeting duly called, regularly convened and attended throughout by the requisite quorum of the members thereof, or by other appropriate official approval, and all requirements have been met and procedures have occurred in order to ensure the validity and enforceability of this Agreement.

(c) No event or condition that constitutes, or with the giving of notice or the lapse of time or both would constitute, an Event of Default exists at the date hereof.

(d) Purchaser will do or cause to be done all things necessary to preserve and keep in full force and effect its existence as a municipal corporation.

(e) Purchaser has complied with such public bidding requirements as may be applicable to this Agreement and the acquisition by Purchaser of the Equipment as provided herein.

(f) During the Term, the Equipment will be used by Purchaser only for the purpose of performing essential governmental or proprietary functions of Purchaser consistent with the permissible scope of Purchaser's authority. Purchaser does not intend to sell or otherwise dispose of the Equipment or any interest therein prior to the last Installment Payment scheduled to be paid under this Agreement.

(g) Purchaser has kept, and throughout the Term shall keep, its books and records in accordance with generally accepted accounting principles and practices consistently applied, and shall deliver to Lender (i) annual audited financial statements (including (1) a balance sheet, (2) statement of revenues, expenses and changes in fund balances for budget and actual, (3) statement of cash flows and notes, and (4) schedules and attachments to the financial statements) within two hundred seventy (270) days of its fiscal year end, (ii) such other financial statements and information as Lender may reasonably request, and (iii) at Lender's request, Purchaser's annual budget for the following fiscal year when approved but not later than thirty (30) days after its current fiscal year end. The financial statements described in subsection (i) shall be accompanied by an unqualified opinion of Purchaser's auditor. Credit information relating to Purchaser may be disseminated among Lender and any of its affiliates and any of their respective successors and assigns.

(h) The Equipment described above is essential to the functions of Purchaser or to the services Purchaser provides its citizens; Purchaser has an immediate need for the Equipment listed on the Schedule and expects to make immediate use of the Equipment listed on the Schedule, which will be used by Purchaser only for the purpose of performing one or more of Purchaser's

governmental or proprietary functions consistent with the permissible scope of its authority. Purchaser's need for the Equipment is not temporary and Purchaser does not expect the need for any item of the Equipment to diminish during the Term. Purchaser expects and anticipates adequate funds to be available for all future payments due hereunder after the current budgetary period.

(i) The payment of the Installment Payments or any portion thereof is not directly or indirectly (x) secured by any interest in property used or to be used in any activity carried on by any person other than a state or local governmental unit or payments in respect of such property; or (y) on a present value basis, derived from payments (whether or not to Purchaser) in respect of property, or borrowed money, used or to be used in any activity carried on by any person other than a state or local governmental unit. The Equipment will not be used, directly or indirectly, in any activity carried on by any person other than a state or local governmental unit. No portion of the Acquisition Amount will be used, directly or indirectly, to make or finance loans to any person other than Purchaser. Purchaser has not entered into any management or other service contract with respect to the use and operation of the Equipment; provided that, Purchaser may enter into a management or other service contract with respect to the use and operation of the Equipment so long as prior to entering such contract, the Purchaser provides evidence satisfactory to the Lender (which may include an opinion of nationally recognized bond counsel) that entering into such contract will not have an adverse effect on the tax-exempt status of the interest component of Installment Payments.

(j) There is no pending litigation, tax claim, proceeding or dispute that may adversely affect Purchaser's financial condition or impairs its ability to perform its obligations hereunder. Purchaser will, at its expense, maintain its legal existence and do any further act and execute, acknowledge, deliver, file, register and record any further documents Lender may reasonably request in order to protect Lender's security interest in the Equipment and Lender's rights and benefits under this Agreement.

(k) The Purchaser has not failed to appropriate funds to make payments under any lease, installment financing agreement, lease purchase agreement, payment agreement or contract for purchase to which Purchaser has been a party. No event has occurred which would constitute an event of default resulting in a failure to make payment when due on any debt (including general obligation indebtedness or installment financing), revenue bond or other obligation issued by Purchaser or with respect to which Purchaser was obligated to make payments during the past ten (10) years.

(l) In connection with the Purchaser's compliance with any continuing disclosure undertakings (each, a "Continuing Disclosure Agreement") entered into by the Purchaser pursuant to SEC Rule 15c2-12 promulgated pursuant to the Securities and Exchange Act of 1934, as amended (the "Rule"), the Purchaser may be required to file with the Municipal Securities Rulemaking Board's Electronic Municipal Market Access system, or its successor ("EMMA"), notice of its incurrence of its obligations under this Agreement and any related documents and notice of any accommodation, waiver, amendment, modification of terms or other similar events reflecting financial difficulties in connection with this Agreement and related documents, in each case including posting a full copy thereof or a description of the material terms thereof (each such posting, an "EMMA Posting"). Except to the extent required by applicable law, including the

Rule, the Purchaser shall not file or submit or permit the filing or submission of any EMMA Posting that includes the following unredacted confidential information about the Lender or its affiliates in any portion of such EMMA Posting: address account information of the Lender or its affiliates, e-mail addresses, telephone numbers, fax numbers, names and signatures of officers, employees and signatories of the Lender or its affiliates; and the form of Disbursement Request this is attached to this Agreement.

The Purchaser acknowledges and agrees that the Lender and its affiliates are not responsible for the Purchaser's or any other entity's (including, but not limited to, any broker-dealer's) compliance or noncompliance (or any claims, losses or liabilities arising therefrom) with the Rule, any Continuing Disclosure Agreement or any applicable securities or other laws, including, but not limited to those relating to the Rule

ARTICLE III PURCHASE OF EQUIPMENT

Section 3.01. Purchase of Equipment. Subject to the terms of this Agreement and the Schedule, Lender agrees to advance the Acquisition Amount to the Purchaser to be used to acquire the Equipment. Lender will advance the Acquisition Amount to the Purchaser by depositing such funds into a segregated account (the "Project Account") of the Purchaser held at the North Carolina Capital Management Trust. The Purchaser agrees to withdraw amounts from the Project Account only for application from time to time to the payment of Equipment Costs in accordance with the procedures set forth in Section 3.02.

Pending application of funds in the Project Account to pay Equipment Costs, the amounts in the Project Account are subject to a lien and charge in favor of the Lender to secure the Purchaser's obligations to the Lender. The Purchaser grants to the Lender a security interest in the funds and investments on deposit to the credit of the Project Account from time to time. This Agreement is intended as a security agreement between the Purchaser and the Lender with respect to this security interest.

Section 3.02. Disbursement Process. Unless the Project Account is earlier terminated in accordance with the provisions hereof, the moneys held in the Project Account shall be used to pay Equipment Costs upon the prior written consent of the Lender to a written disbursement request prepared by an authorized representative of the Purchaser substantially in the form set forth in Exhibit E attached hereto, together with copies of invoices, title documentation, and such other documentation as the Lender may require. Once all of the Equipment to be purchased with the Acquisition Amount has been delivered to the Purchaser, the Purchaser shall deliver to the Lender an Acceptance Certificate substantially in the form of Exhibit D. All funds in the Project Account shall be expended by the end of the Acquisition Period. Any moneys remaining in the Project Account after the end of the Acquisition Period or following delivery of an Acceptance Certificate with respect to the Equipment, if sooner, may be applied to the next maturing principal component of the Installment Payments until such time as such moneys are expended. Upon the occurrence and continuance of an Event of Default under Section 11.01, the Lender may require any moneys then held in the Project Account to be applied to prepay the principal component of the Installment Payments.

Section 3.03. Conditions to Lender's Performance.

(a) As a prerequisite to the performance by Lender of any of its obligations pursuant to this Agreement, Purchaser shall deliver to Lender the following:

(i) A fully executed Agreement, together with a completed Schedule, executed by Purchaser;

(ii) A Certificate executed by the Clerk or Secretary or other comparable officer of Purchaser, in substantially the form attached hereto as Exhibit B, completed to the satisfaction of Lender;

(iii) A certified copy of a resolution, ordinance or other official action of Purchaser's governing body authorizing the execution and delivery of this Agreement and performance by Purchaser of its obligations hereunder;

(iv) In the event that Purchaser is to be reimbursed for expenditures that it has paid more than sixty days prior to the Commencement Date for the Agreement then being entered into, evidence of the adoption of a reimbursement resolution or other official action covering the reimbursement from tax exempt proceeds of expenditures incurred not more than 60 days prior to the date of such resolution;

(v) An opinion of counsel to Purchaser in substantially the form attached hereto as Exhibit C respecting this Agreement and otherwise satisfactory to Lender;

(vi) Evidence of insurance as required by Section 7.02 hereof;

(vii) All documents, including financing statements, affidavits, notices and similar instruments, in form satisfactory to Lender, which Lender deems necessary or appropriate at that time pursuant to Section 6.02;

(viii) A copy of a fully completed and executed Form 8038-G pursuant to Section 4.05(e);

(ix) Evidence of the filing of a UCC-1 Financing Statement with respect to the Equipment under the Uniform Commercial Code as in effect in the State;

(x) Copies of original invoices (and proofs of payment of such invoices, if Purchaser seeks reimbursement) and bills of sale, if available (if title to Equipment has passed to Purchaser), to the extent required by Section 5.01(b);

(xi) If applicable, wire instructions for payments to be made to Vendors and Form W 9 from each such Vendor; and

(xii) Such other items, if any, as are reasonably required by Lender.

(b) In addition, the performance by Lender of any of its obligations hereunder, including its approval of any disbursement request from the Project Account, shall be subject to:

(i) no Material Adverse Change shall have occurred since the date of this Agreement, (ii) no Event of Default shall have occurred and then be continuing under this Agreement, (iii) no Event of Non-appropriation under this Agreement shall be threatened and (iv) no other installment financing agreement of the Purchaser shall have been terminated as the result of the occurrence of an Event of Default or an Event of Non-appropriation.

(c) Subject to satisfaction of the foregoing, Lender will pay the Acquisition Amount for Equipment described in the Schedule to the Purchaser for deposit in the Project Account, to be disbursed in accordance with Section 3.02.

ARTICLE IV INSTALLMENT PAYMENTS

Section 4.01. Installment Payments; Prepayments.

(a) Subject to Section 4.04, Purchaser shall promptly pay Installment Payments, in lawful money of the United States of America, to Lender on the Installment Payment Dates in such amounts as provided in the Installment Payment Schedule. Purchaser shall pay Lender a charge on any Installment Payment not paid within five (5) days of the date such payment is due at a rate equal to the Contract Rate plus 5% per annum or the maximum amount permitted by law, whichever is less, from such date. Installment Payments consist of principal and interest components as more fully detailed on the Installment Payment Schedule.

(b) Purchaser shall have the option to prepay its obligations under this Agreement in whole on and after the date specified as the Optional Prepayment Date in the Schedule (the "Optional Prepayment Date"), on the Installment Payment Dates specified in such Schedule, upon not less than 30 days' prior written notice, and upon payment in full of the Installment Payments then due under such Schedule. After payment of all amounts owed with respect to this Agreement, the Purchaser will own the Equipment free and clear of any interest of Lender therein, and Lender's security interests in and to such Equipment will be terminated.

Section 4.02. Interest and Principal Components. A portion of each Installment Payment is paid as, and represents payment of, interest at the rate set forth in the Schedule, and the balance of each Installment Payment is paid as, and represents payment of, principal. The Installment Payment Schedule sets forth the principal and interest components of each Installment Payment payable under this Agreement during the Term.

Section 4.03. Appropriation. Purchaser intends, subject to Section 4.04, to pay the Installment Payments hereunder throughout the Term. The Purchaser affirms that sufficient funds are available for the current fiscal year, and the Purchaser reasonably believes that an amount sufficient to make all Installment Payments during the entire Term can be obtained from legally available funds of Purchaser. The finance officer, manager or other appropriate official of the Purchaser (hereinafter the "Manager") shall include in the initial proposal for each of Purchaser's annual budgets the amount of all Installment Payments due under this Agreement and other payments coming due during the fiscal year to which such budget is applicable. Notwithstanding that the Manager includes an appropriation for Installment Payments and other payments in a proposed budget, Purchaser may terminate all its obligations hereunder and under this Agreement

by not appropriating sufficient funds to make the scheduled Installment Payments and other payments. In the event the governing body of Purchaser determines not to appropriate in its budget an amount sufficient to pay all Installment Payments and reasonably estimated other payments coming due in the applicable fiscal year, or amend its budget to delete such amount during a fiscal year, the governing body of Purchaser shall adopt a resolution specifically deleting such appropriation from the budget for that fiscal year. Such resolution shall state the reasons for such deletion, shall be adopted by a vote identifying those voting for and against and abstaining from the resolution, and shall be recorded in the minutes of the governing body. A copy of such resolution shall be promptly sent to Lender. Such failure to appropriate shall constitute an Event of Default.

Section 4.04. Nonappropriation. (a) The Purchaser is obligated only to pay such Installment Payments as may lawfully be made from funds budgeted and appropriated for that purpose during Purchaser's then current fiscal year. If the amount equal to the Installment Payments which will be due during the next fiscal year has not been appropriated by Purchaser in its budget, the Manager shall deliver to the Lender, within ten (10) days after the adoption of Purchaser's budget for such fiscal year, but not later than fifteen (15) days after the start of such fiscal year, a certificate from the Manager of Purchaser stating that Purchaser did not make such appropriation, together with the resolution required under Section 4.03.

(b) No provision of this Agreement shall be construed or interpreted as creating a pledge of the faith and credit of Purchaser within the meaning of any constitutional debt limitation. No provision of this Agreement shall be construed or interpreted as creating a delegation of governmental powers nor as a donation by or a lending of the credit of the Purchaser within the meaning of the Constitution of the State. This Agreement shall not directly or indirectly or contingently obligate Purchaser to make any payments beyond the amount appropriated, if any, in the sole discretion of Purchaser for any fiscal year in which this Agreement shall be in effect; provided, however, that any failure or refusal by the Purchaser to appropriate funds which results in the failure by the Purchaser to make any payment coming due hereunder will in no way obviate the occurrence of the Event of Default resulting from such nonpayment. No deficiency judgment may be rendered against the Purchaser in any action for breach of a contractual obligation under this Agreement and the taxing power of the Purchaser is not and may not be pledged directly or indirectly or contingently to secure any moneys due under this Agreement.

Purchaser may at the end of any fiscal year terminate its future Installment Payment obligations under this Agreement if Purchaser has not appropriated sufficient funds to make the next fiscal year's scheduled Installment Payments; however, during each fiscal year, Purchaser shall exercise its best efforts to appropriate funds for Installment Payments due in the next fiscal year. No provision of this Agreement shall be construed to pledge or create a lien on any class or source of Purchaser's moneys other than amounts in the Project Account or the Equipment. To the extent of any conflict between this Section and any other provision of this Agreement, this Section shall take priority.

(c) This Agreement constitutes an installment contract pursuant to Section 160A-20 and a security agreement under Article 9 of Chapter 25 (the "Uniform Commercial Code - Secured Transactions") of the General Statutes of North Carolina.

Section 4.05. Tax Covenants.

(a) Purchaser agrees that it will not take any action that would cause the interest component of Installment Payments to be or to become ineligible for the exclusion from gross income of the owner or owners thereof for federal income tax purposes, nor will it omit to take or cause to be taken, in timely manner, any action, which omission would cause the interest component of Installment Payments to be or to become ineligible for the exclusion from gross income of the owner or owners thereof for federal income tax purposes.

(b) If required by Section 148(f) of the Code to pay rebate, Purchaser will rebate to the United States, not less frequently than once every five (5) years after the applicable Commencement Date, an amount equal to at least 90% of the Rebate Amount and within 60 days after payment of all Installment Payments or the Prepayment Price as provided in Section 10.01(a) hereof, 100% of the Rebate Amount, as required by the Code and any regulations promulgated thereunder. Purchaser shall determine the Rebate Amount, if any, at least every year and upon payment of all Installment Payments or the Prepayment Price and shall maintain such determination, together with any supporting documentation required to calculate the Rebate Amount, until six (6) years after the date of the final payment of the Installment Payments or the Prepayment Price.

(c) The Purchaser represents that the Equipment will not be used in such a manner so as to cause this Agreement to constitute “private activity bonds” as defined in Section 141(a) of the Code and Sections 1.141-0 through 1.141-16 of the Regulations.

(d) This Agreement will not be federally guaranteed within the meaning of Section 149(b) of the Code, and Purchaser shall not permit the federal government to guarantee any Installment Payments.

(e) The Purchaser shall provide a duly and properly completed Form 8038-G to Lender for filing with the IRS on or before the 15th day of the second month after the calendar quarter in which this Agreement is executed.

Section 4.06. Event of Taxability. Upon the occurrence of an Event of Taxability, the interest component shall be at a Taxable Rate retroactive to the date as of which the interest component is determined by the Internal Revenue Service to be includible in the gross income of the owner or owners thereof for federal income tax purposes, and Purchaser will pay such additional amount as will result in the owner receiving the interest component at the Taxable Rate identified in this Agreement.

For purposes of this Section, “Event of Taxability” means the circumstance of the interest component of any Installment Payment paid or payable pursuant to the Agreement becoming includible for federal income tax purposes in an owner’s gross income as a consequence of any act or failure to act on the part of the Purchaser. An Event of Taxability shall be presumed to have occurred upon (a) the receipt by Lender or Purchaser of an original or a copy of an Internal Revenue Service Technical Advice Memorandum or Statutory Notice of Deficiency or other written correspondence which legally holds that the interest component of any Installment Payment under such Agreement is includable in the gross income of the owner thereof due to

Purchaser's action or failure to take any action; (b) the issuance of any public or private ruling of the Internal Revenue Service that the interest component of any Installment Payment under such Agreement is includable in the gross income of the owner thereof due to Purchaser's action or failure to take any action; or (c) receipt by Lender or Purchaser of a written opinion of a nationally recognized firm of attorneys experienced in matters pertaining to the tax exempt status of interest on obligations issued by states and their political subdivisions, selected by Lender and acceptable to Purchaser, to the effect that the interest component of any Installment Payment under a Agreement has become includable in the gross income of the owner thereof for federal income tax purposes due to Purchaser's action or failure to take any action. For all purposes of this definition, an Event of Taxability shall be deemed to occur on the date as of which the interest component of any Installment Payment is deemed includable in the gross income of the owner thereof for federal income tax purposes.

ARTICLE V ACCEPTANCE OF EQUIPMENT

Section 5.01. Delivery, Installation and Acceptance of Equipment.

(a) Purchaser shall order the Equipment, cause the Equipment to be delivered, and pay any and all delivery and installation costs and other Equipment Costs in connection therewith. When the Equipment listed in the Schedule has been delivered and installed, Purchaser shall promptly accept such Equipment, and once all of the Equipment has been accepted, evidence such acceptance by executing and delivering to Lender an Acceptance Certificate in the form attached hereto as Exhibit D.

(b) Purchaser shall deliver to Lender copies of original invoices and bills of sale, if available (if title to such Equipment has passed to Purchaser) relating to each item of Equipment accepted by Purchaser.

Section 5.02. Quiet Enjoyment of Equipment. So long as Purchaser is not in default under this Agreement, neither Lender nor any entity claiming by, through or under Lender, shall interfere with Purchaser's quiet use and enjoyment of the Equipment during the Term.

Section 5.03. Inspection. Lender shall have the right at all reasonable times during regular business hours to enter into and upon the property of Purchaser for the purpose of inspecting the Equipment.

Section 5.04. Use and Maintenance of the Equipment. Purchaser will not install, use, operate, or maintain the Equipment improperly, carelessly, in violation of any applicable law or in a manner contrary to that contemplated by this Agreement. Purchaser shall obtain all permits and licenses, if any, necessary for the installation and operation of the Equipment and provide copies thereof to Lender at Lender's request. In addition, Purchaser agrees to comply in all respects with all applicable laws, regulations and rulings of any legislative, executive, administrative, or judicial body, including, without limitation, all anti-money laundering laws and regulations; provided that Purchaser may contest in good faith the validity or application of any such law, regulation or ruling in any reasonable manner that does not, in the opinion of Lender, adversely affect the interest

(including the security interest) of Lender in and to the Equipment or its interest or rights under this Agreement.

Purchaser agrees that it will maintain, preserve, and keep the Equipment in good repair and working order, in a condition comparable to that recommended by the manufacturer. Lender shall have no responsibility to maintain, repair or make improvements or additions to the Equipment. In all cases, Purchaser agrees to pay any costs necessary for the manufacturer to re-certify the Equipment as eligible for manufacturer's maintenance upon the return of or foreclosure upon the Equipment to Lender as provided for herein.

Purchaser shall not alter any item of Equipment or install any accessory, equipment or device on an item of Equipment if that would impair any applicable warranty, the originally intended function or the value of that Equipment. All repairs, parts, accessories, equipment and devices furnished, affixed to or installed on any Equipment, excluding temporary replacements, shall thereupon become subject to the security interest of Lender.

ARTICLE VI SECURITY INTEREST IN EQUIPMENT

Section 6.01. Title to the Equipment. During the Term, and so long as Purchaser is not in default under Article XI hereof, all right, title and interest in and to each item of the Equipment shall be vested in Purchaser immediately upon its acceptance of each item of Equipment, subject to the terms and conditions of this Agreement. Purchaser shall at all times protect and defend, at its own cost and expense, its title in and to the Equipment from and against all claims, liens and legal processes of its creditors, and keep all Equipment free and clear of all such claims, liens and processes other than the security interest granted under this Agreement. Upon final payment of any Installment Payments or prepayment thereof pursuant to Section 4.01(b), Lender's security interest or other interest in the related Equipment shall terminate, and Lender shall execute and deliver to Purchaser such documents as Purchaser may request to evidence the termination of Lender's security interest in the Equipment.

Section 6.02. Security Interest. To secure the payment of all of Purchaser's obligations under this Agreement, Purchaser grants to Lender a security interest constituting a first lien on (a) the Equipment and in any and all additions, accessions, repairs, replacements, substitutions, and modifications to such Equipment, (b) moneys and investments held from time to time in the Project Account and (c) any and all proceeds of any of the foregoing, including any insurance proceeds paid because of loss or damage to the Equipment to the extent necessary to secure Purchaser's payment obligations to Lender under this Agreement. Lender may file, at Purchaser's expense, financing statements and other related documents that are necessary under Article 9 of Chapter 25 (the "Uniform Commercial Code - Secured Transactions") of the General Statutes of North Carolina to perfect Lender's first lien security interest by filing and to maintain that first lien security interest in perfected form. Lender is authorized to (i) file financing statements as specified by the Uniform Commercial Code to perfect or maintain Lender's security interest granted hereby and (ii) add, modify or delete any items shown on the financing statement to reflect the actual Equipment purchased by the Purchaser. Purchaser agrees to execute and authorizes Lender to file such other notices of assignment, chattel mortgages, financing statements and other documents, in form satisfactory to Lender, which Lender deems necessary or appropriate to establish and

maintain Lender's security interest in the Equipment and the proceeds thereof. Upon termination of this Agreement and payment and performance in full of all of Purchaser's obligations to Lender thereunder, Lender's security interest or other interest in the Equipment purchased pursuant to this Agreement shall terminate, and Lender shall execute and deliver to Purchaser such documents as Purchaser may request to evidence the termination of Lender's security interest in the Equipment.

Section 6.03. Personal Property. The Equipment is and will remain personal property and will not be deemed to be affixed to or a part of the real estate on which it may be situated, notwithstanding that the Equipment or any part thereof may be or hereafter become in any manner physically affixed or attached to real estate or any building thereon. Upon the request of Lender, Purchaser will, at Purchaser's expense, furnish a waiver of any interest in the Equipment from any party having an interest in any real estate or building on or in which the Equipment is or will be located.

ARTICLE VII COVENANTS OF PURCHASER

Section 7.01. Liens, Taxes, Other Governmental Charges and Utility Charges. Purchaser shall keep the Equipment free of all levies, liens, and encumbrances except those created by this Agreement. The parties to this Agreement contemplate that the Equipment will be used for a governmental or proprietary purpose of Purchaser and that the Equipment will therefore be exempt from all property taxes. If the use, possession or acquisition of any Equipment is nevertheless determined to be subject to taxation, Purchaser shall pay when due all taxes and governmental charges lawfully assessed or levied against or with respect to such Equipment. Purchaser shall pay all utility and other charges incurred in the use and maintenance of the Equipment. Purchaser shall pay such taxes or charges as the same may become due; provided that, with respect to any such taxes or charges that may lawfully be paid in installments over a period of years, Purchaser shall be obligated to pay only such installments as accrue during each Term.

Section 7.02. Insurance. The Purchaser shall, during the Term, maintain or cause to be maintained (a) casualty insurance naming Lender and its assigns as loss payee and insuring the Equipment against loss or damage by fire and all other risks covered by the standard extended coverage endorsement then in use in the State, and any other risks reasonably required by Lender, in an amount at least equal to the greater of (i) the then applicable Prepayment Price or (ii) the replacement cost of the Equipment; (b) liability insurance naming Lender and its assigns as additional insured that protects Lender from liability with limits of at least \$6,000,000 for bodily injury and property damage coverage, or such other minimum coverage amount as may be agreed upon between Lender and Purchaser, in all events under clauses (a) and (b) issued in form and amount satisfactory to Lender and by an insurance company that is authorized to do business in the State and having a financial strength rating by A.M. Best Company of "A-" or better; and (c) worker's compensation coverage as required by the laws of the State. Notwithstanding the foregoing, Purchaser may self-insure against the risks described in clauses (a) and/or (b) through a government pooling arrangement, self-funded loss reserves, risk retention program or other self-insurance program, in each case with Lender's prior written consent (which Lender may grant, withhold or deny in its sole discretion) and provided that Purchaser has delivered to Lender such information as Lender may request with respect to the adequacy of such self-insurance to cover the risks proposed to be self-insured and otherwise in form and substance acceptable to Lender.

In the event Purchaser is permitted, at Lender's sole discretion, to self-insure as provided in this Section, Purchaser shall provide to Lender a self-insurance letter in substantially the form attached hereto as Exhibit G. Purchaser shall furnish to Lender evidence of such insurance or self-insurance coverage throughout the Term. Purchaser shall not cancel or modify such insurance or self-insurance coverage in any way that would affect the interests of Lender without first giving written notice thereof to Lender at least 30 days in advance of such cancellation or modification.

Section 7.03. Risk of Loss. Whether or not covered by insurance or self-insurance, Purchaser hereby assumes all risk of loss of, or damage to and liability related to injury or damage to any persons or property arising from the Equipment from any cause whatsoever, and no such loss of or damage to or liability arising from the Equipment shall relieve Purchaser of the obligation to make the Installment Payments or to perform any other obligation under this Agreement. Whether or not covered by insurance or self-insurance, Purchaser hereby agrees to reimburse Lender (to the fullest extent permitted by applicable law, but only from legally available funds) for any and all liabilities, obligations, losses, costs, claims, taxes or damages suffered or incurred by Lender, regardless of the cause thereof and all expenses incurred in connection therewith (including, without limitation, counsel fees and expenses, and penalties connected therewith imposed on interest received) arising out of or as a result of (a) entering into of this Agreement or any of the transactions contemplated hereby, (b) the ordering, acquisition, ownership use, operation, condition, purchase, delivery, acceptance, rejection, storage or return of any item of the Equipment, (c) any accident in connection with the operation, use, condition, possession, storage or return of any item of the Equipment resulting in damage to property or injury or death to any person, and/or (d) the breach of any covenant of Purchaser in connection with this Agreement or any material misrepresentation provided by Purchaser in connection with this Agreement. The provisions of this paragraph shall continue in full force and effect notwithstanding the full payment of all obligations under this Agreement or the termination of this Agreement for any reason.

Section 7.04. Advances. In the event Purchaser shall fail to keep the Equipment in good repair and working order, or shall fail to maintain any insurance required by Section 7.02 hereof, Lender may, but shall be under no obligation to, maintain and repair the Equipment or obtain and maintain any such insurance coverages, as the case may be, and pay the cost thereof. Purchaser covenants and agrees to pay such amounts so advanced by Lender with interest thereon from the due date until paid at a rate equal to the Contract Rate plus 5% per annum or the maximum amount permitted by law, whichever is less.

ARTICLE VIII DAMAGE, DESTRUCTION AND CONDEMNATION

Section 8.01. Damage, Destruction and Condemnation. If, prior to the end of the Term, (a) the Equipment or any portion thereof is destroyed, in whole or in part, or is damaged by fire or other casualty or (b) title to, or the temporary use of, the Equipment or any part thereof shall be taken under the exercise or threat of the power of eminent domain by any governmental body or by any person, firm or corporation acting pursuant to governmental authority, Purchaser and Lender will cause the Net Proceeds of any insurance claim or condemnation award or sale under threat of condemnation to be applied to the prompt replacement, repair, restoration, modification or improvement of the Equipment. Any balance of the Net Proceeds remaining after such work has been completed shall be paid to Purchaser. Notwithstanding the foregoing, in the event of

such damage or destruction, Purchaser shall have the option to prepay its obligations under this Agreement by prepaying all of the Prepayment Price then due under this Agreement on the day specified in Purchaser's notice to Lender of its exercise of the prepayment option (which shall be the earlier of the next Installment Payment Date or 60 days after the event resulting in such damage, destruction or condemnation) (the "Purchase Option").

If Purchaser elects to replace any item of the Equipment (the "Replaced Equipment") pursuant to this Section, the replacement equipment (the "Replacement Equipment") shall be of similar type, utility and condition to the Replaced Equipment and shall be of equal or greater value than the Replaced Equipment. Purchaser hereby grants Lender a first priority security interest in any such Replacement Equipment. Purchaser shall represent, warrant and covenant to Lender that each item of Replacement Equipment is free and clear of all claims, liens, security interests and encumbrances, excepting only those liens created by or through Lender, and shall provide to Lender any and all documents as Lender may reasonably request in connection with the replacement, including, but not limited to, documentation in form and substance satisfactory to Lender evidencing Lender's security interest in the Replacement Equipment. Lender and Purchaser hereby acknowledge and agree that any Replacement Equipment acquired pursuant to this paragraph shall constitute "Equipment" for purposes of this Agreement. Purchaser shall complete the documentation of Replacement Equipment on or before the next Installment Payment date after the occurrence of a casualty event, or be required to exercise the Purchase Option with respect to the damaged equipment.

For purposes of this Article, the term "Net Proceeds" shall mean the amount remaining from the gross proceeds of any insurance claim or condemnation award or sale under threat of condemnation after deducting all expenses, including attorneys' fees, incurred in the collection thereof.

Section 8.02. Insufficiency of Net Proceeds. If the Net Proceeds are insufficient to pay in full the cost of any repair, restoration, modification or improvement referred to in Section 8.01, Purchaser shall either (a) complete such replacement, repair, restoration, modification or improvement and pay any costs thereof in excess of the amount of the Net Proceeds, or (b) pay or cause to be paid to Lender the amount of the then applicable Prepayment Price for the Equipment, and, upon such payment, the applicable Term shall terminate and Lender's security interest in the Equipment shall terminate as provided in Section 6.01 hereof. The amount of the Net Proceeds, if any, remaining after completing such repair, restoration, modification or improvement or after purchasing such Equipment and such other Equipment shall be retained by Purchaser. If Purchaser shall make any payments pursuant to this Section, Purchaser shall not be entitled to any reimbursement therefor from Lender nor shall Purchaser be entitled to any diminution of the amounts payable under Article IV.

ARTICLE IX WARRANTIES

Section 9.01. Disclaimer of Warranties. LENDER MAKES NO EXPRESS OR IMPLIED WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER WITH RESPECT TO THE EQUIPMENT OR ANY COMPONENT PART THEREOF TO THE PURCHASER OR IN REGARD TO ANY OTHER CIRCUMSTANCE WHATSOEVER WITH RESPECT THERETO,

INCLUDING BUT NOT LIMITED TO ANY WARRANTY OR REPRESENTATION WITH RESPECT TO: THE MERCHANTABILITY OR THE FITNESS OR SUITABILITY THEREOF FOR ANY PURPOSE; THE VALUE, DESIGN OR CONDITION THEREOF; THE SAFETY, WORKMANSHIP OR QUALITY THEREOF; COMPLIANCE THEREOF WITH THE REQUIREMENTS OF ANY LAW, RULE, SPECIFICATION OR CONTRACT PERTAINING THERETO; ANY LATENT DEFECT; THE TITLE TO OR INTEREST OF THE LENDER THEREIN; THE ABILITY THEREOF TO PERFORM ANY FUNCTION; THAT THE PROCEEDS OF THIS AGREEMENT WILL BE SUFFICIENT (TOGETHER WITH ANY OTHER AVAILABLE FUNDS OF THE PURCHASER) TO PAY THE COST OF ACQUIRING OR INSTALLING THE EQUIPMENT; OR ANY OTHER CHARACTERISTICS OF THE EQUIPMENT, IT BEING AGREED THAT ALL RISKS RELATING TO THE EQUIPMENT, THE INSTALLATION AND OPERATION THEREOF OR THE TRANSACTIONS CONTEMPLATED HEREBY ARE TO BE BORNE BY THE PURCHASER, AND THE BENEFITS OF ANY AND ALL IMPLIED WARRANTIES AND REPRESENTATIONS OF LENDER ARE HEREBY WAIVED BY THE PURCHASER. In no event shall Lender be liable for any incidental, indirect, special or consequential damage in connection with or arising out of this Agreement, the Equipment or the existence, furnishing, functioning or Purchaser's use of any item, product or service provided for in this Agreement.

Section 9.02. Vendor's Warranties. Lender hereby irrevocably appoints Purchaser its agent and attorney-in-fact during the Term, so long as Purchaser shall not be in default under this Agreement, to assert from time to time whatever claims and rights (including without limitation warranties, if any) relating to the Equipment that Lender may have against Vendor. Purchaser's sole remedy for the breach of such warranty, indemnification or representation shall be against the Vendor of the Equipment, and not against Lender. Any such matter shall not have any effect whatsoever on the rights and obligations of Lender with respect to this Agreement, including the right to receive full and timely payments under this Agreement. Purchaser expressly acknowledges that Lender makes, and has made, no representations or warranties whatsoever as to the existence or the availability of such warranties relating to the Equipment.

ARTICLE X ASSIGNMENTS

Section 10.01. Assignment by Lender.

(a) Lender may, at any time and from time to time, assign all or any part of its interest in the Equipment or this Agreement, including, without limitation, Lender's rights to receive Installment Payments payable to Lender hereunder, in accordance with this Section 10.01. Any assignment made by Lender or any subsequent assignee shall not purport to convey any greater interest or rights than those held by Lender pursuant to this Agreement. Lender or its assignees may assign or reassign all or any part of this Agreement, including the assignment or reassignment of any partial interest through the use of certificates evidencing participation interests in this Agreement, or making this Agreement part of a pool of obligations, so long as such assignment or reassignment is to (a) a bank, insurance company or similar institution; or (b) a trustee for the purpose of issuing certificates of participation or other forms of certificates evidencing an undivided interest in this Agreement. Notwithstanding the foregoing, unless to an affiliate controlling, controlled by or under common control with Lender, no assignment or reassignment

of Lender's interest in this Agreement shall be effective unless and until the Purchaser shall receive notice of such assignment or reassignment disclosing the name and address of each such assignee.

(b) The Purchaser further agrees that Lender's interest in this Agreement may be assigned in whole or in part (subject to the limitations on assignment contained in Section 10.01(a)) upon terms which provide in effect that the assignor or assignee will act as a collection and paying agent for any holders of certificates of participation in this Agreement, provided the Purchaser receives notice of such assignment and such collection and paying agent covenants and agrees to maintain for the full remaining term of this Agreement a written record of each assignment and reassignment of such certificates of participation.

(c) Purchaser agrees to execute any document reasonably required in connection with any assignment. If Lender notifies Purchaser of its intent to assign this Agreement, Purchaser agrees that it shall execute and deliver to Lender a Notice and Acknowledgement of Assignment substantially in the form of Exhibit F attached to this Agreement within five (5) business days after its receipt of such request. Any assignor must provide notice of any assignment to Purchaser, and Purchaser shall keep a complete and accurate record of all assignments as required by the Code. After the giving of any such notice, Purchaser shall thereafter make all payments in accordance with such notice to the assignee named therein and shall, if so requested, acknowledge such assignment in writing, but such acknowledgment shall in no way be deemed necessary to make the assignment effective.

(d) Lender represents and warrants that it is familiar with federal and North Carolina legislation, rules and regulations as to limitations upon the public distribution of securities that have not been registered under the Securities Act of 1933, as amended, and that it is entering into this Agreement for its own account and has no present intention of making any sale or other distribution of this Agreement in violation of such legislation, rules or regulations. Lender represents that it is familiar with the operations and financial condition of the Purchaser, based upon information furnished to Lender by the Purchaser, and has made such inquiries as it deems appropriate in connection with this Agreement.

(e) Lender covenants that it will not provide any disclosure document containing information about the Purchaser in connection with any sale or assignment of Lender's rights in this Agreement without the Purchaser's express approval of such disclosure document.

Section 10.02. Assignment and Leasing by Purchaser. None of Purchaser's right, title, and interest in, to and under this Agreement or any portion of the Equipment may be assigned, leased or encumbered by Purchaser for any reason without the prior written consent of Lender.

ARTICLE XI EVENTS OF DEFAULT

Section 11.01. Events of Default Defined. Any of the following events shall constitute an "Event of Default" under this Agreement:

(a) Failure by Purchaser to pay any Installment Payment or other payment required to be paid under this Agreement within 10 days of the date when due as specified herein;

(b) Failure by Purchaser to maintain the insurance required under this Agreement (including the insurance required by Section 7.02);

(c) Failure by Purchaser to observe and perform any covenant, condition or agreement on its part to be observed or performed, other than as referred to in subparagraph (a) above, for a period of 30 days after written notice specifying such failure and requesting that it be remedied is given to Purchaser by Lender, unless Lender shall agree in writing to an extension of such time prior to its expiration; provided that, if the failure stated in the notice cannot be corrected within the applicable period, Lender will not unreasonably withhold its consent to an extension of such time if corrective action is instituted by Purchaser within the applicable period and diligently pursued until the default is corrected;

(d) Any statement, representation or warranty made by Purchaser in or pursuant to this Agreement or its execution, delivery or performance shall prove to have been false, incorrect, misleading, or breached in any material respect on the date when made;

(e) A default occurs under any other agreement of Purchaser for borrowing money, including general obligation indebtedness and installment financing agreements, which results from Purchaser's failure to make payment of principal and interest with respect to such obligations when due;

(f) Purchaser shall (i) apply for or consent to the appointment of a receiver, trustee, custodian or liquidator of Purchaser, or of all or a substantial part of the assets of Purchaser, (ii) be unable, fail or admit in writing its inability generally to pay its debts as they become due, (iii) make a general assignment for the benefit of creditors, (iv) have an order for relief entered against it under applicable federal bankruptcy law, or (v) file a voluntary petition in bankruptcy or a petition or an answer seeking reorganization or an arrangement with creditors or taking advantage of any insolvency law or any answer admitting the material allegations of a petition filed against Purchaser in any bankruptcy, reorganization or insolvency proceeding;

(g) The occurrence of an Event of Non-appropriation; or

(h) An order, judgment or decree shall be entered by any court of competent jurisdiction, approving a petition or appointing a receiver, trustee, custodian or liquidator or Purchaser or of all or a substantial part of the assets of Purchaser, in each case without its application, approval or consent, and such order, judgment or decree shall continue unstayed and in effect for any period of 30 consecutive days.

Section 11.02. Remedies on Default. Whenever any Event of Default exists, Lender shall have the right, at its sole option without any further demand or notice, to take one or any combination of the following remedial steps:

(a) By written notice to Purchaser, Lender may declare all Installment Payments payable by Purchaser pursuant to this Agreement and other amounts payable by Purchaser hereunder to the end of the Term to be due;

(b) To the extent permitted by applicable law, Lender may enter the premises where the Equipment listed in this Agreement is located and take possession of such Equipment and sell

or lease such Equipment for the account of Purchaser. The exercise of any such remedies respecting any such Event of Default shall not relieve Purchaser of any other liabilities hereunder or the Equipment listed therein; and

(c) Proceed by appropriate court action to enforce performance by Purchaser of the applicable covenants of this Agreement or to recover for the breach thereof; provided, however, that nothing herein shall be deemed to allow any judgment for a deficiency or waive any provision of N.C.G.S. § 160A-20 or any defense the Purchaser may otherwise have;

(d) Exercise all the rights and remedies of a secured party or creditor under the Uniform Commercial Code of the State of North Carolina and the general laws of the State of North Carolina with respect to the enforcement of the security interest granted or reserved hereunder, including, without limitation, to the extent permitted by law, take possession of any collateral without any court order or other process of law and without liability for entering the premises and sell, lease, sublease or make other disposition of the same in a commercially reasonable manner for the account of Purchaser, and apply the proceeds of any such sale, lease, sublease or other disposition, after deducting all costs and expenses, including court costs and attorneys' fees, incurred with the recovery, repair, storage and other sale, lease, sublease or other disposition costs, toward the balance due under this Agreement, and, thereafter, shall pay any remaining proceeds to Purchaser;

(e) To the extent permitted by applicable law, require Purchaser to deliver the Equipment, at Purchaser's sole expense, to any location within the State of North Carolina designated by Lender, and take possession of any proceeds of the Equipment, including Net Proceeds; or

(f) Lender may take whatever action at law or in equity that is necessary or desirable to enforce its rights under this Agreement or as a secured party in any or all of the Equipment subject to this Agreement.

(g) NOTWITHSTANDING ANY OTHER PROVISIONS HEREIN, IT IS THE INTENT OF THE PARTIES HERETO TO COMPLY WITH SECTION 160A-20 OF THE GENERAL STATUTES OF NORTH CAROLINA, AS AMENDED. NO DEFICIENCY JUDGMENT MAY BE ENTERED AGAINST THE PURCHASER IN FAVOR OF LENDER OR ANY OTHER PERSON IN VIOLATION OF SECTION 160A-20, INCLUDING, WITHOUT LIMITATION, ANY DEFICIENCY JUDGMENT FOR AMOUNTS THAT MAY BE OWED HEREUNDER WHEN THE SALE OF ALL OR ANY PORTION OF THE EQUIPMENT IS INSUFFICIENT TO PRODUCE ENOUGH MONEYS TO PAY IN FULL ALL REMAINING OBLIGATIONS HEREUNDER.

Section 11.03. No Remedy Exclusive. No remedy herein conferred upon or reserved to Lender is intended to be exclusive and every such remedy shall be cumulative and shall be in addition to every other remedy now or hereafter existing at law or in equity. No delay or omission to exercise any right or power accruing upon any default shall impair any such right or power or shall be construed to be a waiver thereof, but any such right or power may be exercised from time to time and as often as may be deemed expedient. In order to entitle Lender to exercise any remedy

reserved to it in this Article it shall not be necessary to give any notice other than such notice as may be required in this Article.

ARTICLE XII MISCELLANEOUS

Section 12.01. Notices. All notices, certificates or other communications under this Agreement shall be sufficiently given and shall be deemed given when delivered or mailed by registered mail, postage prepaid, or delivered by overnight courier, or sent by facsimile transmission (with electronic confirmation) to the parties hereto at the addresses immediately after the signatures to this Agreement (or at such other address as either party hereto shall designate in writing to the other for notices to such party) and to any assignee at its address as it appears on the registration books maintained by Purchaser.

Section 12.02. Binding Effect. This Agreement shall inure to the benefit of and shall be binding upon Lender and Purchaser and their respective successors and assigns.

Section 12.03. Severability. In the event any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.

Section 12.04. Amendments, Changes and Modifications. This Agreement (including the Schedule) may only be amended in writing by Lender and Purchaser.

Section 12.05. Execution in Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

Section 12.06. Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State.

Section 12.07. Captions. The captions or headings in this Agreement are for convenience only and in no way define, limit or describe the scope or intent of any provisions or sections of this Agreement.

Section 12.08. E-Verify. Lender hereby certifies that Lender understands that “E-Verify” is a federal program operated by the United States Department of Homeland Security and other federal agencies, to verify the work authorization of newly hired employees pursuant to federal law in accordance with Section 64-25(5) of the General Statutes of North Carolina, as amended. The Lender uses E-Verify to verify the work authorization of its employees in accordance with Section 64-26(a) of the General Statutes of North Carolina, as amended. The Lender will require that any subcontractor that it uses in connection with the transactions contemplated by this Agreement certify to such subcontractor’s compliance with E-Verify.

[Remainder of page intentionally left blank]

In Witness Whereof, Lender and Purchaser have caused this Agreement to be executed in their names by their duly authorized representatives as of the date first above written.

LENDER:
Banc of America Public Capital Corp
555 California Street, 4th Floor
San Francisco, California 94104
Attention: Contract Administration
Fax No.: (415) 765-7373

PURCHASER:
County of Dare, North Carolina
954 Marshall C. Collins Drive
Manteo, North Carolina 27954
Attention: Finance Director
Fax No.: (252) 475-5818

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

(Seal)

Attest:

By: _____
Name: _____
Title: _____

This instrument has been preaudited in the manner required by The Local Government Budget and Fiscal Control Act.

County Finance Director

List of Exhibits:

Exhibit A	--	Schedule of Property
Exhibit A-1	--	Installment Payment Schedule
Exhibit B	--	Incumbency Certificate
Exhibit C	--	Opinion of Counsel Form
Exhibit D	--	Acceptance Certificate
Exhibit E	--	Form of Disbursement Request
Exhibit F	--	Notice and Acknowledgement of Assignment
Exhibit G	--	Self-Insurance Certificate

EXHIBIT A

SCHEDULE OF PROPERTY

Re: Equipment Installment Financing Agreement, dated as of March 26, 2021, between Banc of America Public Capital Corp, as Lender, and the County of Dare, North Carolina, as Purchaser

1. Defined Terms. All terms used herein have the meanings ascribed to them in the above-referenced Equipment Installment Financing Agreement (the “Agreement”).

2. Equipment. The following items of Equipment are hereby included under this Schedule to the Agreement.

Vehicles (including general use vehicles, ambulances and sanitation trucks for various city departments, including information technology, grounds maintenance, sheriff’s office, emergency medical services, health and social services, mosquito control, parks and recreation and sanitation.

Maintenance equipment (including jetting units, mowers, topdressers, and emergency medical helicopter night vision goggles)

3. Payment Schedule.

(a) Installment Payment Schedule. The Acquisition Amount for the Equipment is \$2,199,721. The Installment Payments shall be in such amounts and payable on such dates as set forth in the Installment Payment Schedule attached to this Schedule. The Purchaser’s obligation to make Installment Payments shall commence on the date on which the Acquisition Amount is deposited into the Project Account, which is March 26, 2021.

(b) Prepayment Price Schedule. The Prepayment Price on each Installment Payment date for the Equipment listed in this Schedule shall be the amount set forth for such Installment Payment date in the “Prepayment column” column of the Installment Payment Schedule attached to this Schedule (including the Installment Payment shown on the same line in the Installment Payment Schedule).

4. Representations, Warranties and Covenants. Purchaser hereby represents, warrants and covenants that its representations, warranties and covenants set forth in the Agreement are true and correct as though made on the date of commencement of Installment Payments on this Schedule.

5. The Purchase Agreement. The terms and provisions of the Agreement are hereby incorporated into this Schedule by reference and made a part hereof.

6. Agreement Proceeds. The Acquisition Amount which Lender shall pay to the Purchaser is \$2,199,721. It is expected that by eighteen (18) months from the date of the Agreement, Purchaser will have taken possession of all items of Equipment shown above and that

a Purchaser's Acceptance Certificate, or Acceptance Certificates, will be signed by Purchaser and delivered to Lender on or before eighteen (18) months from the date of the Agreement.

7. Acquisition Period. The Acquisition Period shall end at the conclusion of the 36 months following the date hereof.

8. Term. The Term shall extend from March 26, 2021 to March 26, 2024.

9. Optional Prepayment Date. For purposes of Section 4.01(b) of the Agreement, the Optional Prepayment Date is September 26, 2022.

10. Contract Rate. The Contract Rate for this Schedule is 0.6734%.

[Remainder of page intentionally left blank]

Dated: March 26, 2021

LENDER:

Banc of America Public Capital Corp
555 California Street, 4th Floor
San Francisco, California 94104
Attention: Contract Administration

PURCHASER:

County of Dare, North Carolina
954 Marshall C. Collins Drive
Manteo, North Carolina 27954
Attention: Finance Director

By: _____
Name: _____
Title: _____

By: _____
Name: _____
Title: _____

(Seal)

Attest:

By: _____
Name: _____
Title: _____

Counterpart No. _____ of _____ manually executed and serially numbered counterparts. To the extent that the Agreement and this Schedule constitute chattel paper (as defined in the Uniform Commercial Code), no security interest herein may be created through the transfer or possession of any Counterpart other than Counterpart No. 1.

EXHIBIT A-1

INSTALLMENT PAYMENT SCHEDULE

Re: Equipment Installment Financing Agreement, dated as of March 26, 2021, between Banc of America Public Capital Corp, as Lender, and the County of Dare, North Carolina, as Purchaser

Purchaser: County of Dare, North Carolina

Term: 36 months

Acquisition Amount: \$2,199,721.00

Contract Rate: 0.6734%

<u>Installment Payment Date</u>	<u>Installment Payment Amount</u>	<u>Interest Component</u>	<u>Principal Component</u>	<u>Prepayment Price at par</u>
3/26/2021				\$2,199,721.00
6/26/2021	\$185,322.19	\$3,703.24	\$181,618.95	\$2,018,102.05
9/26/2021	\$185,322.19	\$3,397.48	\$181,924.71	\$1,836,177.34
12/26/2021	\$185,322.19	\$3,091.21	\$182,230.98	\$1,653,946.36
3/26/2022	\$185,322.19	\$2,784.42	\$182,537.77	\$1,471,408.59
6/26/2022	\$185,322.19	\$2,477.12	\$182,845.07	\$1,288,563.52
9/26/2022	\$185,322.19	\$2,169.30	\$183,152.89	\$1,105,410.63
12/26/2022	\$185,322.19	\$1,860.96	\$183,461.23	\$921,949.40
3/26/2023	\$185,322.19	\$1,552.11	\$183,770.08	\$738,179.32
6/26/2023	\$185,322.19	\$1,242.73	\$184,079.46	\$554,099.86
9/26/2023	\$185,322.19	\$932.83	\$184,389.36	\$369,710.50
12/26/2023	\$185,322.19	\$622.41	\$184,699.78	\$185,010.72
3/26/2024	\$185,322.19	\$311.47	\$185,010.72	(\$0.00)
	-----	-----	-----	
	\$2,223,866.28	\$24,145.28	\$2,199,721.00	

Prepayment Premium for purposes of Section 4.01(b) is none.

For purposes of this Agreement, "Taxable Rate," with respect to the interest component of Installment Payments, means an annual rate of interest equal to 0.8590%.

PURCHASER:

COUNTY OF DARE, NORTH CAROLINA

By: _____

Name: _____

Title: _____

EXHIBIT B

INCUMBENCY CERTIFICATE

The undersigned, a duly elected and acting Clerk to the Board of Commissioners for the County of Dare, North Carolina (“Purchaser”) certifies as follows:

A. The following listed persons are duly elected or appointed and acting officials of Purchaser (the “Officials”) in the capacity set forth opposite their respective names below and that the facsimile signatures set forth opposite their names are their true signatures;

B. The Officials are duly authorized, on behalf of Purchaser, to negotiate, execute and deliver the Equipment Installment Financing Agreement dated as of March 26, 2021 and the Schedule attached thereto (the “Agreement”) by and between Purchaser and Banc of America Public Capital Corp, and the Agreement is a binding and authorized Agreement of Purchaser, enforceable in all respects in accordance with its terms.

<u>Name of Official</u>	<u>Title</u>	<u>Signature</u>
Robert L. Outten	County Manager	_____
J. David Clawson, Jr.	County Finance Director	_____

Dated: March 26, 2021

By: _____

Name: Cheryl C. Anby

Title: Clerk to the Board of Commissioners

(The signer of this Certificate cannot be listed above as authorized to execute the Agreement.)

EXHIBIT C

OPINION OF COUNSEL TO PURCHASER

Banc of America Public Capital Corp
555 California Street, 4th Floor
San Francisco, California 94104

Re: Equipment Installment Financing Agreement, dated as of March 26, 2021, between Banc of America Public Capital Corp, as Lender, and the County of Dare, North Carolina, as Purchaser

Ladies and Gentlemen:

As County Attorney for the County of Dare, North Carolina (“Purchaser”), I have examined (a) an executed counterpart of the Equipment Installment Financing Agreement, dated as of March 26, 2021, and Exhibits thereto by and between Banc of America Public Capital Corp (“Lender”) and Purchaser (the “Agreement”), which, among other things, provides for the financing of certain property listed in the Schedule of Property attached thereto (the “Equipment”), (b) an executed counterpart of the resolutions of Purchaser which, among other things, authorize Purchaser to execute the Agreement and the Schedule and (c) such other opinions, documents and matters of law as I have deemed necessary in connection with the following opinions. The Agreement and the Schedule, together with the Installment Payment Schedule attached to the Schedule, are herein referred to collectively as the “Agreement”.

As to questions of fact material to my opinion, I have relied upon the representations of the Purchaser in the Agreement and in the certified proceedings and other certifications of public officials furnished to me without undertaking to verify the same by independent investigation. The Agreement is being entered into by the Purchaser pursuant to the provisions of Section 160A-20 of the General Statutes of North Carolina, as amended (the “Act”), to enable Purchaser to purchase certain Equipment as defined in the Agreement.

Based on the foregoing, I am of the following opinions:

1. Purchaser is a county and politic duly organized and existing under the laws of the State.
2. Purchaser has the requisite power and authority to acquire and finance the Equipment and to execute and deliver the Agreement and to perform its obligations under the Agreement.
3. The Agreement has been duly authorized, approved, executed and delivered by and on behalf of Purchaser and the Agreement is a valid and binding obligation of Purchaser enforceable in accordance with its respective terms.
4. The authorization, approval, execution and delivery of the Agreement and all other proceedings of Purchaser relating to the transactions contemplated thereby have been performed

in accordance with all open meeting laws, public bidding laws and all other applicable state or federal laws.

5. There is no proceeding pending or threatened in any court or before any governmental authority or arbitration board or tribunal that, if adversely determined, would adversely affect the transactions contemplated by the Agreement or the security interest of Lender or its assigns, as the case may be, in the Equipment or other collateral thereunder.

The opinion expressed above is subject to the following qualifications and limitations:

1. The enforceability of the Agreement will be subject to bankruptcy, insolvency, and other laws affecting creditors' rights generally. To the extent that remedies under the Agreement require enforcement by a court of equity, the enforceability thereof may be limited by such principles of equity as the court having jurisdiction may impose.
2. Pursuant to the Act, no deficiency judgment may be rendered against Purchaser in the event of a breach by Purchaser of its obligations under the Agreement, including its obligation to make the installment payments under the Agreement, and the taxing power of Purchaser is not pledged, and may not be pledged, to pay any obligation of Purchaser under the Agreement.
3. Under North Carolina law, the recovery of attorneys' fees is limited by and subject to the procedures and limitations set forth in Section 6-21.2 of the General Statutes of North Carolina, as amended.
 - a) I express no opinion as to the enforceability of any indemnity provision in the Agreement.
 - b) I have assumed for purposes of my opinion contained herein that Lender will exercise its rights under the Agreement in good faith and in a commercially reasonable manner.

All capitalized terms herein shall have the same meanings as in the Agreement unless otherwise provided herein. Lender and its successors and assigns, and any counsel rendering an opinion on the tax-exempt status of the interest components of the Installment Payments, are entitled to rely on this opinion.

Printed Name: _____
Firm: _____
Address: _____
Telephone No.: _____

Signature: _____
Dated: _____

EXHIBIT D

ACCEPTANCE CERTIFICATE

Banc of America Public Capital Corp
555 California Street, 4th Floor
San Francisco, California 94104

Re: Equipment Installment Financing Agreement, dated as of March 26, 2021, between Banc of America Public Capital Corp, as Lender, and the County of Dare, North Carolina, as Purchaser

Ladies and Gentlemen:

In accordance with the Equipment Installment Financing Agreement (the "Agreement"), the undersigned Purchaser hereby certifies and represents to, and agrees with Lender as follows:

1. All of the Equipment (as such term is defined in the Agreement) listed in the Schedule of Property (the "Schedule") has been delivered, installed and accepted on the date hereof.

2. Purchaser has conducted such inspection and/or testing of the Equipment listed in the Schedule as it deems necessary and appropriate and hereby acknowledges that it accepts the Equipment for all purposes.

3. Purchaser is currently maintaining the insurance coverage required by Section 7.02 of the Agreement.

4. No event or condition that constitutes, or with notice or lapse of time, or both, would constitute, an Event of Default (as defined in the Agreement) exists at the date hereof.

Date: _____

PURCHASER:

COUNTY OF DARE, NORTH CAROLINA

By: _____

Name: _____

Title: _____

(Seal)

EXHIBIT E

FORM OF DISBURSEMENT REQUEST

Re: Equipment Installment Financing Agreement dated March 26, 2021 by and between Banc of America Public Capital Corp, as Lender and the County of Dare, North Carolina, as the Purchaser (the “Agreement”).

In accordance with the terms of Section 3.02 of the Agreement between Banc of America Public Capital Corp (“Lender”) and the County of Dare, North Carolina (the “Purchaser”) the undersigned hereby requests the Lender to approve payment to the following persons of the following amounts from the Project Account for the following purposes.

Payee’s Name and Address	Invoice Number	Dollar Amount	Purpose

The undersigned hereby certifies as follows:

(i) An obligation in the stated amount has been incurred by the Purchaser, and the same is a proper charge against the Project Account for Equipment Costs, and has not been paid. Attached hereto is a copy of the original invoice documentation with respect to such obligation.

(ii) Each item of the Equipment subject to this Disbursement Request has been delivered, installed and accepted by the Purchaser.

(iii) The undersigned, as an authorized representative of the Purchaser, has no notice of any vendor’s, materialmen’s, mechanic’s or other liens or rights to liens, chattel mortgages, conditional sales contracts or security interest which should be satisfied or discharged before such payment is made.

(iv) This requisition contains no item representing payment on account, or any retained percentages which the Purchaser is, as of the date hereof, entitled to retain (except to the extent such amounts represent a reimbursement to the Purchaser).

(v) The Equipment subject to this Disbursement Request is insured in accordance with the Agreement.

(vi) No Event of Default, and no event which with notice or lapse of time, or both, would become an Event of Default, under the Agreement has occurred and is continuing at the date hereof.

(vii) The disbursement is occurring prior to the end of the Acquisition Period.

(vii) The representations, warranties and covenants of the Purchaser set forth in the Agreement are true and correct as of the date hereof

(viii) No Material Adverse Change in the Purchaser's financial condition has occurred since the date of the Agreement.

Dated: _____

COUNTY OF DARE, NORTH CAROLINA

By: _____
Authorized Representative

Disbursement of funds from the Project
Fund in accordance with the foregoing
Disbursement Request hereby is authorized

BANC OF AMERICA PUBLIC CAPITAL CORP
as Lender under the Agreement

By: _____
Authorized Agent

EXHIBIT F

NOTICE AND ACKNOWLEDGEMENT OF ASSIGNMENT

Dated _____

BANC OF AMERICA PUBLIC CAPITAL CORP (“Assignor”) hereby gives notice that it has assigned and sold to [_____] (“Assignee”) all of Assignor’s right, title and interest in, to and under the Equipment Installment Financing Agreement and related Schedule (“Agreement”) dated as of March 26, 2021 between Assignor and the County of Dare, North Carolina (“Purchaser”).

For purposes of this Notice and Acknowledgment of Assignment (the “Acknowledgment”), “Agreement” means collectively the Agreement identified above, together with all exhibits, schedules, addenda and attachments related thereto, and all certifications and other documents delivered in connection therewith. Each capitalized term used but not defined herein has the meaning set forth in the Agreement described above.

1. [Pursuant to the authority of Resolution _____ adopted on _____ 25] Purchaser hereby [consents to and] acknowledges the effect of the assignment of the Agreement and absolutely and unconditionally agrees to deliver to Assignee all installment payments and other amounts coming due under the Agreement in accordance with the terms thereof on and after the date of this Acknowledgment.

2. Purchaser hereby agrees that: (i) Assignee shall have all the rights of Lender under the Agreement and all related documents, including, but not limited to, the rights to issue or receive all notices and reports, to give all consents or agreements to modifications thereto, to receive title to the equipment in accordance with the terms of the Agreement, to declare a default and to exercise all remedies thereunder; and (ii) except as provided in Section 3.04 of the Agreement, the obligations of Purchaser to make installment payments and to perform and observe the other covenants and agreements contained in the Agreement shall be absolute and unconditional in all events without abatement, diminution, deduction, set-off or defense.

3. Purchaser agrees that, as of the date of this Acknowledgment, the following information about the Agreement is true, accurate and complete:

Number of Installment Payments Remaining	–	_____
Amount of Each Installment Payment	–	\$ _____
Total Amount of Installment Payments Remaining	–	\$ _____
Frequency of Installment Payments	–	_____
Next Installment Payment Due	–	_____

4. The Agreement remains in full force and effect, has not been amended and no nonappropriation or event of default (or event which with the passage of time or the giving of notice or both would constitute a default) has occurred thereunder.

5. Any inquiries of Purchaser related to the Agreement and any requests for disbursements, if applicable, and all installment payments and other amounts coming due pursuant to the Agreement on and after the date of this Acknowledgment should be remitted to Assignee at the following address (or such other address as provided to Purchaser in writing from time to time by Assignee):

ACKNOWLEDGED AND AGREED:

PURCHASER: COUNTY OF DARE, NORTH CAROLINA

By: _____
Name: _____
Title: _____

ASSIGNOR: BANC OF AMERICA PUBLIC CAPITAL CORP

By: _____
Name: _____
Title: _____

EXHIBIT G

FORM OF SELF-INSURANCE CERTIFICATE

Banc of America Public Capital Corp
555 California Street, 4th Floor
San Francisco, California 94104

Re: Equipment Installment Financing Agreement

In connection with the above-referenced Agreement (the "Agreement"), the County of Dare, North Carolina (the "Purchaser") hereby warrants and represents to Banc of America Public Capital Corp the following information. The terms capitalized herein but not defined herein shall have the meanings assigned to them in the Agreement incorporated in the Schedule by reference.

1. The Purchaser is self-insured for damage or destruction to the Equipment listed in the Schedule of Property to the Agreement (herein, the "Equipment"). The dollar amount limit for property damage to the Equipment under such self-insurance program is \$_____. [The Purchaser maintains an umbrella insurance policy for claims in excess of Purchaser's self-insurance limits for property damage to the Equipment which policy has a dollar limit for property damage to the Equipment under such policy of \$_____.]

2. The Purchaser is self-insured for liability for injury or death of any person or damage or loss of property arising out of or relating to the condition or operation of the Equipment. The dollar limit for such liability claims under the Purchaser's self-insurance program is \$_____. [The Purchaser maintains an umbrella insurance policy for claims in excess of Purchaser's self-insurance limits for liability which policy has a dollar limit for liabilities for injury and death to persons as well as damage or loss of property arising out of or relating to the condition or operation of the Equipment in the amount of \$_____.

[3]. The Purchaser maintains a self-insurance fund. Monies in the self-insurance fund [are/are not] subject to annual appropriation. The total amount maintained in the self-insurance fund to cover Purchaser's self-insurance liabilities is \$_____. [Amounts paid from the Purchaser's self-insurance fund are subject to a dollar per claim of \$_____.]

[3]. The Purchaser does not maintain a self-insurance fund. The Purchaser obtains funds to pay claims for which it has self-insured from the following sources: _____ . Amounts payable for claims from the such sources are limited as follows: _____ .

4. Attached hereto are copies of certificates of insurance with respect to policies maintained by Purchaser.

PURCHASER:

COUNTY OF DARE, NORTH CAROLINA

By: _____

Name: _____

Title: _____



Consent Agenda

Description

1. Approval of Minutes - March 1, 2021
2. Budget Amendment for Increased Emergency Management Performance Grant Revenue
3. Health & Human Services - Public Health Division: Additional COVID-19 Vaccine Funding
4. Tax Collector's Report
5. Public Works Budget Amendment

Board Action Requested

Approval

Item Presenter

Robert Outten, County Manager



Approval of Minutes

Description

The Board of Commissioners will review and approve their previous Minutes, which follow this page.

Board Action Requested

Approve Previous Minutes

Item Presenter

Robert Outten, County Manager



County of Dare

P.O. Box 1000 | Manteo, NC 27954

MINUTES

DARE COUNTY BOARD OF COMMISSIONERS MEETING

Dare County Administration Building, Manteo, NC

9:00 a.m., March 1, 2021

Commissioners present: Chairman Robert Woodard, Sr., Vice Chairman Wally Overman
Rob Ross, Steve House, Jim Tobin, Danny Couch, Ervin Bateman

Commissioners absent: None

Others present: County Manager/Attorney, Robert Outten
Deputy County Manager/Finance Director, David Clawson
Master Public Information Officer, Dorothy Hester
Clerk to the Board, Cheryl C. Anby

A full and complete account of the entire Board of Commissioners meeting is archived on a video which is available for viewing on the Dare County website www.darenc.com.

At 9:02 a.m. Chairman Woodard called to order the regularly scheduled meeting with appropriate prior public notice having been given. He shared the invocation provided by Rev. David Feyrer, which included a moment of silence for those who had died in the pandemic, and then he led the Pledge of Allegiance to the flag.

ITEM 1 – OPENING REMARKS – CHAIRMAN’S UPDATE

Following is a brief outline of the items mentioned by Chairman Woodard during his opening remarks, which can be viewed in their entirety in a video on the Dare County website:

- Thanked everyone who attended the virtual Avon Beach Nourishment meeting on February 24. He encouraged community comments as the Board considered the project.
- On February 18, the Board met with Rep. Greg Murphy and Rep. Rob Wittman. The meeting was constructive and provided an opportunity to relay various items of concern for the County to these representatives.

ITEM 2 – PUBLIC HEARING – DARE HOME HEALTH & DARE HOSPICE (Att. #1)

At 9:08 a.m. the Board held a Public Hearing to receive input concerning this item. As advertised, comments could be received by email at dcbooc@darenc.com. Mr. Outten explained the Board had passed a resolution to provide the opportunity to explore the issues. The second step in the process was to have a public hearing. Afterward consultants would allow entities to review the current service and provide pricing information for the Board’s consideration and option. No comments were received during the meeting and the County Manager closed the Public Hearing at 9:10 a.m. One email was received after the meeting from Amanda Meyers who voiced disappointed with the inability to make live comment.

ITEM 3 – PUBLIC COMMENTS

At 9:10 a.m. the Manager opened public comments to the Board via email at dcboc@darenc.com. No emails were received during the meeting and the County Manager closed Public Comments at 9:11 a.m.

ITEM 4 – PRESENTATION OF COUNTY SERVICE PIN

Gloria Dixon, Intermediate Emergency Medical Tech, was recognized for her ten years of service to Dare County with a pre-recorded narrative by the County Manager.

ITEM 5 – TRILLIUM HEALTH RESOURCES – ANNUAL REPORT

Dave Peterson, Senior Regional Director, presented the Annual Dare County Trillium Health Resources Report to the Board. He reviewed the organization's mission and provided examples of the specialty care provider's changes since the pandemic. He thanked Vice-Chairman Overman and Commissioner Ross for serving on the Trillium Regional Advisory Board. Trillium currently served twenty-six counties with 266,000 Medicaid eligible individuals. Standard plans would soon be managing the mild to moderate Medicaid behavioral health recipients through five private companies. As of July 1, 2021, Trillium would no longer manage those individuals. Chairman Woodard asked Mr. Peterson to define the "low to moderate need". Examples provided were those who needed monthly prescriptions for depression and basic outpatient mental health therapy for low need. Moderate needs would include bi-weekly outpatient therapy and medication management. High needs were those who required therapeutic interventions such as a teenager with substance abuse and mental health concerns or legal issues. Commissioner House asked if there would be advisory assistance in choosing a provider. Two state services would have ombudsman programs to guide, but they would not be able to recommend one program over another. Commissioner Ross stated 70-80% of the recipients on a standard plan would be moved to the private sector, which would still require substantial effort by Trillium. Mr. Peterson explained they would serve the high-need individuals, which were also the highest cost recipients. They would manage the whole person. Presently they only addressed their mental health. As of July, 2021, they would serve their medical health and would have thousands of contracts with the doctors and pharmacies for other health support management. There would be a readiness review in the fall or winter to acknowledge Trillium was ready to serve as a tailored plan provider.

Mr. Peterson reviewed the many changes and impacts brought about due to the pandemic. There was a separate webpage with COVID-19 information. There had been some 5-30% rate increases to network providers. Prior authorization requirements were being waived to accommodate quicker services along with telehealth to provide quality digital care to patients when necessary. COVID kits were supplied to providers and consumers. Children with intellectual/developmental disabilities were provided an increase of thirty hours of respite services. Trillium also promoted Hope4NC to provide resilience and crisis counseling. The HOPE program was addressing housing issues.

Mr. Peterson closed with providing Trillium's many project updates such as hand sanitizer stations at playgrounds, online training for safe school operation, racial equity projects and an update of 1,200 naloxone kits made available. Currently 1,069 Dare County residents were served in areas of mental health, substance use or developmental disabilities.

ITEM 6 – DARE COUNTY WATERWAYS COMMISSION PLANNING RECOMMENDATIONS

Brent Johnson provided a presentation from the Waterways Commission. He explained in preparation for the Corps of Engineers' pipeline contract to begin October, 2022, the County needed to address capacity concerns for dredge material for Hatteras and Shallowbag Bay. He moved on with information on the various channels, provided their current hydrographic surveys and information as to maintenance. He also provided planning recommendations: (1) Permits to dredge Rollinson, Hatteras, Barney Slough, Sloop, South Ferry and Hatteras Bar with state public private partner dredge (2) Addition of the Hatteras Inlet/Bar to the Federal Authorization (3) Update 2013 Hatteras Economic Impact Study (4) Request State legislation to fully fund dredging from Wanchese Channel Range 14 past Pirates Cove and Manteo to Range 1 when the Corps' project began in October, 2022 (5) Resolution from the Board in support of continued maintenance of the Rodanthe Federal Channel and Emergency Ferry Route. Commissioner Tobin commented dredging needs were discussed extensively with Rep. Murphy recently to include making Hatteras a federal inlet. He also reported the new dredge would be named Miss Katie. Commissioner Tobin asked whether the Coastguard had been asked for support to get the complex realigned and become a federal inlet since it was a search and rescue base. Mr. Johnson explained the Coast Guard had had conversations in support. Unless environment issues arose, the realignment would take place but would not include the bar because an authorization change would be required.

ITEM 7 – PROCLAMATION FOR MARCH 2021 AS THE 19TH ANNUAL MARCH FOR MEALS MONTH

The Albemarle Commission Area Agency on Aging & Senior Nutrition Program partners with Dare County to provide congregate meals at the Dare County Center five days a week and to homebound older adults who are unable to prepare their meals.

MOTION

Vice-Chairman Overman motioned to approve the proclamation to observe March 2021 as the 19th Annual March for Meals Month as presented.

Commissioner Bateman seconded the motion.

VOTE: AYES unanimous

ITEM 8 – CONSENT AGENDA

The Manager announced the items as they were visually displayed in the meeting room.

MOTION

Commissioner House motioned to approve the Consent Agenda:

- 1) Approval of Minutes (02.16.21) **(Att. #2)**
- 2) Dare County Sanitation Budget Amendment
- 3) DHHS – Social Services Crisis Intervention Program and Low Income Energy Assistance Budget Amendment
- 4) CARES Act HAVA Elections Additional Grant Award
- 5) Audit Contract for FY2021
- 6) Government Education Access Channels 2021-22 Proposed Budget
- 7) Dare County Tourism Board Request Consent Expenditure from Long-Term Unappropriated Line Item 4585

Commissioner Tobin seconded the motion.

VOTE: AYES unanimous

ITEM 9 – BOARD APPOINTMENTS

1) Hatteras Community Center Board

Vice Chairman Overman motioned to appoint Jeff Oden to serve the remainder of the term of Ricki Shepherd.

Commissioner House seconded the motion.

VOTE: AYES unanimous

2) Upcoming Board Appointments

The upcoming Board appointments for April, May and June, 2021 were announced.

ITEM 10 – COMMISSIONERS’ BUSINESS & MANAGER’S/ATTORNEY’S BUSINESS

Commissioners and the County Manager frequently make extensive remarks, which can be viewed in their entirety in a video on the Dare County website. Following is a brief summary outline of the items mentioned by Commissioners during this segment:

Vice-Chairman Overman

- Board met with Rep. Murphy and Rep. Wittman with a good exchange of information which included the topics of dredging and stabilization, inland flooding issues, and replacement of the Alligator River Bridge.
- Reported he had attended the Trillium conference on February 22 with Commissioner Ross, Chuck Lycett and the County Manager to discuss the change of services and impacts of the Medicaid transformation. Three take-a-ways were “it was interesting, it was involved and it is terribly complicated”. He noted we were fortunate to have Chuck Lycett and Dr. Sheila Davies to provide leadership as we move forward with the process.
- Thanked everyone who participated in the Avon Beach Nourishment presentation.
- He attended the Dare presentation of the Work Local poster presentation at the Dare Center garden on February 25 with Commissioner Ross. The following students, who each received extended training in their fields and returned to work in Dare County received recognition: Matthew Knuckles, Cape Hatteras Secondary School, Lisa Sababic from Manteo High School and Kirsten Turonis-Bissell from First Flight High School.
- Thanked service pin recipient Gina Dixon for her ten years of service to the County.

Commissioner Bateman

- He participated in the Dare County Special Olympics fundraiser on February 23 with Commissioner Ross. They both took a “dip” into the Atlantic for this worthy cause.
- Complimented the County Manager on the Avon Beach Nourishment presentation. He had received good feedback from those who viewed the meeting.
- Encouraged everyone to get their COVID-19 vaccine as it became available for them.

Commissioner Couch

- Thanked the staff and County Manager for the presentation on Avon Beach Nourishment and commended the community on a civil discourse of the proposed project.

Commissioner Tobin

- Reported on a major house fire in Manns Harbor. While visiting the site, someone mentioned the community building in Manns Harbor had several roof leaks to be repaired.
- Gave a shout out to Kenneth Brown, who recently caught a 771 pound blue fin tuna.

Commissioner Ross

- Noted the water was 41 degrees when he and Commissioner Bateman took the Special Olympics Polar Plunge, but it was for a worthy cause.
- The task force on the event site at Nags Head had begun meetings again to discuss future plans and designs for the area. Discussions were continuing on whether the site would include a facility for events, conferences, trade shows and sporting events coupled with the incorporation of a hotel. Significant modifications to Nags Head parking regulations would be considered necessary. He would provide updates as available.
- Albemarle Commission had conducted their annual audit with a few suggestions but otherwise an unqualified opinion, which was good.
- He welcomed back Dare County children to school, who began their long overdue in-person learning today.

Commissioner House

- Governor Cooper had named a new director for the Department of Environmental Quality. Dionne Delli-Gatti was experienced and comes well qualified.
- He also agreed with the success of the Avon presentation and commended the County Manager' professionalism and explanation of the project.
- Provided two notable day-in-history events. In 1875 the first civil rights act was passed in congress. On March 1, 1932, the infant son of the famous Atlantic Ocean aviator, Col. Charles Lindbergh, had been kidnapped.

MANAGER'S/ATTORNEY'S BUSINESS

Dave Clawson provided four project updates for the Board:

1. Public Works had a roof replacement scheduled for Manns Harbor Center in their capital improvement plan, which addressed Commissioner Tobin's earlier concerns.
2. The SPCA would begin moving equipment on March 9 and animals on March 12.
3. COA project was going well in spite of weather setbacks. There would be some information regarding the exterior of the Prof. Arts building by the end of next week.
4. Some water damage had been discovered at the east side of the Health and Human Services project and a repair cost estimate was expected later this week.

County Manager advised the Board he would ask both the Public Information Officer and the Health Department to increase the Medicaid transformation messaging in order to get the word out to those affected by the many changes to the area's coverage specifics.

Mr. Outten requested a Closed Session pursuant to NCGS 143-318.11(a)(3) to consult with an attorney employed or retained by the County in order to preserve the attorney-client privilege and pursuant to NCGS 143-318.11(a)(5) to instruct the County staff, or negotiating agents, concerning the position to be taken by or on behalf of the County in negotiating the price and other material terms of a contract, or proposed contract, for the acquisition of real property in the matter of Mako Mikes and to approve the minutes of the last Closed Session.

MOTION

Vice-Chairman Overman motioned to go into Closed Session pursuant to the provisions of the North Carolina General Statutes cited by the County Manager.

Commissioner House seconded the motion.

VOTE: AYES unanimous

At 10:27 a.m., the Commissioners exited the room to meet in Closed Session. The Board reconvened at 11:23 a.m. Commissioner Ross did not return to the regular session.

Mr. Outten reported that during the Closed Session the Board approved previous Closed Session Minutes, consulted with the County Attorney in order to preserve the attorney/client privilege and the Board authorized the County Manager to enter into a contract for the purchase of Mako Mike's property at \$1.95 million dollars with a closing to occur in October, 2021, share the cost of revenue stamps and transfer taxes and to further authorize the County Manager to enter into such agreements as may be necessary to fund the purchase.

MOTION

Commissioner House motioned to authorize the County Manager to enter into a contract for the purchase of Mako Mike's property at \$1.95 million dollars with a closing to occur in October, 2021, share the cost of revenue stamps and transfer taxes, and to authorize the County Manager to enter into such agreements as may be necessary to fund the purchase. Commissioner Tobin and Vice-Chairman seconded the motion.

VOTE: AYES unanimous

At the conclusion of the meeting, Chairman Woodard asked for a motion to adjourn.

MOTION

Commissioner Tobin motioned to adjourn the meeting. Commissioner House seconded the motion.

VOTE: AYES unanimous

At 11:25 a.m., the Board of Commissioners adjourned until 5:00 p.m., March 15, 2021.

Respectfully submitted,

[SEAL]

By: _____
Cheryl C. Anby, Clerk to the Board

APPROVED: By: _____
Robert Woodard, Sr., Chairman
Dare County Board of Commissioners

Note: Copies of attachments (Att.), ordinances, resolutions, contracts, presentations, and supporting material considered by the Board of Commissioners at this meeting are on file in the office of the Clerk to the Board.



Budget Amendment for increased Emergency Management Performance Grant Revenue.

Description

Total revenue received from the state's Emergency Management Performance Grant of \$39,377.80 will exceed planned revenue of \$35,000 by \$4377.80. The additional revenue will be expended to support continued Emergency Management program efforts, including some "Hurricane Preparedness" which was not funded in the current budget cycle due to the uncertainty of budget conditions due to COVID.

Board Action Requested

Approval

Item Presenter

Drew Pearson

DARE COUNTY

BUDGET AMENDMENT

F/Y 2020/2021

ACCOUNT	CODE			INCREASE	DECREASE
	Org	Object	Project		

Revenues:

Expenditures:

Explanation:

Approved by:

Board of Commissioners: _____

Date: _____

County Manager: _____

Date: _____

(sign in red)

Finance only:

Date entered: _____ Entered by: _____ Reference number: _____



Health & Human Services, Public Health - Additional COVID-19 Vaccine Funding

Description

The DHHS Public Health Division has received additional funding from the NC Division of Public Health, Immunization Branch for the COVID-19 Vaccination Program.

Purpose of this funding is to assist health departments in the planning and implementation of the COVID-19 vaccine clinics.

Funding will be used for the cost of nurses and providers administering the vaccinations, to purchase medical supplies, PPEs, office supplies, printing and other costs needed to support the vaccination clinics.

Board Action Requested

Approve Budget Admendment

Item Presenter

N/A

DARE COUNTY

BUDGET AMENDMENT

F/Y 2020-2021

ACCOUNT	CODE			INCREASE	DECREASE
	Org	Object	Project		
Department:					
Human Services-Public Health					
<u>Revenues:</u>					
State/Federal-COVID-19	103027	424206	45120	\$133,686	
<u>Expenses:</u>					
Salaries-COVID-19	104600	500200	45120	\$50,000	
FICA-COVID-19	104600	500300	45120	\$3,825	
Retirement-COVID-19	104600	500400	45120	\$5,105	
Health Insurance-COVID-19	104600	511100	45120	\$19,756	
Operating-COVID-19	104600	513400	45120	\$55,000	

Explanation:

Received additional State COVID-19 vaccine funding. Funds will be used for salary/benefits of vaccinators, purchase medical/office supplies, PPEs, printing and other costs for the vaccine clinics.

Approved by:

Board of Commissioners: _____

Date: _____

County Manager: _____

Date: _____

(sign in red)

Finance only:

Date entered: _____ Entered by: _____ Reference number: _____

Division of Public Health Agreement Addendum FY 20-21

Dare County Department of Health & Human
Services - Public Health Division

Local Health Department Legal Name

716 CDC COVID-19 Vaccination Program

Activity Number and Description

01/01/2021 – 05/31/2021

Service Period

02/01/2021 – 06/30/2021

Payment Period

- Original Agreement Addendum
 Agreement Addendum Revision # 1

Women’s and Children’s Health Section /
Immunization Branch

DPH Section / Branch Name

Misheema Morrissey, 919-707-5556
misheema.morrissey@dhhs.nc.gov

DPH Program Contact

(name, phone number, and email)

DPH Program Signature **Date**
(only required for a negotiable agreement addendum)

I. Background:

As of March 1, 2021, this Agreement Addendum Revision #1 adds the following paragraph:

As part of the “Consolidated Appropriations Act, 2021”, North Carolina received funding to assist with local health departments’ COVID-19 vaccination planning and implementation of mass COVID-19 vaccination. This supplemental funding will be used to support and strengthen critical immunization planning and implementation requirements and activities to ensure effective, efficient, and equitable vaccination of the statewide population.

II. Purpose:

As of March 1, 2021, this Agreement Addendum Revision #1 adds the following paragraph:

Additional funding provided to the Local Health Department should be used to support expanding vaccine clinics, reaching out to those for whom vaccine is recommended, training providers and partners on the appropriate storage and handling of the vaccine, equipping health care providers to discuss the vaccine and administer it to patients, ensuring adequate clinic staff availability, and ensuring systems can track vaccines administered and provide recall tracking and notification to complete vaccine series.

III. Scope of Work and Deliverables:

As of March 1, 2021, this Agreement Addendum Revision #1 adds Paragraphs 14–20, as follows:

14. Use *Attachment C, Monthly Performance and Activity Reporting* as a guide for monthly metrics reporting of new activities that occurred during the reporting month.

_____ _____
Health Director Signature (use blue ink) Date

Local Health Department to complete: (If follow-up information is needed by DPH)	LHD program contact name: _____ Phone number with area code: _____ Email address: _____
---	---

15. Ensure vaccine administration sites have appropriate capabilities to address adverse events, including anaphylaxis.
16. Ensure equitable distribution and administration of COVID-19 vaccines by monitoring vaccination coverage among population subgroups, identifying populations and areas with low coverage, by implementing and evaluating interventions, and by directing vaccine and vaccination efforts to increase coverage.
17. Increase vaccine confidence through education, outreach, and partnerships. Enhance messaging (including through translation) to promote COVID-19 vaccination, especially among underserved and vulnerable populations.
18. Monitor and manage the COVID-19 vaccine supply in the LHD jurisdiction and ensure that the vaccine is broadly available across the jurisdiction, including in the places where it is needed most.
19. Partner with local transit agency, ridesharing companies, taxi, volunteers, or other transportation options to provide rides to and from the COVID-19 vaccination sites for low-income people, the uninsured and people living in underserved communities.
20. Partner with community organizations in areas most impacted by high COVID-19 morbidity and mortality to provide educational support, PPE, and supplies as needed.

IV. Performance Measures/Reporting Requirements:

As of March 1, 2021, this Agreement Addendum Revision #1 adds Paragraph 4, as follows:

4. LHD shall complete a monthly online survey to report performance metrics and activities. *Attachment C, Monthly Performance and Activity Reporting* serves as a guide for compiling metrics for monthly reporting. Each month's survey must be completed by the 20th day of the following month.

As of March 1, 2021, this Agreement Addendum Revision #1 adds Attachment C, on page 4 of this Revision, to the Agreement Addendum.

V. Performance Monitoring and Quality Assurance:

No change.

VI. Funding Guidelines or Restrictions:

Retroactive to January 1, 2021, this Agreement Addendum Revision #1 adds Paragraphs 3–5, as follows:

3. As the LHD is a subrecipient of a grant or cooperative agreement awarded by the Department of Health and Human Services (HHS) with funds made available under the Coronavirus Preparedness and Response Supplemental Appropriations Act, 2020 (P.L. 116-123); the Coronavirus Aid, Relief, and Economic Security Act, 2020 (the "CARES Act") (P.L. 116-136); the Paycheck Protection Program and Health Care Enhancement Act (P.L. 116-139); and/or the Consolidated Appropriations Act, 2021, Division M – Coronavirus Response and Relief Supplemental Appropriations Act, 2021 (P.L. 116-266), the LHD agrees as applicable to the award, to:
 - a. comply with existing and/or future directives and guidance from the HHS Secretary regarding control of the spread of COVID-19;
 - b. in consultation and coordination with HHS, provide, commensurate with the condition of the individual, COVID-19 patient care regardless of the individual's home jurisdiction and/or appropriate public health measures (e.g., social distancing, home isolation);
 - c. assist the United States Government in the implementation and enforcement of federal orders related to quarantine and isolation. In addition, to the extent applicable, comply with Section

- 18115 of the CARES Act, with respect to the reporting to the HHS Secretary of results of tests intended to detect SARS– CoV–2 or to diagnose a possible case of COVID–19. Such reporting shall be in accordance with guidance and direction from HHS and/or CDC.
- d. Provide, through NC DHHS to CDC, copies of and/or access to COVID-19 data collected with these funds, including but not limited to data related to COVID-19 testing consistent with the full scope of applicable grant regulations (45 C.F.R. 75.322), the purpose of this award, and the underlying funding.
4. In addition to their local procurement rules/policies, the LHD shall comply with the following rules, applying the most restrictive standard where there is a difference between any of the standards:
 - a. Federal Uniform Administrative Requirements for Procurement, 45 CFR Part 75 §75.327-335, https://www.ecfr.gov/cgi-bin/text-idx?node=pt45.1.75&rgn=div5#se45.1.75_1326
 - 1) Appendix II to Part 75—*Contract Provisions for Non-Federal Entity Contracts Under Federal Awards* may be found here for incorporation into procurement contracts: https://www.ecfr.gov/cgi-bin/text-idx?node=pt45.1.75&rgn=div5#ap45.1.75_1521.ii
 5. Unallowable costs:
 - a. Research
 - b. Clinical Care
 - c. Publicity and propaganda (lobbying):
 - 1) Other than for normal and recognized executive-legislative relationships, no funds may be used for:
 - a) publicity or propaganda purposes, for the preparation, distribution, or use of any material designed to support or defeat the enactment of legislation before any legislative body
 - b) the salary or expenses of any grant or contract recipient, or agent acting for such recipient, related to any activity designed to influence the enactment of legislation, appropriations, regulation, administrative action, or Executive order proposed or pending before any legislative body
 - 2) See Additional Requirement (AR) 12 for detailed guidance on this prohibition and additional guidance on lobbying for CDC recipients: https://www.cdc.gov/grants/documents/Anti-Lobbying_Restrictions_for_CDC_Grantees_July_2012.pdf
 - d. All unallowable costs cited in CDC-RFA-IP19-1901 remain in effect, unless specifically amended, in accordance with 45 CFR Part 75 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for HHS Awards.

Attachment C**Monthly Performance and Activity Reporting – FY 2020–2021**

Use this Attachment C as a guide for compiling monthly performance and activity metrics. LHDs will receive a monthly online survey to report on the activities listed in this Attachment C. This online survey **must be completed each month by the 20th day of the following month** and should contain monthly metrics of new activities that occurred during the reporting month.

Monthly Performance and Activity Reporting Categories	Reporting Guide
New public health workers hired and/or related contracts executed.	Report the number of FTEs and/or contractors hired, and the number of related contracts executed during the reporting month.
Strike teams, mobile clinics, or temporary off-site clinics.	Report the number of strike teams, mobile or temporary off-site clinics held during the reporting month in underserved communities.
Supplies/equipment, by type, purchased.	Report the number of supplies and equipment purchased during the reporting month in the following three categories: 1) Vaccine storage and handling (i.e., temperature monitors devices, freezers, other); 2) Vaccine transport (i.e., mobile vaccine storage units); 3) Vaccine administration (i.e., needles, syringes, PPE, other).
COVID-19 communication / education activities.	Describe any COVID-19 communication / education activities, including among underserved and racial and ethnic minority populations, during the reporting month.
Vaccine monitoring.	Describe work to monitor COVID-19 vaccine supply ensuring that vaccine is where it is most needed.

Supplement reason: In AA+BE or AA+BE Rev -OR- -

CFDA #: 93.268 Federal awd date: NGA date Is award R&D? no FAIN: NH23IP922624 Total amount of fed awd: \$ 127384689

CFDA name: 93.268 - Immunization Cooperative Agreements	Fed award project description: CDC-RFA-IP19-901 Immunization and Vaccines for Children	Fed awarding agency: DHHS, Centers for Disease Control and Prevention	Federal award indirect cost rate: n/a	%
---	--	---	---------------------------------------	---

Subrecipient	Subrecipient DUNS	Fed funds for This Supplement	Total of All Fed Funds for This Activity	Subrecipient	Subrecipient DUNS	Fed funds for This Supplement	Total of All Fed Funds for This Activity
Alamance	965194483	426931	489746	Jackson	019728518	149118	180377
Albemarle	130537822	764404	965796	Johnston	097599104	501920	573253
Alexander	030495105	136640	166481	Jones	095116935	73063	95683
Anson	847163029	107201	133698	Lee	067439703	187705	223347
Appalachian	780131541	367365	452055	Lenoir	042789748	178607	213215
Beaufort	091567776	157387	189585	Lincoln	086869336	241705	283481
Bladen	084171628	128187	157068	Macon	070626825	131660	160936
Brunswick	091571349	360124	415351	Madison	831052873	100580	126325
Buncombe	879203560	640523	727600	MTW	087204173	239748	309942
Burke	883321205	256749	300233	Mecklenburg	074498353	2511821	2811456
Cabarrus	143408289	523092	596830	Montgomery	025384603	112478	139575
Caldwell	948113402	238402	279802	Moore	050988146	274818	320355
Carteret	058735804	209913	248077	Nash	050425677	265627	310120
Caswell	077846053	103561	129645	New Hanover	040029563	575339	655012
Catawba	083677138	408485	469205	Northampton	097594477	96637	121935
Chatham	131356607	217983	257064	Onslow	172663270	499545	570608
Cherokee	130705072	116219	143741	Orange	139209659	379285	436688
Clay	145058231	76370	99365	Pamlico	097600456	80218	103650
Cleveland	879924850	274252	319725	Pender	100955413	190623	226596
Columbus	040040016	177630	212127	Person	091563718	140950	171281
Craven	091564294	284327	330944	Pitt	080889694	453627	519475
Cumberland	123914376	800442	905684	Polk	079067930	98712	124245
Dare	082358631	133686	163192	Randolph	027873132	375917	432938
Davidson	077839744	430222	493411	Richmond	070621339	152239	183852
Davie	076526651	147211	178253	Robeson	082367871	347676	401489
Duplin	095124798	185203	220561	Rockingham	077847143	257527	301100
Durham	088564075	753843	853792	Rowan	074494014	370753	427187
Edgecombe	093125375	169260	202807	Sampson	825573975	194963	231429
Foothills	782359004	359666	429161	Scotland	091564146	130852	160036
Forsyth	105316439	901202	1017889	Stanly	131060829	193246	229517
Franklin	084168632	203841	241316	Stokes	085442705	155119	187059
Gaston	071062186	549910	626694	Surry	077821858	215649	254465
Graham	020952383	69648	91880	Swain	146437553	82667	106378
Granville-Vance	063347626	340819	408173	Toe River	113345201	267023	340316
Greene	091564591	97556	122958	Transylvania	030494215	129429	158451
Guilford	071563613	1258678	1415971	Union	079051637	575830	655559
Halifax	014305957	166609	199855	Wake	019625961	2470760	2765732
Harnett	091565986	351232	405449	Warren	030239953	95389	120545
Haywood	070620232	192140	228286	Wayne	040036170	332075	384116
Henderson	085021470	314328	364353	Wilkes	067439950	208142	246105
Hoke	091563643	172129	206001	Wilson	075585695	235367	276423
Hyde	832526243	61758	83094	Yadkin	089910624	136180	165969
Iredell	074504507	454283	520205				

DPH-Aid-To-Counties

For Fiscal Year: 20/21

Budgetary Estimate Number : 1

Activity 716	AA	1331 629B 4Q	1331 639B P7	Proposed Total	New Total
Service Period		01/01-05/31	03/01-05/31		
Payment Period		02/01-06/30	04/01-06/30		
01 Alamance	* 1	0	426,931	426,931	489,746
D1 Albemarle	* 1	0	764,404	764,404	965,796
02 Alexander	* 1	0	136,640	136,640	166,481
04 Anson	* 1	0	107,201	107,201	133,698
D2 Appalachian	* 1	0	367,365	367,365	452,055
07 Beaufort	* 1	0	157,387	157,387	189,585
09 Bladen	* 1	0	128,187	128,187	157,068
10 Brunswick	* 1	0	360,124	360,124	415,351
11 Buncombe	* 1	0	640,523	640,523	727,600
12 Burke	* 1	0	256,749	256,749	300,233
13 Cabarrus	* 1	0	523,092	523,092	596,830
14 Caldwell	* 1	0	238,402	238,402	279,802
16 Carteret	* 1	0	209,913	209,913	248,077
17 Caswell	* 1	0	103,561	103,561	129,645
18 Catawba	* 1	0	408,485	408,485	469,205
19 Chatham	* 1	0	217,983	217,983	257,064
20 Cherokee	* 1	0	116,219	116,219	143,741
22 Clay	* 1	0	76,370	76,370	99,365
23 Cleveland	* 1	0	274,252	274,252	319,725
24 Columbus	* 1	0	177,630	177,630	212,127
25 Craven	* 1	0	284,327	284,327	330,944
26 Cumberland	* 1	0	800,442	800,442	905,684
28 Dare	* 1	0	133,686	133,686	163,192
29 Davidson	* 1	0	430,222	430,222	493,411
30 Davie	* 1	0	147,211	147,211	178,253
31 Duplin	* 1	0	185,203	185,203	220,561
32 Durham	* 1	0	753,843	753,843	853,792
33 Edgecombe	* 1	0	169,260	169,260	202,807
D7 Foothills	* 1	0	359,666	359,666	429,161
34 Forsyth	* 1	0	901,202	901,202	1,017,889
35 Franklin	* 1	0	203,841	203,841	241,316
36 Gaston	* 1	0	549,910	549,910	626,694
38 Graham	* 1	0	69,648	69,648	91,880
D3 Gran-Vance	* 1	0	340,819	340,819	408,173
40 Greene	* 1	0	97,556	97,556	122,958
41 Guilford	* 1	0	1,258,678	1,258,678	1,415,971
42 Halifax	* 1	0	166,609	166,609	199,855
43 Harnett	* 1	0	351,232	351,232	405,449
44 Haywood	* 1	0	192,140	192,140	228,286
45 Henderson	* 1	0	314,328	314,328	364,353
46 Hertford		0	0	0	0
47 Hoke	* 1	0	172,129	172,129	206,001
48 Hyde	* 1	0	61,758	61,758	83,094
49 Iredell	* 1	0	454,283	454,283	520,205
50 Jackson	* 1	0	149,118	149,118	180,377

51 Johnston	*	1	0	501,920	501,920	573,253
52 Jones	*	1	0	73,063	73,063	95,683
53 Lee	*	1	0	187,705	187,705	223,347
54 Lenoir	*	1	0	178,607	178,607	213,215
55 Lincoln	*	1	0	241,705	241,705	283,481
56 Macon	*	1	0	131,660	131,660	160,936
57 Madison	*	1	0	100,580	100,580	126,325
D4 M-T-W	*	0	0	239,748	239,748	309,942
60 Mecklenburg	*	1	0	2,511,821	2,511,821	2,811,456
62 Montgomery	*	1	0	112,478	112,478	139,575
63 Moore	*	1	0	274,818	274,818	320,355
64 Nash	*	1	0	265,627	265,627	310,120
65 New Hanover	*	1	0	575,339	575,339	655,012
66 Northampton	*	1	0	96,637	96,637	121,935
67 Onslow	*	1	0	499,545	499,545	570,608
68 Orange	*	1	0	379,285	379,285	436,688
69 Pamlico	*	1	0	80,218	80,218	103,650
71 Pender	*	1	0	190,623	190,623	226,596
73 Person	*	1	0	140,950	140,950	171,281
74 Pitt	*	1	0	453,627	453,627	519,475
75 Polk	*	1	0	98,712	98,712	124,245
76 Randolph	*	1	0	375,917	375,917	432,938
77 Richmond	*	1	0	152,239	152,239	183,852
78 Robeson	*	1	0	347,676	347,676	401,489
79 Rockingham	*	1	0	257,527	257,527	301,100
80 Rowan	*	1	0	370,753	370,753	427,187
D5 R-P-M	*		0	0	0	0
82 Sampson	*	1	0	194,963	194,963	231,429
83 Scotland	*	1	0	130,852	130,852	160,036
84 Stanly	*	1	0	193,246	193,246	229,517
85 Stokes	*	1	0	155,119	155,119	187,059
86 Surry	*	1	0	215,649	215,649	254,465
87 Swain	*	1	0	82,667	82,667	106,378
D6 Toe River	*	1	0	267,023	267,023	340,316
88 Transylvania	*	1	0	129,429	129,429	158,451
90 Union	*	1	0	575,830	575,830	655,559
92 Wake	*	1	0	2,470,760	2,470,760	2,765,732
93 Warren	*	1	0	95,389	95,389	120,545
96 Wayne	*	1	0	332,075	332,075	384,116
97 Wilkes	*	1	0	208,142	208,142	246,105
98 Wilson	*	1	0	235,367	235,367	276,423
99 Yadkin	*	1	0	136,180	136,180	165,969
Totals			0	28,500,000	28,500,000	33,169,344

Sign and Date - DPH Program Administrator <i>Mickeme Morrison</i> 2-22-2021	Sign and Date - DPH Section Chief <i>Sarah B Dozier</i>
Sign and Date - DPH Contracts Office <i>Grensko Stuart</i> 2/23/2021	Sign and Date - DPH Budget Officer <i>Pat Weir</i> 2/26/2021



Tax Collector's Report

Description

February 2021 Discoveries over \$100
February 2021 Releases over \$100
February 2021 Refunds over \$100
February 2021 NCVTS Refunds over \$100

Board Action Requested

Approved

Item Presenter

Becky Huff, Tax Collector

Discovery Report for REAL ESTATE and PERSONAL PROPERTY

(Discoveries over \$100.00)

MONTH: February

Date Range: 2/1/2021 - 2/28/2021

Submitted By: Becky Huff

<u>Taxpayer Name</u>	<u>Parcel</u>	<u>Bill Yr</u>	<u>Reason</u>	<u>Value Discovered</u>	<u>Tax Discovered</u>
HINES, JAMIE SCOTT SR	938641000	2020	Boat discovery	22,849.00	150.19
				22,849.00	150.19

Release Report for REAL ESTATE and PERSONAL PROPERTY

(Releases over (\$100.00))

MONTH: February

DATE RANGE: 2/1/2021 - 2/28/2021

SUBMITTED BY: Becky Huff

<u>Taxpayer Name</u>	<u>Parcel#</u>	<u>Bill Year</u>	<u>Reason</u>	<u>Value Released</u>	<u>Tax Released</u>
GODWIN, ANDREW CLINTON	025694032	2020	Vessels owned by previous owner	-353,403.00	-2,636.38
VIRGULTO, KELLY ANNE	963199000	2018	Boat sold	-16,083.00	-121.79
SHINE EYE GIRL CHARTERS	977653000	2018	Incorrect owner	-29,100.00	-205.86
VIRGULTO, KELLY ANNE	963199000	2019	Boat sold	-15,601.00	-118.14
SHINE EYE GIRL CHARTERS	977653000	2019	Incorrect Owner	-30,000.00	-212.23
SPENCER, ANN GORE	984848000	2019	Incorrect Registration #	-64,921.00	-599.87
HINES, JAMIE SCOTT	936549000	2020	Boat no longer owned	-22,849.00	-132.11
WACHOWIAK, BRADLEY J.	937426000	2020	Boat in FL and Mexico over 6 months	-2,822,700.00	-23,163.07
JUSTICE, WESLEY CLINTON	963170000	2020	Boats in FL for repairs in 2020	-35,677.00	-206.32
SHINE EYE GIRL CHARTERS	977653000	2020	Incorrect Owner	-30,000.00	-180.78
SPENCER, ANN GORE	984848000	2020	Incorrect Registration #	-62,973.00	-469.78
Total Tax Released:					-28,046.33

Refund Report for REAL ESTATE and PERSONAL PROPERTY

(Refunds over \$100.00)

Month: **FEBRUARY** Date Range: **2/1/2021 - 2/28/2021** Submitted By: **Becky Huff**

<u>Taxpayer Name</u>	<u>Parcel / Customer</u>	<u>Bill Yr</u>	<u>Reason</u>	<u>Refund Amount</u>
FERGUSON, DENNIS & LISA	6247	2019	Overpayment	-105.30
GILLIS, TIMOTHY & SUZAN	7092	2019	Overpayment	-100.30
2 FISH LLC	6113	2019	Overpayment	-633.87
THORNSVARD, CYNTHIA J	6119	2019	Overpayment	-162.90
2 FISH LLC	6113	2019	Overpayment	-316.23
THORNSVARD, CYNTHIA J	6119	2019	Overpayment	-102.60
THORNSVARD, CYNTHIA J	6887	2019	Overpayment	-99.30
2 FISH LLC	6113	2019	Overpayment	-173.00
GILLESPIE GROUP LLC	000860000	2020	Overpayment	-3,528.96
SOUTHWOOD MANAGEMENT, INC	002184000	2020	Overpayment	-608.82
LOWE'S HOME CENTER, LLC	002746000	2020	Refund due to BOER Appeal	-7,057.30
SMITH, MILA GRIZZARD	006120000	2020	Overpayment	-294.16
MCCANN, ANDREW D	006158000	2020	Overpayment	-1,223.13
THAU, JONATHAN C	006968301	2020	Refund due to BOER Appeal	-200.25
SCHENK, MATTHEW R	007003009	2020	Overpayment	-285.75
MICHNA, GREGORY JOSEPH	007221001	2020	Overpayment	-3,363.38
PECHT, RONALD L JR	007917000	2020	Overpayment	-1,287.90
THOMPSON, ELIZABETH C	008024001	2020	Refund due to BOER Appeal	-100.12
OCEAN CAROLINA LLC	008667000	2020	Refund due to BOER Appeal	-1,334.90
WALKER, MATTHEW H	009772039	2020	Overpayment	-2,223.09
JOHNSON, SUSAN M	010069023	2020	Refund due to BOER Appeal	-148.48
AVELAR, MARIA M	010279000	2020	Overpayment	-359.89
PRICE, RICHARD	010915000	2020	Overpayment	-5,180.05
HEATH, WILLIAM P JR	011419000	2020	Overpayment	-1,277.60
MOORE, RICHARD E II	011525000	2020	Overpayment	-100.00
SIMMONS, CHANTAL VIEN	011555000	2020	Overpayment	-364.45
EL-BADRY, AMR MORRY	012569000	2020	Refund due to BOER Appeal	-809.62
SANITZ, TOMMY E	013288000	2020	Overpayment	-698.45
MARY C GRAY, TTEE	014729000	2020	Overpayment	-410.47
MOXIN, EDWARD D JR	014822160	2020	Overpayment	-2,719.32
FLORY, LINDA L	015060001	2020	Overpayment	-219.59
MOSES, ROBERT P	015074000	2020	Overpayment	-350.82
GIBSON, WILLIAM CURTIS III	016004000	2020	Overpayment	-2,625.66
HATTERAS SHORES TWO LLC	016015000	2020	Overpayment	-2,330.99
HATTERAS SHORES TWO LLC	016017000	2020	Overpayment	-2,395.10
HATTERAS SHORES TWO LLC	016018000	2020	Overpayment	-2,545.01
SOUTHWOOD MANAGEMENT, INC	018915000	2020	Overpayment	-266.18
SOUTHWOOD MANAGEMENT, INC	019424000	2020	Overpayment	-962.14

Refund Report for REAL ESTATE and PERSONAL PROPERTY

(Refunds over \$100.00)

Month: **FEBRUARY** Date Range: **2/1/2021 - 2/28/2021** Submitted By: **Becky Huff**

<u>Taxpayer Name</u>	<u>Parcel / Customer</u>	<u>Bill Yr</u>	<u>Reason</u>	<u>Refund Amount</u>
AUSTIN, STEPHEN K	020325000	2020	Overpayment	-2,183.94
SOUTHWOOD MANAGEMENT, INC	020610002	2020	Overpayment	-271.63
WALCK, CLAUDE W TTEE	021942000	2020	Overpayment	-1,200.47
GRAY, RONALD T	022260000	2020	Overpayment	-700.00
PAUL, ROBERT G JR	022957000	2020	Overpayment	-1,567.64
SMITH, BRYAN ANDERS	023209000	2020	Overpayment	-2,509.61
TROY G DANIELS EQUIPMENT &	024905000	2020	Overpayment	-351.69
MELTON, KENNETH R	025425000	2020	Overpayment	-252.34
TRIOS FEMMES INC	025561008	2020	Overpayment	-3,418.92
MOODY, SHANNON M	025694119	2020	Overpayment	-2,564.75
OKERSON, BARBARA	025694134	2020	Refund due to BOER Appeal	-149.20
PRICE, WILLIAM N	025694135	2020	Refund due to BOER Appeal	-223.80
STROHECKER INC/	025694146	2020	Refund due to BOER Appeal	-223.80
KOREN, RAYMOND	025694480	2020	Refund due to BOER Appeal	-223.80
SAGONE, ARTHUR L JR TTEE	025694483	2020	Refund due to BOER Appeal	-335.69
TILLET, FREDERICK	025727000	2020	Refund due to BOER Appeal	-264.95
FINCH & COMPANY INC	026469095	2020	Overpayment	-1,522.10
PITRONE, GINA	026722000	2020	Refund due to BOER Appeal	-122.82
SLYE, JULIANA MARIE	026874000	2020	Overpayment	-3,022.97
MURPHY, JERRY K.	936533000	2020	Overpayment	-6,500.00
HEMKER, MICHAEL LEO	027566168	2020	Overpayment	-3,232.11
RICKS-SAMPLE, JACQUELINE P TTEE	027817023	2020	Overpayment	-384.26
KINNIN, JUDY LYNN	027855000	2020	Overpayment	-664.05
SCOTT, LINDA	027863102	2020	Refund due to BOER Appeal	-191.61
REILLY, MICHAEL V	027863116	2020	Refund due to BOER Appeal	-271.86
RAMBEAU, AMERICUS J	027863117	2020	Refund due to BOER Appeal	-191.61
WICKHAM, CAROL JOY HEIRS OF	027863118	2020	Refund due to BOER Appeal	-271.86
PEYSER, NEAL L TTEE	027865002	2020	Refund due to BOER Appeal	-194.73
PAPE, KAREN D TTEE	027961000	2020	Overpayment	-339.11
WILLIS NAGS HEAD, LLC	028051000	2020	Refund due to BOER Appeal	-672.35
CALLAWAY, WILLIAM F	960985000	2020	Boat value adjustment	-111.91
RASKIN, JAMES	028813270	2020	Overpayment	-4,010.47
BOWMAN, RONALD BRYANT	029643005	2020	Overpayment	-414.24
ROLLINSON, DAILEY M	029806000	2020	Overpayment	-1,288.98
HOEKWATER, PHILLIP G TTEE	029968000	2020	Overpayment	-2,312.32
AYERS, LESLIE RENEE	029991108	2020	Clerical Error	-1,287.58
2 FISH LLC	6113	2020	Overpayment	-262.82
BLACKSTOCK ENTERPRISES, LLC	7070	2020	Overpayment	-136.71

Refund Report for REAL ESTATE and PERSONAL PROPERTY

(Refunds over \$100.00)

Month: **FEBRUARY** Date Range: **2/1/2021 - 2/28/2021** Submitted By: **Becky Huff**

<u>Taxpayer Name</u>	<u>Parcel / Customer</u>	<u>Bill Yr</u>	<u>Reason</u>	<u>Refund Amount</u>
BLACKSTOCK ENTERPRISES, LLC	7070	2020	Overpayment	-429.60
BLACKSTOCK ENTERPRISES, LLC	7070	2020	Overpayment	-289.08
BLACKSTOCK ENTERPRISES, LLC	7070	2020	Overpayment	-656.09
2 FISH LLC	6113	2020	Overpayment	-274.75
P A OBX INC	869	2020	Overpayment	-101.23
P A OBX INC	869	2020	Overpayment	-205.62
2 FISH LLC	6113	2020	Overpayment	-285.61
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-294.90
THORNSVARD, CYNTHIA J	6119	2020	Overpayment	-327.60
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-463.51
MTJC, LLC	6672	2020	Overpayment	-214.38
2 FISH LLC	6113	2020	Overpayment	-1,681.83
ATLANTIC DINING LLC	7618	2020	Overpayment	-361.95
THOSE TWO GUYS INC	123	2020	Overpayment	-400.25
THE BLUE DOLPHIN	6810	2020	Overpayment	-108.78
TOP DOG CAFE, INC	219	2020	Overpayment	-102.03
2 FISH LLC	6113	2020	Overpayment	-1,105.37
THORNSVARD, CYNTHIA J	6119	2020	Overpayment	-327.60
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-882.00
MTJC, LLC	6672	2020	Overpayment	-236.22
THORNSVARD, CYNTHIA J	6119	2020	Overpayment	-411.90
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-655.80
2 FISH LLC	6113	2020	Overpayment	-637.86
THORNSVARD, CYNTHIA J	6119	2020	Overpayment	-178.20
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-539.70
2 FISH LLC	6113	2020	Overpayment	-686.59
MTJC, LLC	6672	2020	Overpayment	-208.01
THORNSVARD, CYNTHIA J	6119	2020	Overpayment	-194.40
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-276.00
SHORE DETAILS INC	7330	2020	Overpayment	-246.40
THORNSVARD, CYNTHIA J	6119	2020	Overpayment	-114.00
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-153.00
THORNSVARD, CYNTHIA J	6887	2020	Overpayment	-108.00

-103,972.04



North Carolina Vehicle Tax System

NCVTS Pending Refund report

February 2021

Payee Name	Secondary Owner	Address 1	Address 3	Tax Jurisdiction	Levy Type	Change	Interest Change	Total Change
BORN, JUDITH KLUGE		1602 BELLE VIEW BLVD #910	ALEXANDRIA, VA 22307	C99	Tax	(\$99.80)	\$0.00	(\$99.80)
				T20	Tax	(\$46.71)	\$0.00	(\$46.71)
						Refund		\$146.51
GREER, DAVID EDWARD		1962 LIPSCOMB RD	MONETA, VA 24121	C99	Tax	(\$89.71)	\$0.00	(\$89.71)
				F01	Tax	(\$13.48)	\$0.00	(\$13.48)
				R01	Tax	(\$1.88)	\$0.00	(\$1.88)
				S99	Tax	(\$19.85)	\$0.00	(\$19.85)
		Refund		\$124.92				
KIMPEL, COLIN WALSH		6201 WALHONDING RD	BETHESDA, MD 20816	C99	Tax	(\$190.95)	\$0.00	(\$190.95)
				T21	Tax	(\$91.41)	\$0.00	(\$91.41)
						Refund		\$282.36
SAMUELS, MARC JAY	SAMUELS, NANCY TESSENEAR	3408 S LINDA LN	NAGS HEAD, NC 27959	C99	Tax	(\$69.11)	\$0.00	(\$69.11)
				T14	Tax	(\$45.73)	\$0.00	(\$45.73)
						Refund		\$114.84
STORM COAST HOMES LLC		6036 CURRITUCK RD	KITTY HAWK, NC 27949	C99	Tax	(\$164.39)	\$0.00	(\$164.39)
				F22	Tax	(\$19.86)	\$0.00	(\$19.86)
				S99	Tax	(\$36.36)	\$0.00	(\$36.36)
						Refund		\$220.61
TAVES, KURT WILLIAM SR		4001 RIVER PARK DR	SUFFOLK, VA 23435	C99	Tax	(\$247.72)	\$0.00	(\$247.72)
				T14	Tax	(\$163.91)	\$0.00	(\$163.91)
						Refund		\$411.63
						Refund Total		\$1300.87

Tax Jurisdiction	District Type	Net Change
C99	COUNTY	(\$861.68)
T14	CITY	(\$209.64)
T20	CITY	(\$46.71)
T21	CITY	(\$91.41)
F01	FIRE	(\$13.48)
F22	FIRE	(\$19.86)
R01	FIRE	(\$1.88)
S99	SPECIAL	(\$56.21)
Total		(\$1,300.87)



PUBLIC WORKS - Budget Amendment

Description

Dumpster sales are up this fiscal year due to heavy tourist season. The attached budget amendment plus the remaining balance previously budgeted will allow for the purchase of sixty-four dumpsters which are estimated to be sold by the end of June, 2021.

Board Action Requested

Approve budget amendment

Item Presenter

Shanna Fullmer, Public Works Director

DARE COUNTY

BUDGET AMENDMENT

F/Y 2020/2021

ACCOUNT	CODE			INCREASE	DECREASE
	Org	Object	Project		
<u>Department: Sanitation</u>					
<u>Revenues:</u>					
Container Sales	243720	441301		77,321	
 <u>Expenditures:</u>					
Container Purchases	244720	515500		77,321	

Explanation:

Dumpster sales are up this fiscal year due to heavy tourist season. Dare County businesses are now buying dumpsters to get ready for the 2021 summer season. The amount of \$77,321 along with the remaining \$10,999 balance in the purchase line item, will allow for the purchase of 64 dumpsters which is what we estimate will be sold between now and June 30, 2021.

Approved by:

Board of Commissioners: _____

Date: _____

County Manager: _____

Date: _____

(sign in red)

Finance only:

Date entered: _____ Entered by: _____ Reference number: _____



Board Appointments

Description

The following Boards have appointments this month:

1. Rodanthe-Waves-Salvo Community Center
2. Manns Harbor Marina Commission

Board Action Requested

Take Appropriate Action

Item Presenter

Robert Outten, County Manager



Rodanthe-Waves-Salvo Community Center

Description

See Attached Summary

Board Action Requested

Take Appropriate Action

Item Presenter

Robert Outten, County Manager

March, 2021

BOARD APPOINTMENT

RODANTHE-WAVES-SALVO COMMUNITY CENTER

(Three Year Term)

Joey O'Neal

(Current Term 6/19-6/22)

(Originally Apptd. 6/93)

Joey O'Neal resigned October, 2020

The Community Center recommends Cheryl Blankenship serve the remainder of his term.

Her application is attached.

There are no other applications on file.

Other Members:

See attached list

RODANTHE-WAVES-SALVO COMMUNITY CENTER

(Three year Term)

This Board operates and maintains the Rodanthe, Waves, Salvo Community Center facility and amenities for the use and benefit of all members of the villages.

<u>MEMBER</u>	<u>TERM EXPIRATION</u>	<u>ACTION</u>
Susan Gray P.O. Box 135 Rodanthe, NC 27968 252-987-2502	6-21	Apptd. 6/00 Reapptd. 6/03,06,09,12,15,18
Joey O'Neal P.O. Box 7 Rodanthe, NC 27968 252-987-2560	6-22	Apptd. 6/93 Reapptd. 95,98,01,04,07,10 13,16,19
J.W. Kierzkowski, Ch. P.O. Box 55 Salvo, NC 27972 252-987-2218	6-21	Apptd. 6/88 Reapptd. 90,92,94,97,00,03 06,09,12,15,18
Jason Brian Heilig 24229 Sea Sound Road PO Box 156 Rodanthe, NC 27968 252-599-2340 (H) 252-987-2412 (O) rodanthesurfshop@gmail.com	11-21	Apptd. 11/18
Roberta Midgett P.O. Box 38 Salvo, NC 27972 473-8226 (H) 995-7646 (O)	11-21	Apptd. 9-09 Reapptd. 11-09,12,15,18

NOTES:

MEETING DATE: 4th Monday of every month – 7:30 p.m.

Claude Howard replaced Don Edwards 2/92
Joey O'Neal replaced James Shimpach 6/93
Joey Midgett replaced Rudy Gray 6/94
Terms were changed to 3 years in 6/96
Ken Wenberg replaced Joey Midgett 6/97
Susan Gray replaced Ken Wenberg 6/00.
Roberta Midgett filled unexpired term of Claude Howard 9/09.
Stephen Ryan replaced Lovie Midgett 11/12.
Jason Brian Heilig replaced Stephen Ryan 11/18
Joey O'Neal reappointed 6/19

REVISED 6/19

APPLICATION FOR APPOINTMENT TO
DARE COUNTY ADVISORY BOARDS AND COMMITTEES

The Dare County Board of Commissioners believes all citizens should have the opportunity to participate in governmental decisions. One way of participating is by serving as a citizen member on one of the county's advisory boards or committees. If you would like to be considered for appointment to an advisory board or committee, please complete the form below and mail to Cheryl Anby, P.O. Box 1000, Manteo, N.C. 27954 or fax it to her at 473-1817, or send it by email to cheryl.anby@darenc.com

Advisory Board or Committee interested in:

1st choice Rodanthe, Waves, Salvo Community building board

2nd choice _____

3rd choice _____

Name Cheryl Blankenship

Address 23834 NC Hwy 12

City/State/Zip Rodanthe, NC 27968

Email Address islandacupunctureobx@gmail.com

Telephone Home: 252-996-0144

Business: 252-449-8122

Resident of Dare County: yes no

Occupation: Licensed Acupuncturist/Business owner

Business Address: 3105 N Croatan Hwy KDH & 24267 Nc Hwy 12 Rodanthe

Educational background:

Bachelors Degree in Health Studies

Masters Degree in Oriental Medicine

Business and civic experience and skills:

Starting and owning my business since 2001.

Being a positive contributing member of the amazing RWS community

Other Boards/Committees/Commissions on which you presently serve:

N/A

REFERENCES

List three persons who are not related to you and who have definite knowledge of your qualifications for the position for which you are applying.

Name	Business/Occupation	Address	Telephone
Jason Helig	Rodanthe Surf Shop	23580 NC-12, Rodanthe, NC 27968	(252) 987-2412
Sheila Spencer	Shelia's Carolina Kitchen	25099 NC-12, Waves, NC	(252) 987-2629
Gia Brown	Boardwok South	26006 NC-12, Waves, NC 27982	(252) 987-1080

I understand this application will be kept on the active file for three years and I hereby authorize Dare County to verify all information included in this application.

Date: 02/23/2021 Signature of applicant: Cheryl Blankenship

FOR OFFICE USE ONLY:

Date received: _____



Manns Harbor Marina Commission

Description

See Attached Summary

Board Action Requested

Take Appropriate Action

Item Presenter

Robert Outten, County Manager

March, 2021

MANN'S HARBOR MARINA COMMISSION

(Two Year Term)

The Manns Harbor Marina Commission is a seven-member group representing recreational, commercial and local interests for the self-governing, mutual purpose, Manns Harbor Marina.

The Commission meets six times per year and reports directly to the Dare County Board of Commissioners.

The following have terms to expire in April:

Cyndy Holda

(Current Term 4/19 – 4/21)

(Originally Apptd. 4/13)

Ladd Bayliss

(Current Term 4/19-4/21)

(Originally Apptd. 4/13)

Jonathan Oglesby

(Current Term 4/19-4/21)

(Originally Apptd. 4/13)

Jessie "Troy" Outland, Jr.

(Current Term 4/19-4/21)

(Originally Apptd. 4/13)

All would like to be reappointed.

No Applications have been received.

Other Members:

See attached list

MANN'S HARBOR MARINA COMMISSION

(Two Year Term)

This Commission is a seven-member group representing recreational, commercial and local interests for the self-governing, mutual purpose of Manns Harbor Marina. The Commission meets six times per year and reports directly to the Dare County Board of Commissioners.

<u>MEMBER</u>	<u>TERM EXPIRATION</u>	<u>ACTION</u>
Cyndy Holda P.O. Box 172 Manns Harbor, NC 27953 252-473-9964 (H) 252-423-0903 (Cell)	4/21	Apptd. 4/13 Reapptd. 4/15,17,19
Ladd Bayliss, Sec. 431 Cahoon Rd. Manns Harbor, NC 27953 252-207-5894 (H) 252-473-1607 (O)	4/21	Apptd. 4/13 Reapptd. 4/15,17,19
Jonathan Oglesby P.O. Box 250 Manns Harbor, NC 27953 910-990-5674 (H/Cell)	4/21	Apptd. 4/13 Reapptd. 4/15,17,19
Paul Mann, V. Ch. 6049 US Hwy 64 Manns Harbor, NC 27953 252-475-3995 (H) 252-473-1716 (O)	4/22	Apptd. 4/13 Reapptd. 4/16,18, 6/20
Jeff James 116 Alder Branch Lane Manteo, NC 27954 252-216-6913 (H/Cell)	4/22	Apptd. 4/13 Reapptd. 4/16,18, 6/20
Jessie "Troy" Outland, Sr., Ch. 107 Candela Drive Manteo, NC 27954 252-473-3507 (H) 252-473-8685 (Cell)	4/22	Apptd. 4/13 Reapptd. 4/16,18, 6/20
Jessie "Troy" Outland, Jr. P.O. Box 246 Manns Harbor, NC 27953 252-216-9162 (H/Cell)	4/21	Apptd. 4/13 Reapptd. 4/15,17,19

Notes

Contact Info: Ladd Bayliss - Meeting Dates: Bi-Monthly

Formed by DCBC 4/1/13. A Commission has been formed to enforce rules governing the use of the old Manns Harbor Marina property. The facility will operate as a marina for commercial fishermen to dock and unload their catch; and for public boat access. Dare County's role is to form the Commission and appoint commission members.

Revised 6/20



Commissioners' Business & Manager's/Attorney's Business

Description

Remarks and items to be presented by Commissioners and the County Manager.

Board Action Requested

Consider items presented

Item Presenter

Robert Outten, County Manager